



State of Connecticut
Office of the Treasurer

SHAWN T. WOODEN
TREASURER

M E M O R A N D U M

TO: Members of Investment Advisory Council

FROM: Shawn T. Wooden, State Treasurer and Council Secretary

DATE: September 3, 2020

SUBJECT: Investment Advisory Council Meeting – September 9, 2020

Enclosed is the agenda package for the Investment Advisory Council meeting on Wednesday, September 9, 2020 starting at 9:00 A.M.

The following subjects will be covered at the meeting:

Item 1: Approval of the Minutes of the August 12, 2020 IAC Meeting

Item 2: Opening Comments by the Treasurer

Item 3: Update on the Market and the CRPTF Performance

Laurie Martin, Chief Investment Officer, will provide an update on the capital market environment and will report on the following:

- The CRPTF performance as of July 31, 2020

Item 4: Private Equity and Private Credit Review as of March 31, 2020

Mark Evans, Principal Investment Officer, will provide an overview of the Private Equity and Private Credit portfolios as of March 31, 2020

Item 5: Real Assets and Real Estate Review as of March 31, 2020

Danita Johnson, Principal Investment Officer, will provide an overview of the Real Assets and Real Estate portfolios as of March 31, 2020

Item 6: Alternative Investment Fund Review as of June 30, 2020

Kevin Cullinan, Chief Risk Officer, will provide an overview of the Alternative Investment Fund as of June 30, 2020

Item 7: Risk Mitigation Strategies Education Session

Brandon Colon, Meketa Investment Group, will provide an overview of risk mitigation strategies.

Item 8: Presentation by and Consideration of Waterton Residential Property Venture XIV

Danita Johnson, Principal Investment Officer, will provide opening remarks and introduce Waterton Residential Property Venture XIV, a real estate opportunity.

Item 9: Presentation by and Consideration of the Finalists for the Convertible Bond Manager Search

Lyndsey Farris, Principal Investment Officer, will provide opening remarks and introduce the following firms that will present for the convertible bond manager search:

- Advent Capital Management, LLC
- Calamos Advisors, LLC

Item 10: Brokerage Program Report

Steven Meier, Senior Principal Investment Officer, will provide opening remarks and review the Brokerage Program report.

Item 11: Other Business

- Discussion of the preliminary agenda for the October 14, 2020 IAC meeting

Item 12: Comments by the Chair

We look forward to reviewing these agenda items with you at the September 9th meeting.

If you find that you are unable to attend this meeting, please email katrina.farquhar@ct.gov.

STW/kf

Enclosures

INVESTMENT ADVISORY COUNCIL
Wednesday, August 12, 2020

**SUCH MINUTES ARE IN DRAFT FORM AND SUBJECT TO THE FINAL REVIEW
AND APPROVAL OF THE INVESTMENT ADVISORY COUNCIL**

MEETING NO. 478

Members present:

D. Ellen Shuman, Chair
Treasurer Wooden, Secretary
Thomas Fiore, representing Secretary Melissa McCaw
Joshua Hall
Michael Knight
Michael LeClair
Steven Muench
William Murray
Patrick Sampson
Carol Thomas

Members absent:

Patrick Sampson

Others present:

Laurie Martin, Chief Investment Officer
Kevin Cullinan, Chief Risk Officer
Mark Evans, Principal Investment Officer
Katrina Farquhar, Executive Assistant
Gabrielle Farrell, Director of Communications
Lyndsey Farris, Principal Investment Officer
John Flores, General Counsel
Karen Grenon, Legal Counsel
Darrell Hill, Deputy Treasurer
Barbara Housen, Chief Compliance Officer, Deputy General Counsel
Danita Johnson, Principal Investment Officer
Casi Kroth, Investment Officer
Raynald Lévêque, Deputy Chief Investment Officer

Guests:

Kevin Alcala, Goldman Sachs
Tim Atkinson, Meketa Investment Group
Greg Balewicz, Lord Abbett
Drianne Benner, Appomattox
Mary Beth Boyle, Rock Creek
LaRoy Brantley, Meketa Investment Group
Ronan Burke, Capital Group
Judy Chambers, Meketa Investment Group
Gar Chung, Financial Investment News
Brandon Colon, Meketa Investment Group
Thomas Cosmer, PineBridge
Maguette Diop, SEIU
Dyice Ellis-Beckham – Invesco
Marilyn Freeman, Capital Prospects

Will Greene, Loop Capital
Ryan Lavin, The Carlyle Group
Karen Mair, Capital Prospects
Deirdre Guice Minor, T Rowe Price
Nelson McNeil, Man Investments Inc.
Christopher Morgan, Franklin Templeton
William Rejeski, Goldman Sachs
Richard Ross, CT Resident
Lisa Rotenberg, Goldman Sachs
Preeti Singh, WSJ Pro Private Equity
Liz Smith, AllianceBernstein
Cynthia Steer, CT Resident
Ryan Wagner, T Rowe Price
Ann Parker Weeden, AllianceBernstein
Arnold West, GIA Partners
Peter Woolley, Meketa Investment Group

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council (“IAC”) meeting to order at 9:02 a.m.

Approval of Minutes of the July 8, 2020 IAC Meeting

Chair Shuman called for a motion to accept the minutes of the July 8, 2020 IAC meeting. **William Murray moved to approve the minutes of the July 8, 2020 IAC meeting. The motion was seconded by Joshua Hall. There were two abstentions; Steven Muench and Michael LeClair. There being no further discussion, the Chair called for a vote and the motion passed.**

Comments by the Treasurer

Treasurer Wooden welcomed IAC members and began by discussing the monthly Cash and Bonding Report recently provided to the Governor and General Assembly, which highlighted Connecticut’s strong cash position during the pandemic. He stated that as of August 1, 2020, the State’s overall available cash is \$6.6 billion with the common cash pool at \$5.3 billion.

Next, Treasurer Wooden discussed the progress made through conversations with corporate leaders, following his corporate call to action in the aftermath of the murders of George Floyd Breonna Taylor, and Ahmaud Arbery.

Treasurer Wooden briefly discussed performance before announcing his decision to proceed with investments in Constitution Fund V, LLC – Series E, Goldman Sachs Private Credit Partnership, OSP Value Fund III, LP and OSP Value Fund III-B, LP.

Finally, Treasurer Wooden provided a brief overview of the agenda including the new emerging manager program, the Connecticut Inclusive Investment Initiative (“C3”).

Update on the Market and the Connecticut Retirement Plans and Trust Funds Performance for Month Ending June 30, 2020 and the Cash Flow Report

Laurie Martin, Chief Investment Officer (“CIO”), provided an update on the Connecticut Retirement Plans and Trust Fund (“CRPTF”)’s performance and commented on the capital market environment and the economic outlook. She also provided a brief overview of the cash flow report.

Presentation by and Consideration of Fortress Private Credit Partnership

Mark Evans and Michael Terry, Principal Investment Officers (“PIO”), provided opening remarks and introduced representatives of Fortress Private Credit Partnership (“Fortress”), a Private Credit Fund (“PCF”) opportunity.

Fortress, represented by Pete Briger, Co-Chief Executive Officer, Drew McKnight, Managing Partner, Tim Sloan, Senior Advisor, Pete Hausmann, Managing Director, and Danny Kayne, Managing Director, made a presentation to the IAC.

Roll Call of Reactions for the Fortress Private Credit Partnership PCF opportunity.

Messrs. Murray, Hall, Muench, LeClair, Thomas Fiore, Michael Knight, Carol Thomas and Chair Shuman provided feedback on Fortress. Chair Shuman called for a motion to waive the 45-day comment period. **A motion was made by Mr. Murray, seconded by Ms. Thomas, to waive the 45-day comment period for Fortress. There being no discussion, the Chair called for a vote and the motion passed.**

Presentation by and Consideration of TSSP Adjacent Opportunities (TAO) 5.0

Mr. Evans and Lyndsey Farris, PIO, provided opening remarks and introduced TSSP Adjacent Opportunities (TAO) 5.0 (“Sixth Street”), a PCF opportunity.

Sixth Street, represented by Josh Easterly, Partner, Co-Founder of Sixth Street, Brian D’Arcy, Partner, Kaleem Minor, Analyst, and Jim Norgaard, Principal, made a presentation to the IAC.

Roll Call of Reactions for the TSSP Adjacent Opportunities (TAO) 5.0. PCF opportunity

Messrs. Fiore, Murray, Hall, Knight, Muench, LeClair, Ms. Thomas and Chair Shuman provided feedback on Sixth Street. Chair Shuman called for a motion to waive the 45-day comment period. **A motion was made by Ms. Thomas, seconded by Mr. Murray, to waive the 45-day comment period for Sixth Street. There being no discussion, the Chair called for a vote and the motion passed.**

Presentation by and Consideration of Torchlight Debt Opportunity Fund VII, L.P.

Danita Johnson, PIO provided opening remarks and introduced Torchlight Debt Opportunity Fund VII, L.P. (“Torchlight”), a Real Assets Fund (“RAF”) opportunity.

Torchlight, represented by Dan Heflin, Founder & CEO, and Angela Johnson, Senior Vice President, made a presentation to the IAC.

Roll Call of Reactions for the Torchlight Debt Opportunity Fund VII, L.P. RAF opportunity.

Messrs. Fiore, Murray, Hall, Knight, Muench, LeClair, Ms. Thomas and Chair Shuman provided feedback on Torchlight. Chair Shuman called for a motion to waive the 45-day comment period. **A motion was made by Mr. Muench, seconded by Mr. Murray, to waive the 45-day comment period for Torchlight. There being no discussion, the Chair called for a vote and the motion passed.**

Request for Proposal – Hedge Fund Strategies

Kevin Cullinan, Chief Risk Officer, reviewed the project plan and scope of services for a competitive search for a strategic partner to manage risk mitigating strategies within the Alternative Investment Fund.

Introduction of the Connecticut Inclusive Investment Initiative

Raynald Leveque, Deputy Chief Investment Officer, reviewed the Connecticut Inclusive Investment Initiative.

Comments by the Chair

Chair Shuman noted the next meeting will be held on September 9, 2020. She invited the council members to submit agenda items.

Other Business

There being no further business, the Chair called for a motion to adjourn the meeting. **Ms. Thomas moved to adjourn the meeting and the motion was seconded by Mr. Fiore. There being no discussion, the meeting was adjourned at 12:23 p.m.**



TEACHER'S RETIREMENT FUND

Net of All Fees and Expenses
Periods Ending July 31, 2020

AGENDA ITEM #3

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Teacher's Retirement Fund	100.0%				\$18,982.0	3.65	10.31	3.65	0.07	5.30	5.63	6.44	6.82	7.65
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.86	6.34	6.73	7.74
<i>Dynamic Benchmark</i>						3.15	6.18	3.15	0.08	5.54	5.99	6.38	6.35	N/A
Domestic Equity	20.5%	20.0	15.0	25.0	\$3,884.5	6.00	14.03	6.00	2.55	11.55	11.34	10.97	11.75	13.48
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.1%	11.0	6.0	16.0	\$2,109.6	3.18	11.65	3.18	-7.91	-1.08	1.01	3.53	5.22	6.66
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	6.51
Emerging Markets ISF	10.0%	9.0	4.0	14.0	\$1,901.4	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.85	4.00
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	3.18
Core Fixed Income	17.7%	13.0	8.0	18.0	\$3,365.0	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.88	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.2%	5.0	0.0	10.0	\$993.0	4.23	14.19	4.23	-3.59	-1.88	1.72	4.53	2.88	3.74
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.2%	3.0	0.0	8.0	\$1,169.1	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.64	6.16
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	3.2%	2.0	0.0	3.0	\$603.5	0.03	0.11	0.03	0.57	1.43	1.81	1.49	0.95	0.81
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets⁽¹⁾	11.6%	19.0	10.0	25.0	\$2,205.4	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.58	9.35
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						N/A	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	9.28
Private Investment⁽¹⁾	7.3%	10.0	5.0	15.0	\$1,390.4	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.23	12.04
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	11.72
Private Credit⁽¹⁾	0.4%	5.0	0.0	10.0	\$68.5	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.8%	3.0	0.0	10.0	\$1,291.6	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



STATE EMPLOYEES' RETIREMENT FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

											Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	Holdings	Weights	Range	Range	Value (mil.)	Month	Months	YTD	YTD	Year	Year	Year	Year	Year
State Employees' Retirement Fund	100.0%				\$13,624.2	3.69	10.40	3.69	0.12	5.36	5.74	6.49	6.87	7.71
Policy Benchmark						2.92	4.34	2.92	-0.78	4.49	5.87	6.34	6.75	7.79
Dynamic Benchmark						3.18	6.23	3.18	0.15	5.62	6.11	6.49	6.45	N/A
Domestic Equity	20.7%	20.0	15.0	25.0	\$2,814.5	6.00	14.03	6.00	2.55	11.55	11.34	10.97	11.75	13.48
Russell 3000						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.2%	11.0	6.0	16.0	\$1,529.3	3.18	11.65	3.18	-7.91	-1.08	1.01	3.53	5.22	6.66
MSCI EAFE IMI Net						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	6.51
Emerging Markets ISF	10.1%	9.0	4.0	14.0	\$1,378.1	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.85	4.00
MSCI Emerging Markets IMI						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	3.18
Core Fixed Income	17.9%	13.0	8.0	18.0	\$2,438.3	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.88	3.81
Barclays U.S. Aggregate Bond Index						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.3%	5.0	0.0	10.0	\$718.3	4.23	14.19	4.23	-3.59	-1.88	1.72	4.53	2.88	3.74
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.2%	3.0	0.0	8.0	\$844.9	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.64	6.16
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	2.2%	2.0	0.0	3.0	\$305.2	0.03	0.11	0.03	0.57	1.43	1.82	1.49	0.95	0.82
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets ⁽¹⁾	11.7%	19.0	10.0	25.0	\$1,600.4	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.58	9.35
Blended Custom Benchmark 1Q in Arrears ⁽²⁾						N/A	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	9.28
Private Investment ⁽¹⁾	7.4%	10.0	5.0	15.0	\$1,008.2	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.24	12.05
Russell 3000 + 250 basis points 1Q in Arrears [^]						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	11.72
Private Credit ⁽¹⁾	0.4%	5.0	0.0	10.0	\$50.1	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears [^]						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.9%	3.0	0.0	8.0	\$936.9	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
Absolute Return Strategy blended benchmark ⁽³⁾						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



MUNICIPAL EMPLOYEES RETIREMENT FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Municipal Employees' Retirement Fund	100.0%				\$2,790.2	3.67	10.35	3.67	0.13	5.46	5.59	6.37	6.53	7.12
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.57	6.13	6.31	7.33
<i>Dynamic Benchmark</i>						3.16	6.20	3.16	0.17	5.67	5.87	6.32	6.07	N/A
Domestic Equity	20.6%	20.0	15.0	25.0	\$575.1	6.00	14.03	6.00	2.55	11.55	11.34	10.97	11.75	13.48
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.2%	11.0	6.0	16.0	\$313.1	3.18	11.65	3.18	-7.91	-1.08	1.01	3.53	5.22	6.67
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	6.51
Emerging Markets ISF	10.1%	9.0	4.0	14.0	\$281.1	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.87	4.00
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	3.18
Core Fixed Income	17.8%	13.0	8.0	18.0	\$497.4	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.2%	5.0	0.0	10.0	\$146.4	4.23	14.19	4.23	-3.59	-1.88	1.72	4.53	2.88	3.74
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.2%	3.0	0.0	8.0	\$173.0	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.64	6.16
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	2.5%	2.0	0.0	3.0	\$69.4	0.03	0.11	0.03	0.58	1.43	1.82	1.49	0.95	0.82
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets⁽¹⁾	11.7%	19.0	15.0	25.0	\$326.4	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.58	9.35
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						N/A	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	9.28
Private Investment⁽¹⁾	7.4%	10.0	5.0	15.0	\$206.5	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.24	12.04
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	11.72
Private Credit⁽¹⁾	0.4%	5.0	0.0	10.0	\$10.1	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.9%	3.0	0.0	10.0	\$191.7	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



OPEB FUND
Net of All Fees and Expenses
Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
OPEB	100.0%				\$1,499.7	3.71	10.40	3.71	0.17	5.61	5.77	6.25	6.46	N/A
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.69	5.99	6.48	N/A
<i>Dynamic Benchmark</i>						3.20	6.24	3.20	0.16	5.74	6.18	6.37	N/A	N/A
Domestic Equity	20.6%	20.0	15.0	25.0	\$309.0	6.00	14.03	6.00	2.55	11.55	11.35	10.96	11.74	N/A
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	N/A
Developed Markets ISF	11.1%	11.0	6.0	15.0	\$167.0	3.18	11.65	3.18	-7.91	-1.08	1.02	3.52	5.21	N/A
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	10.1%	9.0	4.0	14.0	\$151.7	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.84	N/A
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	17.6%	13.0	8.0	18.0	\$263.9	1.59	3.36	1.59	7.82	10.13	5.26	4.13	3.87	N/A
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	N/A
Emerging Market Debt	5.2%	5.0	0.0	10.0	\$78.4	4.23	14.19	4.23	-3.59	-1.88	1.73	4.53	2.89	N/A
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	N/A
High Yield	6.1%	3.0	0.0	8.0	\$92.0	4.77	10.89	4.77	0.58	3.50	3.70	4.94	4.61	N/A
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	N/A
Liquidity Fund	2.9%	2.0	0.0	3.0	\$43.8	0.03	0.11	0.03	0.58	1.44	1.87	1.54	0.98	N/A
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	N/A
Real Assets⁽¹⁾	11.8%	19.0	15.0	25.0	\$176.8	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.29	N/A
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						N/A	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	N/A
Private Investment⁽¹⁾	7.3%	10.0	5.0	15.0	\$109.7	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.04	N/A
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	N/A
Private Credit⁽¹⁾	0.3%	5.0	0.0	10.0	\$5.1	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.8%	3.0	0.0	10.0	\$102.2	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



PROBATE JUDGES EMPLOYEES' RETIREMENT FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Probate Judges Employees' Retirement Fund	100.0%				\$114.4	3.65	10.31	3.65	0.03	5.45	5.47	6.35	6.52	7.16
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.58	6.19	6.41	7.37
<i>Dynamic Benchmark</i>						3.15	6.18	3.15	0.12	5.72	5.91	6.40	6.17	N/A
Domestic Equity	20.5%	20.0	15.0	25.0	\$23.4	6.00	14.03	6.00	2.55	11.55	11.34	10.97	11.75	13.48
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.2%	11.0	6.0	16.0	\$12.8	3.18	11.65	3.18	-7.91	-1.08	1.01	3.53	5.22	6.66
<i>MSCI EAFE IMI</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	6.51
Emerging Markets ISF	10.0%	9.0	4.0	14.0	\$11.5	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.86	4.00
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	3.18
Core Fixed Income	17.8%	13.0	8.0	18.0	\$20.4	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.3%	5.0	0.0	10.0	\$6.0	4.23	14.19	4.23	-3.59	-1.88	1.72	4.52	2.88	3.75
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.2%	3.0	0.0	8.0	\$7.0	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.64	6.16
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	2.9%	2.0	0.0	3.0	\$3.3	0.03	0.11	0.03	0.57	1.44	1.81	1.49	0.95	0.82
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets⁽¹⁾	11.6%	19.0	15.0	25.0	\$13.3	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.58	9.35
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						0.99	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	9.28
Private Investment⁽¹⁾	7.3%	10.0	5.0	15.0	\$8.4	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.24	12.04
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	11.72
Private Credit⁽¹⁾	0.4%	5.0	0.0	10.0	\$0.4	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.9%	3.0	0.0	10.0	\$7.9	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



STATE JUDGES RETIREMENT FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
State Judges Retirement Fund	100.0%				\$246.8	3.67	10.35	3.67	0.06	5.54	5.61	6.38	6.54	7.27
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.57	6.13	6.31	7.33
<i>Dynamic Benchmark</i>						3.17	6.21	3.17	0.14	5.79	6.02	6.41	6.13	N/A
Domestic Equity	20.6%	20.0	15.0	25.0	\$50.8	6.00	14.03	6.00	2.55	11.55	11.34	10.97	11.75	13.48
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.2%	11.0	6.0	16.0	\$27.7	3.18	11.65	3.18	-7.91	-1.08	1.01	3.53	5.22	6.67
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	6.51
Emerging Markets ISF	10.0%	9.0	4.0	14.0	\$24.8	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.86	4.00
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	3.18
Core Fixed Income	17.9%	13.0	8.0	18.0	\$44.2	1.59	3.36	1.59	7.82	10.13	5.26	4.13	3.89	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.3%	5.0	0.0	10.0	\$13.1	4.23	14.19	4.23	-3.59	-1.88	1.72	4.53	2.88	3.75
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.2%	3.0	0.0	8.0	\$15.4	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.64	6.16
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	2.5%	2.0	0.0	3.0	\$6.1	0.03	0.11	0.03	0.58	1.43	1.82	1.49	0.95	0.78
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets⁽¹⁾	11.7%	19.0	15.0	25.0	\$28.8	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.58	9.35
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						N/A	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	9.28
Private Investment⁽¹⁾	7.3%	10.0	5.0	15.0	\$18.1	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.24	12.05
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	11.72
Private Credit⁽¹⁾	0.4%	5.0	0.0	10.0	\$0.9	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.9%	3.0	0.0	10.0	\$17.0	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



STATE'S ATTORNEYS' RETIREMENT FUND

Net of All Fees and Expenses
Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
State's Attorneys' Retirement Fund	100.0%				\$2.2	3.66	10.31	3.66	0.05	5.49	5.09	6.04	6.34	6.33
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.95	6.30	6.66	N/A
<i>Dynamic Benchmark</i>						3.16	6.20	3.16	0.16	5.78	6.10	6.37	6.21	N/A
Domestic Equity	20.5%	20.0	15.0	25.0	\$0.5	6.00	14.03	6.00	2.55	11.55	11.34	10.97	11.74	13.48
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.2%	11.0	6.0	16.0	\$0.2	3.18	11.65	3.18	-7.91	-1.08	1.02	3.53	5.20	N/A
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	10.1%	9.0	4.0	14.0	\$0.2	10.49	21.94	10.49	2.34	11.11	4.37	7.58	4.80	N/A
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	17.8%	13.0	8.0	18.0	\$0.4	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.94	3.84
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.2%	5.0	0.0	10.0	\$0.1	4.23	14.19	4.23	-3.59	-1.88	1.72	4.52	2.88	3.74
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.1%	3.0	0.0	8.0	\$0.1	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.61	6.14
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	2.8%	2.0	0.0	3.0	\$0.1	0.03	0.11	0.03	0.58	1.44	1.83	1.50	0.95	0.83
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets⁽¹⁾	11.7%	19.0	15.0	25.0	\$0.3	N/A	6.05	N/A	0.53	2.57	N/A	N/A	N/A	N/A
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						N/A	2.05	N/A	-4.73	-2.53	N/A	N/A	N/A	N/A
Private Investment⁽¹⁾	7.3%	10.0	5.0	15.0	\$0.2	N/A	18.37	N/A	-1.10	5.18	N/A	N/A	N/A	N/A
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	N/A	N/A	N/A	N/A
Private Credit⁽¹⁾	0.4%	5.0	0.0	10.0	\$0.0	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.9%	3.0	0.0	10.0	\$0.2	1.21	4.15	1.21	-5.28	-2.70	N/A	N/A	N/A	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	N/A	N/A	N/A	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



AGRICULTURAL COLLEGE FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Benchmark														
Agricultural College Fund	100.0%				\$0.7	1.63	3.40	1.63	7.85	10.22	5.32	4.17	3.92	4.37
Policy Benchmark						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	4.32
Dynamic Benchmark						1.49	2.61	1.49	7.72	10.12	5.69	4.47	N/A	N/A
Core Fixed Income	101.8%	100.0	100.0	100.0	\$0.7	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
Barclays U.S. Aggregate Bond Index						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Liquidity Fund ⁽¹⁾	-1.8%				(\$0.0)	0.00	0.12	0.00	0.57	1.91	1.61	1.16	0.72	0.68
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84

⁽¹⁾ Operational cash balance and expense accruals



ANDREW C. CLARK FUND
Net of All Fees and Expenses
Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Andrew C. Clark Fund	100.0%				\$1.3	2.86	6.54	2.86	5.12	9.32	5.88	5.40	5.37	6.01
<i>Policy Benchmark</i>						2.49	5.67	2.49	4.75	9.11	6.23	5.51	5.54	5.96
<i>Dynamic Benchmark</i>						2.59	5.73	2.59	4.64	9.02	6.24	5.53	N/A	N/A
Domestic Equity	16.1%	15.0	10.0	20.0	\$0.2	6.00	14.03	6.00	2.55	11.55	11.35	10.97	11.75	13.47
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.8%	11.0	6.0	16.0	\$0.2	3.18	11.65	3.18	-7.91	-1.08	1.02	3.53	5.22	N/A
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	4.7%	4.0	0.0	5.0	\$0.1	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.86	N/A
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	67.3%	67.0	57.0	77.0	\$0.9	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Liquidity Fund	0.2%	3.0	0.0	4.0	\$0.0	0.44	0.52	0.44	0.99	3.95	4.40	3.33	2.20	1.74
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84



SOLDIERS' SAILORS' & MARINES' FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Benchmark														
Soldiers' Sailors' & Marines Fund	100.0%				\$84.6	2.82	6.47	2.82	5.07	9.22	5.85	5.39	5.36	5.78
Policy Benchmark						2.49	5.67	2.49	4.75	9.11	6.23	5.51	5.54	5.65
Dynamic Benchmark						2.55	5.67	2.55	4.60	8.94	6.23	5.53	N/A	N/A
Domestic Equity	16.0%	15.0	10.0	20.0	\$13.6	6.00	14.03	6.00	2.55	11.55	11.35	10.98	11.75	13.49
Russell 3000						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.5%	11.0	6.0	16.0	\$9.7	3.18	11.65	3.18	-7.91	-1.08	1.02	3.53	5.22	N/A
MSCI EAFE IMI Net						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	4.6%	4.0	0.0	5.0	\$3.9	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.86	N/A
MSCI Emerging Markets IMI						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	65.6%	67.0	57.0	77.0	\$55.4	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
Barclays U.S. Aggregate Bond Index						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Liquidity Fund	2.3%	3.0	0.0	4.0	\$1.9	0.03	0.11	0.03	0.57	1.43	1.81	1.50	0.95	0.83
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84



SCHOOL FUND
Net of All Fees and Expenses
Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
School Fund	100.0%				\$12.9	2.84	6.52	2.84	5.04	9.23	5.86	5.41	5.39	5.94
<i>Policy Benchmark</i>						2.49	5.67	2.49	4.75	9.11	6.23	5.51	5.54	5.96
<i>Dynamic Benchmark</i>						2.58	5.71	2.58	4.55	8.92	6.21	5.54	N/A	N/A
Domestic Equity	16.4%	15.0	10.0	20.0	\$2.1	6.00	14.03	6.00	2.55	11.55	11.35	10.97	11.75	13.48
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.6%	11.0	6.0	16.0	\$1.5	3.18	11.65	3.18	-7.91	-1.08	1.02	3.53	5.22	N/A
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	4.6%	4.0	0.0	5.0	\$0.6	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.86	N/A
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	65.7%	67.0	57.0	77.0	\$8.5	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Liquidity Fund	1.7%	3.0	0.0	4.0	\$0.2	0.04	0.19	0.04	1.14	2.43	3.11	2.40	1.47	1.19
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84



IDA EATON COTTON FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Benchmark														
IDA Eaton Cotton Fund	100.0%				\$2.8	2.87	6.53	2.87	5.09	9.29	5.87	5.40	5.37	6.01
Policy Benchmark						2.49	5.67	2.49	4.75	9.11	6.23	5.51	5.54	5.96
Dynamic Benchmark						2.60	5.72	2.60	4.61	9.00	6.24	5.53	N/A	N/A
Domestic Equity	16.4%	15.0	10.0	20.0	\$0.5	6.00	14.03	6.00	2.55	11.55	11.35	10.97	11.75	13.48
Russell 3000						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.8%	11.0	6.0	16.0	\$0.3	3.18	11.65	3.18	-7.91	-1.08	1.02	3.53	5.22	N/A
MSCI EAFE IMI Net						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	4.7%	4.0	0.0	5.0	\$0.1	10.49	21.94	10.49	2.34	11.11	4.37	7.58	4.86	N/A
MSCI Emerging Markets IMI						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	66.6%	67.0	57.0	77.0	\$1.9	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
Barclays U.S. Aggregate Bond Index						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Liquidity Fund	0.5%	3.0	0.0	4.0	\$0.0	0.37	0.45	0.37	0.92	3.86	4.73	3.51	2.34	1.80
50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84



HOPEMEAD FUND
Net of All Fees and Expenses
Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Hopemead Fund	100.0%				\$4.5	2.81	6.46	2.81	4.97	9.18	5.81	5.35	5.32	5.77
<i>Policy Benchmark</i>						2.49	5.67	2.49	4.75	9.11	6.23	5.51	5.54	5.96
<i>Dynamic Benchmark</i>						2.54	5.67	2.54	4.51	8.90	6.19	5.49	N/A	N/A
Domestic Equity	16.1%	15.0	10.0	20.0	\$0.7	6.00	14.03	6.00	2.55	11.55	11.35	10.98	11.75	13.47
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.5%	11.0	6.0	16.0	\$0.5	3.18	11.65	3.18	-7.91	-1.08	1.02	3.53	5.22	N/A
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	4.6%	4.0	0.0	5.0	\$0.2	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.86	N/A
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	65.1%	67.0	57.0	77.0	\$2.9	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.89	3.81
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Liquidity Fund	2.8%	3.0	0.0	4.0	\$0.1	0.03	0.11	0.03	0.58	1.43	1.82	1.49	0.95	0.84
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84



ARTS ENDOWMENT FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Arts Endowment Fund	100.0%				\$20.9	4.92	11.63	4.92	1.29	7.06	5.35	5.10	5.15	5.45
<i>Policy Benchmark</i>						<i>4.01</i>	<i>8.80</i>	<i>4.01</i>	<i>-1.22</i>	<i>4.73</i>	<i>5.19</i>	<i>4.89</i>	<i>5.10</i>	<i>5.50</i>
<i>Dynamic Benchmark</i>						<i>4.36</i>	<i>10.48</i>	<i>4.36</i>	<i>0.53</i>	<i>6.50</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Domestic Equity	30.0%	28.0	23.0	33.0	\$6.3	6.00	14.03	6.00	2.55	11.55	11.35	10.98	11.75	N/A
<i>Russell 3000</i>						<i>5.68</i>	<i>13.88</i>	<i>5.68</i>	<i>2.01</i>	<i>10.93</i>	<i>11.39</i>	<i>10.89</i>	<i>11.71</i>	<i>N/A</i>
Developed Markets ISF	18.2%	17.0	12.0	22.0	\$3.8	3.18	11.65	3.18	-7.91	-1.08	1.03	3.54	5.23	N/A
<i>MSCI EAFE IMI Net</i>						<i>2.48</i>	<i>10.68</i>	<i>2.48</i>	<i>-9.41</i>	<i>-1.37</i>	<i>2.12</i>	<i>3.28</i>	<i>5.45</i>	<i>N/A</i>
Emerging Markets ISF	14.3%	12.0	7.0	17.0	\$3.0	10.49	21.93	10.49	2.34	11.11	4.37	7.59	4.87	N/A
<i>MSCI Emerging Markets IMI</i>						<i>8.97</i>	<i>18.24</i>	<i>8.97</i>	<i>-2.03</i>	<i>5.97</i>	<i>2.40</i>	<i>5.66</i>	<i>4.09</i>	<i>N/A</i>
Core Fixed Income	16.6%	16.0	11.0	21.0	\$3.5	1.59	3.36	1.59	7.82	10.13	5.26	4.13	3.89	3.80
<i>Barclays U.S. Aggregate Bond Index</i>						<i>1.49</i>	<i>2.61</i>	<i>1.49</i>	<i>7.72</i>	<i>10.12</i>	<i>5.69</i>	<i>4.47</i>	<i>4.16</i>	<i>3.87</i>
Emerging Market Debt	8.5%	8.0	3.0	13.0	\$1.8	4.23	14.19	4.23	-3.59	-1.88	N/A	N/A	N/A	N/A
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						<i>3.37</i>	<i>11.35</i>	<i>3.37</i>	<i>-1.60</i>	<i>1.15</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
High Yield	9.3%	9.0	4.0	14.0	\$1.9	4.77	10.89	4.77	0.58	3.50	N/A	N/A	N/A	N/A
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						<i>4.66</i>	<i>10.27</i>	<i>4.66</i>	<i>-0.08</i>	<i>3.30</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Private Credit⁽¹⁾	0.4%	9.0	4.0	14.0	\$0.1	N/A	4.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^</i>						<i>N/A</i>	<i>-13.26</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Liquidity Fund	2.6%	1.0	0.0	3.0	\$0.5	0.03	0.10	0.03	0.57	1.43	1.78	1.46	0.92	0.81
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						<i>0.05</i>	<i>0.12</i>	<i>0.05</i>	<i>1.49</i>	<i>2.32</i>	<i>2.09</i>	<i>1.48</i>	<i>1.10</i>	<i>0.84</i>

⁽¹⁾ Actual performance, reported one quarter in arrears,



POLICEMEN AND FIREMEN SURVIVORS' BENEFIT FUND

Net of All Fees and Expenses

Periods Ending July 31, 2020

Funds <i>Benchmark</i>	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal YTD	Calendar YTD	One Year	Compound, annualized returns			
											Three Year	Five Year	Seven Year	Ten Year
Policemen and Firemen Survivors' Benefit Fund	100.0%	CHECK			\$39.1	3.66	10.31	3.66	0.06	5.51	5.61	6.43	6.64	7.49
<i>Policy Benchmark</i>						2.92	4.34	2.92	-0.78	4.49	5.66	6.22	6.47	N/A
<i>Dynamic Benchmark</i>						3.16	6.21	3.16	0.16	5.79	6.03	6.46	N/A	N/A
Domestic Equity	20.5%	20.0	15.0	25.0	\$8.0	6.00	14.03	6.00	2.55	11.55	11.34	10.97	12.00	13.66
<i>Russell 3000</i>						5.68	13.88	5.68	2.01	10.93	11.39	10.89	11.71	13.59
Developed Markets ISF	11.2%	11.0	6.0	16.0	\$4.4	3.18	11.65	3.18	-7.91	-1.08	1.01	3.53	5.20	N/A
<i>MSCI EAFE IMI Net</i>						2.48	10.68	2.48	-9.41	-1.37	2.12	3.28	5.45	N/A
Emerging Markets ISF	10.0%	9.0	4.0	14.0	\$3.9	10.49	21.93	10.49	2.34	11.11	4.37	7.58	4.81	N/A
<i>MSCI Emerging Markets IMI</i>						8.97	18.24	8.97	-2.03	5.97	2.40	5.66	4.09	N/A
Core Fixed Income	17.8%	13.0	8.0	18.0	\$6.9	1.59	3.36	1.59	7.82	10.13	5.27	4.13	3.97	3.87
<i>Barclays U.S. Aggregate Bond Index</i>						1.49	2.61	1.49	7.72	10.12	5.69	4.47	4.16	3.87
Emerging Market Debt	5.3%	5.0	0.0	10.0	\$2.1	4.23	14.19	4.23	-3.59	-1.88	1.72	4.52	2.88	3.74
<i>50% JPM EMBI Global Div / 50% JPM GBI EM Global Div</i>						3.37	11.35	3.37	-1.60	1.15	3.07	4.80	3.12	4.28
High Yield	6.1%	0.0	0.0	8.0	\$2.4	4.77	10.89	4.77	0.58	3.50	3.71	4.94	4.61	6.13
<i>Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index</i>						4.66	10.27	4.66	-0.08	3.30	4.13	5.41	4.90	6.41
Liquidity Fund	3.0%	2.0	0.0	3.0	\$1.2	0.03	0.11	0.03	0.58	1.44	1.82	1.49	0.95	0.83
<i>50% U.S. 3-Month T-Bill / 50% Bloomberg Barclays US Government Treasury 1 to 3 Year Index</i>						0.05	0.12	0.05	1.49	2.32	2.09	1.48	1.10	0.84
Real Assets⁽¹⁾	11.7%	19.0	15.0	25.0	\$4.6	N/A	6.05	N/A	0.53	2.57	6.00	7.36	8.53	9.31
<i>Blended Custom Benchmark 1Q in Arrears⁽²⁾</i>						N/A	2.05	N/A	-4.73	-2.53	3.58	5.92	7.61	9.28
Private Investment⁽¹⁾	7.1%	10.0	5.0	15.0	\$2.8	N/A	18.37	N/A	-1.10	5.18	11.94	11.13	12.04	N/A
<i>Russell 3000 + 250 basis points 1Q in Arrears⁽²⁾</i>						N/A	-19.94	N/A	-12.30	-6.63	5.20	7.37	9.23	N/A
Private Credit⁽¹⁾	0.4%	5.0	0.0	10.0	\$0.1	N/A	2.77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears⁽²⁾</i>						N/A	-13.26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alternative Investment Fund	6.8%	3.0	0.0	10.0	\$2.7	1.21	4.15	1.21	-5.28	-2.70	1.82	1.48	2.54	N/A
<i>Absolute Return Strategy blended benchmark⁽³⁾</i>						0.39	1.17	0.39	3.18	5.31	4.10	2.59	1.86	N/A

⁽¹⁾ Actual performance, reported one quarter in arrears.

⁽²⁾ A blended benchmark comprised of the weightings of Real Estate, Infrastructure / Natural Resources and U.S. TIPS as of April 2020.

⁽³⁾ A blended benchmark comprised of the weightings of each of the investments utilized within the fund of funds vehicle multiplied by their respective benchmarks as of April 2020.



Quarterly Report

Connecticut Retirement Plans and Trust Funds

March 31, 2020



Disclosure



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All data is as of March 31, 2020 unless otherwise noted.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. ACTUAL PERFORMANCE MAY VARY.

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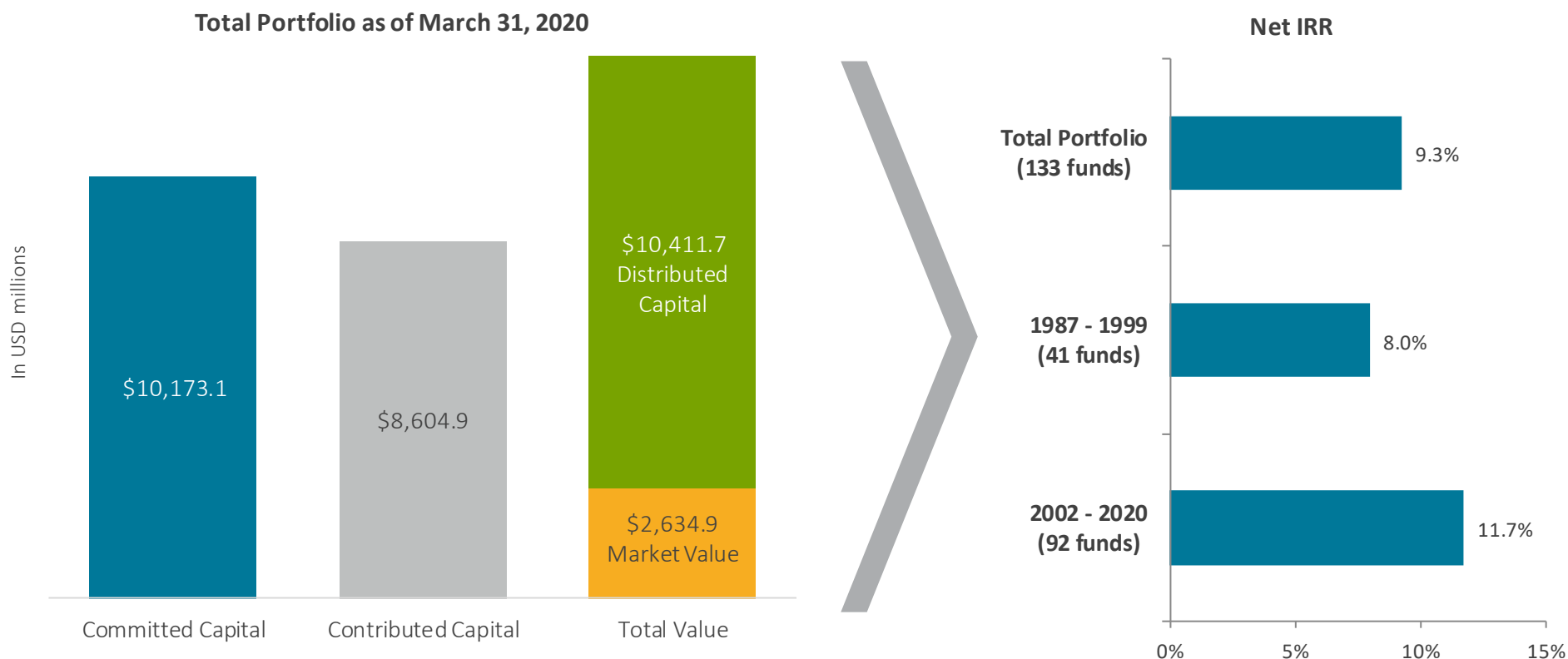
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I. Quarterly Update

- The State of Connecticut Retirement Plans & Trust Funds (“CRPTF”) established the Private Investment Fund (“PIF”) with the objective to outperform the public equity market over the long term.
- StepStone Group LP (“StepStone”) was engaged by CRPTF October 2015 to provide private equity advisory services for prospective investment opportunities and monitoring and reporting services for existing and new investments.
- This report has been prepared by StepStone and reviews the performance of the PIF and discusses significant market developments and trends.
- The performance presented in this report is based on cash flows, valuations, and activity data reported by PIF’s fund managers as well as historical data transitioned by StepStone from PIF’s prior advisor.
- There is a reporting time lag in private equity due to the time necessary to collect and corroborate the performance data. Similar to other investors, PIF’s fund managers typically deliver their financial reports between 60 and 90 days after quarter end. As a result, the performance data provided herein is as of March 31, 2020. All quarter-end references are on a calendar year basis.
- PIF began building its private equity portfolio in 1987 and has an 10% long term target allocation to private equity. In order to implement its investment strategy, PIF commits capital to various limited partnership funds managed by fund managers.
- Funds are typically structured with 4 to 6 year investment periods and 10 to 12 year lives. Early in their life cycle, funds typically exhibit negative cash flow and negative or low returns as capital called from investors to fund new underlying investments and fees to managers exceed the cash distributed from the underlying investments in the form of income, appreciation, or return of capital. Accordingly, while this report includes short-term performance results, the reader is encouraged to focus on long-term performance results.
- The returns within this report are calculated using the internal rate of return (“IRR”) method. The IRR calculation is industry standard for measuring performance of private equity funds and recommended by the CFA Institute. The IRR calculation is a dollar-weighted return measurement, which considers both cash flow timing and amount.

Portfolio Summary

- Since inception through March 31, 2020, the PIF program committed \$10.2 billion to 133 funds, made \$8.6 billion of contributions, received \$10.4 billion of distributions, and has a market value of \$2.6 billion, which represents approximately 8.2% of total CRPTF.
- Since inception through March 31, 2020, PIF's total portfolio generated a net IRR of 9.3% and a net TVPI of 1.5x invested capital.
- PIF's fund investments made prior to 2002 generated a lower net IRR of 8.0% and reduced the aggregate return.
- An investment moratorium was enacted between 1999 and 2002.
- PIF's fund investments with vintages 2002 through 2020 performed better, generating a net IRR of 11.7% and a net TVPI of 1.6x invested capital.



The returns presented herein are calculated using the internal rate of return methodology and are net of underlying fund manager fees and expenses, but before any fees paid to StepStone.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Results include data from all CRPTF portfolios.

Contributed Capital includes funding both inside and outside of the commitment.

Quarterly Snapshot



<u>Returns - 1Q 2020</u>		
	Quarter Ended	12 Months Ended
PIF Net IRR	(7.1%)	4.0%
Russell 3000 + 250 bps ¹	(20.3%)	(6.6%)

In USD millions.

<u>Cash Flow - 1Q 2020</u>		
	Quarter Ended	12 Months Ended
Contributions	\$122.9	\$457.0
Distributions	120.1	555.5
Net Cash Flow	(\$ 2.8)	\$ 98.6

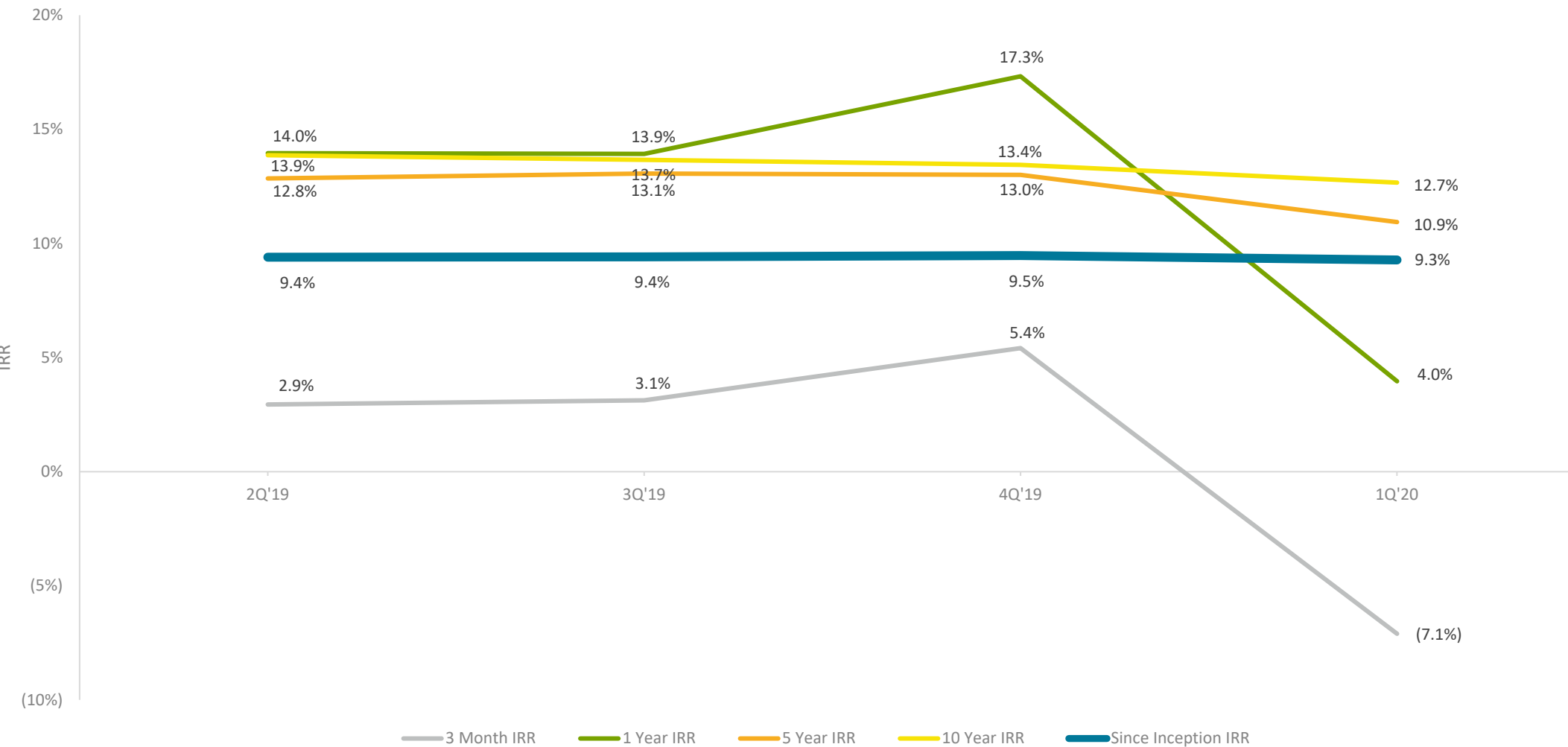
<u>Portfolio Construction - 1Q 2020</u>		
	# Managers	# Funds
Active - Beginning of Quarter	46	86
Commitments Closed ²	0	1
Liquidations	0	0
Active - End of Quarter	46	87

¹The Benchmark is defined as The Russell 3000 index + 250 bps. Benchmark returns less than 1 year are annualized. Benchmark was changed from the S&P500 + 500 bps, effective May 31, 2019.

²New Fund Commitment added in 1Q 2020 did not increase Manager count as New Fund is managed by an existing Manager.

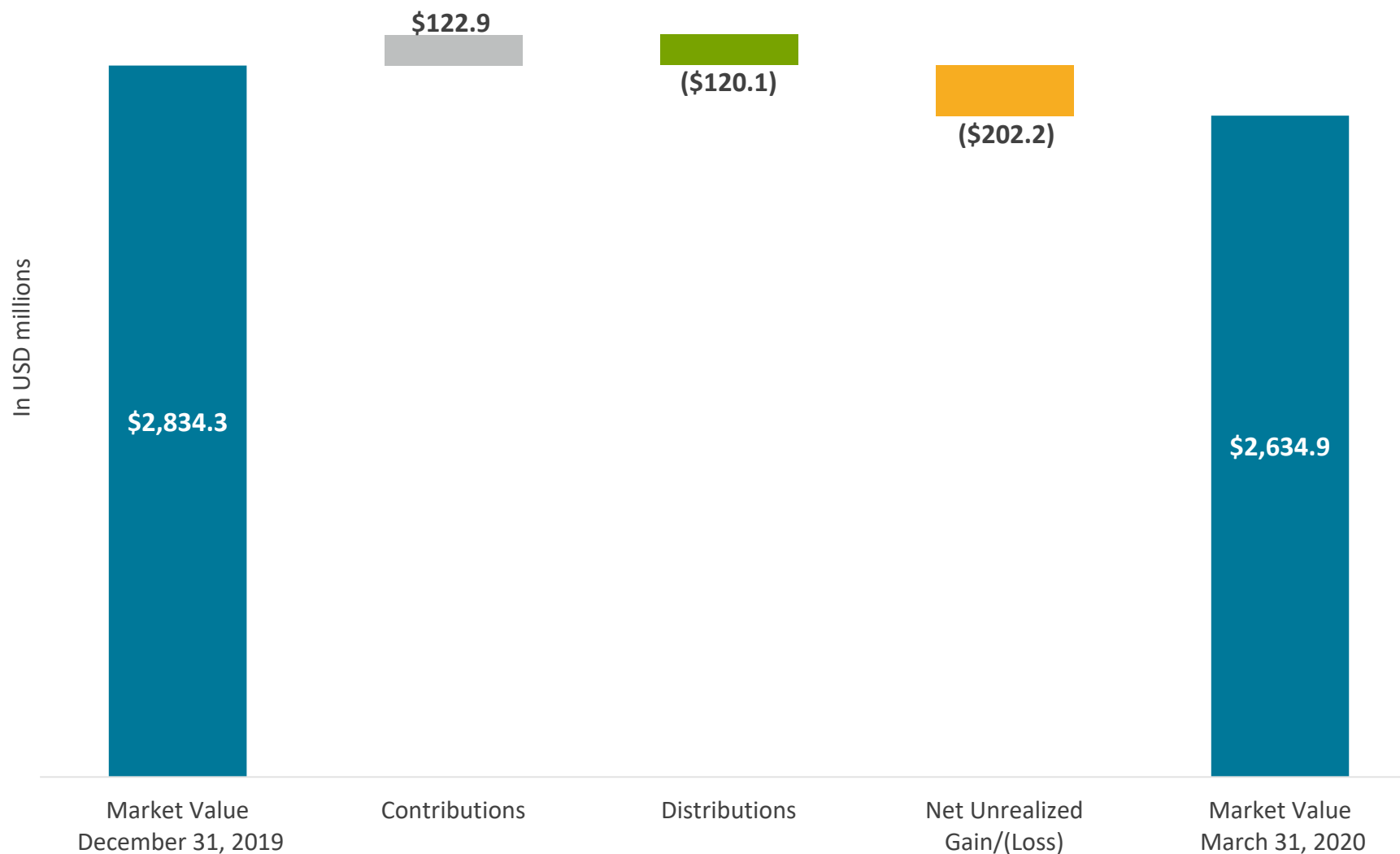
Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

PIF Total Portfolio Periodized Returns for Trailing Four Quarters



Capital Account Change

Quarterly Portfolio Activity



Fiscal Year 2020 Commitments



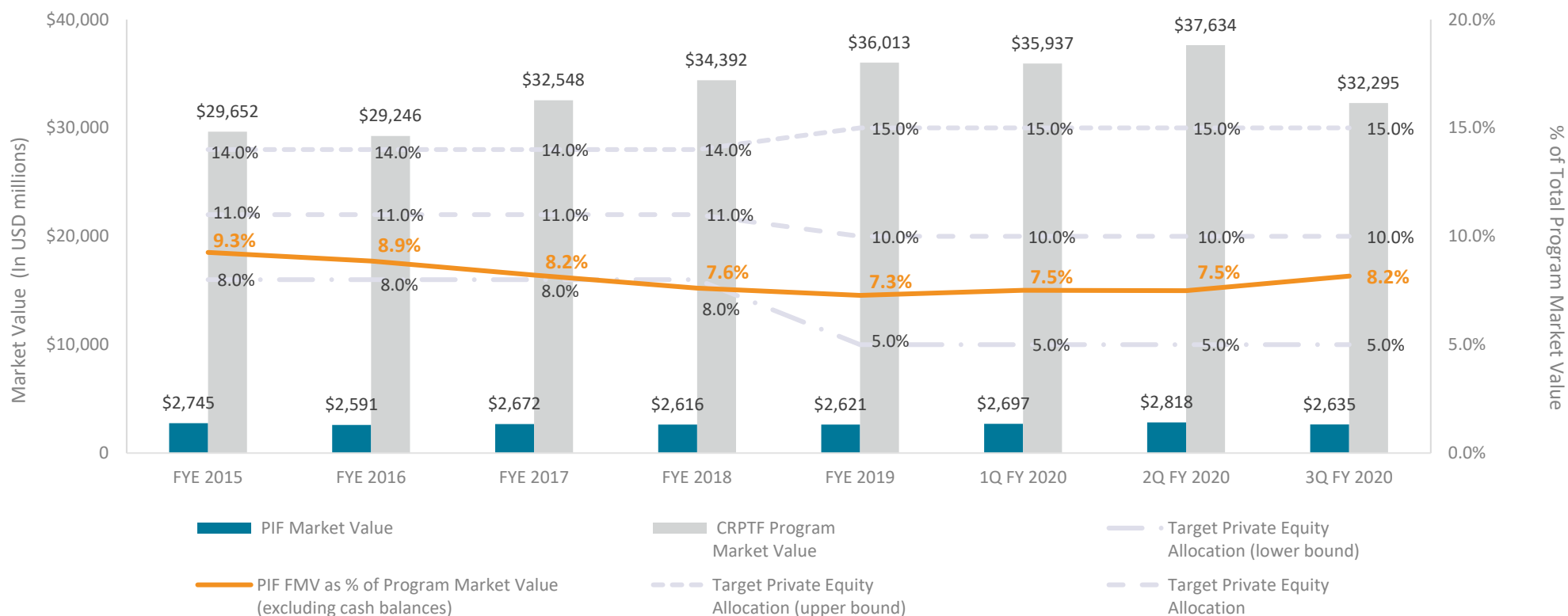
In USD millions.

Closed Through 3Q FY 2020					
Investment	Fiscal Quarter Closed	Vintage Year	Sub-Strategy	Geographic Focus	Committed Capital
Vistria Fund III, L.P.	Q1FY'20	2020	Small Buyout	North America	\$75.0
Dover Street X, L.P.	Q2FY'20	2020	Secondaries	Global	100.0
Georgian Partners Growth Fund V, L.P.	Q2FY'20	2020	Growth Equity	North America	75.0
Hollyport Secondary Opportunities VII, L.P.	Q2FY'20	2020	Secondaries	Global	75.0
JFL Equity Investors V, L.P.	Q2FY'20	2019	Middle-Market Buyout	North America	100.0
Secondary Overflow Fund IV, L.P.	Q2FY'20	2019	Secondaries	Global	50.0
Clearlake Capital Partners VI, L.P.	Q3FY'20	2020	Large Buyout	North America	75.0
Total					\$550.0
Fiscal Year 2020 Strategic Plan Commitment Pacing Target:					\$950.0

Closed commitments in a foreign currency are converted into US Dollars using exchange rate as of the report date.

PIF Market Value vs. Asset Allocation Policy

CRPTF Private Equity Market Value as % of Program Market Value



Connecticut Horizon Fund & In-State Program



Horizon Fund

- Through March 31, 2020, the PIF had committed \$240.0 million to CHF designated private equity mandates since inception.
- Since inception through March 31, 2020, the PIF's CHF designated investments generated a Net IRR of 8.0%.

As of March 31, 2020. In USD millions.

	Vintage Year	Commitment Up To	Contributed Capital	Unfunded Commitment	Distributed Capital	Exposure	Market Value	TVPI	Net IRR
CT Horizon Legacy Fund, L.P.	2008	\$15.0	\$13.8	\$2.6	\$8.4	\$4.8	\$2.1	0.8x	(4.7%)
M2 - Connecticut Emerging Private Equity Fund of Funds, L.P.	2008	105.0	113.3	6.4	94.8	71.8	65.4	1.4x	8.0%
Nutmeg Opportunities Fund L.P. CT-EM	2010	35.0	17.0	7.8	-	45.5	37.8	2.2x	13.2%
Nutmeg Opportunities Fund II, LLC - EM	2017	35.0	18.3	18.1	-	44.9	26.9	1.5x	20.1%
Freeman CT Horizon Investment Fund, LLC	2019	50.0	8.0	42.7	0.1	50.2	7.5	NM	NM
Total		\$240.0	\$170.4	\$77.6	\$103.3	\$217.1	\$139.6	1.4x	8.0%

In-State Program

- Through March 31, 2020, the PIF had committed \$145.0 million to In-State designated private equity mandates.
- Since inception through March 31, 2020, the PIF's In-State investments generated a Net IRR of 13.7%.

As of March 31, 2020. In USD millions.

	Vintage Year	Commitment Up To	Contributed Capital	Unfunded Commitment	Distributed Capital	Exposure	Market Value	TVPI	Net IRR
Connecticut Growth Capital, LLC	2016	\$50.0	\$34.1	\$18.5	\$20.7	\$43.4	\$25.0	1.3x	16.5%
Constitution Fund V, LLC - Series B	2017	20.0	15.1	5.1	3.5	18.5	13.4	1.1x	6.6%
Nutmeg Opportunities Fund II, LLC – CT-Direct Investment	2017	50.0	-	50.0	-	50.0	-	NM	NM
Constitution Fund V, LLC - Series D	2019	25.0	6.6	18.4	-	24.8	6.5	NM	NM
Total		\$145.0	\$55.8	\$92.0	\$24.2	\$136.8	\$44.8	1.2x	13.7%

Note: in August 2018, the commitment for Connecticut Growth Capital, LLC was reduced by US\$25.0 million resulting in an updated commitment of US\$50.0 million.

An IRR is not meaningful in the early years of a partnership's life given the J-curve effect. The J-curve refers to the shape of the curve that illustrates a fund's performance over time. During the initial years of a fund's life, due to illiquidity, stagnant valuations, fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio companies are realized or increase in value and fees become a smaller percentage of overall contributions, fund performance improves and investors' returns move up the "J" shaped curve. Performance for investments held less than two years is not considered meaningful. TVPI and Net IRR will be displayed two years following the first capital call. TVPI is the ratio of Distributed Capital plus Market Value to Contributed Capital. Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GP's use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

Market Value is defined as the investor's value as reported by the fund's manager.

Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.

Data compiled from cash flow notices and quarterly financial statements provided by fund managers.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

II. Portfolio Review

Portfolio Summary



As of March 31, 2020. In USD millions.

Group	Number of Funds	Committed Capital	Contributed Capital	Unfunded Commitment	Distributed Capital	Market Value	Exposure	DPI	TVPI	Net IRR
By Vehicle										
Fund of Funds	20	2,350.2	2,015.0	318.0	2,956.3	808.0	1,126.1	1.5x	1.9x	17.9%
Primary	105	7,117.9	6,186.8	1,311.8	7,058.2	1,714.3	3,026.1	1.1x	1.4x	6.8%
Secondary Fund of Funds	8	705.0	403.1	310.1	397.2	112.6	422.7	1.0x	1.3x	5.9%
Total	133	\$10,173.1	\$8,604.9	\$1,939.9	\$10,411.7	\$2,634.9	\$4,574.9	1.2x	1.5x	9.3%
By Strategy										
Buyout	68	4,863.5	4,121.9	949.4	5,198.8	1,269.8	2,219.2	1.3x	1.6x	9.2%
Fund of Funds	8	455.0	258.8	201.4	154.3	231.4	432.9	0.6x	1.5x	9.9%
Growth Equity	2	125.0	32.1	93.3	0.0	32.2	125.4	0.0x	1.0x	0.3%
Multi-Strategy	5	390.2	409.0	29.2	500.0	9.7	38.9	1.2x	1.2x	3.9%
Special Situations	30	2,203.4	1,872.9	519.3	1,921.9	505.6	1,024.9	1.0x	1.3x	6.1%
Venture Capital	20	2,136.0	1,910.1	147.4	2,636.7	586.2	733.6	1.4x	1.7x	12.1%
Total	133	\$10,173.1	\$8,604.9	\$1,939.9	\$10,411.7	\$2,634.9	\$4,574.9	1.2x	1.5x	9.3%
By Age										
Pre-2011 Vintages	80	6,489.5	6,432.6	157.6	9,282.2	737.1	894.7	1.4x	1.6x	9.0%
Vintages 2011-2020	53	3,683.6	2,172.4	1,782.3	1,129.6	1,897.8	3,680.1	0.5x	1.4x	14.5%
Total	133	\$10,173.1	\$8,604.9	\$1,939.9	\$10,411.7	\$2,634.9	\$4,574.9	1.2x	1.5x	9.3%

Market Value is defined as the investor's value as reported by the fund's manager.

Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.

DPI is the ratio of Distributed Capital to Contributed Capital.

TVPI is the ratio of Distributed Capital plus Market Value to Contributed Capital.

Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

Results include fully liquidated investments (if applicable).

Commitments made in a foreign currency have been converted into US Dollars using an exchange rate as of the Report Date.

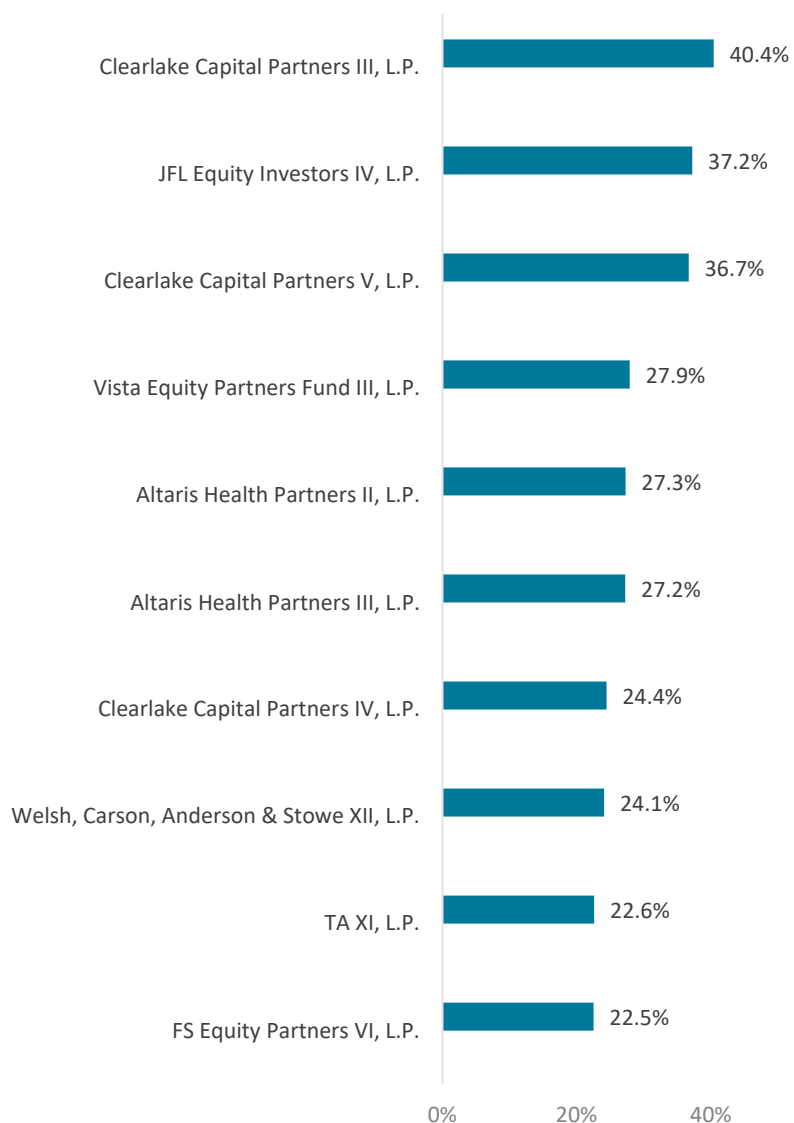
Returns calculated for funds in the early years of their lives are not particularly meaningful given the J-curve effect. During these early years, due to illiquidity, stagnant valuations, fees and expenses, fund performance tends to be negative (the bottom of the "J").

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

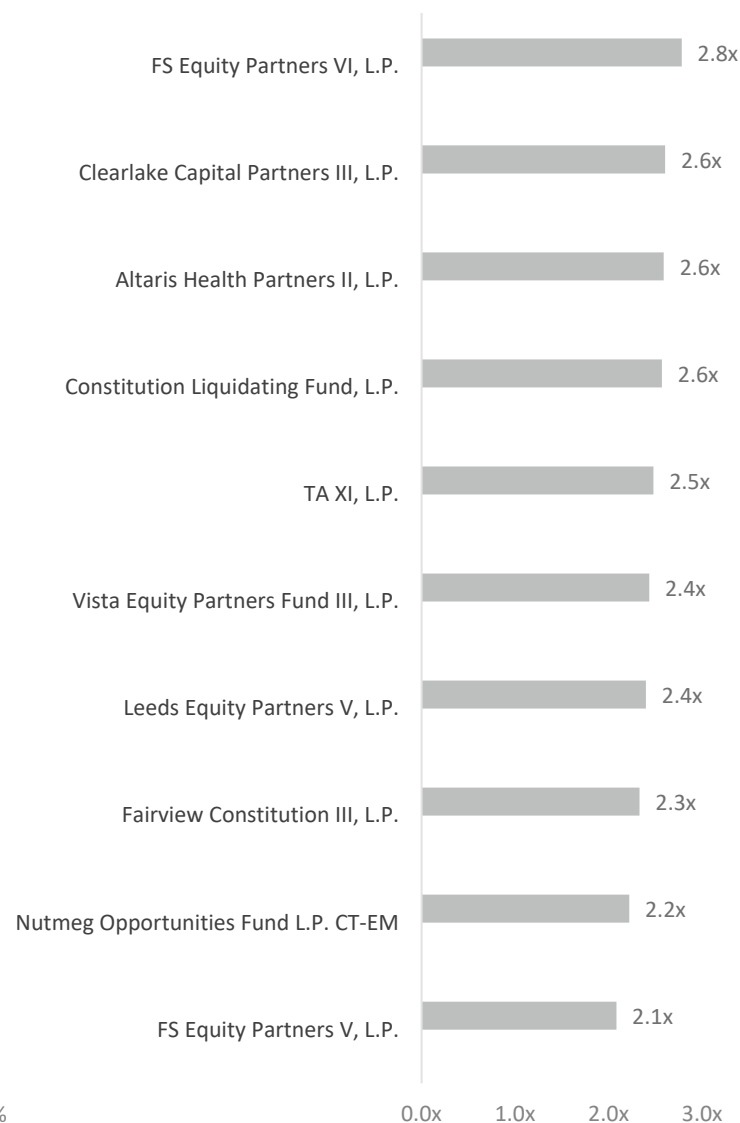
Top Performing Investments

The following charts depict the top ten performing active investments in the Portfolio by IRR and TVPI through March 31, 2020.

Top 10 Active Performers by IRR



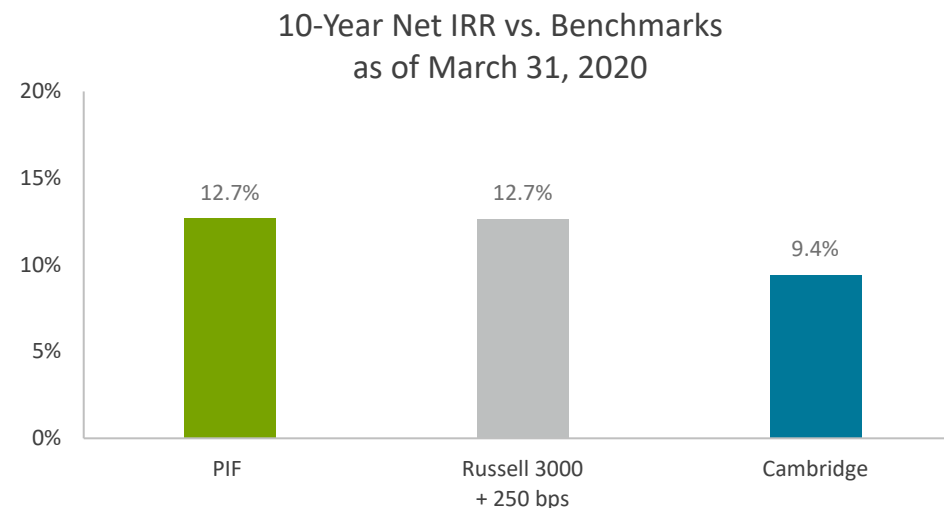
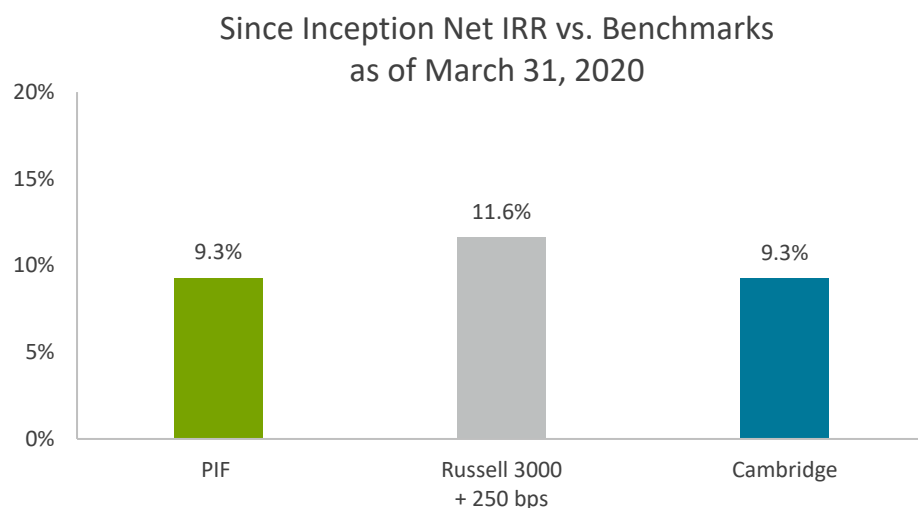
Top 10 Active Performers by TVPI



Performance versus Benchmarks: Total PIF Program



- Since inception to March 31, 2020, the total PIF program (including the Connecticut Horizon Fund and In-State Programs) generated a Net IRR of 9.3%. Over this time period, PIF underperformed relative to the Russell 3000 + 250 bps by 231 basis points.
- For the 10 years ending March 31, 2020, the total PIF program generated a Net IRR of 12.7%. Over this time period, PIF performance was in-line with the Russell 3000 + 250 bps.



Returns are calculated using the internal rate of return methodology and are after the deduction of underlying fund manager fees and expenses.

The Benchmark is defined as The Russell 3000 index + 250 bps. Benchmark was changed from the S&P500 (10-year annualized return) + 500 bps, effective May 31, 2019.

Since Inception Cambridge Benchmark: All Private Equity, Average IRR Net to LPs for Vintages 1987-2020, as of March 31, 2020. This benchmark data is continuously updated and therefore subject to change.

10-Year Cambridge Benchmark: All Private Equity, Pooled IRR, for Vintages 1987-2020, as of March 31, 2020. This benchmark data is continuously updated and therefore subject to change.

Comparisons between private equity and public equity returns need to be viewed with caution as private equity is an illiquid asset class, whereas publicly listed securities are marked-to-market daily. Despite quarterly mark-to-market of private holdings, valuations are believed to be incorporated at a slower pace than the public markets.

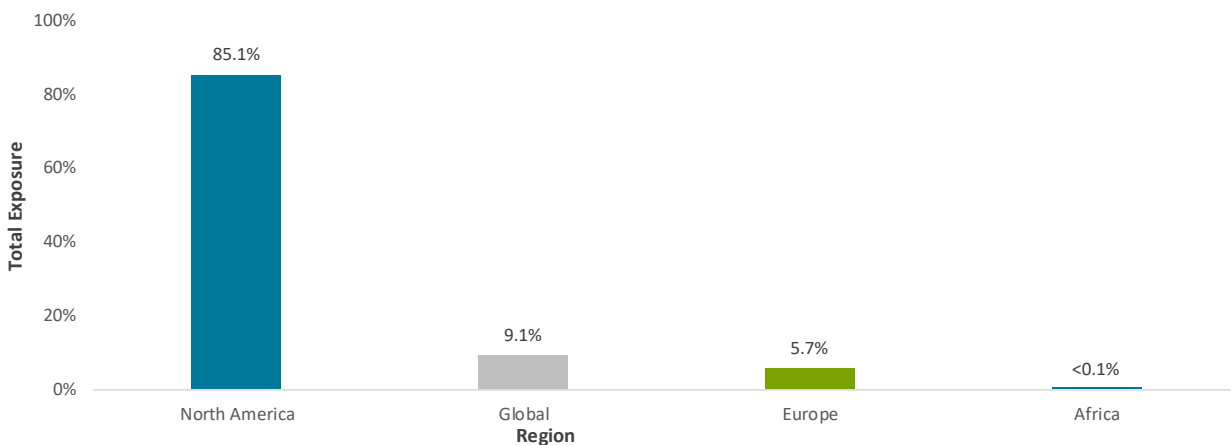
The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

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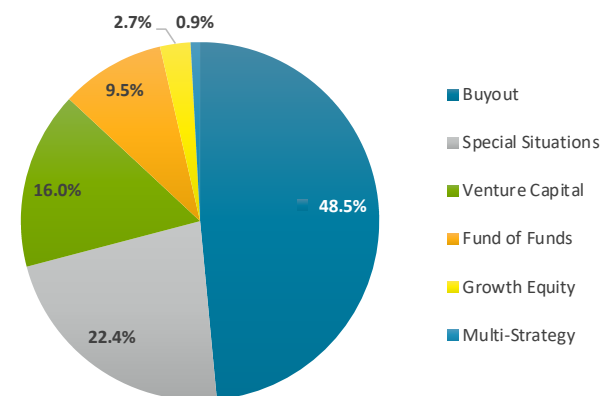
Portfolio Diversification

- As of March 31, 2020, the Portfolio is primarily concentrated in funds employing Buyout strategies, which represent 48.5% of total exposure as of quarter-end. In terms of geographic focus, the Portfolio is primarily concentrated in Funds targeting investments in North America, which accounted for 85.1% of total exposure as of quarter-end.
- Approximately 39.4% of total exposure is attributable to Funds with commitments made more than five years ago while approximately 33.8% of total exposure is attributable to commitments made less than three years ago.

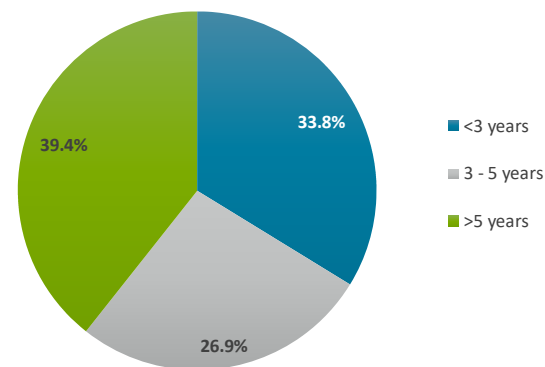
Portfolio Diversification by Region



Portfolio Diversification by Strategy



Portfolio Diversification by Age

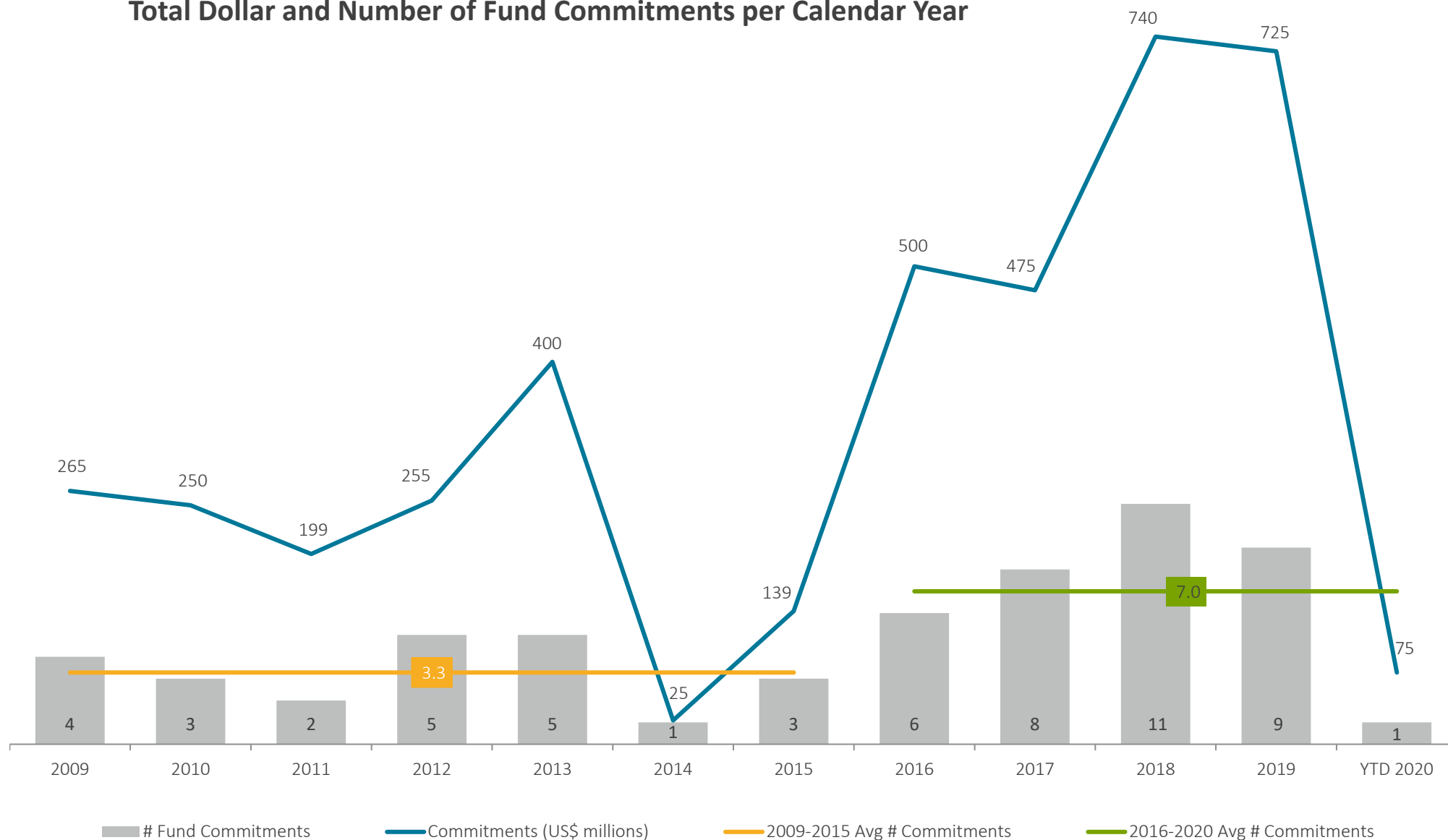


Global funds are those that target a geographically diverse set of investments and therefore do not confine to one geographic region.

As of March 31, 2020, the Portfolio is also invested in funds with exposure to investments located in Asia. Altogether, these investments account for less than 0.1% of aggregate Portfolio exposure.

Calendar Year Commitments

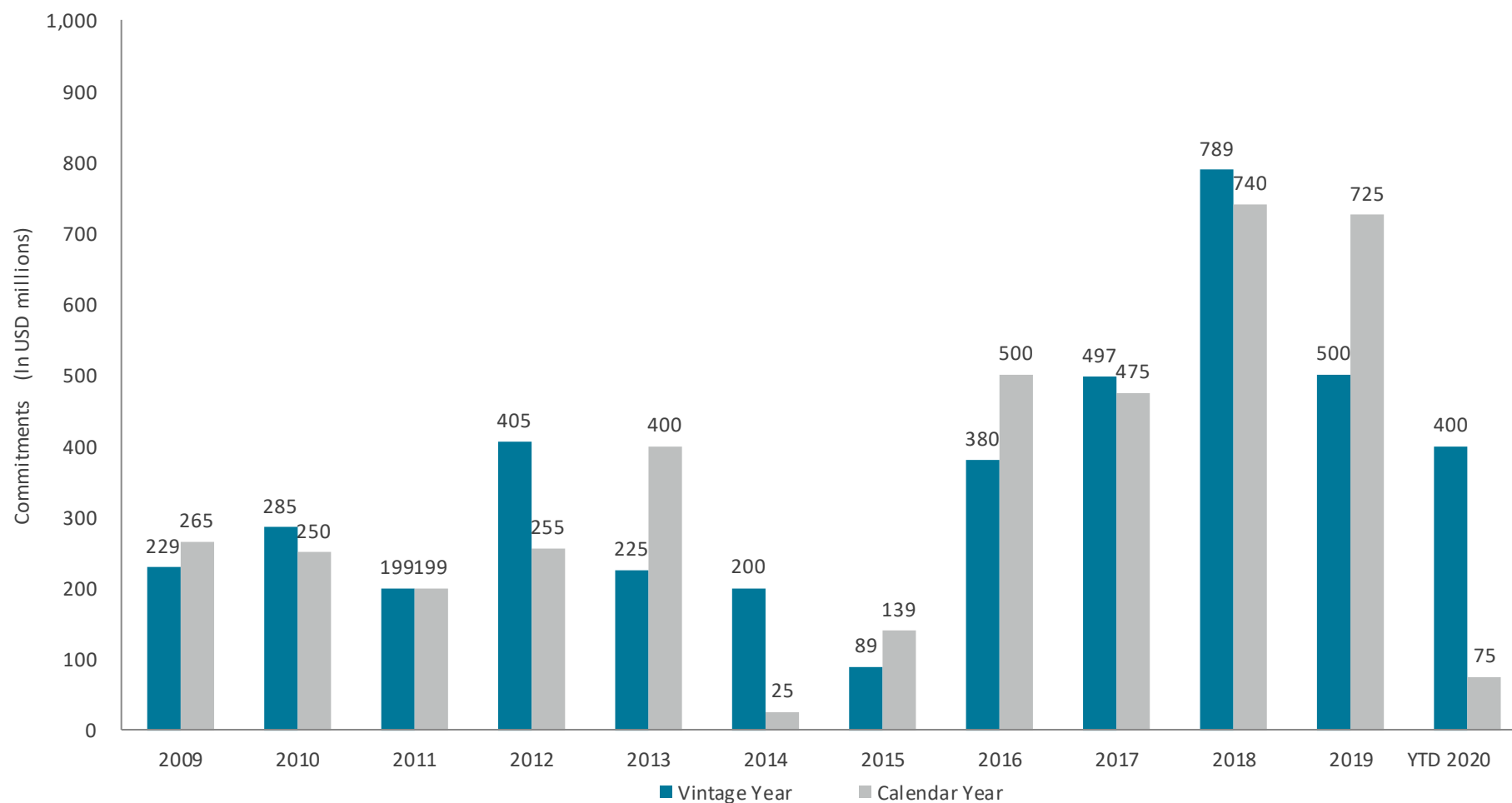
Total Dollar and Number of Fund Commitments per Calendar Year



Calendar Year represents the year in which a commitment to a fund formally closed.
 Closed commitments in a foreign currency are converted into US dollars using exchange rate as of commitment date, if applicable.
 Commitments were compiled through the Report Date.

Annual Commitments

Annual Commitments



Vintage Year is defined as the earlier of the year in which investors first contribute capital to a fund or the year a fund commences operating activity. If neither first contribution or first investment has occurred as of Report Date, Commitment Year is used as a preliminary Vintage Year.

Calendar Year represents the year in which a commitment to a fund formally closed.

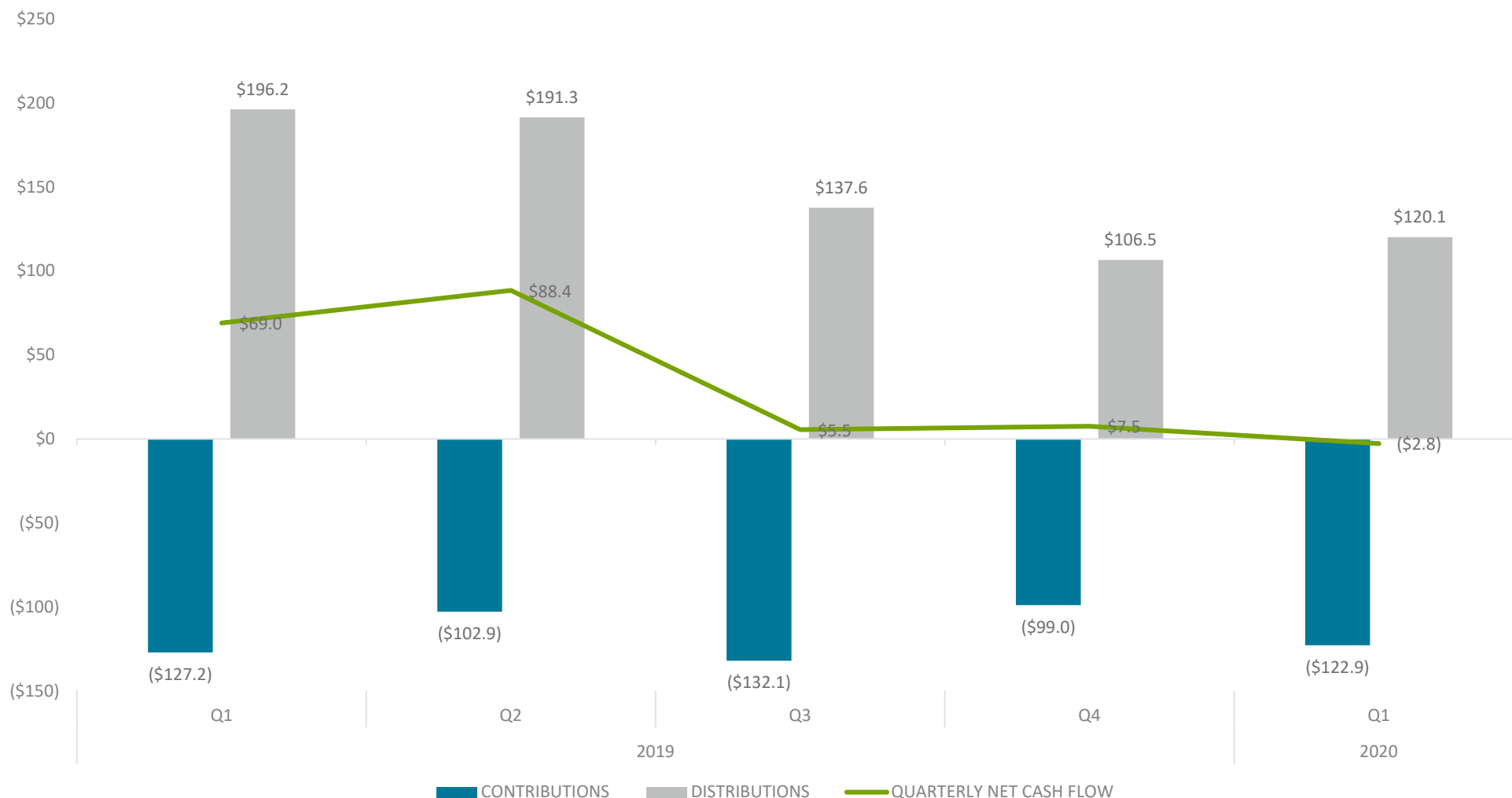
Closed commitments in a foreign currency are converted into US dollars using exchange rate as of commitment date, if applicable.

Commitments were compiled through the Report Date.

Quarterly Cash Flow

Breaking a thirty-quarter streak of net cash inflow, Q1 2020 contributions exceeded quarterly distributions, posting a \$2.8 million net cash outflow for the first quarter of 2020.

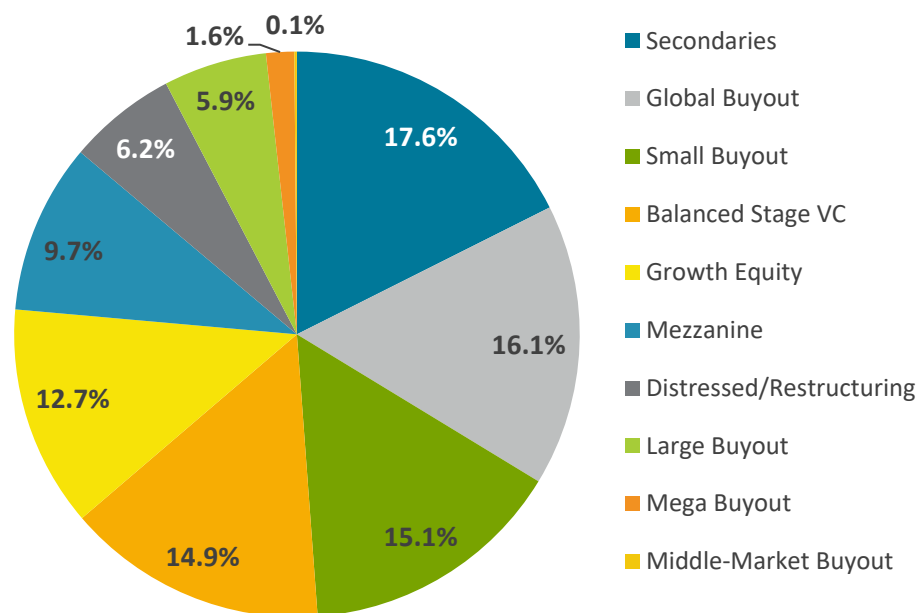
Quarterly contributions were 24.1% higher than the prior quarter and quarterly distributions were 12.7% higher than the prior quarter. Compared to the same period last year, quarterly contributions were down 3.3% and quarterly distributions were down 38.8% for the first quarter of 2020.



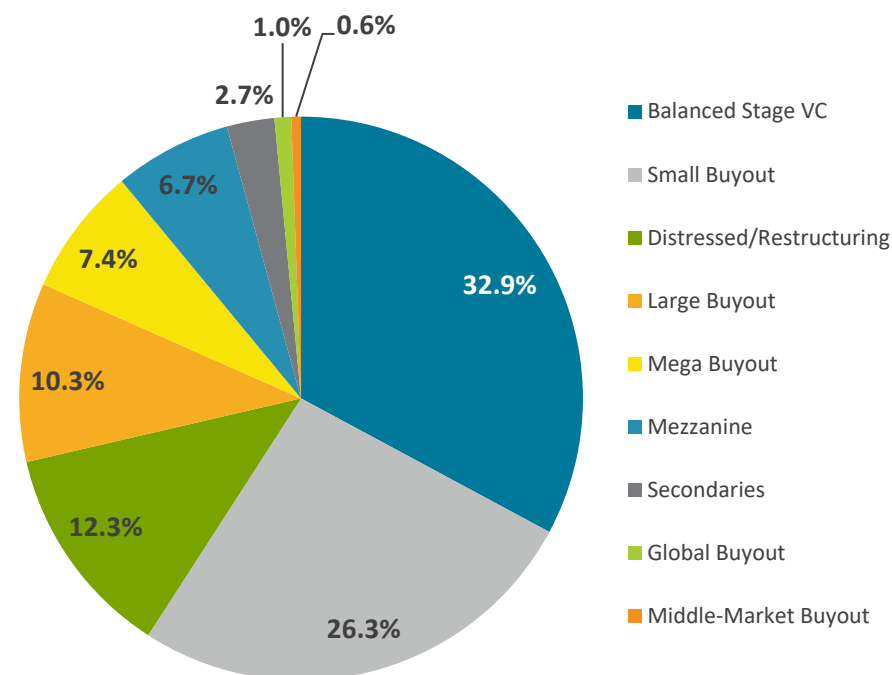
Annual Cash Flow

During 2020, Secondaries and Global Buyout funds were the most active in terms of capital calls, drawing \$41.4 million, or 33.7%, of calendar year 2020 contributed capital. Balanced Stage VC and Small Buyout funds were the most active in terms of distributions, together distributing \$71.0 million, or 59.1%, of total distributed capital in calendar year 2020.

YTD Contributions by Sub-Strategy

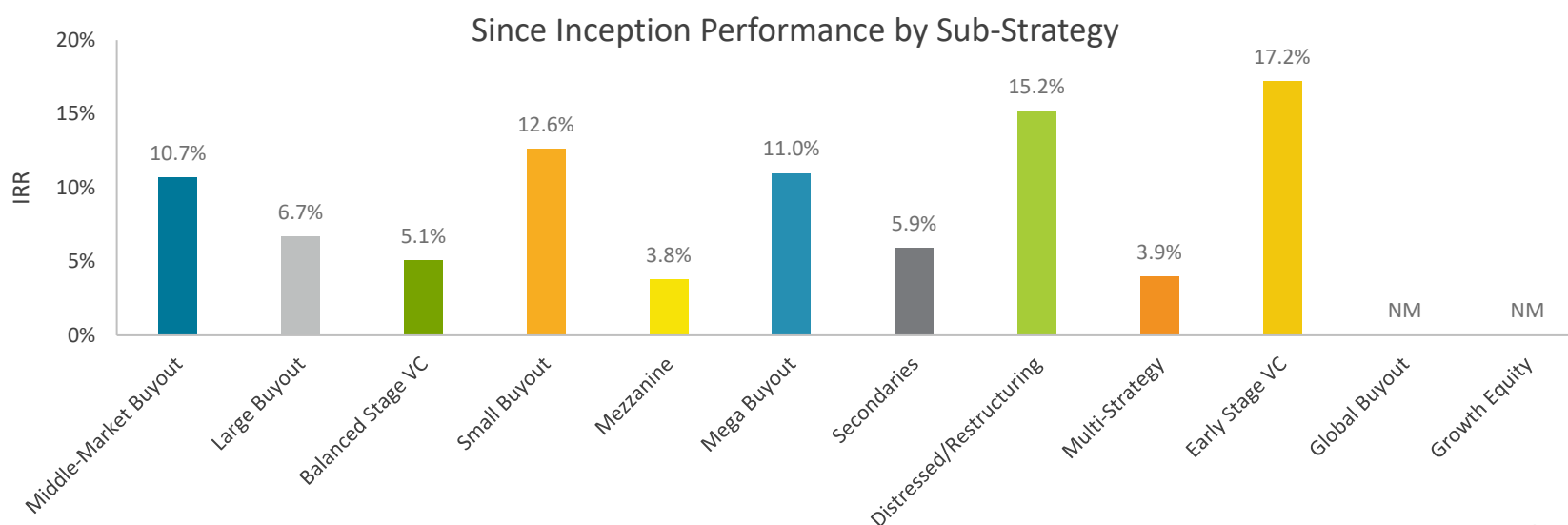
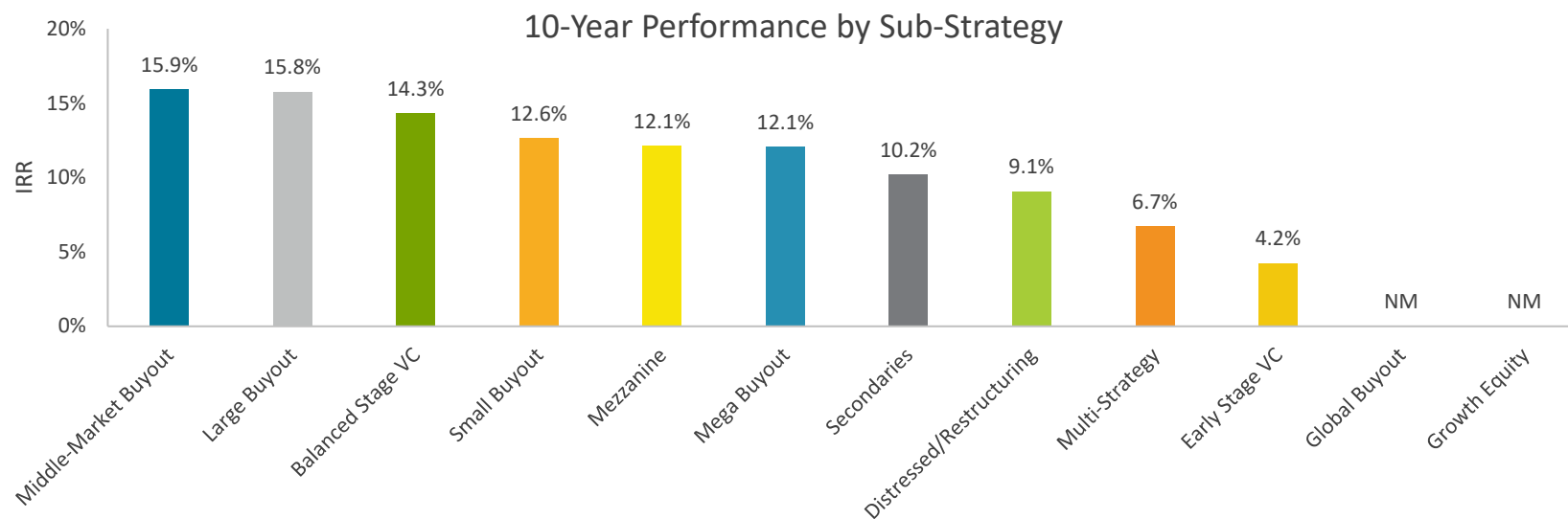


YTD Distributions by Sub-Strategy



Performance by Sub-Strategy

- For the ten years ending March 31, 2020, the returns generated within Middle-Market Buyout funds have exceeded other strategies.
- Since inception, Early Stage Venture Capital (“VC”) and Distressed funds have performed well above many other strategies. VC is a strategy that typically carries significant risk and PIF’s outperformance has been primarily driven by Constitution Liquidating Fund (20.0% net IRR). Clearlake Capital Partners III & IV continue to deliver strong performance for Distressed funds.



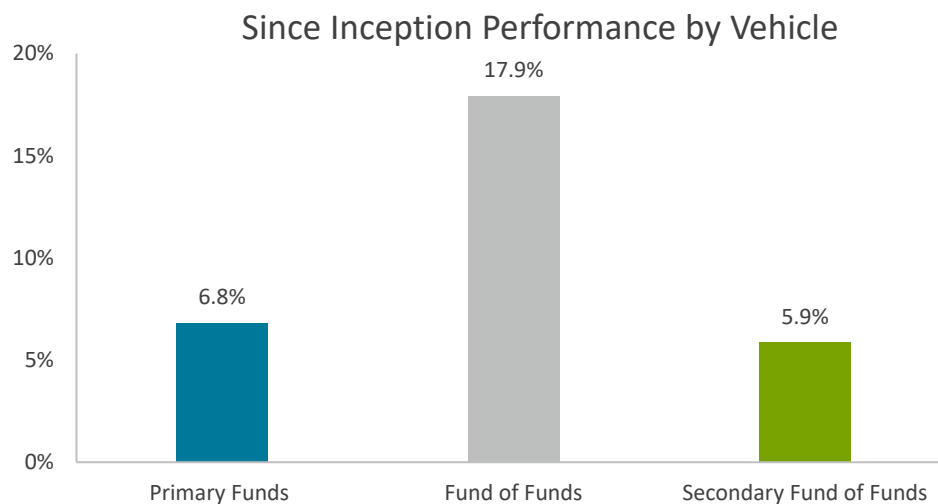
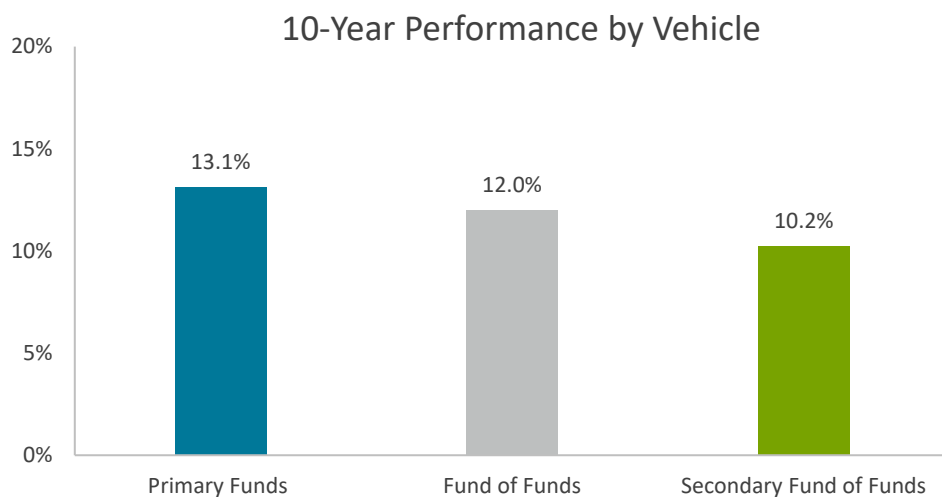
Returns are calculated using the internal rate of return methodology and are after the deduction of fees and expenses.

IRR and TVPI for certain vehicles may have been impacted by Stepstone’s or the underlying GPs’ use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Performance by Vehicle

- For the ten years ending March 31, 2020, returns generated within Primary funds exceeded other vehicle types.
- Since inception, Fund-of-Funds have performed better than other vehicles.
- The disparity between Fund-of-Funds performance during the last ten years and since inception is driven primarily by the Portfolio's commitment to Constitution Liquidating Fund, a 1987 vintage-year fund, which generated an IRR of 20.0% as of March 31, 2020. Constitution Liquidating Fund also accounts for 36.3% of the total value of PIF Funds-of-Funds investments made since inception.



Benchmark Summary



- The below presentation provides multiple period returns of the portfolio compared to the benchmark.
- Since inception the portfolio has underperformed the benchmark by 231 bps.
- For the ten years ending March 31, 2020, the portfolio has performed in-line with the benchmark.

As of March 31, 2020.

Allocations	1-Year	3-Year	5-Year	10-Year	Since Inception
Aggregate Portfolio	4.0%	11.9%	10.9%	12.7%	9.3%
Russell 3000 + 250 bps	(6.6%)	6.5%	8.3%	12.7%	11.6%
Relative Performance	10.6%	5.4%	2.7%	>0.1%	(2.3%)

Russell 3000 Benchmark data is as of 1994 through March 31, 2020 + 250 basis points. Benchmark was changed from the S&P500 (10-year annualized return) + 500 bps, effective May 31, 2019.

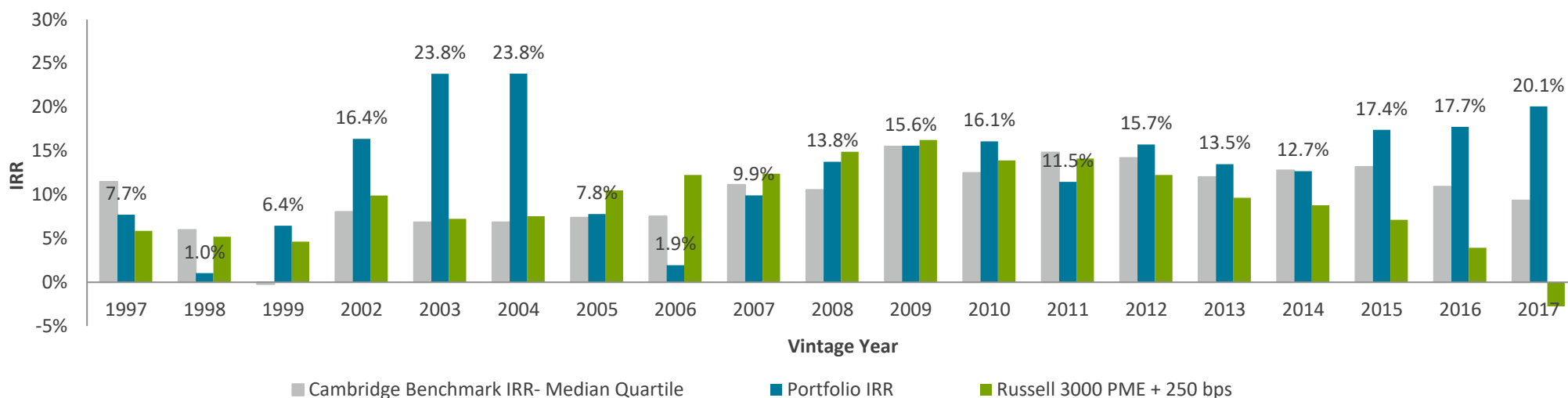
Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Analysis by Vintage Year

- The below presentation provides the since inception returns of the portfolio by vintage year compared to both the Cambridge median IRR benchmark as well as the Russel 3000 + 250 bps PME+ returns.
- Vintage year 2004 has the highest relative performance exceeding the Cambridge Associates benchmark by 1,697 bps.
- Vintage year 2006 has the lowest relative performance under performing the Cambridge Associates benchmark by 558 bps.



Cambridge Associates data, U.S. All Private Equity returns as of March 31, 2020.

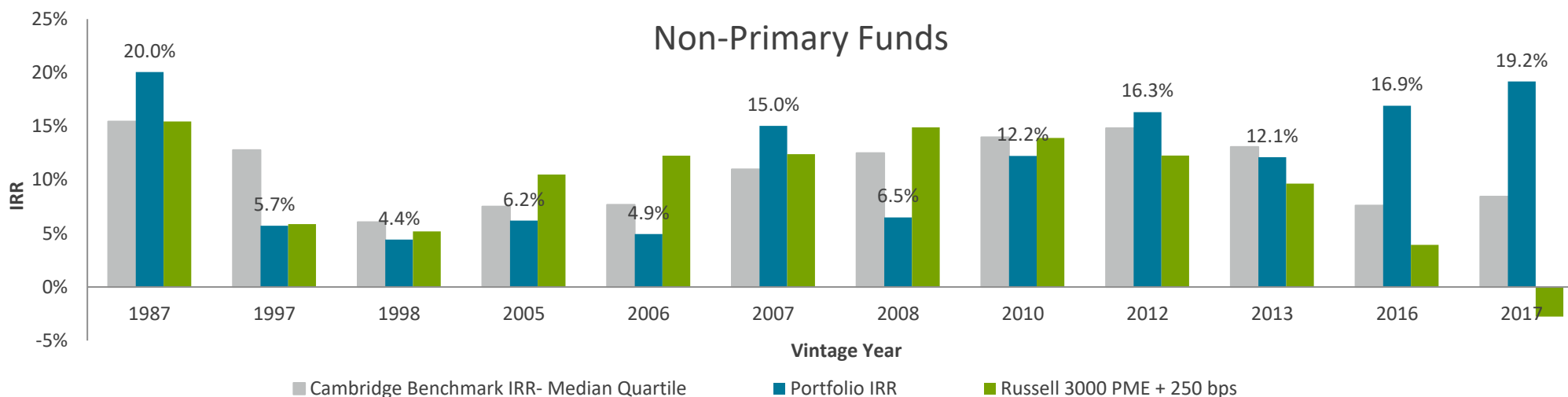
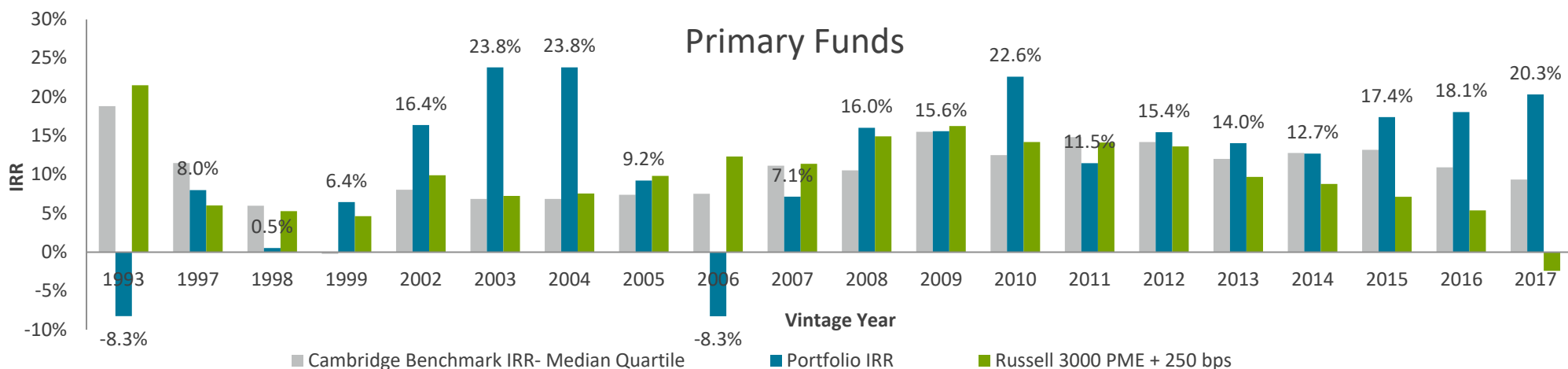
Russell 3000 PME data is as of March 31, 2020. PME+ was changed from S&P500 + 500 bps to Russel 3000 + 250 bps effective May 31, 2019.

Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Analysis by Vintage Year



Primary Funds are private equity funds that acquire ownership interests directly in operating companies. Non-Primary Funds are private equity funds that invest in other funds or make secondary market purchases of interests in private equity funds and/or operating companies.

Cambridge Associates data, U.S. All Private Equity returns as of March 31, 2020. Cambridge Associates data, U.S. Secondary Funds and U.S. Fund of Funds returns as of March 31, 2020.

Russell 3000 PME data is as of March 31, 2020. PME+ was changed from S&P500 + 500 bps to Russel 3000 + 250 bps effective May 31, 2019.

The benchmarks represented in the Non-Primary Funds chart are not considered to be appropriate for fund-of-funds that commit capital to underlying funds over multiple vintage years.

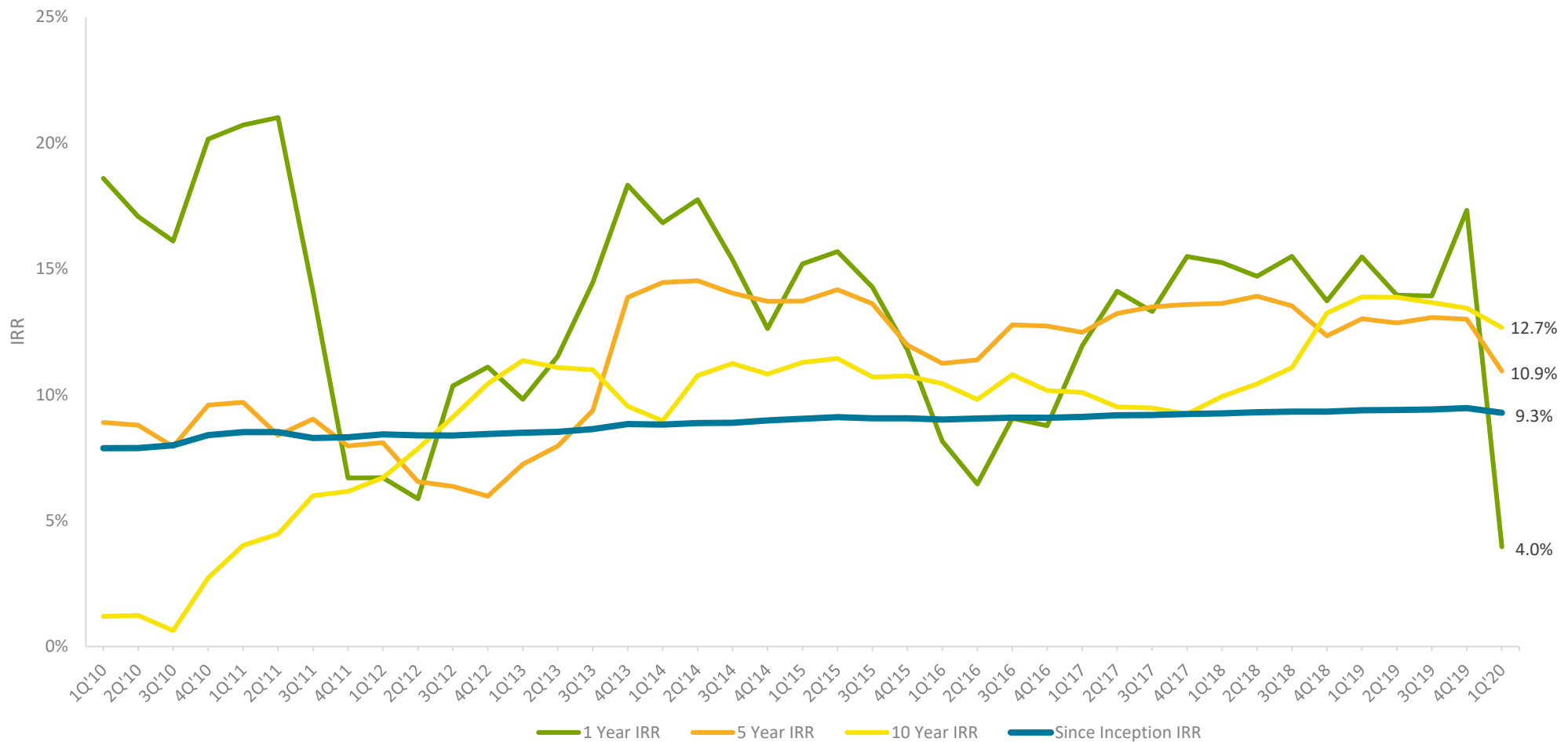
Insufficient non-primary benchmarking data available to construct a valid and reliable benchmark for vintage years 1987 and 1998.

The analysis excludes the most recent vintage years, as fund performance is deemed not yet meaningful (NM).

The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

PIF Total Portfolio Periodized Returns for Trailing 10 years



Investment Performance by Sub Strategy – Active Funds



As of March 31, 2020. In USD millions.

Investment	Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
Buyout													
Global Buyout													
BC European Capital X	2017	\$ 91.7	\$ 79.2	\$ 1.5	\$ 76.6	\$ 90.7	\$ 78.1	(\$1.2)	\$ 14.1	1.0x	Fourth	(1.3%)	Fourth
EQT VIII, L.P.	2018	80.3	39.5	4.5	38.1	83.3	42.6	3.1	45.2	NM	NM	NM	NM
Global Buyout Total		172.0	118.7	6.0	114.6	174.0	120.7	1.9	59.4	1.0x		1.6%	
Large Buyout													
Court Square Capital Partners II, L.P.	2007	94.0	91.7	163.3	7.1	10.3	170.4	78.7	3.2	1.9x	Second	12.6%	Second
Court Square Capital Partners III, L.P.	2013	50.0	53.0	33.7	49.7	53.2	83.4	30.4	3.6	1.6x	Second	19.2%	First
Gilbert Global Equity Partners, L.P.	1998	150.0	135.2	194.4	1.9	1.9	196.2	61.1	-	1.5x	Third	3.3%	Third
Siris Partners IV, L.P.	2018	50.0	23.1	-	18.9	45.7	18.9	(4.3)	26.9	NM	NM	NM	NM
TA XI, L.P.	2010	75.0	73.7	141.5	41.1	42.4	182.7	109.0	1.3	2.5x	Second	22.6%	First
Vista Equity Partners Fund IV, L.P.	2012	75.0	80.5	101.9	43.4	55.6	145.3	64.8	12.2	1.8x	First	15.8%	Second
Welsh, Carson, Anderson & Stowe XI, L.P.	2009	100.0	100.0	130.3	28.9	28.9	159.3	59.3	-	1.6x	Third	11.4%	Third
Welsh, Carson, Anderson & Stowe XII, L.P.	2016	100.0	90.8	51.9	84.9	95.6	136.8	46.0	10.7	1.5x	First	24.1%	First
Welsh, Carson, Anderson & Stowe XIII, L.P.	2019	125.0	7.8	-	3.7	120.9	3.7	(4.1)	117.2	NM	NM	NM	NM
Large Buyout Total		819.0	655.8	817.1	279.6	454.6	1,096.7	440.8	175.1	1.7x		8.5%	
Mega Buyout													
Apollo Investment Fund IX, L.P.	2018	125.0	23.4	0.2	20.3	121.9	20.5	(2.9)	101.6	NM	NM	NM	NM
Apollo Investment Fund VIII, L.P.	2014	125.0	116.5	56.3	84.9	104.6	141.3	24.8	19.7	1.2x	Fourth	6.8%	Fourth
Clearlake Capital Partners VI, L.P.	2020	75.0	-	-	-	75.0	-	-	75.0	NM	NM	NM	NM
KKR 2006 Fund, L.P.	2007	125.0	132.7	191.1	35.0	37.2	226.1	93.3	2.3	1.7x	Second	8.3%	Third
KKR Millennium Fund, L.P.	2002	100.0	103.0	212.8	0.1	0.1	212.9	110.0	-	2.1x	Second	16.4%	Third
Thomas H. Lee Equity Fund VI, L.P.	2007	100.0	105.8	161.9	5.5	10.3	167.4	61.6	4.8	1.6x	Second	7.8%	Third
Vista Equity Partners Fund VI, L.P.	2016	100.0	111.6	24.8	121.4	135.3	146.2	34.6	13.9	1.3x	First	13.1%	First
Vista Equity Partners Fund VII, L.P.	2018	100.0	26.0	0.1	23.5	97.5	23.5	(2.4)	74.0	NM	NM	NM	NM
Mega Buyout Total		850.0	618.9	647.3	290.6	581.9	937.9	319.0	291.3	1.5x		10.5%	
Middle-Market Buyout													
Ethos US Dollar Fund V-B	2006	50.0	59.4	62.3	2.3	2.3	64.6	5.2	-	1.1x	Fourth	1.9%	Fourth
FS Equity Partners V, L.P.	2004	75.0	60.6	121.8	4.3	18.9	126.2	65.6	14.5	2.1x	First	15.3%	Second
FS Equity Partners VI, L.P.	2009	75.0	78.3	181.0	36.8	37.6	217.8	139.5	0.8	2.8x	First	22.5%	Second
JFL Equity Investors V, L.P.	2019	100.0	-	-	(0.3)	99.7	(0.3)	(0.3)	100.0	NM	NM	NM	NM
Vista Equity Partners Fund III, L.P.	2008	50.0	54.1	127.6	4.0	8.0	131.6	77.5	4.0	2.4x	First	27.9%	First
Wellspring Capital Partners V, L.P.	2011	75.0	81.9	94.4	30.1	57.3	124.5	42.6	27.2	1.5x	Third	14.9%	Second
Wellspring Capital Partners VI, L.P.	2018	75.0	25.7	-	21.6	71.0	21.6	(4.0)	49.3	NM	NM	NM	NM
Yucaipa American Alliance Fund II, LP	2008	75.0	103.2	99.0	65.8	65.8	164.8	61.5	0.0	1.6x	Third	8.5%	Third
Yucaipa American Alliance Fund III, L.P.	2015	39.3	27.7	2.0	28.0	41.5	30.0	2.3	13.5	1.1x	Fourth	3.3%	Fourth
Middle-Market Buyout Total		614.3	490.9	688.1	192.6	401.9	880.7	389.8	209.3	1.8x		14.6%	

Investment Performance by Sub Strategy – Active Funds



As of March 31, 2020. In USD millions.

Investment	Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
Small Buyout													
Altaris Constellation Partners IV, L.P.	2018	\$ 10.0	\$ 3.1	-	\$ 4.2	\$ 11.1	\$ 4.2	\$ 1.1	\$ 6.9	NM	NM	NM	NM
Altaris Health Partners II, L.P.	2008	40.0	39.2	96.5	5.0	10.7	101.5	62.3	5.6	2.6x	First	27.3%	First
Altaris Health Partners III, L.P.	2014	50.0	49.8	35.3	54.2	62.3	89.5	39.7	8.1	1.8x	First	27.2%	First
Altaris Health Partners IV, L.P.	2018	40.0	19.5	-	21.7	42.2	21.7	2.2	20.5	NM	NM	NM	NM
Boston Ventures Limited Partnership VII	2007	75.0	63.5	67.0	10.0	22.4	77.1	13.6	12.4	1.2x	Third	3.5%	Fourth
Freeman CT Horizon Investment Fund, LLC	2019	50.0	8.0	0.1	7.5	50.2	7.6	(0.4)	42.7	NM	NM	NM	NM
GenNx360 Capital Partners II, L.P.	2014	25.0	29.1	13.9	27.2	29.4	41.1	12.1	2.2	1.4x	Second	13.5%	Second
ICV Partners II, L.P.	2005	40.0	42.2	70.2	0.8	1.9	71.0	28.8	1.1	1.7x	Second	11.9%	Second
JFL Equity Investors III, L.P.	2011	49.0	56.2	45.3	35.1	40.8	80.4	24.1	5.7	1.4x	Third	10.0%	Third
JFL Equity Investors IV, L.P.	2017	75.0	65.4	28.2	88.1	99.0	116.3	50.9	10.9	1.8x	First	37.2%	First
Leeds Equity Partners V, L.P.	2009	40.0	39.8	68.4	26.9	32.4	95.4	55.6	5.4	2.4x	First	19.5%	Second
Leeds Equity Partners VI, L.P.	2017	75.0	58.1	0.3	69.2	86.3	69.5	11.4	17.2	1.2x	Second	13.5%	Second
RFE Investment Partners VII, L.P.	2008	40.0	38.9	60.0	6.6	6.9	66.6	27.6	0.3	1.7x	Second	8.0%	Third
RFE Investment Partners VIII, L.P.	2012	40.0	41.2	21.1	35.9	36.6	57.1	15.9	0.7	1.4x	Third	8.6%	Third
Vistria Fund III, L.P.	2020	75.0	0.5	-	(0.0)	74.5	(0.0)	(0.5)	74.5	NM	NM	NM	NM
Small Buyout Total		724.0	554.5	506.4	392.4	606.8	898.9	344.3	214.4	1.6x		13.0%	
Buyout Total		3,179.2	2,438.9	2,665.0	1,269.8	2,219.2	3,934.8	1,495.9	949.4	1.6x		10.8%	
Fund of Funds													
Secondaries													
Hollyport Secondary Opportunities VII, L.P.	2020	75.0	15.1	-	17.4	77.4	17.4	2.3	60.0	NM	NM	NM	NM
Secondaries Total		75.0	15.1	-	17.4	77.4	17.4	2.3	60.0	NM	NM	NM	NM
Small Buyout													
CT Horizon Legacy Fund, L.P.	2008	15.0	13.8	8.4	2.1	4.8	10.5	(3.3)	2.6	0.8x	Fourth	(4.7%)	Fourth
M2 - Connecticut Emerging Private Equity Fund of Funds, L.P.	2008	105.0	113.3	94.8	65.4	71.8	160.1	46.8	6.4	1.4x	Third	8.0%	Third
Nutmeg Opportunities Fund II, LLC – CT-Direct Investment	2017	50.0	-	-	-	50.0	-	-	50.0	NM	NM	NM	NM
Nutmeg Opportunities Fund II, LLC - EM	2017	35.0	18.3	-	26.9	44.9	26.9	8.5	18.1	1.5x	First	20.1%	First
Nutmeg Opportunities Fund II, LLC - SMMBF	2018	65.0	20.6	-	23.2	69.0	23.2	2.6	45.7	NM	NM	NM	NM
Nutmeg Opportunities Fund L.P. CT-EM	2010	35.0	17.0	-	37.8	45.5	37.8	20.8	7.8	2.2x	Second	13.2%	Third
Nutmeg Opportunities Fund L.P. CT-SMMBF	2010	75.0	60.7	51.2	58.7	69.5	109.8	49.1	10.9	1.8x	Second	14.4%	Second
Small Buyout Total		380.0	243.7	154.3	214.0	355.4	368.3	124.6	141.4	1.5x		9.8%	
Fund of Funds Total		455.0	258.8	154.3	231.4	432.9	385.7	126.9	201.4	1.5x		9.9%	

Investment Performance by Sub Strategy – Active Funds



As of March 31, 2020. In USD millions.

Investment	Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
Growth Equity													
Growth Equity													
Aldrich Capital Partners Fund, LP	2018	\$ 50.0	\$ 23.5	-	\$ 24.4	\$ 51.3	\$ 24.4	\$ 1.0	\$ 26.9	NM	NM	NM	NM
Georgian Partners Growth Fund V, L.P.	2020	75.0	8.7	-	7.7	74.1	7.7	(0.9)	66.4	NM	NM	NM	NM
Growth Equity Total		125.0	32.1	-	32.2	125.4	32.2	0.1	93.3	NM		NM	
Growth Equity Total		125.0	32.1	-	32.2	125.4	32.2	0.1	93.3	NM		NM	
Multi-Strategy													
Multi-Strategy													
GCM Grosvenor CT Cleantech Opportunities Fund, L.P.	2007	25.0	26.9	8.1	3.6	5.6	11.7	(15.3)	2.0	0.4x	Fourth	(12.0%)	Fourth
PineBridge Global Emerging Markets Partners	1997	85.2	82.8	109.4	1.7	4.0	111.1	28.3	2.4	1.3x	Third	7.1%	Third
StepStone Pioneer Capital Buyout Fund II, L.P.	2006	175.0	188.2	253.2	4.4	29.3	257.6	69.4	24.8	1.4x	Third	4.9%	Third
Multi-Strategy Total		285.2	298.0	370.7	9.7	38.9	380.4	82.4	29.2	1.3x		4.5%	
Multi-Strategy Total		285.2	298.0	370.7	9.7	38.9	380.4	82.4	29.2	1.3x		4.5%	
Special Situations													
Distressed/Restructuring													
Castlelake Credit Strategies Fund II, L.P.	2012	50.0	46.7	38.9	22.4	26.1	61.3	14.6	3.8	1.3x	Fourth	5.8%	Fourth
Clearlake Capital Partners III, L.P.	2012	40.0	56.2	122.8	23.6	35.5	146.4	90.1	11.9	2.6x	Second	40.4%	Second
Clearlake Capital Partners IV, L.P.	2015	50.0	70.6	52.3	51.2	57.6	103.6	33.0	6.4	1.5x	First	24.4%	First
Clearlake Capital Partners V, L.P.	2018	60.0	47.7	16.9	50.2	70.8	67.0	19.3	20.7	1.4x	First	36.7%	First
Clearlake Opportunity Partners II, L.P.	2019	75.0	9.0	0.1	8.0	74.0	8.1	(0.9)	66.0	NM	NM	NM	NM
Pegasus Partners IV, L.P.	2007	75.0	96.8	72.7	14.3	14.3	86.9	(9.8)	-	0.9x	Fourth	(2.1%)	Fourth
Pegasus Partners V, L.P.	2012	50.0	64.8	52.1	43.6	43.6	95.7	30.9	-	1.5x	Fourth	9.7%	Fourth
WLR Recovery Fund IV, L.P.	2007	100.0	90.8	117.6	3.4	6.8	121.0	30.2	3.4	1.3x	Third	7.2%	Third
Distressed/Restructuring Total		500.0	482.6	473.3	216.6	328.8	689.9	207.3	112.1	1.4x		9.3%	
Mezzanine													
Audax Mezzanine III, L.P.	2011	75.0	72.4	82.6	12.4	15.0	95.0	22.6	2.6	1.3x	Second	9.6%	Second
Balance Point Capital Partners III, L.P.	2018	50.0	28.8	3.2	28.0	51.1	31.2	2.4	23.1	NM	NM	NM	NM
Connecticut Growth Capital, LLC	2016	50.0	34.1	20.7	25.0	43.4	45.6	11.6	18.5	1.3x	First	16.5%	First
GarMark Partners II, L.P.	2005	75.0	105.8	133.1	4.7	4.7	137.7	32.0	-	1.3x	Fourth	9.3%	Second
ICG Europe Fund VII, L.P.	2018	83.4	33.2	0.1	37.8	88.5	37.9	4.7	50.7	NM	NM	NM	NM
Ironwood Mezzanine Fund IV, L.P.	2017	50.0	15.6	3.9	14.0	48.4	17.9	2.3	34.4	NM	NM	NM	NM
Levine Leichtman Capital Partners IV, L.P.	2008	75.0	74.7	121.6	6.3	20.0	127.9	53.3	13.7	1.7x	Second	17.9%	Second
Levine Leichtman Capital Partners V, L.P.	2013	75.0	93.8	63.7	65.6	79.6	129.3	35.5	14.0	1.4x	First	11.4%	First
Mezzanine Total		533.4	458.4	428.8	193.8	350.8	622.6	164.2	157.0	1.4x		12.3%	

Investment Performance by Sub Strategy – Active Funds



As of March 31, 2020. In USD millions.

Investment	Vintage Year	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
Secondaries													
Dover Street X, L.P.	2020	\$ 100.0	\$ 5.0	-	\$ 4.8	\$ 99.8	\$ 4.8	(\$0.2)	\$ 95.0	NM	NM	NM	NM
Landmark Equity Partners XIV, L.P.	2010	100.0	97.8	112.6	15.9	18.8	128.5	30.7	2.9	1.3x	Third	9.6%	Third
Landmark Equity Partners XV, L.P.	2013	100.0	75.7	57.4	41.0	71.5	98.4	22.7	30.5	1.3x	Third	12.3%	Second
Landmark Equity Partners XVI, L.P.	2017	100.0	30.0	4.7	30.9	105.6	35.6	5.6	74.6	NM	NM	NM	NM
Secondary Overflow Fund IV, L.P.	2019	50.0	2.9	-	2.6	49.7	2.6	(0.3)	47.1	NM	NM	NM	NM
Secondaries Total		450.0	211.4	174.6	95.2	345.3	269.8	58.5	250.1	1.3x		10.9%	
Special Situations Total		1,483.4	1,152.3	1,076.7	505.6	1,024.9	1,582.3	430.0	519.3	1.4x		10.5%	
Venture Capital													
Balanced Stage VC													
Constitution Fund V, LLC - Series A	2016	130.0	103.7	2.4	132.9	159.2	135.3	31.7	26.3	1.3x	Third	15.9%	Second
Constitution Fund V, LLC - Series B	2017	20.0	15.1	3.5	13.7	18.8	17.2	2.1	5.1	1.1x	Third	7.8%	Third
Constitution Fund V, LLC - Series C	2019	75.0	9.4	-	8.7	74.3	8.7	(0.7)	65.6	NM	NM	NM	NM
Constitution Fund V, LLC - Series D	2019	25.0	6.6	-	6.5	24.9	6.5	(0.1)	18.4	NM	NM	NM	NM
Fairview Constitution II, L.P.	2005	200.0	211.7	282.2	33.8	36.9	316.0	104.4	3.1	1.5x	Second	6.4%	Second
Fairview Constitution III, L.P.	2007	300.0	302.3	507.6	196.6	215.9	704.2	401.9	19.3	2.3x	First	16.9%	First
Fairview Constitution IV, L.P.	2012	150.0	147.2	88.7	187.5	194.6	276.3	129.0	7.0	1.9x	Third	16.3%	Second
Syndicated Communications Venture Partners V, L.P.	2006	27.3	27.3	0.7	0.7	0.7	1.4	(25.9)	-	0.1x	Fourth	(29.5%)	Fourth
Balanced Stage VC Total		927.3	823.4	885.3	580.4	725.2	1,465.7	642.3	144.8	1.8x		11.6%	
Early Stage VC													
Constitution Liquidating Fund, L.P.	1987	640.0	532.6	1,364.0	4.6	7.2	1,368.6	836.0	2.6	2.6x	Second	20.0%	Second
Crescendo III, L.P.	1998	36.8	36.8	19.3	1.2	1.2	20.5	(16.4)	-	0.6x	Fourth	(9.1%)	Fourth
Early Stage VC Total		676.8	569.5	1,383.3	5.8	8.4	1,389.1	819.6	2.6	2.4x		19.6%	
Venture Capital Total		1,604.1	1,392.9	2,268.5	586.2	733.6	2,854.8	1,461.9	147.4	2.0x		19.1%	
Grand Total		\$ 7,131.9	\$ 5,573.0	\$ 6,535.3	\$ 2,634.9	\$ 4,574.9	\$ 9,170.2	\$ 3,597.2	\$ 1,939.9	1.6x		15.6%	

Market Value is defined as the capital account balance as reported by the General Partner, generally on a fair value basis. TVPI is the ratio of Distributed Capital plus Market Value to Contributed Capital.

Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

Performance for investments held less than two years is not considered meaningful. TVPI, IRR and respective Quartile rankings are displayed two years following the first capital call.

Active investments are displayed as commitments made through the report date; excludes liquidated funds. Schedule of Investments shows Crescendo III, L.P. Liquidating Trust due to a small remaining Market Value.

Benchmark: Cambridge Associates Quartile Ranking for IRR and TVPI based on fund strategy and vintage year, reported as of March 31, 2020.

Commitments made in a foreign currency have been converted into US dollars using an exchange rate as of the Report Date, if applicable.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Investment Performance by Vintage Year – Active Funds



As of March 31, 2020. In USD millions.

Investment	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
1987												
Constitution Liquidating Fund, L.P.	\$ 640.0	\$ 532.6	\$ 1,364.0	\$ 4.6	\$ 7.2	\$ 1,368.6	\$ 836.0	\$ 2.6	2.6x	Second	20.0%	Second
1987 Total	640.0	532.6	1,364.0	4.6	7.2	1,368.6	836.0	2.6	2.6x		20.0%	
1997												
PineBridge Global Emerging Markets Partners	85.2	82.8	109.4	1.7	4.0	111.1	28.3	2.4	1.3x	Third	7.1%	Third
1997 Total	85.2	82.8	109.4	1.7	4.0	111.1	28.3	2.4	1.3x		7.1%	
1998												
Crescendo III, L.P.	36.8	36.8	19.3	1.2	1.2	20.5	(16.4)	-	0.6x	Fourth	(9.1%)	Fourth
Gilbert Global Equity Partners, L.P.	150.0	135.2	194.4	1.9	1.9	196.2	61.1	-	1.5x	Third	3.3%	Third
1998 Total	186.8	172.0	213.7	3.0	3.0	216.7	44.7	-	1.3x		2.1%	
2002												
KKR Millennium Fund, L.P.	100.0	103.0	212.8	0.1	0.1	212.9	110.0	-	2.1x	Second	16.4%	Third
2002 Total	100.0	103.0	212.8	0.1	0.1	212.9	110.0	-	2.1x		16.4%	
2004												
FS Equity Partners V, L.P.	75.0	60.6	121.8	4.3	18.9	126.2	65.6	14.5	2.1x	First	15.3%	Second
2004 Total	75.0	60.6	121.8	4.3	18.9	126.2	65.6	14.5	2.1x		15.3%	
2005												
Fairview Constitution II, L.P.	200.0	211.7	282.2	33.8	36.9	316.0	104.4	3.1	1.5x	Second	6.4%	Second
GarMark Partners II, L.P.	75.0	105.8	133.1	4.7	4.7	137.7	32.0	-	1.3x	Fourth	9.3%	Second
ICV Partners II, L.P.	40.0	42.2	70.2	0.8	1.9	71.0	28.8	1.1	1.7x	Second	11.9%	Second
2005 Total	315.0	359.6	485.5	39.3	43.5	524.8	165.1	4.2	1.5x		7.5%	
2006												
Ethos US Dollar Fund V-B	50.0	59.4	62.3	2.3	2.3	64.6	5.2	-	1.1x	Fourth	1.9%	Fourth
StepStone Pioneer Capital Buyout Fund II, L.P.	175.0	188.2	253.2	4.4	29.3	257.6	69.4	24.8	1.4x	Third	4.9%	Third
Syndicated Communications Venture Partners V, L.P.	27.3	27.3	0.7	0.7	0.7	1.4	(25.9)	-	0.1x	Fourth	(29.5%)	Fourth
2006 Total	252.3	274.9	316.2	7.4	32.3	323.6	48.7	24.8	1.2x		2.7%	
2007												
Boston Ventures Limited Partnership VII	75.0	63.5	67.0	10.0	22.4	77.1	13.6	12.4	1.2x	Third	3.5%	Fourth
Court Square Capital Partners II, L.P.	94.0	91.7	163.3	7.1	10.3	170.4	78.7	3.2	1.9x	Second	12.6%	Second
Fairview Constitution III, L.P.	300.0	302.3	507.6	196.6	215.9	704.2	401.9	19.3	2.3x	First	16.9%	First
GCM Grosvenor CT Cleantech Opportunities Fund, L.P.	25.0	26.9	8.1	3.6	5.6	11.7	(15.3)	2.0	0.4x	Fourth	(12.0%)	Fourth
KKR 2006 Fund, L.P.	125.0	132.7	191.1	35.0	37.2	226.1	93.3	2.3	1.7x	Second	8.3%	Third
Pegasus Partners IV, L.P.	75.0	96.8	72.7	14.3	14.3	86.9	(9.8)	-	0.9x	Fourth	(2.1%)	Fourth
Thomas H. Lee Equity Fund VI, L.P.	100.0	105.8	161.9	5.5	10.3	167.4	61.6	4.8	1.6x	Second	7.8%	Third
WLR Recovery Fund IV, L.P.	100.0	90.8	117.6	3.4	6.8	121.0	30.2	3.4	1.3x	Third	7.2%	Third
2007 Total	894.0	910.5	1,289.4	275.4	322.8	1,564.7	654.2	47.4	1.7x		9.8%	

Investment Performance by Vintage Year – Active Funds



As of March 31, 2020. In USD millions.

Investment	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
2008												
Altaris Health Partners II, L.P.	\$ 40.0	\$ 39.2	\$ 96.5	\$ 5.0	\$ 10.7	\$ 101.5	\$ 62.3	\$ 5.6	2.6x	First	27.3%	First
CT Horizon Legacy Fund, L.P.	15.0	13.8	8.4	2.1	4.8	10.5	(3.3)	2.6	0.8x	Fourth	(4.7%)	Fourth
Levine Leichtman Capital Partners IV, L.P.	75.0	74.7	121.6	6.3	20.0	127.9	53.3	13.7	1.7x	Second	17.9%	Second
M2 - Connecticut Emerging Private Equity Fund of Funds, L.P.	105.0	113.3	94.8	65.4	71.8	160.1	46.8	6.4	1.4x	Third	8.0%	Third
RFE Investment Partners VII, L.P.	40.0	38.9	60.0	6.6	6.9	66.6	27.6	0.3	1.7x	Second	8.0%	Third
Vista Equity Partners Fund III, L.P.	50.0	54.1	127.6	4.0	8.0	131.6	77.5	4.0	2.4x	First	27.9%	First
Yucaipa American Alliance Fund II, LP	75.0	103.2	99.0	65.8	65.8	164.8	61.5	0.0	1.6x	Third	8.5%	Third
2008 Total	400.0	437.3	607.8	155.2	187.8	763.0	325.8	32.7	1.7x		13.7%	
2009												
FS Equity Partners VI, L.P.	75.0	78.3	181.0	36.8	37.6	217.8	139.5	0.8	2.8x	First	22.5%	Second
Leeds Equity Partners V, L.P.	40.0	39.8	68.4	26.9	32.4	95.4	55.6	5.4	2.4x	First	19.5%	Second
Welsh, Carson, Anderson & Stowe XI, L.P.	100.0	100.0	130.3	28.9	28.9	159.3	59.3	-	1.6x	Third	11.4%	Third
2009 Total	215.0	218.1	379.7	92.7	98.9	472.4	254.3	6.2	2.2x		17.6%	
2010												
Landmark Equity Partners XIV, L.P.	100.0	97.8	112.6	15.9	18.8	128.5	30.7	2.9	1.3x	Third	9.6%	Third
Nutmeg Opportunities Fund L.P. CT-EM	35.0	17.0	-	37.8	45.5	37.8	20.8	7.8	2.2x	Second	13.2%	Third
Nutmeg Opportunities Fund L.P. CT-SMMBF	75.0	60.7	51.2	58.7	69.5	109.8	49.1	10.9	1.8x	Second	14.4%	Second
TA XI, L.P.	75.0	73.7	141.5	41.1	42.4	182.7	109.0	1.3	2.5x	Second	22.6%	First
2010 Total	285.0	249.2	305.3	153.4	176.2	458.7	209.5	22.8	1.8x		16.0%	
2011												
Audax Mezzanine III, L.P.	75.0	72.4	82.6	12.4	15.0	95.0	22.6	2.6	1.3x	Second	9.6%	Second
JFL Equity Investors III, L.P.	49.0	56.2	45.3	35.1	40.8	80.4	24.1	5.7	1.4x	Third	10.0%	Third
Wellspring Capital Partners V, L.P.	75.0	81.9	94.4	30.1	57.3	124.5	42.6	27.2	1.5x	Third	14.9%	Second
2011 Total	199.0	210.5	222.2	77.6	113.2	299.8	89.3	35.6	1.4x		11.7%	
2012												
Castlake Credit Strategies Fund II, L.P.	50.0	46.7	38.9	22.4	26.1	61.3	14.6	3.8	1.3x	Fourth	5.8%	Fourth
Clearlake Capital Partners III, L.P.	40.0	56.2	122.8	23.6	35.5	146.4	90.1	11.9	2.6x	Second	40.4%	Second
Fairview Constitution IV, L.P.	150.0	147.2	88.7	187.5	194.6	276.3	129.0	7.0	1.9x	Third	16.3%	Second
Pegasus Partners V, L.P.	50.0	64.8	52.1	43.6	43.6	95.7	30.9	-	1.5x	Fourth	9.7%	Fourth
RFE Investment Partners VIII, L.P.	40.0	41.2	21.1	35.9	36.6	57.1	15.9	0.7	1.4x	Third	8.6%	Third
Vista Equity Partners Fund IV, L.P.	75.0	80.5	101.9	43.4	55.6	145.3	64.8	12.2	1.8x	First	15.8%	Second
2012 Total	405.0	436.5	425.4	356.5	392.0	781.9	345.4	35.6	1.8x		15.6%	
2013												
Court Square Capital Partners III, L.P.	50.0	53.0	33.7	49.7	53.2	83.4	30.4	3.6	1.6x	Second	19.2%	First
Landmark Equity Partners XV, L.P.	100.0	75.7	57.4	41.0	71.5	98.4	22.7	30.5	1.3x	Third	12.3%	Second
Levine Leichtman Capital Partners V, L.P.	75.0	93.8	63.7	65.6	79.6	129.3	35.5	14.0	1.4x	First	11.4%	First
2013 Total	225.0	222.5	154.8	156.3	204.3	311.1	88.6	48.0	1.4x		13.5%	

Investment Performance by Vintage Year – Active Funds



As of March 31, 2020. In USD millions.

Investment	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
2014												
Altaris Health Partners III, L.P.	\$ 50.0	\$ 49.8	\$ 35.3	\$ 54.2	\$ 62.3	\$ 89.5	\$ 39.7	\$ 8.1	1.8x	First	27.2%	First
Apollo Investment Fund VIII, L.P.	125.0	116.5	56.3	84.9	104.6	141.3	24.8	19.7	1.2x	Fourth	6.8%	Fourth
GenNx360 Capital Partners II, L.P.	25.0	29.1	13.9	27.2	29.4	41.1	12.1	2.2	1.4x	Second	13.5%	Second
2014 Total	200.0	195.4	105.6	166.4	196.3	271.9	76.5	29.9	1.4x		12.6%	
2015												
Clearlake Capital Partners IV, L.P.	50.0	70.6	52.3	51.2	57.6	103.6	33.0	6.4	1.5x	First	24.4%	First
Yucaipa American Alliance Fund III, L.P.	39.3	27.7	2.0	28.0	41.5	30.0	2.3	13.5	1.1x	Fourth	3.3%	Fourth
2015 Total	89.3	98.3	54.4	79.2	99.1	133.6	35.2	19.9	1.4x		17.4%	
2016												
Connecticut Growth Capital, LLC	50.0	34.1	20.7	25.0	43.4	45.6	11.6	18.5	1.3x	First	16.5%	First
Constitution Fund V, LLC - Series A	130.0	103.7	2.4	132.9	159.2	135.3	31.7	26.3	1.3x	Third	15.9%	Second
Vista Equity Partners Fund VI, L.P.	100.0	111.6	24.8	121.4	135.3	146.2	34.6	13.9	1.3x	First	13.1%	First
Welsh, Carson, Anderson & Stowe XII, L.P.	100.0	90.8	51.9	84.9	95.6	136.8	46.0	10.7	1.5x	First	24.1%	First
2016 Total	380.0	340.2	99.9	364.1	433.6	464.0	123.8	69.5	1.4x		17.1%	
2017												
BC European Capital X	91.7	79.2	1.5	76.6	90.7	78.1	(1.2)	14.1	1.0x	Fourth	(1.3%)	Fourth
Constitution Fund V, LLC - Series B	20.0	15.1	3.5	13.7	18.8	17.2	2.1	5.1	1.1x	Third	7.8%	Third
Ironwood Mezzanine Fund IV, L.P.	50.0	15.6	3.9	14.0	48.4	17.9	2.3	34.4	NM	NM	NM	NM
JFL Equity Investors IV, L.P.	75.0	65.4	28.2	88.1	99.0	116.3	50.9	10.9	1.8x	First	37.2%	First
Landmark Equity Partners XVI, L.P.	100.0	30.0	4.7	30.9	105.6	35.6	5.6	74.6	NM	NM	NM	NM
Leeds Equity Partners VI, L.P.	75.0	58.1	0.3	69.2	86.3	69.5	11.4	17.2	1.2x	Second	13.5%	Second
Nutmeg Opportunities Fund II, LLC – CT-Direct Investment	50.0	-	-	-	50.0	-	-	50.0	NM	NM	NM	NM
Nutmeg Opportunities Fund II, LLC - EM	35.0	18.3	-	26.9	44.9	26.9	8.5	18.1	1.5x	First	20.1%	First
2017 Total	496.7	281.8	42.1	319.3	543.7	361.4	79.6	224.4	1.3x		19.6%	
2018												
Aldrich Capital Partners Fund, LP	50.0	23.5	-	24.4	51.3	24.4	1.0	26.9	NM	NM	NM	NM
Altaris Constellation Partners IV, L.P.	10.0	3.1	-	4.2	11.1	4.2	1.1	6.9	NM	NM	NM	NM
Altaris Health Partners IV, L.P.	40.0	19.5	-	21.7	42.2	21.7	2.2	20.5	NM	NM	NM	NM
Apollo Investment Fund IX, L.P.	125.0	23.4	0.2	20.3	121.9	20.5	(2.9)	101.6	NM	NM	NM	NM
Balance Point Capital Partners III, L.P.	50.0	28.8	3.2	28.0	51.1	31.2	2.4	23.1	NM	NM	NM	NM
Clearlake Capital Partners V, L.P.	60.0	47.7	16.9	50.2	70.8	67.0	19.3	20.7	1.4x	First	36.7%	First
EQT VIII, L.P.	80.3	39.5	4.5	38.1	83.3	42.6	3.1	45.2	NM	NM	NM	NM
ICG Europe Fund VII, L.P.	83.4	33.2	0.1	37.8	88.5	37.9	4.7	50.7	NM	NM	NM	NM
Nutmeg Opportunities Fund II, LLC - SMMBF	65.0	20.6	-	23.2	69.0	23.2	2.6	45.7	NM	NM	NM	NM
Siris Partners IV, L.P.	50.0	23.1	-	18.9	45.7	18.9	(4.3)	26.9	NM	NM	NM	NM
Vista Equity Partners Fund VII, L.P.	100.0	26.0	0.1	23.5	97.5	23.5	(2.4)	74.0	NM	NM	NM	NM
Wellspring Capital Partners VI, L.P.	75.0	25.7	-	21.6	71.0	21.6	(4.0)	49.3	NM	NM	NM	NM
2018 Total	788.7	314.1	25.0	311.8	803.5	336.8	22.7	491.6	1.1x		8.3%	

Investment Performance by Vintage Year – Active Funds



As of March 31, 2020. In USD millions.

Investment	Committed Capital	Contributed Capital	Distributed Capital	Market Value	Exposure	Total Value	Gain/(Loss)	Unfunded	TVPI	TVPI Quartile	IRR	IRR Quartile
2019												
Clearlake Opportunity Partners II, L.P.	\$ 75.0	\$ 9.0	\$ 0.1	\$ 8.0	\$ 74.0	\$ 8.1	(\$0.9)	\$ 66.0	NM	NM	NM	NM
Constitution Fund V, LLC - Series C	75.0	9.4	-	8.7	74.3	8.7	(0.7)	65.6	NM	NM	NM	NM
Constitution Fund V, LLC - Series D	25.0	6.6	-	6.5	24.9	6.5	(0.1)	18.4	NM	NM	NM	NM
Freeman CT Horizon Investment Fund, LLC	50.0	8.0	0.1	7.5	50.2	7.6	(0.4)	42.7	NM	NM	NM	NM
JFL Equity Investors V, L.P.	100.0	-	-	(0.3)	99.7	(0.3)	(0.3)	100.0	NM	NM	NM	NM
Secondary Overflow Fund IV, L.P.	50.0	2.9	-	2.6	49.7	2.6	(0.3)	47.1	NM	NM	NM	NM
Welsh, Carson, Anderson & Stowe XIII, L.P.	125.0	7.8	-	3.7	120.9	3.7	(4.1)	117.2	NM	NM	NM	NM
2019 Total	500.0	43.8	0.2	36.7	493.7	37.0	(6.8)	457.0	NM		NM	
2020												
Clearlake Capital Partners VI, L.P.	75.0	-	-	-	75.0	-	-	75.0	NM	NM	NM	NM
Dover Street X, L.P.	100.0	5.0	-	4.8	99.8	4.8	(0.2)	95.0	NM	NM	NM	NM
Georgian Partners Growth Fund V, L.P.	75.0	8.7	-	7.7	74.1	7.7	(0.9)	66.4	NM	NM	NM	NM
Hollyport Secondary Opportunities VII, L.P.	75.0	15.1	-	17.4	77.4	17.4	2.3	60.0	NM	NM	NM	NM
Vistria Fund III, L.P.	75.0	0.5	-	(0.0)	74.5	(0.0)	(0.5)	74.5	NM	NM	NM	NM
2020 Total	400.0	29.2	-	29.9	400.8	29.9	0.7	370.9	NM		NM	
Grand Total	\$ 7,131.9	\$ 5,573.0	\$ 6,535.3	\$ 2,634.9	\$ 4,574.9	\$ 9,170.2	\$ 3,597.2	\$ 1,939.9	1.6x		15.6%	

Market Value is defined as the capital account balance as reported by the General Partner, generally on a fair value basis.

TVPI is the ratio of Distributed Capital plus Market Value to Contributed Capital.

Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

Performance for investments held less than two years is not considered meaningful. TVPI, IRR and respective Quartile rankings are displayed two years following the first capital call.

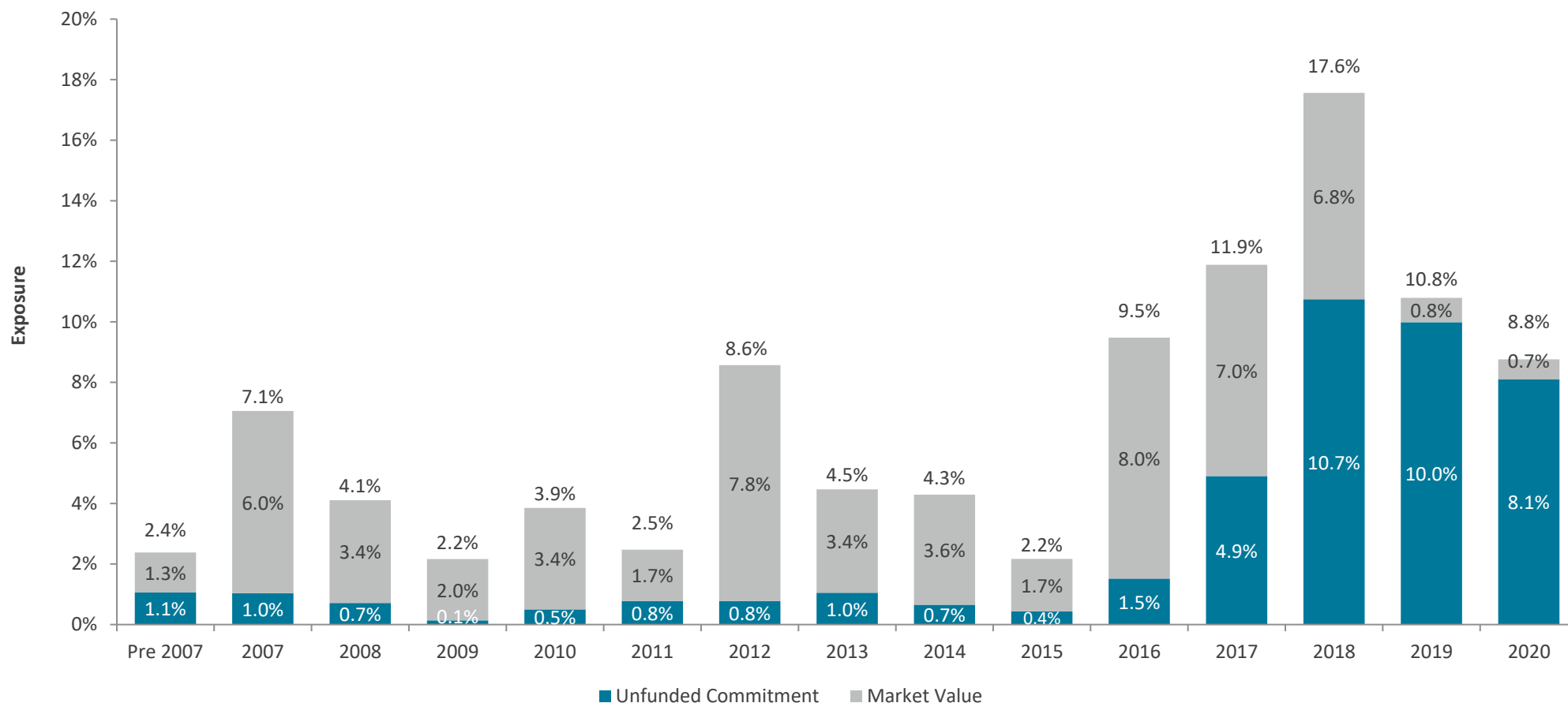
Active investments are displayed as commitments made through the report date; excludes liquidated funds. Schedule of Investments shows Crescendo III, L.P. Liquidating Trust due to a small remaining Market Value.

Benchmark: Cambridge Associates Quartile Ranking for IRR and TVPI based on fund strategy and vintage year, reported as of March 31, 2020.

Commitments made in a foreign currency have been converted into US dollars using an exchange rate as of the Report Date, if applicable.

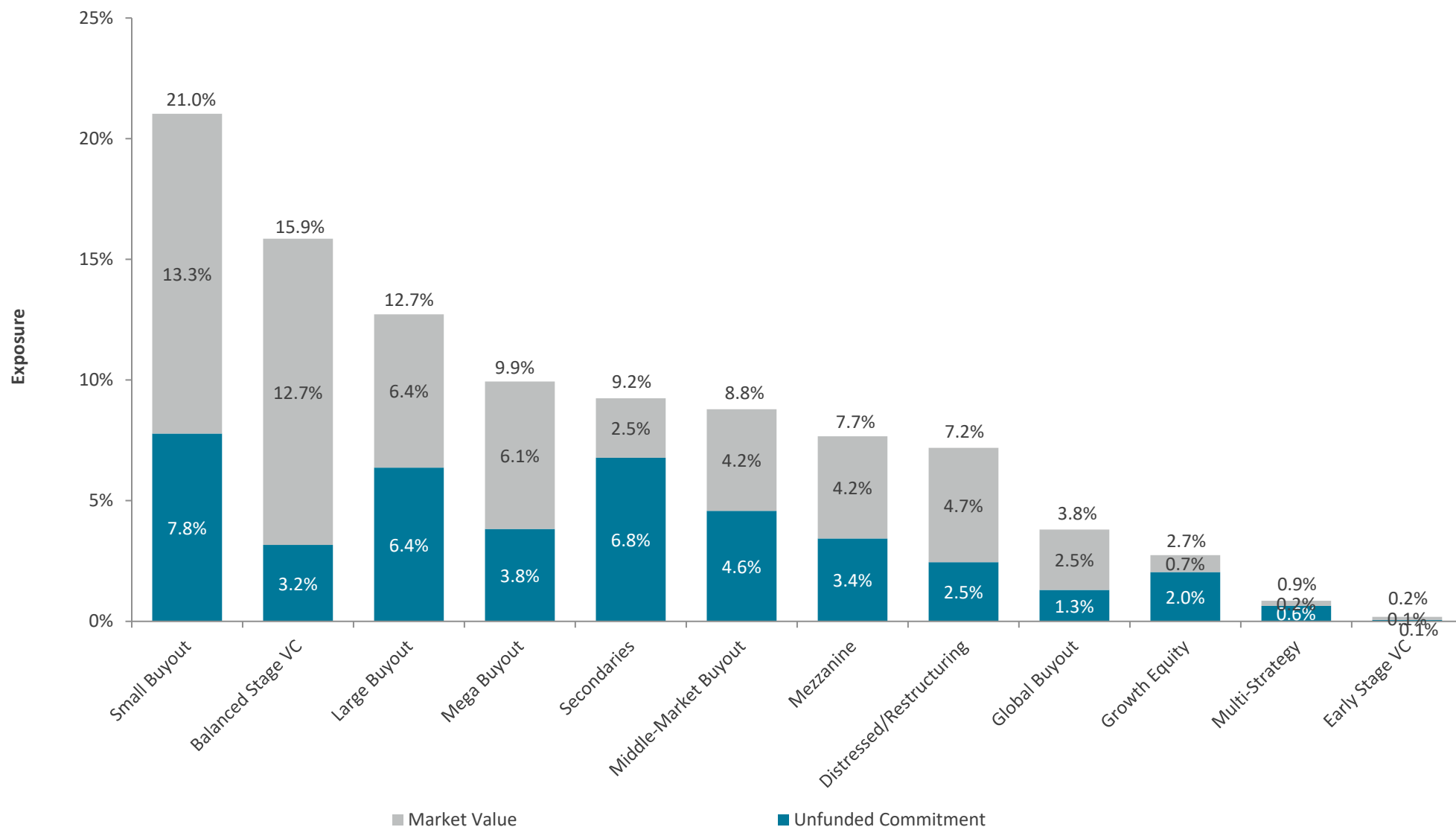
Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Exposure by Vintage Year



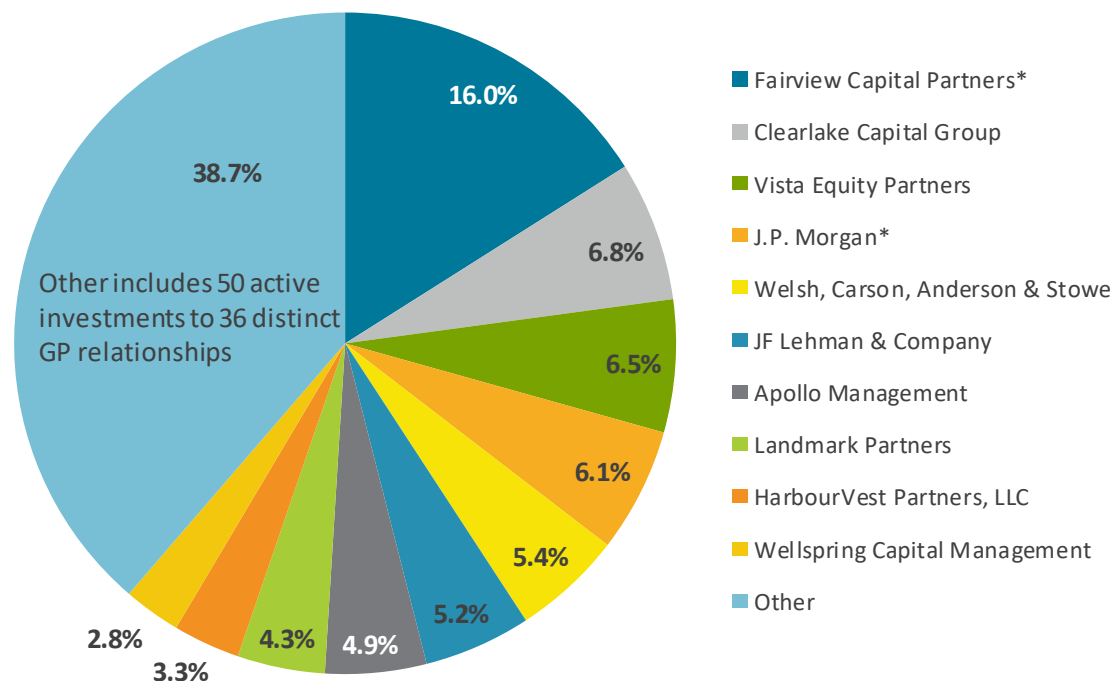
Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.
Data includes commitments through the Report Date.
Data reflects active funds.

Exposure by Sub-Strategy



Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.
Data includes commitments through the Report Date.
Data reflects active funds.

Top Managers by Exposure - Active Funds



- The accompanying chart shows the PIF's current exposure and performance by underlying active manager**.
- As of March 31, 2020, CRPTF has a Private Equity portfolio consisting of 87 active investments across 46 unique managers.
- Ten managers account for 60.3% of the portfolio's total exposure, or \$2.8 billion.

As of March 31, 2020. In USD millions.

Manager	# of Funds	Exposure	% of Total	TVPI	IRR
Fairview Capital Partners*	8	\$734	16.0%	2.1x	19.6%
Clearlake Capital Group	5	313	6.8%	1.8x	35.9%
Vista Equity Partners	4	296	6.5%	1.6x	21.5%
J.P. Morgan*	5	279	6.1%	1.7x	14.3%
Welsh, Carson, Anderson & Stowe	3	245	5.4%	1.6x	9.3%
JF Lehman & Company	3	239	5.2%	1.6x	17.2%
Apollo Management	2	226	4.9%	1.2x	5.8%
Landmark Partners	3	196	4.3%	1.3x	5.5%
HarbourVest Partners, LLC	2	150	3.3%	NM	NM
Wellspring Capital Management	2	128	2.8%	1.7x	22.7%
Other	50	1,770	38.7%	1.4x	5.7%
Total	87	\$ 4,577	100.0%	1.5x	9.3%

*Fairview Capital Partners and JP Morgan fund totals include sub-allocations within a single fund entity.

**IRRs presented include active funds only.

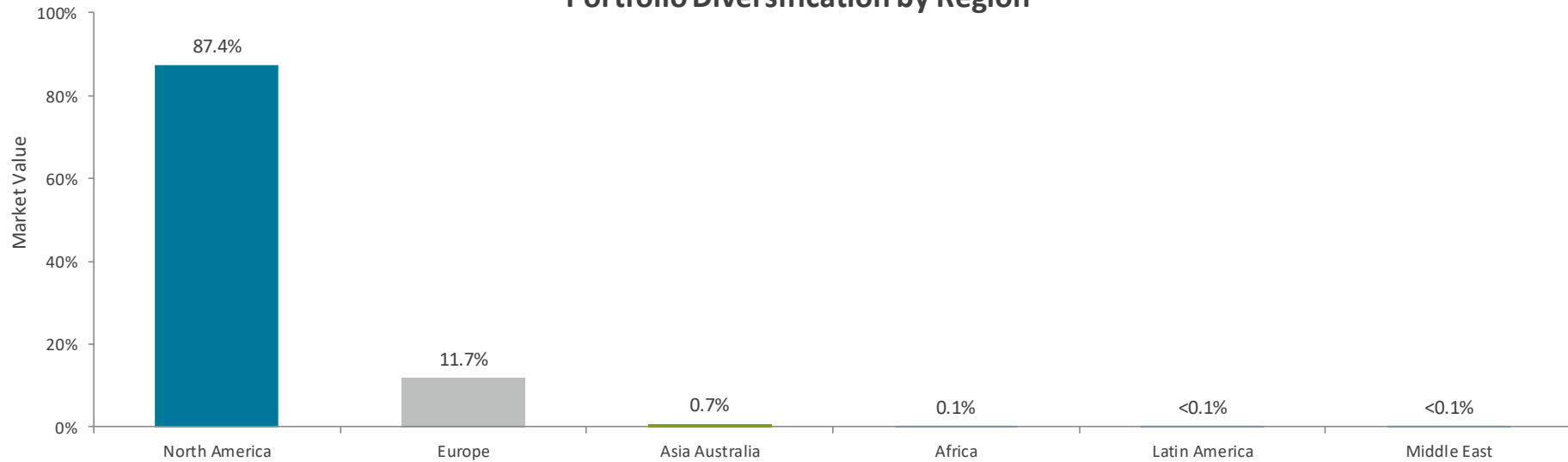
Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.

IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

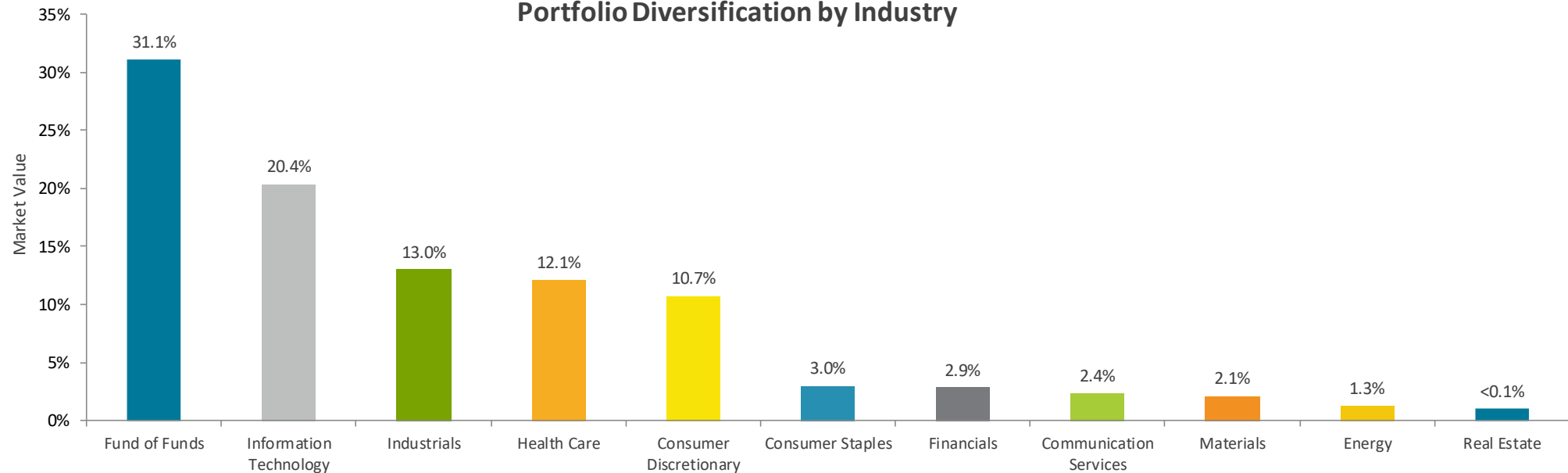
Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Holdings by Region and Industry

Portfolio Diversification by Region



Portfolio Diversification by Industry



Market Value represents the value of portfolio holdings as reported by fund managers.
 Values are estimated based on the investor's percent interest in each fund's portfolio holdings.
 Values are converted to the investor's currency, when applicable, as of the Report Date.

III. Connecticut Horizon Fund

Portfolio Summary

This report presents an overview of the Connecticut Retirement Plans and Trust Funds ("CRPTF") Connecticut Horizon Fund ("CHF") private equity program as of March 31, 2020.

CHF was formed by CRPTF in 2007 with the objective of enhancing portfolio returns, diversifying assets and achieving certain strategic goals. In particular:

- 1) CHF was established to generate financial returns commensurate with the private equity asset class. In accordance with CRPTF's Investment Policy Statement, the program will seek to generate annual returns of five percentage points greater than the Russell 3000 ten-year rolling average.
- 2) CHF was established to enhance diversification in CRPTF's private equity portfolio. CRPTF's Private Investment Fund is largely managed by established fund managers targeting mainstream market segments. CHF will provide exposure to investments that are different from those already in CRPTF's portfolio.
- 3) CHF was established to diversify the management of CRPTF's assets while providing opportunities for emerging, minority and women-owned, and Connecticut-based investment firms to compete for a share of the Treasury's investment business.

The CRPTF has allocated \$240.0 million for CHF investments since inception through commitments made to five private equity fund-of-funds. During 2007, CHF commitments were made to Aldus CT Horizon and M2 - Connecticut Emerging Private Equity Fund of Funds ("M2CTEPEFF"). During 2009, Muller & Monroe was appointed to replace Aldus Equity as the general partner of the Aldus CT Horizon fund, which was renamed the CT Horizon Legacy fund. In addition, Aldus CT Horizon's uncommitted capital was reallocated to M2CTEPEFF.

In 2009, the CRPTF committed \$110.0 million to Nutmeg Opportunities Fund, of which \$35.0 million was designated for CHF investments. During June 2017, the CRPTF made a commitment of \$150.0 million to Nutmeg Opportunities Fund II, of which up to \$35.0 million was designated for CHF investments. In January 2019 the CRPTF made a commitment of \$50.0 million to Freeman CT Horizon Investment Fund.

Connecticut Horizon Fund



- Through March 31, 2020, the PIF had committed \$240.0 million to CHF designated private equity mandates since inception.
- Since inception through March 31, 2020, the PIF's CHF designated investments generated a Net IRR of 8.0%. During the same time period, the Russell 3000 generated an IRR of 7.0%.

As of March 31, 2020. In USD millions.

	Vintage Year	Commitment Up To	Contributed Capital	Unfunded Commitment	Distributed Capital	Exposure	Market Value	TVPI	Net IRR
CT Horizon Legacy Fund, L.P.	2008	\$15.0	\$13.8	\$2.6	\$8.4	\$4.8	\$2.1	0.8x	(4.7%)
M2 - Connecticut Emerging Private Equity Fund of Funds, L.P.	2008	105.0	113.3	6.4	94.8	71.8	65.4	1.4x	8.0%
Nutmeg Opportunities Fund L.P. CT-EM	2010	35.0	17.0	7.8	-	45.5	37.8	2.2x	13.2%
Nutmeg Opportunities Fund II, LLC - EM	2017	35.0	18.3	18.1	-	44.9	26.9	1.5x	20.1%
Freeman CT Horizon Investment Fund, LLC	2019	50.0	8.0	42.7	0.1	50.2	7.5	NM	NM
Total		\$240.0	\$170.4	\$77.6	\$103.3	\$217.1	\$139.6	1.4x	8.0%

An IRR is not meaningful in the early years of a partnership's life given the J-curve effect. The J-curve refers to the shape of the curve that illustrates a fund's performance over time. During the initial years of a fund's life, due to illiquidity, stagnant valuations, fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio companies are realized or increase in value and fees become a smaller percentage of overall contributions, fund performance improves and investors' returns move up the "J" shaped curve. Performance for investments held less than two years is not considered meaningful. TVPI and Net IRR will be displayed two years following the first capital call.

TVPI is the ratio of Distributed Capital plus Market Value to Contributed Capital.

Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPs' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

Market Value is defined as the investor's value as reported by the fund's manager. Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.

Data compiled from cash flow notices and quarterly financial statements provided by fund managers.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

Connecticut Horizon Fund Investment Schedule



As of March 31, 2020. In USD millions.

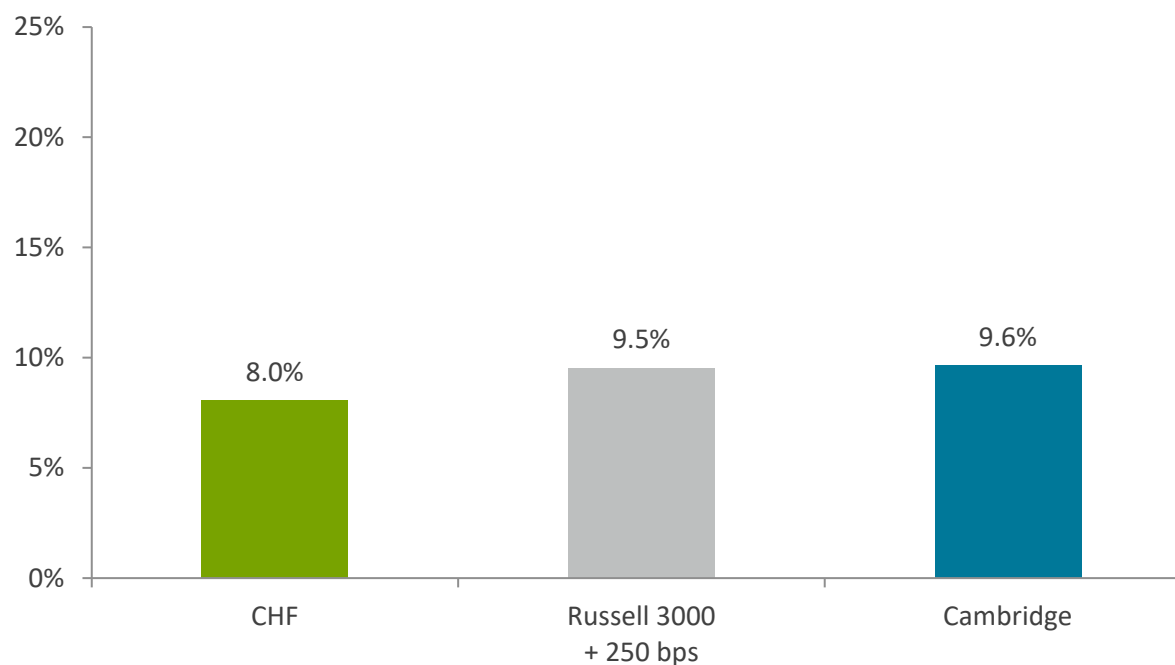
Fund / FOF Holding	Investment Type	Holding Strategy	CHF Demographic	Year of Investment	Invested Capital	Distributed Capital	Market Value	TVPI
CT Horizon Legacy Fund, L.P.		<i>Commitment Date: 06/30/2008</i>		<i>CHF Commitment: US\$15.0 million</i>				
Capital Point Partners Fund, LP	Primary Fund	Mezzanine	African American	2008	5.6	5.2	1.3	1.2x
groSolar	Co-Investment	Energy	Emerging Strategy	2009	2.0	0.0	0.0	0.0x
Vicente Capital Partners Growth Equity Fund, L.P.	Primary Fund	Growth Equity	African American	2009	4.0	3.2	0.8	1.0x
					\$11.6	\$8.4	\$2.1	0.9x
Freeman CT Horizon Investment Fund, LLC		<i>Commitment Date: 01/08/2019</i>		<i>CHF Commitment: US\$50.0 million</i>				
NexPhase Capital Fund IV	Primary Fund	Buyout	Asian	2020	1.7	0.0	1.9	1.1x
Reverence Capital Partners Opportunities Fund II, L.P.	Secondary	Buyout	Emerging Firm	2019	2.9	0.0	3.0	1.0x
Wavecrest Growth Partners I, L.P.	Secondary	Growth Equity	Asian, Emerging Firm	2019	2.8	0.0	2.9	1.0x
					\$7.5	\$0.0	\$7.8	1.0x
M2 - Connecticut Emerging Private Equity Fund of Funds, L.P.		<i>Commitment Date: 11/28/2007</i>		<i>CHF Commitment: US\$105.0 million</i>				
Altus Capital Partners II, L.P.	Primary Fund	Buyout	Connecticut-based	2011	6.9	8.1	2.3	1.5x
Brightwood Capital SBIC I, L.P.	Primary Fund	Mezzanine	African American	2011	9.2	13.5	6.9	2.2x
Carpenter Community BancFund-A	Primary Fund	Growth Equity	Emerging Firm	2009	7.8	12.8	0.0	1.7x
Clearview Capital Fund II, LP, Secondary	Primary Fund	Buyout	Connecticut-based	2008	7.5	17.9	2.7	2.8x
DBL Equity Fund-BAEF II	Primary Fund	Venture Capital	Women	2011	7.0	2.6	6.5	1.3x
Estancia Capital Partners, L.P.	Primary Fund	Buyout	Hispanic	2012	9.6	5.5	8.4	1.5x
Hispania Private Equity II, L.P.	Primary Fund	Buyout	Hispanic	2009	3.8	6.0	0.8	1.8x
Ironwood Mezzanine Fund III, L.P.	Primary Fund	Mezzanine	Connecticut-based	2011	9.6	7.8	3.8	1.2x
MANSA Capital Fund I, L.P.	Primary Fund	Growth Equity	African American	2012	8.9	0.8	6.4	0.8x
Mill Road Capital II, L.P.	Primary Fund	Buyout	Connecticut-based	2012	10.5	4.3	8.7	1.3x
MK Capital II, L.P.	Primary Fund	Growth Equity	Emerging Firm	2011	6.3	3.4	8.3	1.9x
Siris Partners II	Primary Fund	Buyout	African American	2012	11.0	6.0	8.6	1.4x
SW Pelham Fund III, L.P.	Primary Fund	Mezzanine	African American	2008	4.4	5.9	0.0	1.3x
					\$102.4	\$94.7	\$63.5	1.6x
Nutmeg Opportunities Fund II, LLC - EM		<i>Commitment Date: 06/09/2017</i>		<i>CHF Commitment: US\$35.0 million</i>				
Financial Partners Fund I (Secondary 2)	Primary Fund	Growth Equity	Connecticut-based, Emerging Firm	2018	2.8	0.3	7.8	2.4x
Financial Partners Fund II, L.P.	Secondary	Growth Equity	Connecticut-based, Emerging Firm	2017	8.3	3.1	8.9	1.3x
Southfield Capital II, L.P.	Primary Fund	Buyout	Connecticut-based	2017	12.6	9.2	10.0	1.4x
					\$23.6	\$12.5	\$26.8	1.5x
Nutmeg Opportunities Fund L.P. CT-EM		<i>Commitment Date: 12/23/2008</i>		<i>CHF Commitment: US\$35.0 million</i>				
Altus Capital Partners II, L.P.	Primary Fund	Buyout	Connecticut-based	2018	4.6	5.4	1.8	1.5x
Atlantic Street Capital II	Primary Fund	Distressed Debt	Connecticut-based	2011	6.1	9.3	11.0	3.1x
Atlantic Street Capital III	Primary Fund	Buyout	Connecticut-based	2016	4.5	0.0	6.8	1.3x
Longitude Venture Partners II	Primary Fund	Venture Capital	Connecticut-based	2011	5.5	1.9	7.8	1.6x
North Castle Partners VI	Primary Fund	Buyout	Connecticut-based	2016	4.5	0.3	4.6	1.0x
Southfield Capital II, L.P.	Primary Fund	Buyout	Connecticut-based	2017	4.1	3.1	3.1	1.4x
Tengram Capital Partners Gen2 Fund	Primary Fund	Growth Equity	Connecticut-based	2013	4.7	4.9	2.6	1.5x
					\$33.9	\$24.8	\$37.8	1.7x
Total					\$179.0	\$140.4	\$138.0	1.5x

Underlying Limited Partner level performance may differ from aggregate fund-level performance due to an additional layer of fees and expenses paid as a result of the fund-of-funds structure. Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses. No assurance can be given that the performance of unrealized investments has not significantly changed from the date the performance reflected herein was determined.

Performance versus Benchmarks: CHF

- Since inception to March 31, 2020, CHF generated a Net IRR of 8.0%. Over this time period, CHF underperformed relative to the Russell 3000+250 bps by 148 basis points.

**Since Inception Net IRR vs. Benchmarks
as of March 31, 2020**



Returns are calculated using the internal rate of return methodology and are after the deduction of underlying fund manager fees and expenses.

The Benchmark is defined as The Russell 3000 index + 250 bps.

Since Inception Cambridge Benchmark: All Private Equity Fund-of-Funds, Average IRR Net to LPs for Vintages 2008, 2010, 2017, and 2019 as of March 31, 2020. This benchmark data is continuously updated and therefore subject to change.

Comparisons between private equity and public equity returns need to be viewed with caution as private equity is an illiquid asset class, whereas publicly listed securities are marked-to-market daily. Despite quarterly mark-to-market of private holdings, valuations are believed to be incorporated at a slower pace than the public markets.

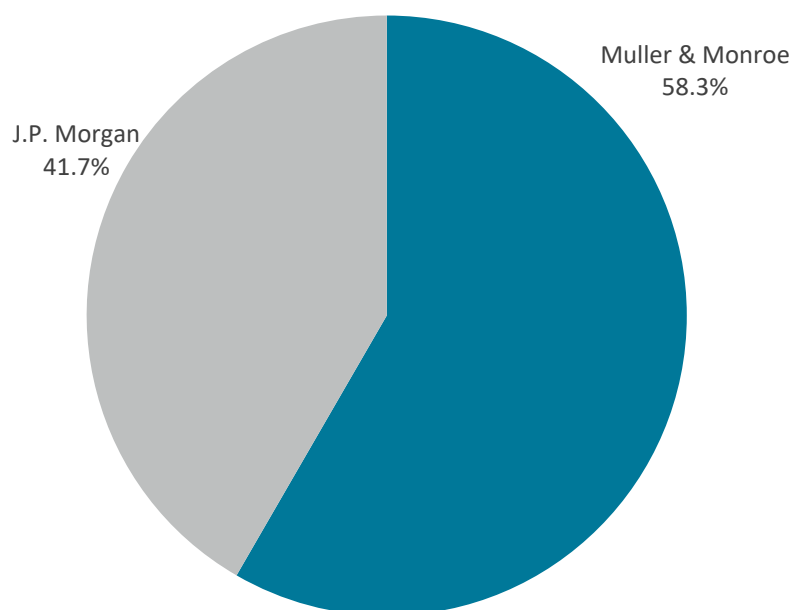
The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

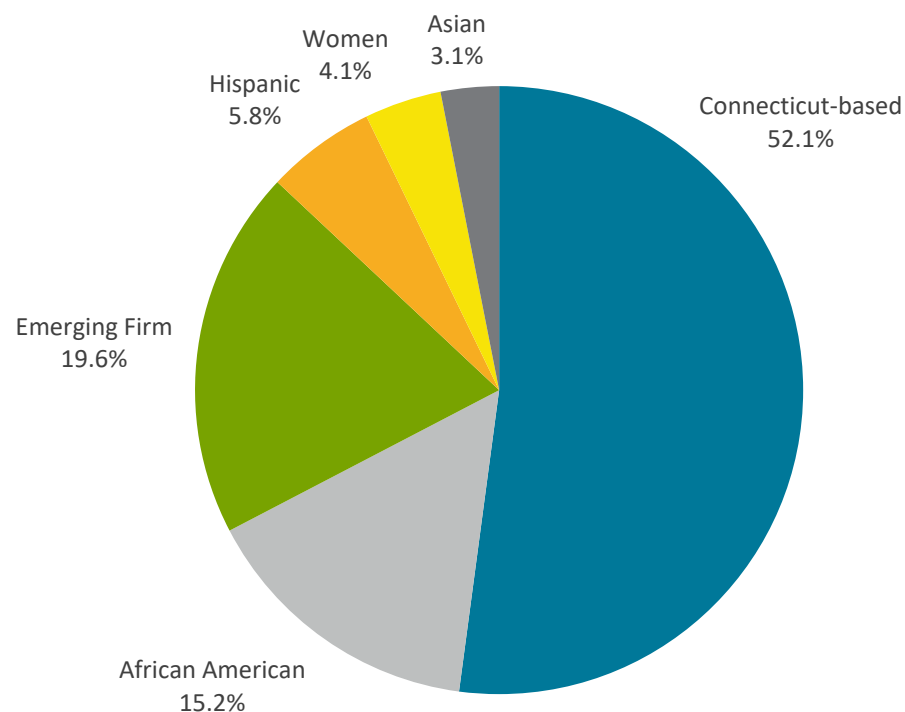
CHF Diversification by Manager and Diversity Category



Manager Exposure



Diversity Category



IV. In-State Program

Portfolio Summary

This report presents an overview of the Connecticut Retirement Plans and Trust Funds ("CRPTF") In-State Private Equity Program ("In-State Program") as of March 31, 2020.

The In-State Program initiative was presented to and supported by the Investment Advisory Council in 2015, with the objective of enhancing portfolio returns, diversifying assets and achieving certain strategic goals. In particular, the In-State Program was established to diversify the management of CRPTF's assets while providing capital for Connecticut-based companies.

The CRPTF has committed \$145.0 million to the In-State Program since inception, which was allocated to four private equity funds: Connecticut Growth Capital, Constitution Fund V (Series B and D), and Nutmeg Opportunities Fund II – CT-Direct Investments.

In-State Program

- As of March 31, 2020, the In-State Program's four funds have invested in 13 companies. Those companies employ and/or have employed 804 Connecticut-based employees¹ including four portfolio company investments that have been exited.
- As of March 31, 2020, Connecticut Growth Capital has invested in seven companies with 587 Connecticut-based employees¹, which, including three exited companies, accounts for 73.0% of the total Connecticut-based employees.
- Of active investments, portfolio company Budderfly has seen the largest growth in Connecticut-based employees¹. Since Connecticut Growth Capital's initial investment in Budderfly, the number of employees has increased 74.3%.
- As of March 31, 2020, Nutmeg Opportunities Fund II, LLC CT - Direct Investment has not closed any investment opportunities.

As of March 31, 2020. In USD millions.	Vintage Year	Commitment Up To	Contributed Capital	Unfunded Commitment	Distributed Capital	Exposure	Market Value	TVPI	Net IRR	Number of CT-Based Employees			
										Initial Investment	Current	Change	% Change
Connecticut Growth Capital, LLC	2016	\$50.0	\$34.1	\$18.5	\$20.7	\$43.4	\$25.0	1.3x	16.5%	483	587	104	21.5%
Constitution Fund V, LLC - Series B	2017	20.0	15.1	5.1	3.5	18.5	13.4	1.1x	6.6%	177	186	9	5.1%
Nutmeg Opportunities Fund II, LLC – CT-Direct Investment	2017	50.0	-	50.0	-	50.0	-	NM	NM	0	0	0	0.0%
Constitution Fund V, LLC - Series D	2019	25.0	6.6	18.4	-	24.8	6.5	NM	NM	27	31	4	14.8%
Total		\$145.0	\$55.8	\$92.0	\$24.2	\$136.8	\$44.8	1.2x	13.7%	687	804	117	17.0%

Note: in August 2018, the commitment for Connecticut Growth Capital, LLC was reduced by US\$25.0 million resulting in an updated commitment of US\$50.0 million.

¹All employee data was provided to the State of Connecticut from the General Partners of each fund, who then provided it to StepStone as of Q1 2020. Initial Investment refers to the number of Connecticut-based employees at the time that each underlying investment is made.

An IRR is not meaningful in the early years of a partnership's life given the J-curve effect. The J-curve refers to the shape of the curve that illustrates a fund's performance over time. During the initial years of a fund's life, due to illiquidity, stagnant valuations, fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio companies are realized or increase in value and fees become a smaller percentage of overall contributions, fund performance improves and investors' returns move up the "J" shaped curve. Performance for investments held less than two years is not considered meaningful. TVPI and Net IRR will be displayed two years following the first capital call. IRR and TVPI for certain vehicles may have been impacted by Stepstone's or the underlying GPS' use of subscription-backed credit facilities by such vehicles. Reinvested/recycled amounts increase contributed capital.

TVPI is the ratio of Distributed Capital plus Market Value to Contributed Capital.

Net IRR is defined as the annualized, compound rate of return using daily draws, distributions and Market Value as of the Report Date, net of fees and expenses, including late closing interest.

Market Value is defined as the investor's value as reported by the fund's manager.

Exposure is defined as the sum of an investor's Market Value plus Unfunded Commitment.

Data compiled from cash flow notices and quarterly financial statements provided by fund managers.

Past performance is not necessarily indicative of future results and there can be no assurance that the investment will achieve comparable results or avoid substantial losses.

In-State Program Company Holdings

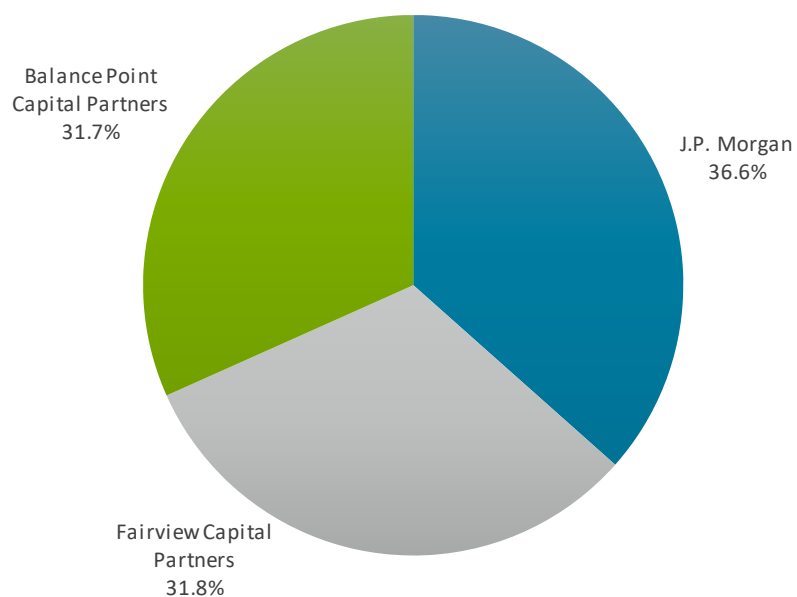
- As of March 31, 2020, the In-State Program had 13 investments across the three funds. Of those investments, Connecticut Growth Capital had invested in seven portfolio companies, Constitution Fund V - Series B had invested in four, and Constitution Fund V - Series D had invested in two portfolio companies.

As of March 31, 2020. In USD millions.

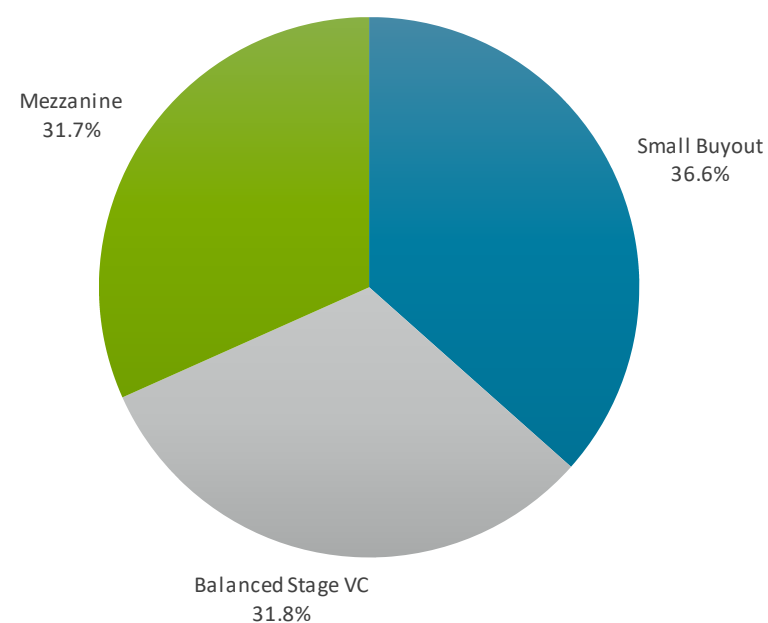
Company	Year of Initial Investment	Exit Date	Industry
Connecticut Growth Capital, LLC	<i>Commitment Date: 12/15/2016</i>	<i>Commitment Up To: US\$50.0 million</i>	
APS Technology	2017		Energy
Awareness Technologies, Inc.	2019	2019	Information Technology
Budderfly	2019		Industrials
Clarus Parent Holdings, LLC	2016	2019	Information Technology
Health Media Network, LLC	2018		Health Care
OneSource Water, LLC	2016	2016	Consumer Discretionary
ProHealth	2016		Health Care
Constitution Fund V, LLC - Series B	<i>Commitment Date: 12/30/2016</i>	<i>Commitment Up To: US\$20.0 million</i>	
D42 Holdings	2019		Information Technology
eVariant, Inc.	2017		Health Care
Lumerity 365, LLC	2019		Financials
R4 Technologies, LLC	2017		Communication Services
Constitution Fund V, LLC - Series D	<i>Commitment Date: 12/21/2018</i>	<i>Commitment Up To: US\$25.0 million</i>	
Covr Financial Technologies, Inc.	2019		Information Technology
Rallybio, LLC	2020		Health Care
Nutmeg Opportunities Fund II, LLC – CT-Direct Investment	<i>Commitment Date: 06/09/2017</i>	<i>Commitment Up To: US\$50.0 million</i>	

In-State Diversification by Manager and Sub-Strategy

Manager Exposure



Strategy Exposure



V. Market Update

The spread of COVID-19 had a profound impact on global economies and markets during the first quarter of 2020. Equities and bond yields suffered both steep declines not seen since the Global Financial Crisis and record volatility, as the global pandemic forced countries into lockdowns in order to contain the outbreak. While the COVID-19 pandemic continues to cause significant disruption in nearly every aspect of the world economy, several countries have begun to ease quarantines and social distancing guidelines in an effort to restore economic activity. However, there remains hesitancy in a return to normalcy due to fear of a potential “second wave” of infections.

Uncertainty regarding the pandemic’s economic impact sent the Chicago Board Option Exchange’s Volatility Index (“VIX”) to an all-time high and countries across the world approve massive stimulus packages to help combat the global economic shutdown. Oil prices also plunged during the quarter, as talks between OPEC and other oil producers failed to reach an agreement on extensions to production cuts coinciding with, and exacerbated by, weaker demand due to the virus. While the stock markets have seen a V-shape recovery in recent months, it remains to be seen how long it will take for economies around the world to fully recover. As of this writing, the U.S. unemployment rate is at its highest level since the Great Depression.

All global equity indices declined in Q1 2020, led by the MSCI Europe Index declining 24.8%, as the virus shutdown an economy that was already struggling with economic growth. The MSCI Emerging Markets Index followed suit, falling 23.9%, as COVID-19 became a pandemic and the prospect of a global recession loomed. Meanwhile, the S&P 500 Total Return Index tumbled 19.6%, as confirmed U.S. cases rose to over 100,000 and jobless claims soared above three million in the last week of March. In response, the Federal Reserve cut interest rates to 0% and announced unlimited quantitative easing. The U.S. Congress also passed a historic US\$2.2 trillion stimulus package that included US\$250.0 billion for households, US\$500.0 billion for loans to distressed companies and US\$350.0 billion for small business loans.

Given the significant and rapid decline in the public markets, StepStone conducted proprietary analyses¹ utilizing its extensive database of private market funds and incorporated into its assessments, previous historic public market downturns, including the Global Financial Crisis (“GFC”). Results showed that private equity returns compared to the S&P 500 Total Return Index were roughly 60% of the down-capture² during the GFC. Historically, StepStone notes that general partners were not forced to sell ‘at the bottom,’ and therefore valuations would not capture all the volatility in a market in turmoil.

Nonetheless, during extreme periods of market dislocation and volatility, capital activity and liquidity in the private markets is severely impacted. Using data from StepStone’s Data and Risk Operations Group, the ratio of distribution activity relative to contributions decreased significantly from pre-COVID outbreak in the U.S. from a ratio of over 1.0 in February 2020 to 0.3 in April 2020. During this same period, StepStone analyzed the capital calls from funds and saw a large uptick in general partners calling capital to pay off or reduce their line of credit (“LOC”).

In private debt market, U.S. leveraged buyout (“LBO”) debt volume decreased 3.8% quarter-over-quarter and 37.8% year-over-year to US\$22.8 billion but was still 10.0% higher than the 10-year quarterly average of US\$20.7 billion. According to data from S&P, purchase price multiples for U.S. LBOs were 11.2x EBITDA in the first quarter, down from 11.3x EBITDA in the prior quarter, but above the 10-year average of 9.7x EBITDA. Average debt multiples of large corporate U.S. LBO loans decreased to 5.3x from 5.9x over the quarter, which is below the 10-year average of 5.5x. Equity contributions for U.S. LBOs decreased to 46.7%, down from the recent high of 50.6% at year-end 2019, but above the 10-year average of 41.7%³.

¹Source: StepStone Portfolio Analytics & Reporting (“SPAR”) as of April 2020. SPAR data are updated continuously; values are subject to change.

²Down-capture is ratio of decline in private markets relative to an index, measured peak to trough

³S&P U.S. LBO Review, Q1 2020

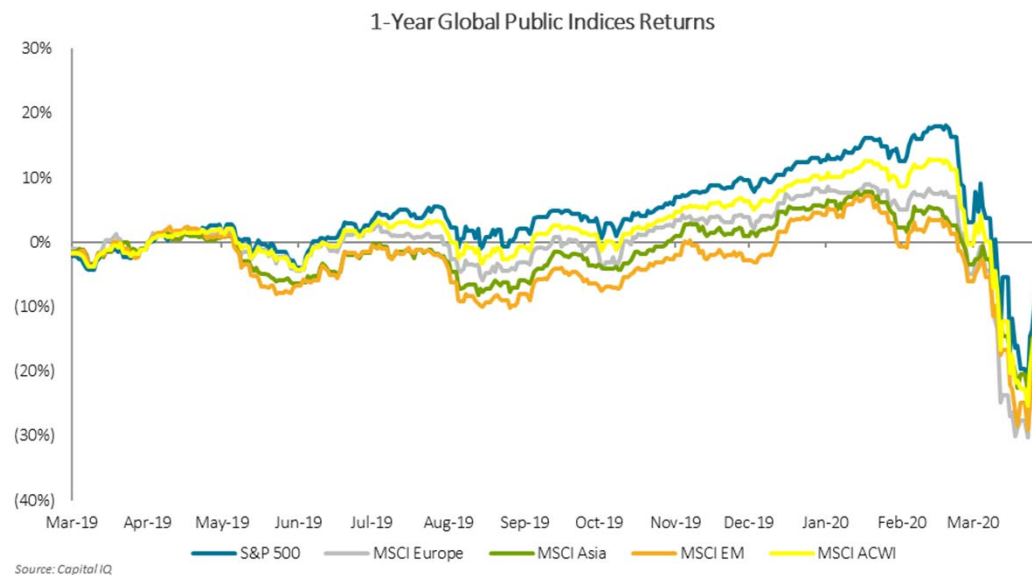
Global private equity fundraising totaled US\$147.9 billion in the first quarter, representing a decline of 16.5% quarter-over-quarter but flat compared to the first quarter of 2019. U.S.-focused funds represented 65.0% of total dollar amount raised during the quarter, above the 10-year average of 60.3%. Funds raised in Europe, Asia, and the Rest of World made up 6.4%, 10.6% and 18.0%, respectively, of global fundraising for the quarter. Dollars invested by private equity funds fell 3.4% quarter-over-quarter but was up 8.7% year-over-year, however the average investment per company increased 10.7% quarter-over-quarter to US\$24.3 million. Companies operating in the Information Technology sector continue to account for a significant portion of the invested capital, with over 48.5% of the capital deployed in the first quarter.

Private equity-backed IPO transaction volume increased in the first quarter by 18.0% compared to the prior quarter and by 39.9% compared to the first quarter of 2019, with US\$5.3 billion raised in 16 IPOs. The largest IPOs of the first quarter were completed by Pharmaceutical Product Development, LLC (NASDAQ: PPD), which raised US\$1.8 billion, and GFL Environmental Inc (NYSE: GFL), which raised US\$1.4 billion. Together these deals represented 61.6% of the total value for all IPOs during the quarter. M&A activity increased 13.9% quarter-over-quarter to US\$117.8 billion but was down 40.1% compared to the first quarter of 2019. The largest M&A deals of the quarter were the US\$12.9 billion purchase of Liberty Property Trust by Prologis, L.P. and the US\$9.1 billion purchase of InterXion Holding N.V. by Digital Realty Trust, Inc. (NYSE: DLR). Together these deals represented 18.7% of the total value for all deals during the quarter⁴.

⁴Capital IQ Transaction Screening Report as of June 9, 2020

Market Overview – Public Markets

- After a historic fourth quarter, global public markets suffered steep declines in the latter half of the first quarter as COVID-19 spread throughout the world and forced global economies to shut down
 - MSCI Europe experienced the largest decline during the quarter of 24.8% with S&P 500 down 19.6%



Regional Indices

	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
MSCI Asia	(18.2%)	(12.8%)	(1.2%)	(0.6%)	1.6%
MSCI Europe	(24.8%)	(18.0%)	(5.1%)	(4.1%)	(0.5%)
MSCI EM	(23.9%)	(19.8%)	(4.0%)	(2.7%)	(1.7%)
MSCI ACWI	(21.7%)	(13.0%)	(0.5%)	0.8%	3.7%
S&P 500	(20.0%)	(8.8%)	3.0%	4.6%	8.3%
S&P 500 Total Return*	(19.6%)	(7.0%)	5.1%	6.7%	10.5%

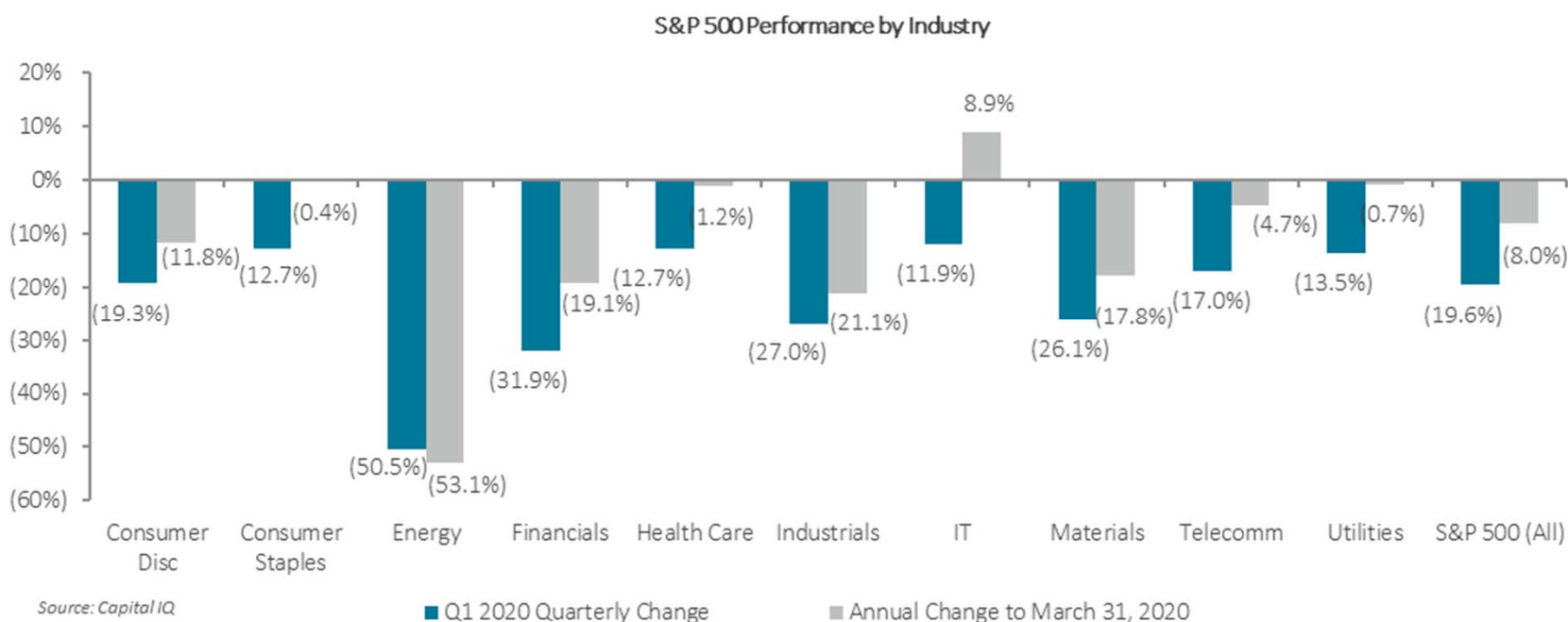
For the period ended March 31, 2020

*Includes reinvestment of dividends.

Source: Capital IQ

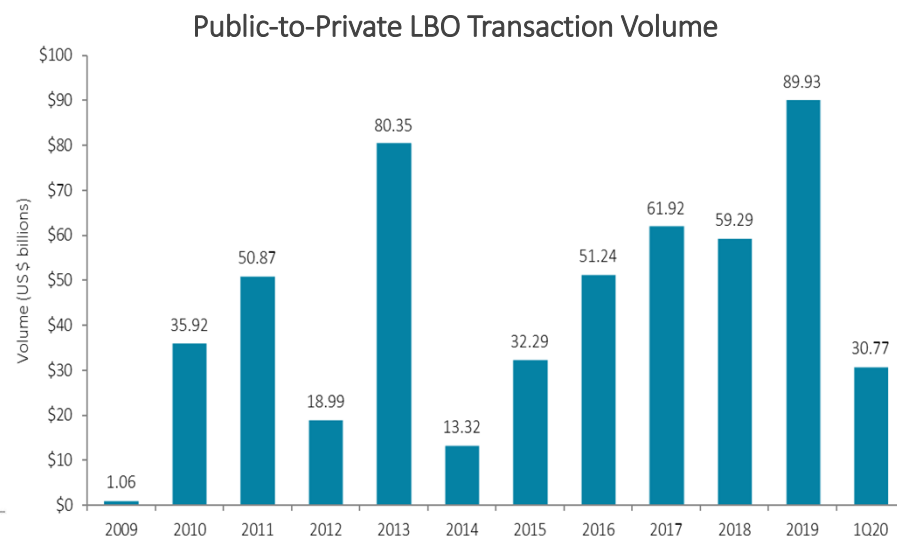
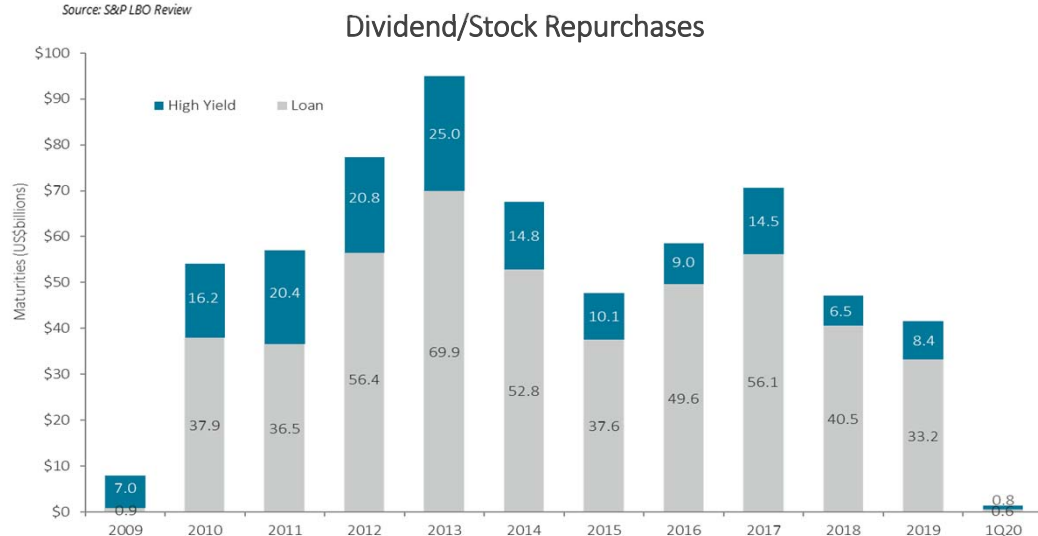
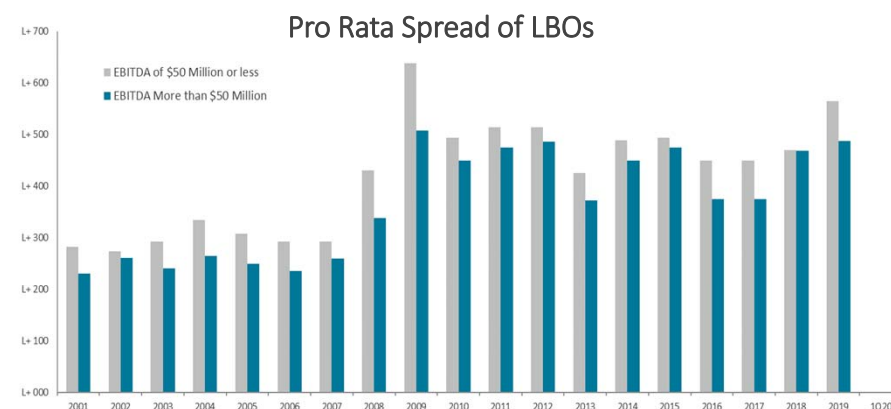
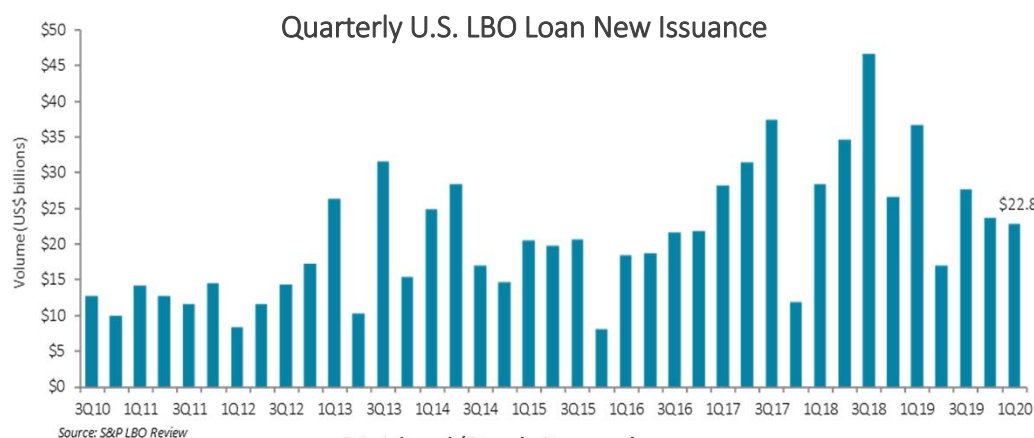
Market Overview – Sector Overview

- All ten industry sectors decreased during the quarter
 - Energy and Financials were the worst performing sectors, down 50.5% and 31.9%, respectively, for the quarter
 - Information Technology was impacted the least, only down 11.9% during the quarter



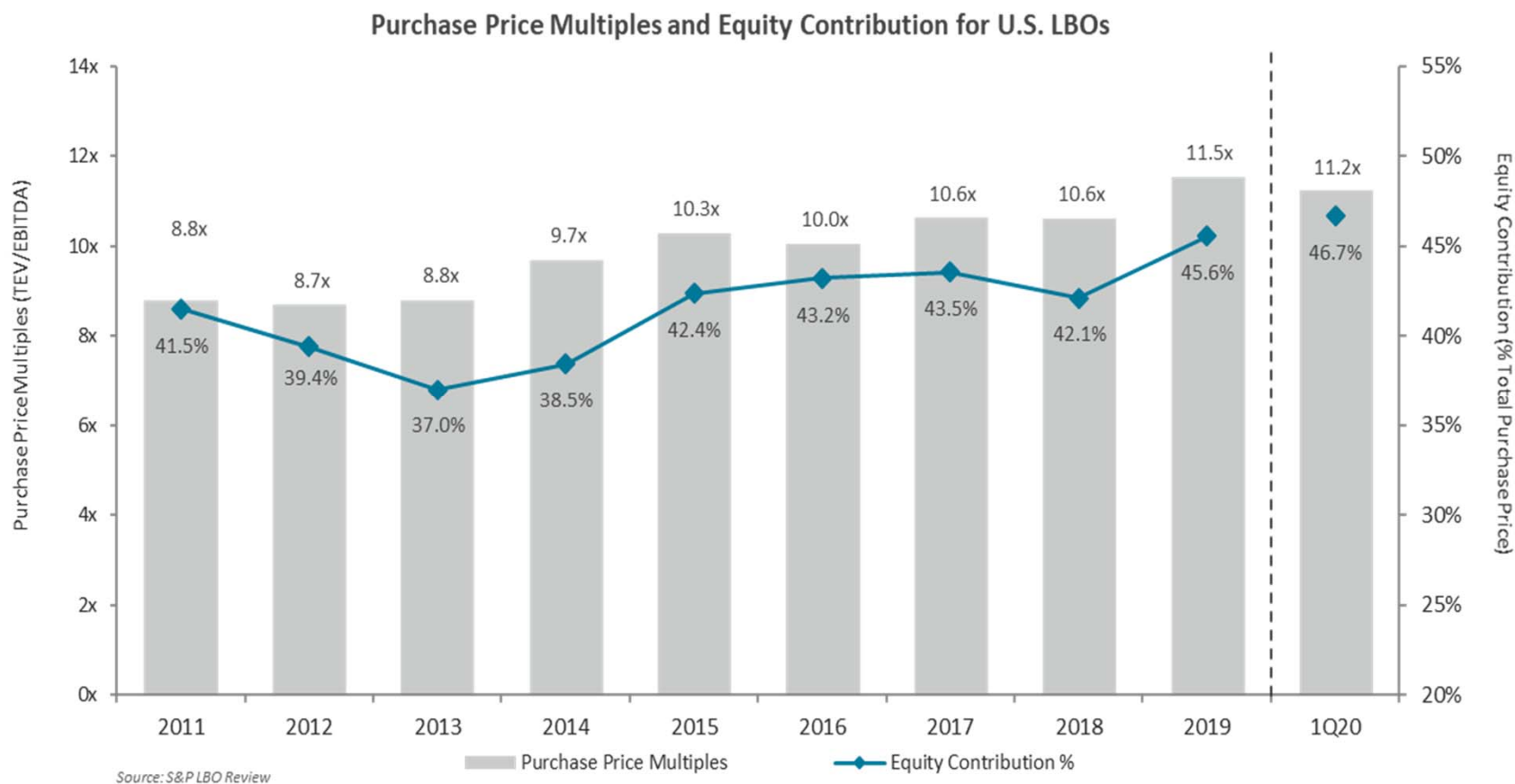
Market Overview – LBO Activity

- U.S. LBO loan new issuance totaled US\$22.8 billion during the quarter, representing a quarter-over-quarter decrease of 3.8% and a decrease of 37.8% from the first quarter of 2019
 - LBO spread data is unavailable at this time
 - Dividend/Stock repurchase volume decreased 81.0%, compared to the prior period
 - Public-to-Private LBO transaction volume increased 11.3%, compared to the prior year period



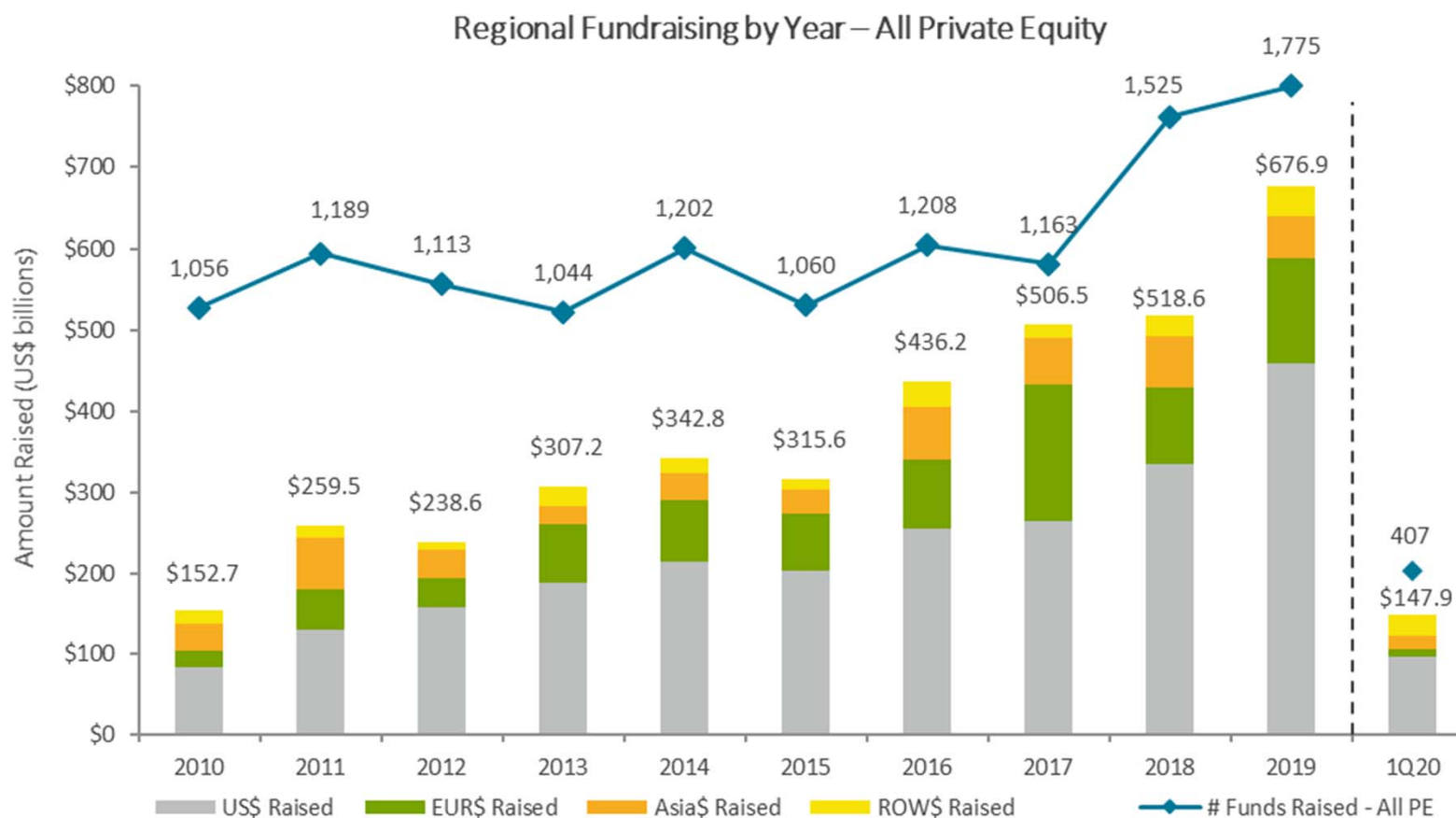
Market Overview – LBO Activity

- Purchase price multiples for U.S. LBOs was 11.2x EBITDA, a decrease from 11.3x in the fourth quarter of 2019 and above the 10-year average of 9.7x
 - Equity contributions for US LBOs decreased from 50.6% to 46.7% quarter-over-quarter



Market Overview – Private Equity Fundraising

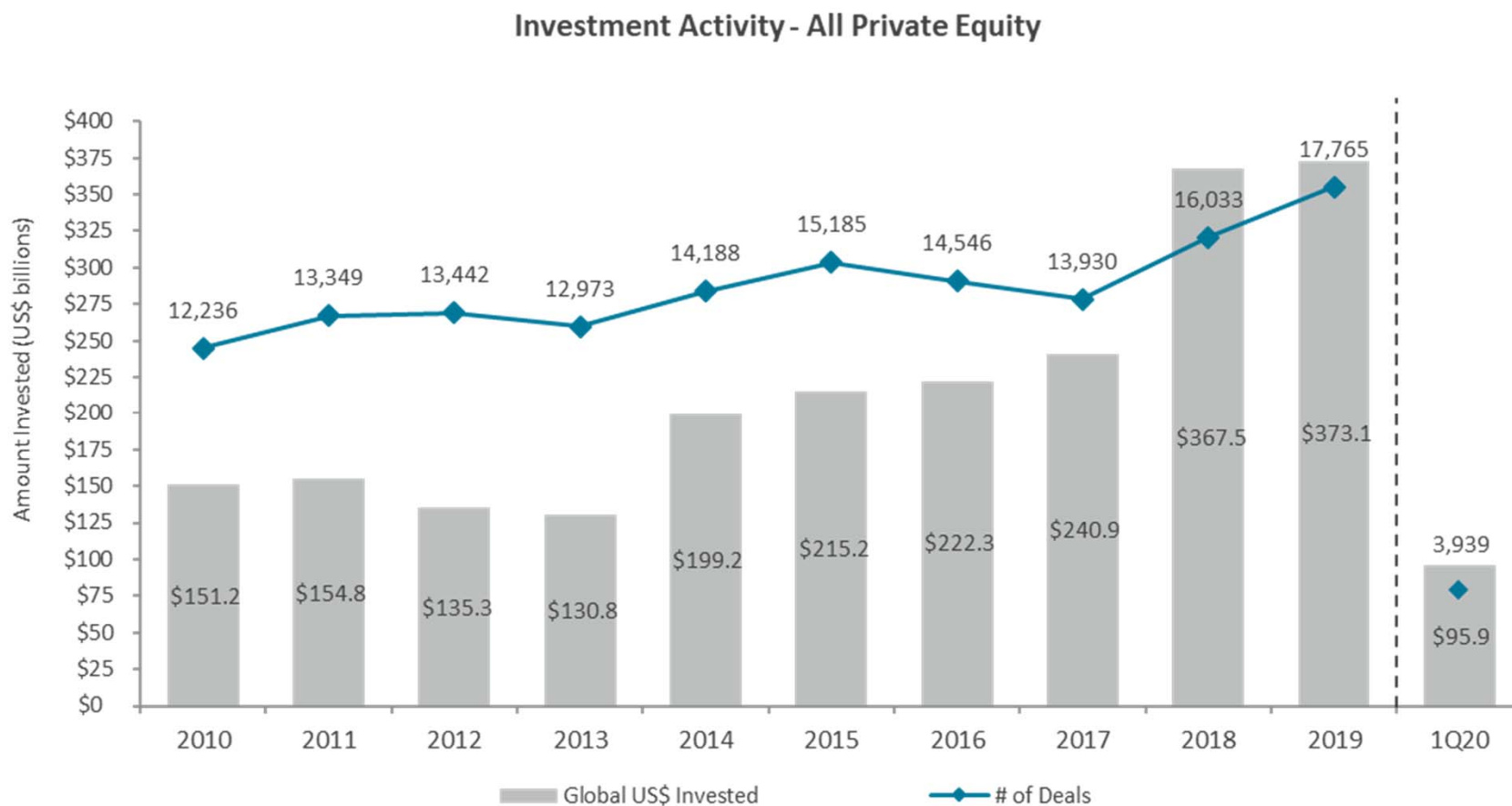
- Private equity fundraising totaled US\$147.9 billion in the first quarter, representing a decrease of 16.5% quarter-over-quarter
 - Buyout fundraising totaled US\$92.1 billion and Venture Capital raised US\$24.8 billion in the first quarter
 - The US represented 65.0% of total funds raised in the year, higher than the 10-year average of 61.3%



Source: Thomson ONE

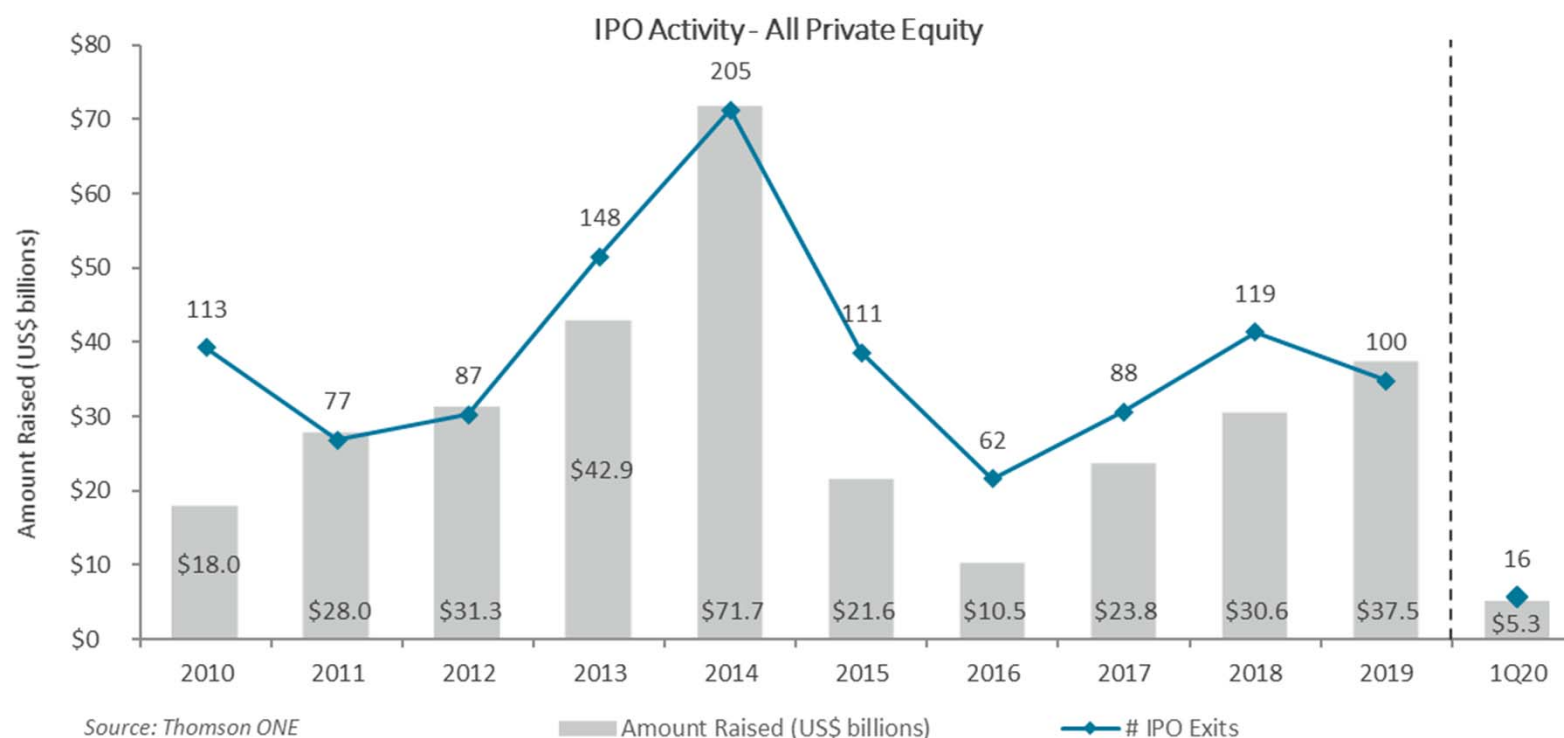
Market Overview – Private Equity Investment Activity

- Private equity funds invested US\$95.9 billion globally during the first quarter, representing a decrease of 1.9% compared to the prior year
 - The average investment size during the quarter was US\$24.3 million, down 10.7% compared to last quarter



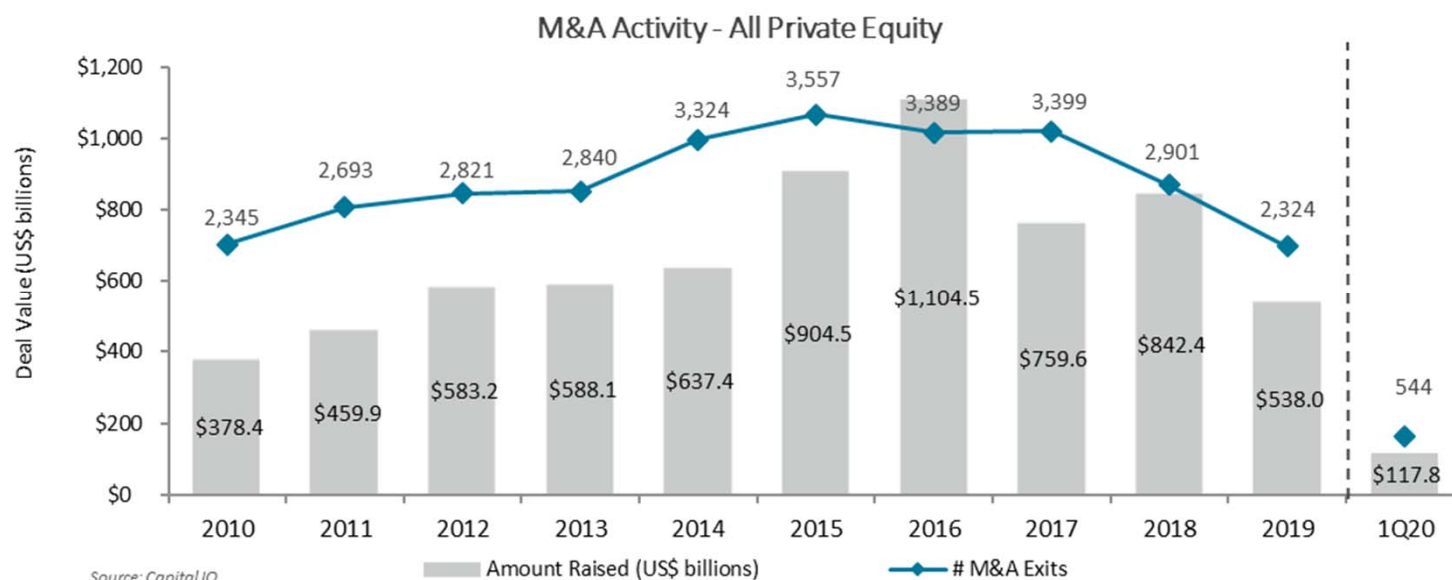
Market Overview – IPO Activity

- During the first quarter, Thomson ONE tracked 16 private equity-backed IPOs raising US\$5.3 billion in proceeds, on the New York Stock Exchange and the NASDAQ
 - The number of private equity-backed IPOs decreased 30.4%, compared to last quarter
 - The total amount raised increased 18.0%, compared to the prior quarter
 - The largest IPOs of the first quarter were completed by Pharmaceutical Product Development, LLC (NASDAQ: PPD), which raised US\$1.8 billion, and GFL Environmental Inc (NYSE: GFL), which raised US\$1.4 billion



Market Overview – M&A Activity

- Private equity-backed M&A volume totaled US\$117.8 billion in deals closed during the first quarter, an increase of 13.9% compared to the prior year
 - The number of M&A deals decreased 11.4%, compared to the prior quarter
 - The largest M&A deals of the quarter were the US\$12.9 billion purchase of Liberty Property Trust by Prologis, L.P. and the US\$9.1 billion purchase of InterXion Holding N.V. by Digital Realty Trust, Inc. (NYSE: DLR)



VI. Glossary

Glossary

Term	Definition
Balanced Stage Venture Capital	A Venture Capital fund focused on both Early Stage and Late Stage companies
Bridge Financing	Temporary funding that will eventually be replaced by permanent capital from equity investors or debt lenders
Buyout	Fund whose strategy is to acquire controlling interests in companies
Co/Direct Investment	Investment made directly into a company, rather than indirectly through a fund
Committed Capital	Total dollar amount of capital pledged to a fund
Contributed Capital	Total capital contributed to a fund for investments, fees and expenses, including late closing interest paid, less returns of excess capital called and bridge financing
Cost Basis	Remaining amount of invested capital
Debt	Security type that signifies a repayment obligation by a company (e.g. senior debt, subordinated debt, bridge loan etc.)
Distressed	A company's final Stage of development. Company is generally experiencing operational or financial distress
Distressed / Turnaround	Fund whose strategy it is to acquire the Equity or Debt of companies experiencing operational or financial distress
Distributed Capital	Capital distributed to the limited partners, including late closing interest earned
DPI (Distributions to Paid In / The Realization Multiple)	Total gross distributions divided by total gross contributions
Early Stage	A company's first Stage of development. Company is generally generating modest or no revenues
Equity	Security type that signifies ownership of a company (e.g. common stock, preferred stock, warrants, etc.)
Expansion Stage	A company's third Stage of development. Company is generally experiencing high growth and nearing profitability
Exposure	Sum of Market Value plus Unfunded Commitment
Fund-of-Funds	Fund whose strategy is to make investments in other funds
Fund Stage	A fund progresses through three stages over its life: investment (investment period), distribution (post-investment period), and liquidation
Geographic Region	Market location of a company: North America, Western Europe, Africa/Middle East, Latin America, Asia/Pacific Rim
Global Buyout	Fund whose strategy is to acquire or recapitalize businesses with international exposure
Growth Equity	Fund whose strategy is to invest in companies to expand or restructure operations, enter new markets or finance an acquisition without a change of control of the business
Infrastructure	Fund whose strategy is to acquire interests in physical structures and networks that provide the essential services for society's economic and social needs, e.g. roads, tunnels, communication networks, etc.
Internal Rate of Return (IRR)	The discount rate that results in a net present value of zero of a series of cash flows. The IRR considers both cash flow timing and amount and is the preferred performance measure for private market funds
Invested Capital	Capital invested by a fund in portfolio holdings
Investment Type	Classification of an investment vehicle: Primary Fund, Secondary Fund, Fund-of-Funds
J-Curve	Refers to the shape of the curve illustrating a fund's performance over time. During the initial years of a fund's life, as a result of illiquidity, stagnant valuations, fees and expenses, a fund's performance tends to be negative (the bottom of the "J"). Eventually, as portfolio companies are realized or increase in value and fees become a smaller percentage of overall contributions, performance improves and investors' returns move up the "J" shaped curve
Large	Company with a Size greater than \$1 billion
Large Buyout	Fund whose strategy is to acquire or recapitalize Medium/Large sized businesses, Fund size of \$3-6 billion

Glossary

Term	Definition
Late Stage	A company's second Stage of development. Company is generally generating high revenue growth and high losses
Lower-Mid	Company with a Size greater than \$100 million, but less than \$250 million
Market Value	Holding value of a portfolio company assigned by the General Partner, which generally represents fair value
Mature	A company's fourth Stage of development. Company is generally generating modest to no growth and operating profitably
Mega Buyout	Fund whose strategy is to acquire or recapitalize Large businesses, Fund size over \$6 billion
Mezzanine	Fund whose strategy is to acquire subordinated debentures issued by companies
Middle-Market Buyout	Fund whose strategy is to acquire or recapitalize middle-market businesses, Fund size between \$1-\$3 billion
Multi-Strategy	A Fund that invests across multiple strategies
Natural Resources	Fund whose strategy is to acquire interests in naturally occurring, economically valuable raw materials and all physical facilities and capabilities required for the extraction, refinement, and delivery to end users, e.g. oil and gas properties, timberland, etc.
Net IRR	Annualized effective compound rate of return using daily contributions, distributions and Market Value as of the Report Date, net of all fees and expenses, including late closing interest
Percent Interest	Represents an investor's economic interest in a fund based upon the investor's commitment divided by total fund commitments
Primary Investment	An interest in a private equity fund acquired directly from the fund manager during the fundraising period
Public Market Equivalent (PME)	A private equity benchmark that represents the performance of a public market index expressed in terms of an IRR, using the same cash flows and timing as the investor's investment activity in private equity. The PME serves as a proxy for the return the investor could have achieved by investing in the public market. The PME benchmark return assumes cash flows are invested at the end of each day.
Publication Date	Refers to the date this report was created as reflected in the Executive Summary
Real Assets	Fund whose strategy is to invest in assets that are tangible or physical in nature such as land, machinery, and livestock
Real Estate	Fund whose strategy is to acquire interests in real estate property
Realized Capital	Capital distributed to a fund from portfolio holdings
Recallable / Recyclable Capital	Capital that has been previously distributed by a fund to investors but may be called again for investment purposes. It is generally associated with realizations that have occurred in the early years of a fund or refers to uninvested capital that has been temporarily returned.
Recapitalization	The reorganization of a company's capital structure
Report Date	Refers to the end date of the reporting period as reflected on the cover page
Return on Investment (ROI)	Ratio of Realized Capital plus Market Value to Invested Capital

Glossary

Term	Definition
Russell 3000® Total Return Index	The Russell 3000® Total Return Index measures the performance, including dividend reinvestment, of the largest 3000 U.S. companies representing approximately 98% of the investable U.S. equity market.
RVPI (Residual Value to Paid In)	The market value of all remaining investments within a fund divided by total gross contributions
Secondary Investment	Investments that involve the purchase of private equity fund interests or portfolios of direct investments in privately held companies from existing institutional Investors
Sector	Industry in which the company operates: technology, telecommunications, healthcare, financial services, industrial, consumer, energy, etc.
Size	Capitalization size of a company: Large, Upper-Mid, Lower-Mid, Small
Small Business Investment Company (SBIC)	Lending and investment firms that are licensed and regulated by the Small Business Administration (SBA). The licensing enables them to borrow from the federal government to supplement the private funds of their Investors.
Small Buyout	Fund whose strategy is to acquire or recapitalize Small businesses typically with a TEV of less than \$250 million, Fund size of less than \$100 million
Stage	The course of development through which a company passes from its inception to its termination: Early, Late, Expansion, Mature, Distressed
Sub-Asset Class	Private equity investments are generally classified as Buyout, Venture Capital, Mezzanine, Distressed/Turnaround, and Fund-of-Funds
Total Value	Equals the sum of Market Value and Distributed Capital
TVPI (Total Value to Paid In)	Market value plus gross distributions divided by total gross contributions
Unfunded Commitment	Amount of capital that remains to be contributed to a fund as defined in a fund's limited partnership agreement
Upper-Mid	Company with a Size greater than \$250 million but less than \$1 billion
Venture Capital	Fund whose strategy is to make investments in Early Stage and/or Late Stage companies
Vintage Year	Vintage Year is defined as the earlier of the year in which investors first contribute capital to a fund or the year a fund commences operating activity. If neither first contribution or first investment has occurred as of Report Date, Commitment Year is used as a preliminary Vintage Year.



INVESTMENT GROUP

State of Connecticut Retirement Plans and Trust Funds

First Quarter 2020

Private Credit and Real
Assets Program

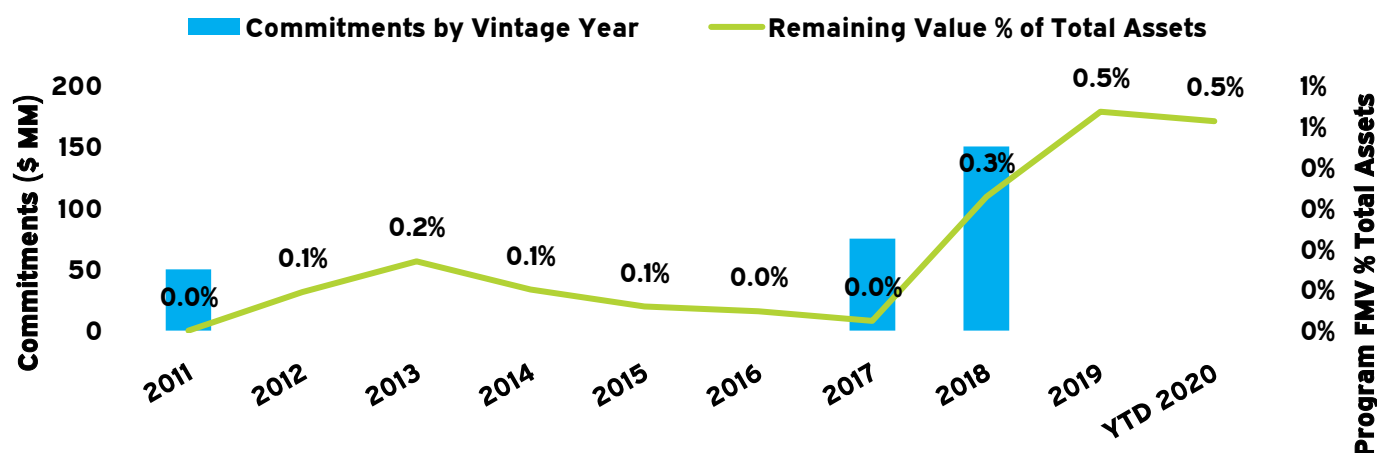
Table of Contents

1. Private Credit Program
2. Real Assets Program

Private Credit Program

Introduction

CRPTF made its first commitment to a private debt fund in 2011, there were just three additional commitments over the next nine years. In early 2020 the CRPTF approved a 5% allocation to private credit, and is expected to significantly increase the pace and regularity of commitments to meet the newly established target.



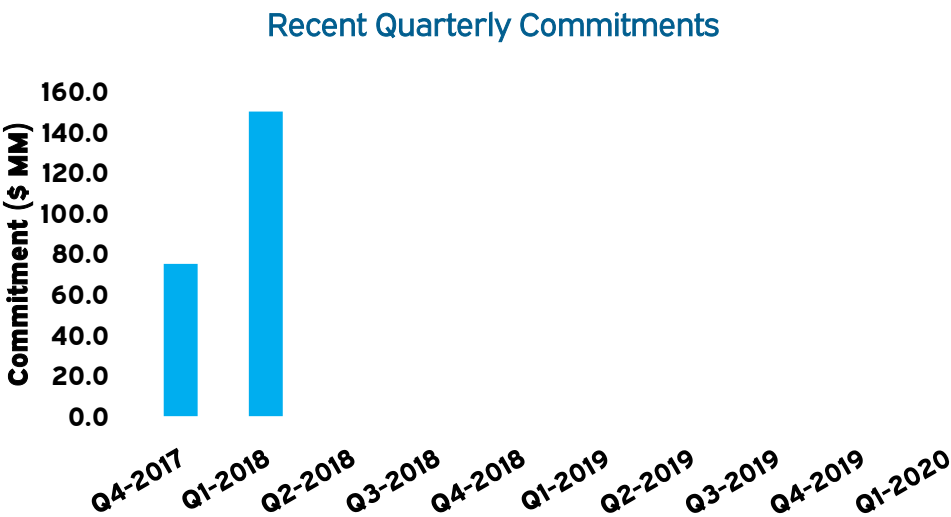
Program Status

No. of Investments	4
Committed (\$ MM)	275.0
Contributed (\$ MM)	241.3
Distributed (\$ MM)	111.0
Remaining Value (\$ MM)	165.3

Performance Since Inception

	Program	Peer Universe
DPI	0.46x	0.45x
TVPI	1.14x	1.17x
IRR	9.3%	6.8%

Commitments

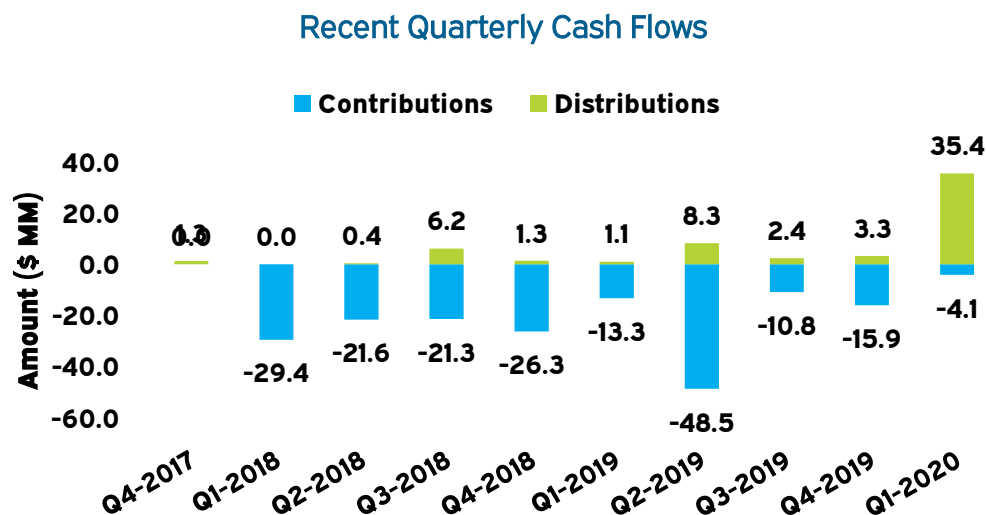


Commitments This Quarter

Fund	Strategy	Region	Amount (MM)
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None to report.

Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
Crescent DL II	2017	Direct Lending	North America	4.12

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
Owl Rock I	2018	Direct Lending	North America	32.12
Marathon Euro Credit	2011	Distressed	Western Europe	2.72
Crescent DL II	2017	Direct Lending	North America	0.60

Significant Events

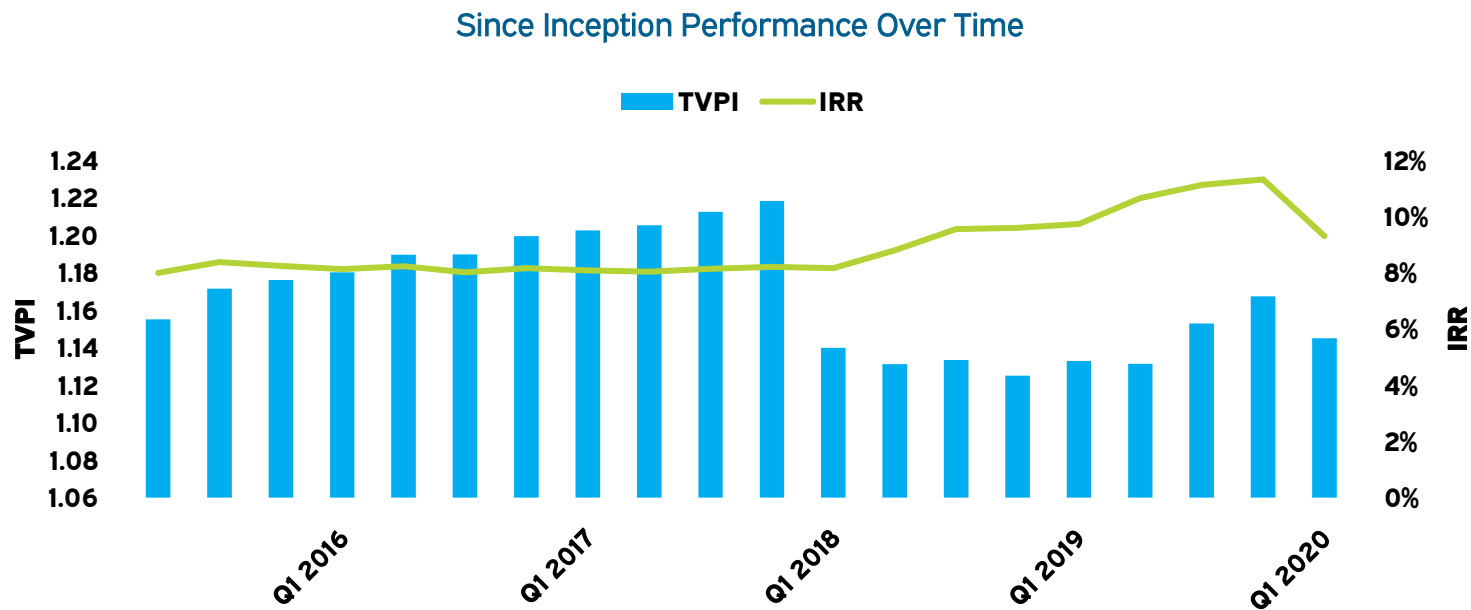
- During the first quarter of 2020, all of Crescent Direct Lending II's borrowers remained current on interest and principal.
- Crescent Direct Lending II experienced two par realizations in the first quarter from the sale of Midwest Industrial Rubber, Inc. and Centauri Health Solutions, Inc.
- During the first quarter, Crescent Direct Lending II closed an \$18.3 million Senior Secured First Lien Term Loan to support the acquisition of COP Shamrock Holdings, Inc., a provider of wastewater treatment, industrial cleaning, remediation, and other environmental services.
- Anchorage Illiquid Opportunities VI's called capital remained unchanged at 74.5% between Q4 2019 and Q1 2020. The Fund was active investing in the quarter and will make a capital calls in the second quarter.
- During the first quarter, Owl Rock Capital Corporation I's portfolio experienced a notable decrease in valuation due to the change in stock price of \$15.24 per share to \$14.09 per share. Despite this drop in share price, Owl Rock's net change in value for the quarter remains positive due to the stock distribution during the quarter of \$30.2 million that offset the decrease in market value.
- All Owl Rock Capital Corporation pre-IPO shareholders were subject to lockup provisions in which one-third of their shares would become eligible for trading on various dates after the IPO. On January 15, 2020, the first tranche of Owl Rock Capital Corporation shares eligible to be traded became unrestricted. In February, the CT AIF received approximately \$30.2 million in stock sale proceeds. The shares were sold at prices between \$15.10-\$15.85.

By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Direct Lending	2	150.0	135.4	15.4	47.9	105.6	121.0	0.35	1.13	11.3
Distressed	2	125.0	105.9	19.1	63.0	59.7	78.8	0.60	1.16	8.1
Total	4	275.0	241.3	34.5	111.0	165.3	199.8	0.46	1.14	9.3

By Vintage

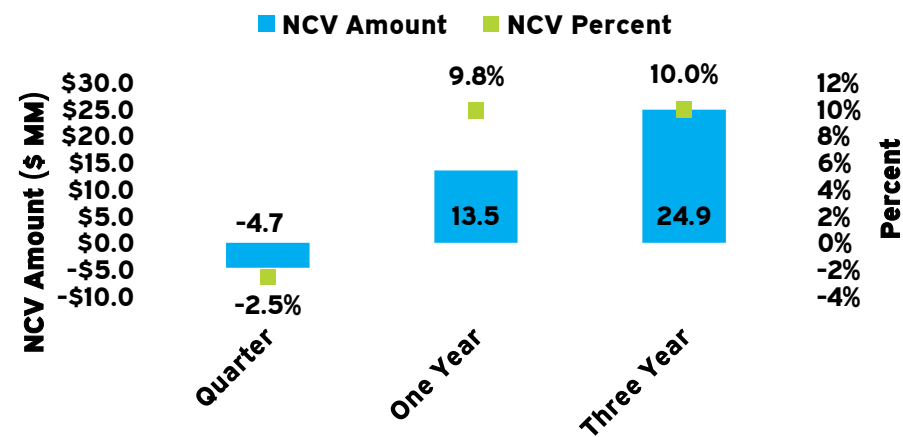
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
2011	1	50.0	50.0	0.0	63.0	0.0	0.0	1.26	1.26	8.8
2017	1	75.0	60.4	15.4	8.3	55.5	70.9	0.14	1.06	5.6
2018	2	150.0	130.9	19.1	39.7	109.8	128.9	0.30	1.14	11.3
Total	4	275.0	241.3	34.5	111.0	165.3	199.8	0.46	1.14	9.3



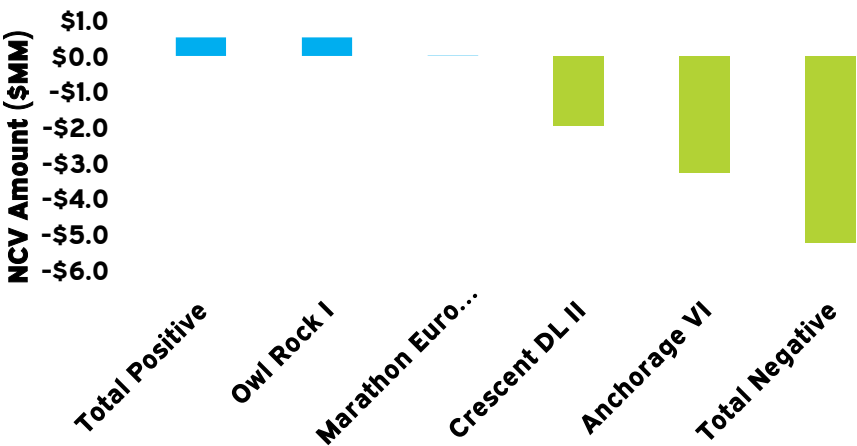
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	8.5	10.3	9.9	9.3	9.3

Periodic NCV



1 Quarter Drivers Of NCV

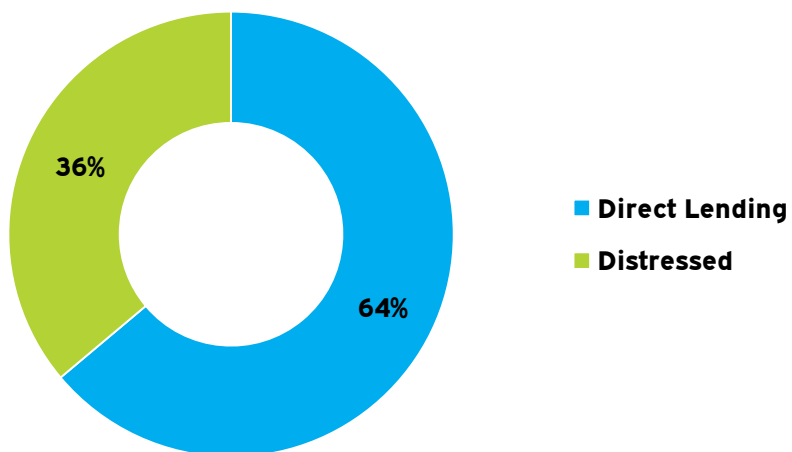


Fund Performance: Sorted By Vintage And Strategy

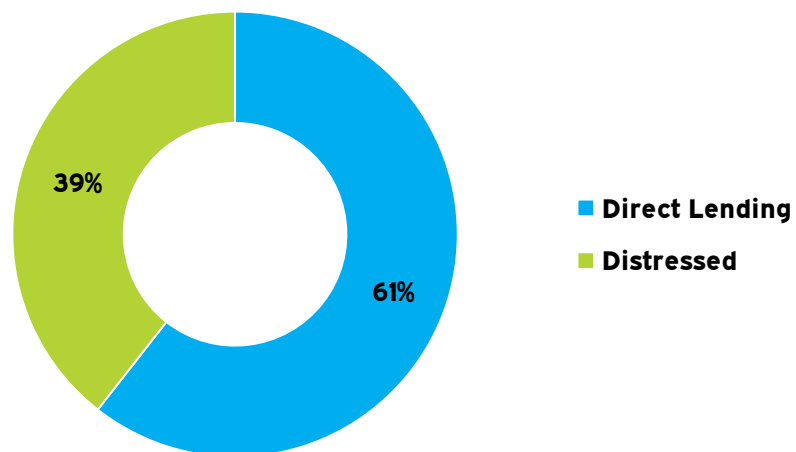
By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Marathon Euro Credit	2011	Distressed	50.0	50.0	0.0	63.0	0.0	1.26	1.29	8.8	7.3
Crescent DL II	2017	Direct Lending	75.0	60.4	15.4	8.3	55.5	1.06	1.08	5.6	7.1
Owl Rock I	2018	Direct Lending	75.0	75.0	0.0	39.6	50.1	1.20	1.05	14.8	4.6
Anchorage VI	2018	Distressed	75.0	55.9	19.1	0.0	59.7	1.07	1.05	NM	NM
Total			275.0	241.3	34.5	111.0	165.3	1.14	NM	9.3	NM

By Strategy

Percent of FMV

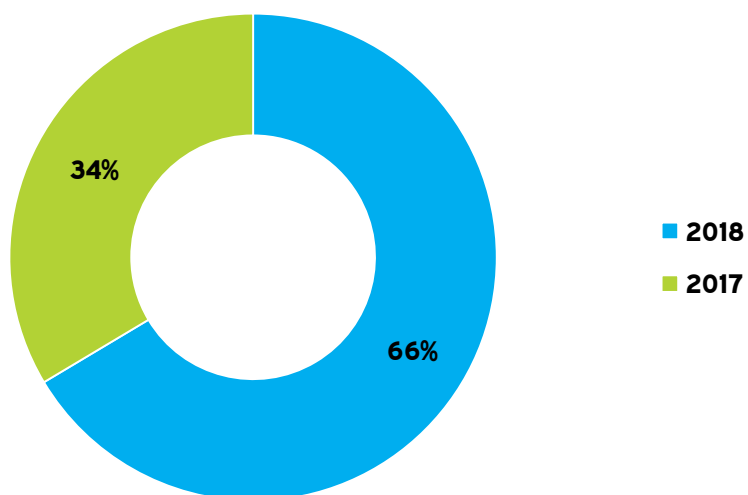


Percent of Exposure

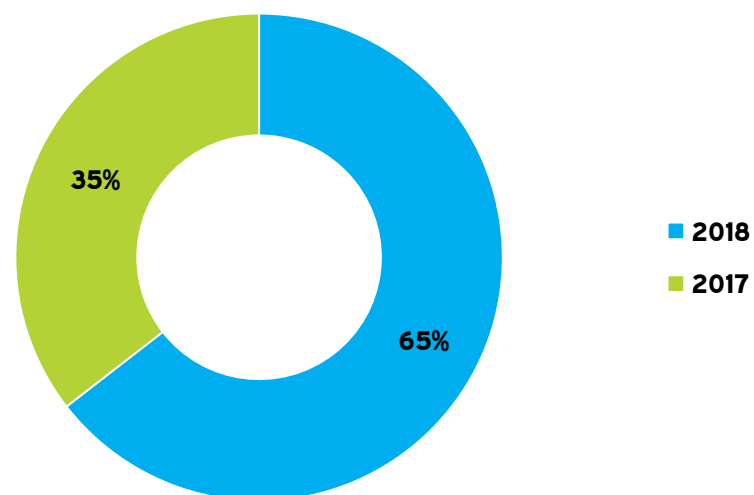


By Vintage

Percent of FMV

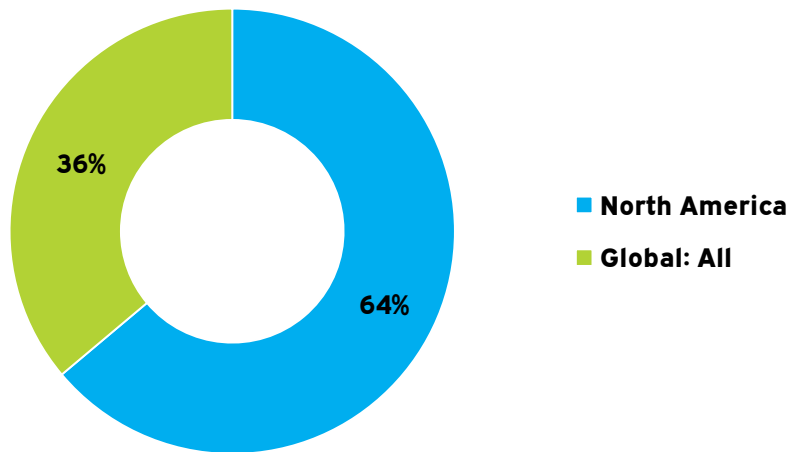


Percent of Exposure

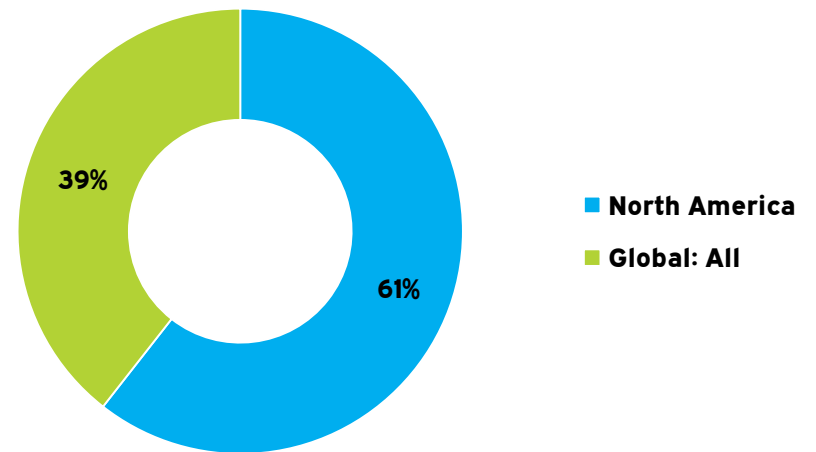


By Geographic Focus

Percent of FMV



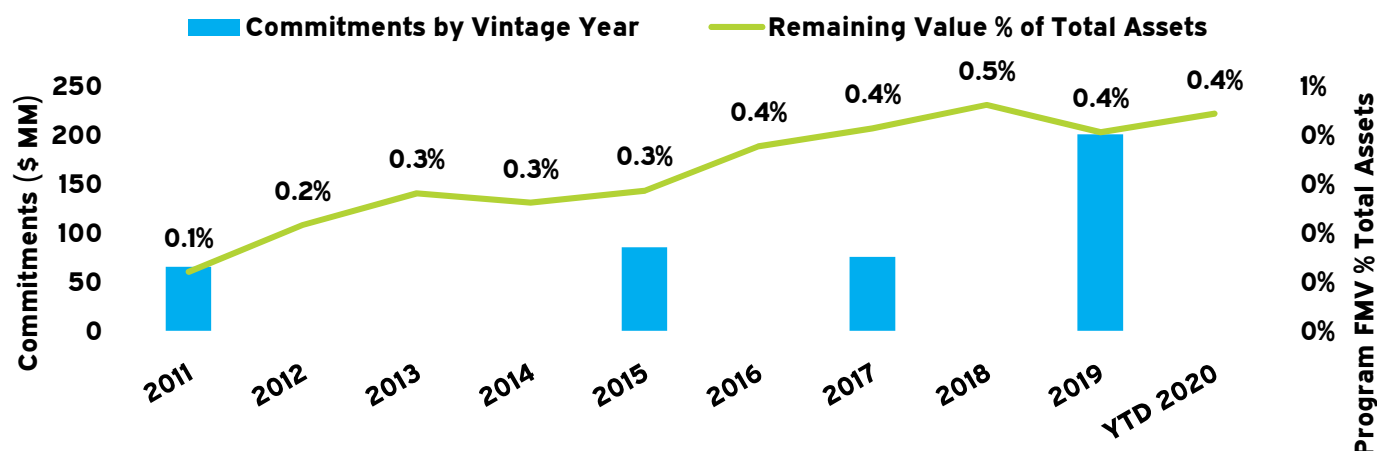
Percent of Exposure



Real Assets Program

Introduction

CRPTF made its first commitment to a real assets fund in 2011, there were five additional commitments over the next nine years. In early 2020 the CRPTF approved a target allocation of 4.2% to the Real Assets Program in addition to a maximum exposure limitation of 5.25% of total plan assets remains in existence.



Program Status

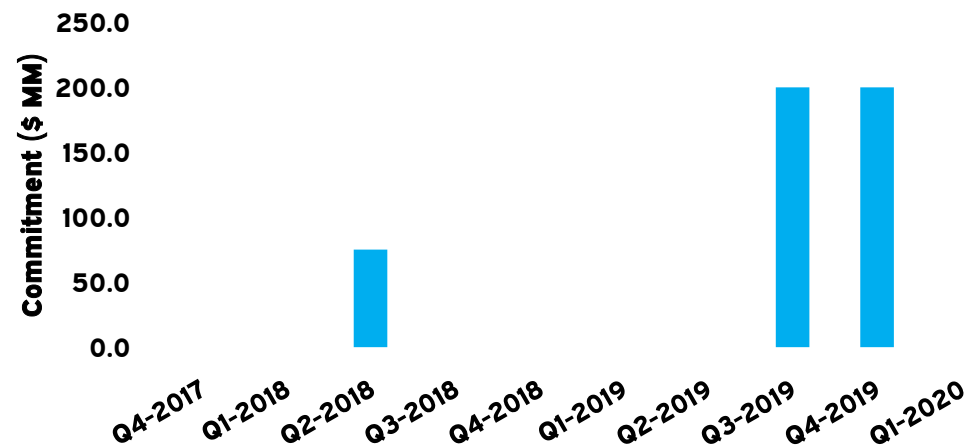
No. of Investments	6
Committed (\$ MM)	685.0
Contributed (\$ MM)	277.3
Distributed (\$ MM)	153.0
Remaining Value (\$ MM)	142.8

Performance Since Inception

	Program	Peer Universe
DPI	0.55x	0.33x
TVPI	1.07x	1.06x
IRR	2.4%	2.1%

Commitments

Recent Quarterly Commitments



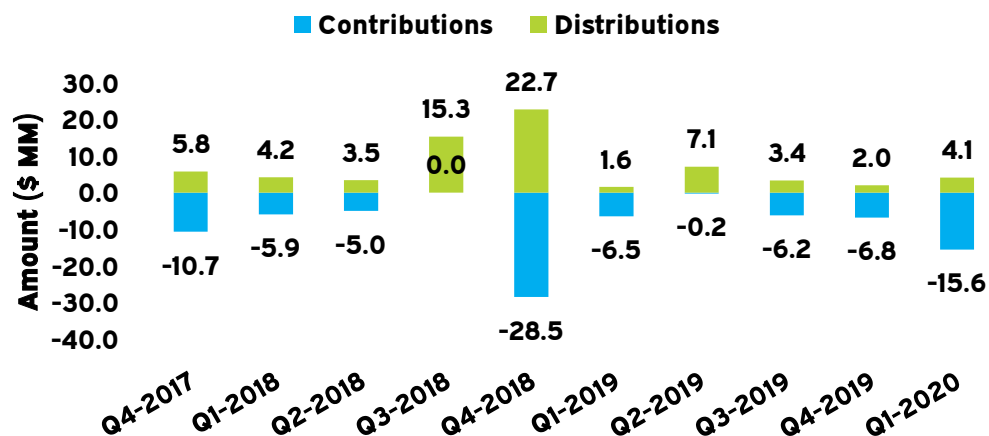
Commitments This Quarter

Fund	Strategy	Region	Amount (MM)
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None to report.

Cash Flows

Recent Quarterly Cash Flows



Largest Contributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
ISQ IS II	2017	Infrastructure	Global: Developed	14.71
GIP IV	2019	Infrastructure	Global: Developed	0.85
EIG XV	2010	Natural Resources	Global: All	0.01

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)
ArcLight VI	2015	Infrastructure	North America	3.09
EIG XV	2010	Natural Resources	Global: All	0.99
ArcLight V	2011	Infrastructure	North America	0.00

Significant Events

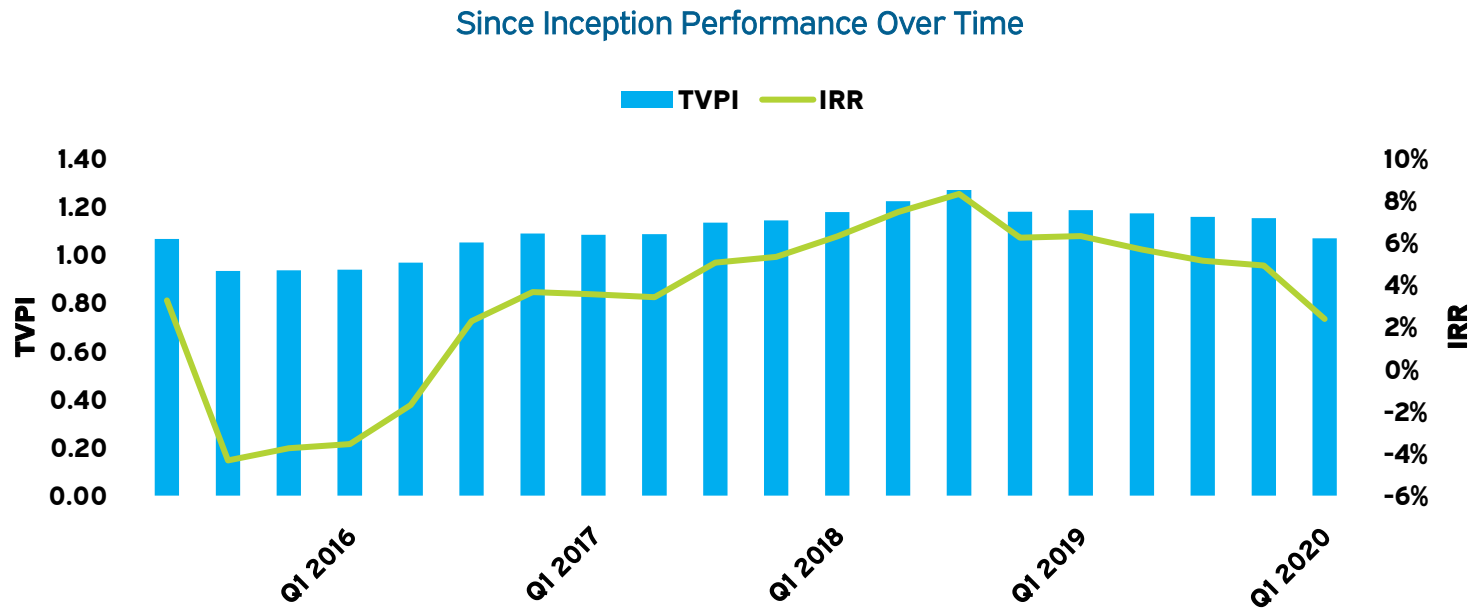
- In February 2020, ISQ Global Infrastructure Fund II invested \$123 million for an indirect equity interest in Oleoducto Central, S.A. (OCENSA). OCENSA operates the largest crude oil pipeline in Colombia with a capacity of 680 thousand barrels per day and transports approximately 75% of the oil produced in the country.
- Arclight Energy Partners Fund VI's unrealized portfolio decreased by approximately 25% (-\$1.2 billion) over Q1. Investments with notable valuation changes over the quarter include Bruin Resources (-92%, -\$511 million), Limetree Bay Holdings (-93%, -\$246 million), Midcoast Energy (-18%, -\$142 million), Lightstone Generation (26%, -\$61 million), Busbar III (-24%, -\$55 million), Greylock Energy Holdings (-37%, -\$45 million), and Element III (-72%, -\$37 million).
- Arclight Energy Partner Fund VI received \$30 million of ordinary distributions and sales proceeds primarily from Al-Perdido Holdings (\$12 million), Eastern Generation (\$9 million), and Lightstone Generation (\$5 million).

By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Infrastructure	5	625.0	214.0	416.0	100.7	126.1	542.1	0.47	1.06	2.5
Natural Resources	1	60.0	63.3	0.0	52.3	16.7	16.7	0.83	1.09	2.1
Total	6	685.0	277.3	416.0	153.0	142.8	558.8	0.55	1.07	2.4

By Vintage

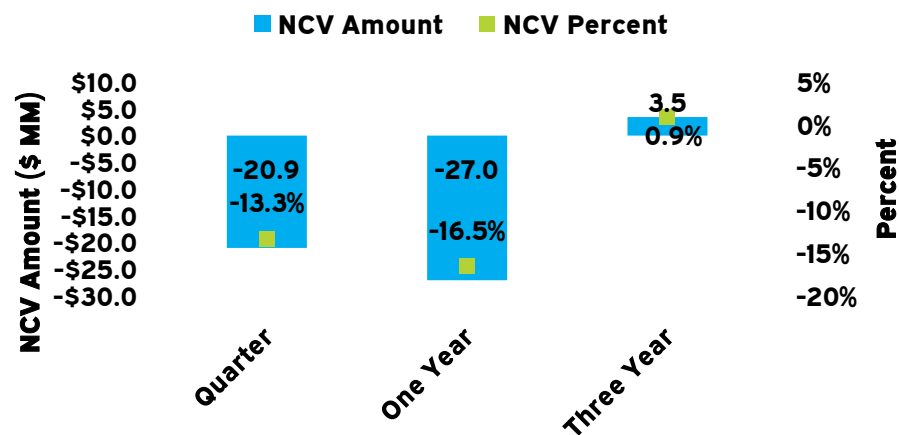
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Open-end	1	200.0	0.0	200.0	0.0	0.0	200.0	0.00	NM	NM
2010	1	60.0	63.3	0.0	52.3	16.7	16.7	0.83	1.09	2.1
2011	1	65.0	65.9	0.0	62.9	23.3	23.3	0.95	1.31	8.0
2015	1	85.0	86.1	0.0	34.3	53.5	53.5	0.40	1.02	0.7
2017	1	75.0	61.1	16.1	3.4	49.5	65.6	0.06	0.87	NM
2019	1	200.0	0.8	199.9	0.0	NM	199.8	0.00	NM	NM
Total	6	685.0	277.3	416.0	153.0	142.8	558.8	0.55	1.07	2.4



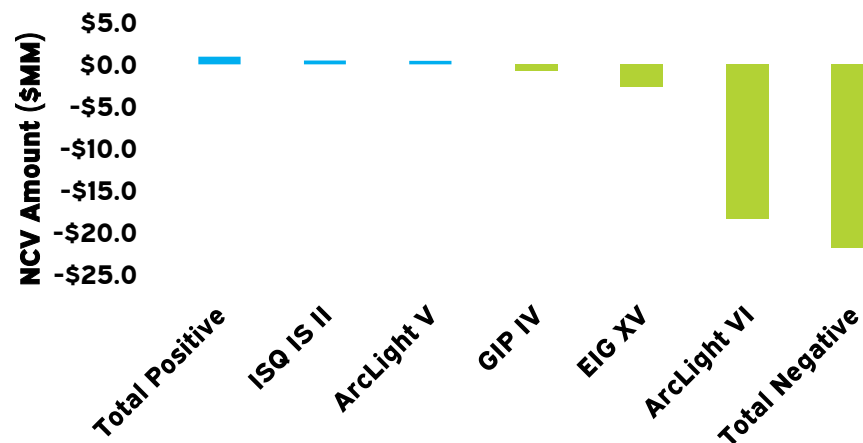
Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	-17.6	0.9	2.2	2.4	2.4

Periodic NCV



1 Quarter Drivers Of NCV

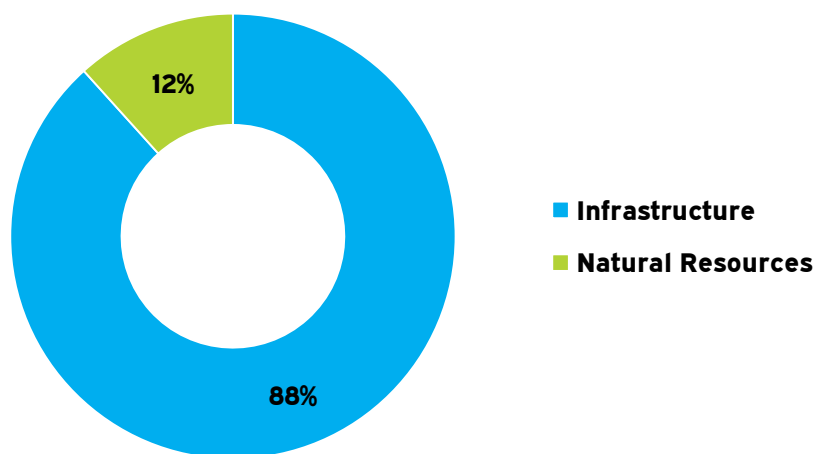


Fund Performance: Sorted By Vintage And Strategy

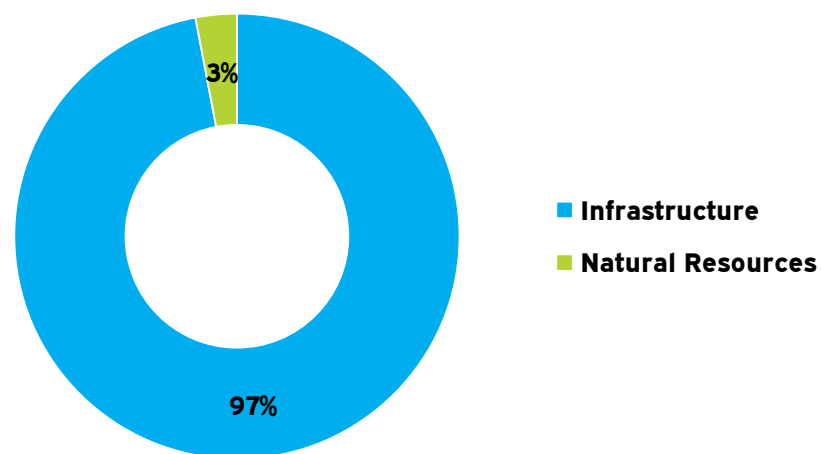
By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
IFM IS	Open-end	Infrastructure	200.0	0.0	200.0	0.0	0.0	NM	NM	NM	NM
EIG XV	2010	Natural Resources	60.0	63.3	0.0	52.3	16.7	1.09	1.22	2.1	3.7
ArcLight V	2011	Infrastructure	65.0	65.9	0.0	62.9	23.3	1.31	0.92	8.0	-1.5
ArcLight VI	2015	Infrastructure	85.0	86.1	0.0	34.3	53.5	1.02	1.09	0.7	2.7
ISQ IS II	2017	Infrastructure	75.0	61.1	16.1	3.4	49.5	0.87	0.89	NM	NM
GIP IV	2019	Infrastructure	200.0	0.8	199.9	0.0	NM	NM	NM	NM	NM
Total			685.0	277.3	416.0	153.0	142.8	1.07	NM	2.4	NM

By Strategy

Percent of FMV

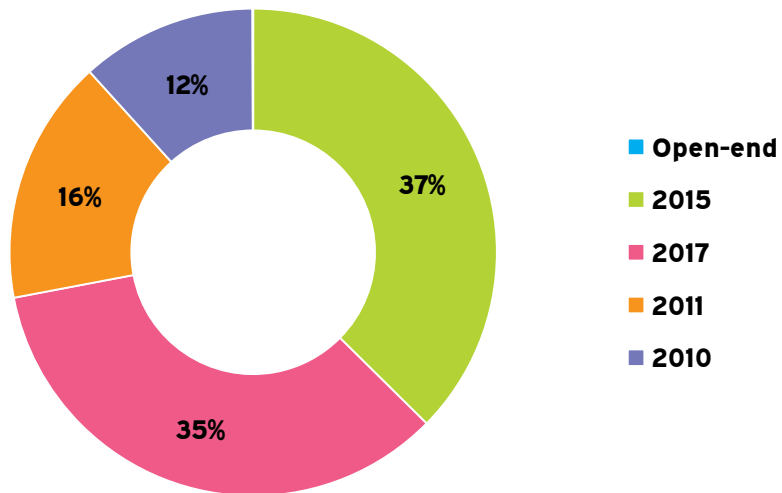


Percent of Exposure

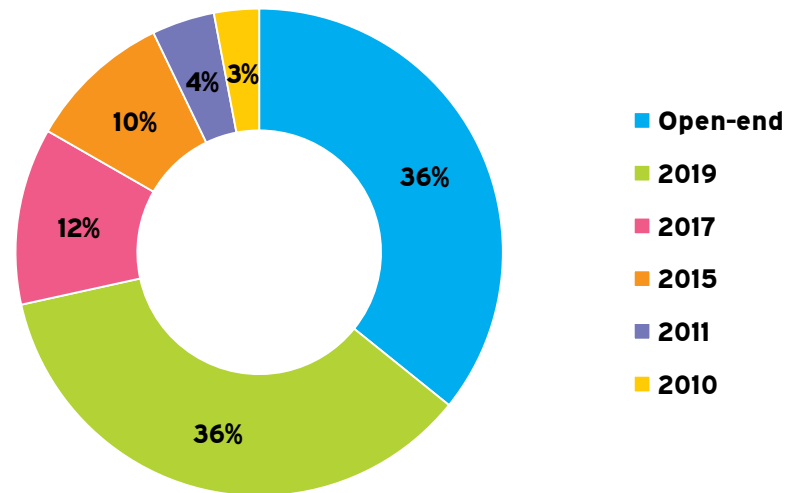


By Vintage

Percent of FMV

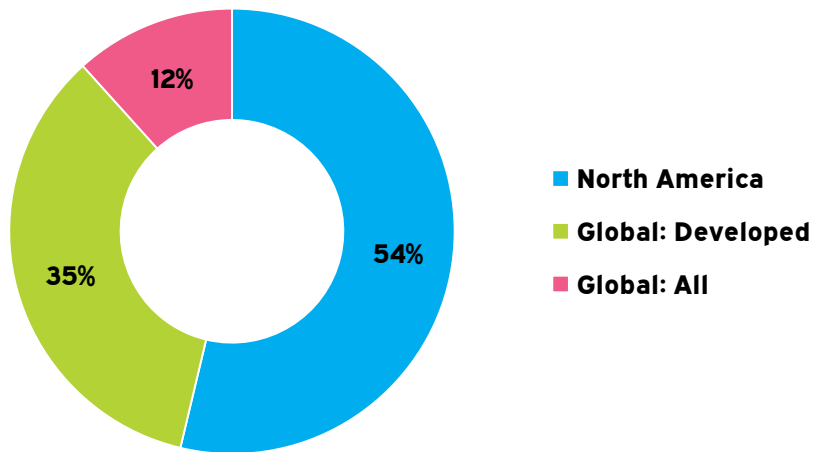


Percent of Exposure

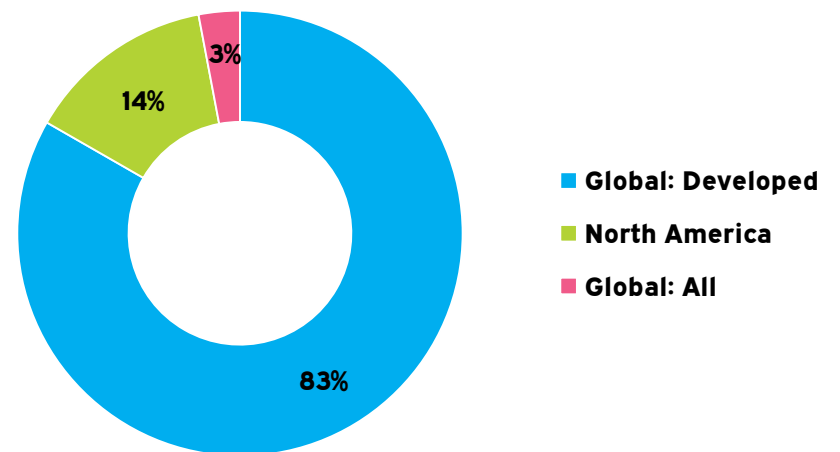


By Geographic Focus

Percent of FMV



Percent of Exposure

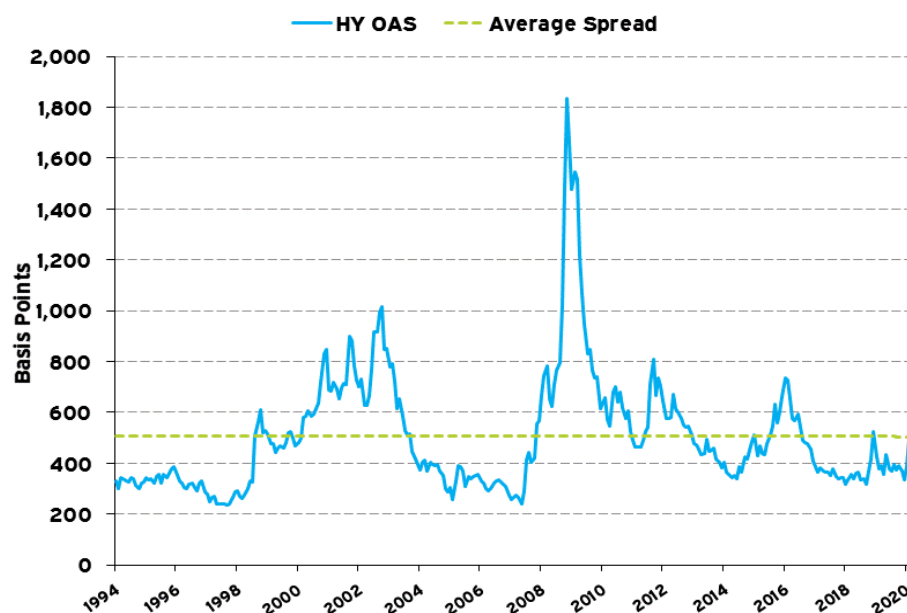


Private Debt

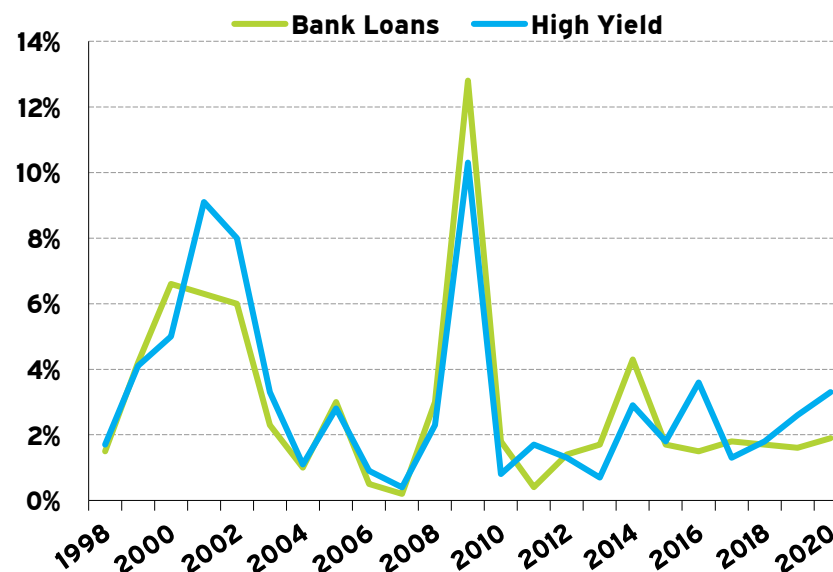
The first quarter of 2020 marked a sharp reversal from the benign credit environment of the past several years. Asset prices across all credit markets exhibited significant volatility in February and March as a result of the expanding covid-19 pandemic. Even the highest quality and most liquid segments of corporate credit and structured credit markets experienced substantial dislocations because of the sharp repricing of credit risk. These issues were exacerbated by margin calls on credit portfolios that relied on high leverage levels and mark-to-market valuation methodologies.

High yield bond spreads increased more than 500 basis points from the end of 2019 to finish the quarter at 880 basis points. This spread level is comfortably in the highest decile historically. Bank loan spreads followed a similar path, as the selloff appeared to be indiscriminate of capital structure positioning. Bond and loan default rates increased modestly to 3.3% and 1.9%, respectively, but are expected to continue to increase as a result of the sharp decrease in economic activity.

U.S. Corporate High Yield Spread¹



U.S. Corporate Default Rate²



¹ Source: Barclays Capital

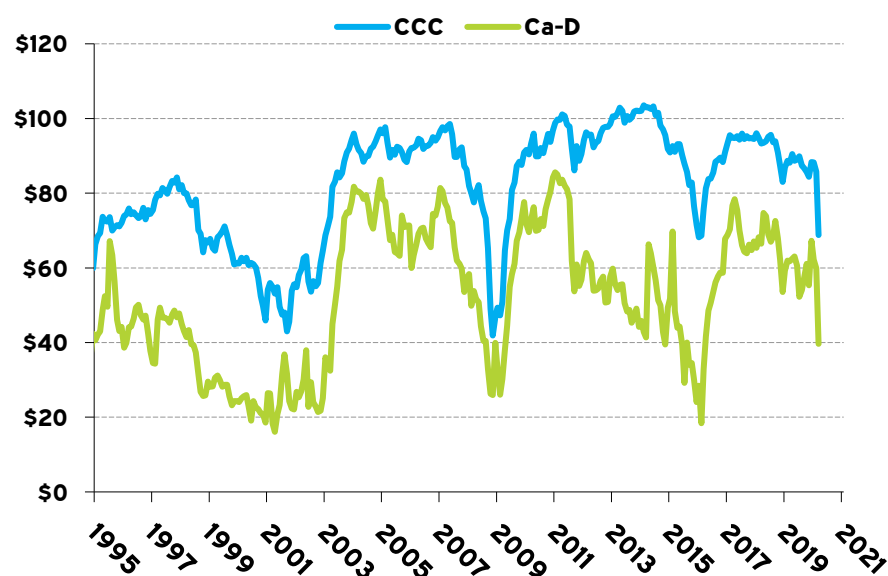
² Source: JP Morgan

Distressed & Opportunistic Debt

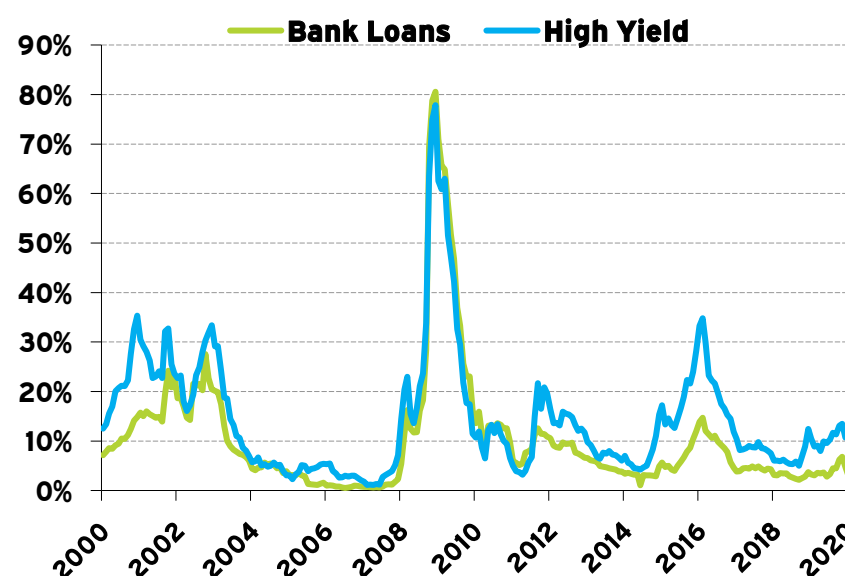
The opportunity set for distressed and opportunistic debt changed materially as a result of the credit market sell-off. Bonds rated CCC, which are 12% of the market and account for more than \$140 billion in face value, fell below \$70. The distressed ratios (defined below) in both bonds and loans increased significantly to more than 20% and 40%, respectively. In both asset classes combined, there was more than \$700 billion of debt (face value) trading at these distressed levels at the end of the quarter, a substantial increase from the approximately \$150 billion of distressed debt at the end of 2019.

Rating agencies have been quick to downgrade issuers in this market environment. There was more than \$140 billion of fallen angel¹ bonds downgraded in the first quarter, which alone would represent the third highest year of downgrades. In bank loans, approximately \$278 billion of debt and 219 loan issuers were downgraded. Loan downgrades can have a material impact on this market as CLOs, which are more than 60% of the bank loan market, have certain ratings constraints.

Lower Rated Debt Pricing²



Distressed Ratio³



¹ Bond ratings lowered from investment grade to below investment grade, or high yield

² Source: Barclays Capital

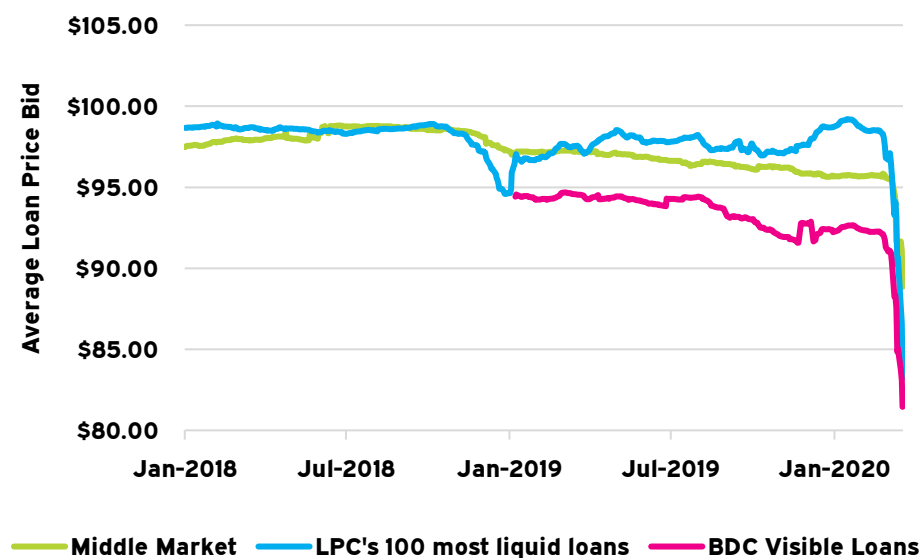
³ Source: Bank Loans trading below \$80, Credit Suisse; High Yield trading at spread of more than 1,000bps, Deutsche Bank.

Private Senior & Subordinated Debt

The pandemic has had a material impact on new issuance in corporate private credit markets. During the first quarter, issuance was a fraction of the average quarterly levels for the prior five years. Market participants expect a prolonged period of slower issuance as M&A, the primary use of proceeds in middle market lending, is expected to slow. New issuance is likely to shift to capital structure recapitalizations, as well as liquidity injections or rescue financing. Due to the nature of these transactions, the new issuance yields are expected to increase beyond just the increase in market credit spreads.

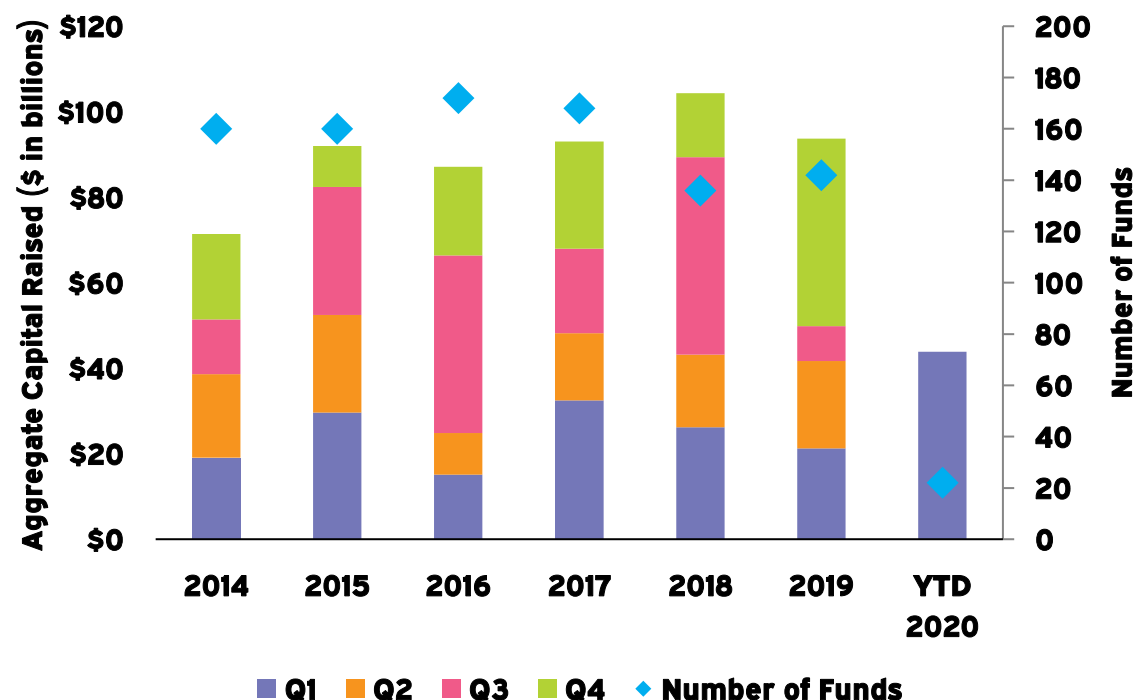
Private middle market loan performance began to diverge from the larger syndicated market in 2019. The large cap market traded down to similar levels as the middle market in the first quarter of 2020 as investors sold loans believed to be most liquid first. Middle market defaults started to increase during the quarter as evidenced by the non-accrual rate for BDCs increasing from 3.4% at the end of 2019 to nearly 6% at the end of March.

Senior Loan Secondary Market Pricing¹



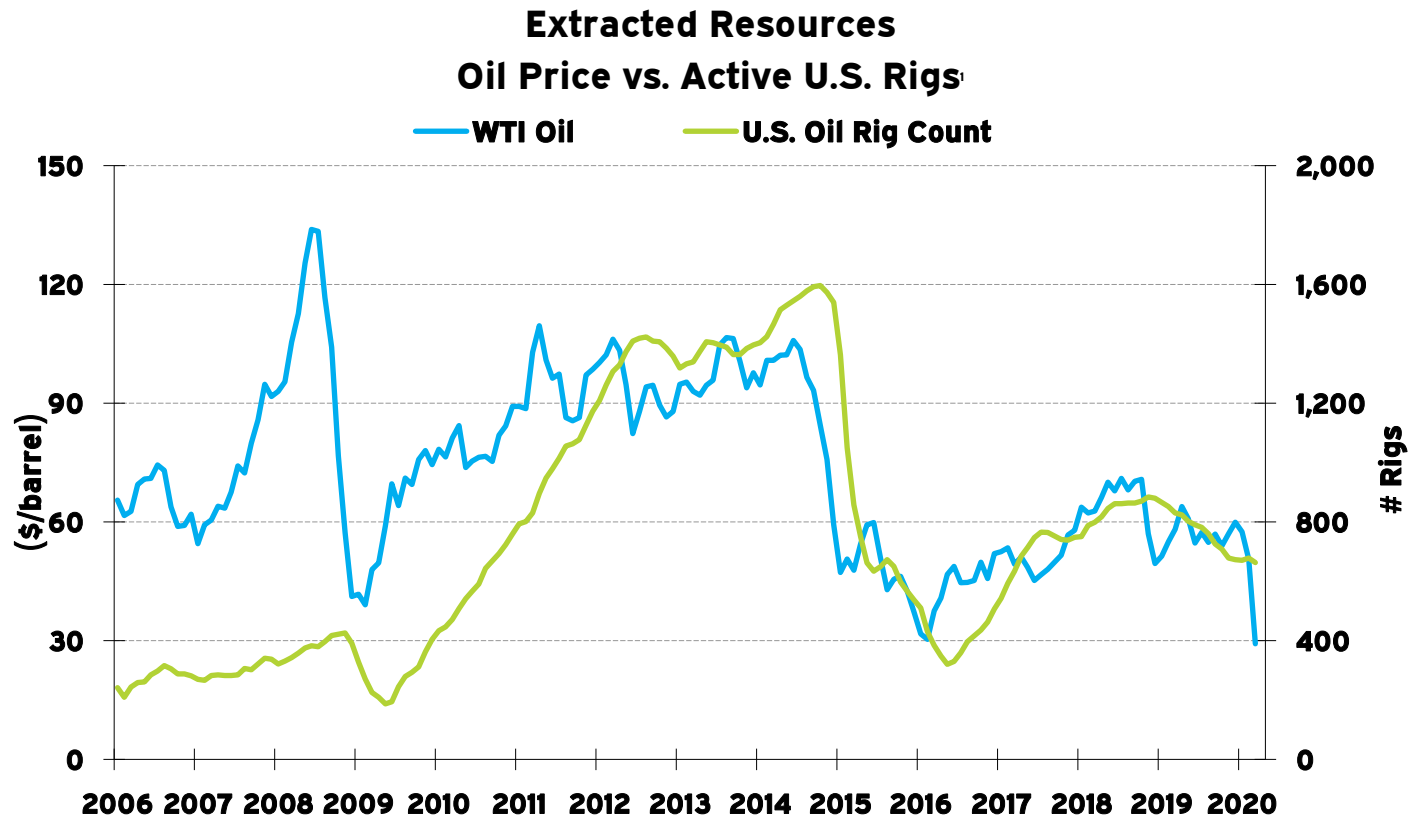
¹ Source: Refinitiv LPC

Global Quarterly Unlisted Natural Resource Fundraising¹



Fundraising momentum continued into the first quarter of 2020, exceeding the first half of 2019 with over \$40 billion in commitments. The number of funds decreased from the average per quarter in 2019 with just 22 funds, but the average fund size increased from \$1 billion in 2019 to \$2 billion during the first quarter of 2020. As of March 31, 2020, Prequin reported a total of 332 unlisted natural resources funds with a combined fundraising target of approximately \$172 billion. The majority of natural resources managers fundraising during the first quarter were focused on North America, accounting for approximately 46% of cumulative targeted capitalization in the market.

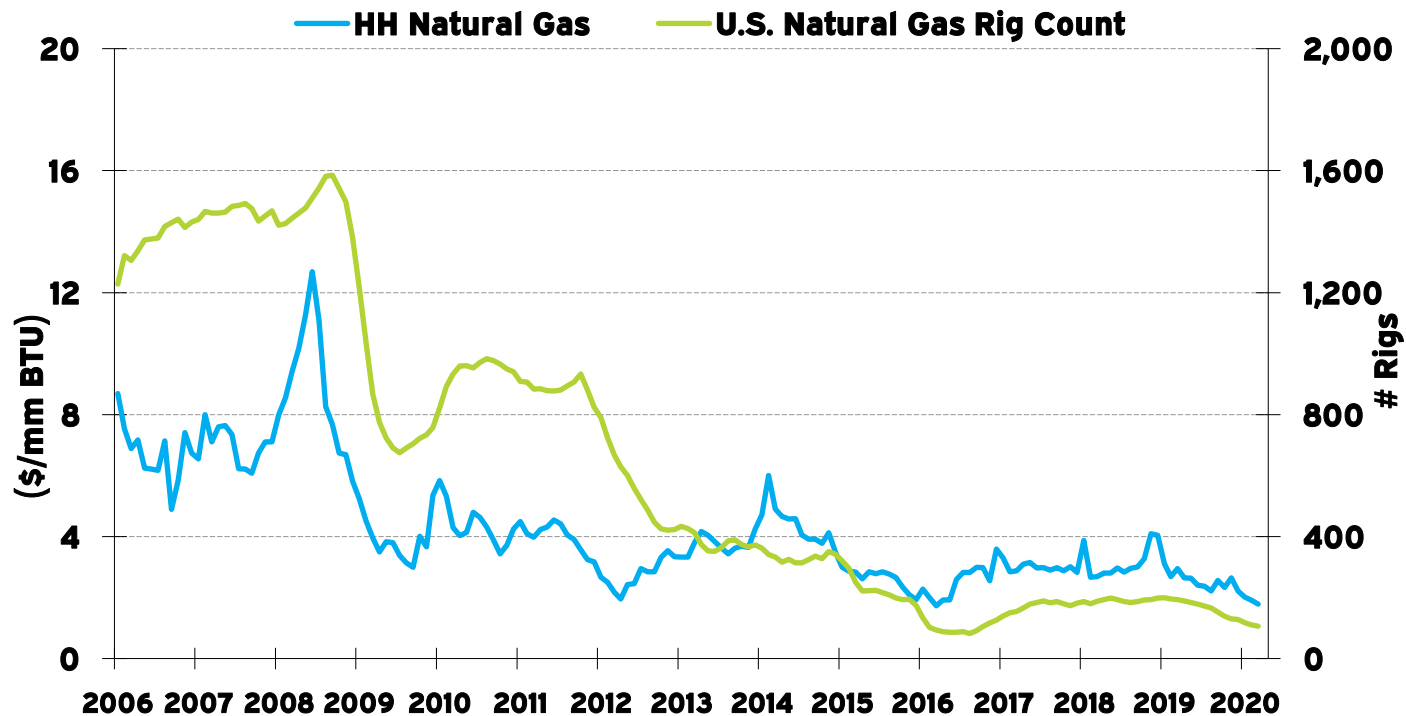
¹ Source: Prequin Private Capital Fundraising Update, Q1 2020.



In mid-January 2020, China and the U.S. signed the Phase I trade agreement in what could result in increased trade between the two largest economies. Those prospects later faded as the global impact of the coronavirus unfolded. As schools were shut and travel restrictions were enacted, the demand for oil and refined products plummeted. At the same time, Saudi Arabia and Russia increased production after disagreeing to coordinated production cuts. West Texas Intermediate (“WTI”) and Brent oil prices fell by 51% to \$29 and 52% to \$32 per barrel, respectively, during the first quarter. While the U.S. oil rig count only fell by 10 to 663, this was only a fraction of the decline coming for the next quarter, as oil and gas companies significantly cut capital spending. U.S. gasoline prices for regular blend decreased by 10% to \$2.47 during the first quarter, representing an 8% decrease from one year prior.

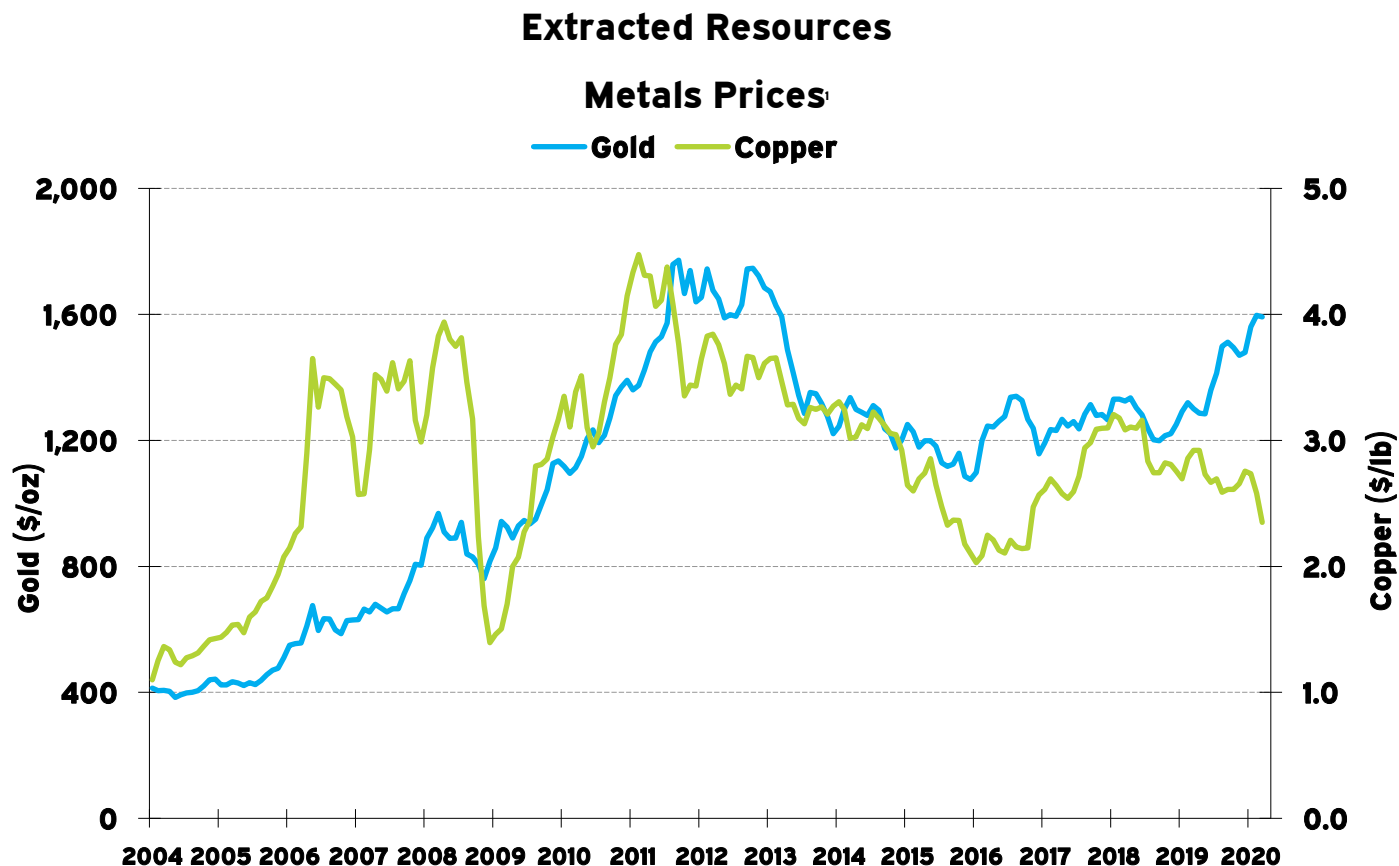
¹ Source: EIA and Baker Hughes.

Extracted Resources Natural Gas Price vs. Active U.S. Rigs¹



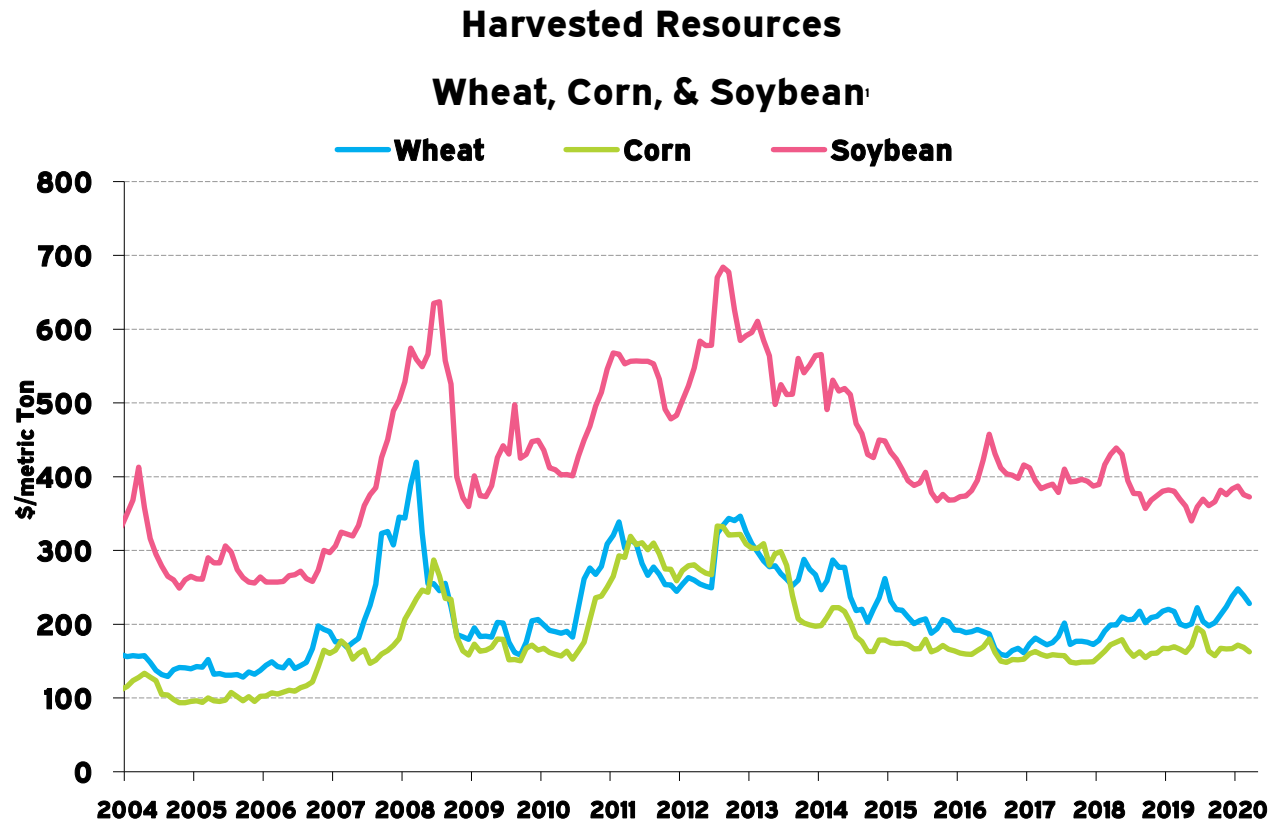
Relatively speaking, natural gas prices were more stable than oil prices during the quarter. Henry Hub natural gas spot prices ended the quarter at approximately \$1.79/MM BTU, representing a 19% decrease relative to the prior quarter and a 39% decrease from one year prior. Despite a quarterly reduction in rig count from 22 to 106, U.S. natural gas production averaged 103 billion cubic feet per day, a slight decrease from the prior quarter and an increase of 8% from the prior year.

¹ Source: EIA and Baker Hughes.



As the world began to realize the global impacts of a pandemic, risk assets began to sell off in search of safe haven assets such as gold and precious metals. The increase in the price of gold began to accelerate at the end of March and ended the quarter at \$1,592 per ounce, representing a quarterly and yearly increase of 8% and 22%, respectively. Conversely, other metals generally fell during this timeframe. Copper prices, often associated with economic activity, ended the quarter at \$2.35 per ounce representing a quarterly decline of 15% and annual decline of 20%.

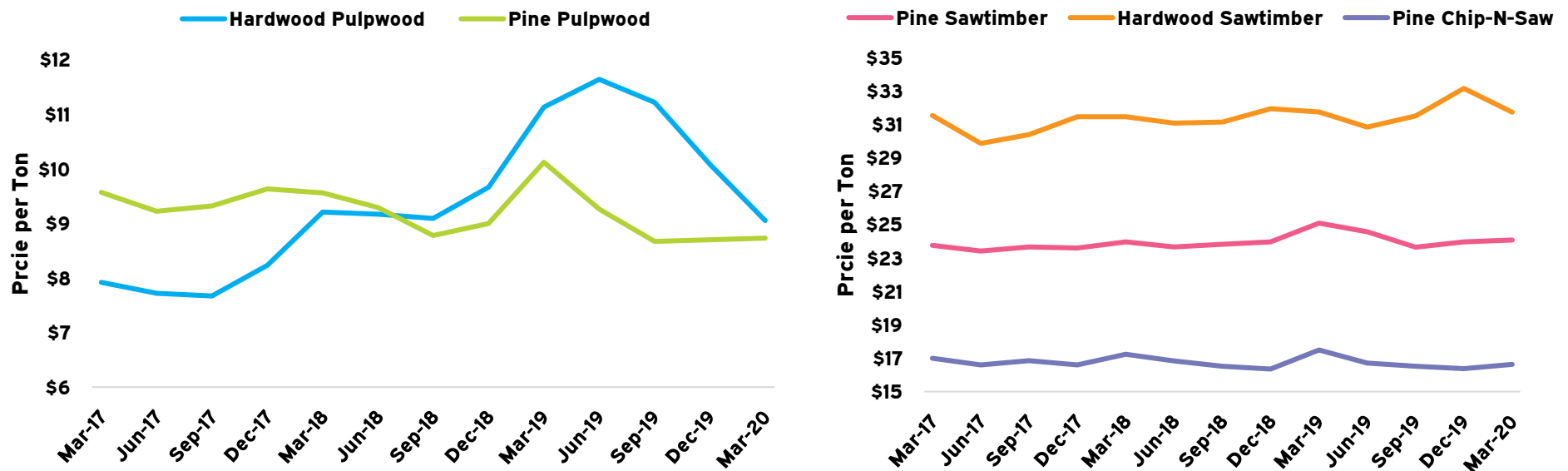
¹ Source: World Bank



There were high hopes that the trade agreement between the U.S. and China would provide a much needed boost to U.S. agricultural products. China began to increase its purchases; however, initial transactions were much lower than the trajectory in prior years. As communities began to lockdown and enforce social distancing, demand from certain food and agriculture end markets, such as sit-down dining and schools, plummeted. During the quarter, wheat, corn, and soybean prices fell by 4%, 3%, and 3%, respectively. During the first quarter, the NCREIF Farmland index declined by 0.1% primarily driven by depreciation of 0.5%.

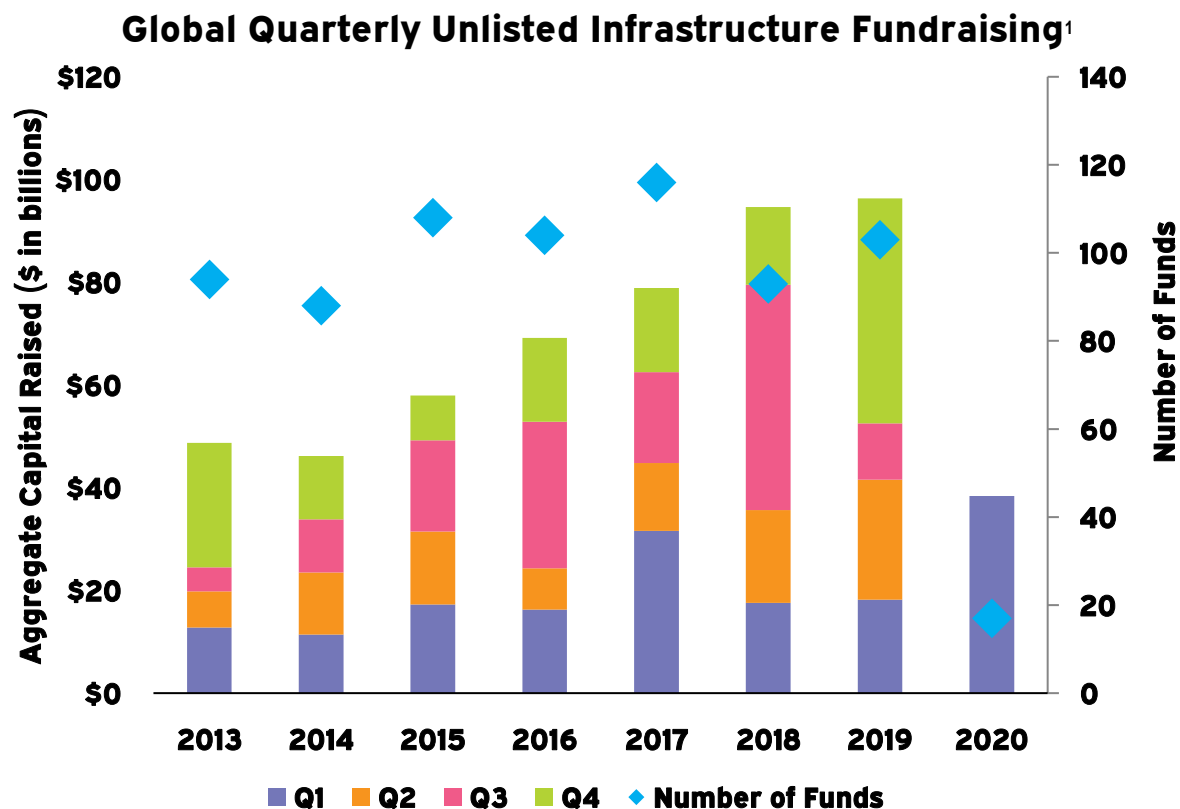
¹ Source: World Bank

Harvested Resources U.S. South Timber Prices



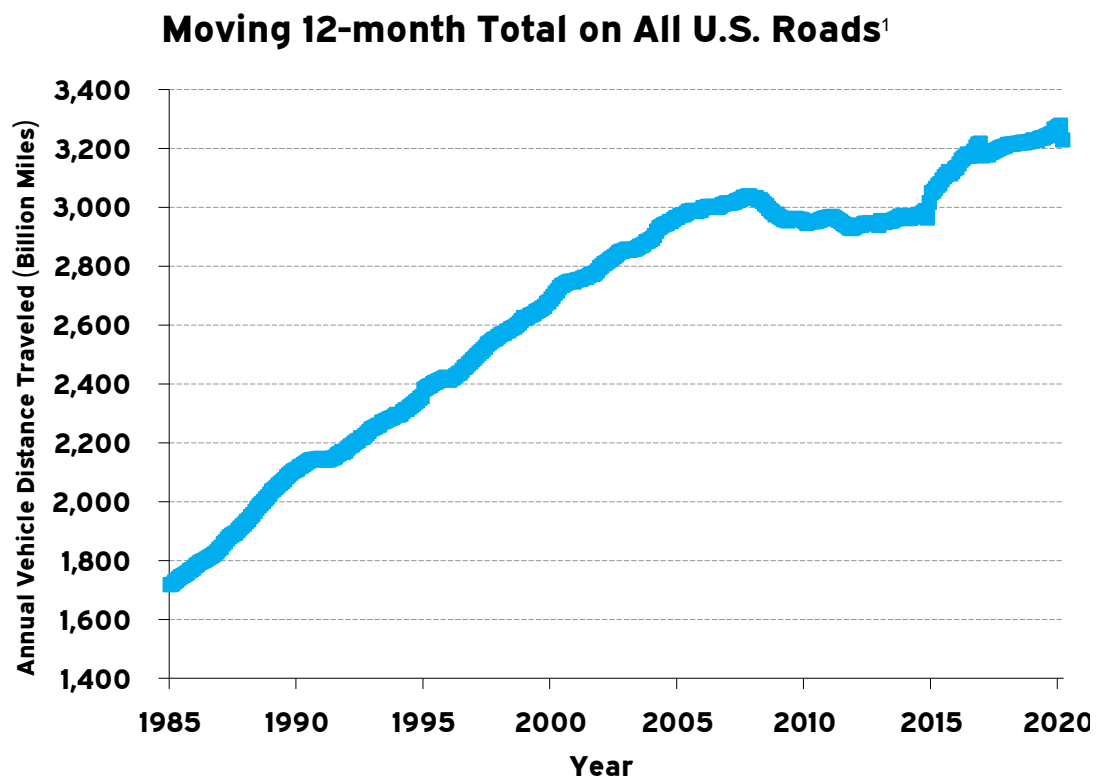
U.S. South average timber prices have remained fairly consistent over the past several years for sawtimber and chip-n-saw, while pulpwood has experienced more volatility. Pulpwood are small to medium-sized trees chipped into small fibers primarily for conversion into paper products. Hardwood pulpwood experienced the largest decline in the first quarter decreasing by 10.2%. Over the past 12 months pine and hardwood pulpwood have decrease 13.7% and 18.7% respectively. Sawtimber, a more valuable product, is often used for furniture veneers or used as wood-based posts for electrical or telecommunications wires. Hardwood sawtimber experienced a 4.3% decrease in average prices during the first quarter. The NCREIF Timberland index had a slight increase of 0.1% during the quarter driven by income returns of 0.7%.

¹ Source: Bloomberg



Capital raised in the first quarter of 2020 was the largest first quarter fundraise before 2013. In the first quarter, the average fund size was over \$2.2 billion above the 2019 average of \$1.0 billion. As of March 31, 2020, a total of 248 unlisted infrastructure funds were in market, according to Preqin, with a combined fundraising target of approximately \$174 billion.

¹ Source: Preqin 2020 Global Infrastructure Report.

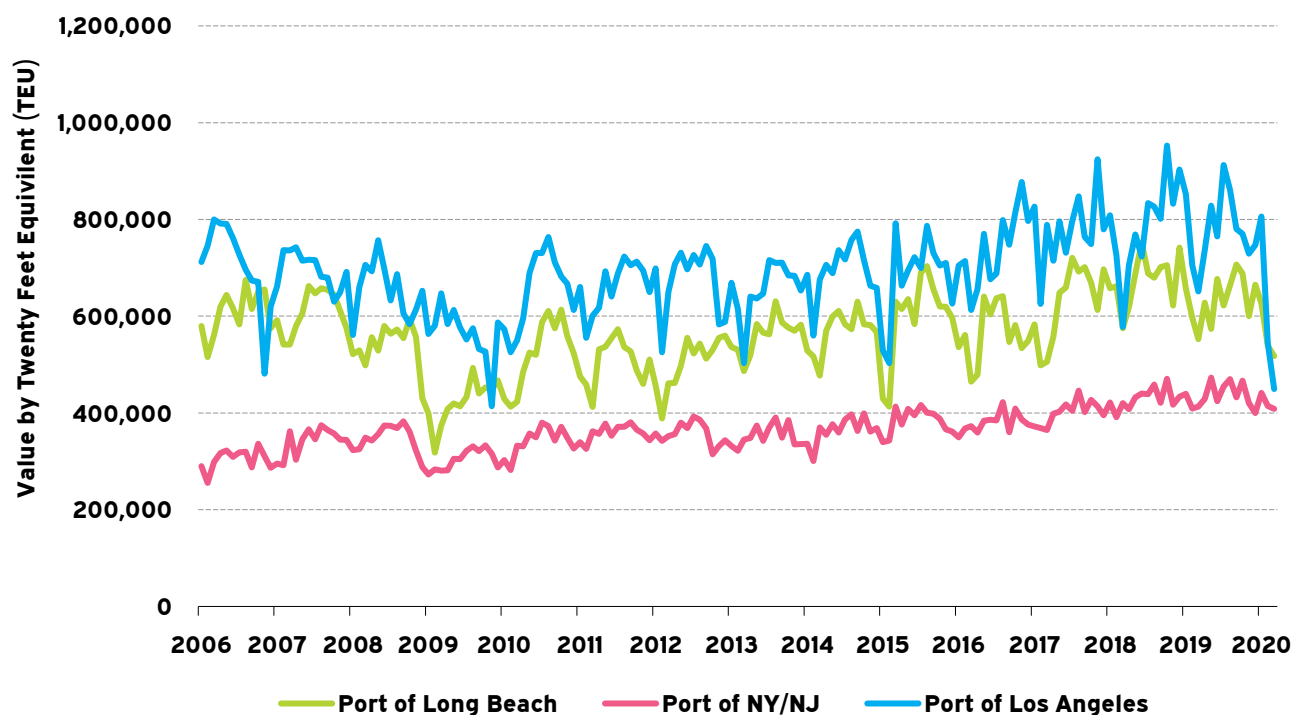


Through March 2020, the first quarter was below pace for travel on U.S. roads totaling approximately 706 billion miles. This represented a decrease of 5.3% over the same period in 2019.

Up to this point in 2020, the average U.S. price of a gallon of gas went down to a monthly average of \$2.50 per gallon, with a peak of \$2.64. This compared to \$2.69 and \$2.95 seen in 2019.

¹ Source: U.S. Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.

U.S. Port Activity – Container Trade in TEUs¹

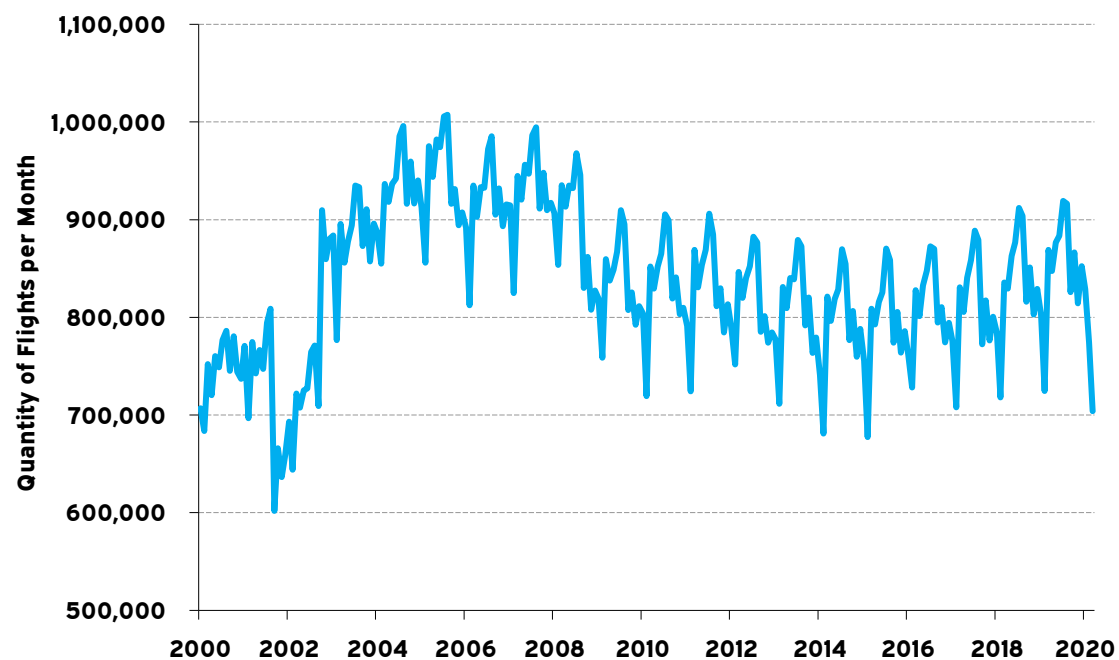


The chart represents the top three U.S. ports by container volume, as measured by twenty-foot equivalent units (TEU). Activity at the three ports provides a high-level representation of the volume of imports received into the U.S. more broadly.

During the first quarter of 2020, volumes at the three ports decreased by 530,196 units relative to the same period in 2019. On a year-over-year basis, the combined port volumes decreased by 1,067,974 TEU, or 4.7%, over the prior 12-month period. The Port of Long Beach recorded a decrease of 6.2% (494,639 TEU), the Port of NY/NJ reported an increase of 1.0% (53,840 TEU) and the Port of Los Angeles recorded a decrease of 6.6% (627,175 TEU) from the prior 12 months.

¹ Source: www.polb.com, www.panynj.gov, and www.portoflosangeles.org

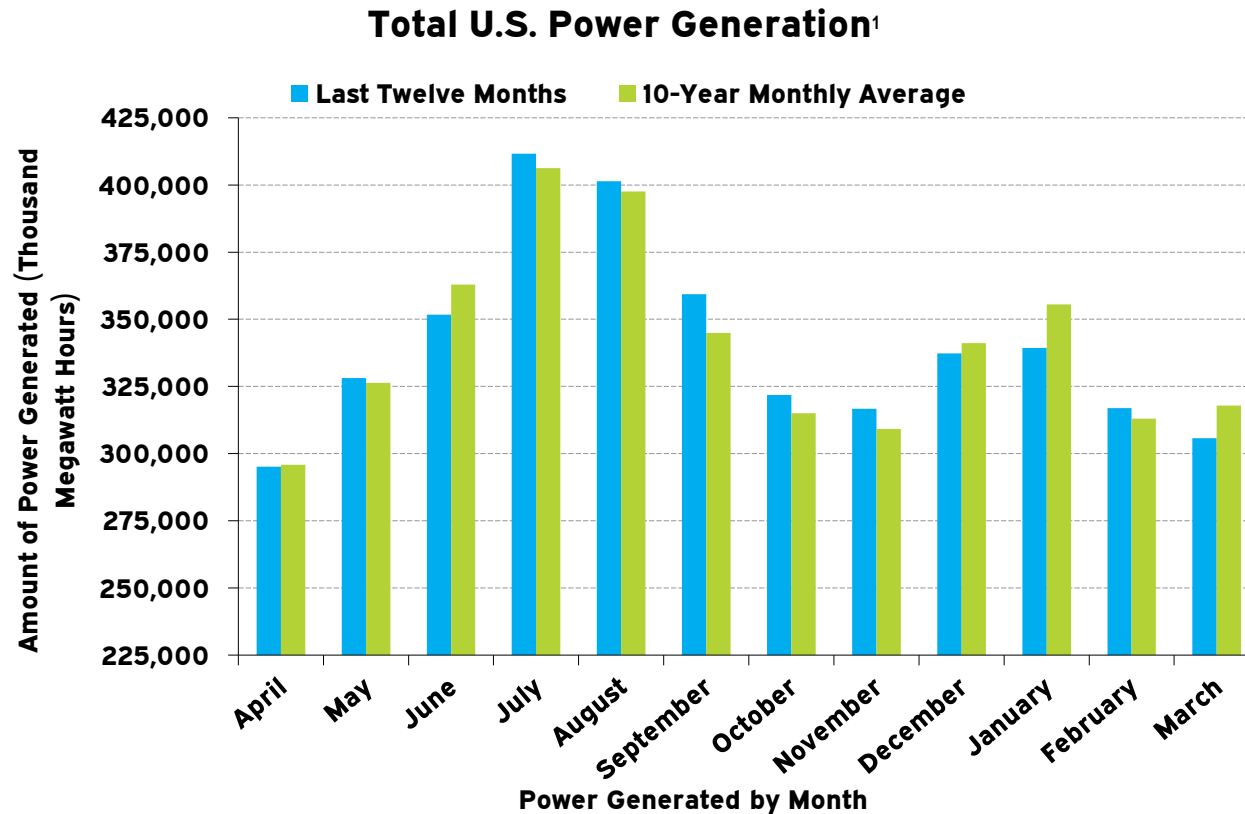
Total U.S. Domestic and International Flights¹



The chart above represents all U.S. domestic and international flights, excluding foreign point-to-point flights by month. Air traffic is cyclical with peaks in the summer months and declines in the winter months.

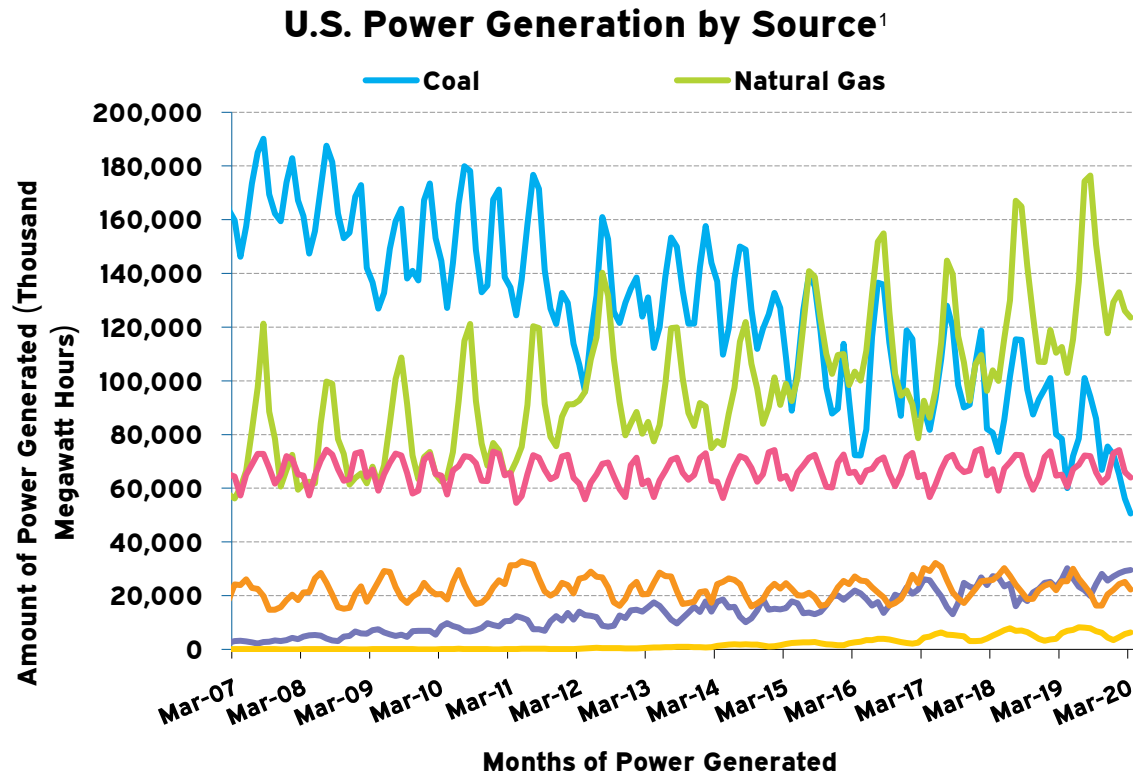
There were nearly 90,000 less flights during the first quarter of 2020, representing a 3.7% decrease compared to the same period in 2019. Much of this loss was in February and March as air travel became unavailable and less recommended. Air traffic activity remained nearly even at 0.3% change over the 12 months ending March 31, 2020 over the previous period. In addition to the number of flights during the first quarter decreasing year-over-year, the total number of passengers travelling on U.S. and international airlines decreased by 1.0% from 2019 to 2020 with the lowest international travelers since 2003.

¹ Source: Bureau of Transportation Statistics: Flights, All U.S., and Foreign Carriers.



The graph above represents the total net generation for the past 12 months compared to the 10-year average for each month. Over the past year, power generation exceeded the 10-year average in 6 out of the 12 months. Net energy generation in the U.S. decreased by 3.2% during the first quarter, compared to the same period in 2019. For the 12 months ended March 31, 2020, net energy generation decreased by 2.1% over the previous 12 months.

¹ Source: U.S. Energy Information Administration: Electric Power Monthly, March 2020.

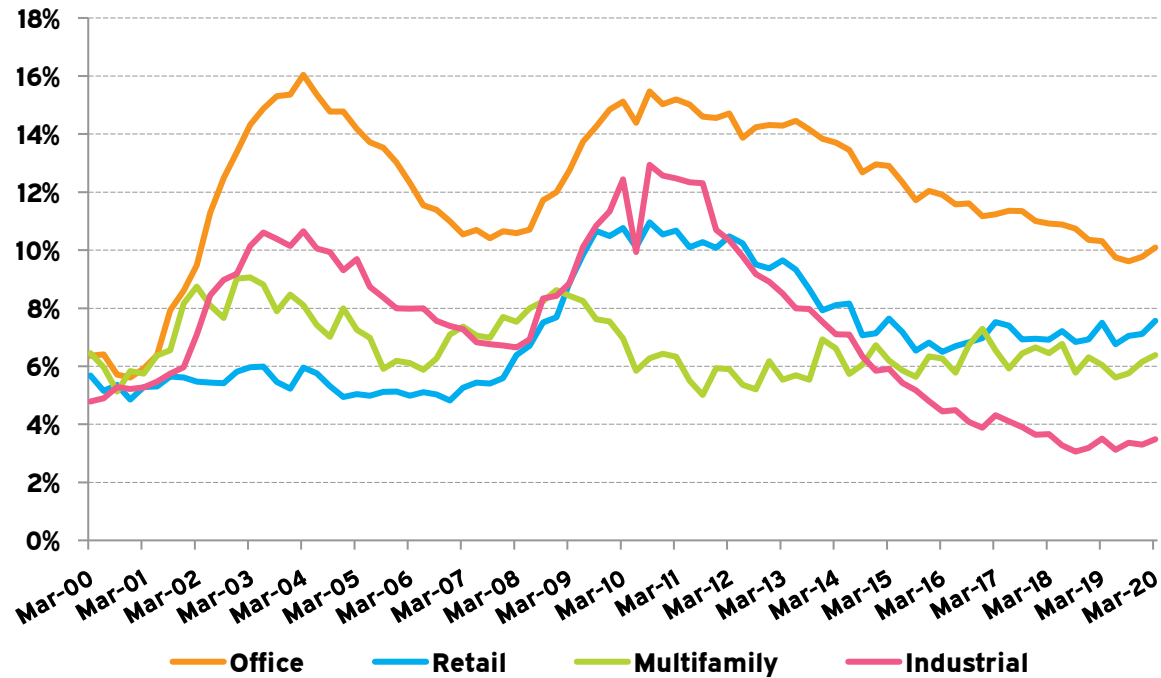


As power generation sources in the U.S., natural gas, nuclear, wind, and solar increased 11.9%, 0.3%, 17.3%, and 21.6%, respectively in the first quarter of 2020 (versus the same period in the previous year). Generation from coal and hydroelectric conventional dropped by 33.8% and 0.5%, respectively, during the same period. Wind and utility scale solar continue to make up a small portion of total net energy generation in the U.S., accounting for only 9.1% and 1.7% of energy generation in the first quarter, while coal, natural gas, and nuclear accounted for 17.9%, 39.8%, and 21.2%, respectively. However, the growth of wind and solar as sources of energy generation continues to increase at a faster rate than coal and natural gas, especially over the last couple of years.

¹ Source: U.S. Energy Information Administration: Electric Power Monthly, March 2020.

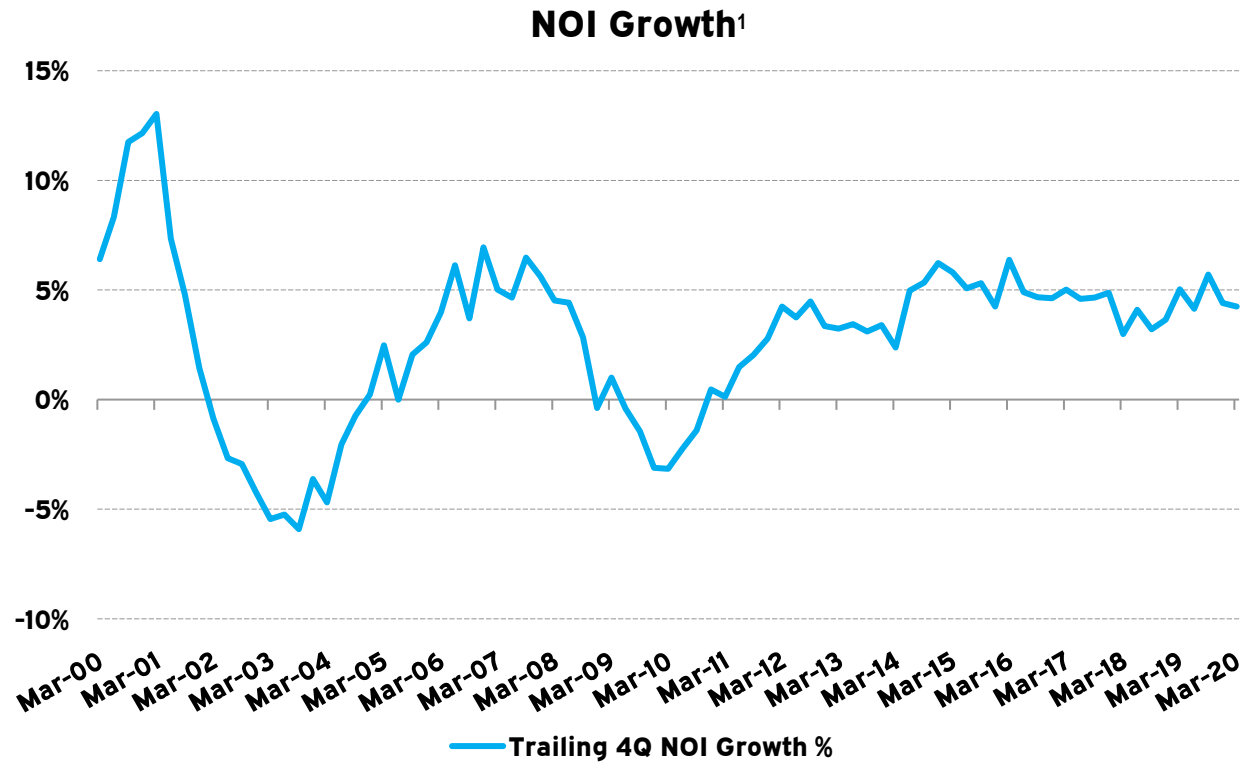
Real Estate Fundamentals

Vacancy by Property Type¹



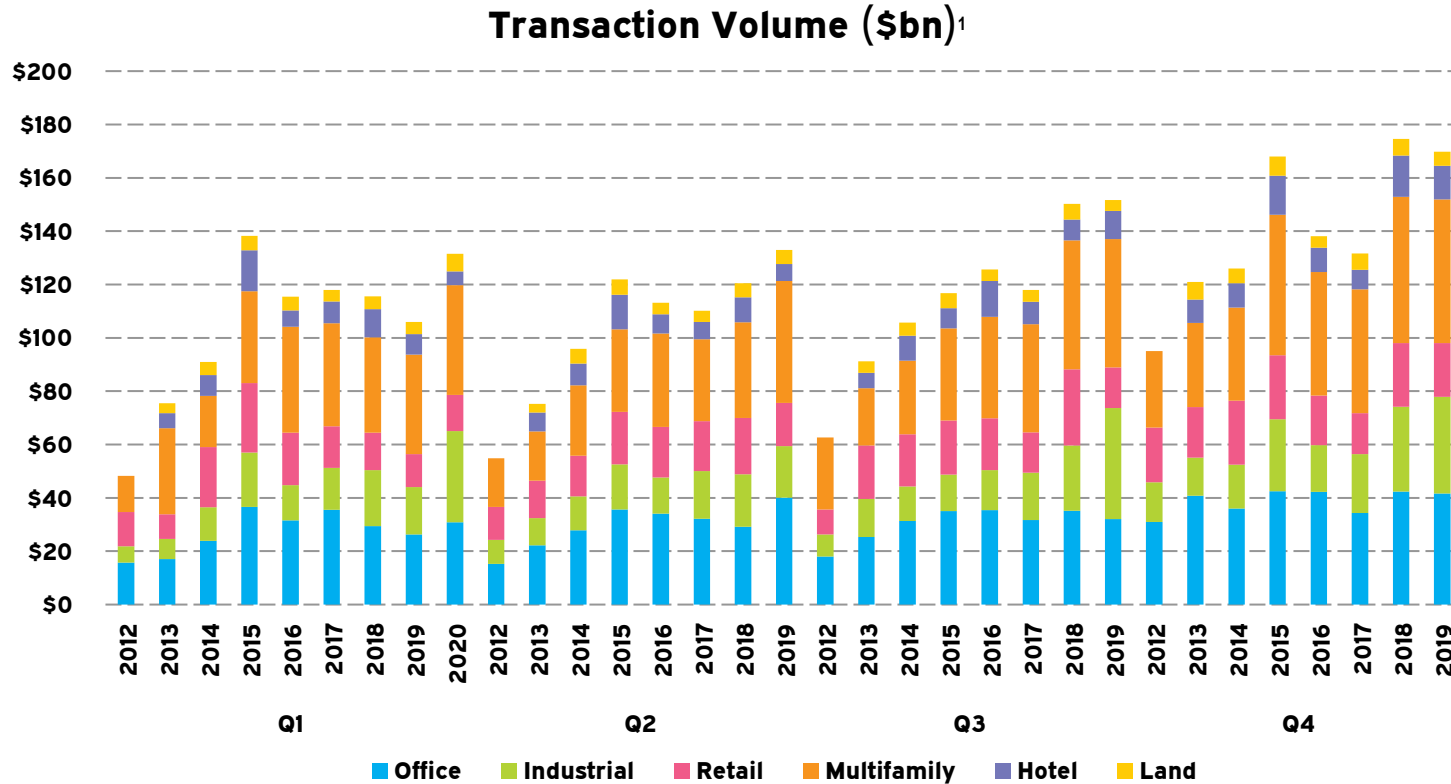
In the first quarter of 2020, vacancy rates increased slightly for all property types. Multifamily vacancies have fluctuated around 6.0% since 2009. Retail vacancies have flattened over the last three years, while office vacancies continued on a downward trend. Industrial vacancies appear to have bottomed out just above 3.0%, at all-time lows for the sector. Compared to one year ago, vacancy rates in multifamily increased 35 basis points, office decreased 22 basis points, industrial decreased 2 basis points, and retail increased 6 basis points. Overall, the vacancy rate across all properties increased 2 basis points from Q1 2019.

¹ Source: NCREIF



The trailing twelve-month rate of NOI decreased slightly to 4.3% in the first quarter of 2020. Continued growth of the U.S. economy coupled with only moderate new construction has allowed property owners to increase rents and lease vacant space. The strongest NOI growth continues to be within the industrial sector, trending upwards to 8.3% for the trailing year ending Q1 2020. Office NOI growth trended down slightly to 5.8% year-over-year, and Apartment NOI moved down to 4.5%. Retail NOI growth for the trailing four quarters decreased to -1.5%. NOI was not meaningfully impaired in Q1 2020 but future cash flow impairment is expected in Q2 2020 following the global pandemic.

¹ Source: NCREIF

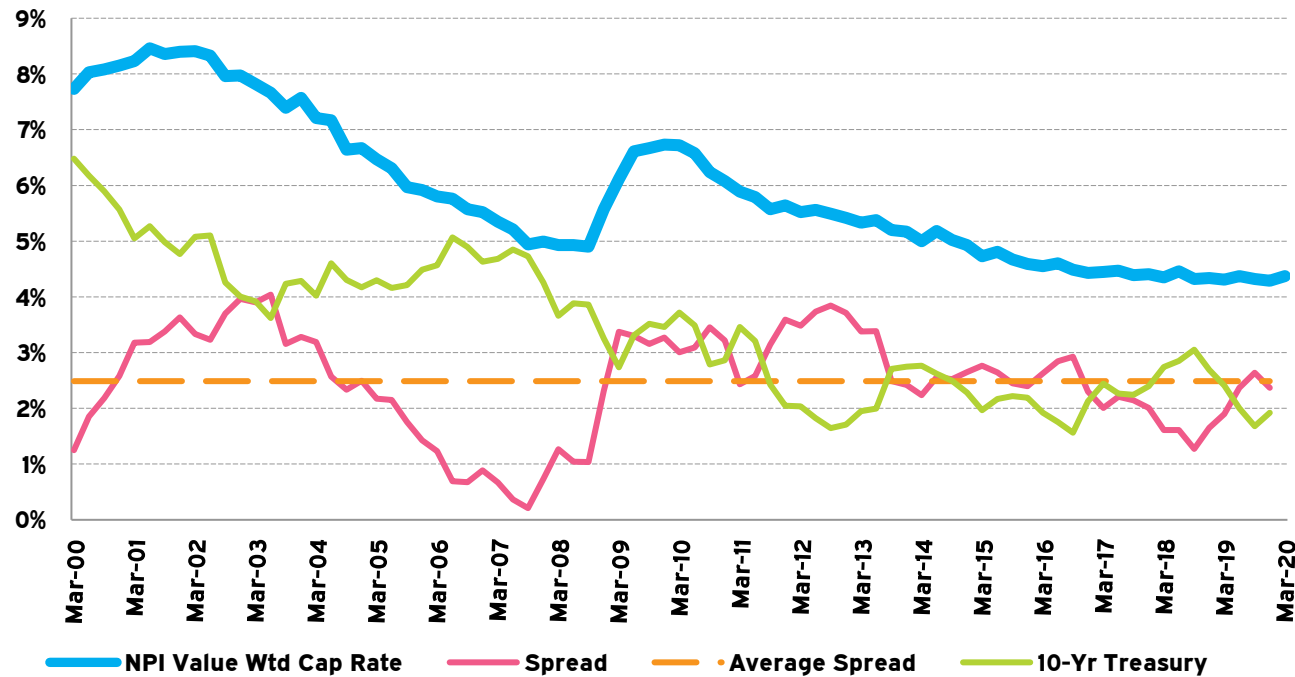


Private real estate transaction volume for properties valued over \$2.5 million for Q1 2020 was down slightly from Q4 2019 to \$132 billion. Compared to a year ago, industrial (+94.9%), multifamily (+7.9%), office (+6.2%), and retail (+8.8%) saw an increase to transaction volume, while hotel (-32.5%) saw a decrease. Multifamily and industrial properties made up the largest percentages of total transaction volume during the quarter, at 31% and 26%, respectively.

¹ Source: PREA

Real Estate Capital Markets

Cap Rates vs. 10-Year Treasury¹



The NPI Value Weighted Cap Rate continued to hover around 4.4%. The 10-year Treasury yield peaked above 3.0% in Q3 2018 and had been on a downward trend and dropped significantly in Q1 2020 down to 0.7%. The spread between cap rates and treasury yields increased dramatically in Q1 2020 to 367 basis points, which is now 118 basis points above the long-term average spread.

¹ Source: NCREIF and U.S. Department of the Treasury

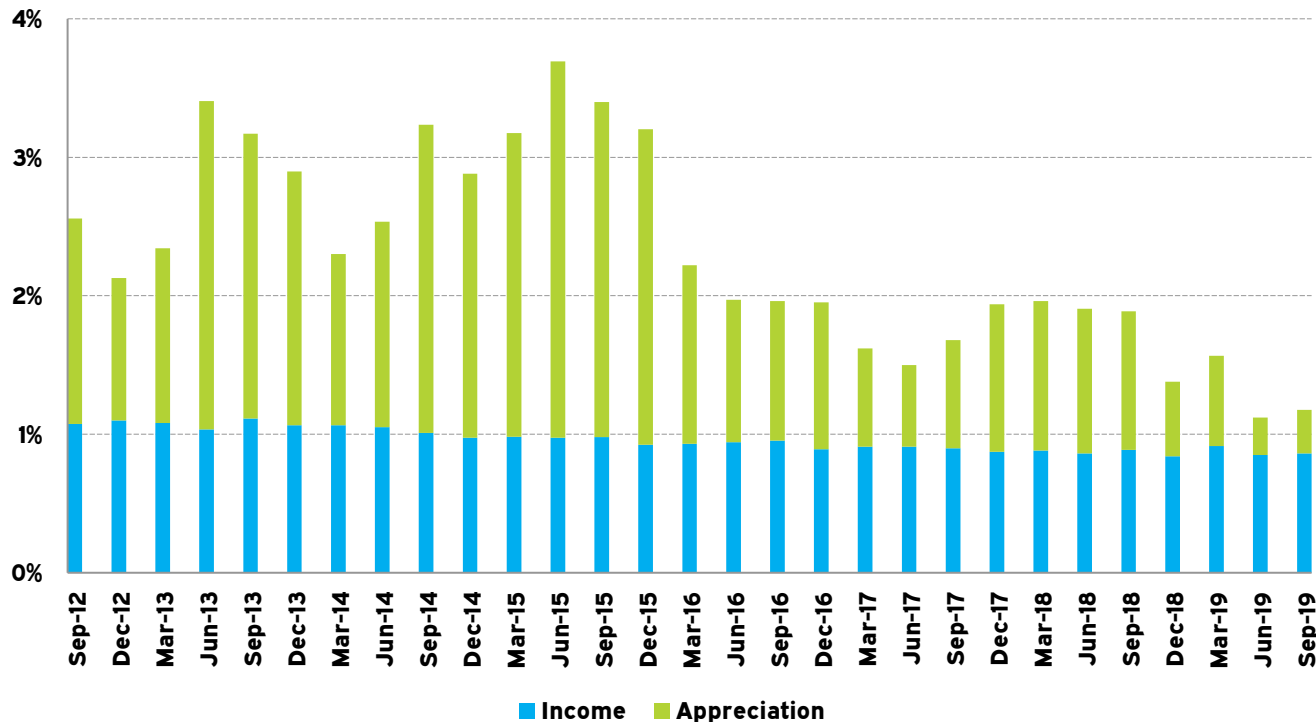
Trailing Period Returns¹

<i>As of March 31, 2020</i>	1 Year	3 Years	5 Years	10 Years
NFI-ODCE (EW, net)	4.4%	6.1%	7.8%	10.6%
NFI-ODCE (VW, net)	3.9	5.9	7.5	10.4
NCREIF Property Index	5.3	6.4	7.7	10.2
NAREIT Equity REIT Index	-15.9	-0.1	1.9	8.5

Private real estate indices have continued to post positive returns, driven by strong property-level fundamentals and a low interest rate environment. Recent public real estate performance has been volatile, posting a -23.4% in Q1 2020.

¹ Source: NCREIF

ODCE Return Components¹ (Equal Weight, Net)



The NFI-ODCE Equal Weight return for Q1 2020 was down from the previous quarters to 0.7%, which is 60 basis points lower than the previous quarter. The income component of the quarterly return continues to remain consistent around 0.9%, but appreciation for the quarter was -0.2% due to valuation adjustments caused by the early phases of COVID-19.

¹ Source: NCREIF

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

Committed	The original commitment amount made to a given fund. Some funds may be denominated in non-USD currencies, and such commitment amounts represent the sum of fund contributions translated to USD at their daily conversion rates plus the unfunded balance translated at the rate as of the date of this report.
Contributed	The amount of capital called by a fund manager against the commitment amount. Contributions may be used for new or follow-on investments, fees, and expenses, as outlined in each fund's limited partnership agreement. Some capital distributions from funds may reduce contributed capital balances. Some funds may be denominated in non-USD currencies, and such aggregate contributions represent the sum of each fund contribution translated to USD at its daily conversion rate.
Distributed	The amount of capital returned from a fund manager for returns of invested capital, profits, interest, and other investment related income. Some distributions may be subject to re-investment, as outlined in each fund's limited partnership agreement. Some funds may be denominated in non-USD currencies, and such aggregate distributions represent the sum of each fund distribution translated to USD at its daily conversion rate.
DPI	Acronym for "Distributed-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculation equals Distributed divided by Contributed. DPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa. Program-level DPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
Exposure	Represents the sum of the investor's Unfunded and Remaining Value.
IRR	Acronym for "Internal Rate of Return", which is a performance measurement for Private Market investments. IRRs are calculated by Meketa based on daily cash flows and Remaining Values as of the date of this report. IRRs for funds and groupings of funds are net of all fund fees and expenses as reported by fund managers to Meketa. Program-level IRRs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
NCV	Acronym for "Net Change in Value", which is a performance measurement for Private Market investments. The performance calculation equals the appreciation or depreciation over a time period neutralized for the impact of cash flows that occurred during the time period.

NM	<p>Acronym for “Not Meaningful”, which indicates that a performance calculation is based on data over too short a timeframe to yet be meaningful or not yet possible due to inadequate data. Meketa begins reporting IRR calculations for investments once they have reached more than two years since first capital call. NM is also used within this report in uncommon cases where the manager has reported a negative Remaining Value for an investment.</p>
Peer Universe	<p>The performance for a set of comparable private market funds. The peer returns used in this report are provided by Thomson ONE, based on data from Cambridge Associates as of the date of this report. Program-level peer universe performance represents the pooled return for a set of funds of corresponding vintages and strategies across all regions globally. Fund-level peer performance represents the median return for a set of funds of the same vintage and the program’s set of corresponding strategies across all regions globally. Data sets that include less than five funds display performance as “NM”. Meketa utilizes the following Thomson ONE strategies for peer universes:</p> <p>Infrastructure: Infrastructure</p> <p>Natural Resources: Private Equity Energy, Upstream Energy & Royalties, and Timber</p> <p>Private Debt: Subordinated Capital, Credit Opportunities, Senior Debt, and Control-Oriented Distressed</p> <p>Private Equity: Venture Capital, Growth Equity, Buyout, Subordinated Capital, Credit Opportunities, Senior Debt, and Control-Oriented Distressed</p> <p>Real Assets (excluding Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, and Timber</p> <p>Real Assets (including Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, Timber, and Real Estate</p> <p>Real Estate: Real Estate</p>
Public Market Equivalent (“PME”)	<p>A calculation methodology that seeks to compare the performance of a portfolio of private market investments with public market indices. The figures presented in this report are based on the PME+ framework, which represents a net IRR value based on the actual timing and size of the private market program’s daily cash flows and the daily appreciation or depreciation of an equivalent public market index. Meketa utilizes the following indices for private market program PME+ calculations:</p> <p>Infrastructure: Dow Jones Brookfield Global Infrastructure Index</p> <p>Natural Resources: S&P Global Natural Resources Index</p> <p>Private Debt: Barclays Capital U.S. Corporate High Yield Bond Index</p> <p>Private Equity: MSCI ACWI Investable Market Index</p>

Remaining Value	Real Assets (excluding Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index and S&P Global Natural Resources Index
	Real Assets (including Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index, S&P Global Natural Resources Index, and Dow Jones U.S. Select Real Estate Securities Index
	Real Estate: Dow Jones U.S. Select Real Estate Securities Index
TVPI	The investor's value as reported by a fund manager on the investor's capital account statement. All investor values in this report are as of the date of this report, unless otherwise noted. Some funds may be denominated in non-USD currencies, and such remaining values represent the fund's local currency value translated to USD at the rate as of the date of this report.
Unfunded	Acronym for "Total Value-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculations represents Distributed plus Remaining Value, then divided by Contributed. TVPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa. Program-level TVPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
	The remaining balance of capital that a fund manager has yet to call against a commitment amount. Meketa updates unfunded balances for funds to reflect all information provided by fund managers provided in their cash flow notices. Some funds may be denominated in non-USD currencies, and such unfunded balances represent the fund's local currency unfunded balance translated to USD at the rate as of the date of this report.

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Meketa Investment Group has prepared this report on the basis of sources believed to be reliable. The data are based on matters as they are known as of the date of preparation of the report, and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available.

If we manage your assets on a discretionary basis, please contact us if there are any changes in your financial situation or investment objectives, or if you want to impose any reasonable restrictions on our management of your account or reasonably modify existing restrictions.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions ("Forward Statements"). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the client will receive a return of the amount invested.

In some cases Meketa Investment Group assists the client in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers' use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the client.

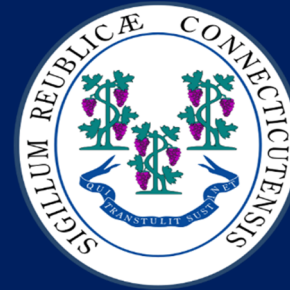
Because there is no readily accessible market for private markets assets (companies and partnerships), the values placed on private markets assets are calculated by General Partners using conservative and industry standard pricing procedures. Annually, an independent auditor reviews the pricing procedures employed by the General Partner of each partnership.

The values of companies and partnerships are audited at year-end, and are not audited at other quarter-end periods. While financial information may be audited, there is some discretion as to the method employed to price private companies and, therefore, private markets partnerships. At all times, Meketa Investment Group expects General Partners to utilize conservative and industry standard pricing procedures, and requires the General Partners to disclose those procedures in their reports. However, because of the inherent uncertainty of valuation, these estimated values may differ from the values that would be used if a ready market for the investments existed, and the differences could be significant.

CONNECTICUT RETIREMENT PLANS & TRUST FUNDS

REAL ESTATE FUND PERFORMANCE REVIEW

First Quarter 2020



September 9, 2020



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

REAL ESTATE PORTFOLIO REVIEW

FIRST QUARTER 2020

NEPC, LLC

PORTFOLIO PERFORMANCE SUMMARY

The table below displays trailing time period performance for the State of Connecticut Real Estate Portfolio as of March 31, 2020, along with select benchmarks

- The policy benchmark is the NCREIF ODCE Index, which is comprised of open-end core real estate funds; we also show two additional benchmarks:
 - The NCREIF Property Index, a benchmark of unlevered core real estate returns
 - The Thomson-One/Cambridge Associates benchmark consists of non-core (value-add and opportunistic) closed-end real estate funds
- The total real estate portfolio generated a total net return of -1.3% in the first quarter, as COVID-19 weighed on asset values
 - The portfolio has generated an annualized return of 7.7% over the trailing five years

Portfolio Performance	Net Asset Value (\$M)	YTD	1 Year	3 Year	5 Year	10 Year	Inception
State of Connecticut: Total Real Estate Portfolio	\$2,305.5	-1.3%	3.5%	6.2%	7.7%	9.5%	5.5%
Policy Benchmark: NFI-ODCE Index ¹		0.8%	3.9%	5.9%	7.5%	10.4%	N/A
Other Real Estate Benchmarks							
NCREIF Property Index ²		0.7%	5.3%	6.4%	7.7%	10.2%	N/A
Thomson-One/Cambridge Real Estate Index ³		-6.9%	-0.1%	6.8%	8.0%	10.6%	N/A

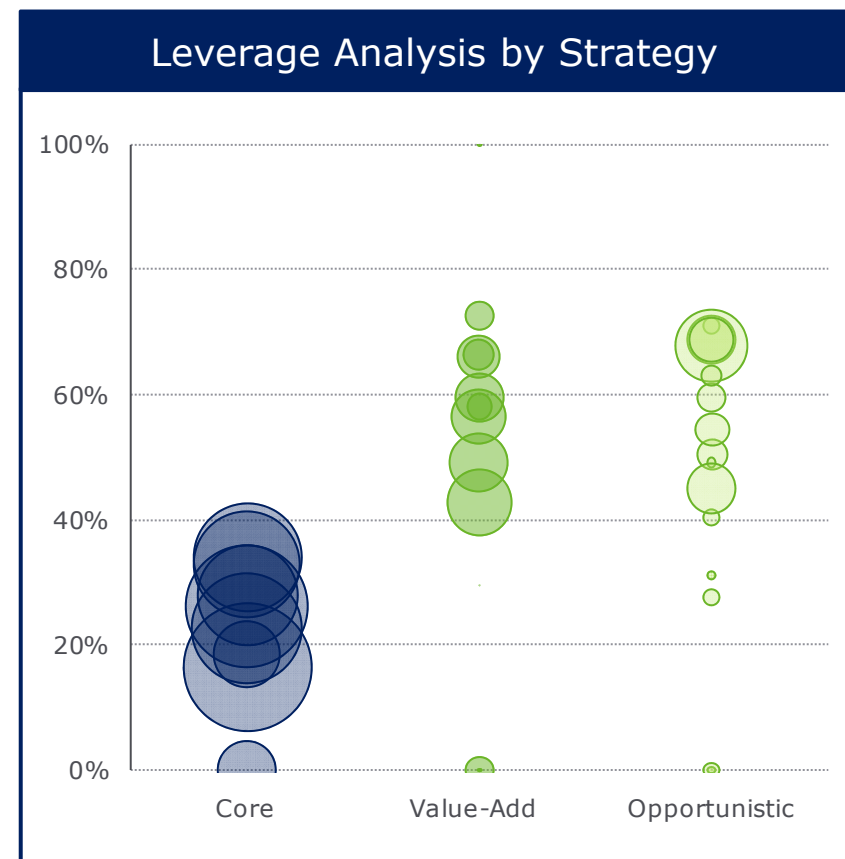
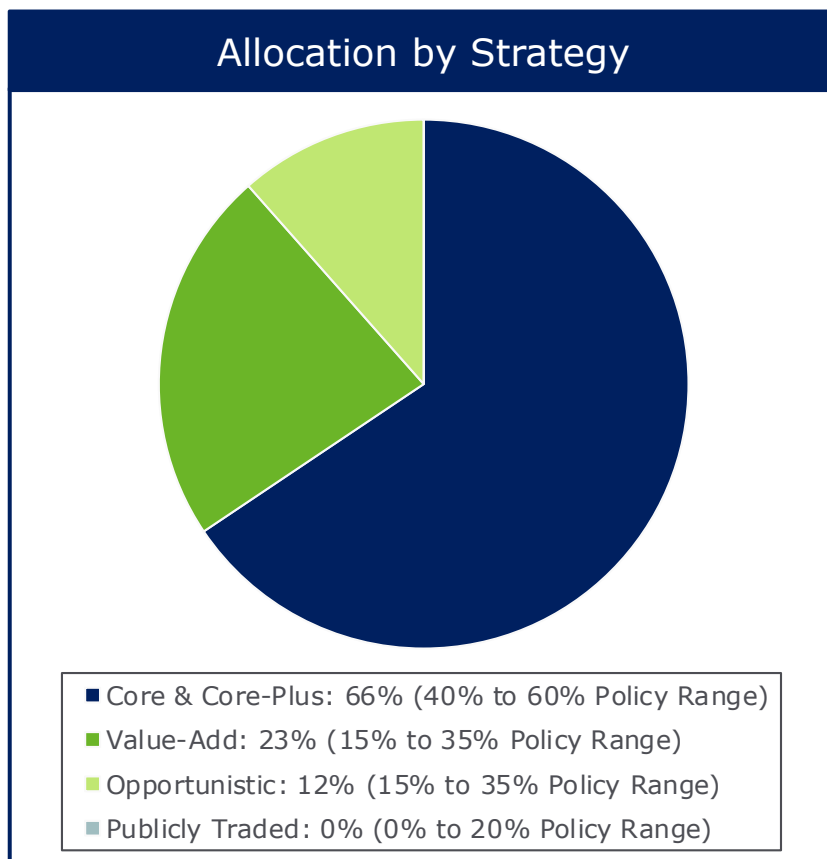
Data as of March 31, 2020. Sources include NCREIF, Thomson-One/Cambridge Associates, Manager data, and NEPC. Additional notes:

1. The NFI-ODCE Index represents pooled returns of open-end comingled core funds in the ODCE Index. The ODCE includes the effects of leverage, and returns shown are time-weighted and net of fees.
2. The NCREIF Property Index (NPI) represents property-level returns of institutionally-owned core real estate properties in the United States. The NPI is unlevered, and returns are time-weighted and gross of fees.
3. The Thomson-One/Cambridge Benchmark represents pooled horizon internal rate of return (IRR) calculations, net of fees, across value-add and opportunistic real estate funds.
4. The timing and magnitude of fund cash flows are integral to the IRR performance. Benchmark indices that are time weighted measures should not be directly compared to dollar-weighted IRR calculations. Index data is continuously updated and is therefore subject to change.



PORTFOLIO HIGHLIGHTS

- **Relative to the policy target ranges, the State of Connecticut real estate portfolio is currently over-allocated to core real estate and under-allocated to opportunistic real estate**
 - The portfolio is in compliance with regard to value-add and publicly traded real estate
- **The portfolio has a weighted average leverage ratio of 32.9%**



Data as of March 31, 2020.

Leverage measured as loan-to-value and is reported by each underlying Manager. Size of bubble indicates relative size of investment (by net asset value).

MANAGER RELATIONSHIPS

- As of March 31, 2020, the real estate portfolio had 41 active investments with 24 managers

Top Ten Relationships – NAV

Manager Name	# of Funds	NAV (\$M)
Morgan Stanley Real Estate	1	\$285.16
Barings Real Estate	1	\$264.67
UBS Realty Advisors	3	\$218.93
PGIM Real Estate	1	\$216.97
USAA Real Estate	2	\$206.42
Hart Realty Advisors	1	\$198.80
American Realty Advisors	1	\$180.46
Clarion Partners	1	\$159.37
The Blackstone Group	5	\$149.05
Crow Holdings	2	\$103.86
Total Top Ten		\$1,983.69
86% of Total Portfolio (by Net Asset Value)		

Top Ten Relationships – Total Exposure

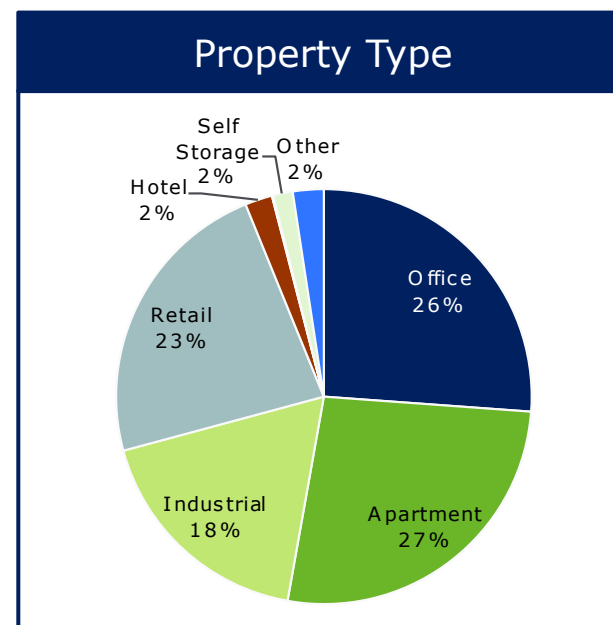
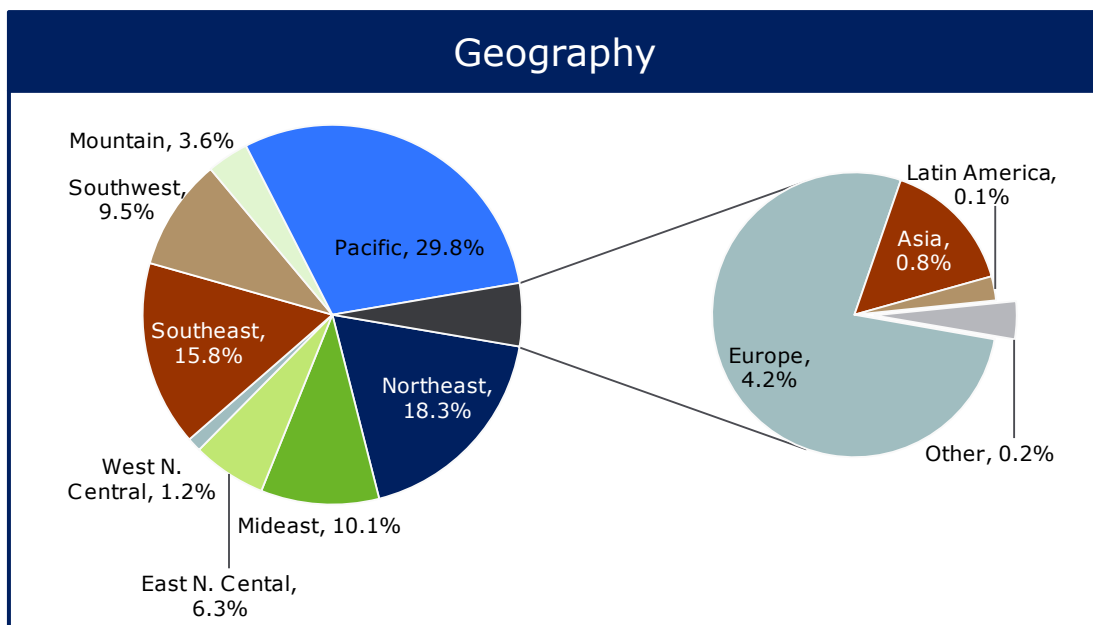
Manager Name	# of Funds	Exposure (\$M)
Morgan Stanley Real Estate	1	\$285.16
Barings Real Estate	1	\$264.67
Hart Realty Advisors	1	\$233.74
UBS Realty Advisors	3	\$218.93
PGIM Real Estate	1	\$216.97
USAA Real Estate	2	\$206.42
The Blackstone Group	5	\$193.83
American Realty Advisors	1	\$180.46
Clarion Partners	1	\$159.37
Gerding Edlen	3	\$146.48
Total Top Ten		\$2,106.03
77% of Total Portfolio (by Total Exposure)		



Data as of March 31, 2020. Total Exposure is calculated as current net asset value plus any unfunded capital commitments.

PORTFOLIO DIVERSIFICATION

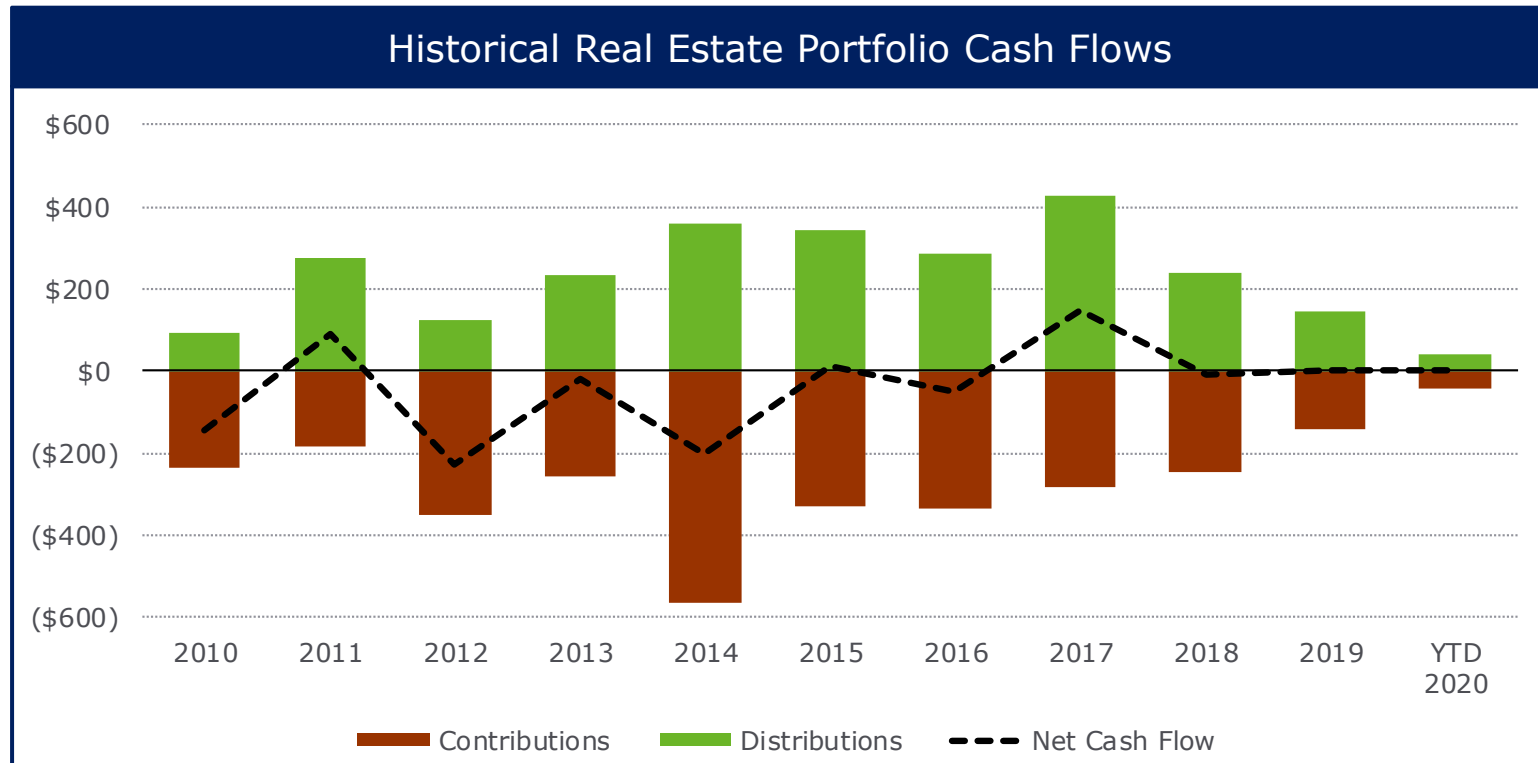
- **The State of Connecticut real estate portfolio is broadly diversified by property type and geography within the U.S.**
- **The portfolio is primarily invested the four main property types (apartments, industrial, office, and retail)**
 - Hotel assets, self-storage, and other property types account for approximately 6% of the overall portfolio
- **The portfolio remains heavily concentrated in the United States**
 - 5% of the portfolio is invested outside the U.S., with the majority of that exposure in Europe



Data as of March 31, 2020. Breakouts provided by Managers.

10-YEAR CASH FLOWS

- The chart below illustrates the capital invested, distributed, and net cash flows for the real estate portfolio for 2020 YTD and the past 10 full years
- In the first quarter of 2020, the real estate portfolio produced a slightly positive net cash flow, of approximately \$1.0 million
 - This included approximately \$40.4 million in contributions and approximately \$41.4 million in distributions



Data as of March 31, 2020.

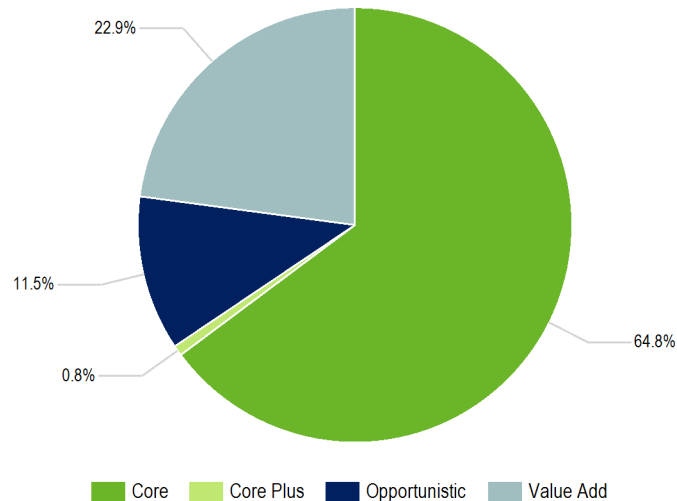
**DETAILED REAL ESTATE
PERFORMANCE**
FIRST QUARTER 2020

NEPC, LLC

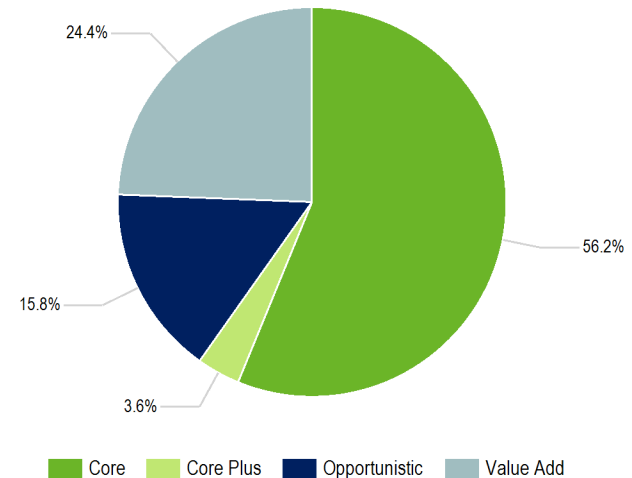
State of Connecticut

ANALYSIS BY STRATEGY

Real Estate Valuation by Strategy



Real Estate Fund Exposure by Strategy



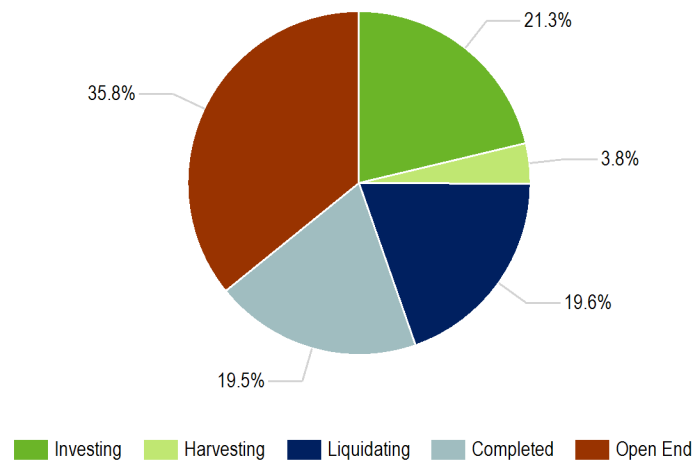
Investments		Commitments			Contributions & Distributions			Valuations				Performance		
Investment Strategy		Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI	IRR
Total Core		\$1,628.53	\$34.95	1.19	\$1,938.70	\$1.73	\$1,180.15	\$1,494.41	\$2,674.56	\$734.13	\$1,529.36	0.61	1.38	6.49%
Total Core Plus		\$100.00	\$80.29	0.20	\$19.71	-\$0.03	\$0.00	\$17.78	\$17.78	-\$1.91	\$98.07	0.00	0.90	-12.83%
Total Opportunistic		\$1,478.13	\$164.43	0.97	\$1,439.02	\$26.38	\$1,559.02	\$265.44	\$1,824.46	\$359.05	\$429.87	1.06	1.25	5.22%
Total Value Add		\$1,001.42	\$135.63	0.89	\$891.42	\$25.58	\$520.16	\$527.84	\$1,048.01	\$131.01	\$663.48	0.57	1.14	3.32%
Total		\$4,208.08	\$415.30	1.02	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	\$2,720.77	0.75	1.28	5.48%



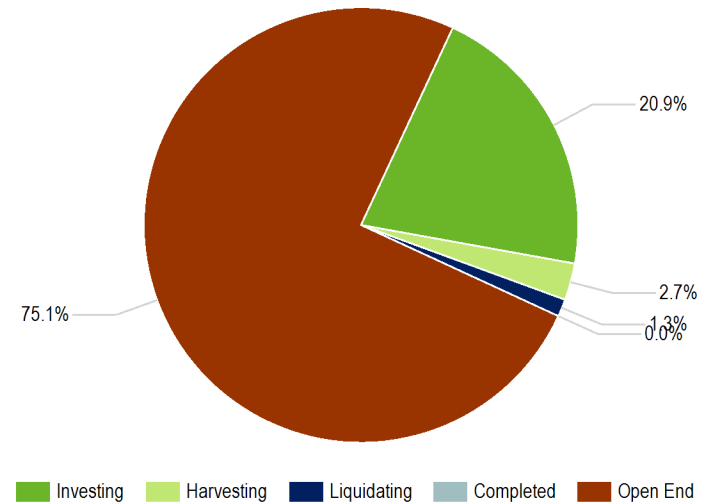
State of Connecticut

ANALYSIS BY LIFECYCLE

Commitment by Lifecycle



Valuation by Lifecycle



Investments	Commitments			Contributions & Distributions			Valuations			Performance		
Lifecycle	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Total Investing	\$895.00	\$341.98	0.66	\$591.74	\$15.24	\$246.63	\$481.64	\$728.26	\$121.28	0.41	1.20	11.59%
Total Harvesting	\$160.00	\$6.58	1.02	\$163.40	\$0.96	\$131.47	\$63.16	\$194.63	\$30.27	0.80	1.18	6.35%
Total Liquidating	\$824.08	\$31.80	1.03	\$847.73	\$28.83	\$1,032.65	\$29.89	\$1,062.54	\$185.98	1.18	1.21	4.12%
Total Completed	\$821.66	\$0.00	1.06	\$868.92	\$4.36	\$903.25	\$0.00	\$903.26	\$29.98	1.03	1.03	0.83%
Total Open End	\$1,507.34	\$34.95	1.21	\$1,817.07	\$4.28	\$945.34	\$1,730.78	\$2,676.12	\$854.77	0.52	1.47	8.27%
Total	\$4,208.08	\$415.30	1.02	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	0.75	1.28	5.48%



ANALYSIS BY VINTAGE YEAR

Commitments By Vintage Year



Investments	Commitments		Contributions & Distributions			Valuations			Performance		
Vintage Year	Commitment	Unfunded Commitment	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Total 1998	\$363.13	\$0.00	\$409.49	\$0.15	\$539.88	\$0.00	\$539.88	\$130.24	1.32	1.32	5.24%
Total 2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Total 2005	\$343.53	\$5.06	\$339.38	\$2.72	\$302.98	\$0.26	\$303.23	-\$38.86	0.89	0.89	-2.56%
Total 2006	\$200.00	\$0.00	\$201.00	\$7.82	\$127.05	\$2.41	\$129.45	-\$79.37	0.61	0.62	-5.54%
Total 2007	\$450.00	\$4.91	\$451.81	\$12.32	\$414.37	\$290.28	\$704.65	\$240.52	0.89	1.52	5.79%
Total 2008	\$325.00	\$0.00	\$325.16	\$0.00	\$188.50	\$266.70	\$455.20	\$130.04	0.58	1.40	5.05%
Total 2009	\$200.00	\$11.26	\$226.29	\$6.19	\$308.96	\$16.73	\$325.69	\$93.21	1.33	1.40	12.65%
Total 2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.06	1.32	1.32	10.96%
Total 2011	\$329.08	\$45.52	\$563.69	\$0.00	\$527.08	\$202.14	\$729.21	\$165.52	0.94	1.29	10.22%
Total 2012	\$150.00	\$0.00	\$223.19	\$0.29	\$124.91	\$180.46	\$305.37	\$81.89	0.56	1.37	12.69%
Total 2013	\$325.00	\$3.50	\$321.50	\$0.00	\$112.29	\$388.56	\$500.85	\$179.35	0.35	1.56	9.53%
Total 2014	\$457.34	\$3.08	\$464.23	\$4.97	\$214.54	\$406.53	\$621.07	\$151.87	0.46	1.32	7.74%
Total 2015	\$270.00	\$33.62	\$256.72	\$5.72	\$179.39	\$166.48	\$345.87	\$83.43	0.68	1.32	14.52%
Total 2016	\$75.00	\$7.66	\$67.34	\$5.02	\$53.13	\$42.02	\$95.15	\$22.78	0.73	1.31	11.41%
Total 2017	\$215.00	\$99.73	\$121.25	\$3.60	\$19.23	\$128.69	\$147.92	\$23.07	0.15	1.18	9.84%
Total 2018	\$240.00	\$61.40	\$190.99	\$1.22	\$23.38	\$181.86	\$205.24	\$13.03	0.12	1.07	7.62%
Total 2019	\$175.00	\$139.57	\$35.43	-\$0.33	\$0.00	\$32.35	\$32.35	-\$2.75	0.00	0.92	-14.94%
Total	\$4,208.08	\$415.30	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	0.75	1.28	5.48%



APPENDIX 1:
INVESTMENT LEVEL PERFORMANCE
AS OF MARCH 31, 2020

State of Connecticut

RETURN SUMMARY

Investments			Trailing Period Returns (IRR) %						
Investment Name	Vintage Year	Commitment	(Qtr)	(YTD)	(1 Yr)	(3 Yrs)	(5 Yrs)	(10 Yrs)	SI IRR
AEW Core Real Estate Separate Account	2005	\$243.53							0.16%
AEW Partners III, L.P.	1998	\$100.00							8.77%
American Core Realty Separate Account	2012	\$150.00	2.49%	2.49%	10.83%	9.54%	12.72%		12.69%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00			-16.22%	19.09%	48.42%	12.15%	6.25%
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	-9.36%	-9.36%					-12.83%
Barings Core Property Fund, L.P.	2008	\$250.00	0.42%	0.42%	4.85%	6.44%	8.37%	9.31%	6.38%
BIG Real Estate Fund I, L.P.	2018	\$65.00	0.63%	0.63%	7.68%				8.72%
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	0.06%	0.06%	0.14%	9.71%	7.02%	11.20%	10.85%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	-8.35%	-8.35%	0.05%				6.81%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	-16.38%	-16.38%	13.92%	18.28%	2.66%	24.23%	13.24%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	-6.77%	-6.77%	5.32%	10.22%			12.17%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$74.08	-0.11%	-0.11%	-11.38%	-3.74%	-1.26%		9.30%
Canyon-Johnson Urban Fund II, L.P.	2005	\$50.00	-0.04%	-0.04%	-2.42%	3.21%	-25.40%	-7.54%	-10.44%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	-2.47%	-2.47%	-92.31%	44.16%	7.94%	13.53%	10.96%
Capri Select Income II, L.P.	2005	\$30.00	-2.15%	-2.15%	560.51%	50.73%	10.52%	13.71%	-9.88%
Colony Realty Partners II, L.P.	2006	\$50.00							-13.75%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	3.47%	3.47%	8.42%				4.05%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00							2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00							13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	-0.07%	-0.07%	33.78%	20.81%			19.34%
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	0.29%	0.29%	6.30%	13.71%			11.41%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	2.30%	2.30%	11.56%				11.34%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	-59.74%	-59.74%	-65.37%	-33.86%	-22.77%		-20.26%
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	0.81%	0.81%	6.68%	0.66%	6.92%		9.81%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	0.84%	0.84%	5.16%	7.38%			8.67%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	-1.10%	-1.10%	-15.38%				-9.13%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	1.98%	1.98%	6.60%	4.66%	7.06%		8.45%
IL & FS India Realty Fund II, LLC	2008	\$50.00	-64.78%	-64.78%	-65.73%	-38.64%	-25.08%	-10.83%	-10.35%
JP Morgan Strategic Property Fund	2014	\$90.00			1.42%	5.52%			7.60%
Landmark Real Estate Fund VII, L.P.	2015	\$40.00	-0.21%	-0.21%	-2.68%	2.34%			9.50%
Landmark Real Estate Partners VIII, L.P.	2017	\$65.00	-1.05%	-1.05%	4.75%				20.21%
Lion Industrial Trust	2014	\$102.34	2.73%	2.73%	10.94%	14.51%			13.94%



State of Connecticut

RETURN SUMMARY

Investments			Trailing Period Returns (IRR) %						
Investment Name	Vintage Year	Commitment	(Qtr)	(YTD)	(1 Yr)	(3 Yrs)	(5 Yrs)	(10 Yrs)	SI IRR
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$75.00	-14.03%	-14.03%	-2.63%	-3.10%	14.51%		25.36%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00							-16.47%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00							3.10%
Prime Property Fund, LLC	2007	\$225.00	0.61%	0.61%	5.47%	7.22%	9.10%	12.18%	7.89%
PRISA I, L.P.	2014	\$185.00	1.43%	1.43%	5.16%	6.82%	8.10%		8.24%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00							9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	-3.21%	-3.21%	-6.75%	1.54%	-11.17%	12.49%	-0.84%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	-35.06%	-35.06%	-43.46%	-15.92%	-1.64%	11.02%	-6.85%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	-7.83%	-7.83%	-6.49%	1.73%	8.41%		18.43%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	-7.74%	-7.74%	12.25%	2.60%	-2.07%	4.01%	-2.35%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	-18.01%	-18.01%	-5.82%	-3.33%	-2.50%	12.63%	12.08%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	-4.04%	-4.04%	1.46%	10.28%			17.37%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	-10.67%	-10.67%	16.39%				29.14%
Trumbull Property Fund, L.P.	2013	\$75.00	-5.53%	-5.53%	-8.61%	0.77%	3.76%		4.55%
Trumbull Property Income Fund, L.P.	2013	\$50.00	0.47%	0.47%	4.46%	5.33%	6.65%		7.23%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	-1.33%	-1.33%	3.30%	6.64%	10.72%		11.26%
Urban Strategy America Fund, L.P.	2006	\$50.00	14.10%	14.10%	7.23%	2.42%	0.76%	2.36%	-1.84%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	0.52%	0.52%	4.07%	6.53%	9.37%		10.64%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	0.49%	0.49%	3.81%				4.55%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13							13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00							-13.20%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	-0.48%	-0.48%	-5.66%	5.92%	7.99%	15.20%	14.40%
Total		\$4,208.08	-1.34%	-1.34%	3.46%	6.18%	7.68%	9.49%	5.48%



State of Connecticut

ANALYSIS BY FUND

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
AEW Partners III, L.P.	1998	\$100.00	\$0.00	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
American Core Realty Separate Account	2012	\$150.00	\$0.00	\$223.19	\$0.29	\$124.91	\$180.46	\$305.37	\$81.89	0.56	1.37	12.69%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$80.29	\$19.71	-\$0.03	\$0.00	\$17.78	\$17.78	-\$1.91	0.00	0.90	-12.83%
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	\$250.00	\$0.00	\$124.82	\$264.67	\$389.49	\$139.49	0.50	1.56	6.38%
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$29.12	\$48.28	\$0.62	\$17.77	\$34.56	\$52.33	\$3.43	0.36	1.07	8.72%
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$6.62	\$45.94	\$6.19	\$71.15	\$6.33	\$77.49	\$25.35	1.36	1.49	10.85%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$11.52	\$38.95	\$2.29	\$3.13	\$42.88	\$46.02	\$4.77	0.08	1.12	6.81%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	\$99.61	\$12.09	\$217.44	\$5.12	\$222.56	\$110.86	1.95	1.99	13.24%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$19.70	\$100.65	\$5.74	\$41.31	\$93.44	\$134.75	\$28.37	0.39	1.27	12.17%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$74.08	\$2.03	\$72.05	\$0.00	\$84.83	\$1.28	\$86.12	\$14.07	1.18	1.20	9.30%
Canyon-Johnson Urban Fund II, L.P.	2005	\$50.00	\$5.06	\$44.94	\$0.00	\$19.87	\$0.17	\$20.04	-\$24.90	0.44	0.45	-10.44%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.06	1.32	1.32	10.96%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	\$30.45	\$0.00	\$15.88	\$0.01	\$15.89	-\$14.56	0.52	0.52	-9.88%
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$17.50	\$32.50	\$0.60	\$1.00	\$33.13	\$34.13	\$1.03	0.03	1.03	4.05%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	\$30.00	-\$0.02	\$28.50	\$17.42	\$45.93	\$15.94	0.95	1.53	19.34%
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$7.66	\$67.34	\$5.02	\$53.13	\$42.02	\$95.15	\$22.78	0.73	1.31	11.41%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$14.78	\$60.22	\$0.00	\$4.61	\$61.84	\$66.45	\$6.23	0.08	1.10	11.34%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$1.10	\$57.36	\$0.00	\$14.10	\$17.06	\$31.16	-\$26.21	0.25	0.54	-20.26%
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	\$29.53	\$0.98	\$29.54	\$13.13	\$42.67	\$12.16	0.97	1.40	9.81%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$2.19	\$48.69	\$1.39	\$6.22	\$55.33	\$61.55	\$11.46	0.12	1.23	8.67%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$59.28	\$15.72	-\$0.31	\$0.00	\$14.57	\$14.57	-\$0.84	0.00	0.95	-9.13%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$34.94	\$416.54	\$0.00	\$332.81	\$198.80	\$531.61	\$115.07	0.80	1.28	8.45%
IL & FS India Realty Fund II, LLC	2008	\$50.00	\$0.00	\$50.00	\$0.00	\$24.16	\$2.03	\$26.19	-\$23.81	0.48	0.52	-10.35%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Landmark Real Estate Fund VII, L.P.	2015	\$40.00	\$3.92	\$36.08	\$0.00	\$26.04	\$17.52	\$43.56	\$7.48	0.72	1.21	9.50%
Landmark Real Estate Partners VIII, L.P.	2017	\$65.00	\$43.97	\$24.71	-\$0.08	\$7.62	\$21.56	\$29.17	\$4.54	0.31	1.18	20.21%



State of Connecticut

ANALYSIS BY FUND

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Lion Industrial Trust	2014	\$102.34	\$0.00	\$102.34	\$2.56	\$17.68	\$159.37	\$177.05	\$72.15	0.17	1.69	13.94%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$75.00	\$8.54	\$75.11	\$0.00	\$109.43	\$2.06	\$111.49	\$36.38	1.46	1.48	25.36%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	\$225.00	\$0.00	\$138.94	\$285.16	\$424.10	\$199.10	0.62	1.88	7.89%
PRISA I, L.P.	2014	\$185.00	\$0.00	\$185.00	\$0.00	\$32.78	\$216.97	\$249.76	\$64.76	0.18	1.35	8.24%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	\$20.46	\$2.72	\$22.01	\$0.08	\$22.09	-\$1.09	0.95	0.95	-0.84%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$7.82	\$31.84	\$0.61	\$32.45	-\$25.37	0.55	0.56	-6.85%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	\$46.50	\$0.00	\$59.33	\$15.55	\$74.88	\$28.38	1.28	1.61	18.43%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$39.01	\$1.37	\$40.38	-\$9.62	0.78	0.81	-2.35%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	\$52.98	\$0.00	\$76.27	\$5.61	\$81.88	\$28.90	1.44	1.55	12.08%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	\$90.00	\$0.00	\$83.55	\$38.09	\$121.64	\$31.64	0.93	1.35	17.37%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$42.05	\$8.90	\$0.00	\$2.26	\$8.92	\$11.18	\$2.28	0.25	1.26	29.14%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	\$75.00	\$0.00	\$14.61	\$79.38	\$93.99	\$18.99	0.19	1.25	4.55%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$10.48	\$62.53	\$73.01	\$23.01	0.21	1.46	7.23%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$8.60	\$77.02	\$85.62	\$35.62	0.17	1.71	11.26%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$43.00	\$0.43	\$43.43	-\$6.57	0.86	0.87	-1.84%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	\$100.00	\$0.00	\$19.27	\$154.08	\$173.35	\$73.35	0.19	1.73	10.64%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.00	\$0.00	\$52.34	\$52.34	\$2.34	0.00	1.05	4.55%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	\$127.38	\$0.00	\$161.54	\$4.80	\$166.33	\$38.95	1.27	1.31	14.40%
Total		\$4,208.08	\$415.30	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	0.75	1.28	5.48%



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ANALYSIS BY LIFECYCLE

Investments		Commitments			Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Investing													
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$80.29	0.20	\$19.71	-\$0.03	\$0.00	\$17.78	\$17.78	-\$1.91	0.00	0.90	-12.83%
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$29.12	0.74	\$48.28	\$0.62	\$17.77	\$34.56	\$52.33	\$3.43	0.36	1.07	8.72%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$11.52	0.78	\$38.95	\$2.29	\$3.13	\$42.88	\$46.02	\$4.77	0.08	1.12	6.81%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$19.70	1.01	\$100.65	\$5.74	\$41.31	\$93.44	\$134.75	\$28.37	0.39	1.27	12.17%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$17.50	0.65	\$32.50	\$0.60	\$1.00	\$33.13	\$34.13	\$1.03	0.03	1.03	4.05%
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$7.66	0.90	\$67.34	\$5.02	\$53.13	\$42.02	\$95.15	\$22.78	0.73	1.31	11.41%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$14.78	0.80	\$60.22	\$0.00	\$4.61	\$61.84	\$66.45	\$6.23	0.08	1.10	11.34%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$2.19	0.97	\$48.69	\$1.39	\$6.22	\$55.33	\$61.55	\$11.46	0.12	1.23	8.67%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$59.28	0.21	\$15.72	-\$0.31	\$0.00	\$14.57	\$14.57	-\$0.84	0.00	0.95	-9.13%
Landmark Real Estate Fund VII, L.P.	2015	\$40.00	\$3.92	0.90	\$36.08	\$0.00	\$26.04	\$17.52	\$43.56	\$7.48	0.72	1.21	9.50%
Landmark Real Estate Partners VIII, L.P.	2017	\$65.00	\$43.97	0.38	\$24.71	-\$0.08	\$7.62	\$21.56	\$29.17	\$4.54	0.31	1.18	20.21%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	0.90	\$90.00	\$0.00	\$83.55	\$38.09	\$121.64	\$31.64	0.93	1.35	17.37%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$42.05	0.18	\$8.90	\$0.00	\$2.26	\$8.92	\$11.18	\$2.28	0.25	1.26	29.14%
Total Investing		\$895.00	\$341.98	0.66	\$591.74	\$15.24	\$246.63	\$481.64	\$728.26	\$121.28	0.41	1.20	11.59%
Harvesting													
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	1.00	\$30.00	-\$0.02	\$28.50	\$17.42	\$45.93	\$15.94	0.95	1.53	19.34%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$1.10	1.15	\$57.36	\$0.00	\$14.10	\$17.06	\$31.16	-\$26.21	0.25	0.54	-20.26%
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	0.98	\$29.53	\$0.98	\$29.54	\$13.13	\$42.67	\$12.16	0.97	1.40	9.81%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	0.93	\$46.50	\$0.00	\$59.33	\$15.55	\$74.88	\$28.38	1.28	1.61	18.43%
Total Harvesting		\$160.00	\$6.58	1.02	\$163.40	\$0.96	\$131.47	\$63.16	\$194.63	\$30.27	0.80	1.18	6.35%
Liquidating													
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	1.05	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$6.62	0.92	\$45.94	\$6.19	\$71.15	\$6.33	\$77.49	\$25.35	1.36	1.49	10.85%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	1.00	\$99.61	\$12.09	\$217.44	\$5.12	\$222.56	\$110.86	1.95	1.99	13.24%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$74.08	\$2.03	0.97	\$72.05	\$0.00	\$84.83	\$1.28	\$86.12	\$14.07	1.18	1.20	9.30%
Canyon-Johnson Urban Fund II, L.P.	2005	\$50.00	\$5.06	0.90	\$44.94	\$0.00	\$19.87	\$0.17	\$20.04	-\$24.90	0.44	0.45	-10.44%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	1.01	\$30.45	\$0.00	\$15.88	\$0.01	\$15.89	-\$14.56	0.52	0.52	-9.88%
IL & FS India Realty Fund II, LLC	2008	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$24.16	\$2.03	\$26.19	-\$23.81	0.48	0.52	-10.35%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$75.00	\$8.54	1.00	\$75.11	\$0.00	\$109.43	\$2.06	\$111.49	\$36.38	1.46	1.48	25.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	1.02	\$20.46	\$2.72	\$22.01	\$0.08	\$22.09	-\$1.09	0.95	0.95	-0.84%



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ANALYSIS BY LIFECYCLE

Investments		Commitments			Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	1.00	\$50.00	\$7.82	\$31.84	\$0.61	\$32.45	-\$25.37	0.55	0.56	-6.85%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$39.01	\$1.37	\$40.38	-\$9.62	0.78	0.81	-2.35%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	1.06	\$52.98	\$0.00	\$76.27	\$5.61	\$81.88	\$28.90	1.44	1.55	12.08%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$43.00	\$0.43	\$43.43	-\$6.57	0.86	0.87	-1.84%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	1.27	\$127.38	\$0.00	\$161.54	\$4.80	\$166.33	\$38.95	1.27	1.31	14.40%
Total Liquidating		\$824.08	\$31.80	1.03	\$847.73	\$28.83	\$1,032.65	\$29.89	\$1,062.54	\$185.98	1.18	1.21	4.12%
Completed													
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	1.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
AEW Partners III, L.P.	1998	\$100.00	\$0.00	1.02	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	1.01	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.06	1.32	1.32	10.96%
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	1.02	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	1.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	1.01	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	1.02	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	1.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	1.02	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	1.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	1.41	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
Total Completed		\$821.66	\$0.00	1.06	\$868.92	\$4.36	\$903.25	\$0.00	\$903.26	\$29.98	1.03	1.03	0.83%
Open End													
American Core Realty Separate Account	2012	\$150.00	\$0.00	1.49	\$223.19	\$0.29	\$124.91	\$180.46	\$305.37	\$81.89	0.56	1.37	12.69%
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	1.00	\$250.00	\$0.00	\$124.82	\$264.67	\$389.49	\$139.49	0.50	1.56	6.38%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$34.94	2.31	\$416.54	\$0.00	\$332.81	\$198.80	\$531.61	\$115.07	0.80	1.28	8.45%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	1.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Lion Industrial Trust	2014	\$102.34	\$0.00	1.00	\$102.34	\$2.56	\$17.68	\$159.37	\$177.05	\$72.15	0.17	1.69	13.94%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	1.00	\$225.00	\$0.00	\$138.94	\$285.16	\$424.10	\$199.10	0.62	1.88	7.89%
PRISA I, L.P.	2014	\$185.00	\$0.00	1.00	\$185.00	\$0.00	\$32.78	\$216.97	\$249.76	\$64.76	0.18	1.35	8.24%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	1.00	\$75.00	\$0.00	\$14.61	\$79.38	\$93.99	\$18.99	0.19	1.25	4.55%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$10.48	\$62.53	\$73.01	\$23.01	0.21	1.46	7.23%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$8.60	\$77.02	\$85.62	\$35.62	0.17	1.71	11.26%



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ANALYSIS BY LIFECYCLE

Investments		Commitments			Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	1.00	\$100.00	\$0.00	\$19.27	\$154.08	\$173.35	\$73.35	0.19	1.73	10.64%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$0.00	\$52.34	\$52.34	\$2.34	0.00	1.05	4.55%
Total Open End		\$1,507.34	\$34.95	1.21	\$1,817.07	\$4.28	\$945.34	\$1,730.78	\$2,676.12	\$854.77	0.52	1.47	8.27%
Total		\$4,208.08	\$415.30	1.02	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	0.75	1.28	5.48%



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ANALYSIS BY VINTAGE YEAR

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
1998												
AEW Partners III, L.P.	1998	\$100.00	\$0.00	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
Total 1998		\$363.13	\$0.00	\$409.49	\$0.15	\$539.88	\$0.00	\$539.88	\$130.24	1.32	1.32	5.24%
2004												
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Total 2004		\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
2005												
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
Canyon-Johnson Urban Fund II, L.P.	2005	\$50.00	\$5.06	\$44.94	\$0.00	\$19.87	\$0.17	\$20.04	-\$24.90	0.44	0.45	-10.44%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	\$30.45	\$0.00	\$15.88	\$0.01	\$15.89	-\$14.56	0.52	0.52	-9.88%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	\$20.46	\$2.72	\$22.01	\$0.08	\$22.09	-\$1.09	0.95	0.95	-0.84%
Total 2005		\$343.53	\$5.06	\$339.38	\$2.72	\$302.98	\$0.26	\$303.23	-\$38.86	0.89	0.89	-2.56%
2006												
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$7.82	\$31.84	\$0.61	\$32.45	-\$25.37	0.55	0.56	-6.85%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$39.01	\$1.37	\$40.38	-\$9.62	0.78	0.81	-2.35%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$43.00	\$0.43	\$43.43	-\$6.57	0.86	0.87	-1.84%
Total 2006		\$200.00	\$0.00	\$201.00	\$7.82	\$127.05	\$2.41	\$129.45	-\$79.37	0.61	0.62	-5.54%
2007												
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	\$99.61	\$12.09	\$217.44	\$5.12	\$222.56	\$110.86	1.95	1.99	13.24%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	\$225.00	\$0.00	\$138.94	\$285.16	\$424.10	\$199.10	0.62	1.88	7.89%
Total 2007		\$450.00	\$4.91	\$451.81	\$12.32	\$414.37	\$290.28	\$704.65	\$240.52	0.89	1.52	5.79%



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ANALYSIS BY VINTAGE YEAR

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2008												
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	\$250.00	\$0.00	\$124.82	\$264.67	\$389.49	\$139.49	0.50	1.56	6.38%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
IL & FS India Realty Fund II, LLC	2008	\$50.00	\$0.00	\$50.00	\$0.00	\$24.16	\$2.03	\$26.19	-\$23.81	0.48	0.52	-10.35%
Total 2008		\$325.00	\$0.00	\$325.16	\$0.00	\$188.50	\$266.70	\$455.20	\$130.04	0.58	1.40	5.05%
2009												
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$6.62	\$45.94	\$6.19	\$71.15	\$6.33	\$77.49	\$25.35	1.36	1.49	10.85%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	\$52.98	\$0.00	\$76.27	\$5.61	\$81.88	\$28.90	1.44	1.55	12.08%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	\$127.38	\$0.00	\$161.54	\$4.80	\$166.33	\$38.95	1.27	1.31	14.40%
Total 2009		\$200.00	\$11.26	\$226.29	\$6.19	\$308.96	\$16.73	\$325.69	\$93.21	1.33	1.40	12.65%
2010												
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.06	1.32	1.32	10.96%
Total 2010		\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.06	1.32	1.32	10.96%
2011												
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$74.08	\$2.03	\$72.05	\$0.00	\$84.83	\$1.28	\$86.12	\$14.07	1.18	1.20	9.30%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$34.94	\$416.54	\$0.00	\$332.81	\$198.80	\$531.61	\$115.07	0.80	1.28	8.45%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$75.00	\$8.54	\$75.11	\$0.00	\$109.43	\$2.06	\$111.49	\$36.38	1.46	1.48	25.36%
Total 2011		\$329.08	\$45.52	\$563.69	\$0.00	\$527.08	\$202.14	\$729.21	\$165.52	0.94	1.29	10.22%
2012												
American Core Realty Separate Account	2012	\$150.00	\$0.00	\$223.19	\$0.29	\$124.91	\$180.46	\$305.37	\$81.89	0.56	1.37	12.69%
Total 2012		\$150.00	\$0.00	\$223.19	\$0.29	\$124.91	\$180.46	\$305.37	\$81.89	0.56	1.37	12.69%
2013												
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	\$46.50	\$0.00	\$59.33	\$15.55	\$74.88	\$28.38	1.28	1.61	18.43%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	\$75.00	\$0.00	\$14.61	\$79.38	\$93.99	\$18.99	0.19	1.25	4.55%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$10.48	\$62.53	\$73.01	\$23.01	0.21	1.46	7.23%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$8.60	\$77.02	\$85.62	\$35.62	0.17	1.71	11.26%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	\$100.00	\$0.00	\$19.27	\$154.08	\$173.35	\$73.35	0.19	1.73	10.64%
Total 2013		\$325.00	\$3.50	\$321.50	\$0.00	\$112.29	\$388.56	\$500.85	\$179.35	0.35	1.56	9.53%



State of Connecticut

ANALYSIS BY VINTAGE YEAR

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2014												
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$1.10	\$57.36	\$0.00	\$14.10	\$17.06	\$31.16	-\$26.21	0.25	0.54	-20.26%
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	\$29.53	\$0.98	\$29.54	\$13.13	\$42.67	\$12.16	0.97	1.40	9.81%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Lion Industrial Trust	2014	\$102.34	\$0.00	\$102.34	\$2.56	\$17.68	\$159.37	\$177.05	\$72.15	0.17	1.69	13.94%
PRISA I, L.P.	2014	\$185.00	\$0.00	\$185.00	\$0.00	\$32.78	\$216.97	\$249.76	\$64.76	0.18	1.35	8.24%
Total 2014		\$457.34	\$3.08	\$464.23	\$4.97	\$214.54	\$406.53	\$621.07	\$151.87	0.46	1.32	7.74%
2015												
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$19.70	\$100.65	\$5.74	\$41.31	\$93.44	\$134.75	\$28.37	0.39	1.27	12.17%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	\$30.00	-\$0.02	\$28.50	\$17.42	\$45.93	\$15.94	0.95	1.53	19.34%
Landmark Real Estate Fund VII, L.P.	2015	\$40.00	\$3.92	\$36.08	\$0.00	\$26.04	\$17.52	\$43.56	\$7.48	0.72	1.21	9.50%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	\$90.00	\$0.00	\$83.55	\$38.09	\$121.64	\$31.64	0.93	1.35	17.37%
Total 2015		\$270.00	\$33.62	\$256.72	\$5.72	\$179.39	\$166.48	\$345.87	\$83.43	0.68	1.32	14.52%
2016												
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$7.66	\$67.34	\$5.02	\$53.13	\$42.02	\$95.15	\$22.78	0.73	1.31	11.41%
Total 2016		\$75.00	\$7.66	\$67.34	\$5.02	\$53.13	\$42.02	\$95.15	\$22.78	0.73	1.31	11.41%
2017												
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$11.52	\$38.95	\$2.29	\$3.13	\$42.88	\$46.02	\$4.77	0.08	1.12	6.81%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$2.19	\$48.69	\$1.39	\$6.22	\$55.33	\$61.55	\$11.46	0.12	1.23	8.67%
Landmark Real Estate Partners VIII, L.P.	2017	\$65.00	\$43.97	\$24.71	-\$0.08	\$7.62	\$21.56	\$29.17	\$4.54	0.31	1.18	20.21%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$42.05	\$8.90	\$0.00	\$2.26	\$8.92	\$11.18	\$2.28	0.25	1.26	29.14%
Total 2017		\$215.00	\$99.73	\$121.25	\$3.60	\$19.23	\$128.69	\$147.92	\$23.07	0.15	1.18	9.84%
2018												
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$29.12	\$48.28	\$0.62	\$17.77	\$34.56	\$52.33	\$3.43	0.36	1.07	8.72%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$17.50	\$32.50	\$0.60	\$1.00	\$33.13	\$34.13	\$1.03	0.03	1.03	4.05%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$14.78	\$60.22	\$0.00	\$4.61	\$61.84	\$66.45	\$6.23	0.08	1.10	11.34%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.00	\$0.00	\$52.34	\$52.34	\$2.34	0.00	1.05	4.55%
Total 2018		\$240.00	\$61.40	\$190.99	\$1.22	\$23.38	\$181.86	\$205.24	\$13.03	0.12	1.07	7.62%



State of Connecticut

ANALYSIS BY VINTAGE YEAR

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2019												
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$80.29	\$19.71	-\$0.03	\$0.00	\$17.78	\$17.78	-\$1.91	0.00	0.90	-12.83%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$59.28	\$15.72	-\$0.31	\$0.00	\$14.57	\$14.57	-\$0.84	0.00	0.95	-9.13%
Total 2019		\$175.00	\$139.57	\$35.43	-\$0.33	\$0.00	\$32.35	\$32.35	-\$2.75	0.00	0.92	-14.94%
Total		\$4,208.08	\$415.30	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	0.75	1.28	5.48%



State of Connecticut

ANALYSIS BY INVESTMENT STRATEGY

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Core												
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
American Core Realty Separate Account	2012	\$150.00	\$0.00	\$223.19	\$0.29	\$124.91	\$180.46	\$305.37	\$81.89	0.56	1.37	12.69%
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	\$250.00	\$0.00	\$124.82	\$264.67	\$389.49	\$139.49	0.50	1.56	6.38%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	\$30.45	\$0.00	\$15.88	\$0.01	\$15.89	-\$14.56	0.52	0.52	-9.88%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$34.94	\$416.54	\$0.00	\$332.81	\$198.80	\$531.61	\$115.07	0.80	1.28	8.45%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	\$225.00	\$0.00	\$138.94	\$285.16	\$424.10	\$199.10	0.62	1.88	7.89%
PRISA I, L.P.	2014	\$185.00	\$0.00	\$185.00	\$0.00	\$32.78	\$216.97	\$249.76	\$64.76	0.18	1.35	8.24%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	\$75.00	\$0.00	\$14.61	\$79.38	\$93.99	\$18.99	0.19	1.25	4.55%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$10.48	\$62.53	\$73.01	\$23.01	0.21	1.46	7.23%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	\$100.00	\$0.00	\$19.27	\$154.08	\$173.35	\$73.35	0.19	1.73	10.64%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.00	\$0.00	\$52.34	\$52.34	\$2.34	0.00	1.05	4.55%
Total Core		\$1,628.53	\$34.95	\$1,938.70	\$1.73	\$1,180.15	\$1,494.41	\$2,674.56	\$734.13	0.61	1.38	6.49%
Core Plus												
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$80.29	\$19.71	-\$0.03	\$0.00	\$17.78	\$17.78	-\$1.91	0.00	0.90	-12.83%
Total Core Plus		\$100.00	\$80.29	\$19.71	-\$0.03	\$0.00	\$17.78	\$17.78	-\$1.91	0.00	0.90	-12.83%
Opportunistic												
AEW Partners III, L.P.	1998	\$100.00	\$0.00	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$6.62	\$45.94	\$6.19	\$71.15	\$6.33	\$77.49	\$25.35	1.36	1.49	10.85%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$11.52	\$38.95	\$2.29	\$3.13	\$42.88	\$46.02	\$4.77	0.08	1.12	6.81%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	\$99.61	\$12.09	\$217.44	\$5.12	\$222.56	\$110.86	1.95	1.99	13.24%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$19.70	\$100.65	\$5.74	\$41.31	\$93.44	\$134.75	\$28.37	0.39	1.27	12.17%
Canyon-Johnson Urban Fund II, L.P.	2005	\$50.00	\$5.06	\$44.94	\$0.00	\$19.87	\$0.17	\$20.04	-\$24.90	0.44	0.45	-10.44%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.06	1.32	1.32	10.96%
IL & FS India Realty Fund II, LLC	2008	\$50.00	\$0.00	\$50.00	\$0.00	\$24.16	\$2.03	\$26.19	-\$23.81	0.48	0.52	-10.35%
Landmark Real Estate Fund VII, L.P.	2015	\$40.00	\$3.92	\$36.08	\$0.00	\$26.04	\$17.52	\$43.56	\$7.48	0.72	1.21	9.50%
Landmark Real Estate Partners VIII, L.P.	2017	\$65.00	\$43.97	\$24.71	-\$0.08	\$7.62	\$21.56	\$29.17	\$4.54	0.31	1.18	20.21%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$75.00	\$8.54	\$75.11	\$0.00	\$109.43	\$2.06	\$111.49	\$36.38	1.46	1.48	25.36%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	\$46.50	\$0.00	\$59.33	\$15.55	\$74.88	\$28.38	1.28	1.61	18.43%



State of Connecticut

ANALYSIS BY INVESTMENT STRATEGY

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$39.01	\$1.37	\$40.38	-\$9.62	0.78	0.81	-2.35%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	\$52.98	\$0.00	\$76.27	\$5.61	\$81.88	\$28.90	1.44	1.55	12.08%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	\$90.00	\$0.00	\$83.55	\$38.09	\$121.64	\$31.64	0.93	1.35	17.37%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$42.05	\$8.90	\$0.00	\$2.26	\$8.92	\$11.18	\$2.28	0.25	1.26	29.14%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	\$127.38	\$0.00	\$161.54	\$4.80	\$166.33	\$38.95	1.27	1.31	14.40%
Total Opportunistic		\$1,478.13	\$164.43	\$1,439.02	\$26.38	\$1,559.02	\$265.44	\$1,824.46	\$359.05	1.06	1.25	5.22%
Value Add												
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$29.12	\$48.28	\$0.62	\$17.77	\$34.56	\$52.33	\$3.43	0.36	1.07	8.72%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$74.08	\$2.03	\$72.05	\$0.00	\$84.83	\$1.28	\$86.12	\$14.07	1.18	1.20	9.30%
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$17.50	\$32.50	\$0.60	\$1.00	\$33.13	\$34.13	\$1.03	0.03	1.03	4.05%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	\$30.00	-\$0.02	\$28.50	\$17.42	\$45.93	\$15.94	0.95	1.53	19.34%
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$7.66	\$67.34	\$5.02	\$53.13	\$42.02	\$95.15	\$22.78	0.73	1.31	11.41%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$14.78	\$60.22	\$0.00	\$4.61	\$61.84	\$66.45	\$6.23	0.08	1.10	11.34%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$1.10	\$57.36	\$0.00	\$14.10	\$17.06	\$31.16	-\$26.21	0.25	0.54	-20.26%
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	\$29.53	\$0.98	\$29.54	\$13.13	\$42.67	\$12.16	0.97	1.40	9.81%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$2.19	\$48.69	\$1.39	\$6.22	\$55.33	\$61.55	\$11.46	0.12	1.23	8.67%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$59.28	\$15.72	-\$0.31	\$0.00	\$14.57	\$14.57	-\$0.84	0.00	0.95	-9.13%
Lion Industrial Trust	2014	\$102.34	\$0.00	\$102.34	\$2.56	\$17.68	\$159.37	\$177.05	\$72.15	0.17	1.69	13.94%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	\$20.46	\$2.72	\$22.01	\$0.08	\$22.09	-\$1.09	0.95	0.95	-0.84%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$7.82	\$31.84	\$0.61	\$32.45	-\$25.37	0.55	0.56	-6.85%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$8.60	\$77.02	\$85.62	\$35.62	0.17	1.71	11.26%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$43.00	\$0.43	\$43.43	-\$6.57	0.86	0.87	-1.84%
Total Value Add		\$1,001.42	\$135.63	\$891.42	\$25.58	\$520.16	\$527.84	\$1,048.01	\$131.01	0.57	1.14	3.32%
Total		\$4,208.08	\$415.30	\$4,288.85	\$53.67	\$3,259.33	\$2,305.47	\$5,564.80	\$1,222.28	0.75	1.28	5.48%



APPENDIX 2:
**QUARTERLY REAL ESTATE
TRANSACTIONS**
FIRST QUARTER 2020

State of Connecticut

QUARTERLY TRANSACTION SUMMARY

Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
American Core Realty Separate Account	1/31/2020				-750,000	-750,000
	2/29/2020				-530,000	-530,000
	3/31/2020				-420,000	-420,000
Total: American Core Realty Separate Account					-1,700,000	-1,700,000
Artemis Real Estate Partners Income & Growth Fund, L.P.	2/29/2020	5,226,348				5,226,348
	3/31/2020		-25,591			-25,591
Total: Artemis Real Estate Partners Income & Growth Fund, L.P.		5,226,348	-25,591			5,200,757
BIG Real Estate Fund I, L.P.	1/31/2020	3,986,570				3,986,570
	2/29/2020	2,377,463				2,377,463
	3/31/2020				-998,534	-998,534
Total: BIG Real Estate Fund I, L.P.		6,364,033			-998,534	5,365,499
Blackstone Real Estate Partners Europe III, L.P.	2/29/2020		41,982			41,982
	3/31/2020				-1,923,020	-1,923,020
Total: Blackstone Real Estate Partners Europe III, L.P.			41,982		-1,923,020	-1,881,038
Blackstone Real Estate Partners Europe V, L.P.	2/29/2020		135,310			135,310
	3/31/2020				-329,861	-329,861
Total: Blackstone Real Estate Partners Europe V, L.P.			135,310		-329,861	-194,551
Blackstone Real Estate Partners VI, L.P.	3/31/2020				-1,384,834	-1,384,834
Total: Blackstone Real Estate Partners VI, L.P.					-1,384,834	-1,384,834
Blackstone Real Estate Partners VIII, L.P.	2/29/2020	127,694	288,325			416,018
	3/31/2020				-1,642,500	-1,642,500
Total: Blackstone Real Estate Partners VIII, L.P.		127,694	288,325		-1,642,500	-1,226,482



State of Connecticut

QUARTERLY TRANSACTION SUMMARY

Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Covenant Apartment Fund IX, L.P.	1/31/2020	7,500,000			-197,917	7,302,083
	3/31/2020	2,500,000			-803,797	1,696,203
Total: Covenant Apartment Fund IX, L.P.		10,000,000			-1,001,714	8,998,286
Covenant Apartment Fund VIII, L.P.	1/31/2020		62,908		-214,118	-151,210
	2/29/2020				-1,003,846	-1,003,846
Total: Covenant Apartment Fund VIII, L.P.			62,908		-1,217,964	-1,155,056
Crow Holdings Realty Partners VII, L.P.	1/31/2020				-5,030,437	-5,030,437
	2/29/2020				-443,765	-443,765
	3/31/2020				-132,471	-132,471
Total: Crow Holdings Realty Partners VII, L.P.					-5,606,673	-5,606,673
Crow Holdings Realty Partners VIII, L.P.	1/31/2020				-3,587,506	-3,587,506
	3/31/2020	7,273,862				7,273,862
Total: Crow Holdings Realty Partners VIII, L.P.		7,273,862			-3,587,506	3,686,356
Cypress Acquisition Partners Retail Fund, L.P.	3/31/2020	811,184				811,184
Total: Cypress Acquisition Partners Retail Fund, L.P.		811,184				811,184
Gerding Edlen Green Cities II, L.P.	3/31/2020				-79,961	-79,961
Total: Gerding Edlen Green Cities II, L.P.					-79,961	-79,961
Gerding Edlen Green Cities IV, L.P.	2/29/2020	986,449	-93,750			892,699
Total: Gerding Edlen Green Cities IV, L.P.		986,449	-93,750			892,699



State of Connecticut

QUARTERLY TRANSACTION SUMMARY

Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Hart Realty Advisors-Core Separate Account	1/31/2020	373,469			-1,027,150	-653,681
	2/29/2020	1,400,000			-1,598,725	-198,725
	3/31/2020	750,000			-1,015,950	-265,950
Total: Hart Realty Advisors-Core Separate Account		2,523,469			-3,641,825	-1,118,356
Landmark Real Estate Fund VII, L.P.	1/31/2020				-640,150	-640,150
Total: Landmark Real Estate Fund VII, L.P.					-640,150	-640,150
Landmark Real Estate Partners VIII, L.P.	1/31/2020					0
	3/31/2020	1,013,387			-278,234	735,153
Total: Landmark Real Estate Partners VIII, L.P.		1,013,387			-278,234	735,153
Prime Property Fund, LLC	3/31/2020				-2,825,639	-2,825,639
Total: Prime Property Fund, LLC					-2,825,639	-2,825,639
PRISA I, L.P.	3/31/2020				-1,826,219	-1,826,219
Total: PRISA I, L.P.					-1,826,219	-1,826,219
Rockwood Capital Real Estate Partners Fund VII, L.P.	1/31/2020				-4,364,714	-4,364,714
Total: Rockwood Capital Real Estate Partners Fund VII, L.P.					-4,364,714	-4,364,714
Starwood Distressed Opportunity Fund IX Global, L.P.	2/29/2020				-130,878	-130,878
Total: Starwood Distressed Opportunity Fund IX Global, L.P.					-130,878	-130,878
Starwood Global Opportunity Fund X, L.P.	1/31/2020				-6,312,860	-6,312,860
Total: Starwood Global Opportunity Fund X, L.P.					-6,312,860	-6,312,860
Starwood Opportunity Fund XI Global, L.P.	2/29/2020				-73,081	-73,081
Total: Starwood Opportunity Fund XI Global, L.P.					-73,081	-73,081



State of Connecticut

QUARTERLY TRANSACTION SUMMARY

Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Trumbull Property Fund, L.P.	1/31/2020				-790,841	-790,841
Total: Trumbull Property Fund, L.P.					-790,841	-790,841
Trumbull Property Income Fund, L.P.	1/31/2020				-494,424	-494,424
Total: Trumbull Property Income Fund, L.P.					-494,424	-494,424
UBS Trumbull Property Growth & Income Fund, L.P.	1/31/2020				-380,152	-380,152
Total: UBS Trumbull Property Growth & Income Fund, L.P.					-380,152	-380,152
Urban Strategy America Fund, L.P.	2/29/2020				-197,355	-197,355
Total: Urban Strategy America Fund, L.P.					-197,355	-197,355
USAA Eagle Real Estate Feeder 1, L.P.	1/31/2020	3,158,453				3,158,453
	2/29/2020	2,517,989				2,517,989
Total: USAA Eagle Real Estate Feeder 1, L.P.		5,676,442				5,676,442
Grand Total		40,002,868	409,184		-41,428,941	-1,016,888

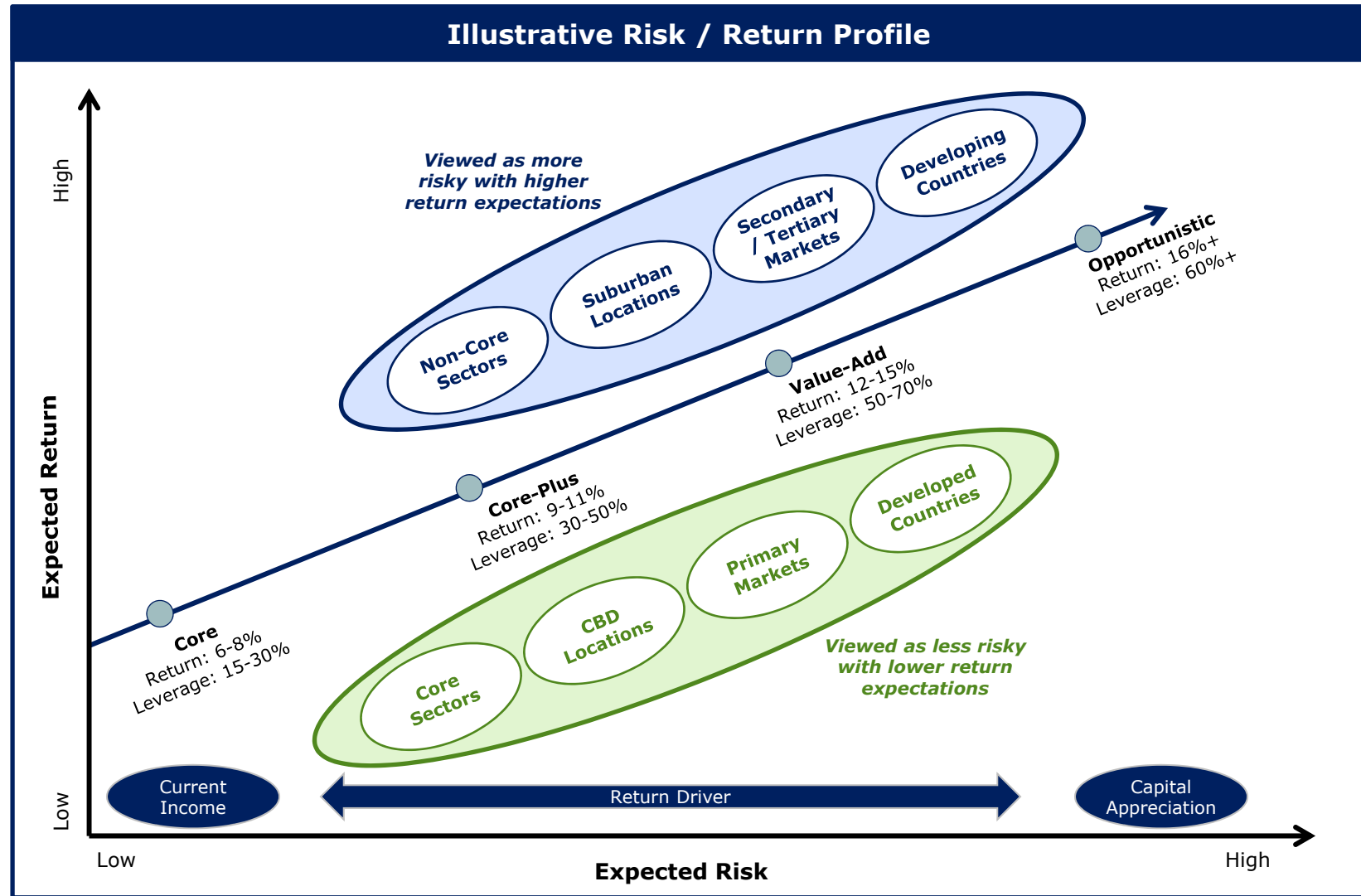


**APPENDIX 3:
REAL ESTATE STRATEGY
SUMMARIES & GLOSSARY**

SPECTRUM OF REAL ESTATE INVESTMENT STRATEGIES

	Real Estate Investment Style / Overview	Investment Strategy	Portfolio Role	Considerations
Core Strategies	Core / Core-Plus <ul style="list-style-type: none"> Return driver: income Primary vehicle: open-end funds Historical avg. returns: 7-8% / 8%-10% Leverage: 15-40% / 40%-50% Hold period: long-term 	Stabilized income producing assets	<ul style="list-style-type: none"> Current income Broad exposure to commercial real estate (asset class beta) Inflation protection 	<ul style="list-style-type: none"> Vehicles are semi-liquid (entrance/exit queues) Limited alpha producing opportunities
	RE Securities <ul style="list-style-type: none"> Return driver: income Primary vehicle: REIT funds Historical avg. returns: 7-9% Leverage: 30-50% Hold period: long-term 	Stabilized income producing assets	<ul style="list-style-type: none"> Current income (dividends) Long-term exposure to commercial real estate (beta) Long-term inflation protection 	<ul style="list-style-type: none"> Volatility Equity correlation
Non-Core Strategies	Value-Add <ul style="list-style-type: none"> Return driver: income/appreciation Primary vehicle: varies Historical avg returns: 8-10% Leverage: 40-70% Hold period: 3-5 years 	Properties requiring lease-up, repositioning, renovation or rehabilitation	<ul style="list-style-type: none"> Provides part current income and capital appreciation Some inflation protection 	<ul style="list-style-type: none"> Vehicles are semi-liquid or illiquid Vintage year is important Higher leverage vs core Poor benchmarks
	Opportunistic <ul style="list-style-type: none"> Return driver: appreciation Primary vehicle: closed-end funds Historical avg. returns: 10-12% Leverage: 60%+ Hold period: varies 	Distressed investments, recapitalizations, development, etc.	<ul style="list-style-type: none"> Real estate alpha through capital appreciation with minimal current income 	<ul style="list-style-type: none"> Vehicles are illiquid Vintage year is important High leverage Poor benchmarks

RELATIVE EXPECTED RISK RETURN PROFILE



Notes:

- Debt-related strategies can span the illustrative risk / return spectrum depending on the specific strategy
- Manager-specific risk, operations and leverage can skew expected risk / return profile



GLOSSARY OF TERMS

- **Commitment Amount** – The amount an investor has committed to invest with the General Partner
- **Paid In Capital** – The amount an investor has contributed for investments and management fees
- **Capital to be Funded** – The remaining amount an investor contractually has left to fund its commitments
- **Additional Fees** – Fees that are outside the capital commitment, also includes interest paid/received due from subsequent closings of the fund
- **Cumulative Distributions** – The amount an investor has received from realized and partially realized investments
- **Valuation** – Sum of the fair market value of all investments plus cash
- **Call Ratio** – Calculated by dividing Amount Funded by Capital Committed
- **DPI Ratio** - Calculated by dividing Amount Distributed by Amount Funded
- **Market Exposure** – Calculated by adding Reported Value plus Unfunded Commitments
- **Total Value** – Calculated by adding Amount Distributed and Reported Value. Represents the total amount an investor should expect to receive from their investments
- **Net Benefit** – Calculated by subtracting Total Value by Capital to be Funded plus Additional Fees
- **Total Value to Paid In Capital Ratio** – Calculated by dividing Total Value by Amount Funded. Represents the multiple of the overall cash invested that an investor is expected to receive
- **IRR** - The calculation of the IRR (Internal Rate of Return) takes into consideration the timing of cash contributions and distributions to and from the partnerships, the length of time the investments have been held and the sum of the Reported Value
- **Index Comparison Method (ICM)** – represents the hypothetical IRR of a private investment program that is computed by assuming the fund flows were invested in and out of a publicly traded index. The resulting hypothetical market value of the program is then used with the program's actual cash flows to compute a hypothetical IRR. This hypothetical IRR can be compared with the actual IRR to determine whether the private investment program outperformed the publicly traded index
- **Valuation ICM** – The valuation equivalent that ICM calculates for the public market is called valuation ICM
- **KS PME** – The Kaplan Schoar Public Markets Equivalent is a ratio of the future value of all distributions divided by the future value of all contributions using the index return as the discount rate. The ending valuation is treated as a distribution in this method
- **IRR ICM** – The IRR equivalent that ICM calculates for the public market is called IRR ICM



APPENDIX 4: **DISCLAIMERS & DISCLOSURES**

DISCLAIMER

- **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.**
- **Information used to prepare this report was obtained directly from the investment managers or custodians, 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.**
- **This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.**



ALTERNATIVE INVESTMENT DISCLOSURES

In addition, it is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds, real estate and private equity:

1. Performance can be volatile and investors could lose all or a substantial portion of their investment
2. Leverage and other speculative practices may increase the risk of loss
3. Past performance may be revised due to the revaluation of investments
4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value
6. These funds are not subject to the same regulatory requirements as registered investment vehicles
7. Managers may not be required to provide periodic pricing or valuation information to investors
8. These funds may have complex tax structures and delays in distributing important tax information
9. These funds often charge high fees
10. 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





INVESTMENT GROUP

The State of Connecticut Retirement Plans and Trust Funds Alternative Investments Fund

June 30, 2020

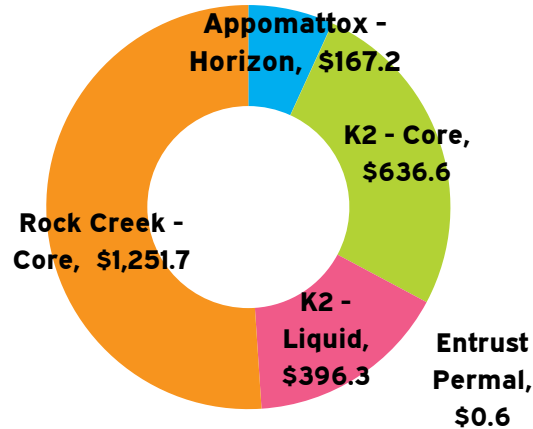
Quarterly Review

Agenda

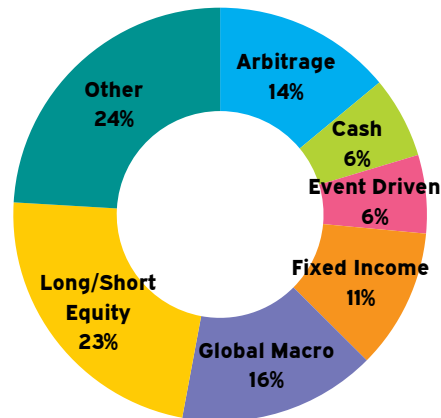
1. AIF Absolute Return Strategies Summary
2. AIF Absolute Return Strategies Full Report
3. AIF Connecticut Horizon Fund (CHF) Portfolio
4. Disclaimer, Glossary, and Notes

AIF Absolute Return Strategies Summary Report

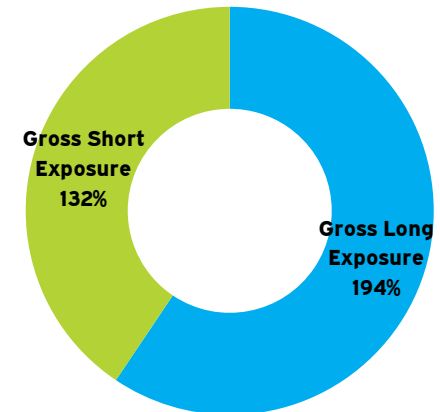
NAV: \$2,452.4 million



Strategy Allocation



Exposure Summary



- The Absolute Return Portfolio increased by \$131.2 million over the quarter. Rock Creek increased by \$61.7 million, K2 increased by \$57.6 million, Appomattox increased by \$11.9 million, and Entrust decreased by approximately \$10,700.
- The Absolute Return Portfolio's strategy allocation was largely unchanged over the quarter. Underlying partners are maintaining cash positions to satisfy redemptions for the ongoing trimming of the Absolute Return Portfolio.
- Net exposure for the Absolute Return Portfolio decreased over the quarter moving from 90% to 52% net exposure. Gross exposure (long plus short), which can serve as an approximation for risk taking has increased from 384% to 506% over the quarter.

Absolute Return Strategies Portfolio – Performance & Risk Summary

Performance Summary	Market Value (\$)	% of Portfolio	QTD	1 Yr	3 Yr	5 Yr	Inception
Absolute Return Strategies Portfolio	2,452,418,750	100.0	5.7	-3.8	1.0	1.2	2.8
HFRI FOF: Diversified Index			7.2	0.8	2.6	1.6	2.3
91 Day T-Bills +3%			0.8	4.3	4.7	4.2	3.6
91 Day T-Bills +4%			1.0	5.3	5.7	5.2	4.6
Rock Creek	1,251,733,304	51.0	5.1	-6.6	0.7	0.8	2.8
K2	1,032,903,367	42.1	5.9	0.2	2.4	2.0	3.3
Appomattox	167,162,009	6.8	7.7	-4.7	-1.5	-0.6	-0.5
EnTrust Global	620,070	0.0	1.8	-36.1	-12.4	-6.9	-1.9

Trailing 3-Year Risk Summary	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	7.2	-0.11	-12.1	2	-	-	23.1	-4.4
HFRI Fund of Funds Diversified	6.0	0.15	-8.2	2	1.10	0.92	7.8	-2.1
Russell 3000	17.7	0.47	-20.9	3	0.32	0.79	1.8	-0.7
MSCI EAFE	15.2	-0.06	-22.8	3	0.38	0.81	1.6	-1.1
MSCI Emerging Markets	18.5	0.01	-28.7	26	0.29	0.74	0.8	-0.5
Bloomberg Barclays Global Agg	3.9	0.53	-4.8	7	0.74	0.41	-0.8	-0.2

Trailing 5-Year Risk Summary	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	6.0	0.01	-12.1	2	-	-	27.2	-4.5
HFRI Fund of Funds Diversified	5.0	0.09	-8.2	2	1.09	0.92	9.1	-2.0
Russell 3000	15.4	0.58	-20.9	3	0.30	0.78	2.2	-0.7
MSCI EAFE	14.4	0.06	-22.8	3	0.32	0.78	1.0	-0.8
MSCI Emerging Markets	17.9	0.10	-28.7	26	0.22	0.66	0.7	-0.2
Bloomberg Barclays Global Agg	4.5	0.53	-7.1	3	0.23	0.18	1.0	-0.6

AIF Investment Guideline Compliance As of June 30, 2020

Actual Allocation versus Policy Target

	Current Allocation (%)	Current Allocation Plus Unfunded (%)	Lower Target	Policy Target	Upper Target	Yes/No
CRPTF	8.3	9.1	2	7	12	Yes

*Notes: The CRPTF allocations shown above represent the AIF allocation within the total CRPTF portfolio.

Portfolio Status – Compliance and Guidelines for CRPTF

Liquidity Parameters (A)	Exposure to investments with lock-up provisions greater than one year but less than five years will be limited to 10% of the target allocation to AIF	Yes
Liquidity Parameters (B)	No liquid investment strategies are permitted in vehicles or structures that require a commitment of capital of more than 10 years	Yes
Manager Diversification	No more than 20% of the AIF's policy target allocation should be invested in any one investment vehicle	No
Target Volatility	The Absolute Return target volatility (standard deviation of monthly returns), should be between equity volatility and fixed income volatility over a market cycle	Yes
Target Correlation	The correlation of the Absolute Return portfolio to standard equity benchmarks is targeted to be less than 0.50 over a market cycle	No

AIF Absolute Return Strategies Full Report

Absolute Return Strategies Portfolio | As of June 30, 2020

Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Absolute Return Strategies Portfolio	2,452,418,750	100.0	1.2	5.7	-6.3	-3.8	1.0	1.2	2.8	Feb-11
HFRI FOF: Diversified Index			1.7	7.2	-1.0	0.9	2.6	1.6	2.3	Feb-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Feb-11
Rock Creek	1,251,733,304	51.0	0.8	5.2	-9.5	-6.6	0.7	0.8	2.8	Feb-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Feb-11
91 Day T-Bills +4%			0.3	1.0	2.4	5.3	5.7	5.2	4.6	Feb-11
Rock Creek - Core Portfolio	1,251,733,304	51.0	0.8	5.2	-2.9	-0.7	2.5	1.9	3.4	Feb-11
HFRI FOF: Conservative Index			1.8	5.7	-1.9	-0.3	1.9	1.5	2.1	Feb-11
K2	1,032,903,367	42.1	1.6	5.9	-2.2	0.2	2.4	2.0	3.3	Apr-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Apr-11
91 Day T-Bills +4%			0.3	1.0	2.4	5.3	5.7	5.2	4.7	Apr-11
K2 - Core Portfolio	636,574,927	26.0	1.3	6.6	-0.5	0.9	2.5	2.1	3.3	Apr-11
HFRI FOF: Conservative Index			1.8	5.7	-1.9	-0.3	1.9	1.5	2.1	Apr-11
K2 - Liquid Portfolio	396,328,440	16.2	2.0	4.9	-4.7	-0.9	--	--	0.8	Jul-18
HFRI FOF: Diversified Index			1.7	7.2	-1.0	0.9	2.6	1.6	1.3	Jul-18
Appomattox	167,162,009	6.8	2.1	7.7	-6.5	-4.7	-1.5	-0.6	-0.5	Sep-14
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	4.0	Sep-14
Appomattox	161,439,857	6.6	2.2	8.0	-6.7	-4.8	-1.4	-0.5	-0.3	Sep-14
HFRI FOF: Conservative Index			1.8	5.7	-1.9	-0.3	1.9	1.5	1.7	Sep-14
Appomattox (Restructuring)	5,722,152	0.2	-0.1	-0.3	-0.7	-1.3	-2.1	-1.1	-0.8	Oct-14
HFRI Fund of Funds Composite Index			2.0	7.9	-1.6	0.5	2.3	1.5	1.9	Oct-14
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	4.0	Oct-14
EnTrust Permal	620,070	0.0	1.2	1.8	-13.4	-36.1	-12.4	-6.9	-1.9	Mar-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Mar-11
91 Day T-Bills +4%			0.3	1.0	2.4	5.3	5.7	5.2	4.6	Mar-11
Permal - Portfolio A	253,837	0.0	3.0	0.1	-8.7	-33.8	-11.2	-6.5	-1.6	Mar-11
HFRI Fund of Funds Composite Index			2.0	7.9	-1.6	0.5	2.3	1.5	2.2	Mar-11
Permal - Portfolio B	366,233	0.0	0.0	2.9	-16.3	-41.4	-16.6	-8.7	-4.9	Apr-13
HFRI Fund of Funds Composite Index			2.0	7.9	-1.6	0.5	2.3	1.5	2.6	Apr-13

EnTrust Permal portfolios are in liquidation.

Absolute Return Strategies Portfolio | As of June 30, 2020

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Absolute Return Strategies Portfolio	2,452,418,750	100.0	1.2	5.7	-6.3	-3.8	1.0	1.2	2.8	Feb-11
HFRI FOF: Diversified Index			1.7	7.2	-1.0	0.9	2.6	1.6	2.3	Feb-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Feb-11
CRPTF - Core + Liquid Portfolios Total	2,284,636,671	93.2	1.1	4.9	-6.9	-4.3	1.3	1.3	3.0	Feb-11
HFRI FOF: Diversified Index			1.7	7.2	-1.0	0.9	2.6	1.6	2.3	Feb-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Feb-11
CRPTF - Core Portfolios Total	1,888,308,231	77.0	1.0	5.6	-1.9	-0.1	2.4	1.9	3.3	Feb-11
HFRI FOF: Conservative Index			1.8	5.7	-1.9	-0.3	1.9	1.5	2.1	Feb-11
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	3.6	Feb-11
S&P 500			2.0	20.5	-3.1	7.5	10.7	10.7	12.1	Feb-11
S&P/LSTA Leveraged Loan TR			1.1	9.7	-4.6	-2.0	2.1	2.9	3.5	Feb-11
CRPTF - Liquid Portfolios Total	396,328,440	16.2	2.0	4.1	-12.4	-8.9	--	--	-2.2	Jun-18
HFRI FOF: Diversified Index			1.7	7.2	-1.0	0.9	2.6	1.6	1.2	Jun-18
91 Day T-Bills +4%			0.3	1.0	2.4	5.3	5.7	5.2	5.9	Jun-18
S&P 500			2.0	20.5	-3.1	7.5	10.7	10.7	8.9	Jun-18
S&P/LSTA Leveraged Loan TR			1.1	9.7	-4.6	-2.0	2.1	2.9	1.0	Jun-18
HFRI Fund Weighted Composite Index			2.0	9.2	-3.4	-0.6	2.1	2.3	0.2	Jun-18
MSCI ACWI			3.2	19.2	-6.3	2.1	6.1	6.5	3.5	Jun-18
ICE BofA US High Yield TR			1.0	9.6	-4.8	-1.1	3.0	4.6	3.2	Jun-18
CRPTF - Horizon Portfolios Total	167,162,009	6.8	2.1	7.7	-6.5	-4.7	-1.5	-0.6	-0.5	Sep-14
HFRI FOF: Conservative Index			1.8	5.7	-1.9	-0.3	1.9	1.5	1.7	Sep-14
91 Day T-Bills +3%			0.3	0.8	1.9	4.3	4.7	4.2	4.0	Sep-14
S&P 500			2.0	20.5	-3.1	7.5	10.7	10.7	10.0	Sep-14
S&P/LSTA Leveraged Loan TR			1.1	9.7	-4.6	-2.0	2.1	2.9	2.8	Sep-14

Core +Liquid Portfolios valuation does not include Entrust Pernal.

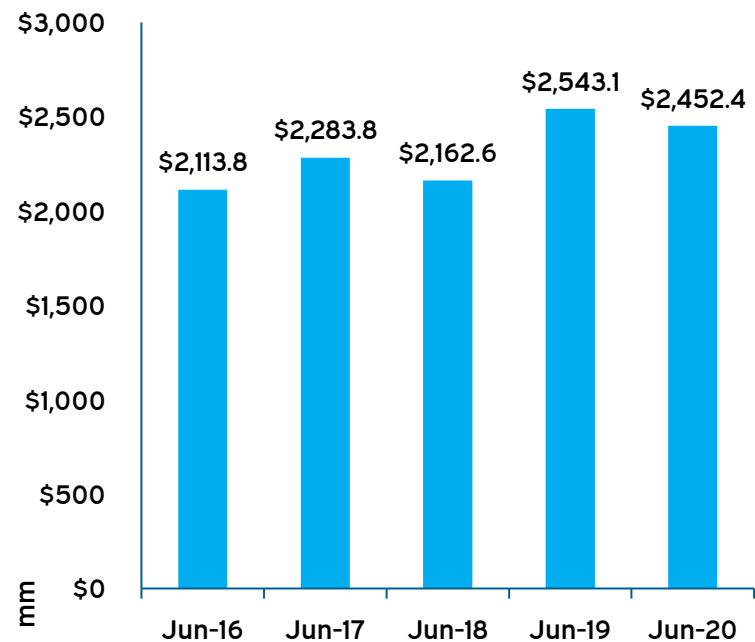
Investment Expense Analysis

As Of June 30, 2020

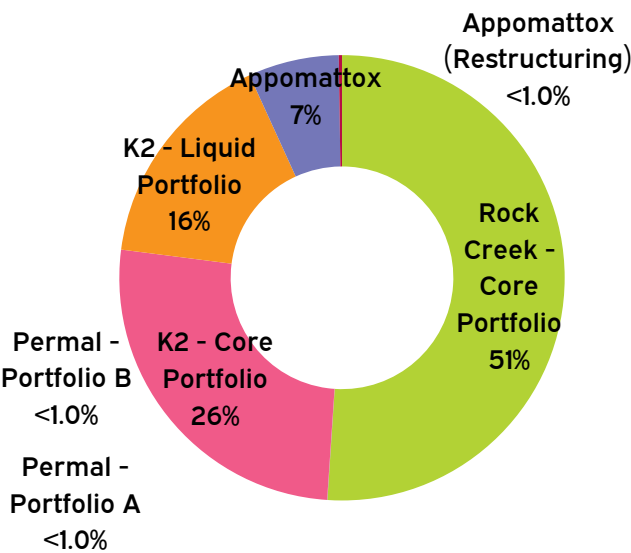
Name	Fee Schedule	Market Value	% of Portfolio	Estimated Fee Value
Rock Creek		\$1,251,733,304	51.0%	
Rock Creek - Core Portfolio	0.35% of Assets	\$1,251,733,304	51.0%	\$4,381,067
K2		\$1,032,903,367	42.1%	
K2 - Core Portfolio	0.35% of Assets	\$636,574,927	26.0%	\$2,228,012
K2 - Liquid Portfolio	0.35% of Assets	\$396,328,440	16.2%	\$1,387,150
Appomattox		\$167,162,009	6.8%	
Appomattox	0.40% of Assets	\$161,439,857	6.6%	\$645,759
Appomattox (Restructuring)	0.40% of Assets	\$5,722,152	0.2%	\$22,889
EnTrust Permal		\$620,070	0.0%	
Permal - Portfolio A	0.50% of Assets	\$253,837	0.0%	\$1,269
Permal - Portfolio B	0.50% of Assets	\$366,233	0.0%	\$1,831
Total		\$2,452,418,750	100.0%	\$8,667,977

Permal portfolios A and B also charge performance based fees of 5% of the funds' returns above the USD LIBOR +2%.

Historical Market Value



Manager Allocation



Absolute Return Strategies – Trailing 3-Year Risk Summary | As of June 30, 2020

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	7.2	-0.11	-12.1	2	-	-	23.1	-4.4
<i>HFRI Fund of Funds Diversified</i>	6.0	0.15	-8.2	2	1.10	0.92	7.8	-2.1
<i>Russell 3000</i>	17.7	0.47	-20.9	3	0.32	0.79	1.8	-0.7
<i>MSCI EAFE</i>	15.2	-0.06	-22.8	3	0.38	0.81	1.6	-1.1
<i>MSCI Emerging Markets</i>	18.5	0.01	-28.7	26	0.29	0.74	0.8	-0.5
<i>Bloomberg Barclays Global Aggregate</i>	3.9	0.53	-4.8	7	0.74	0.41	-0.8	-0.2
Rock Creek - Core Portfolio ¹	5.5	0.13	-8.3	2	-	-	18.7	-3.7
<i>MSCI ACWI</i>	16.3	0.27	-21.4	3	0.28	0.83	1.7	-0.9
<i>HFRI FOF: Conservative Index</i>	5.0	0.04	-7.6	2	1.09	0.97	15.8	-3.3
<i>91 Day T-Bills +3%</i>	0.2	16.31	0.0	0	-5.30	-0.17	0.7	-1.0

¹ Includes assets from former Rock Creek –Liquid Portfolio after April 1, 2020.

Absolute Return Strategies – Trailing 3-Year Risk Summary | As of June 30, 2020

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
K2 - Core Portfolio	4.9	0.15	-7.6	2	-	-	11.1	-2.5
<i>S&P 500</i>	<i>17.0</i>	<i>0.53</i>	<i>-19.6</i>	<i>3</i>	<i>0.24</i>	<i>0.83</i>	<i>1.5</i>	<i>-0.7</i>
<i>S&P/LSTA Leveraged Loan TR</i>	<i>8.6</i>	<i>0.04</i>	<i>-13.5</i>	<i>2</i>	<i>0.53</i>	<i>0.93</i>	<i>19.4</i>	<i>-3.7</i>
<i>HFRI FOF: Conservative Index</i>	<i>5.0</i>	<i>0.04</i>	<i>-7.6</i>	<i>2</i>	<i>0.94</i>	<i>0.96</i>	<i>15.8</i>	<i>-3.3</i>
<i>91 Day T-Bills +3%</i>	<i>0.2</i>	<i>16.3</i>	<i>0.0</i>	<i>0</i>	<i>-8.40</i>	<i>-0.31</i>	<i>0.7</i>	<i>-1.0</i>
K2 - Liquid Portfolio¹	7.8	-0.14	-9.8	2	-	-	11.8	-3.1
<i>S&P 500</i>	<i>20.4</i>	<i>0.26</i>	<i>-19.6</i>	<i>3</i>	<i>0.30</i>	<i>0.79</i>	<i>0.4</i>	<i>-0.5</i>
<i>S&P/LSTA Leveraged Loan TR</i>	<i>10.8</i>	<i>-0.12</i>	<i>-13.5</i>	<i>2</i>	<i>0.66</i>	<i>0.92</i>	<i>12.1</i>	<i>-2.9</i>
<i>HFRI FOF: Diversified Index</i>	<i>7.1</i>	<i>-0.10</i>	<i>-8.2</i>	<i>2</i>	<i>1.04</i>	<i>0.95</i>	<i>5.8</i>	<i>-1.9</i>
<i>91 Day T-Bills +4%</i>	<i>0.2</i>	<i>18.67</i>	<i>0.0</i>	<i>0</i>	<i>-4.16</i>	<i>-0.11</i>	<i>1.4</i>	<i>-1.5</i>

¹ K2 – Liquid Portfolio and benchmark risk data are calculated from inception date of 7/31/2018.

Absolute Return Strategies – Trailing 5-Year Risk Summary | As of June 30, 2020

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	6.0	0.01	-12.1	2	-	-	27.2	-4.5
<i>HFRI Fund of Funds Diversified</i>	5.0	0.09	-8.2	2	1.09	0.92	9.1	-2.0
<i>Russell 3000</i>	15.4	0.58	-20.9	3	0.30	0.78	2.2	-0.7
<i>MSCI EAFE</i>	14.4	0.06	-22.8	3	0.32	0.78	1.0	-0.8
<i>MSCI Emerging Markets</i>	17.9	0.10	-28.7	26	0.22	0.66	0.7	-0.2
<i>Bloomberg Barclays Global Aggregate</i>	4.5	0.53	-7.1	3	0.23	0.18	1.0	-0.6
Rock Creek – Core Portfolio ¹	5.0	0.14	-8.3	2	-	-	15.9	-3.2
<i>MSCI ACWI</i>	14.5	0.37	-21.4	3	0.28	0.82	1.8	-0.7
<i>HFRI FOF Conservative Index</i>	4.1	0.08	-7.6	2	1.16	0.95	20.0	-3.5
<i>91 Day T-Bills +3%</i>	0.2	12.71	0.0	0	-0.48	-0.02	-1.5	0.1

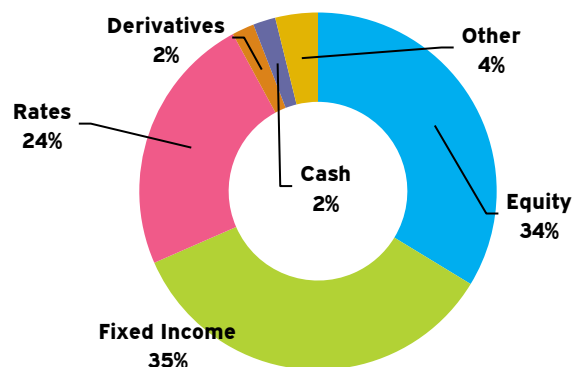
¹ Includes assets from former Rock Creek –Liquid Portfolio after April 1, 2020.

Absolute Return Strategies – Trailing 5-Year Risk Summary | As of June 30, 2020

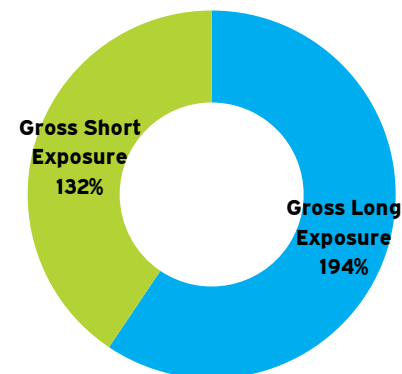
	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
K2 - Core Portfolio	4.4	0.21	-7.6	2	-	-	9.2	-2.1
<i>S&P 500</i>	<i>14.8</i>	<i>0.65</i>	<i>-19.6</i>	<i>3</i>	<i>0.23</i>	<i>0.77</i>	<i>1.9</i>	<i>-0.6</i>
<i>S&P/LSTA Leveraged Loan TR</i>	<i>6.9</i>	<i>0.25</i>	<i>-13.5</i>	<i>2</i>	<i>0.55</i>	<i>0.87</i>	<i>27.4</i>	<i>-4.1</i>
<i>HFRI FOF: Conservative Index</i>	<i>4.4</i>	<i>0.21</i>	<i>-7.6</i>	<i>2</i>	<i>1.01</i>	<i>0.93</i>	<i>20.0</i>	<i>-3.5</i>
<i>91 Day T-Bills +3%</i>	<i>0.2</i>	<i>12.71</i>	<i>0.0</i>	<i>0</i>	<i>-2.05</i>	<i>-0.11</i>	<i>-1.5</i>	<i>0.1</i>
K2 - Liquid Portfolio¹	-	-	-	-	-	-	-	-
<i>S&P 500</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>S&P/LSTA Leveraged Loan TR</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>HFRI FOF: Diversified Index</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
<i>91 Day T-Bills +4%</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>

¹ K2 – Liquid Portfolio inception based risk statistics are located in the 3-year risk table.

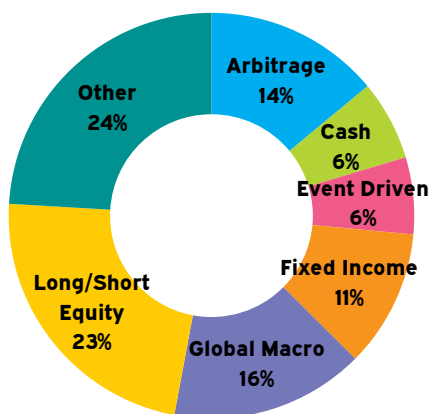
Instrument Allocation¹



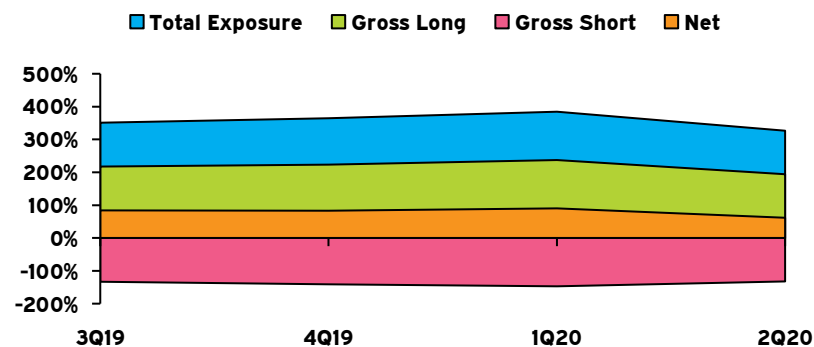
Exposure Report



Strategy Allocation



Exposure History

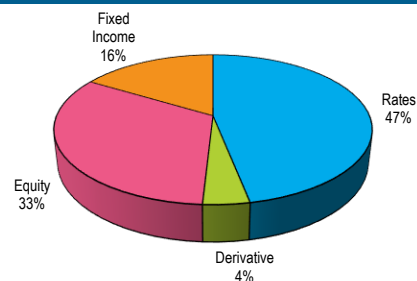


¹ 2% Cash allocation comes from Appomattox (Restructuring).

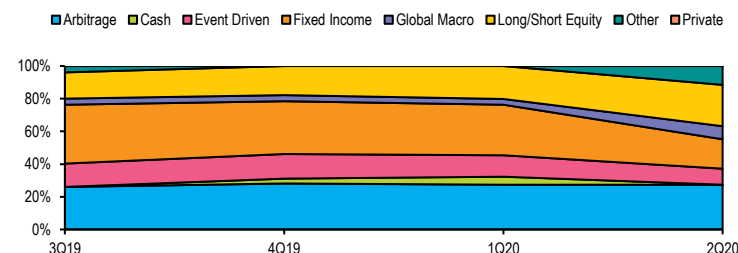
Account Information

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$1251.7 M
Portfolio Manager:	Team
Location:	Washington, DC
Inception Date:	2/1/2011
Account Type:	Separately Managed
# of Investments:	33
Fee Schedule:	0.35% Management Fee

Instrument Allocation



Historical Strategy Allocations



Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 2/2011 (%)
Rock Creek - Core Portfolio	5.2	-0.7	2.5	1.9	3.4
HFRI FOF: Conservative Index	5.7	-0.4	1.9	1.5	2.1

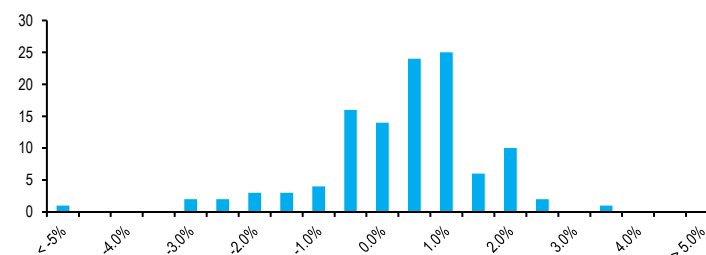
5 Year Risk Summary

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
Rock Creek - Core Portfolio	5.0	0.14	-8.3	2	-	-
MSCI ACWI	14.5	0.37	-21.4	3	0.28	0.82
HFRI FOF: Conservative Index	4.1	0.08	-7.6	2	1.16	0.95
91 Day T-Bills +3%	0.2	12.71	0.0	0	-0.48	-0.02

Geographic Exposure Allocation (%)	6/30/2020 ¹	3/31/2020	12/31/2019	9/30/2019
North America	78	71	70	71
Developed Europe	9	13	13	12
Developed Asia	7	10	11	11
Emerging Markets	6	6	6	6

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	313	630	530	513
Gross Long Exposure	187	348	296	292
Gross Short Exposure	126	282	234	221
Net Exposure	60	67	62	71

Return Distribution

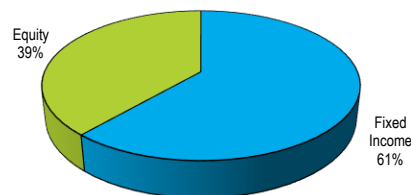


¹ Per mandate the Rock Creek Core and Liquid portfolios were combined on 4/1/2020.

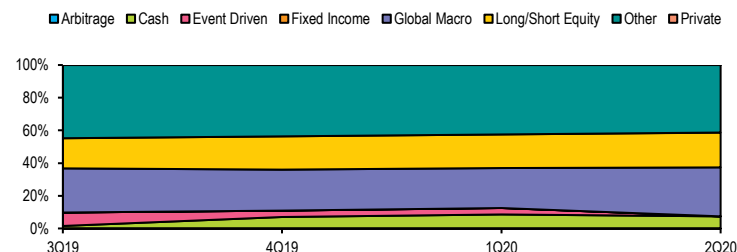
Account Information

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$636.6 M
Portfolio Manager:	Team
Location:	Stamford, CT
Inception Date:	4/1/2011
Account Type:	Separately Managed
# of Investments:	21
Fee Schedule:	0.35% of assets

Instrument Allocation



Historical Strategy Allocations



Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 4/2011 (%)
K2 - Core Portfolio	6.6	0.9	2.5	2.1	3.3
HFRI FOF: Conservative Index	5.7	-0.4	1.9	1.5	2.1

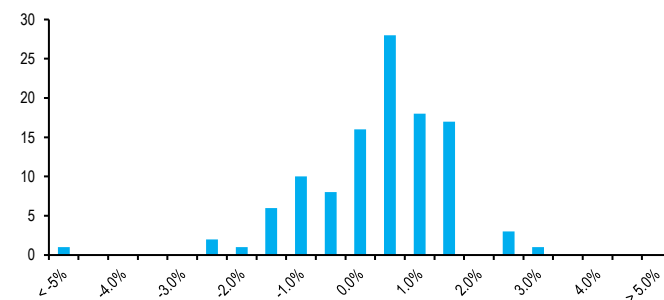
5 Year Risk Summary

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
K2 - Core Portfolio	4.4	0.21	-7.6	2	-	-
S&P 500	14.8	0.65	-19.6	3	0.23	0.77
S&P/LSTA Leveraged Loan TR	6.9	0.25	-13.5	2	0.55	0.87
HFRI FOF: Conservative Index	4.4	0.21	-7.6	2	1.01	0.93
91 Day T-Bills +3%	0.2	12.71	0.0	0	-2.05	-0.11

Geographic Exposure Allocation (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
North America	60	70	67	65
Developed Europe	29	13	14	14
Developed Asia	7	5	6	7
Emerging Markets	5	12	13	15

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	1199	589	538	493
Gross Long Exposure	614	326	302	279
Gross Short Exposure	585	263	236	214
Net Exposure	29	63	65	65

Return Distribution

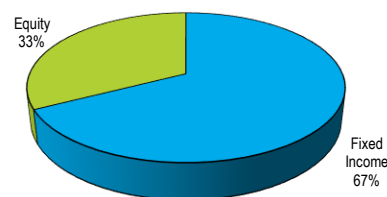


K2 - Liquid Portfolio | As of June 30, 2020

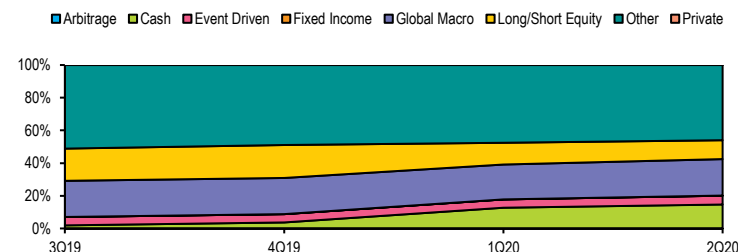
Account Information

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$396.3 M
Portfolio Manager:	Team
Location:	Stamford, CT
Inception Date:	7/1/2018
Account Type:	Separately Managed
# of Investments:	11
Fee Schedule:	0.35% of assets

Instrument Allocation



Historical Strategy Allocations



Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 7/2018 (%)
K2 - Liquid Portfolio	4.9	-0.9	NA	NA	0.8
HFRI FOF: Diversified Index	7.2	0.8	2.6	1.6	1.3

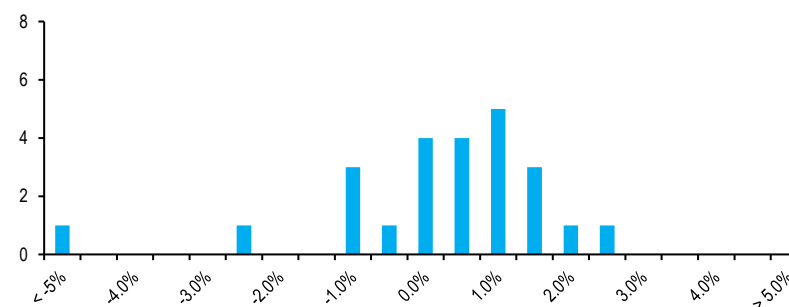
5 Year Risk Summary

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
K2 - Liquid Portfolio ¹	7.8	-0.14	-9.8	2	-	-
S&P 500	20.4	0.26	-19.6	3	0.30	0.79
S&P/LSTA Leveraged Loan TR	10.8	-0.12	-13.5	2	0.66	0.92
HFRI FOF: Diversified Index	7.1	-0.10	-8.2	2	1.04	0.95
91 Day T-Bills +4%	0.2	18.67	0.0	0	-4.16	-0.11

Geographic Exposure Allocation (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
North America	69	64	65	65
Emerging Markets	17	17	15	14
Developed Europe	11	14	15	15
Developed Asia	4	6	5	5

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	158	213	225	238
Gross Long Exposure	108	142	158	161
Gross Short Exposure	49	72	67	77
Net Exposure	59	70	91	85

Return Distribution

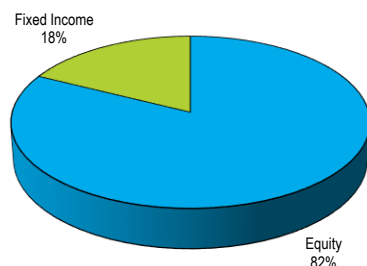


¹ K2 - Liquid Portfolio and benchmark risk data are calculated from inception date of 7/31/2018.

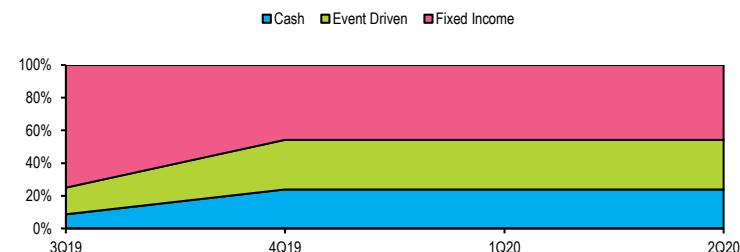
Account Information¹

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$0.3 M
Portfolio Manager:	Team
Location:	New York, NY
Inception Date:	3/31/2011
Account Type:	Separately Managed
# of Investments:	Not Provided
Fee Schedule:	0.5% of assets

Instrument Allocation



Historical Strategy Allocations



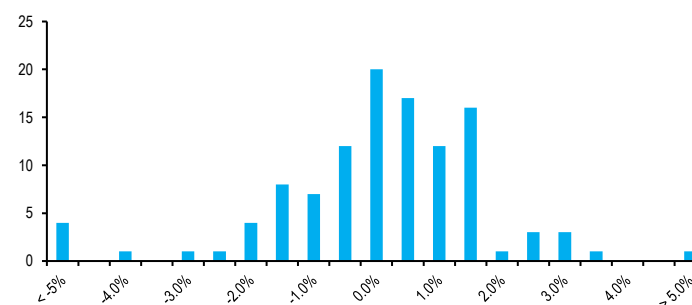
Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 3/2011 (%)
Permal - Portfolio A	0.1	-33.8	-11.2	-6.5	-1.6
HFRI Fund of Funds Composite Index	7.9	0.5	2.3	1.5	2.2

Geographic Exposure Allocation (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
North America	65	65	65	31
Developed Europe	19	19	19	47
Developed Asia	15	15	15	5
Emerging Markets	0	0	0	17

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	42	42	42	66
Gross Long Exposure	42	42	42	66
Gross Short Exposure	0	0	0	0
Net Exposure	42	42	42	66

Return Distribution

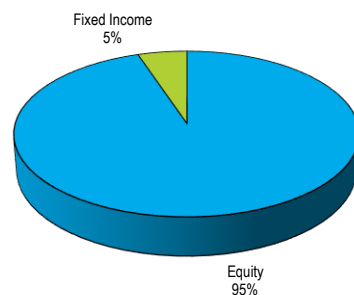


¹ Portfolio is in liquidation.

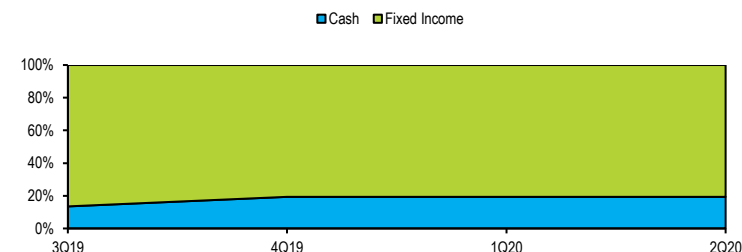
Account Information¹

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$0.4 M
Portfolio Manager:	Team
Location:	New York, NY
Inception Date:	4/1/2013
Account Type:	Separately Managed
# of Investments:	Not Provided
Fee Schedule:	0.5% of assets

Instrument Allocation



Historical Strategy Allocations



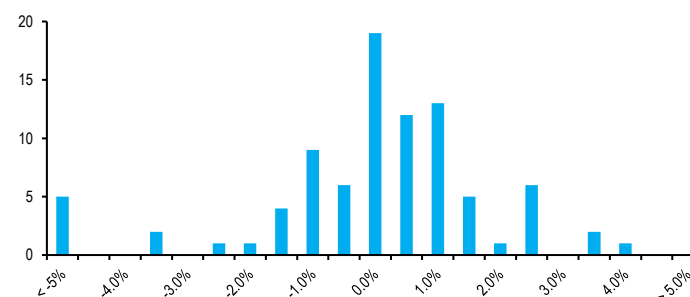
Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 4/2013 (%)
Permal - Portfolio B	2.9	-41.4	-16.6	-8.7	-4.9
HFRI Fund of Funds Composite Index	7.9	0.5	2.3	1.5	2.6

Geographic Exposure Allocation (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
North America	100	100	100	100
Emerging Markets	0	0	0	0
Developed Europe	0	0	0	0
Developed Asia	0	0	0	0

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	51	51	51	62
Gross Long Exposure	51	51	51	62
Gross Short Exposure	0	0	0	0
Net Exposure	51	51	51	62

Return Distribution



¹ Portfolio is in liquidation.

Absolute Return Strategies Portfolio – Investment Guidelines Summary

Prudence Crandall Core Portfolio

	Rock Creek	K2
Benchmark	HFRI Fund of Funds Conservative	HFRI Fund of Funds Conservative
Target Return	13-Week T-Bills +300	13-Week T-Bills +300
Target Volatility	< 5%	< 5%
Risk Management		
Target Beta	.25 (MSCI ACWI)	.20 (S&P 500 & S&P/LSTA Leveraged Loan Index)
Target Correlation	N/A	.50 (S&P 500)
Maximum Drawdown	Monthly: 3% Cycle (3-5 Years): 10%	Monthly: 2% Cycle (3-5 Years): 5%
Manager Concentration		
Minimum	10	10
Maximum	30	30
Strategy Concentration		
Minimum	N/A	N/A
Maximum	40%	50%
Liquidity	-	-
Weekly	-	-
Monthly	-	-
Quarterly	50%	50%
Semi-Annual	-	-
Annual	80%	80%
>Annual	90%	90%
Side Pockets (Max)	10%	10%

Prudence Crandall Liquid Portfolio

K2	
Benchmark	HFRI Fund of Funds Diversified
Target Return	13-Week T-Bills +400
Target Volatility	< 6%
Risk Management	
Target Beta	.30 (S&P 500 & S&P/LSTA Leveraged Loan Index)
Target Correlation	.80 (S&P 500)
Manager Concentration	
Minimum	5
Maximum	15
Strategy Concentration	
Minimum	N/A
Maximum	25%
Liquidity	
Daily	-
Weekly	-
Monthly	90%
Quarterly	100%
Semi-Annual	-
Annual	-
>Annual	-
Side Pockets	-

AIF Connecticut Horizon Fund (CHF) Portfolio

Connecticut Horizon Fund – Performance | As of June 30, 2020

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since Inception Date	Since Inception (%)
Connecticut Horizon Fund	7.7	-4.7	-1.5	-0.6	9/1/2014	-0.5
Appomattox	7.7	-4.7	-1.5	-0.6	9/1/2014	-0.5
HFRI FOF: Conservative Index	5.7	-0.4	1.9	1.5	NA	1.7
91 Day T-Bills +3%	0.8	4.3	4.7	4.2	NA	4.0
Appomattox	8.0	-4.8	-1.4	-0.5	9/1/2014	-0.3
HFRI FOF: Conservative Index	5.7	-0.4	1.9	1.5	NA	1.7
91 Day T-Bills +3%	0.8	4.3	4.7	4.2	NA	4.0
Appomattox (Restructuring)	-0.3	-1.3	-2.1	-1.1	10/1/2014	-0.8
HFRI Fund of Funds Composite Index	7.9	0.5	2.3	1.5	NA	1.9
91 Day T-Bills +3%	0.8	4.3	4.7	4.2	NA	4.0

Connecticut Horizon Fund – Trailing 3-Year Risk Summary | As of June 30, 2020

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Connecticut Horizon Fund	8.5	-0.38	-13.8	2	-	-	22.8	-4.3
Appomattox	8.9	-0.35	-14.9	26	-	-	21.3	-4.1
<i>HFRI FOF: Conservative Index</i>	<i>5.0</i>	<i>0.04</i>	<i>-7.6</i>	<i>2</i>	<i>1.71</i>	<i>0.96</i>	<i>15.8</i>	<i>-3.3</i>
<i>91 Day T-Bills +3%</i>	<i>0.2</i>	<i>16.31</i>	<i>0.0</i>	<i>0</i>	<i>-10.66</i>	<i>-0.22</i>	<i>0.7</i>	<i>-1.0</i>
<i>S&P 500</i>	<i>17.0</i>	<i>0.53</i>	<i>-19.6</i>	<i>3</i>	<i>0.37</i>	<i>0.71</i>	<i>1.5</i>	<i>-0.7</i>
<i>S&P/LSTA Leveraged Loan TR</i>	<i>8.6</i>	<i>0.04</i>	<i>-13.5</i>	<i>2</i>	<i>0.96</i>	<i>0.93</i>	<i>19.4</i>	<i>-3.7</i>
Appomattox (Restructuring)	3.2	-1.22	-7.7	21	-	-	4.5	-1.3

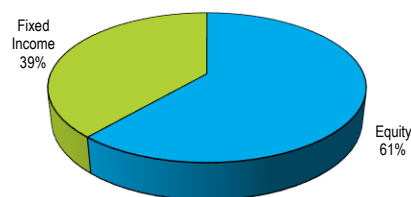
Connecticut Horizon Fund – Trailing 5-Year Risk Summary | As of June 30, 2020

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Connecticut Horizon Fund	6.8	-0.26	-13.8	2	-	-	31.9	-4.8
Appomattox	7.1	-0.23	-14.9	26	-	-	30.1	-4.7
<i>HFRI FOF: Conservative Index</i>	4.1	0.08	-7.6	2	1.66	0.95	20.0	-3.5
<i>91 Day T-Bills +3%</i>	0.2	12.71	0.0	0	-4.39	-0.15	-1.5	0.1
<i>S&P 500</i>	14.8	0.65	-19.6	3	0.34	0.69	1.9	-0.6
<i>S&P/LSTA Leveraged Loan TR</i>	6.9	0.25	-13.5	2	0.93	0.90	27.4	-4.1
Appomattox (Restructuring)	3.3	-0.67	-7.7	21	-	-	2.5	-0.7

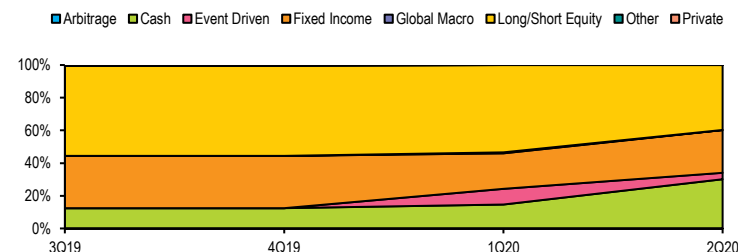
Account Information

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$161.4 M
Portfolio Manager:	Team
Location:	New York, NY
Inception Date:	9/1/2014
Account Type:	Separately Managed
# of Investments:	20
Fee Schedule:	0.40% Mangement Fee

Instrument Allocation



Historical Strategy Allocations



Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 9/2014 (%)
Appomattox	8.0	-4.8	-1.4	-0.5	-0.3
HFRI FOF: Conservative Index	5.7	-0.4	1.9	1.5	1.7

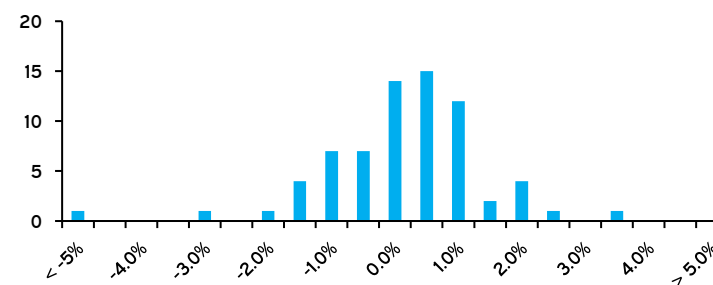
5 Year Risk Summary

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
Appomattox	7.1	-0.23	-14.9	26	-	-
HFRI FOF: Conservative Index	4.1	0.08	-7.6	2	1.66	0.95
91 Day T-Bills +3%	0.2	12.71	0.0	0	-4.39	-0.15
S&P 500	14.8	0.65	-19.6	3	0.34	0.69
S&P/LSTA Leveraged Loan TR	6.9	0.25	-13.5	2	0.93	0.90

Geographic Exposure Allocation (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
North America	85	80	81	81
Developed Europe	10	12	11	12
Emerging Markets	5	7	2	1
Developed Asia	0	0	6	6

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	138	151	144	133
Gross Long Exposure	102	103	103	89
Gross Short Exposure	36	48	41	44
Net Exposure	67	56	63	45

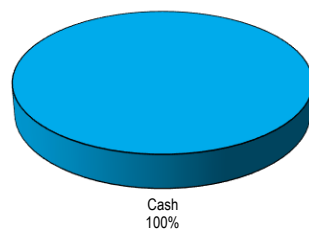
Return Distribution



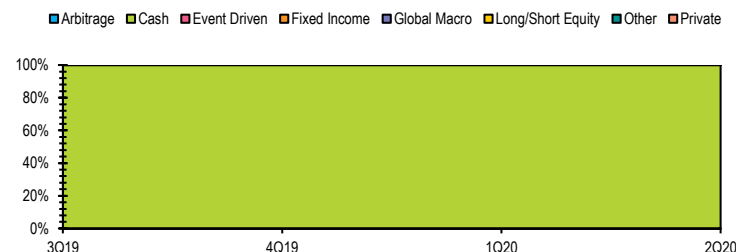
Account Information

Mandate:	Hedge Fund, Fund of Funds
Market Value:	\$5.7 M
Portfolio Manager:	Team
Location:	New York, NY
Inception Date:	10/1/2014
Account Type:	Separately Managed
# of Investments:	Not Provided
Fee Schedule:	0.40% Management Fee

Instrument Allocation



Historical Strategy Allocations



Portfolio Performance Summary

	2Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 10/2014 (%)
Appomattox (Restructuring)	-0.3	-1.3	-2.1	-1.1	-0.8
HFRF Fund of Funds Composite Index	7.9	0.5	2.3	1.5	1.9

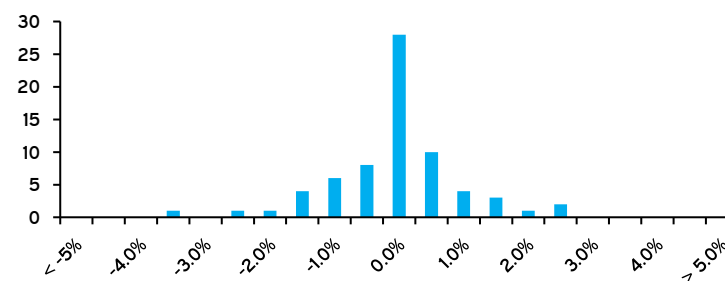
5 Year Risk Summary

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown	Max Drawdown Length	Beta	Correlation
Appomattox (Restructuring)	3.3	-0.67	-7.7	21	-	-

Geographic Exposure Allocation (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Emerging Markets	0	0	0	0
North America	0	0	0	0
Developed Europe	0	0	0	0
Developed Asia	0	0	0	0

Exposure Report (%)	6/30/2020	3/31/2020	12/31/2019	9/30/2019
Total Gross Exposure	0	0	0	0
Gross Long Exposure	0	0	0	0
Gross Short Exposure	0	0	0	0
Net Exposure	0	0	0	0

Return Distribution



Thomas Welles Fund Portfolio

Appomattox	
Benchmark	HFRI Fund of Funds Conservative
Target Return	13-Week T-Bills +300
Target Volatility	< 5%
Risk Management	
Target Beta	.35 (S&P 500 & S&P/LSTA Leveraged Loan Index)
Target Correlation	.80 (S&P 500)
Maximum Drawdown	Monthly: N/A Cycle (3-5 Years): N/A
Manager Concentration	
Minimum	7
Maximum	20
Strategy Concentration	
Minimum	N/A
Maximum	30%
Liquidity	
Weekly	
Monthly	
Quarterly	50%
Semi-Annual	
Annual	80%
>Annual	90%
Side Pockets (Max)	10%

Disclaimer, Glossary, and Notes

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SI: Since Inception

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

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

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

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

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

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

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

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

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

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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

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

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

Risk Mitigating Strategies

Strategy Overview

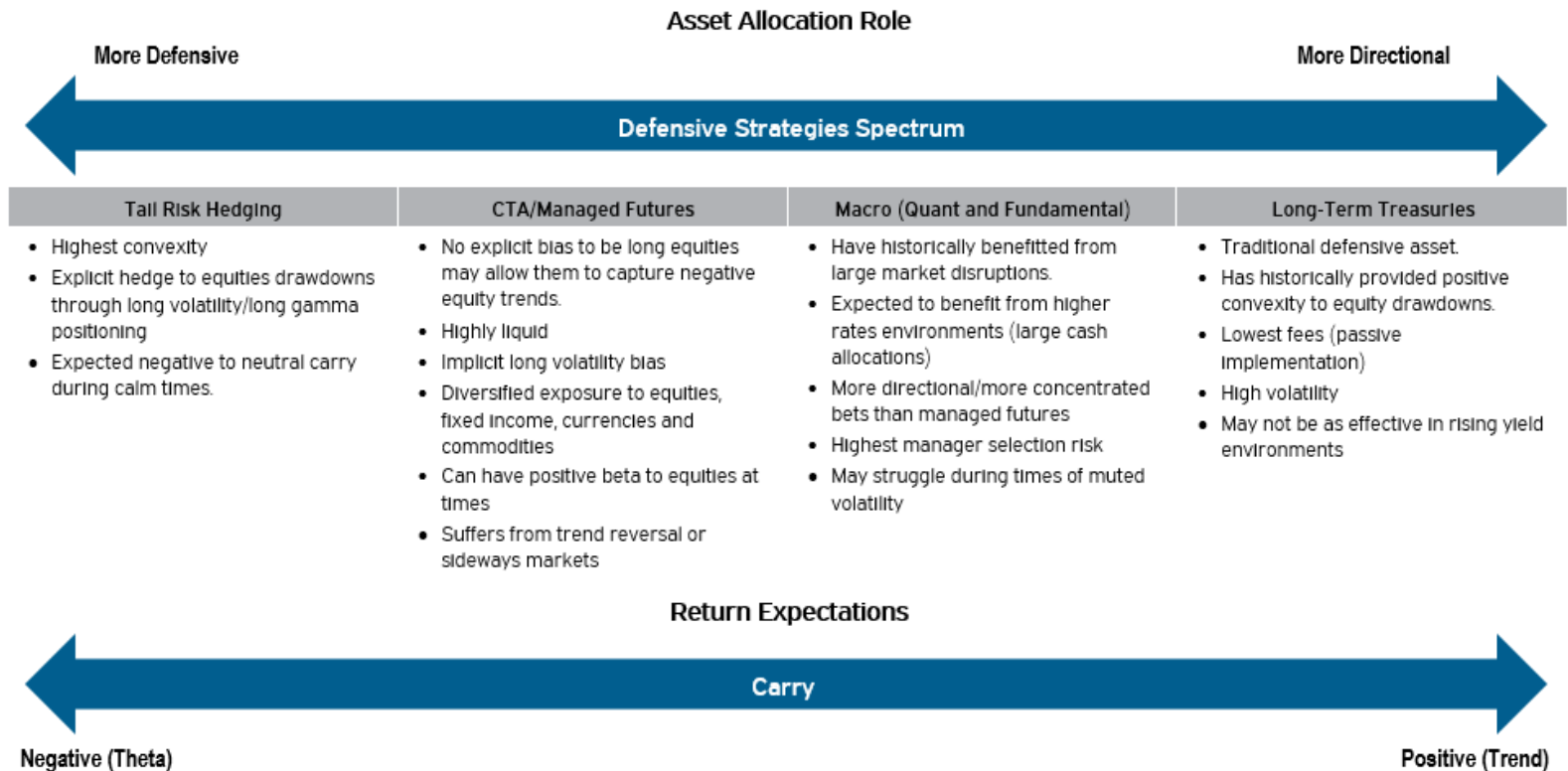


Risk Mitigating Strategies

RMS Overview

Risk Mitigating Strategies – Defensive Spectrum

- Portfolio of strategies that attempt to provide diversification to an overall institutional portfolio and protection against equity market downturns.





Risk Mitigating Strategies

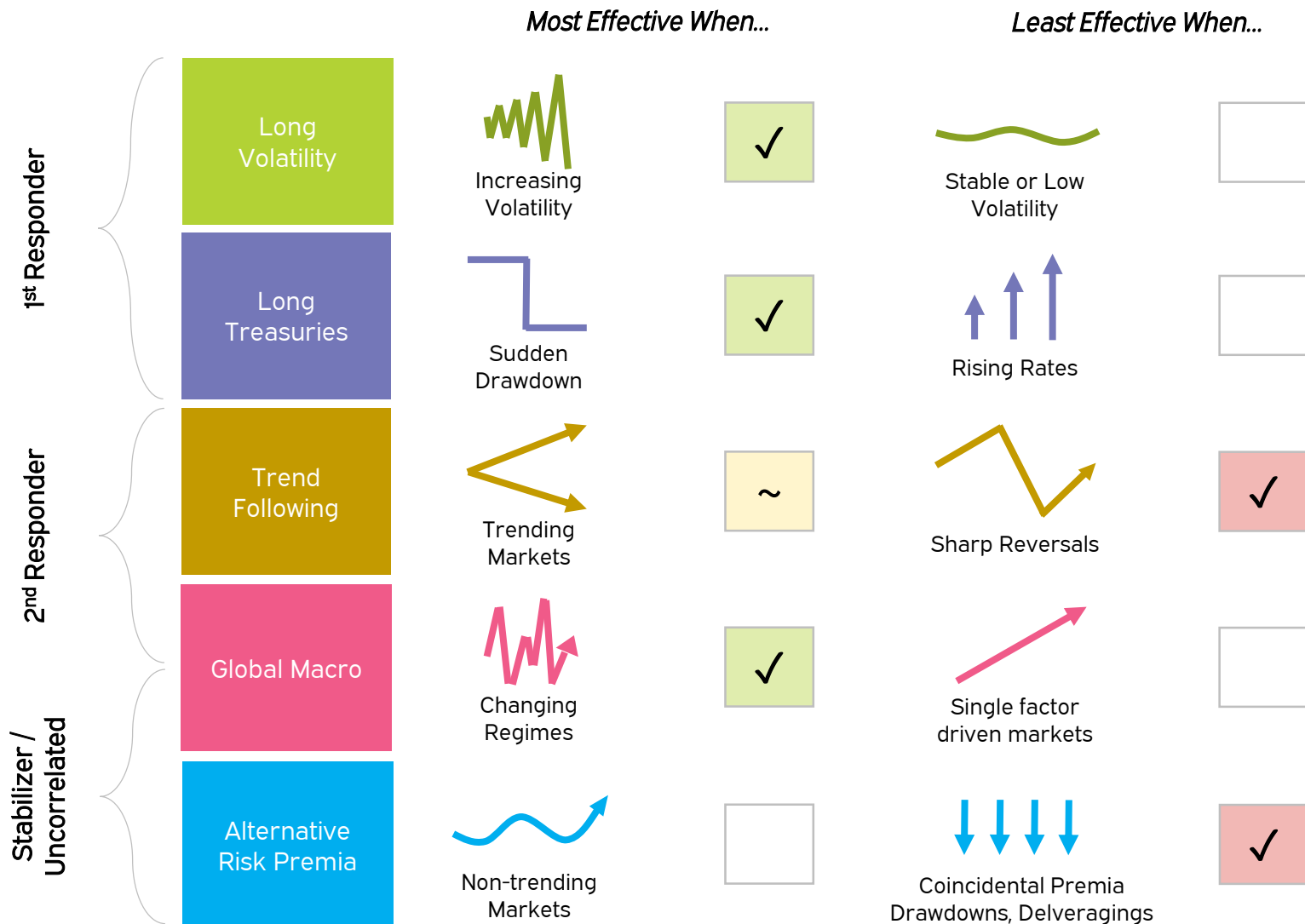
RMS Overview

1. Designed to mitigate large total portfolio risks
 - Most often *Growth Risk* (most portfolios' largest risk)
 - Provide significant positive returns during a *Growth Risk* crisis
 - Maintain a very low correlation to *Growth Risk* on average
2. Practical implementation
 - Desire positive returns when equities decline substantially
 - Positive expected standalone return to risk
 - Provide meaningful diversification / impact
3. Potential Components
 - Long-Term U.S. Treasuries
 - Trend Following
 - Global Macro
 - Alternative Risk Premia
 - Long Volatility



Risk Mitigating Strategies

RMS Overview





Risk Mitigating Strategies

RMS Overview

Risk Mitigating Strategies

- Trailing 10-year performance shows that RMS strategies have been able to provide attractive defensive characteristics with risk adjusted returns comparable to equities.

Risk Table^[1]
January 2005 – March 2020

	MSCI ACWI	Long-Term Treasuries	Global Macro	Trend Following	Long Volatility
Annualized Compounded Return	5.6	7.8	3.0	2.3	5.2
Standard Deviation	15.6%	14.5	4.6	5.2	8.5
Sharpe Ratio (Rf = 0)	0.28	0.44	0.36	0.19	0.46
Max Drawdown	-54.6%	-25.9%	-8.0%	-9.9%	-28.6
Gain/Loss Ratio	0.87	1.32	1.48	1.25	2.05
Skewness	-0.88	0.56	0.22	0.37	3.60
Kurtosis	2.56	2.34	0.07	0.38	23.86
Beta – MSCI ACWI		-0.32	0.10	0.02	-0.23
Upside Market Capture (%) – MSCI ACWI		-8.4	17.8	11.7	-4.0
Downside Market Capture (%) – MSCI ACWI		-80.3	12.5	6.3	-48.2

^[1] Long-Term Treasuries proxied by Barclays U.S. 30 Year Treasury Bellwether index, Global Macro by HFRI Macro (Total) Index and Trend Following by Barclay CTA Index.



Risk Mitigating Strategies

RMS Overview

Risk Mitigating Strategies

- Defensive capabilities were achieved during the Global Financial Crisis.

Risk Table During Global Financial Crisis^[1] September 2007 – March 2009

	MSCI ACWI	Long-Term Treasuries	Global Macro	Trend Following	Long Volatility
Annualized Compounded Return	-32.7%	14.9%	6.8%	19.6%	30.8%
Standard Deviation	24.7%	15.6%	6.0%	12.6%	11.6%
Sharpe Ratio (Rf = 0)	-1.45	0.97	1.11	1.49	2.40
Max Drawdown	-54.9%	-9.6%	-4.9%	-7.8%	-5.0%
Average Monthly Gain	4.1%	3.4%	1.9%	3.8%	3.4%
Average Monthly Loss	-7.1%	-2.5%	-0.9%	-2.2%	-1.8%
Skewness	-0.52	0.54	0.41	0.07	0.30
Kurtosis	0.12	2.02	-0.02	-0.88	1.30
Beta – MSCI ACWI	1.00	0.15	0.04	-0.10	-0.04
Up Period Percent – MSCI ACWI	100.0%	71.4%	71.4%	71.4%	71.4%
Down Period Percent – MSCI ACWI	100.0%	41.7%	58.3%	41.7%	16.7%

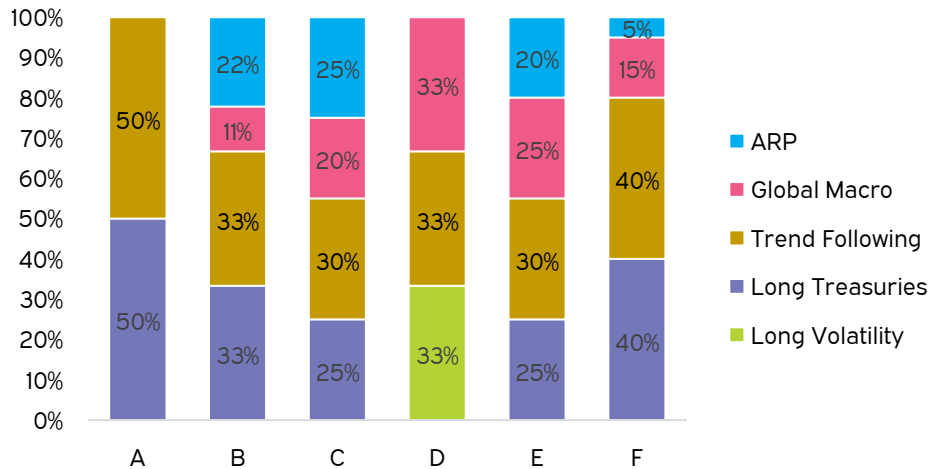
^[1] Long-Term Treasuries proxied by Barclays U.S. 30 Year Treasury Bellwether index, Global Macro by HFRI Macro (Total) Index and Trend Following by Barclay CTA Index.



Risk Mitigating Strategies

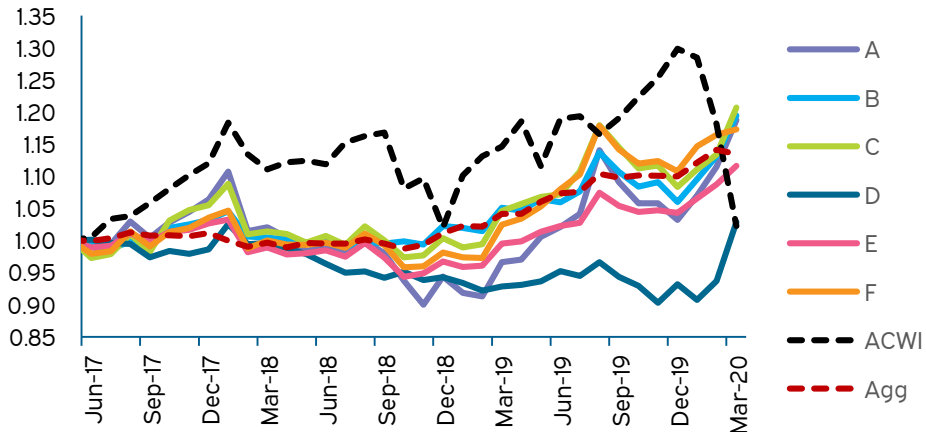
RMS Overview

RMS Class Constructions

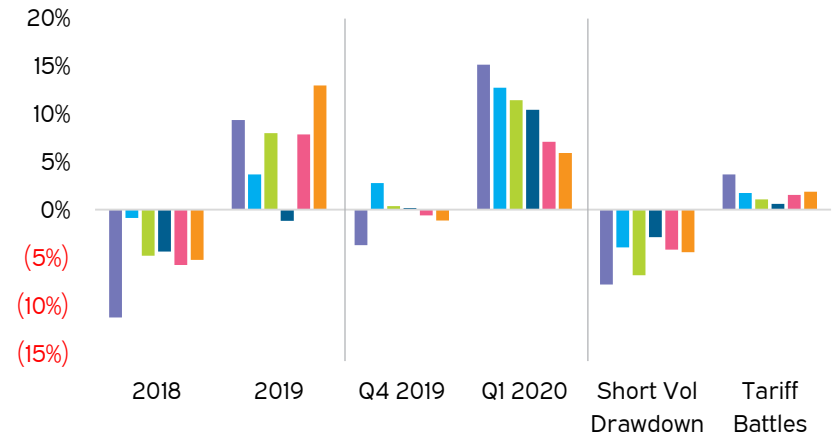


- Clients use various RMS constructions customized to solve for each clients unique end goal
- Most structures combine strategies across each of the three groups of components
- Q1 2020 performance was strong regardless of the structure

Growth of \$1



RMS Class Performance

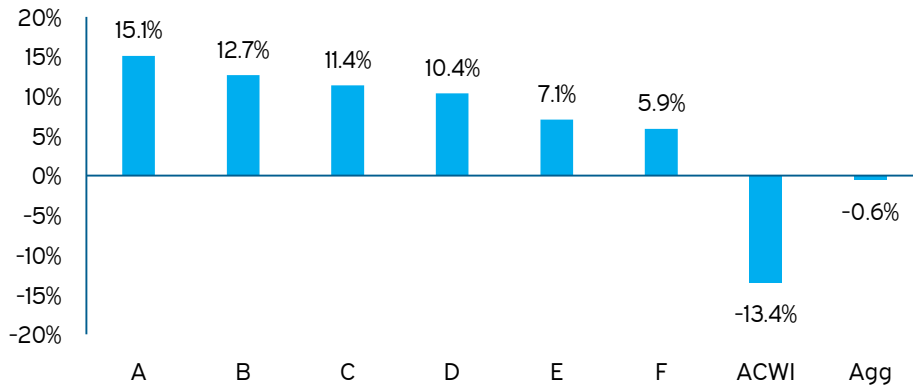




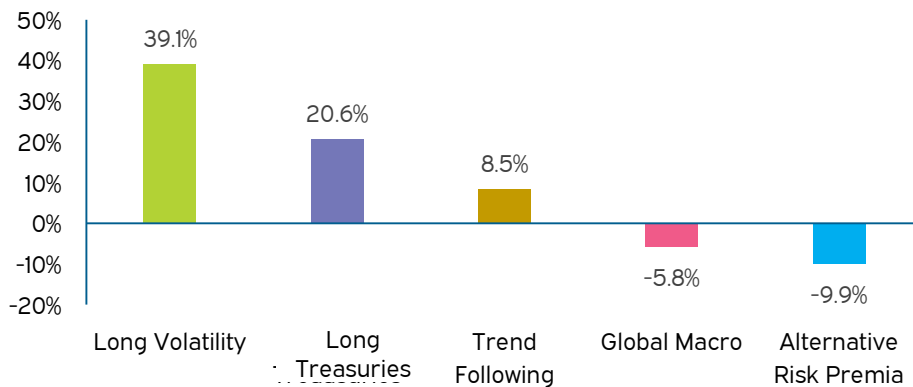
Risk Mitigating Strategies

RMS Overview

Q1 2020 RMS Class Returns



Median Meketa Manager Q1 2020 Return



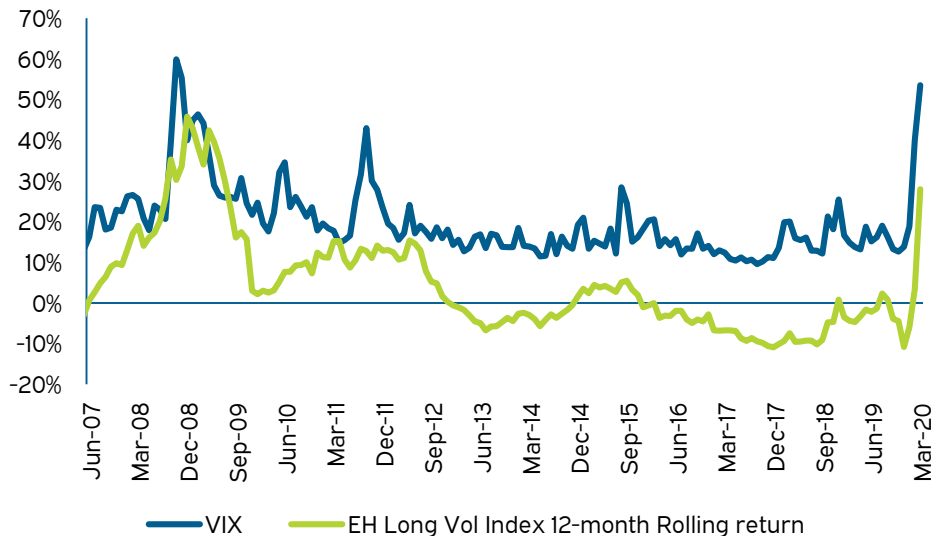
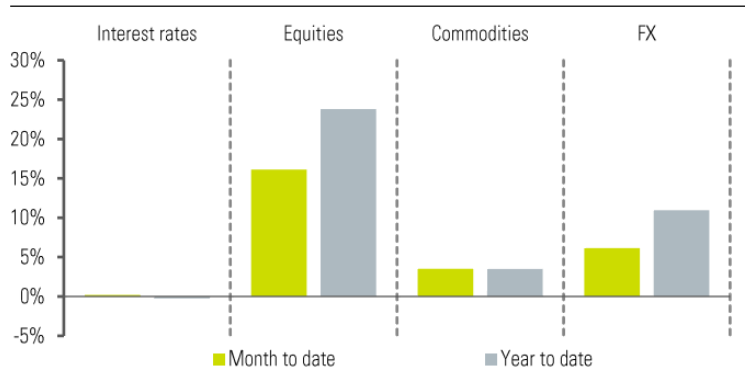
- RMS classes on average produced high single to low double digit returns in Q1 2020
- Validation of class concept with material outperformance relative to Global Equities and Core Fixed Income
- Long Volatility produced strong positive returns
- Long Treasury allocations contributed the most to RMS class performance given sizing within most RMS portfolios
- Most trend following implementations were also additive to RMS portfolios
- Global Macro and Alternative Risk Premia were main detractors from performance during Q1



Risk Mitigating Strategies

Long Volatility

Manager A
March 2020 Est. Performance Attribution



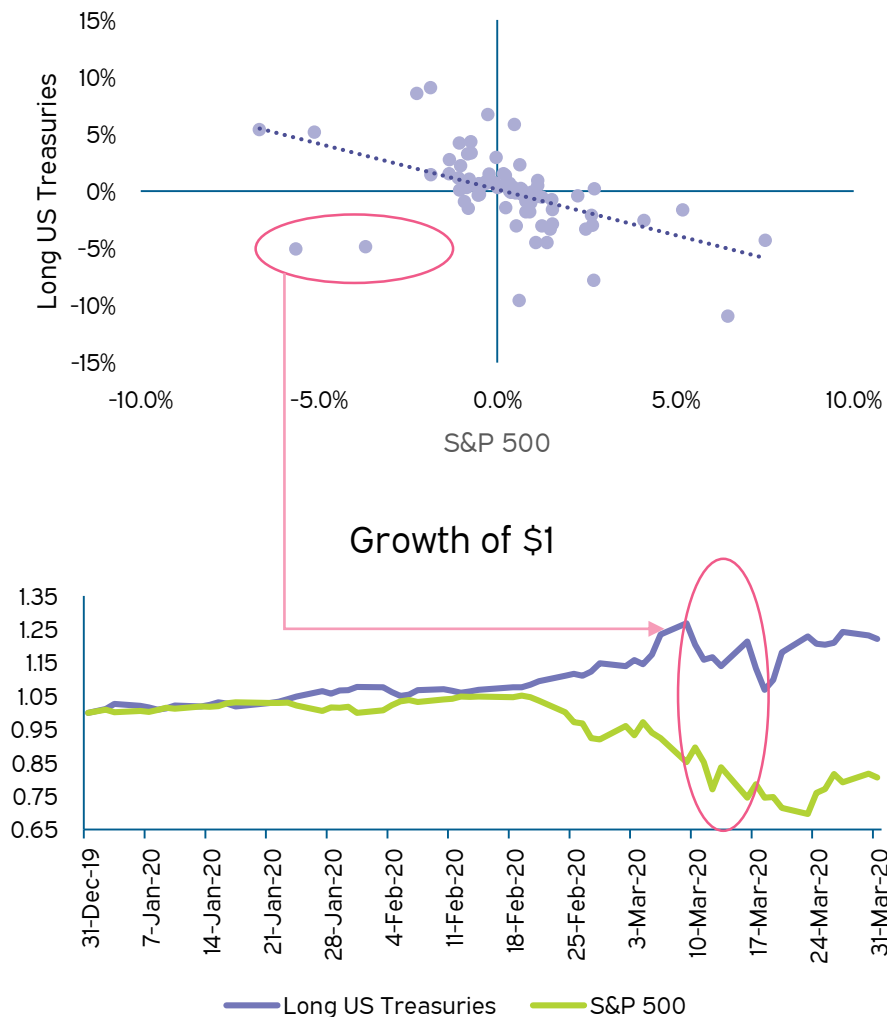
- Long Volatility benefited from rising volatility across all asset classes
- The majority of gains were driven by equity positions
- Performance was driven by March gains but February and January were also positive
- YTD 2020 has been the strongest period of performance since 2008
- Manager A allocation includes 30% allocation to Core fund and remainder in cash and bonds
- Manager A's Core Fund returned +131% in Q1 2020



Risk Mitigating Strategies

Long US Treasuries

2020 Daily Performance



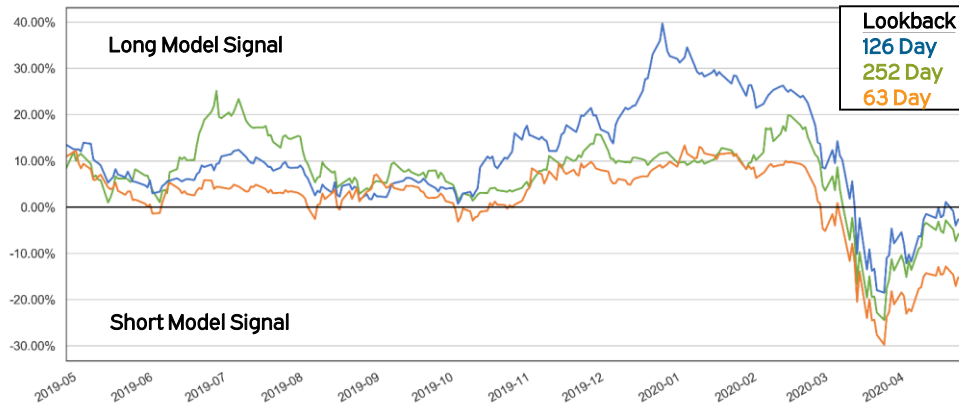
- “Flight to quality”
- Long US Treasuries drove gains in many RMS classes during Q1 due to portfolio sizing
- Most of the gains came between mid-February through March as equity markets fell
- Treasuries had a material negative correlation relative to equities
- Only exception was an ~5-day period in mid-March both equities and treasuries drew down
- 10-year yields fell from 1.92 to 0.70 in Q1 and have continued to compress in April (0.63 as of 4/29)



Risk Mitigating Strategies

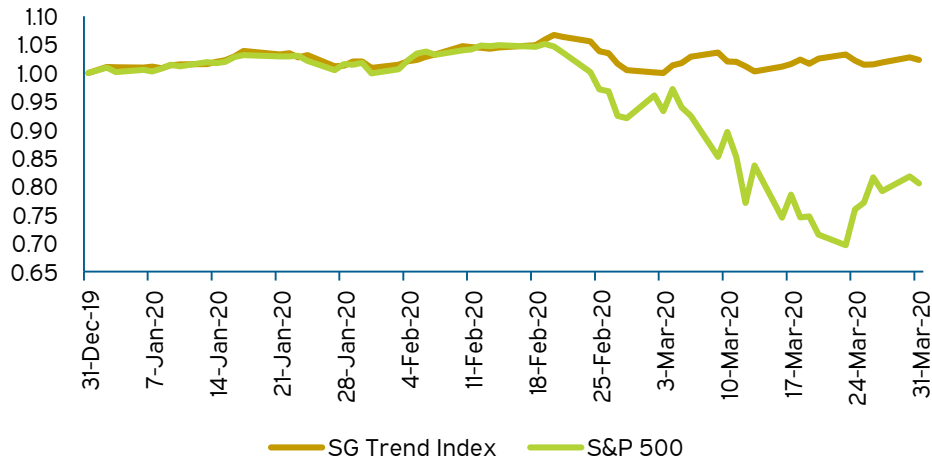
Trend Following

Term Structure of Momentum: S&P 500



Source: NewFound Research

Growth of \$1



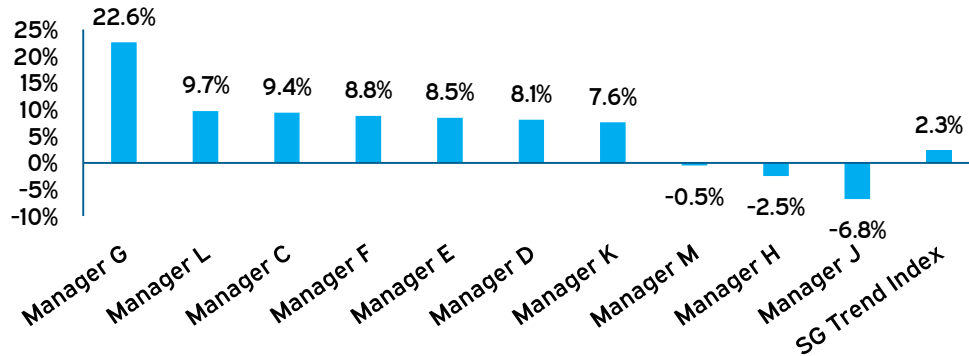
- Most trend following manager produced strong positive performance in Q1 2020 with much of the gains occurring in March
- However, there was significant dispersion across managers from +22% to -6% YTD
- Much of the dispersion was driven by the speed / time horizon of the models employed by different managers
- Shorter lookback (faster) models drove much of the dispersion across managers
- Many models have reduced equity short positions and are flirting with turning positive on equities
- As a whole, trend followers exceeded expectations given the depth and speed of the equity decline



Risk Mitigating Strategies

Trend Following

Q1 Estimated Manager Performance



Est. Average Manager Positioning

Signal

Asset Class		Long	Short
	Equities	n/a	All
	Currencies	Yen, Swiss Franc	Euro, Pound, AUD, NZD, CAD, MXN
	Fixed Income	US, UK, Australia, Germany	Japan
	Commodities	Gold, Wheat	Oil, Gas, Silver, Copper, Meats, Corn, Soy, Coffee

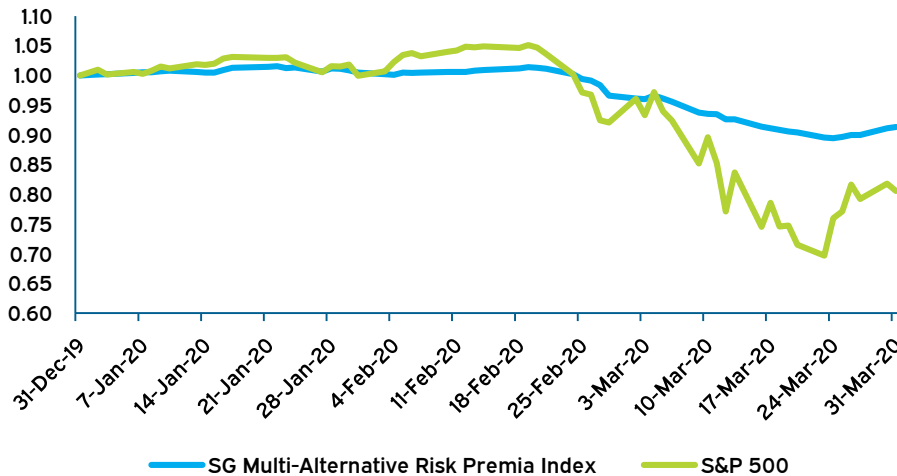
- Most managers produced positive performance in the 6-10% range
- Manager G was a significant outlier driven by faster models and portfolio breadth
- Much of the gains were driven by being long safe haven assets that appreciated (e.g. long treasuries)
- There was significant dispersion in attribution across commodities and equities driven by portfolio sizing and signal speed
- Current positioning: most managers are short equities, long fixed income, and short commodities
- Added value from manager selection



Risk Mitigating Strategies

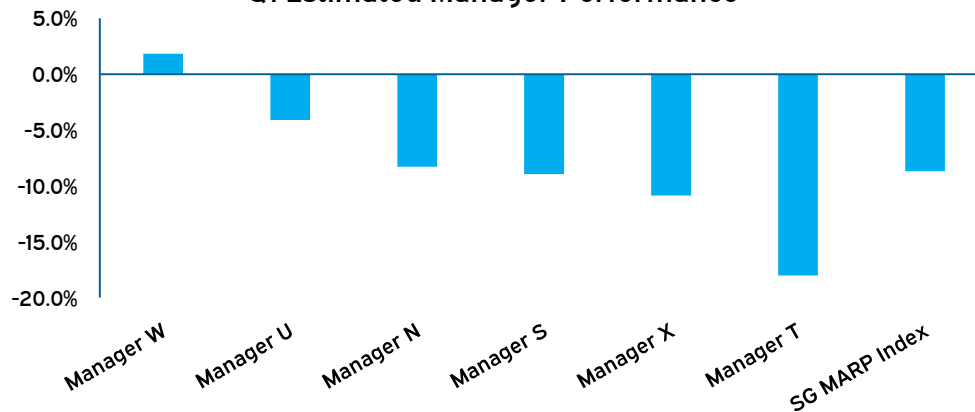
Alternative Risk Premia

Growth of \$1



- The industry on average produced returns in the range of -6% to -18%
- Losses mainly occurred from mid-February through mid-March coincident with the major equity drawdown period
- While within absolute expectations, this was a disappointing outcome on for the industry
- Performance was impacted materially by coincidental Premia drawdown and market deleveraging
- That said, there were positive outliers in the +/- 5% range YTD
- Managers with core (no trend or vol) implementations performed better on average

Q1 Estimated Manager Performance





Risk Mitigating Strategies

Alternative Risk Premia

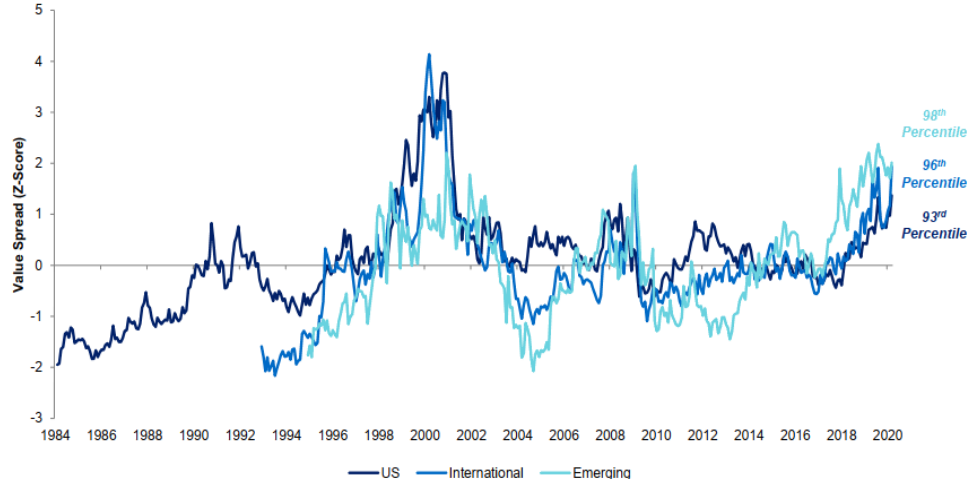
Manager S Fund Q1 2020 Estimated Attribution
Note: Broadly representative of industry performance

	Stocks & Industries	Equity Indices	Fixed Income	Currencies	Commodities	Total
Value	-14.7%	0.6%	5.4%	-2.9%	-3.4%	-15.0%
Momentum	6.5%	1.0%	3.5%	3.8%	1.8%	16.5%
Carry	-	0.5%	-5.0%	-2.9%	-2.0%	-9.4%
Defensive	5.1%	-3.0%	-3.1%	-	-	-1.1%
Total	-3.1%	-1.0%	0.8%	-2.1%	-3.6%	-9.0%

Source: Manager S

- Macro premia outperformed micro premia (single name equities)
- Fixed income as an asset class posted positive performance but did not make up for losses concentrated across both equities and currencies
- Strong positive Momentum performance was not enough to offset losses in Value and Carry
- Commodities performance was a point of significant differentiation
- Risk management / portfolio construction practices also drove performance dispersion

Hypothetical Industry-Neutral Stock Selection Value – Value Spreads
January 1, 1984 – March 31, 2020



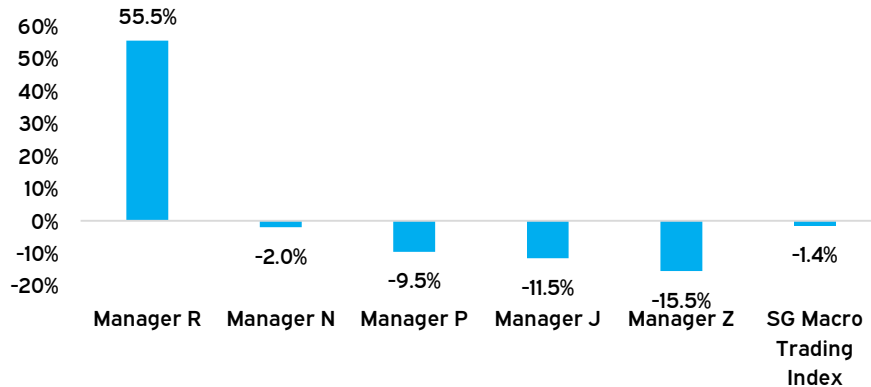
Source: Manager S



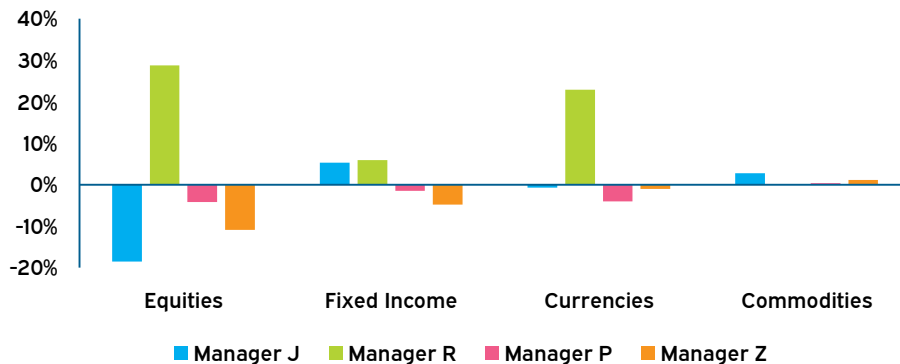
Risk Mitigating Strategies

Global Macro

Q1 Estimated Manager Performance



Q1 Estimated Performance Attribution



- Q1 2020 saw significant dispersion in performance across global macro managers both systematic and discretionary
- Many managers held up well in Q1 given the market environment
- However, manager selection risk was highlighted with dispersion across managers and the underlying drivers of performance
- Long or short positioning on equities during Q1 was the largest contributor to performance for most managers
- Significantly more dispersion across directional strategies relative to market neutral implementations



Risk Mitigating Strategies

Pros:

- Reduce total portfolio volatility without necessarily compromising expected returns.
- Reduce impact of large market drawdowns in a more predictable way than just relying on bonds.
- Expected to provide positive returns during equity market drawdowns¹.
- Provides access to differentiated/alternative sources of returns
- Highly customizable: different structures can provide different “levels” of defense.

Cons:

- Opportunity costs during equity bull markets if RMS is funded from equities.
- Manager selection risk in active strategies.
- No strategy is a perfect hedge:
 - Long-term Treasuries adds considerable duration to a portfolio, which can erode returns in an environment where yields are expected to rise.
 - Macro: subject to style drift/manager risk (discretionary) and model risk² (quantitative).
 - Trend-following defensive capabilities are contingent on the path of the drawdown. These strategies are susceptible to quick and high magnitude drawdowns (trend reversals).
 - Tail risk hedging/Long Volatility: most direct hedge, yet it is generally very expensive (negative carry).
 - Alternative Risk Premia: least defensive strategy by design but should provide positive carry and low correlations to traditional assets over the long term.

¹ Definition of drawdown is important to success of the strategy.

² Model risk in this context refers to the risk that strategy will underperform because its investment models/systems do not behave as expected during stress scenarios.



State of Connecticut
Office of the Treasurer

SHAWN T. WOODEN
TREASURER

September 3, 2020

Members of the Investment Advisory Council ("IAC")

Re: **Waterton Residential Property Venture XIV, L.P.**

Dear Fellow IAC Member:

At the September 9, 2020 meeting of the IAC, I will present for your consideration an investment opportunity for the Real Assets Fund in the Connecticut Retirement Plans and Trust Funds (the "CRPTF"): Waterton Residential Property Venture XIV, L.P. ("Waterton XIV" or the "Fund"). This opportunity is sponsored by Waterton Associates, a Chicago-based a real estate investment and property management firm focused on the multifamily sector.

I am considering a commitment of up to \$100 million to the Fund which presents an opportunity for CRPTF to generate value-add returns in a sector that has proven to be resilient and defensive. Waterton XIV will employ a value-add strategy, targeting multifamily properties in diverse markets across the U.S. The firm will leverage its industry networks to source investments that meet the fund's investment return objectives, including direct multifamily acquisitions, debt secured by multifamily properties, and multifamily asset recapitalizations. With a deep team and strong asset management capabilities, the Fund is well positioned to take advantage of attractive value add opportunities in the sector.

Attached for your review is the recommendation from Laurie Martin, Chief Investment Officer, and the due diligence report prepared by NEPC. I look forward to our discussion of these materials at next week's meeting.

Sincerely,

A handwritten signature in blue ink, reading "Shawn T. Wooden".

Shawn T. Wooden
State Treasurer

OFFICE OF THE STATE TREASURER
MEMORANDUM



DECISION

TO: Shawn T. Wooden, Treasurer

FROM: Laurie Martin, Chief Investment Officer

CC: Darrell V. Hill, Deputy Treasurer
Raynald D. Leveque, Deputy Chief Investment Officer
Danita Johnson, Principal Investment Officer
Kevin J. Cullinan, Chief Risk Officer

DATE: July 27, 2020

SUBJECT: Waterton Residential Property Venture XIV, L.P.

Summary

The purpose of this memorandum is to recommend that the Connecticut Retirement Plans and Trust Funds (the "CRPTF") consider a commitment of up to \$100 million to Waterton Residential Property Venture XIV, L.P. ("Waterton XIV" or the "Fund"). The general partner of the Fund is Waterton Venture XIV GP, L.L.C. ("GP"), an affiliate of Waterton Associates L.L.C. ("Waterton" or "the Firm"). Waterton, headquartered in Chicago, IL, is a real estate investment and property management firm focused on the multifamily sector.

Waterton is targeting a \$1.25 billion fund size and seeks to invest across a spectrum of multifamily rental opportunities in major markets throughout the United States. The fund held a first close on May 26, 2020 with \$655 million of capital commitments and expects to have a final close on or around September 30, 2020.

Strategic Allocation within the Real Assets Portfolio

The Fund's strategy falls under the real estate allocation of the Real Assets Fund ("RAF"). As of March 31, 2020, the CRPTF's total real estate allocation by market value was 7.1%, which is underweight the policy target allocation of 10%. Pension Funds Management ("PFM") Investment Staff and the CRPTF Real Estate Consultant, NEPC, believe that an investment in Waterton XIV is in line with the pacing and strategic plan to maintain steady commitments to the real estate sector and to bring the core strategy allocation within the policy range by making additional commitments to value-add and opportunistic strategies. The fund's strategy, detailed below, is an opportunity for the RAF to generate value-add returns in a defensive strategy with the potential to provide stable cash yield.

Overview

David Schwartz and Peter Vilim founded Waterton in 1995 to invest in multifamily value-add strategies. The co-Founders have over 30 years of experience in the multifamily sector including acquiring, repositioning, managing, financing, and selling properties in both public and private equity vehicles. Prior to launching Waterton, the two had worked together at AMLI Realty Company, a publicly traded real estate investment trust focused on the multifamily sector. In January 2017, Peter Vilim semi-retired from the firm and assumed the role of Vice Chairman in order to spend more time on philanthropic and civic activities focused on eliminating homelessness.

and providing affordable housing. Mr. Vilim continues to serve in a leadership and advisory role, participating on the firm's Management, Investment and Valuation Committees. David Schwartz, and the firm's 8-member senior management team maintain primary responsibility for the firm's operations and collectively make decisions regarding the firm's direction and investment program. The other members of the senior team are Rick Hurd, Chief Investment Officer; Erin Ankin, General Counsel; Lela Cirjakovic, Executive Vice President, Operations; Philip Lukowski, Executive Vice President, Chief Portfolio Manager; Tara Marszewski, Chief Financial Officer; and Michelle Wells, Executive Vice President, Investor Relations. They average over 28 years of real estate experience -13 years with Waterton - and have invested in and managed properties in most major markets across the United States.

Waterton's vertically integrated platform, including its wholly owned property management firm, Waterton Residential, currently employs 144 professionals at its headquarters and over 500 professionals on onsite operations teams. With seven regional teams located in Atlanta, Dallas, Houston, Los Angeles, Miami, New York, and San Diego, the firm's platform allows the investment team to broadly monitor conditions and developments across key U.S. markets. This local presence provides "real time" operating information that is instrumental to the team's investment process with respect to sourcing, underwriting and selecting new acquisitions. The regional teams are established and relocated on an as-needed basis dependent on the firm's asset concentrations and market focus.

Investment Strategy

Consistent with Waterton's overall investment strategy, Waterton XIV will employ a value-add strategy, targeting multifamily rental investments in diverse markets across the U.S. The firm will leverage its industry networks to source investments that meet the fund's investment return objectives, including direct multifamily acquisitions, debt secured by multifamily properties, and multifamily asset recapitalizations. The Fund is targeting a net 12%-13% IRR, and a 1.5x-1.7x equity multiple, with stabilized annual current income of 4%-6%. Consistent with the predecessor funds, Waterton expects to acquire assets evenly throughout the three-year investment period, averaging 15-20 acquisitions per year at a \$75 million average purchase price and an underwritten five-year hold period. The fund has several guidelines in place to create a diversified, risk-adjusted portfolio including a limit on portfolio leverage at 65% (greater of cost or fair value).

Waterton will continue its focus on markets and submarkets with higher barriers to entry and favorable long-term fundamentals. Utilizing local knowledge, combined with internal and external research, Waterton's acquisition team targets markets that it believes demonstrate superior potential. Characteristics that raise markets to Waterton's "buy" list include positive employment growth, better than average rental growth potential, greater demand forecast, lower levels of new competitive product, and/or significant pricing below replacement cost. Within the target markets, which include the top 30 U.S. metropolitan areas by population, Waterton expects to allocate equity commitments across four primary strategies: traditional value-add; middle income housing; market and capital dislocations; and other cycle-specific strategies.

With an average rent across the existing portfolio of \$1300 monthly, Waterton targets class B, middle-market investments in garden style, mid-rise and high-rise multifamily communities. The value add strategy targets properties that Waterton believes are operating below a stabilized level and are either in need of physical improvements to compete more effectively; suffering from property level mismanagement, and/or have owners who are in economic distress. After acquisition, the team seeks to add value through a combination of professional management,

correction of deferred maintenance, physical property improvement and recapitalization. In addition, the fund will target investments positioned to meet the unmet demand for affordable, middle income housing, particularly in the primary renter age cohort of 20-34 year-olds. Waterton's research indicates that a significant portion of new supply has been developed for higher income households and is contributing to the imbalance between the supply and demand for middle income housing.

Within the opportunistic strategy, the fund will target distressed opportunities, including investments located in healthy markets that are experiencing temporarily dislocated economic and/or financial conditions, condo reversions, adaptive reuse opportunities, and distressed development projects for which the team believes the risk is significantly mitigated. The fund may also opportunistically invest in certain cycle specific opportunities, such as portfolio acquisitions, positions in publicly traded multifamily REITs, discounted loan purchases, and investments in debt securities. The team has acquired several debt investments in prior vehicles and underwrites investments in debt positions for either yields meeting investment return mandates or loans leading to ownership of the underlying property.

Portfolio Management

Waterton seeks assets that are undercapitalized and mismanaged. The firm believes these deficiencies create opportunities for the team to manage properties to a higher standard and to improve the renter experience, leading to higher retention ratios. To implement this strategy, Waterton's portfolio management team develops an initial business plan for each investment at the time of acquisition. Subsequently, annual business plans and "hold/sell" analyses are completed and developed which then becomes the benchmark for expected operating results. To streamline the process, the firm utilizes a variety of technological resources to manage all aspects of property operations, including web-based property management software and reporting systems, measurement tools and benchmarking.

In order to further improve resident satisfaction and tenant retention, in 2015, Waterton began to incorporate hospitality service practices into its multifamily operations through a proprietary training and service program. The program, referred to as Resitality is focused on bringing a high level of service to the firm's residential communities to ensure that residents remain satisfied while initiatives to enhance the physical asset are being implemented. The success of Resitality is demonstrated in above average resident satisfaction and a high level of retention for Waterton's properties as measured by resident satisfaction and feedback services firms, SatisFacts and ApartmentRatings.com. Further, at the onset of the COVID-19 crisis, Waterton implemented protocols to ensure the health and safety of its tenants. The firm has also developed a support plan for residents impacted by COVID-19 including, encouraging and providing direction on use of federal, state and local resources and providing options for rent payment plans and deferrals.

Market Opportunity

The multifamily sector provides investors with stable, income-oriented returns with minimal capital requirements compared to other sectors. As a need-based asset class, apartments in healthy markets are typically positioned to withstand periods of slowdown better than most other commercial real estate sectors. According to NCREIF (National Council of Real Estate Investment Fiduciaries), multifamily has consistently been one of the top-performing real estate sectors on a risk-adjusted basis over the last forty years.

Through the year end 2019, the multifamily sector remained on solid ground and continued to show favorable fundamentals across the nation. As of Q1 2020, net household formation growth in the U.S. was back on track after several years of sluggish growth following the 2008/2009 recession. The demand particularly from the prime-renter cohort (ages 25-34) has been robust as a result of high student loan balances, an inability to save for home down payments and a growing preference to rent. The strong demand for rental units is expected to continue in the next five years even with the aging of the millennial population into their mid-30s. It is also expected that demand will shift to the suburbs as young families move out of urban areas in search of more space and better school districts.

Housing production has not experienced a comparable recovery coming out of the downturn, and supply has not exceeded demand over the past eight years. With some exceptions in a few urban locations, supply has remained muted due to rising land and construction costs and skilled labor shortages. In addition, increased permitting and impact fees along with restrictive land use regulations in various locations have made many new residential development projects cost-prohibitive unless they cater to a high paying end user. As multifamily developers have focused on delivering higher-end apartments, this has led to a further supply/demand imbalance in the middle market segment of the U.S. housing market and created a deficit in affordable rental housing. This supply / demand imbalance is leaving the middle-income demographic underserved and creates an opportunity for Waterton to provide quality affordable housing to this large renter cohort. Further, the Class B apartment sector continues to lead in rent growth. Rents in the Class B space increased 3.8% year over year, and it is expected that the supply-constrained Class B segment will likely continue to lead growth as construction pipelines continue to tilt toward high end rentals.

While COVID-19 has created dislocation across the U.S. economy, as an essential sector, apartments have maintained high occupancy levels and have had the highest average rent collections of any major property type - 94.6 percent collections versus 97.7 percent in the prior year according to the National Multi-Family Housing Council's Rent Payment Tracker- indicating strong performance versus other sectors of the real estate market. Occupancy declines have been moderate with few move outs and a high rate of renewals, and in May/June, leasing activity improved with virtual and "socially distanced" tours in most markets. Despite positive occupancy rates and rent collections, concessions across multifamily are increasing as owners try to maintain market rents but face pricing competition. CoStar projects annual market rent growth of -0.1% and 1.2% in 2020 and 2021 respectively and physical vacancy is projected to increase from 6.5% as of Q4 2019 to between 7% and 8.5% by year-end 2021 as household formation. In addition, as unemployment stimulus payments end, employment losses are expected to disrupt demand, negatively impact values and create pricing inefficiencies in major markets nationwide. Waterton believes that this disruption will create opportunities for asset purchases at an attractive all-in basis.

In implementing the investment program for Venture XIV, Waterton will adjust underwriting assumptions using various scenarios to reflect positive and negative market expectations. The firm will continue to be selective about markets it chooses to invest in, seeking long-term employment and rental growth, lower levels of new competitive product, and/or significant pricing below replacement cost. Overall, the Fund expects that although multifamily will be impacted by the pandemic, it will provide stable cash flows and perform well relative to other sectors, as it has in prior downturns. They also expect that there will be attractive opportunities to acquire assets from owners who are over-levered and/or are not adequately capitalized to continue operating through a market downturn.

Track Record

From 1995-2010, Waterton managed separate accounts, joint ventures and other vehicles in partnership with various investors including family offices, endowments, real estate private equity firms and pensions funds. Prior to 2010, Waterton had not managed a commingled fund, but in 2010, seeking to diversify its investor base, the firm shifted its fundraising strategy and launched Waterton Venture XI, the firm's first in its Venture series of commingled funds.

From 1995 through December 31, 2019, Waterton has managed approximately \$3 billion of equity capital in 187 multifamily investments. Through December 31, 2019, Waterton has completed dispositions of 133 investments approximating \$1.6 billion of Invested Equity and achieved an aggregate net IRR exceeding 18.2%. Since 2014, Preqin has ranked the firm as one of the most consistently top performing managers in real estate with the majority of its eleven funds being ranked in the top quartile. Ventures XII and XIII are still in the process of implementing and or completing value-add business plans, and so distributions, although stable, have lagged upper quartile funds. Over the firm's history, only three realized investments notably underperformed and did not return an equity multiple of 1.0x; two of these investments were in Fund IX which was the vintage 2006/2007 fund prior to the 2008 financial recession.

Key Strengths

Deep and Experienced Team: Waterton's team has extensive experience in the multifamily sector and the demonstrated ability to leverage its network of industry relationships to source and acquire investment opportunities throughout a broad range of economic conditions including limited and off market transactions. As of March 31, 2020, Waterton owned and managed over 22,000 units in 13 states and employed over 500 on-site multifamily operations professionals. On average, Waterton's acquisition team preliminarily underwrites 600 deals annually. In the predecessor fund, Venture XIII, over two thirds of the real estate investments were sourced via limited competition/failed auction channels.

Vertical Integration: The Firm manages its multifamily investments through its vertically integrated property management subsidiary, Waterton Residential, L.L.C., which was formed in 1998. This on-the-ground presence provides efficiency and cost savings as it allows the team to have a greater level of control over revenue and expense management and to mitigate construction risks as it relates to cost over runs. In addition, the in-house property management platform allows the firm to implement its service standards across all properties in the portfolio.

Defensive Strategy: The multifamily sector, a need-based asset class, is a defensive property type that has been able to withstand periods of slowdown better than most other commercial real estate sectors. Further, investments in the multifamily sector have historically generated a greater portion of total return from cash flow versus appreciation relative to other real estate asset classes. With less capital required for upkeep, compared to other property types, apartments provide stable consistent returns during periods of unpredictability. In addition, the short-term nature of apartment leases – most leases turn over in a year or less – in conjunction with long-term financing at attractive rates, offers a hedge against inflation and provides an opportunity to enhance returns on equity.

Debt and Equity Investment Experience: Although Waterton is primarily an equity investor, the team has the proven ability to take advantage of debt opportunities arising out of financial market distress or dislocation. The firm has acquired a total of 23 debt positions as of December 31, 2019, including loan-to-own investments, yield to maturity investments and Freddie Mac CME (Capital Markets Execution) syndications. A total of 19 debt investments have been realized for a profit; 4 are unrealized.

Fee Structure: The fund's fee structure includes a reduced fee during the three-year investment period and no catch-up provision. In addition, at a commitment of \$100 million, CRPTF will be able to take advantage of a fee discount. Importantly, as there is capital remaining to be deployed in the prior vehicle, the firm will not charge commitment fees on Waterton XIV until the Fund is officially activated.

Risks and Mitigants

Affiliate Transactions: The firm's use of management and construction affiliates to provide certain services to properties within the fund. This structure poses a potential misalignment of interests between the General Partner and Limited Partners.

Mitigant - The use of affiliates is not uncommon with vertically integrated firms like Waterton, and as described in the preceding sections of this report, there are several advantages to this structure. The firm seeks to mitigate affiliated transaction risk by providing full transparency on rates and setting a flat fee at the launch of the fund which is adjusted downward for high revenue cities. In addition, the firm conducts an annual market survey of rates for commingled funds with similar strategies to ensure that rates are within market ranges.

Macro-Economic Environment: After the onset of COVID-19, the U.S. lost 21.4 million jobs over the months of March and April, according to data released in May by the Bureau of Labor Statistics. Although rent collections remained surprisingly high for those months and occupancy stable, in the absence of additional government financial support for renters in the form of further stimulus payments and/or unemployment support, a severe and prolonged downturn would negatively impact multifamily rent growth and income returns.

Mitigant - The necessity of multifamily and the significant housing shortage in the U.S. of both single family and multifamily provides some protection from the shock of a prolonged period of high unemployment. Although multifamily vacancies are expected to peak, according to Moody's Analytics, at 7.0% next year, and asking and effective rents to fall by around 4 to 5% over this year and next, the multifamily sector is expected to take some hits, but to fare relatively well – compared to other property types. Further, to provide relief to landlords, Fannie Mae and Freddie Mac have allowed owners to defer loan payments for 90 days by proving COVID-19 hardship. In exchange, landlords are prohibited from evicting a tenant for non-payment of rent during the forbearance period.

Key Person Risk: CEO and Chairman, David Schwartz leads the management team and has been instrumental in developing Waterton's investment philosophy, investment strategy, and firm culture. As NEPC's report notes, his departure could be disruptive to the operations of the firm and present a risk to its stability.

Mitigant – Key Person Risk is mitigated by the strong Key Person provisions in the fund documents that limit investment and governance risks. In addition, Waterton has a strong and stable 8-person management team and investment committee which votes unanimously on major decisions. This structure ensures consistency in the management of the Firm and Fund should a Key Person event occur.

While succession is not a near term concern, the Firm has developed a detailed succession plan if David Schwartz is unable to serve his duties and responsibilities. A longer-term succession plan has also been developed that reviews the senior leadership team and talent development opportunities amongst the team. The review of the executive team is updated bi-annually by the Co-Founders and Advisory Board with the help of Ferguson Partners.

Investor Advisory Committee

Waterton Venture XIV has an Investor Advisory Committee (“IAC”) appointed by the GP based on capital commitment size or other agreed upon terms. The IAC meets at least once annually to participate in fund, multifamily market performance updates as well as any General Partner announcements. As of the first close, the IAC is comprised of 7 members (6 voting and 1 observer) including three public pension funds, 3 U.S. insurance companies, 1 consultant and 1 sovereign wealth fund. At a commitment of \$100 million, CRPTF would have a seat on the Advisory Committee.

Economics/Fees

- Management Fees: 1.25% on aggregate capital commitments during commitment period. Thereafter, 1.5% on invested capital (except 1.0% on GSE debt investments). CRPTF is eligible for a commitment size fee discount
- Carried Interest: 20% over a preferred return
- Term: 10-year term with 3 one-year extensions
- Waterfall: Fund Level, no GP catchup.

Legal and Regulatory Disclosure (provided by Legal)

Through its disclosure, Waterton Associates LLC (“Waterton”), discloses the following legal matters:

- Waterton owns South Side Flats in Dallas, Texas, which was the site of a fatal shooting on September 6, 2018. In January 2020, the family of the deceased communicated with Waterton the family’s intent to file suit against Waterton. To date, the suit has not been filed and the statute of limitations period expires on September 8, 2020. Waterton maintains a general liability insurance policy which covers this property and an umbrella insurance policy which provides additional coverage. As a result of this incident, Waterton reviewed its policies, procedures and implemented a capital improvement plan for this property with safety measures.
- Waterton owns Plantation at the Woodlands in Houston, Texas. A fatal stabbing occurred at the Plantation on May 28, 2019. The incident involved a resident and a Waterton employee, who was later separated from Waterton. Waterton has not been named in a suit to date and the statute of limitations will expire in May 2021. Waterton believes it has strong defenses in this matter should a case be brought against it and maintains adequate insurance to cover a potential claim. As a result of this incident, Waterton implemented new training for all community managers and on-site teams to ensure the onsite teams keep

themselves and residents safe. The firm also notes that it continues to complete submarket and neighborhood diligence in advance of all acquisitions.

- In January 2020, a class action complaint was filed against Chase Knolls in Sherman Oaks, CA, which is owned by Waterton on behalf of Venture XI. The complaint alleges disruptions from the ongoing redevelopment construction. Waterton has not yet been served with the complaint and does maintain insurance to cover any potential claim.
- In December 2019, PT Chicago, LLC, which owns Presidential Towers was named in a class action suit under Chicago's Residential Landlord Tenant Ordinance. The Ordinance requires the disclosure of interest rates on security deposits, whether or not security deposits are taken by a landlord. Waterton had stopped requiring security deposits in Chicago under this Ordinance. Waterton did not include the interest rate disclosure. The issue has been corrected by Waterton in its systems. The firm maintains errors and omissions insurance with a \$5 million limit.

There are no ongoing internal investigations to report. Waterton states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

Compliance Review (provided by Compliance)

The Chief Compliance Officer's Workforce Diversity and Corporate Citizenship review is attached.

Environmental Social and Governance ("ESG") Analysis (provided by Policy)

The Assistant Treasurer for Policy's Evaluation and Implementation of Sustainable Principles review is attached.

COMPLIANCE REVIEW FOR WATERTON VENTURE IX

SUMMARY OF LEGAL AND POLICY¹ ATTACHMENTS

SUBMITTED BY

WATERTON ASSOCIATES, L.L.C.

I. Review of Required Legal and Policy Attachments

WATERTON ASSOCIATES L.L.C. (“Waterton”) a Chicago Illinois-based firm, completed all required legal and policy attachments. The firm disclosed no impermissible third party fees, campaign contributions, known conflicts, or gifts. Its disclosure of legal/ regulatory proceedings is being reviewed by the Legal Unit.

II. Workforce Diversity (See Also 3 year Workforce Diversity Snapshot Page Attached)

As of June 2020, Waterton employed 142, 11 less than the 153 employed as of December 2018. The firm identified 4 women and 0 minorities as Executive/Senior Level Officials and Managers, i.e., serving at the senior-most level. For the 3 year period 2017-2019, 3 minorities and 14 women were promoted within the ranks of professionals and managers.

Commitment and Plans to Further Enhance Diversity

Waterton is committed to expanding diversity in the workplace and in April 2019 completed and formalized its first diversity and inclusion plan. The plan’s goals include tracking candidate slates to ensure diverse candidates are included, developing metrics and utilizing a third party for manager trainings. All 2019 goals were achieved, including hiring a female CFO and adding a female minority advisory board member. In addition, 70% of the 2019 intern class was diverse and resulted in a post internship hire. The firm will continue to focus on diversity in 2020. Plans include beginning a mentorship/ sponsorship program, increasing trainings, and creating an inclusion and diversity committee to advise and measure progress.

Workforce Statistics

For Executive/Senior Level Officials and Managers:

- Women held 40% (4 of 10) of these positions in June 2020, down from 44% (4 of 9) in both December 2019 and December 2018.
- Minorities held 0% of these positions in all 3 years reported as follows: 2020 (0 of 10), 2019 (0 of 9) and 2018 (0 of 9).

At the Management Level overall:

- Women held 44% (44 of 100) of these positions in June 2020, down from 45% (44 of 98) in December 2019 and 50% (50 of 100) in December 2018.
- Minorities held 14% (14 of 100) (5% Asian, 1% Hispanic, and 8% Black) of these positions in June 2020, down from 16.3% (16 of 98) (6.1% Asian, 2% Hispanic, and 8.2% Black) in 2019, and 18% (18 of 100) (7% Asian, 3% Hispanic, and 8% Black) in December 2018.

At the Professional Level:

- Women held 36% (11 of 31) of these positions in June 2020, up from 33% (10 of 30) in December 2019 and 34% (12 of 35) in December 2018.
- Minorities held 38.7% (12 of 31) (3.2% Asian, 6.5% Hispanic, and 29% Black) of these positions in June 2020, up from 36.7% (11 of 30) (3.3% Asian, 6.7% Hispanic, and 26.7% Black) in 2019, but down from 40% (14 of 35) (14.3% Asian, 8.6% Hispanic, and 17.1% Black) in December 2018.

¹ The Treasury’s Policy Unit will prepare a separate Summary with respect to Waterton’s ESG submission.

Firm-wide:

- Women held 45% (64 of 142) of these positions in June 2020, down from 46% (65 of 140) in December 2019 and 52% (79 of 153) in December 2018.
- Minorities held 23.9% (34 of 142) (4.9% Asian, 2.8% Hispanic, and 16.2% Black) of these positions in June 2020, down from 24.3% (34 of 140) (5.7% Asian, 3.6% Hispanic, and 15% Black) in 2019, and 28.1% (43 of 153) (7.8% Asian, 4.6% Hispanic, and 15.7% Black) in December 2018.

III. Corporate Citizenship*Charitable Giving:*

Waterton believes that doing the right thing for employees, residents and communities leads to better results for all stakeholders. While Waterton's focus on philanthropy is promoted from the highest level of the organization. Its co-founder, Peter Vilim, in 2017 assumed the role of vice chairman to devote more of his time to philanthropic and civic organizations focused on ending homelessness and providing affordable housing. Waterton supports numerous charitable programs, including, All Chicago - Making Homelessness History, the NAACP Legal Relief Fund, Shelters to Shutters, The PREA Foundation, Project REAP USA, Toys for Tots and Warriors Speak. Waterton also encourages employee volunteerism. The Waterton Volunteer Time Off program grants each corporate employee 16 hours of paid time annually to volunteer with a registered 501(3)(c) organization. In addition, each year, the corporate team participates in a day of service within a Chicago community – working with Chicago CARES. Other programs include “Aligned”, an employee-led initiative that focuses on affordable housing, homelessness prevention and employment training programs. In early June 2020, as the country navigated the pain and frustration of deep rooted racism, Waterton founders made donations to the NAACP Legal Relief Fund and My Block, My Hood, My City.

Internships/Scholarships:

Waterton's internship program focuses on the development of young talent, while building the foundation for recruitment of new professionals to work for Waterton. Internship positions are offered throughout the firms' departments, and interns meet weekly with firm leaders to learn about the firm as a whole. Due to the COVID-19 pandemic, the 2020 internship program was canceled – however, the 2019 program participants was 63% women and 38% minorities. Waterton does not have any specific scholarship programs, but contributes to organizations that provide educational scholarships such as The PREA Foundation, of which Waterton is a founding sponsor. PREA aims to promote an institutional real estate investment community that is inclusive and accessible.

Procurement:

At this time, Waterton does not have a formal written procurement policy that prioritizes women-owned, minority-owned and/or emerging managers. However, “while we do work with such businesses and welcome the opportunity, we must prioritize economic results as a fiduciary to our current investors and commingled funds”.

**Summary of Responses to Attachment M:
Evaluation and Implementation of Sustainable Principles**

Submitted by Waterton Associates LLC

July 27, 2020

Firm has an ESG policy	No
If yes, firm described its ESG policy	N/A
Firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	No
Signatory/member of sustainability-related initiatives or groups	No
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	No, given that the firm only invests in multi-family housing and housing-related debt instruments.
Policy that requires safe and responsible use, ownership or production of guns	No, given that the firm only invests in multi-family housing and housing-related debt instruments.
Enhanced screening of manufacturers or retailers of civilian firearms	No, given that the firm only invests in multi-family housing and housing-related debt instruments.
Enhanced screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impacts	No
Merchant credit relationships with retailers of civilian firearms and accessories	N/A
If yes, firm confirms compliance with laws governing firearms sales	N/A
Overall assessment of responses (e.g., depth of approach to ESG and integration)	<p>While Waterton does not currently have an ESG policy, the firm disclosed that they recently established a committee to develop a formal policy, in conjunction with third party consultants. That said, the firm provided a solid explanation of how its Investment Committee considers ESG factors as part of the due diligence process, citing an energy audit it commissioned prior to implementing a capital improvement plan for a portfolio property.</p> <p>With respect to firearms, the firm does not have a policy given its investment focus on multifamily housing.</p> <p>Notably, the firm disclosed that it does not conduct enhanced screening because it "does not have any current or prospective relationships with industries subject to increased regulatory oversight or any with potentially adverse social or environmental impacts."</p> <p>The firm's PPM cited several COVID-19-related factors impacting the housing market and, ultimately, its investment strategy, including the potential for negative rent growth and implications of continued moratoria on evictions and disclosures and other rent regulations. This additional information suggests that the firm has a good orientation around risks specific to the housing sector.</p>
<p>SCORE:</p> <p>Excellent - 1 Detailed description of ESG philosophy and integration; ongoing ESG assessment; established framework; member of sustainability-oriented organizations; enhanced screening of firearms and/or higher-risk sectors</p> <p>Very Good - 2 Detailed description of ESG philosophy and integration; ongoing ESG assessment; established framework; member of sustainability-oriented organizations</p> <p>Satisfactory - 3 General description of ESG philosophy and integration; some evidence of framework for ongoing ESG assessment; member of sustainability-oriented organizations</p> <p>Needs Improvement - 4 Generic and/or vague description of ESG philosophy and integration; no ongoing ESG assessment; no dedicated ESG staff or resources</p> <p>Poor - 5 Incomplete or non-responsive</p>	2

NEPC Private Markets Investment Due Diligence Report

Waterton Associates, LLC

Waterton Residential Property Venture XIV, LP

September 2020



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Executive Summary

Waterton Associates ("Waterton," the "Firm," or the "Manager") is targeting \$1.25 billion of investor commitments for Waterton Residential Property Venture XIV ("Fund XIV" or the "Fund"). Fund XIV will follow a similar investment strategy to its predecessor funds, targeting value-add real-estate investments in the multifamily sector. The Fund will make ~50 investments in the range of \$35 million to \$50 million in equity, diversified by geography across the US. The Fund will target a net internal rate of return ("IRR") in the range of 12%-13% and a net total value to paid-in capital ("TVPI") multiple of 1.5x-1.7x.

Fund XIV will invest in US multifamily assets that require management/operational enhancements, correction of deferred maintenance, physical property improvements, and/or capital investment. Waterton expects to invest across four primary strategies/approaches: traditional value-add, affordable/middle income housing, market and capital dislocations (adaptive reuse/re-developments into multifamily), and other cycle-specific opportunities (distressed/opportunistic debt investments, seniors housing, and/or co-living). Waterton will leverage their vertically integrated platform to assist in the execution of the strategy. The Manager can execute a wide range of value-add enhancements in-house and within a condensed time frame, leveraging the local presence of their on-site property management teams to better understand market dynamics.

Waterton was founded in 1995 by David Schwartz and Peter Vilim and operates as a vertically integrated real estate investment management firm, primarily focusing on multifamily investments. The Firm is 100% privately owned by the Co-Founders. Waterton is headquartered in Chicago, IL, and has regional teams across the United States. Waterton's multifamily business is led by an eight-member senior management team averaging 25+ years of institutional real estate experience and employs over 140 professionals. The Fund held a first close in May 2020, and has closed on a total of over \$850 million in capital commitments as of September 2, 2020.

Positives:

- **Deep/tenured team:** The Firm's Co-Founders, David Schwartz and Peter Vilim, began investing together in 1986 at AMLI Realty Company. Prior to forming Waterton together in 1995, Mr. Vilim was an investment officer at Berkshire Realty, and Mr. Schwartz served as Vice President of acquisitions at Sam Zell's Equity Residential. The senior team, including those at the vice-president level and above, average 25 years of industry experience. Waterton's experience investing in multifamily and established market reputation create deal flow and provide the opportunity for limited/off-market transactions.
- **Strong track record:** Waterton has generated an impressive track record on an absolute and relative basis.
- **Conservative approach late cycle:** Waterton employs a relatively conservative approach to investing in the multifamily sector. The Firm has capped leverage at 65% at the fund-level, and limits development to less than 20% of the Fund. Waterton focuses on acquiring high-quality, under-valued assets which can be repositioned through a combination of operational improvement, correction of deferred maintenance, and light value-add enhancements. Waterton takes a conservative approach to capex spending, and values in-place cash flow, targeting annual current income of 4%-6% net to LPs.
- **Vertically integrated organization:** Waterton's in-house property management capabilities are a significant organizational resource to assist in the execution on its strategy. The Manager can execute a wide range of value-add enhancements in-house and within a condensed timeframe, when necessary. Waterton manages over 21,000 apartment units across the US and leverages the local presence of its on-site teams to better understand sub-market dynamics and local counterparties.

Negatives:

- **Key-man risk:** In the event David Schwartz were no longer active in the management of the Fund, his departure would be disruptive from both an operational and investment perspective; however, NEPC believes this risk is mitigated in multiple ways.
- **Rent control and evolving government regulation:** Legislators in several states are introducing bills to create or strengthen apartment rent controls, which, if passed, could have significant negative impacts to the value of multifamily properties. Federal and local governmental rent regulations create uncertainty in markets. This threat emphasizes the importance of Waterton's long tenure in the sector and senior leadership within industry trade groups which better positions them to understand and underwrite the potential impact of such regulation.

Waterton Associates, LLC

Value-Add Real Estate

Fund Characteristics

Investment Vehicle	Waterton Residential Property Venture XIV, LP
General Partner	Waterton Venture XIV GP, LP
Target Size/Max Size	\$1.25 billion / \$1.5 billion
Amount Raised	\$869 million as of September 2, 2020
Minimum Investment Size	\$5 million (the GP may accept lesser amounts)
Target Final Close Date	Q4 2020
Investment Period	Three years from first close date
Fund Term	Ten years from the first close date, subject to one 1-year extensions at the discretion of the GP and two 1-year extension with Investment Advisor Committee consent
Sponsor's Investment	1% up to \$10 million
Assets Under Management	\$5.3 billion as of March 31, 2020
Investment Focus	Multifamily
Geographic Focus	United States
Projected Number of Investments	50 investments
Deal Size	Average of \$35 million to \$50 million of equity
Target Fund Return	12%-13% net IRR and 1.5x-1.7x net TVPI
Leverage	The Fund will utilize debt financing in-line with market norms and subject to limitations in the Fund's Limited Partnership Agreement
Annual Management Fee	The Fund's standard management fee will be 1.25% on committed capital during the investment period and 1.50% on invested capital thereafter. Fee discounts may be available under certain circumstances.
Other Fees	Other fees, including organizational costs, may be applicable as defined in the Fund's Limited Partnership Agreement
Performance Fee	The Fund will be subject to a performance fee, with a preferred return, as outlined in the Fund's Limited Partnership Agreement
ERISA Fiduciary	The Firm is not an ERISA fiduciary
Fund Auditor	Ernst & Young
Fund Legal Counsel	Kirkland & Ellis LLP
Website	www.waterton.com



Firm Description

Firm Overview

Waterton is a real estate investment and property management company with a primary focus on United States multifamily properties. The Firm was founded in 1995 by David Schwartz and Peter Vilim with the objective of investing in multifamily properties. In 2010, the Firm added a hospitality affiliate to strategically pursue hotel investments on an opportunistic basis. In 2015, Waterton expanded into the senior living market through an investment in an established senior living developer and operator, Pathway to Living ("Pathway"), and became the majority stakeholder in 2019. Waterton is headquartered in Chicago, IL, and has regional teams across the United States. Waterton's multifamily business is led by an eight-member senior management team averaging 30 years of institutional real estate experience and employs over 140 professionals at its Chicago headquarters and regional offices. As of March 31, 2020, Waterton's total portfolio includes approximately \$5.3 billion in real estate assets. Waterton's Co-Founders, David Schwartz (CEO and Chairman) and Peter Vilim (Vice Chairman), have worked together since co-founding Waterton in 1995 and prior to that at AMLI Realty Company.

Waterton Enterprises, LLC, the parent company of Waterton, is 100% privately held and controlled by David Schwartz and Peter Vilim. No outside entities have an ownership stake in the Firm. In January 2017, Co-Founder Peter Vilim assumed the role of Vice Chairman in order to spend more time on philanthropic and civic interests focused on ending homelessness and providing affordable housing and homeless services to low-income families, veterans and other individuals in need.

Team Overview

Waterton is led by Co-Founders David Schwartz and Peter Vilim. Each has over 30 years of multifamily real estate experience through various market cycles. The Co-Founders are supported by a senior leadership team comprised of:

- Erin Ankin, General Counsel,
- Todd Joseph, Chief Compliance Officer,
- Lela Cirjakovic, Executive Vice President, Operations,
- Tara Marszewski, Chief Financial Officer,
- Rick Hurd, Chief Investment Officer,
- Phil Lukowski, Executive Vice President, Chief Portfolio Manager, and
- Michelle Wells, Executive Vice President, Investor Relations.

Waterton is committed to retaining and developing talent at all levels and believes it is well positioned given the depth and breadth of its senior leadership team. Biographies for the senior members can be found in **Addendum A**.

The Firm has an Advisory Board comprised of four independent advisors and the two Co-Founders. The role of Waterton's Advisory Board is to provide additional governance and guidance to the Firm's executive team.

Waterton's Investment Committee is responsible for approving all investments made by the Firm and ensuring that the investment is within the investment guidelines, including but not limited to investment size, geographic and property type dispersion and to leverage terms. Unanimous approval from the Investment Committee is required for all investments. Meetings are held on an as-needed basis. The members include David Schwartz, Peter Vilim, Erin Ankin, Lela Cirjakovic, Tara Marszewski, Rick Hurd, Phil Lukowski, and Michelle Wells.

Fund Investment Strategy

Investment Strategy

Fund XIV will invest in US multifamily assets diversified by location that are expected to benefit from a combination of management/operational enhancements, correction of deferred maintenance, physical property improvements, and capital investment. Waterton expects to invest across four primary strategies/approaches: traditional value-add, affordable/middle income housing, market and capital dislocations (adaptive reuse/re-developments into multifamily), and other cycle-specific opportunities (distressed/opportunistic debt investments, seniors housing, and/or co-living).

Target Return

The Fund is targeting to achieve a 12% to 13% net IRR and a 1.5x to 1.7x net TVPI.

Target Investment Types

The Fund will primarily make control, equity investments in middle-income, multi-family assets. To a lesser extent, the Fund may also invest in senior or subordinated, direct or securitized debt, as well as age restricted and co-living assets.

Use of Leverage

The Fund will utilize moderate levels of debt financing, in-line with market best practices and subject to limitations in the Fund's Limited Partnership Agreement.

Recycling of Capital

The Fund is permitted to recycle capital, if the sale occurs within the Investment Period, and may only reinvest the portion of the capital that represents the original invested equity.

Environmental, Social, and Governance Considerations

Waterton recognizes the benefit of incorporating environmental, social, and governance (ESG) factors into its investment process. While Waterton is still working to formalize a comprehensive ESG Policy that includes measurement and reporting of ESG metrics, they have been actively incorporating suitability-driven changes at the property level. Additionally, Waterton has been involved in the community from a charitable standpoint and has strong policies internally to promote women and minority advancement within the Firm. Waterton has received a rating of 3 based on NEPC's proprietary ESG Ratings system, where 5 indicates no integration and 1 indicates a best in class approach. The full ESG review is available in **Addendum B**.

Expected Fund Investor Base

Similar to predecessor funds, the Manager expects the Fund to have a diverse investor base of domestic and foreign Limited Partners, including Public/Private Pension Plans, Sovereign Wealth Funds, Insurance Companies, and to a lesser extent Endowments, Foundations, Family Offices, and High Net Worth Individuals.

Current Fund Investments

The Fund has not closed on any investments to-date.

Fund Investment Process

Deal Sourcing

Waterton leverages its seasoned team, including its Co-Founders with 25+ years of multifamily experience, to drive deal flow from the limited competition and proprietary channels. Waterton has demonstrated the ability to leverage its deep and fully integrated platform to execute on opportunities in short period of time and has developed a reputation for providing clarity in negotiation and certainty in closing to sellers.

Initial Review

When a potential transaction is identified, the investment team reviews the information, screens the likelihood of the transaction in conjunction with the Fund's strategy and parameters and discusses the merits of the investment. All members of the Investment Committee, acquisitions, research, investor relations, legal, senior residential accounting and portfolio management and senior operations teams participate in these discussions.

Full Due Diligence and Deal Structuring

If a transaction receives initial approval by the Investment Committee, the purchase agreement is negotiated, and further diligence is conducted on the prospective investment. This detailed diligence typically includes market surveys, unit walk-throughs, review of capital needs, and audits of leases, among other items. Upon completion of the diligence process, the acquisition officer coordinates completion of the final underwriting with portfolio management and operations and presents the results to the Investment Committee for final approval.

Investment Committee Approval

Investments require a unanimous approval by the Investment Committee, whose members include: David Schwartz, Peter Vilim, Erin Ankin, Lela Cirjakovic, Tara Marszewski, Rick Hurd, Philip Lukowski and Michelle Wells.

Exit

The disposition process is a collaborative effort between Waterton's acquisitions, operations and portfolio management teams and further supported by accounting, legal and finance. The annual business plans identify sales candidates for disposition in the upcoming year. On an ongoing basis, the status of disposition candidates is discussed. All sale offers, terms and conditions are presented to the Investment Committee prior to final selection of the purchaser.

Fund Economics

Management Fee

The Fund will charge a base management fee calculated as 1.25% of committed capital during the investment period and 1.50% of invested capital thereafter. Fee discounts may be available under certain circumstances. In addition, debt investments will be subject to a different management fee schedule, as outlined in the Fund's Limited Partnership Agreement.

Performance Fee

The Fund's will be subject to carried interest, with a preferred return, as defined in the Fund's Limited Partnership Agreement.

Other Fees and Expenses

The Fund or its investors may be subject to other fees, including Fund organizational costs, as defined in the Fund's Limited Partnership Agreement.

Sponsor's Investment

The General Partner will commit 1% up to \$12.5 million.

Fund Administration, Structure and Policies

Fund Structure

The Fund will be structured as a Delaware Limited Partnership.

ERISA Provisions

Waterton intends to conduct the operations of the Fund so that its assets will not be deemed to be “plan assets” under ERISA. Accordingly, the General Partner will not be an ERISA fiduciary with respect to the Fund and will not be subject to the fiduciary responsibility provisions of ERISA.

UBTI Considerations

It is expected that the Fund will hold each of its investments that are eligible to be held in a REIT through one or more REIT Subsidiaries that have elected to be taxed as REITs. In addition, parallel investment entities may hold their interests indirectly in such subsidiaries, outside of REIT Subsidiaries or through entities that elect to be classified as corporations for U.S. federal income tax purposes. The General Partner will consider additional investment structures to mitigate the likelihood of the incurrence of UBTI. Each prospective Limited Partner should consult with its own tax advisor regarding all U.S. federal, state and local tax considerations applicable to an investment pursuant to this offering.

Reporting

On an annual basis, Limited Partners will receive annual audited financial statements for the Fund prepared in accordance with U.S. generally accepted accounting principles (“GAAP”), an overview of the Fund’s assets, tax information necessary for completion of annual tax returns, descriptive investment information for each of the Fund’s investments, a capital account statement and other information in accordance with the Partnership Agreement. In addition, on a quarterly basis, Limited Partners will receive unaudited quarterly financial statements for the Fund, descriptive investment information for each of the Fund’s investments, a capital account statement and other information in accordance with the Partnership Agreement.

Valuation Policy

The Valuation Committee is comprised of senior Waterton professionals with collective real estate experience in acquisitions, property management, portfolio management, property valuations, capital markets, finance and accounting. The four voting members of the Valuation Committee include: a Waterton Chairman (either David Schwartz or Peter Vilim), the Chief Investment Officer, the Chief Financial Officer and the Chief Portfolio Manager. If the Valuation Committee does not attain a majority vote, the CIO retains the authority on concluding and finalizing.

All assets are valued internally at least once a quarter and at any other time the Valuation Committee deems appropriate. Waterton’s Portfolio Management team reviews and approves the quarterly valuations of its assets and presents the Valuation Committee with the recommended values for formal approval. Similarly, a debt valuation model is prepared by the Portfolio Management team for each loan being formally valued and presented to the Valuation Committee with the recommended value.

Assets and debt encumbering an investment are internally valued in the first full calendar quarter after the date of acquisition or placement, unless the underlying accounting and reporting guidance requires immediate valuation. With respect to the valuation of new acquisitions, the policy is that the value equals the purchase price plus acquisition costs plus capital additions in the quarter-end immediately following the acquisition date. Additionally, an immediate unrealized loss is recorded in the amount of the acquisition costs.

A third-party MAI-designated appraiser values property at least once every 12 months unless the Fund agreements call for a less frequent appraisal, but no less frequently than every 36 months. Specific policies relating to the frequency of valuations and the timing of internal and external valuations are enumerated in the respective limited partnership agreement or operating agreement. It is the responsibility of the Portfolio Management team to ensure that the Fund or client’s prescribed valuation frequency is met. Valuation Committee meetings are scheduled in advance of client reporting deadlines to assure timely reporting results.

Addendum A: Key Fund Professionals

Name	Biographies		
David Schwartz	<p>Mr. Schwartz co-founded Waterton with Peter Vilim in 1995 and serves as CEO and Chairman. Mr. Schwartz is responsible for strategic decisions and leadership of the Firm's business activities and operations and participates on the Management and Investment Committees. Prior to co-founding Waterton in 1995, Mr. Schwartz was a vice president of acquisitions for Equity Residential Properties Trust (EQR-NYSE) and from 1985 through 1989 was with AMLI Realty Co.</p> <table border="1" data-bbox="342 520 1377 617"> <tr> <td data-bbox="342 520 487 617">Education</td><td data-bbox="487 520 1377 617">Mr. Schwartz holds Bachelor's Degree in Economics from the University of Illinois and Master's in Business Administration from the University of Chicago, Booth School of Business.</td></tr> </table>	Education	Mr. Schwartz holds Bachelor's Degree in Economics from the University of Illinois and Master's in Business Administration from the University of Chicago, Booth School of Business.
Education	Mr. Schwartz holds Bachelor's Degree in Economics from the University of Illinois and Master's in Business Administration from the University of Chicago, Booth School of Business.		
Peter Vilim	<p>Mr. Vilim co-founded Waterton with David Schwartz in 1995 and serves as Vice Chairman. Mr. Vilim assumed the role of Vice Chairman in January 2017 to spend increasing time with philanthropic and civic organizations focused on ending homelessness and providing affordable housing. Mr. Vilim continues to office from the Firm's Chicago headquarters and participates on the Management, Investment and Valuation Committees. Prior to co-founding Waterton in 1995, Mr. Vilim was an investment officer with Berkshire Realty Company, Inc., responsible for Midwest acquisitions, dispositions and financings. Prior to joining Berkshire, he was an investment officer for AMLI Realty Co. Mr. Vilim started his career as a CPA, working in the national real estate tax practice departments of both Coopers & Lybrand and Peat Marwick Mitchell.</p> <table border="1" data-bbox="342 890 1377 961"> <tr> <td data-bbox="342 890 487 961">Education</td><td data-bbox="487 890 1377 961">Mr. Vilim holds a Bachelor's Degree in Accountancy from the University of Illinois and a Master's Degree in Taxation from DePaul University.</td></tr> </table>	Education	Mr. Vilim holds a Bachelor's Degree in Accountancy from the University of Illinois and a Master's Degree in Taxation from DePaul University.
Education	Mr. Vilim holds a Bachelor's Degree in Accountancy from the University of Illinois and a Master's Degree in Taxation from DePaul University.		
Erin Ankin	<p>Ms. Ankin joined Waterton in 2009 and serves as General Counsel. In this role, Ms. Ankin is also responsible for fund and corporate structuring, transaction negotiations, litigation and claims as well as the Firm's talent management and general human resource functions. Ms. Ankin also oversees corporate compliance under local, state, federal and other jurisdictional laws, including the Firm's status as a Registered Investment Adviser. Ms. Ankin participates on the Firm's Management and Investment Committees. Ms. Ankin also manages licensing at the corporate and site levels and oversees Waterton's insurance program and previously served as co-chair of the Firm's culture committee. Prior to joining Waterton, Ms. Ankin was a real estate and finance associate at a Chicago-based law firm.</p> <table border="1" data-bbox="342 1209 1377 1306"> <tr> <td data-bbox="342 1209 487 1306">Education</td><td data-bbox="487 1209 1377 1306">Ms. Ankin holds a Bachelors of Arts degree in English and Political Science from the University of Michigan – Ann Arbor, and earned her Juris Doctor from Chicago-Kent College of Law.</td></tr> </table>	Education	Ms. Ankin holds a Bachelors of Arts degree in English and Political Science from the University of Michigan – Ann Arbor, and earned her Juris Doctor from Chicago-Kent College of Law.
Education	Ms. Ankin holds a Bachelors of Arts degree in English and Political Science from the University of Michigan – Ann Arbor, and earned her Juris Doctor from Chicago-Kent College of Law.		
Lela Cirjakovic	<p>Ms. Cirjakovic joined Waterton in 2006 and serves as Executive Vice President, Operations. In this role, Ms. Cirjakovic has direct oversight of the Firm's portfolio of multifamily properties. Ms. Cirjakovic is responsible for the strategic direction of the management platform, enhancing the portfolio's financial performance and the resident experience. Her responsibilities also include oversight of the Firm's information technology and training and development functions. Ms. Cirjakovic participates on the Firm's Management and Investment Committees. Prior to joining Waterton, Ms. Cirjakovic spent 12 years at CAMCO, Inc., a Chicago multifamily property management company. Previously, Ms. Cirjakovic was a regional property manager for Midland Property Management. Ms. Cirjakovic's career began at the Illinois Housing Development Authority where she was an asset manager for a portfolio comprised of 20 developments representing over 3,500 units.</p> <table border="1" data-bbox="342 1604 1377 1675"> <tr> <td data-bbox="342 1604 487 1675">Education</td><td data-bbox="487 1604 1377 1675">Ms. Cirjakovic holds a Bachelor's Degree in Finance from Loyola University Chicago.</td></tr> </table>	Education	Ms. Cirjakovic holds a Bachelor's Degree in Finance from Loyola University Chicago.
Education	Ms. Cirjakovic holds a Bachelor's Degree in Finance from Loyola University Chicago.		
Rick Hurd	<p>Mr. Hurd joined Waterton in 2013 and serves as CIO. Mr. Hurd collaborates with the Firm's executive management and works closely with the acquisitions and capital markets teams to oversee all real estate transactions. He helps to set strategy and further develop the Firm's market focus, investment execution and network of industry relationships. Mr. Hurd participates on the Firm's Management, Investment and Valuation Committees. Prior to joining Waterton, Mr. Hurd was the Co-Founder, President and CIO of Strategic Capital Partners ("SCP"), a privately held real estate investment management company. Prior to that, Mr. Hurd spent</p>		

Waterton Associates, LLC

Value-Add Real Estate

	almost 20 years at GE Capital Real Estate, where he was most recently a Managing Director responsible for managing GE's institutional real estate equity program.		
	<table> <tr> <td>Education</td><td>Mr. Hurd holds Bachelor's Degree from Ohio Wesleyan University and Masters in Business Administration from Drexel University.</td></tr> </table>	Education	Mr. Hurd holds Bachelor's Degree from Ohio Wesleyan University and Masters in Business Administration from Drexel University.
Education	Mr. Hurd holds Bachelor's Degree from Ohio Wesleyan University and Masters in Business Administration from Drexel University.		
Phil Lukowski	<p>Mr. Lukowski joined Waterton in 2006 and serves as Executive Vice President, Chief Portfolio Manager. In this role, Mr. Lukowski is responsible for the oversight of the Firm's multifamily portfolio management team and collaborating with investors on its investments. Mr. Lukowski participates on the Firm's Management, Investment and Valuation Committees. Prior to joining Waterton, Mr. Lukowski spent 19 years at Heitman LLC. Mr. Lukowski worked on the separate account with California State Teachers' Retirement System in addition to other public and corporate separate accounts. His responsibilities included implementation of asset management plans for multifamily, retail, office, and industrial properties which included selection and oversight of third-party management, monitoring of property operations and leasing and coordination of investor accounting, performance and valuations.</p> <table> <tr> <td>Education</td><td>Mr. Lukowski holds a Bachelor's Degree in Finance and Masters Degree in Business Administration from DePaul University.</td></tr> </table>	Education	Mr. Lukowski holds a Bachelor's Degree in Finance and Masters Degree in Business Administration from DePaul University.
Education	Mr. Lukowski holds a Bachelor's Degree in Finance and Masters Degree in Business Administration from DePaul University.		
Tara Marszewski	<p>Ms. Marszewski joined Waterton in 2019 and serves as CFO. In this role, she is responsible for the direct oversight of finance, corporate, residential and hospitality accounting, as well as the Firm's tax, treasury, and benefits and compensations functions. Ms. Marszewski participates on the Firm's Management, Investment and Valuation Committees. Prior to joining Waterton, Ms. Marszewski was CFO of Brookfield Properties retail group where she oversaw all aspects of the accounting and finance functions. She was previously Chief Accounting Officer of General Growth Properties, Inc. (GGP), which later merged with Brookfield, and prior to that spent 10 years as a senior manager in the real estate audit practice at KPMG, focused on both public and private REITs as well as equity funds.</p> <table> <tr> <td>Education</td><td>Ms. Marszewski holds a Bachelor of Science in accountancy from the University of Illinois and is a Certified Public Accountant.</td></tr> </table>	Education	Ms. Marszewski holds a Bachelor of Science in accountancy from the University of Illinois and is a Certified Public Accountant.
Education	Ms. Marszewski holds a Bachelor of Science in accountancy from the University of Illinois and is a Certified Public Accountant.		
Michelle Wells	<p>Ms. Wells joined Waterton in 2013 and serves as Executive Vice President, Investor Relations. In this role, Ms. Wells is responsible for client and consultant relations, marketing and public relations. Ms. Wells participates on the Firm's Management and Investment Committees. Ms. Wells has been involved in real estate investment management since 2000. Prior to joining Waterton in 2013, Ms. Wells was a director with RREEF Real Estate where she was responsible for West Coast client and consultant relations. Previously, Ms. Wells led the investor communication teams at The Praedium Group and AIG Global Real Estate and began her career in real estate-focused investor communications at AMB Property Corporation, where she ultimately ran the investor relations efforts.</p> <table> <tr> <td>Education</td><td>Ms. Wells holds a Bachelor's Degree in English Literature from University of California, San Diego and a Master's Degree in Education from University of California, Santa Barbara.</td></tr> </table>	Education	Ms. Wells holds a Bachelor's Degree in English Literature from University of California, San Diego and a Master's Degree in Education from University of California, Santa Barbara.
Education	Ms. Wells holds a Bachelor's Degree in English Literature from University of California, San Diego and a Master's Degree in Education from University of California, Santa Barbara.		

Addendum B: ESG Rating (As of December 2019)

General Fund Information		Evaluation Criteria and Commentary	
Firm	Waterton Associates, LLC ("Waterton")	Firm-Level	
Fund	Waterton Residential Property Venture XIV, LP ("Fund XIV")	Firm-Level Commitment	Waterton recently established an internal team, led by Phil Lukowski, Chief Portfolio Manager, to explore a more formal adoption of ESG polides into the investment, portfolio and property management functions. Waterton has not formalized an ESG Policy to-date (they are in the process) and is not yet a UN PRI Signatory.
Strategy-Type	Value-add multifamily	Integration Process	When developing capital improvement programs, Waterton incorporates water and energy saving measures at the property. Waterton also pursues effective use of energy, water and non-renewable resources by participating in lending programs sponsored by government agencies including Fannie Mae and Freddie Mac, known as Green Improvement Programs or "green loans".
Firm AUM	\$5.5 billion as of June 30, 2019	Engagement Policies	Waterton encourages associates to donate their time, talents and resources to local and national causes, providing team members with tools and designated days of service to support community engagement efforts. Waterton has a Responsible Contractor Policy designed to ensure that third-party contractors and vendors employ fair wages and benefits for workers employed, directly or indirectly, by Waterton.
Strategy AUM	\$0 million; first close anticipated for Q2 2020	Strategy-Level	
Portfolio Managers	Phil Lukowski	Overview	Waterton incorporates ESG factors they believe will positively impact how the Firm operates and how properties perform, while maintaining focus on their primary responsibility as a fiduciary to client capital.
ESG Rating		Integration Process	Sustainable implementation includes incorporation of high-efficiency plumbing/fixtures such as low-flow faucets/toilets, high-efficiency Energy Star appliances, smart-technology thermostats and lighting systems that utilize timers and occupancy sensors, and on-site recycling with informational resident communication on best practices for reducing waste.
ESG 3		Resources	Waterton does not have dedicated ESG resources at the Firm. Waterton is working to build out a more formalized ESG policy internally, and is evaluating external resources to assist in the advancement.
Analyst Opinion			
<p>Waterton incorporates environmental, social and governance ("ESG") considerations at the Firm and strategy level. From an environmental perspective, Waterton looks to implement environmentally-friendly practices, such as water and energy saving measures, that are accretive from an investment perspective. From the social lens, Waterton has established a philanthropic fund, which is designed to consolidate the charitable contributions made by individual Waterton employees and foster collaboration through collective support of various social and civic services that align with the Firm's charitable mission. From a governance aspect, Waterton developed the Waterton Women group in 2014 to promote advancement within the Firm, and is a member of The Real Estate Associates Program, an industry group that aims to support the advancement of minorities in the Commercial Real Estate industry. NEPC would like to see Waterton build out dedicated ESG resources and implement a process in which ESG related goals/objectives can be measured and reported to LPs.</p>			

Note: Subsequent to NEPC completing its ESG underwriting of Waterton, the Firm has formed a formal ESG committee and has selected an ESG advisor specific to real estate to help formalize its ESG practices, metrics, measurement periods, and goals. A formal plan is targeted to be finalized by year-end 2020. Also note that, as this ESG has not been updated, data such as Firm AUM and Strategy AUM are not up-to-date; please refer to the main section of this memo for more current statistics.

ESG ratings are on a scale of 1 through 5, with 1 indicating a best in class approach and 5 indicating no integration.

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.
- Information on market indices was provided by sources external to NEPC, and other data used to prepare this report was obtained directly from the investment manager(s). While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- NEPC may provide background information on fund structures or the impact of taxes but you should contact your legal counsel or tax professional for specific advice on such matters.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

In addition, it is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds, real estate and private equity:

1. Performance can be volatile and investors could lose all or a substantial portion of their investment
2. Leverage and other speculative practices may increase the risk of loss
3. Past performance may be revised due to the revaluation of investments
4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount
6. These funds are not subject to the same regulatory requirements as registered investment vehicles
7. Managers may not be required to provide periodic pricing or valuation information to investors
8. These funds may have complex tax structures and delays in distributing important tax information
9. These funds often charge high fees
10. 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



Waterton Overview

PREPARED FOR STATE OF CONNECTICUT

SEPTEMBER 2020

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Presenters



DAVID SCHWARTZ CEO, CHAIRMAN & CO-FOUNDER

Mr. Schwartz co-founded Waterton with Peter Vilim in 1995 and serves as CEO and Chairman. Mr. Schwartz is responsible for strategic decisions and leadership of the firm's business activities and operations, and participates on the Management and Investment Committees.

Prior to co-founding Waterton in 1995, Mr. Schwartz was a vice president of acquisitions for Equity Residential Properties Trust (EQR-NYSE) and from 1985 through 1989 was with AMLI Realty Co.

Mr. Schwartz holds a bachelor's degree in economics from the University of Illinois and an MBA from the University of Chicago, Booth School of Business. He is a member of the executive committee, a senior officer and chairman of the National Multi Housing Council (NMHC). He is a member of the Urban Land Institute (ULI) and is previous chairman of the ULI Multifamily Blue Council and a member of the Pension Real Estate Association (PREA). Mr. Schwartz is a member of the Advisory Council for the Pritzker School of Medicine and the Department of Biological Sciences at the University of Chicago, and serves on the Strategic Advancement Committee for the US Holocaust Museum and Memorial in Washington D.C.

Presenters



MICHELLE WELLS EVP, INVESTOR RELATIONS

Ms. Wells joined Waterton in 2013 and serves as executive vice president of investor relations. In this role, Ms. Wells is responsible for fund strategy development and capital raising and oversees ongoing investor and consultant relations, marketing and internal and external communications. Ms. Wells participates on the firm's Investment Committee and is the chair of its Management and Culture Committees.

Ms. Wells has been involved in real estate investment management since 2000. Prior to joining Waterton in 2013, Ms. Wells was a director with RREEF Real Estate where she was responsible for West Coast client and consultant relations. Previously, Ms. Wells led the investor communication teams at The Praedium Group and AIG Global Real Estate and began her career in real estate-focused investor communications at AMB Property Corporation (now Prologis).

Ms. Wells holds a bachelor's degree in English literature from the University of California, San Diego and a master's degree in education from the University of California, Santa Barbara. Ms. Wells previously held Series 7 and 63 designations from FINRA, is a board member of Women in Real Estate's Chicago chapter and is a member of Pension Real Estate Association (PREA).



**CONSISTENT
MULTIFAMILY VALUE ADD
RETURNS SINCE 1995¹**

Waterton Overview

Focused on multifamily investments since 1995 – we currently own and manage \$5.3 billion in real estate assets including over 21,000 multifamily units¹

- We pride ourselves on successfully evolving our strategy through market cycles, while remaining focused on asset classes we know well
- Eight-member senior team averaging 25+ years of experience, over 200 corporate level professionals
 - 25-years of established relationships and reputation drive deal flow
 - Proprietary Waterton Scorecard guides submarket underwriting
- Vertically integrated team is critical to our success
 - Ability to execute full range of renovations and operational improvements
 - Manage assets through Resitality®, our hospitality-inspired service culture
- Investors include global and U.S. institutions (pensions, insurance companies, opportunity funds and foundations) as well as family offices

\$8.9 billion

Invested capital since inception

64,000+

Units since inception

191

Total investments since inception

133

Realized investments since inception

¹ Internally compiled, not audited – see Appendix Presentation Endnotes for additional information. Past Performance is not indicative of future results and no assurance is made that the investment will achieve similar results



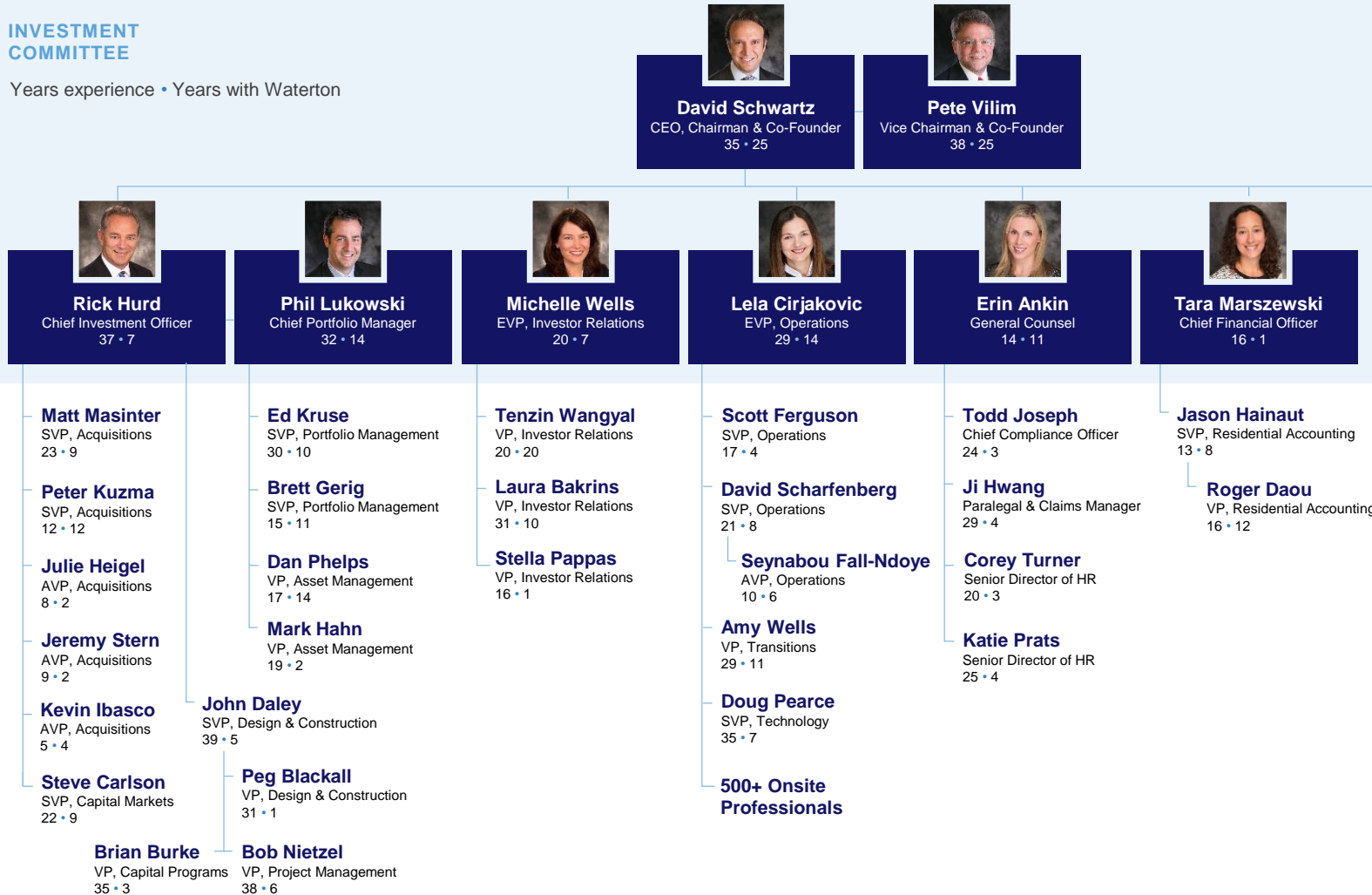
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Our Team

Investment committee members average 25+ years of real estate experience

INVESTMENT COMMITTEE

Years experience • Years with Waterton



Culture Initiatives:

The Waterton Way
Code of Conduct

Aligned@Waterton
Philanthropic Group

ESG Committee

D&I Committee

Waterton Women
Affinity Group

SENIOR LIVING

64 Corporate
Professionals

1,193 Onsite
Professionals

HOSPITALITY

3 Corporate
Professionals



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Our Multifamily Investments Team



Team further supported by:

- SVP, capital markets
- Research manager
- Transitions manager

SENIOR ANALYSTS / DUE DILIGENCE

Casey Mog
Senior Acquisitions
Analyst
7 • 3

Kol Rath
Senior Acquisitions
Analyst
3 • 3

Nastassja Heintz-Janis
Transactions Manager
10 • 2

SHARED ANALYST POOL

Ben Slack
Acquisitions Analyst
2 • 2

Jack Finis
Acquisitions Analyst
2 • 2

Analyst
New Hire
X • X

Years experience • Years with Waterton



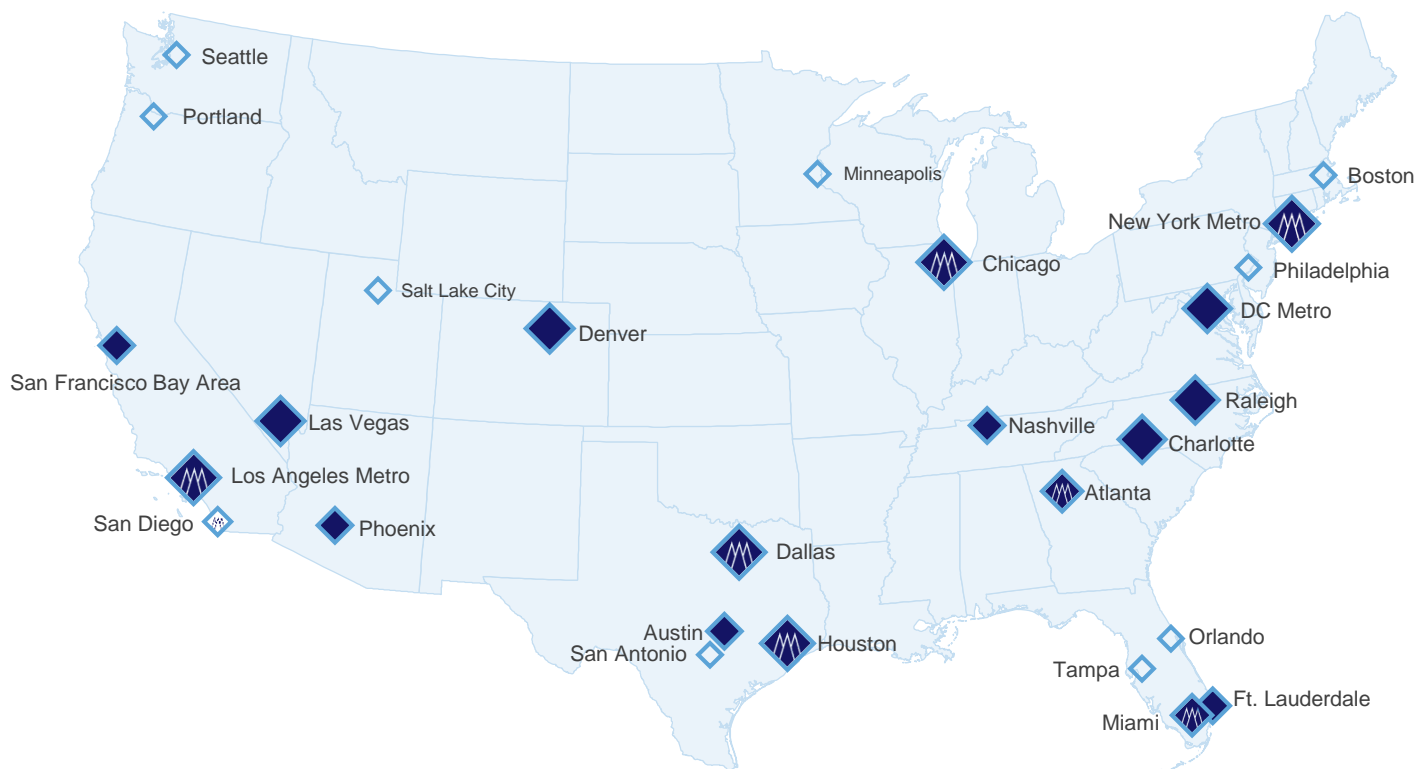
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Our U.S. Multifamily Footprint

National footprint with established sourcing channels in select U.S. markets

LEGEND¹

- ◆ \$35-100 million
- ◆ \$100-150 million
- ◆ \$150-900+ million
- ◆ Corporate or Property Management Locations
- ◇ Value Add Fund Target Markets



¹ Represents multifamily real estate assets under management as of March 31, 2020

25 Year Multifamily Value Add Investment Performance Summary

Recognized for our consistent performance in the multifamily sector

As of March 31, 2020
\$ in millions



Vehicle ^(A-F)	Vintage	Units	Total Capitalization ^(G)	Invested Equity ^(H)	Realized / Hypothetical Net IRR ^(I)	Realized / Hypothetical Net EM ^(I)	
Fund I	1996	1,285	\$35	\$9	36.8%	1.6x	LIQUIDATED ^(J)
Individual Investments	1998+	6,313	349	96	26.5%	2.2x	
Fund II	1998	1,755	66	15	25.1%	2.0x	
Fund III	1999	2,701	123	25	39.2%	2.5x	
Fund IV	2000	1,018	60	30	9.4%	1.2x	
Fund VI	2001	2,060	195	27	38.3%	2.8x	
Fund VII	2002	5,940	380	135	15.1%	1.8x	
Fund VIII	2004	4,353	398	132	12.8%	1.8x	
Fund IX	2005	8,041	1,277	461	6.2%	1.6x	
Fund X	2008	3,381	447	246	25.8%	1.9x	
Individual Investments	2003+	937	49	13	-	-	
Venture XI	2011	8,886	1,593	513	20.8%	1.9x	
Venture XII	2014	7,087	1,493	500	10.7%	1.4x	
Venture XIII	2017	11,090	2,460	884	N/M	N/M	
Total		64,847	\$8,928	\$3,086			

A-K See Endnotes to 25 Year Multifamily Investment Performance Summary for additional information. Past performance is not indicative of future results and no assurance is made that future investments will achieve similar results



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Key Differentiators

25 YEARS OF MULTIFAMILY INVESTMENT AND OPERATIONS EXPERTISE

Disciplined approach to investing in a defensive, need-based sector while delivering on our mission to provide great places to live, great places to work and great results to our investors

OWNERSHIP EXPERIENCE



Cycle Tested
Leadership Team



Strong Track Record



Deep Rooted Industry
Relationships

OPERATIONAL EXPERTISE



Vertically Integrated



Resitality® Service Culture



Regulation and Affordability

PLATFORM ENGAGEMENT



Trusted Fiduciary



ESG Initiatives



Innovation and Technology

See Endnotes to 25 Year Multifamily Investment Performance Summary for additional information. Past performance is not indicative of future results and no assurance is made that future investments will achieve similar results



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Novel Coronavirus 2020 Impact

WATERTON ENTERS ITS FOURTH CYCLICAL DOWNTURN

Unlike previous downturns, we are assessing the impact of COVID-19 while prioritizing the health and safety of our employees and residents. Waterton's current portfolio is well positioned to maintain and preserve value through disruption – while volatility creates opportunity for going-forward investments

MACRO MARKET IMPACT



Global financial uncertainty and demand contraction



Increased risk premiums and defensive asset tilt as CARES Act supports food, shelter and medical expenses



Stay-at-home orders and social distancing dramatically impacting employment levels

REAL ESTATE IMPACT



Securities were under pressure due to liquidity requirements and margin calls



Reduced direct property volume, in price discovery period; somewhat stabilized by GSE lending



Anticipate gross value declines of 10 – 20% from pre-COVID levels

PROPERTY LEVEL IMPACT



Essential management teams on-site, limited contact but increasing resident service and re-openings



Delinquency and credit loss has been mitigated by policy support and landlord/tenant cooperation



Unprecedented employment loss and uncertainty, demand contraction and rent discovery



Waterton Venture XIV

Why Multifamily

- U.S. multifamily has outperformed other asset classes since 1980 and is a needs-based asset that demonstrates defensive characteristics through recessions¹ – already notable in shelter in place environment
- COVID-19-driven recession is expected to create a material pipeline of mismanaged, mispriced and/or undercapitalized assets in a largely fragmented segment
- Once recovery occurs and demand normalizes, housing shortage will be exacerbated by limited new construction starts through recession and early recovery

Venture XIV

- Targeting value add multifamily investments in major U.S. markets – with a 12%-13% net IRR and 1.5x-1.75x net equity multiple target²
- As a firm, we are entering our fourth market correction and believe that Venture XIV will have above average opportunities given the market disruption caused by COVID-19
- Closed \$870 million in commitments; the next close is targeted for mid-October 2020

¹ Witten Advisors April 16, 2019 – see Appendix Multifamily Market Data

² Targeted returns are not projections, forecasts, or guarantees of performance, but rather are provided to illustrate how Waterton intends to manage Waterton Residential Property Venture XIV, L.P. (the “Venture XIV”) and the intended risk profile of Venture XIV. There can be no assurance that any performance or return objective will be achieved



Consistent Investment Strategy and Philosophy

Waterton will continue its 25-year strategy to invest in **mismanaged, mispriced, and/or undercapitalized** multifamily assets

Venture XIV should benefit further as **investment period coincides with start of economic downturn**



Creative and innovative through cycles



Never compromise on location



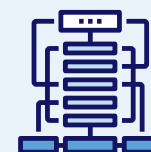
Thoughtful and conservative when underwriting (modest growth, low leverage, cap rate expansion)



Selective and cautious on the buy
(screen 500+ deals/year, underwrite half and execute on 10-12)



Buy below replacement cost



Engage vertically integrated platform
from sourcing through disposition

Our Proprietary Waterton Scorecard

Our Scorecard is a guide post throughout our underwriting process

HOW IT WORKS



Analyzes 50+ data points including demographic, economic, housing and affordability, political trends, supply/demand indicators



Assesses the largest markets and submarkets as defined by Yardi Matrix

HOW WE USE IT



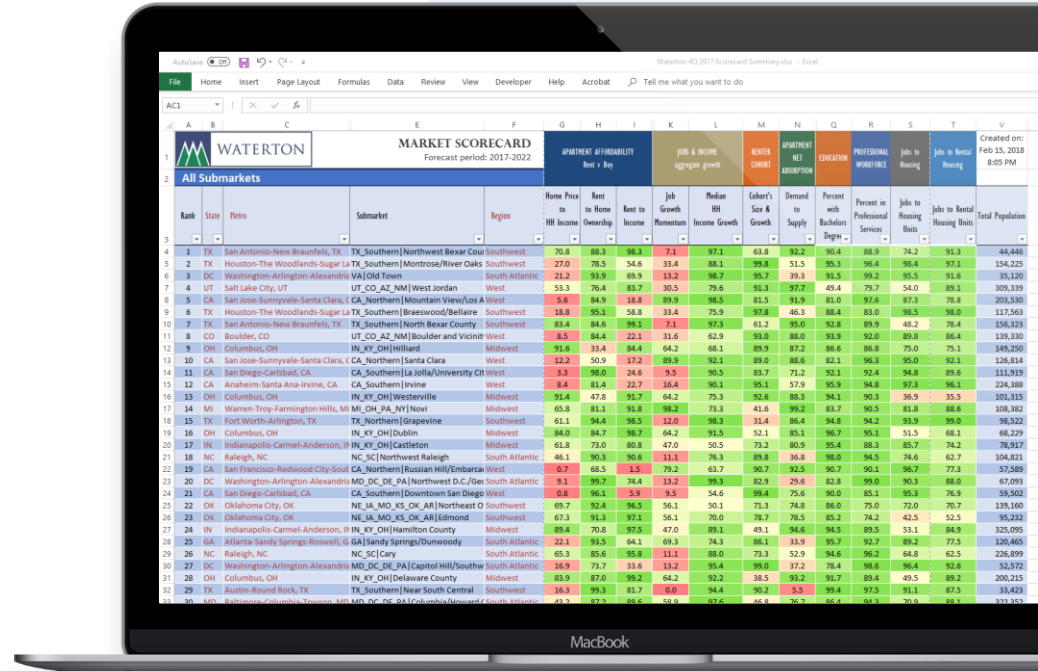
Manage weightings and factors based on most relevant indicators for submarkets or on a national basis as we move through cycles



Assess and seek opportunities through individual geographic market fundamentals



Analyze comprehensive demographic and apartment renter profile analysis within a 1/2 mile radius of prospective assets



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Our Resitality[®] Philosophy

We seek to bring our hospitality service culture to our multifamily assets as service and amenities become increasingly hotel-like

OPERATIONS



Our portfolio benefits from **on-the-ground intelligence and market knowledge** from over 500 onsite operations professionals nationwide



Our **operations team applies a consistent standard** to all capital improvements, leasing programs, property management, and reporting procedures



Our **teams share ideas and execute** a common resident engagement, marketing and social media strategy on an ongoing basis



SERVICE



Developed a service curriculum with a hospitality professional by which all property management employees are trained



Our multifamily communities receive **significantly higher resident satisfaction** ratings than industry averages¹

SatisFacts

SatisFacts 2019 National Award: majority of Waterton communities achieved “superior-status recognition,” awarded to communities whose residents rank them an average 4.00 or higher on a 5-point scale

ApartmentRatings

ApartmentRatings 2019 Top Rated Community Award: Awarded to top 5% of communities on ApartmentRatings based on resident feedback; majority of Waterton communities received this award

¹ See Appendix Presentation Endnotes at the end of the presentation for additional information regarding such ratings

Our Value-Add Transformation

We seek to execute on cost-efficient renovations to improve property performance and drive investment returns



TYPICAL RENOVATIONS

Renovate common areas and upgrade property amenities

Upgrade kitchen, bath and appliances

New faux hardwood flooring

New hard surface countertops

Upgrade lighting and plumbing fixtures



AVERAGE UNIT VALUE ADD RETURNS¹

Average Interior Renovation Cost
\$12,000 per unit

Average Monthly Rental Premium
\$150 - 200 per unit

Average Annual Return on Cost
15% - 20%



¹ There can be no assurance that historical trends will continue during the life of Venture XIV

Waterton's Portfolio Management



Property Operations

Operations aligned with ownership,
focused on value creation

Post-COVID: enhanced focus on safety of
team and residents; common areas were
temporarily closed and are currently
reopening



Capital Execution

Led by 30-year veteran, with an
experienced team to implement revenue
maximizing value add capital programs

Post-COVID: Capital on hold, with some
exceptions for work in progress or where
social distancing can be maintained



Revenue and Expense Management

Maximize rents and occupancy through
rent optimization software; hold expenses
to budget; tax assessment appeals;
position assets for maximum valuation

Post-COVID: focus on controllable
expenses; proactively communicate and
develop payment plans for residents



Financing

Conservative leverage matched to
business plan – providing flexibility on exit
and enhanced returns

Post-COVID: carefully monitoring maturity,
refinancing or other liquidity challenges;
none are currently anticipated. Favorable
rates on floating rate debt



Business Plans and Portfolio Monitoring

Strategic business plans for assets;
oversight of performance, valuation and
reporting, lender requirements, hold/sell
analyses and compliance

Post-COVID: revised business plans
account for slower anticipated rent growth,
lower occupancy, near term dispositions on
hold and future sales delayed

Acquisition Environment

- **Beginning of pandemic:** Transactions market frozen for real estate equity investments. Distress in secondary market for debt
 - Acquired \$165 million of Freddie Mac B-Piece debt transactions
 - Insight into 700 loans in the collateral presenting “first look” opportunity to acquire distressed loans
- **Today’s environment:** rebounding as operations and valuations are not as impaired as initially projected
 - Transacting buyers modeling some aggressive assumptions based on quicker return to normalcy
 - Team pursuing multiple transactions but remain selective and disciplined in underwriting assumptions
- **Leveraging our strong reputation and relationships:** outreach in the market highlighting past experience and ability to close quickly during complicated times
- **Future pipeline:** expect distress opportunities to come, rewarding patient and creative capital
 - Debt Opportunities – engaging with broker/dealers of Freddie B pieces in the secondary markets; Freddie Mac on new K Series issuances; and other debt lenders in the market to liquidate debt positions
 - New construction/lease up – lenders will eventually force developer’s hands and we have significant experience acquiring distressed new construction
 - Adaptive reuse/conversions – hotels and other uses are extremely depressed, opportunity to convert to multifamily
 - Additional distressed opportunities expected: poorly capitalized transactions; note sales; illiquid debt structures; submarket dislocations, gateway markets under stress, etc.
 - Portfolio transactions – expect large portfolios to come to market as investors look to recycle capital

VENTURE XIII CASE STUDY

Freddie Mac K-Series B-Piece

INVESTMENT METRICS

Closing date	March - April 2020
Total deal size	\$68 million
Hold period	5 years

¹ Internally compiled, not audited – see Appendix Presentation Endnotes for additional information. Past Performance is not indicative of future results and no assurance is made that the investment will achieve similar results



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DEAL LEVEL METRICS

	Underwriting
Number of loans	369
Average loan to value	65%
Average debt service coverage ratio	1.88x
Average debt yield	8.7%
Average vintage	1985

Opportunity

- Amid COVID-19 pandemic, mortgage REITS and mortgage credit funds faced margin calls and required immediate access to liquidity
 - As a result, the secondary mortgage bond market was trading at a wide discount relative to par value
 - Pre-COVID 19, Freddie Mac K Series B Pieces traded at 6.5-10% bond equivalent yield (“BEY”) and between March and April, Venture XIII acquisitions averaged 16% BEYs – creating equity like returns in debt secured positions
 - Opportunity to capitalize on distress requires discretionary capital and ability to analyze, underwrite and bid in short timelines

Investment Rationale

- We continue to pursue opportunities through our network of broker dealers and distressed sellers
- Anticipate more buying opportunities as hedge funds and other levered buyers are faced with investor redemptions or other liquidity needs
- Experienced in K-series investments and first buyer of B-pieces in 2009 with K-003

New Construction / Lease up / Short-Term Lease Exposure

OPPORTUNITY OVERVIEW

- Opportunity to step into deals going through construction, currently in lease-up and with substantial exposure to short-term lease operators. Waterton will target non-stabilized assets and owners with balance sheet concerns

WHY NOW?

- Longer construction periods associated with labor and supply line issues
- Deeper concessions for prolonged period
- Limited loan modifications / borrower recourse obligations
- Short-term lease operators, who are unable to meet rent obligations, will leave high exposure assets largely vacant

MORE THAN 800,000 MULTIFAMILY UNITS CURRENTLY UNDER CONSTRUCTION OR IN LEASE-UP

Metro	Units Under Construction
Dallas - Fort Worth	42,211
Washington, DC	29,805
Los Angeles	26,997
Houston	26,765
Newark - Jersey City	23,603
Phoenix	22,450
New York	18,037
Seattle	17,487
Atlanta	17,232
Boston	15,111
U.S. Total	580,899

Metro	Units in Lease-Up
Dallas - Fort Worth	19,980
Washington, DC	8,606
Houston	8,605
Austin	8,472
Atlanta	7,576
Los Angeles	7,549
Phoenix	6,942
Chicago	6,873
Denver	6,523
Boston	5,583
U.S. Total	224,035

Source: RealPage, Spring Apartment Market Update – April 2020



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Adaptive Reuse / Hotel Conversions

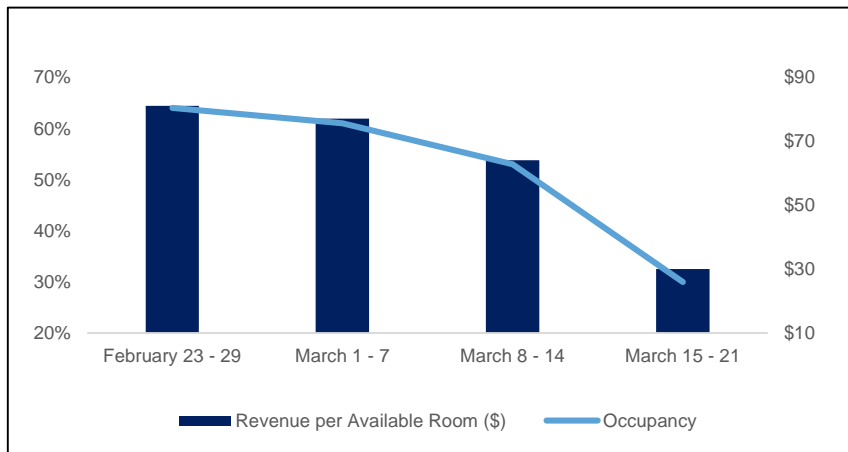
OPPORTUNITY OVERVIEW

- Opportunity to purchase nonperforming CMBS/CRE loans and distressed assets and convert them to multifamily housing, in accordance with the asset's highest and best use. Waterton will target full service suburban hospitality assets and extended stay / suites in MSA's with attractive supply and demand dynamics

WHY NOW?

- The U.S. hotel industry saw nearly an 80% drop in revenue from the first to second week of in March causing many hotel owners to close down operations and furlough employees
- Hotel owners who do not hold adequate cash reserves may be forced to sell assets at a deep discount or revert the asset to the lender

U.S. HOTEL OCCUPANCY AND REVENUE

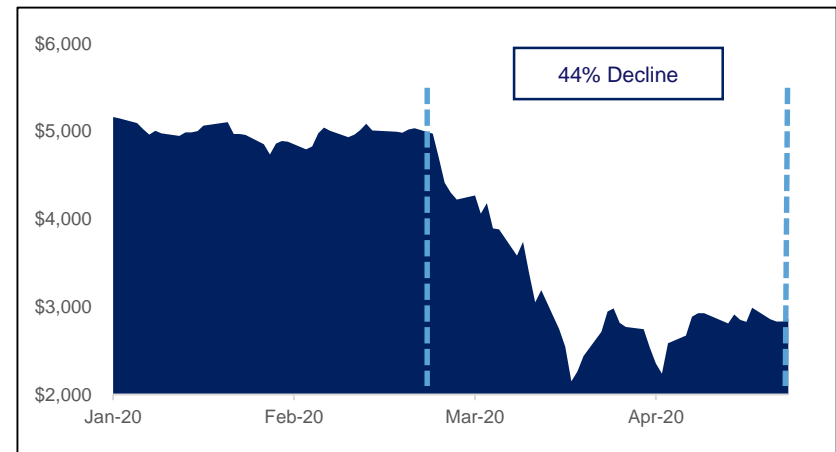


Source: STR Weekly Report – April 2020



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BAIRD / STR HOTEL STOCK INDEX



Source: <https://www.hotelnewsnow.com/Stock/BairdSTRHotelStockIndex> - May 2020

Conclusion

OPPORTUNITY TO GENERATE ATTRACTIVE CURRENT AND TOTAL RETURNS THROUGH A MULTIFAMILY INVESTMENT STRATEGY

- Multifamily is a need-based property type that benefits from renters-by-necessity and renters-by-choice
- Waterton is a dedicated multifamily specialist with over 25 years of experience
- Waterton's established sourcing and execution strategies have generated attractive results through cycles
- The disruption generated by the current economic environment should create cycle-specific opportunities
- Waterton is a proven fiduciary with like-minded investment partners – serving U.S. public pension plans for over 20 years

See Endnotes to 25 Year Multifamily Investment Performance Summary for additional information. Past performance is not indicative of future results and no assurance is made that future investments will achieve similar results



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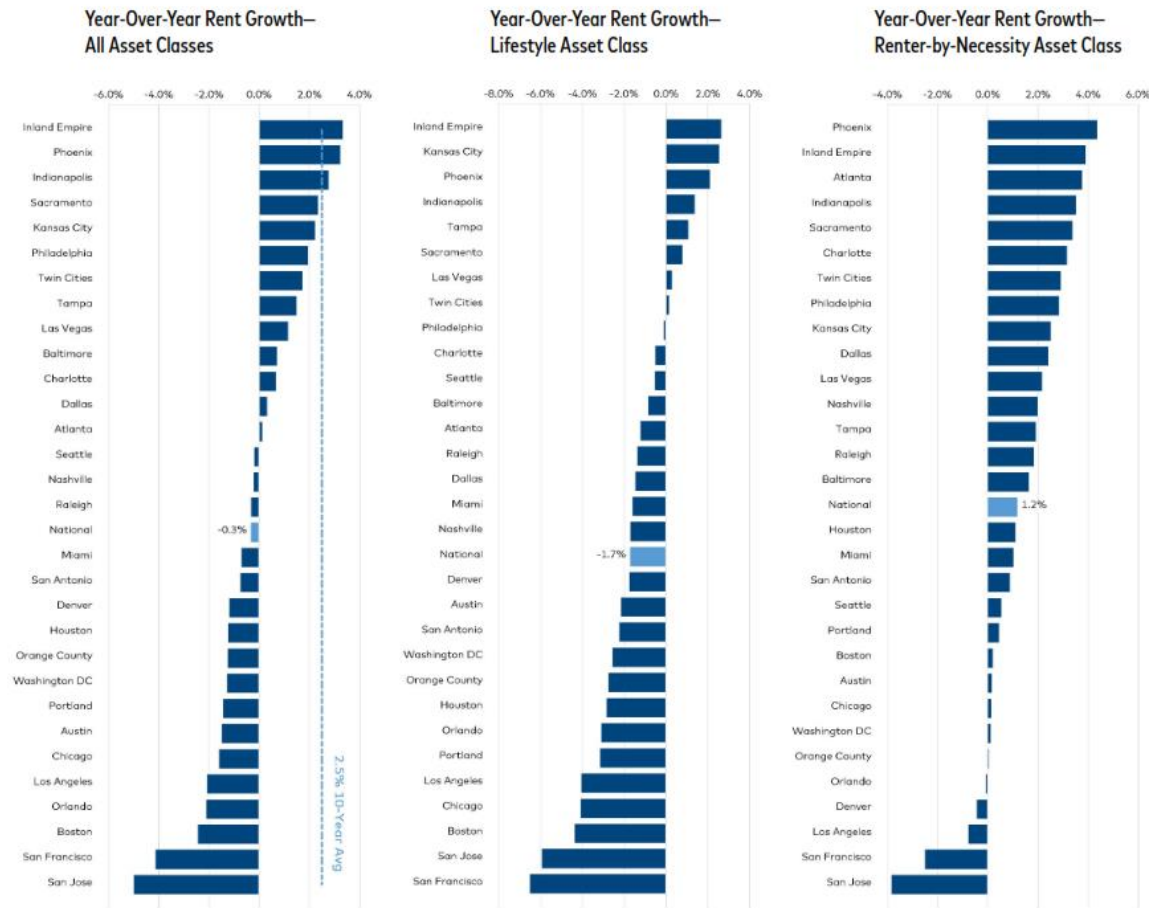
Appendix

- 1 Multifamily Market Data
- 2 ESG Initiatives
- 3 Waterton Disclosures and Terms of Use
- 4 Endnotes



Top 30 Markets Month over Month Rent Changes- July

- Of the Top 30 markets tracked by Yardi Matrix, YOY rent growth is negative in 17 markets. Nationally, renters by necessity is outperforming renter by choice – impacted by suburban vs. urban preference, and new supply



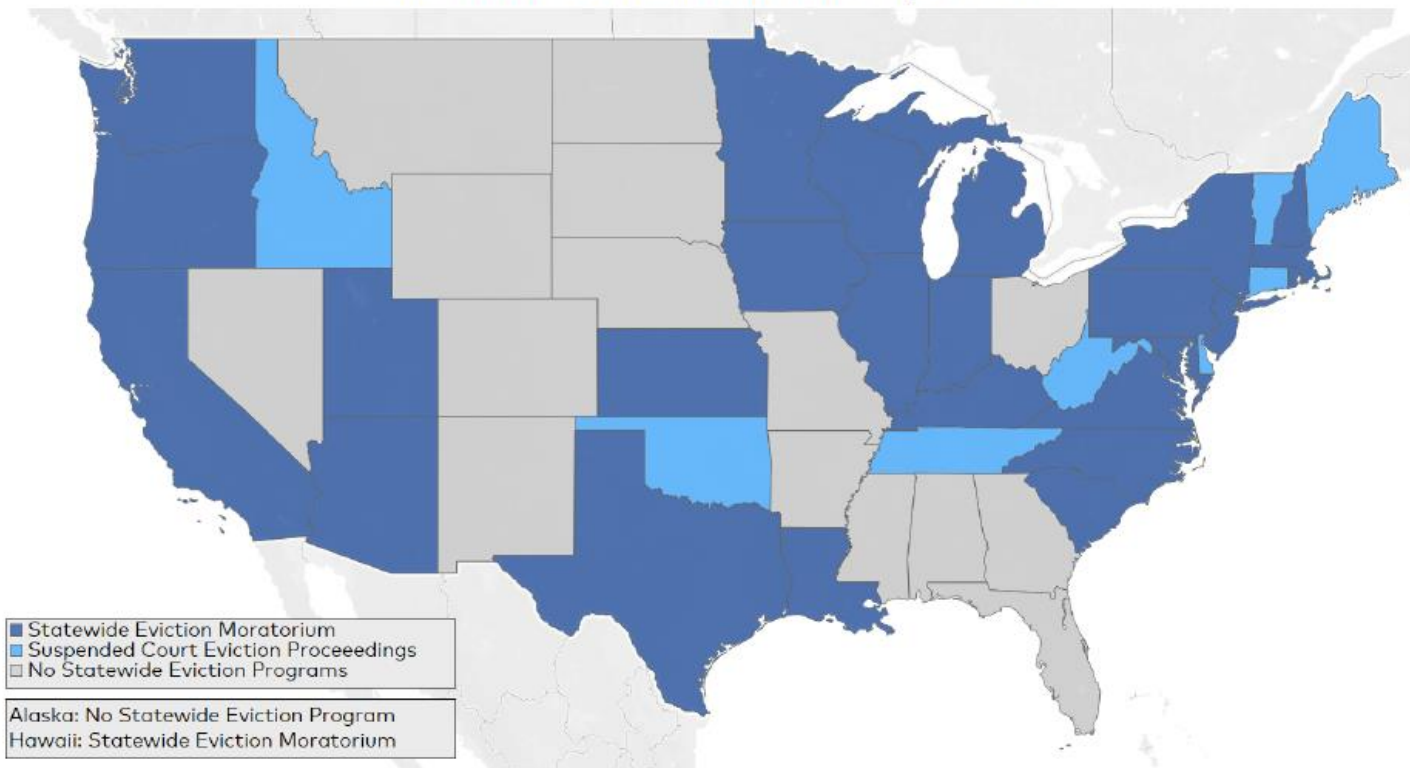
Source: Yardi Matrix

Economic Stimulus and Public Policy

EVICITION MORATORIUMS ENACTED AT THE STATE AND LOCAL LEVELS



Eviction Moratoriums by State



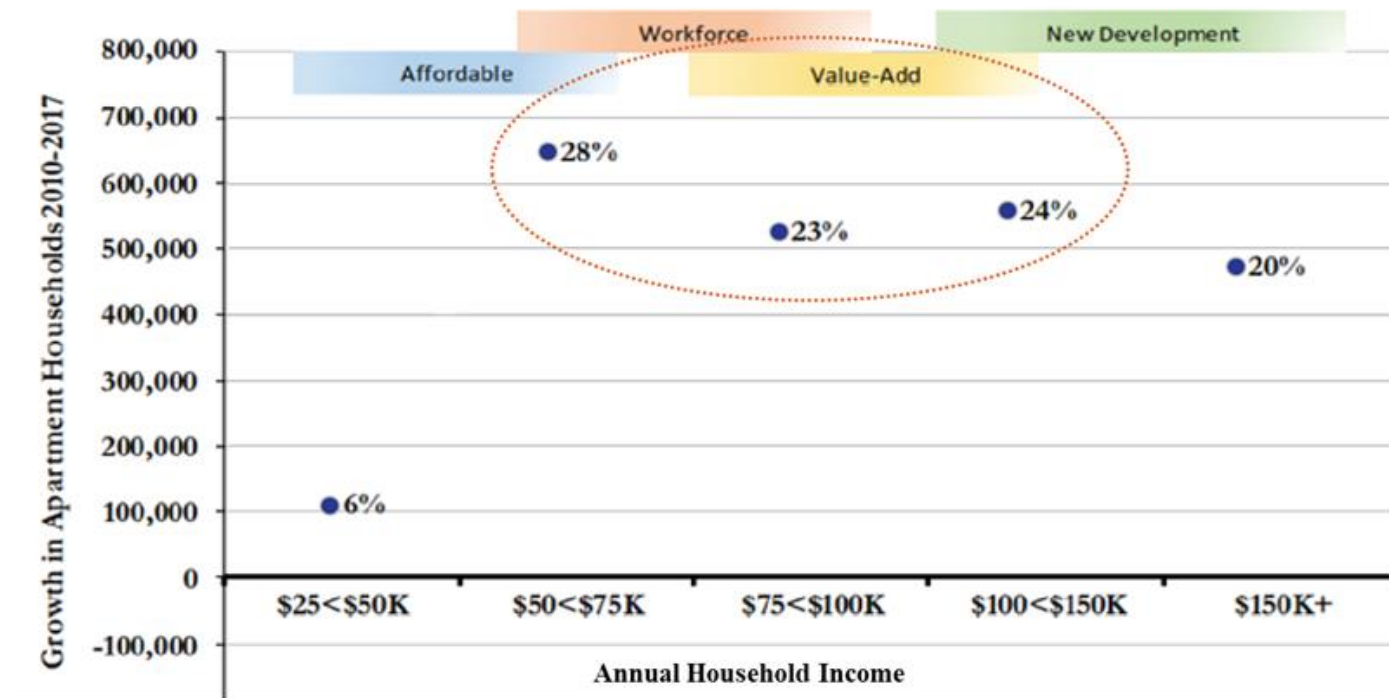
Data as of April 27, 2020

Source: Yardi Matrix; Tableau; Millionacres, A Motley Fool Company, "Cities and States That Have Paused Evictions Due to COVID-19"



Renters By Necessity: Middle Income Profile

Between 2010 – 2017, 75% of the new apartment renter growth was focused in the \$50,000 - \$150,000 annual household income range



Source: Witten Advisors, April 2019

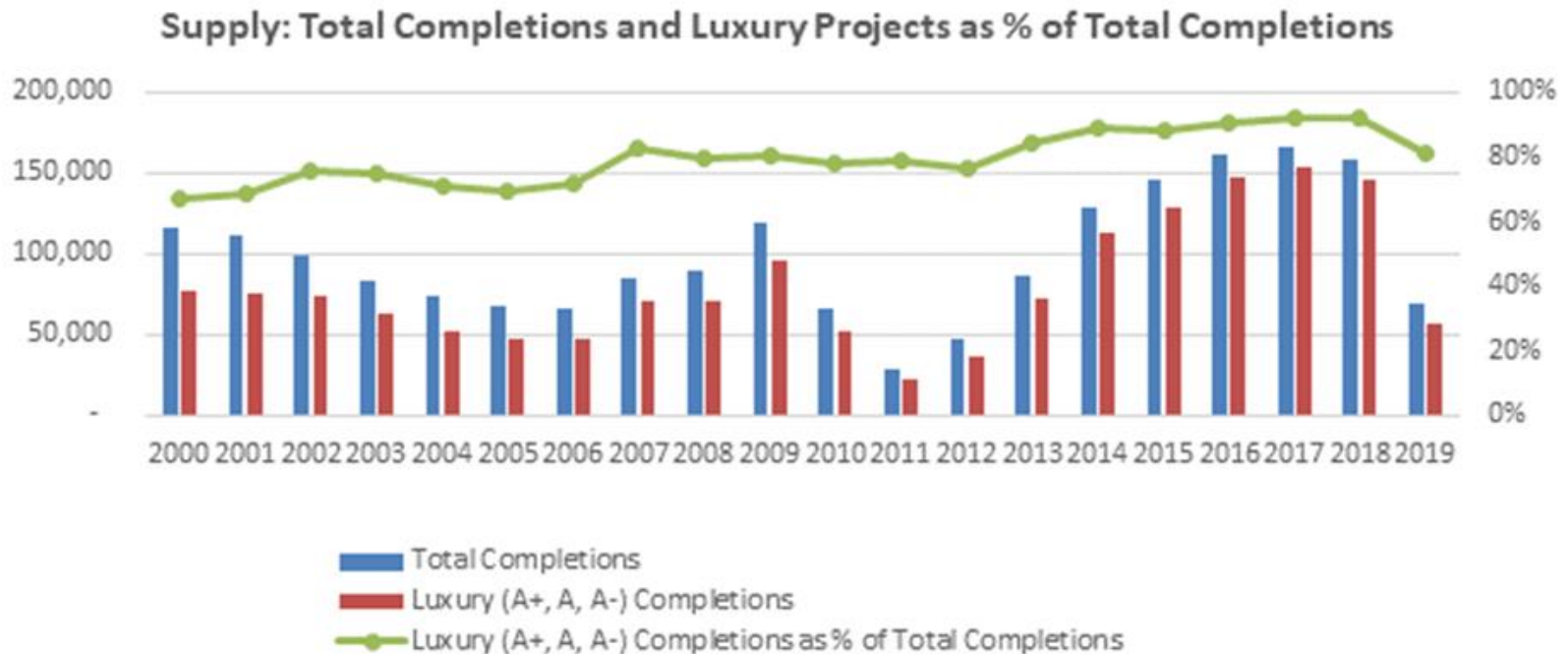
Note: There can be no assurance that historical trends will continue during the life of Venture XIV



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Middle Market Renters Are Underserved

Post-recession, the new apartment supply has focused on the higher-end luxury rental product



Source: Yardi Matrix Custom Data, Q3 2019

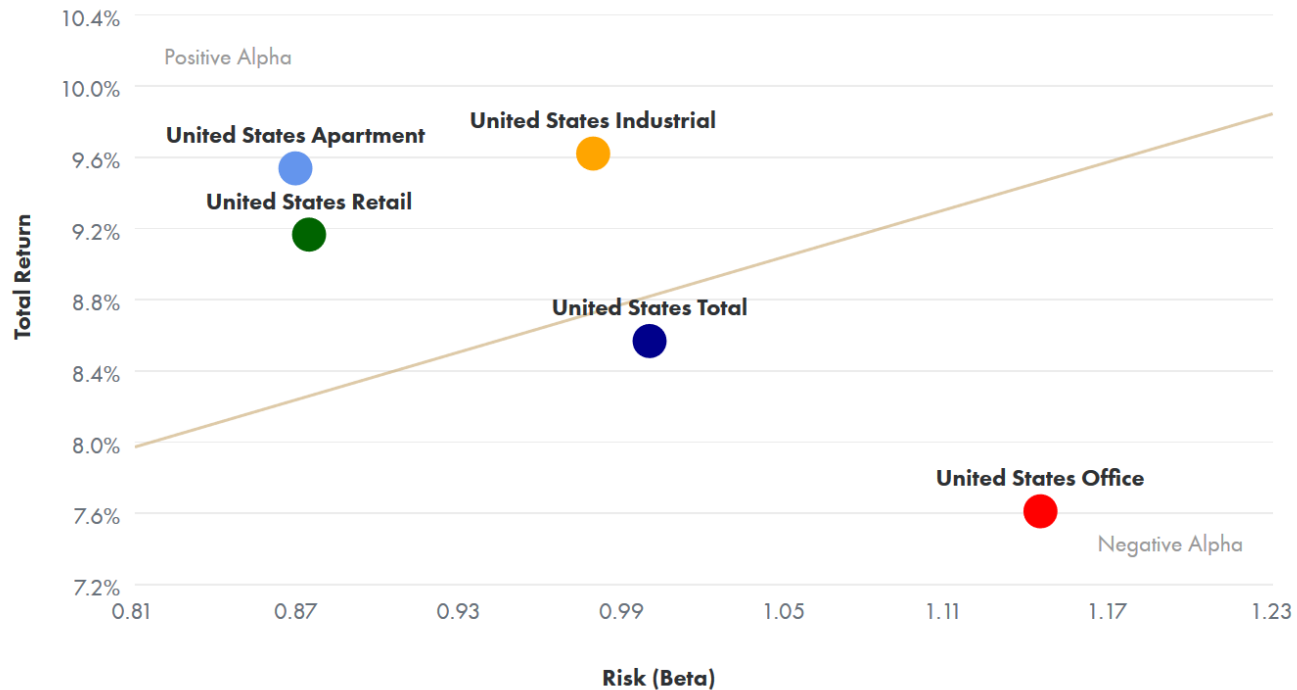
Note: There can be no assurance that historical trends will continue during the life of Venture XIV



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40-Year Risk vs. Return

Long term, multifamily outperforms on a risk-adjusted basis



Source: NCREIF, Q4 2019

Note: There can be no assurance that historical trends will continue during the life of Venture XIV



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Multifamily Outperforms Through Cycles

ANNUAL TOTAL INVESTMENT RETURN

	Apartments	All NCREIF	Apartment Excess Return
Recession			
1980-1982	16.0%	14.7%	1.3%
1991	-1.4%	-5.6%	4.2%
2001	9.4%	7.3%	2.1%
2008-2009	-12.4%	-11.7%	-0.8%
Early Recovery Period			
1983-1984	16.0%	13.5%	2.5%
1992-1994	7.5%	1.2%	6.3%
2002-2003	8.8%	7.9%	1.0%
2010-2011	16.8%	13.7%	3.1%

Source: Witten Advisors April 16, 2019 prepared for ULI Legacy Forum. Since 1980, apartments have outperformed in periods of recessions and early stages of recovery vis-à-vis other commercial real estate at large based on NCREIF returns

Note: There can be no assurance that historical trends will continue during the life of Venture XIV

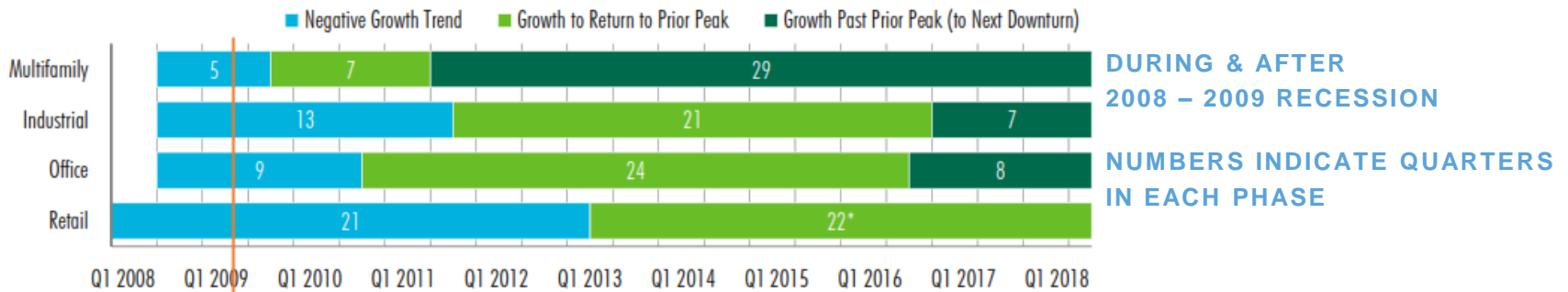
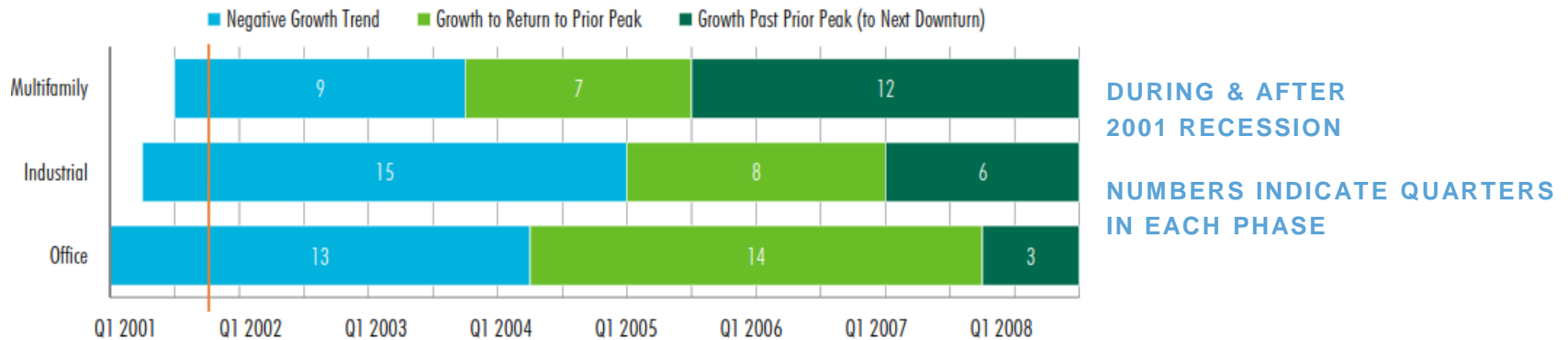


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Multifamily Outperforms in Recessionary Periods

Compared to other commercial real estate, multifamily properties experience:

- Shortest periods of negative rent growth
- Shortest time to return to rent levels prior to peak
- Longer expansion (growth) periods from prior peak



Source: CBRE Research, CBRE Econometric Advisors, Q4 2018

2001 chart: Data on figure through Q3 2008. The National Bureau of Economic Research dates the 2001 recession as March 2001 through November 2001. Retail rents did not decline during this recession
2008-2009 chart: Data on figure through Q4 2018. The National Bureau of Economic Research dates the last recession as December 2007 through June 2009. Retail rents have still not achieved pre-recession peak levels

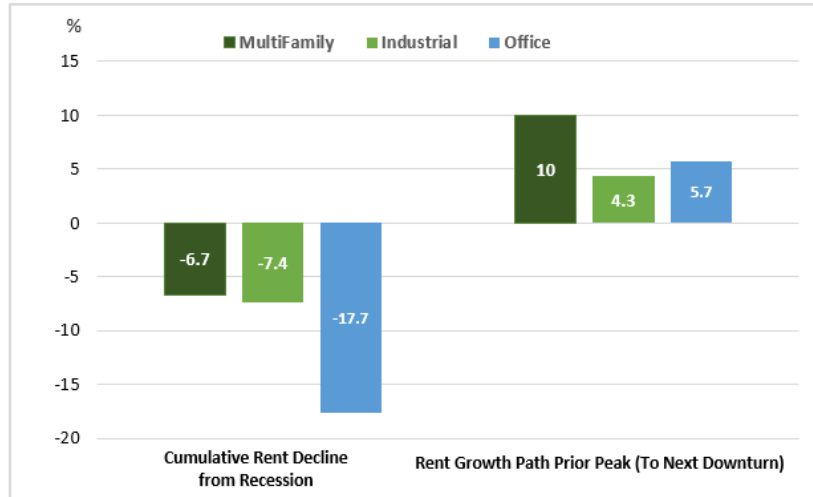
Note: There can be no assurance that historical trends will continue during the life of Venture XIV



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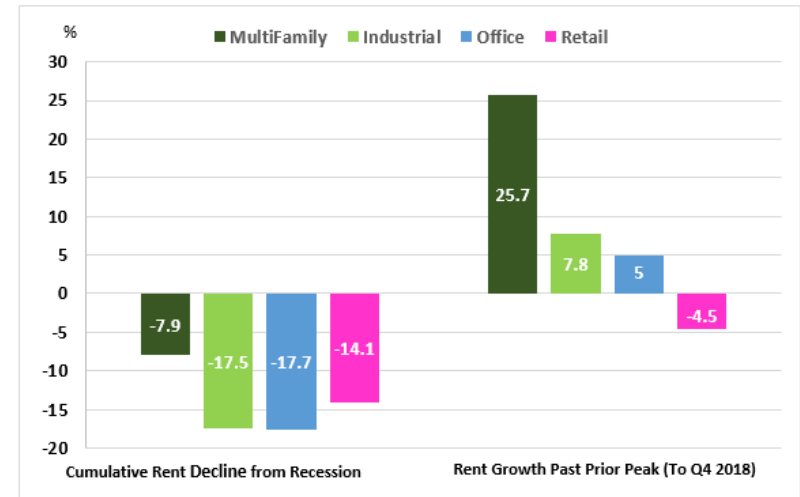
Rent Decline and Growth During and After Recessions

CUMULATIVE EFFECTS ON RENT DURING AND AFTER 2001 RECESSION



Source: CBRE Research, CBRE Econometric Advisors, Q4 2018. Retail rents did not decline during this recession.

CUMULATIVE EFFECTS ON RENT DURING AND AFTER 2008-09 RECESSION



Source: CBRE Research, CBRE Econometric Advisors, U.S. Census Bureau, Q4 2018.

LATE CYCLE APPEAL OF MULTIFAMILY COMPARED TO OTHER COMMERCIAL REAL ESTATE



During periods and after recessions, multifamily experiences **lower total rent decline** and **more rapid post-recession rent recovery**

Note: There can be no assurance that historical trends will continue during the life of Venture XIV

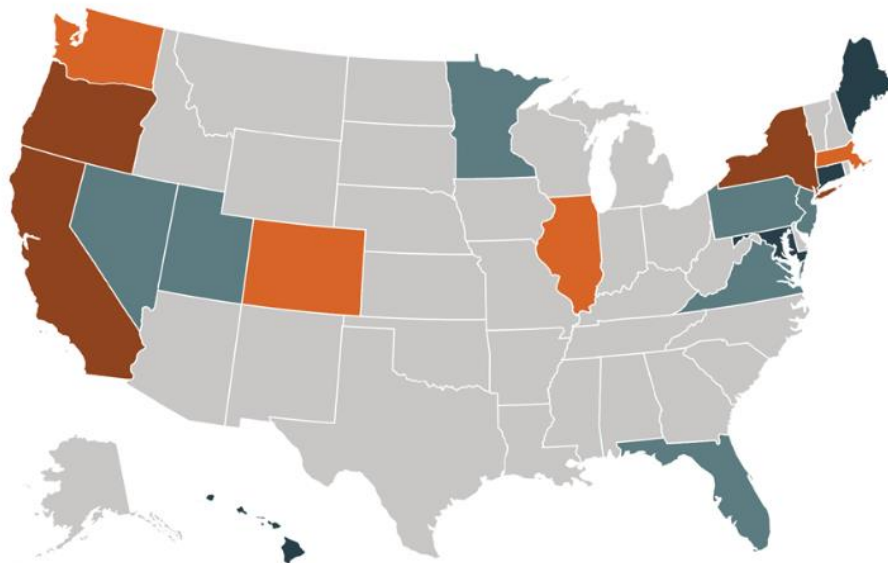


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Today's Multifamily Market: Rent Regulation

2020 RENT CONTROL UPDATES

- Rent regulation is part of the national, political dialogue
- Current and potential regulation changes are impacting real estate values and potential rent growth
- Waterton's previous and current ownership of regulated investments allows us to better navigate and assess these risks
- Waterton is taking an active role in the national dialogue through leadership roles within National Multi Housing Council (NMHC), a leading industry trade group consisting of multifamily owners, managers and developers



TIER ONE - HIGH

Colorado
Illinois
Massachusetts
Washington

TIER TWO - ELEVATED

Florida
Minnesota
Nevada
New Jersey
Pennsylvania
Utah
Virginia

TIER THREE - MONITOR

Connecticut
Hawaii
Maine
Maryland

CONTINUED THREATS

California^[1]
New York^[2]
Oregon^[3]

[1] Potential ballot initiative
[2] Legal activity/municipal threats
[3] Consequences from 2019 law

Source: National Multifamily Housing Council



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ESG Initiatives

ORGANIZING AND ENHANCING EXISTING PROCEDURES IN A FORMAL ESG PLAN

A formal ESG committee was formed in late 2019 and has selected RE Tech, an ESG advisor specific to real estate, to help formalize our ESG practices, metrics, measurement periods and goals. A formal plan is targeted by year end 2020.



ENVIRONMENTAL

Incorporate sustainable design and operations wherever possible in our value add strategies. Including energy conservation, water and natural resource conservations, healthy and green living initiatives. Since inception of Freddie Mac Multifamily Green Advantage program, we have completed over \$1.0 billion in green loan financing.



SOCIAL

We encourage associates to donate time, talents and resources to local and national causes – whether through our philanthropic affinity group, Aligned@Waterton, our donor advised fund, our day of all-company service or two days of paid volunteer time off (“VTO”). We are also working to grow and elevate diversity within our organization and industry through our D&I committee, formed in 2019.



GOVERNANCE

Waterton is a Registered Investment Advisor. Our CCO ensures that our compliance manual involves the entire company with an annual, detailed review and regular training programs and works with teams across the firm to manage fund compliance. We also have an independent Advisory Board as well as Limited Partner Advisory Committees for each fund.

Social and Civic Initiatives

WATERTON'S PHILANTHROPIC MISSION DERIVES FROM OUR CORPORATE MISSION – *IMPROVING COMMUNITIES*

- Our DAF provides for collective impact, aggregating associate donations to provide sustaining grants to agencies concentrating on housing and homeless services
- Our associates are active board members, committee members and volunteers
 - **All Chicago** – the HUD lead agency for homeless services in Chicago
 - **Housing Partnership Equity Trust** – a leading private equity REIT acquiring naturally occurring affordable housing nationwide.
 - **Catalyst Schools** – inner-city alternative schools
 - **DePaul Real Estate Center** – a leading research and education forum
 - **Institute on Global Homelessness** – a branch of DePaul University
 - **Chicago Funders Together to End Homelessness**



Social Service Initiatives

- **Inspiration Kitchen “Meals for Providers”**-we helped launch this initiative to enable a food service training agency to remain open by preparing meals-to-go for homeless service agencies, which in turn allowed those agencies to continue providing services.
- **Bridge Communities capital projects planning** – our Capital Projects team is assisting this transitional housing provider to establish and manage capital plans across 24 owned apartment buildings.
- **Goldie Initiative “Rocket Mentorship” program** – 7 “Waterton Women” participated in this real estate mentorship program this year; two “Waterton Women” serve as Goldie mentors
- **Illinois Connected** – we are sponsoring three local neighborhoods for full roll-out of broadband connectivity in the statewide program
- **Mission Sustainability Initiative** – we are a leading member of this collaborative funding group that provides strategic alternative advisory service to nonprofits.



Recent Diversity & Inclusion Progress

ORGANIC PROGRESS OVER THE YEARS – SHARPENED FOCUS IN 2019

Through leadership, internships and charitable contributions, Waterton has been involved with various groups developing diversity in our industry over the years, such as the Goldie Initiative, PREA Foundation, Project REAP, The All Stars Project and The Catalyst Schools

We established a D&I committee to further and more specifically develop diversity within our organization:

- **2019** – added Collette English-Dixon to our independent advisory board, a black American woman with significant industry experience who currently heads the Bennett Institute of Real Estate at Roosevelt University
- **2019** – established a hiring and training program for diversity
- **2019** – conducted a half day training on unconscious bias for the corporate office (facilitated by FPL)
- **2019** – identifying diverse mid-level candidates for additional training and support; a regional manager, and black American female, attended the 3-day Project REAP training in mid-2019
- **2020** – creation of a corporate Inclusion and Diversity Committee, meeting monthly to focus on short and long-term goals for I&D initiatives across the firm, prioritizing listening, training and recruiting for all positions
- **2020** – an all team training with LaTonya Wilkins, to discuss leadership, allyship, the experience of POC and Juneteenth (the session was held on June 19th)
- **2020** – Waterton Women sessions (virtual book/movie clubs) addressing race and racial injustice in America (with sessions on The Color of Law; How They See Us and How to Be an Anti-Racist)

Waterton Disclosures and Terms of Use

The information contained herein is preliminary, provided for informational and discussion purposes only, is only a summary of key information, is subject to change without notice and is not, and may not be relied on in any manner as legal, business, financial, tax or investment advice or as an offer to sell or a solicitation of an offer to purchase securities, or to participate in any trading strategy. A private offering of interests in any Waterton sponsored fund will only be made pursuant to a confidential private placement memorandum (as amended or supplemented from time to time, the "PPM") and subscription documents (the "Subscription Documents"), which will be furnished to qualified investors on a confidential basis at their request for their consideration in connection with such offering. The information contained herein is a trade secret, the disclosure of which is likely to cause substantial and irreparable competitive harm to Waterton Associates L.L.C. ("Waterton") and its affiliates and must be kept strictly confidential and may not be reproduced or redistributed in any format without the approval of Waterton. By accepting this information, the recipient agrees that it will, and it will cause its shareholders, partners, members, directors, officers, employees and representatives, to use the information only to evaluate its potential interest in a transaction with Waterton and for no other purpose and will not divulge any such information, in whole or in part, to any other party except for its advisors under duties of confidentiality. By accepting this document, each recipient agrees to return it promptly upon request. All logos appearing in these materials are trademarks owned by Waterton and may not be used without the express permission of Waterton.

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Information herein is as of the date on the cover page hereof, unless otherwise noted, and Waterton does not expect to update or otherwise revise the information contained herein. All information contained herein, including any targets, estimates, approximates or projections, is based upon information internally provided by affiliates of Waterton or third parties and has not been audited or otherwise independently verified. Personnel information is accurate as of the date noted and may not reflect changes resulting from departures or additions. Certain of the economic and financial market information contained herein has been obtained from published sources and/or prepared by third parties. While such sources are believed to be reliable, Waterton and its affiliates do not assume any responsibility for the accuracy or completeness of such information, and no representation or warranty is made with respect thereto. Additional information from Waterton is available on request. Certain services described herein shall be provided by affiliates of Waterton pursuant to contractual agreements.

These materials may contain statements that are not purely historical in nature, but are "forward-looking statements." These include, among other things, targeted performance, projections, forecasts and estimates of return performance. The General Partner believes that there is a sound basis for any targets contained herein. These forward-looking statements are based upon certain

assumptions. Actual events are difficult to predict and may be beyond Waterton's control. Actual events may differ from those assumed. All forward-looking statements included are based on information available as of the date hereof and Waterton and its affiliates assume no duty to update any forward-looking statements. Some important factors which could cause actual results to differ materially from those in any forward-looking statements include changes in economic conditions, political changes, legal and regulatory requirements, exchange rate fluctuations, as well as changes in the markets, prospects, competition or consumer preferences, among others.

Currently, there is an ongoing outbreak of COVID-19, which has caused a worldwide public health emergency, straining healthcare resources and resulting in extensive and growing numbers of infections, hospitalizations and deaths. The ongoing COVID-19 crisis and any other public health emergency could have a significant adverse impact and result in significant losses to the Fund. The extent of the impact on the Fund and its portfolio investments' operational and financial performance will depend on many factors, all of which are highly uncertain and cannot be predicted, and this impact may include significant reductions in revenue and growth, unexpected operational losses and liabilities, impairments to credit quality and reductions in the availability of capital. These same factors may limit the ability of the Fund to source, diligence and execute new investments and to manage, finance and exit investments in the future, and governmental mitigation actions may constrain or alter existing financial, legal and regulatory frameworks in ways that are adverse to the investment strategy the Fund intends to pursue, all of which could adversely affect the Fund's ability to fulfill its investment objectives. They may also impair the ability of portfolio investments or their counterparties to perform their respective obligations under debt instruments and other commercial agreements (including their ability to pay obligations as they become due), potentially leading to defaults with uncertain consequences. In addition, the operations of the Fund, its portfolio investments, the General Partner and the Manager may be significantly impacted, or even temporarily or permanently halted, as a result of government quarantine measures, restrictions on travel and movement, remote-working requirements and other factors related to a public health emergency, including its potential adverse impact on the health of any such entity's personnel. These measures may also hinder such entities' ability to conduct their affairs and activities as they normally would, including by impairing usual communication channels and methods, hampering the performance of administrative functions such as processing payments and invoices, and diminishing their ability to make accurate and timely projections of financial performance.

In considering any performance data contained herein, you should bear in mind that past performance is not necessarily indicative of a guarantee of future results, and there can be no assurance that the investor will achieve comparable results.

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Presentation Endnotes

General

Currently, there is an ongoing outbreak of COVID-19, which has caused a worldwide public health emergency, straining healthcare resources and resulting in extensive and growing numbers of infections, hospitalizations and deaths. The ongoing COVID-19 crisis and any other public health emergency could have a significant adverse impact and result in significant losses to the Fund. The extent of the impact on the Fund and its portfolio investments' operational and financial performance will depend on many factors, all of which are highly uncertain and cannot be predicted, and this impact may include significant reductions in revenue and growth, unexpected operational losses and liabilities, impairments to credit quality and reductions in the availability of capital. These same factors may limit the ability of the Fund to source, diligence and execute new investments and to manage, finance and exit investments in the future, and governmental mitigation actions may constrain or alter existing financial, legal and regulatory frameworks in ways that are adverse to the investment strategy the Fund intends to pursue, all of which could adversely affect the Fund's ability to fulfill its investment objectives. They may also impair the ability of portfolio investments or their counterparties to perform their respective obligations under debt instruments and other commercial agreements (including their ability to pay obligations as they become due), potentially leading to defaults with uncertain consequences. In addition, the operations of the Fund, its portfolio investments, the General Partner and the Manager may be significantly impacted, or even temporarily or permanently halted, as a result of government quarantine measures, restrictions on travel and movement, remote-working requirements and other factors related to a public health emergency, including its potential adverse impact on the health of any such entity's personnel. These measures may also hinder such entities' ability to conduct their affairs and activities as they normally would, including by impairing usual communication channels and methods, hampering the performance of administrative functions such as processing payments and invoices, and diminishing their ability to make accurate and timely projections of financial performance.

The hypothetical performance metrics of the investments presented on the "25 Year Multifamily Value Add Investment Performance Summary" have been updated as of March 31, 2020 to incorporate the general partner's assumptions surrounding the impact of the COVID-19 pandemic. Updates include incorporating more conservative cash flow assumptions used in developing the March 31, 2020 asset valuations, as well as extending property sale timing expectations. There is a possibility of material change; please reference COVID-19 disclosure above.

In considering the performance information contained herein, prospective investors should bear in mind that the past performance of Waterton included herein is not indicative or a guarantee of future results. It should not be assumed that any investments made in the future will be profitable or will equal the performance of any investment presented herein. Future performance may be impacted by any number of factors, including general economic conditions and level of competition in the marketplace. Moreover, there can be no assurance that the unrealized investments will be sold for the unrealized value set forth herein, or that the performance information set forth herein in respect of unrealized investments will in fact be achieved. While valuations of unrealized investments are based on certain assumptions that Waterton believes are reasonable under the circumstances, estimates of unrealized value are subject to numerous variables that may change over time. Therefore, amounts actually realized and performance in the future will differ, in some cases materially, from the unrealized values indicated in this presentation and used in connection with calculations presented herein. Certain performance information set forth herein has not been audited or reviewed by independent public accountants. The figures are internally compiled, not audited, and unless otherwise noted, is as of March 31, 2020.

In the instance where the general partners' capital commitment, which ranged from 1% to 2% of total commingled fund commitments, did not incur an asset management fee, the returns are presented on an actual basis. The General Partner believes that the impact of reduced asset management fees has less than 1% impact to the Fund's total returns.

Portfolio represents gross real estate value under management, including investments in mortgage backed securities that are part of Freddie Mac's Capital Market Execution Program, hospitality, senior living and uninvested capital commitments. The calculation of units, states and major markets excludes investment in mortgage backed securities.

Presentation Endnotes

Performance information contained herein includes all investments for which Waterton raised and invested equity capital unless excluded for the following reasons: incentive management takeover where no equity was contributed and/or Waterton was a sub advisor without control of cash flows and major capital decisions. The realized track record excludes properties that were owned and operated under affordable housing guidelines (one investment), one transfer asset from Fund IX to a longer term, core strategy (see Investment Performance Endnote E) and nineteen (19) other investments where no new equity was raised and Waterton operated under an incentive management agreement (seven assets were held in Fund V; see Investment Performance Endnote C). Figures rounded to the nearest million.

The annual Apartment Ratings awards recognize properties with outstanding resident satisfaction, based on resident reviews, and are available on ApartmentRatings.com. Approximately 5% of the total properties listed on the website qualify for an award. The top rated award criteria is as follows: 10+ total reviews, 5+ reviews in 2016 and an overall recommended score of 70% or greater (at the time of award). ApartmentRatings' ranking is not indicative of Waterton's future performance. Please refer to <http://www.apartmentratings.com> for further information. The SatisFacts Index Score is calculated in real time and is determined by aggregating the average scores of prospective and current resident responses to questions that relate to key events in the resident's life cycle. The index is based on a 5 point grading scale from (1) very unsatisfied to (5) very satisfied. It captures key attributes such as apartment appearance, maintenance requests and service, office staff and community. In order to be eligible for an award, the community's average score must be 4.0 or higher and a minimum of 25 surveys must be completed. SatisFacts' ranking is not indicative of Waterton's future performance. Please refer to <https://www.satisfacts.com/> for further information.

Endnotes to 25 Year Multifamily Value Add Investment Performance Summary

Please also review Appendix Presentation Endnotes for important information regarding the performance information presented herein.

- A. Fund I was liquidated in a cash and property exchange between fund investors. The imputed performance reflects the cash and net asset value of all properties exchanged, as agreed to by investors.
- B. Fund IV invested in three properties: The Ridge, Park Lake, and Winridge. The Ridge was sold separately by the majority investor prior to the redemption of investor interests in Park Lake and Winridge. The "Realized Net IRR" reflects the total Fund IV investor distributions inclusive of the net asset value of the redemption based on the recapitalization prices for Park Lake and Winridge. The Fund IV assets did not meet the incentive fee hurdle. Waterton was the incentivized operator, not the manager and did not control major decisions related to sale, refinancings, cash flows.
- C. Excludes Fund V which had a single institutional investor but no Waterton-affiliated group of investors. It was a joint venture with a university endowment fund for which no new equity was raised or invested. Waterton acted as takeover manager for seven assets representing 1,759 units under an incentive management agreement coupled with a promoted interest in the Fund.
- D. Fund VII raised \$94.4million and reinvestment proceeds resulted in the acquisition of assets aggregating \$134.9million in equity. These results are not audited and based on an internal compilation.
- E. Fund IX raised \$461.1 million and acquired 15 assets and sold all except one asset, Presidential Towers, which was recapitalized with an institutional co-investor on June 30, 2015 for a long-term hold and reclassified to a core / core plus strategy. The performance for the Fund is through the last asset liquidation date which occurred in 2017, however, the performance activity for Presidential Towers is from Fund IX's acquisition date of April 18, 2007 through June 30, 2015. Subsequent activity for Presidential Towers is not reflected in Fund IX and is calculated independently as of the recapitalization date under Fund IX PT Chicago, L.L.C. As a result of the investment being transferred to a longer term core strategy, and not via a traditional open market sale, the since inception activity for Presidential Towers is not included in the calculation of Waterton's aggregate realized net IRR and EM computation.
- F. Individual Investments, totaling \$49.8 million of Total Capitalization and \$13.4 million of Invested Equity, are owned and operated under affordable housing guidelines and returns are not presented as they are not reflective of Waterton's value-add strategy. One realized investment, Riverwood, was owned and operated under a separate tax credit strategy and not reflective of the Venture's or Waterton's typical value-add strategy.
- G. Total Capitalization reflects the gross investment purchase price (including any third party debt) plus closing and loan costs, and includes any lender reserves and other costs/reserves incurred at the time of the acquisition, including but not limited to any upfront capital expenditures, and if applicable, an allocation for fund level expenses.
- H. Invested Equity reflects amounts invested in the asset plus reinvestable proceeds, 1031 exchanges, investments that were acquired on a line of credit and repaid before equity was called, cash reserved at the investment level, and fund level costs including asset management fees.

Endnotes to 25 Year Multifamily Value Add Investment Performance Summary

- I. Realized Net IRR and EM represents cash distribution through the reportable period, and is calculated on actual capital activity or “Contractual Capital Activity” which includes cash flows in and out of the project to the investors (as a collective), and where applicable, is reported (i) net of leverage, (ii) asset management fees (no asset management fees charged prior to Fund IX), (iii) fund level expenses, and (iv) carried interest on a pre-tax basis using the Microsoft Excel XIRR function. “Contractual Capital Activity” includes deemed capital events such as contributions, distributions and timing as agreed between the majority investor and the Sponsor. Where permissible, the net IRR calculation may have been impacted by the temporary use of a credit facility in lieu of capital contributions to fund an investment, which is typically repaid from capital contributions, as agreed between the majority investor and the Sponsor within an agreed upon period. In the case of any realized investments in an active fund, the fund's share of the carried interest obligation is deducted when earned for the calculation of the net IRR and EM.

To the extent a fund is active and not fully realized, the Hypothetical Net IRR and EM includes realized activity as described above plus liquidation NAV as of the date referenced. Venture XIII is within its investment period and accordingly, the Hypothetical Net IRR and EM is noted as NM (not meaningful); however, if one were to compute a liquidation as of March 31, 2020, the resulting IRR/EM are: -11.5% and 0.87x. Venture XIII Net IRR/Net EM are net of full fees per the LPA and does not reflect any fee discounts. There can be no assurance that partially realized and unrealized investments will be sold for values equal to or in excess of the total values used in calculating the performance information portrayed herein. Actual returns on partially realized and unrealized investments will depend on, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions on which the valuations reported herein are based. Accordingly, the actual realized returns on investments that are partially realized or unrealized may differ materially from the values indicated herein and used to calculate performance information contained herein. The Hypothetical Net IRR and EM have been updated as of March 31, 2020 to incorporate the general partner's assumptions surrounding the impact of the COVID-19 pandemic. Updates include incorporating more conservative cash flow assumptions used in developing the March 31, 2020 asset valuations, as well as extending property sale timing expectations. There is a possibility of material change; please reference COVID-19 disclosure on page 38.

- J. Represents Funds that are at least 95% realized.
- K. Based on data collected, analyzed and ranked by Preqin. The annual ranking is conducted by Preqin. Preqin assigns each closed-end fund a quartile ranking based on its performance against other funds of the same geographic focus and vintage year. The methodology used to compile Preqin's consistent performing managers list looks at these quartile rankings; a top-quartile fund will be ascribed a score of one, a second-quartile fund a score of two and so on. Preqin only assigns quartile rankings to funds of more mature vintage years. Funds with vintages of 2013 or later are not considered. Furthermore, the table has been restricted to fund managers that have raised at least three funds, and is further narrowed down to include only active fund managers. Managers that have not launched a new fund since 2009 are excluded. Preqin does not endorse these fund managers, but rather to illustrate those that have performed the most consistently in the past. Preqin compiles its data based on questionnaires that have been completed by firms that participate in the survey as well as from publically available data sources. Preqin's ranking is not indicative of Waterton's future performance. For additional information regarding data collection and methodology, please refer to: www.preqin.com.



State of Connecticut
Office of the Treasurer

SHAWN T. WOODEN
TREASURER

September 3, 2020

Members of the Investment Advisory Council ("IAC")

Re: Consideration of Finalists for the Convertible Bond Manager Search

Dear Fellow IAC Member:

At the September 9, 2020 meeting of the IAC, I will present for your consideration two firms for an opportunistic convertible bond strategy for the Connecticut Retirement Plans and Trust Funds ("CRPTF"): Advent Capital Management and Calamos Advisors. This is the culmination of a competitive search process, conducted through a Request for Proposal, as outlined to the IAC at the June 10, 2020 meeting.

The objective of this search was to source an experienced convertible bond manager that would provide further diversification for the High Yield Debt Fund. At the meeting next week, we will hear brief presentations from each firm that will provide details of their active strategies.

Attached for your review is a recommendation from Chief Investment Officer, Laurie Martin along with an overview of each firm. I look forward to discussing this with you at the September meeting of the IAC and receiving your feedback on these finalists.

Sincerely,

Shawn T. Wooden
State Treasurer

OFFICE OF THE STATE TREASURER
MEMORANDUM



DECISION

TO: Shawn T. Wooden, Treasurer

FROM: Laurie Martin, Chief Investment Officer

CC: Steve Meier, Senior Principal Investment Officer
Lyndsey Farris, Principal Investment Officer
Michael Terry, Principal Investment Officer

DATE: August 28, 2020

SUBJECT: Standalone Convertible Bond Strategy Recommendation

Summary

The purpose of this memorandum is to provide the results and recommendation from the Standalone Convertible Bond Strategy competitive bid process. On June 10, 2020, the Investment Advisory Council ("IAC") endorsed the scope of services and project timeline and a Request for Proposal ("RFP") was issued on June 19, 2020 with a submission deadline of July 10, 2020. The RFP was undertaken in response to an opportunity identified in the convertibles market.

The RFP was well received by the institutional marketplace with 19 firms submitting proposals across 22 strategies which were evaluated by Pension Fund Management ("PFM") staff with the assistance of the Connecticut Retirement Plans and Trust Funds ("CRPTF") general consultant Meketa Investment Group ("Meketa"). PFM and Meketa interviewed five semi-finalist firms by video call during the week of August 17th, selecting two firm to be considered for the convertible bond mandate meant to complement the High Yield Debt Fund ("HYDF"). The following memorandum will provide a prospective framework of the strategy and its fit within the HYDF and the overall CRPTF with an objective of improving long-term risk adjusted returns.

HYDF Overview

The HYDF invests primarily in domestic below investment-grade debt securities in order to meet the CRPTF asset allocation guidelines. In the overall asset allocation, the HYDF's goal is to achieve a long-term, real rate of return above the inflation rate and utilize a range of manager styles to capture excess return. The inclusion of the HYDF asset class provides a source of diversification to other asset classes within the CRPTF given the different economic environments. The HYDF consists of actively managed fixed income portfolios which, in aggregate, are debt instruments rated below investment grade by a nationally recognized rating agency service.

The Investment Policy Statement for the two largest components of CRPTF (i.e. Teachers Retirement Fund and State Employees Retirement Fund) allocates a 3% target to the HYDF with lower and upper bounds of 0% and 8%, respectively. There is currently a temporary overweight in HYDF acting as a proxy for Private Credit. The Private Credit asset class was added to the CRPTF in February with a policy allocation of 5%. At that time, the HYDF moved from a 6% allocation to a 3% allocation.

Table 1
Investment Policy Statement for CRPTF's Two Largest Plans
As of June 30, 2020

	Current Exposure	Policy Weight	Lower Range	Upper Range
Teachers Retirement Fund	6.2%	3%	0%	8%
State Employees Retirement Fund	6.2%	3%	0%	8%

Table 2
HYDF as of June 30, 2020

Manager	Strategy	Amount (mm)	Percent
Shenkman Capital Management	Active High Yield	\$259	12%
Columbia Threadneedle Investments	Active High Yield	627	29%
AllianceBernstein	Active High Yield	348	16%
Nomura Group	Active High Yield	557	25%
DDJ Capital Management	Active High Yield	258	12%
HYG ETF*	Passive High Yield	145	7%
Total		\$2,194	100%

*The most recent Private Credit Fund commitments will be funded through the ETF. Following that, the HYDF portfolio will be right sized to raise additional capital to fund commitments.

Convertible Bond Strategy Market Overview

An opportunistic allocation to convertible bonds is consistent with the goals of the HYDF and offers additional diversification within this asset class. The structure of a convertible security includes participation on the equity, downside protection of the bond, and the embedded value of the option which creates the attractive asymmetry of returns. These types of securities tend to do well during periods of uncertainty and coming out of recessions. Additionally, this market has historically low default rates compared to the high yield market; the default rates for convertibles was 1.2% annually compared to the annual rate for high yield of 3.4% during the period of 2003 to 2019.

Since the 2008 crisis, the convertible bond asset class was shrinking and was largely dominated by healthcare and technology companies. Following the COVID-19 related crisis in March, the market saw a sudden resurgence in this asset class as companies sought to bridge the losses due to the shutdown with capital raised by issuing securities in the convertible bond market. Convertible securities allow the firm to fund with a lower coupon and have the option to convert to equity without diluting shareholders at crisis prices. Unlike the pre-COVID-19 market, the companies issuing within the convertible market span multiple sectors and for many of these companies, these hybrid securities represent the only debt on their balance sheet. Most analysts believe we are entering a period in which fundamentals will drive performance, presenting us with a rare entry point in a market with strengthening fundamentals and supporting technical factors at an opportune time.

Even with the recent rally in convertibles and the recent equity highs, convertibles remain a good story. On a historical fair value basis (considering the market yield, equity sensitivity, and conversion premium), convertibles remain cheaply priced. Additionally, opportunistic new issuance has persisted across sectors and will likely continue until a vaccine for the COVID-19

virus is found. Once a clearer path out of the pandemic induced crisis is identified, the lower interest rate environment should support an equity rally and result in strong convertible performance. While it is hard to estimate the timing of how long this opportunity will remain open, most analysis has supported a 3-year holding period.

An opportunistic convertible strategy added to the HYDF should provide diversification and an asymmetric return stream.

Request for Proposal Process

The RFP was issued on June 19, 2020 with a submission deadline of July 10, 2020. Proposals were submitted by 19 firms across 22 strategies which were evaluated by PFM staff with the assistance of the CRPTF general consultant, Meketa. Of the 22 proposals, 15 were US-centric strategies and 7 were more global-focused strategies.

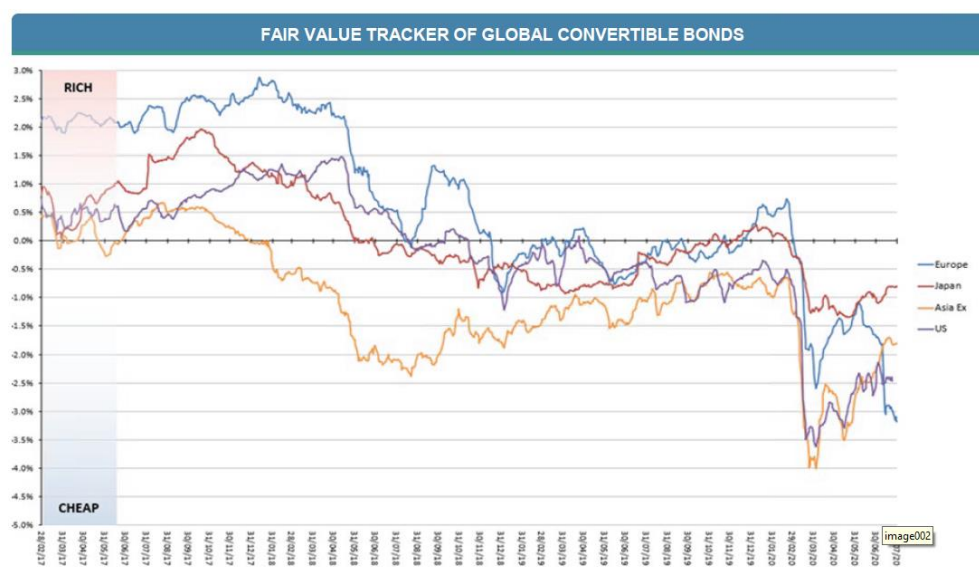
The RFP respondents were assessed from both a qualitative and quantitative perspective through a review of their organization, investment team, investment philosophy, investment process, investment performance, and management fee proposal. Each respondent was also assessed within the context of CRPTF's overall investment policy. PFM investment professionals and Meketa interviewed five semi-finalist firms by phone during the week of August 17th and selected two firms to be considered to manage a standalone convertible bond strategy.

Table 3
Convertible RFP Finalist

Firm Name	Product Name	Equity/Credit Correlation
Advent	Balanced	Balanced (40-80%) delta
Calamos Advisors	Calamos U.S. Convertible strategy	Balanced (40-80%) delta

Structure of the Standalone Convertible Bond Mandate

After several conversations with Meketa and the managers, it was determined that the broadest opportunity set would be best for this opportunistic mandate. There are differences across geography in convertible bonds.



Sources: Jefferies. As of 31 July 2020.

Lazard Asset Management

Given that this fund will complement a US High Yield Strategy, having a US component to the convertible bond structure was obvious. However, while the US convertible bond market dominates the opportunity set, accounting for about 69% of the global market size, there are interesting opportunities outside the US as well. US Convertibles tend to be dominated by growth-tilted companies whereas European convertibles, while still having a growth bias, include a higher percentage of “value” companies in comparison to US convertibles. European convertibles also have a different opportunity set in terms of sectors.

As we are seeking to add diversification with this fund while dampening volatility, we believe a broader opportunity set that includes a greater variety of sectors is the best means to achieve these ends. Consequently, a global exposure was sought in addition to a US-centric strategy. Below we propose a strategy with a 75% allocation to Advent Capital Management’s (“Advent”) more global strategy and 25% allocation to Calamos Advisors’ (“Calamos”) US-centric strategy.

US rates came down during the COVID-19 crisis, bringing down the total costs of hedging in and out of USD. As we currently do not expect rates to fall much further (and don’t expect domestic rates to follow European rates into negative territory) and we currently do not have a strong view on currency direction, we would seek to hedge any currency exposure back to USD to match the pension fund liability streams. Historically, hedging foreign currencies back into US Dollars has been shown to reduce volatility in the global convertible market by about 1%. Additionally, if the current rate situation persists, the portfolio will likely benefit slightly from a slight positive roll yield on the hedge.

In terms of allocating to this asset class and opportunity, we determined that we need an allocation amount that is complementary to the HYDF without changing the overall HYDF return assumptions that was used in the 2020 asset allocation models. As a result of our analysis, we have determined that the optimal size for a convertible mandate is \$125 million. We are also cognizant of the relationship between HYDF and Private Credit, as we are using HYDF as a temporary proxy. HYDF is currently at only a 3.2% overweight whereas Private Credit has an eventual target of 5%. As the HYDF overweight is smaller than the eventual size of the Private Credit asset class, we propose funding the convertibles strategy using some available dry powder from the Core Fixed Income Fund (“CFIF”) overweight. The timing of the opportunistic fund also supports funding the Private Credit asset class. The Private Credit’s pacing plan will seek to draw down on the convertible strategy after about 3 years, matching the estimated timing to capitalize on this rare market opportunity.

Table 4
HYDF Historical Net Performance
As of June 30, 2020

	YTD	Fiscal YTD	1 Year	3 Year	5 Year	7 Year	10 Year
High Yield Debt Fund	-4.00%	-0.91%	-0.91%	2.47%	3.85%	4.24%	6.01%
HYDF Custom Benchmark	-4.53%	-0.90%	-0.90%	2.96%	4.28%	4.50%	6.28%

Table 5
Convertible Strategy Historical Gross Performance
As of June 30, 2020

	YTD	Fiscal YTD	1 Year	3 Year	5 Year	7 Year	10 Year
Advent	6.9%	14.3%	14.3%	11.2%	8.3%	9.5%	10.5%
Calamos Advisors	14.6%	22.3%	22.3%	14.0%	10.3%	10.3%	9.8%
ICE BofAML All US Convert Index	7.2%	15.3%	15.3%	11.7%	9.2%	10.4%	10.9%

Proposal

Rather than give the mandate to one manager, it was determined splitting the \$125 million between two complementary strategies created a stronger risk adjusted return profile and offered the greatest opportunity set by combining global and US-centric perspectives. While Advent displays a positive batting average, adding value over time, Calamos has demonstrated success in the frothiest of markets, finding the best place to position themselves to capitalize on market dislocations. A combined portfolio between the two strategies should create an all-weather convertible strategy capable of producing alpha independent of market sentiments.

Table 13
HYDF Structure Proposal

Manager	% of Total	Amount
Right-Sized Active HYDF Managers	91%	1,062,000,000
Advent	8%	93,000,000
Calamos	3%	32,000,000
Total	100%	1,162,000,000

Table 14
HYDF and Convertible Strategy Historical Gross Performance
As of June 30, 2020

	YTD	Fiscal YTD	1 Year	3 Year	5 Year	7 Year	10 Year
High Yield Debt Fund	-3.8%	-0.3%	-0.3%	2.9%	4.2%	4.6%	6.4%
Proposed Convertible Portfolio	8.9%	16.3%	16.3%	11.9%	8.8%	9.7%	10.3%
HYDF Custom Benchmark	-4.5%	-0.9%	-0.9%	3.0%	4.3%	4.5%	6.3%

The recommended managers have histories of generating excess returns as evidenced on Table 15 and Table 16. Table 17 provided below provides summary information on the managers and portfolio characteristics.

Table 15
Manager Historical Risk-Adjust Annualized Returns (GOF)
Trailing 5-year as of June 30, 2020

	Advent Balanced	Calamos US Convertibles	ICE BofAML All US Convertible Index
Performance	8.3	10.3	9.2
Trailing 5-year (%)	23.3	30.3	24.2
Best 3 Months (%)	-13.3	-12.1	-13.6
Worst 3 Months (%)			
Risk Measures			
Standard Deviation (%)	13.0	13.5	13.3
Tracking Error (%)	1.7	2.5	NA
Beta	0.97	0.98	1.00
Correlation to Benchmark	0.99	0.98	1.00
Sharpe Ratio	0.55	0.68	0.61

Table 16
Rolling Three-Year Period Excess Return vs. Benchmark
As of June 30, 2020

	Total Period	Periods Outperformed	Percentage (%)	Average Excess Return (%)	Median Excess Return (%)	Max (%)	Min (%)	Range (%)
Advent	286	149	52	0.7	0.1	20.5	-11.6	32.1
Calamos	343	150	44	-0.3	-0.5	16.3	-18.8	35.0

Table 17
Manager Overviews

	Advent	Calamos
Firm Location	New York, New York	Naperville, Illinois
Firm Inception	1995	1977
Ownership Structure	Employee Owned	Wholly owned subsidiary of Calamos Partners LLC
% Minority/Female Ownership	>50	NA
% Minority/Female Management	>50	NA
Strategy Name	Balanced	US Convertibles Strategy
Strategy Inception	Jan 1995	Jan 1991
Assets Under Management (Firm)	\$8.8 billion	\$26.5 billion
Assets Under Management (Strategy)	\$2.0 billion	\$2.0 billion

The manager summaries are provided as attachments which review each firm's organization, investment team, investment philosophy, investment process, performance, and management fee proposal. Additionally, the legal, compliance and policy reviews are included as part of the summaries.

ADVENT CAPITAL GROUP

Organization

Founded by Tracy Maitland in 1995, New York-based Advent Capital Management is a convertible bond specialist with ~\$9.3 billion in assets under management (“AUM”) as of June 30, 2020, of which \$8.8 billion are in Convertible assets with the Balanced convertible strategy accounting for \$2.0 billion in the US strategies and another \$1.4 billion in the Global Balanced strategy. Mr. Maitland also serves as the President, and CIO of Advent, overseeing all firm investment activities.

Investment Team

The Balanced strategy is managed by Co-Portfolio Managers Tracy Maitland and David Hulme. Mr. Maitland was a Director in the Convertible Securities Department at Merrill Lynch and has 35 years of experience in the field. Mr. Hulme has over 16 years of experience working with the Balanced strategy. Prior to joining Advent in 2002, Mr. Hulme worked at Van Eck Global Asset Management as a portfolio manager. The pair is supported by an investment team of 21 professionals, including seven research analysts averaging 22 years of experience. The Risk Management Committee consists of Advent’s Chief Financial Officer/Chief Administrative Officer, Chief Risk Officer, Director of Research, and Director of Trading.

Investment Philosophy

The Balanced convertible bond strategy at Advent is more “equity-like” and less defensive than the Advent Phoenix strategy with more equity sensitivity due to higher deltas, which are a measurement of the sensitivity of the price of a convertible bond to changes in the price of the underlying stock. The Balanced strategy seeks convertibles with 75-80% of the underlying equity upside while limiting downside risk to approximately 50%. Historically the Balanced portfolio has captured 84% of the upside and 41% of the downside of the S&P 500.

Investment Process

Advent screens the convertible universe with a third-party convertible valuation model called Kynex. Along with Advent’s proprietary risk management system, the team looks for theoretically cheap convertible securities with attractive yields, meaningful equity upside participation (75-85%), and good downside protection (50%) that trade no more than 20% over investment value/straight bond value. Ideal criteria are >2% theoretically cheap, 2% - 4% current yield, and 10% - 60% conversion premium. The next step is then a bottom-up fundamental credit research to analyze the creditworthiness of the security to confirm its investment value (i.e., what the convertible would be worth if it lacked the conversion feature). This provides an approximation of the downside protection. Advent favors securities of companies with stable or improving trends in cash flow and interest coverage that suggest a clearly defined investment value. Advent then analyzes the equity fundamentals (company and industry dynamics that may act as catalysts for stock price appreciation). Credit research corroborates the equity fundamentals and serves as another check against the risk of misleading accounting.

In the portfolio construction process, Advent selects securities based on the bottom-up analysis. New ideas are put forward and reviewed by the investment team. Typically, positions are 1-3% of the portfolio, with a maximum of a 5% exposure. Once securities are selected, allocation sizes are determined based on the strength of conviction and the risk parameters for the portfolio. The Balanced strategy participates in approximately 60% of new issues and retains nearly two-thirds of them.

Performance

Trailing Period Returns (gross of fees) As of June 30, 2020

	1 Year	3 Year	5 Year	7 Year	10 Year
Advent Balanced	14.3	11.2	8.3	9.5	10.5
Benchmark*	15.3	11.7	9.2	10.4	10.9

*Benchmark: ICE Bank of America All US Convertible Index

Calendar Year Returns (gross of fees) As of June 30, 2020

	2019	2018	2017	2016	2015	2014	2013	2012
Advent Balanced	23.2	-1.7	14.0	7.3	-1.6	7.9	23.5	13.7
Benchmark*	23.2	0.2	13.7	10.4	-3.0	9.4	24.9	15.0

* Benchmark: ICE Bank of America All US Convertible Index

Management Fee

Fee Schedule	Mandate Size	Estimated Effective Fee
0.50% on the first \$200mm, 0.45% thereafter	\$93mm	0.50%

Pending Litigation and Disclosures (provided by legal)

Pursuant to its response, Advent states that in the past five years:

- i. It has settled one business-related legal or non-routine regulatory matters, which involved a sexual harassment and discrimination lawsuit by a former employee. From media reports, it appears the employee first made her complaint to the New York City Commission on Human Rights regarding Advent's alleged harassment. Advent subsequently sued her in 2017 for theft of corporate property and numerous breaches of her contractual and fiduciary obligations as an Advent employee. The employee then sued Advent in 2020 in the SDNY, alleging that the firm violated Title VII of the Civil Rights Act of 1964, the New York State Human Rights Law, the Equal Pay Act, and the New York Labor Law Equal Pay Law. She sought compensation for monetary damages, emotional distress, and attorney fees and costs, as well as a declaratory judgment against the firm. The parties settled shortly thereafter. Advent states that in its settlement, it did not admit to having engaged in any of the alleged conduct asserted in the litigation or to have violated any law, rule or regulation. As noted, the employee's claims received extensive media attention.
- ii. There were two business-related claims under Advent's insurance coverage, including a claim to cover losses in 2016 for financial losses arising from a fraudulent scheme that involved a combination of email, malware and human actors. The disclosure states that the scope of the fraud was limited, did not involve any client funds or assets, and was confined to a single management company bank account. In addition, claims were made in connection with the recent discrimination lawsuit.
- iii. There are no ongoing internal investigations to report.

Advent states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors. In addition, it notes that it has recently hired a third party to undertake annual compliance reviews of the firm.

Comments to Contract Terms:

Advent's response states it will want to negotiate the standard form of IMA, but it did not include any specifics. Advent subsequently requested the following modifications, none of which appear to be a significant hurdle to contracting:

- Section 3(f) regarding the execution of trades -- Advent proposes revising the cash sufficiency clause to clarify that the manager will not trade if the manager reasonably believes there will not be sufficient cash to clear the trade on settlement date (not on trade date). The manager could simultaneously sell securities on trade date that would create sufficient cash on settlement date.
- Section 6(k) regarding the MFN provision -- Advent proposes adding language to the first sentence: "...offered to any of its clients for services that are similar in asset size and strategy..."
- Section 17 regarding indemnification -- Advent proposes to exclude overdrafts and passive violations from liability or indemnification requirements.
- Section 24 regarding notices of legal proceedings and internal investigations-- Advent would like to include a "privacy law exclusion" to the requirement to notify the State of "internal investigations."

Section 25 regarding compliance with legal requirements -- Advent notes that it is willing to provide excerpts and its table of contents of its compliance manual, but not the complete document, should the State request it.

Environmental, Social, Governance Analysis ("ESG") (provided by Policy Unit)

Advent scored a 2 on the CRPTF propriety ESG scoring system, indicating that the firm gave a detailed description of ESG philosophy and integration, has ongoing ESG assessment, an established framework and is a member of sustainability-oriented organizations.

Advent's disclosure suggested a good integration of ESG into its decision-making process. The firm's ESG Committee consists of 6 members from different business areas. The firm is a member of PRI & supporter of the TCFD Taskforce. While the firm does not have a specific policy on firearms, they do conduct enhanced screening/scoring for sectors subject to regulatory oversight.

Compliance Review (provided by Compliance)

I. Review of Required Legal and Policy Attachments

Advent Capital Management, LLC ("Advent") a New York-based minority-owned¹ (Black) firm, completed all required legal and policy attachments. The firm disclosed no impermissible third-party fees, campaign contributions, known conflicts, or gifts. Its disclosure of legal/ regulatory proceedings is being reviewed by the Legal Unit.

II. Workforce Diversity

¹ Not Connecticut certified.

As of March 2020, Advent employed 58, 2 less than the 60 employed in March 2018. The firm identified 0 women and 1 minority male as Executive/Senior Level Officials and Managers, i.e., serving at the senior most level of the firm. It reported that for the 3-year period 2018-2020, 2 women and 6 minorities were promoted within the ranks of professionals or managers.

Commitment and Plans to Further Enhance Diversity

Advent reported that it has always promoted hiring, recruiting, retention, and promotion of a diverse pool of individuals. The firm has successfully recruited from Sponsors for Educational Opportunities, and other minority or women-focused staffing agencies that recruit and train African Americans, Hispanic and Native Americans. The firm also partners with minority networks affiliated with Columbia and Fordham Universities, as well as with Baruch College, and other institutions, to recruit minority students. The firm sponsors employee memberships to organizations such as 100 Women in Finance, Women in Insurance and Financial Services, and Texas Wall Street Women, all of which are networks of professional women in the finance industry committed to diversity and the community. The firm's founder has always worked closely with Icon Mann, an organization committed to transforming the dialogue and imaging of African Americans through content and community engagement. In 2017 the firm hosted approximately 35 Howard University students (a mix of graduate and undergraduates) who were members of the Howard Finance and Investment Club.

Workforce Statistics

For Executive/Senior Level Officials and Managers:

- Women held 0% of these positions in all 3 years reported as follows: 2020 and 2019 (0 of 3) and 2018 (0 of 4).
- Minorities held 33% (1 of 3) (33% Black) of these positions in both 2020 and 2019, up from 25% (1 of 4) (25% Black) in 2018.

At the Management Level overall:

- Women held 17% (2 of 12) of these positions in both 2020 and 2019, and 8% (1 of 12) in 2018.
- Minorities held 33.3% (4 of 12) (8.3% Asian, 8.3% Hispanic, and 16.7 % Black) of these positions in all 3 years reported (2020-2018).

At the Professional Level:

- Women held 20% (8 of 40) of these positions in 2020, up from 15.9% (7 of 44) in 2019 and 9.3% (4 of 43) in 2018.
- Minorities held 40% (16 of 40) (20% Asian, 7.5% Hispanic, and 12.5% Black) of these positions in 2020, up from 38.6% (17 of 44) (18.2% Asian, 11.4% Hispanic, and 9.1% Black), and 39.5% (17 of 43) (20.5% Asian, 7% Hispanic, and 11.6% Black) in 2018.

Firm-wide:

- Women held 26% (15 of 58) of these positions in 2020, up from 20% (12 of 60) in 2019, and 15% (9 of 60) in April 2018.
- Minorities held 39.7% (23 of 58) (19% Asian, 6.9% Hispanic, and 13.8% Black) of these positions in 2020, slightly down from 40% (24 of 60) (18.3% Asian, 10% Hispanic, and 11.7% Black) in 2019, and 40% (24 of 60) (20% Asian, 8.3% Hispanic, and 11.7% Black) in 2018.

III. Corporate Citizenship

Charitable Giving:

Advent and its employees are committed to contributing positively to the community. A core part of Advent's culture and belief is that it is important to help those in hard-hit communities and those without access to resources or opportunities. Advent's commitment is evident by its recent donation to Harlem Hospital, Meharry Medical College, and the Apollo Theater. Both the Harlem Hospital and the Meharry Medical College are located in urban neighborhoods that have seen large numbers of covid-19 cases. As such, Advent donated a combined \$50,000 for the procurement of cleaning products, and personal protective equipment including, masks, gowns, bleach, sanitizing wipes, etc. Advent also made a sizable donation to the Apollo Theater's emergency relief fund to help financially stabilize the company and safeguard its future in response to the cancellation of Apollo produced events due to the pandemic. Advent also supports other nonprofit organizations including, the Wildlife Conservation Society Council, United Way Benefit, and the Oliver Scholars Gala. It also makes donations to organizations such as the Sheldrick Wildlife Trust and Columbia College's financial aid. While Connecticut has not directly benefited from Advent's corporate citizenship, over 10% of its global workforce makes Connecticut their home and support numerous organizations including, Boys and Girls Club and other community and religious organizations. In addition, Advent's Disaster Recovery office is in Stamford Connecticut. Advent does not currently have a formal policy related to corporate citizenship however, it has recently appointed an individual whose responsibilities will be more focused on community impact, corporate citizenship and diversity and inclusion.

Internships/Scholarships:

The Firm generally hires 1-2 interns each year which are recruited through organizations focused on diversity. In the summer of 2019, for example, the firm recruited 2 summer interns- one African American female, and one white male. The firm's founder established the Leo C. Maitland Scholarship Fund at Columbia University in 2012 in honor of his father. The scholarship focuses on talented but underprivileged students who are residents of New York City and/ or Detroit Michigan, and are graduates of the public-school system, excluding magnet programs. The most recent recipient of the scholarship was a woman.

Procurement:

Advent does not currently have a written procurement policy or program specifically designed to foster business relationships with women-owned, minority-owned, and/or emerging businesses. While the firm does not currently have a formal policy it actively engages with vendors that have diverse teams.

CALAMOS ADVISORS

Organization

The firm is headquartered in Chicago with offices in New York, San Francisco, Milwaukee, and the Miami area. All the firm's convertibles staff members are within their Naperville, IL office although they run their long/short strategies out of San Francisco. The firm has 311 employees in total with 74 investment professionals. As of June 30, 2020, a total AUM of \$26.5 billion was managed across Alternatives (\$10.4 billion, half in convertible arbitrage assets), Lower-Volatility Equity/Risk Managed (\$3.3 billion), Convertibles (\$2.5 billion), Fixed Income (\$4.3 billion), and Growth Equity (\$2.8 billion). The organization is structured in a "teams of teams" approach, whereby different teams manage dedicated strategies, and senior members from each team are selected to create an investment committee. This structure provides the teams with the ability for knowledge sharing across asset classes and strategies, which we view as advantageous in the Convertibles asset class, gathering insights from both the credit and equity perspectives.

Investment Team

The US Convertibles team has a Co-PM structure with five Co-CIO/Co-PMs who are the team's most senior members. There is one portfolio specialist and seven research team members (each analyst averaging 15 years of experience) divided by industry. The strategy is led by portfolio managers Jon Vacko and Joe Wyzocki. Mr. Vacko has been with Calamos for 20 years and Mr. Wyzocki has been with the firm for 17 years. They are supported on the strategy by three Co-CIOs, John Hillenbrand, Eli Pars, and Matthew Freund. The investment team is supported by the firm's deep resources including six traders, five risk management quantitative analysts, and four portfolio specialists. There are 10 other portfolio managers covering different strategies and over 30 separate research team members.

Investment Philosophy

The US Convertible strategy seeks equity-like performance over full market cycles while simultaneously reducing equity-market risk. For 20 years, the strategy had an average beta of 0.65 and annualized alpha vs. the S&P 500 index of +2.41%. Calamos takes a bottom-up view of the portfolio construction process with inputs from top-down such as thematic trends across sectors and global macro analysis. The team utilizes proprietary screening tools and analytics in the process. Quantitatively, the team screens for acceleration in revenue growth, earnings growth, and return on invested capital. Through the development of internal ratings systems and tools, Calamos attempts to quantify the assessment of the business model and management ability by looking at balance sheet ratios that support growth rates and flexibility. Their valuation tools look for intrinsic business values, provide them high, mid, and low-price targets as well as expected returns.

Investment Process

When securities are being analyzed, the team first performs credit analysis (balance sheet strength, leverage metrics, cash flow analysis) followed by equity analysis (fundamentals and potential catalysts for upside) and then convertible analysis (risk/reward, theoretical valuation, protective covenants, convexity, etc.). The portfolio is constructed considering the impact each security has on the overall portfolio metrics. Proprietary systems and processes that have been developed over decades are utilized along the way. The US Convertible Securities strategy is reasonably diversified, holding 75-125 securities with a max position size of 5% at market value. A single sector is capped at the greater of 2x the benchmark or 40% of the portfolio

At times, the team may create synthetic convertibles through the use of bonds and call options on equities, which the group uses when the technical factors on the convertibles are not supported and also when they can be used in a risk managed way. The synthetics are created by using the 'busted' portion of the convertible market. The maximum allocation to these synthetics in the portfolio is 5%.

In terms of delta exposure, the team typically allocates approximately two-thirds of the portfolio to the balanced/hybrid section of the curve with the overall delta trending typically in the 0.5 to 0.6 range. However, at times this ratio can shift opportunistically, such as in March 2020 when the delta was below 0.4 as a larger proportion (two-thirds) of the portfolio was trading down closer to bond floors, exhibiting more bond-like features.

Performance

Trailing Period Returns (gross of fees) As of June 30, 2020

	1 Year	3 Year	5 Year	7 Year	10 Year
Calamos US Convertibles	22.3	14.0	10.3	10.3	9.8
Benchmark*	15.3	11.7	9.2	10.4	10.9

* Benchmark: ICE Bank of America All US Convertible Index

Calendar Year Returns (gross of fees) As of June 30, 2020

	2019	2018	2017	2016	2015	2014	2013	2012
Calamos US	20.5	1.6	15.8	5.6	-2.6	6.2	21.4	6.6
Benchmark*	23.2	0.2	13.7	10.4	-3.0	9.4	24.9	15.0

* Benchmark: ICE Bank of America All US Convertible Index

Management Fee

Fee Schedule	Mandate Size	Estimated Effective Fee
0.45% on the first \$250mm, 0.35% thereafter	\$32mm	0.45%

Pending Litigation and Disclosures (provided by legal)

Pursuant to its response, Calamos disclosed the following legal and regulatory matters in the past 5 years:

- i. 10 proceedings, two of which are still pending. Calamos states that none of these proceedings (including the open matters) would have a material effect on their business. One of these matters is related to an SEC investigation related to various whistleblower claims that were made in connection with the firm's going-private transaction in 2017, which claims have been subsequently settled. Calamos has requested a closing letter from the SEC but has not heard back from the SEC since August 2019. It's most recent SEC examination ended with a clean letter issued in 2018.
- ii. The second disclosed pending lawsuit pertains to insurance claims that were denied by one of Calamos' excess liability insurers. With respect to material business-related insurance claims, Calamos states it regularly makes claims related to the legal

proceedings identified in question 2(a). Notably, Calamos has sued Travelers Insurance Company in connection with the going-private lawsuits. Travelers is its second-layer excess D&O carrier. In total, Calamos maintains \$30 million in D&O coverage. (iii) Calamos' disclosure states it has no ongoing internal investigations.

Calamos states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

Comments to Contract Terms:

Calamos states they have reviewed the Treasurer's standard form of IMA and are in agreement with its terms and conditions and understanding certain provisions will need to be clarified and missing information supplied. While Calamos' RFP response did not include any specific comments regarding the IMA, they subsequently forwarded comments, none of which appear to be significant hurdles to contracting. Comments include:

- Section 3(D) and Exhibit B-1 "Required Terms for Trading Agreements" – Calamos notes that it has in place a number of agreements in place with various market participants including, but not limited to, registered broker-dealers, prime brokers or other market makers that may conflict with the IMA language requiring certain language be added to agreements entered into to trade securities, including derivatives.
- Section 6(K) – Calamos seeks to limit the "most favored nations" provision by scope and applicability to similar institutional strategies of a similar size measured from the date of contracting.

Environmental, Social, Governance Analysis ("ESG") (provided by Policy Unit)

Calamos scored a 4 on the CRPTF propriety ESG scoring system, indicating that the firm gave a generic and/or vague description of ESG philosophy and integration, has no ongoing ESG assessment, and no dedicated ESG staff or resources.

Calamos offered a general description of how its analysts incorporate ESG "as part of the greater mosaic of inputs" to its investment decision-making process. While the firm incorporates a third-party vendor's ESG ratings into its reviews, they do not have a specific ESG policy or a designated lead on ESG/sustainability issues. The firm does not have any specific policy related to business with manufacturers or retailers of civilian firearms, nor does it conduct enhanced screening of any industry or sector that may be subject to ESG risks.

Compliance Review (provided by Compliance)

I. Review of Required Legal and Policy Attachments

CALAMOS ADVISORS, LLC ("Calamos") an Illinois-based firm, completed all required legal and policy attachments, except Legal and Policy Attachment B, Nondiscrimination Affidavit, which it agreed to provide "upon being awarded a contract". The firm disclosed no impermissible third-party fees, campaign contributions, known conflicts, or gifts. Its disclosure of legal/ regulatory proceedings is being reviewed by the Legal Unit.

Compliance Note: If selected, Calamos must provide an executed Legal and Policy Attachment B, Nondiscrimination Affidavit.

II. Workforce Diversity (See Also 3-year Workforce Diversity Snapshot Page Attached)

As of June 2020, Calamos employed 316, 23 less than the 339 employed in June 2018. The firm identified 0 women and 3 minority males as Executive/Senior Level Officials and Managers, i.e., serving at the senior most level of the firm. It reported that for the 3-year period 2018-2020, 17 women and 9 minorities were promoted within the ranks of professionals or managers.

Commitment and Plans to Further Enhance Diversity

Over the last year Calamos instituted three initiatives to promote diversity. The first is requiring managers to complete diversity and inclusion training, focusing on the importance of diversity and the benefits it brings to the workplace. The second is to increase the diversity in the firm's internship program specifically by tracking and promoting diverse candidates. Third, the firm implemented a new recruitment module that will allow it to track and study applicant diversity.

Workforce Statistics

For Executive/Senior Level Officials and Managers:

- Women held 0% (0 of 27) of these positions in 2020, 3% (1 of 29) of these positions in 2019, and 12% (3 of 25) in 2018.
- Minorities held 11.1% (3 of 27) (3.7% Asian, 3.7% Hispanic, 3.7% American Indian or Alaskan Native) of these positions in 2020, down from 13.8% (4 of 29) (6.9% Asian, 3.4% Hispanic, 3.4% American Indian or Alaskan Native) in 2019, but up from 4% (1 of 25) (4% American Indian or Alaskan Native) in 2018.

At the Management Level overall:

- Women held 8% (6 of 75) of these positions in 2020, down from 19% (16 of 85) in 2019 and 15% (11 of 76) in 2018.
- Minorities held 10.7% (8 of 75) (6.7% Asian, 2.7% Hispanic, and 1.3% American Indian or Alaskan Native) of these positions in 2020, down from 16.5% (14 of 85) (7.1% Asian, 7.1% Hispanic, 1.2% Black, and 1.2% American Indian or Alaskan Native) in 2019, and 10.5% (8 of 76) (6.6% Asian, 2.6% Hispanic, 1.3% American Indian or Alaskan Native) in 2018.

At the Professional Level:

- Women held 31% (72 of 232) of these positions in 2020, up from 26% (61 of 232) in 2019 and 28% (65 of 233) in 2018.
- Minorities held 20.3% (47 of 232) (11.2% Asian, 6% Hispanic, 1.3% Black, 1.7% Two or More Races) of these positions in 2020, up from 18.5% (43 of 232) (9.1% Asian, 6% Hispanic, 1.7% Black, and % Two or More Races) in 2019, and 16.7% (39 of 233) (7.7% Asian, 6.9% Hispanic, 0.9% Black, and 1.3% Two or More Races) in 2018.

Firm-wide:

- Women held 50% (159 of 316) of these positions in 2020, up from 44% (153 of 346) in 2019 and 46% (156 of 339) in 2018.
- Minorities held 17.7% (56 of 316) (9.8% Asian, 5.4% Hispanic, 4.1 % Black, 0.3% American Indian or Alaskan Native, and 1.3% Two or More Races) of these positions in 2020, up from 16.5% (57 of 346) (7.8% Asian, 5.8% Hispanic, 1.4% Black, 0.3% American Indian or Alaskan Native, and 1.2% Two or More Races) in 2019, and 13.9% (47 of 339)

Asian, 5.3% Hispanic, 0.6% Black, 0.3% American Indian or Alaskan Native and 0.9% Two or More Races) in 2018.

III. Corporate Citizenship

Charitable Giving:

Calamos Cares is the firm's Community volunteering program which provides opportunities for Associates to share their time and talents with local and national nonprofits. The Calamos Cares team has volunteered at the Northern Illinois food bank and participated in both the March of Dimes March for Babies and American Cancer Society Relay for Life. In April 2020, Calmos' CEO founded the Chicago CEO covid-19 Coalition which benefits local organizations in Chicago that are helping with critical efforts related to Chicago's relief and recovery.

Four themes are emphasized: food, homelessness, personal protective equipment, and community and mental health. The Coalition gave more than \$1.25 million. Calamos instituted a policy of matching each Associate's donation, which resulted in 99% of Associates donating to the cause. The firm is not aware of any corporate citizenship activities directly benefiting Connecticut at this time.

Internships/Scholarships:

Calamos hosts undergrad and graduate students and exposes them to a global investment management organization through its summer internship program. Each intern experiences working in a team environment. In addition to department projects, interns participate in outings and meetings with senior management. In 2019, 60% of the intern class was diverse. Due to COVID-19, the summer internship program for 2020 was cancelled. Calamos also sponsors the Illinois Institute of Technology student investment team and supports this group of future investment professionals by funding transportation and competition team expenses. Calamos does not currently offer scholarships.

Procurement:

Calamos does not currently have a written procurement policy or program designed to foster business relationships with women-owned, minority-owned, and/or emerging businesses.

PFM: RFP for Convertible Bond Investment Manager Summary of Responses in re: Evaluation and Implementation of Sustainable Principles August 27, 2020			
	Criteria	Advent	Calamos
1	Firm has an ESG policy	Yes	No (firm disclosed that ESG factors are included in analysis, but no stand-alone policy)
1a	Firm described its ESG policy	Yes	Yes
2	Firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes	Yes
3	Designated staff responsible for sustainability policies and research	Yes	No
4	Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes	Yes
5	Signatory/member of sustainability-related initiatives or groups	Yes	Yes
6	Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	No	No
7	Policy that requires safe and responsible use, ownership or production of guns	No	No
8	Enhanced screening of manufacturers or retailers of civilian firearms	No	No
9	Enhanced screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impacts	Yes -- firm will execute client-directed restrictions	No
10	Merchant credit relationships with retailers of civilian firearms and accessories	No	No
10a	If yes, firm confirms compliance with laws governing firearms sales	N/A	N/A
11	Overall assessment of responses (e.g., depth of approach to ESG and integration)	<p>Advent's disclosure suggested a good integration of ESG into its decision making process. The firm's ESG Committee consists of (6) members from different business areas. The firm is a member of PRI & supporter of the TCFD Taskforce.</p> <p>While the firm does not have a specific policy on firearms, they do conduct enhanced screening/scoring for sectors subject to regulatory oversight.</p>	<p>Calamos offered a general description of how its analysts incorporate ESG "as part of the greater mosaic of inputs" to its investment decision-making process. While the firm incorporates a third-party vendor's ESG ratings into its reviews, they do not have a specific ESG policy or a designated lead on ESG/sustainability issues.</p> <p>The firm does not have any specific policy related to business with manufacturers or retailers of civilian firearms, nor does it conduct enhanced screening of any industry or sector that may be subject to ESG risks.</p>
SCORE: Excellent - 1 Detailed description of ESG philosophy and integration; ongoing ESG assessment; established framework; member of sustainability-oriented organizations; enhanced screening of firearms and/or higher-risk sectors Very Good - 2 Detailed description of ESG philosophy and integration; ongoing ESG assessment; established framework; member of sustainability-oriented+B3 organizations Satisfactory - 3 General description of ESG philosophy and integration; some evidence of framework for ongoing ESG assessment; member of sustainability-oriented organizations Needs Improvement - 4 Generic and/or vague description of ESG philosophy and integration; no ongoing ESG assessment; no dedicated ESG staff or resources Poor - 5 Incomplete or non-responsive		2	4

State of Connecticut Retirement Plans and Trust Funds

Convertible Bond Manager Search

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1. Background
2. Manager Finalists
 - Advent Capital Group
 - Calamos Advisors
3. Manager Comparisons, Historical Performance, and Management Fees
4. Glossary

Background

Background

- On June 19, 2020, the State of Connecticut Retirement Plans and Trust Funds (“CRPTF”) issued RFP for Standalone Convertible Investment Strategy.
- Responses were due on July 10, 2020.
- A total of 19 unique firms across a total of 22 strategies responded to the proposal.
- MIG worked with CRPTF Staff to narrow the list to five semi-finalist firms.
- On August 18th, 19th, and 20th, MIG worked with CRPTF Staff to conduct video conference calls with all five semi-finalist firms.
- Meketa worked with CRPTF Staff to narrow the list of finalists to two firms.
- This document provides an overview of each finalists firm’s organization, strategy, characteristics, performance, and fees.

Asset Class Structure Considerations

- CRPTF sized the allocation for the exposure to convertible bonds at \$125 million of the portfolio.
- In reviewing the various managers and potential allocation sizes, we wanted to build a composite that would perform well in different market environments.
- In addition to the qualitative assessment of the managers, we used modeling to simulate how different combinations of managers would perform to determine the best structure for the convertibles program with these two managers in mind.
- The following table shows the proposed structure for the asset class:

	Proposed Portfolio
Advent Capital Group	75%
Calamos Advisors	25%
Total	100%

- Advent will receive \$93 million and Calamos will receive \$32 million to represent CRPTF's commitment to the convertible bonds space.

Manager Finalists

Manager Overviews As of June, 30, 2020

	Advent	Calamos
Firm Location	New York, New York	Naperville, Illinois
Firm Inception	1995	1977
Ownership Structure	Employee Owned	Wholly owned subsidiary of Calamos Partners LLC (includes founder John P. Calamos)
% Minority/Female Ownership	>50	NA
% of Employee Ownership	100	NA
% Minority/Female Management	>50	NA
Strategy Name	Balanced	US Convertible Strategy
Strategy Inception	Jan 1995	Jan 1991
Assets Under Management (Firm)	\$8.8 billion	\$26.5 billion
Assets Under Management (Strategy)	\$2.0 billion	\$2.0 billion

Advent Capital Group

Advent Capital Group

Organization

- Founded by Tracy Maitland in 1995, New York-based Advent Capital Management is a convertible bond specialist with ~\$9.3 billion in assets under management (“AUM”) as of June 30, 2020, of which \$8.8 billion are in Convertible assets with the Balanced convertible strategy accounting for \$2.0 billion in the US strategies and another \$1.4 billion in the Global Balanced strategy.
- Mr. Maitland also serves as the President, and CIO of Advent, overseeing all firm investment activities.

Investment Team

- The Balanced strategy is managed by Co-Portfolio Managers Tracy Maitland and David Hulme. Mr. Maitland was a Director in the Convertible Securities Department at Merrill Lynch and has 35 years of experience in the field. Mr. Hulme has over 16 years of experience working with the Balanced strategy. Prior to joining Advent in 2002, Mr. Hulme worked at Van Eck Global Asset Management as a portfolio manager.
- The pair is supported by an investment team of 21 professionals, including seven research analysts averaging 22 years of experience. The Risk Management Committee consists of Advent’s Chief Financial Officer/Chief Administrative Officer, Chief Risk Officer, Director of Research, and Director of Trading.

Advent Capital Group (continued)**Investment Philosophy and Process**

- The Balanced convertible bond strategy at Advent is more “equity-like” and less defensive than the Advent Phoenix strategy with more equity sensitivity due to higher deltas, which are a measurement of the sensitivity of the price of a convertible bond to changes in the price of the underlying stock. The Balanced strategy seeks convertibles with 75-80% of the underlying equity upside while limiting downside risk to approximately 50%. Historically the Balanced portfolio has captured 84% of the upside and 41% of the downside of the S&P 500.
- Advent screens the convertible universe with a third-party convertible valuation model called Kynex. Along with Advent’s proprietary risk management system, the team looks for theoretically cheap convertible securities with attractive yields, meaningful equity upside participation (75-85%), and good downside protection (50%) that trade no more than 20% over investment value/straight bond value. Ideal criteria are >2% theoretically cheap, 2% - 4% current yield, and 10% - 60% conversion premium.
- The next step is bottom-up fundamental credit research to analyze the creditworthiness of the security to confirm its investment value (i.e., what the convertible would be worth if it lacked the conversion feature). This provides an approximation of the downside protection. Advent favors securities of companies with stable or improving trends in cash flow and interest coverage that suggest a clearly defined investment value.

Advent Capital Group (continued)**Investment Philosophy and Process (continued)**

- The next step is to analyze the equity fundamentals (company and industry dynamics that may act as catalysts for stock price appreciation). Credit research corroborates the equity fundamentals and serves as another check against the risk of misleading accounting.
- In the portfolio construction process, Advent selects securities based on the bottom-up analysis. New ideas are put forward and reviewed by the investment team. Typically positions are 1-3% of the portfolio, with a maximum of a 5% exposure. Once securities are selected, allocation sizes are determined based on the strength of conviction and the risk parameters for the portfolio.
- The Balanced strategy participates in approximately 60% of new issues and retains nearly two-thirds of them.

Calamos Advisors

Calamos Advisors

Organization

- The firm is headquartered in Chicago with offices in New York, San Francisco, Milwaukee, and the Miami area. All of the firm's convertibles staff members are within their Naperville, IL office, and they run their long/short strategies out of San Francisco. The firm has 311 employees in total with 74 investment professionals.
- As of June 30, 2020, a total AUM of \$26.5 billion was managed across Alternatives (\$10.4 billion, half in convertible arbitrage assets), Lower-Volatility Equity/Risk Managed (\$3.3 billion), Convertibles (\$2.5 billion), Fixed Income (\$4.3 billion), and Growth Equity (\$2.8 billion).
- The organization is structured in a "teams of teams" approach, whereby different teams manage dedicated strategies, and senior members from each team are selected to create an investment committee. This structure provides the teams with the ability for knowledge sharing across asset classes and strategies, which we view as advantageous in the Convertibles asset class, gathering insights from both the credit and equity perspectives.

Investment Team

- The US Convertibles team has a Co-PM structure with five Co-CIO/Co-PMs who are the team's most senior members. There is one portfolio specialist and seven research team members divided by industry. The research analysts average 15 years' experience.

Calamos Advisors (continued)**Investment Team (continued)**

- The strategy is led by portfolio managers Jon Vacko and Joe Wyzocki. Mr. Vacko has been with Calamos for 20 years and Mr. Wyzocki has been with the firm for 17 years. They are supported on the strategy by three Co-CIOs, John Hillenbrand, Eli Pars, and Matthew Freund.
- The investment team is supported by the firm's deep resources such as six traders, five risk management quantitative analysts, and four portfolio specialists. There are 10 other portfolio managers covering different strategies and over 30 separate research team members.

Investment Philosophy and Process

- The US Convertible strategy seeks equity-like performance over full market cycles while simultaneously reducing equity-market risk. For 20 years, the strategy had an average beta of 0.65 and annualized alpha vs. the S&P 500 index of +2.41%.
- Calamos takes a bottom-up view of the portfolio construction process with inputs from top-down such as thematic trends across sectors and global macro analysis. The team utilizes proprietary screening tools and analytics in the process.
- Quantitatively, the team screens for acceleration in revenue growth, earnings growth, and return on invested capital. Through the development of internal ratings systems and tools, Calamos attempts to quantify the assessment of the business model and management ability by looking at balance sheet ratios that support growth rates and flexibility. Their valuation tools look for intrinsic business values, provide them high, mid, and low price targets as well as expected returns.

Calamos Advisors (continued)**Investment Philosophy and Process (continued)**

- When securities are being analyzed, the team first performs credit analysis (balance sheet strength, leverage metrics, cash flow analysis) followed by equity analysis (fundamentals and potential catalysts for upside) and then convertible analysis (risk/reward, theoretical valuation, protective covenants, convexity, etc.) The portfolio is constructed, taking into account the impact each security has on the overall portfolio metrics. Proprietary systems and processes that have been developed over decades are utilized along the way.
- The US Convertible Securities strategy is reasonably diversified, holding 75-125 securities with a max position size of 5% at market value. A single sector is capped at the greater of 2x the benchmark or 40% of the portfolio
- At times, the team may create synthetic convertibles through the use of bonds and call options on equities, which the group uses when the technicals on the convertibles are not supported and also when they can be used in a risk managed way. The synthetics are created by using the 'busted' portion of the convertible market. The maximum allocation to these synthetics in the portfolio is 5%.
- In terms of delta exposure, the team typically allocates approximately two-thirds of the portfolio to the balanced/hybrid section of the curve with the overall delta trending typically in the 0.5 to 0.6 range. However, at times this ratio can shift opportunistically, such as in March 2020 when the delta was below 0.4 as a larger proportion (two-thirds) of the portfolio was trading down closer to bond floors, exhibiting more bond-like features.

Manager Comparisons, Historical Performance, and Management Fees

State of Connecticut Retirement Plans and Trust Funds

Manager Comparisons, Historical Performance, and Management Fees

Manager Comparisons

	Advantages	Risk/Concerns
Advent	<ul style="list-style-type: none"> Well-developed internal ratings systems for quantitative screening and convertible's assessment Dedicated Convertible focus across firm Team process with PMs and analysts focusing on bottom up research of both credit and equity fundamentals Strict adherence to process. Focus on investments in convertibles that exhibit growth at a reasonable price Minority-owned business 	<ul style="list-style-type: none"> Nothing to note outside of the asset class itself
Calamos	<ul style="list-style-type: none"> Longstanding position as thought leader in the convertible space that pioneered actively managed convertible strategies for the institutional market in the 1970's Advantageous 'teams of team's' approach across strategies with deep resources across the firm dedicated to convertible strategies Well-developed internal ratings systems for quantitative screening and underlying business model assessments 	<ul style="list-style-type: none"> Nothing to note outside of the asset class itself

State of Connecticut Retirement Plans and Trust Funds

Manager Comparisons, Historical Performance, and Management Fees

Managers Historical Risk-Adjusted Annualized Returns (gross of fees) Trailing 5-Year as of June 30, 2020

	Advent Balanced	Calamos US Convertibles	75% Advent / 25 % Calamos ¹	ICE BofAML All US Convertible Index
Common Period Performance:				
Common Period Performance (%)	8.3	10.3	8.8	9.2
Best 3 Months (%)	23.3	30.3	25.0	24.2
Worst 3 Months (%)	-13.3	-12.1	-13.0	-13.6
Risk Measures:				
Standard Deviation (%)	13.0	13.5	13.1	13.3
Tracking Error (%)	1.7	2.5	1.6	NA
Beta	0.97	0.98	0.97	1.00
Correlation to Benchmark	0.99	0.98	0.99	0.99
Downside Deviation (%)	8.0	7.8	8.0	8.8
Upside Capture (%)	95	100	97	NA
Downside Capture (%)	101	92	99	NA
Risk-Adjusted Performance:				
Jensen's Alpha (%)	-0.7	1.3	-0.2	NA
Sharpe Ratio	0.55	0.68	0.59	0.61
Information Ratio	-0.53	0.44	-0.25	NA

¹ Assumption: Rebalanced Monthly

State of Connecticut Retirement Plans and Trust Funds

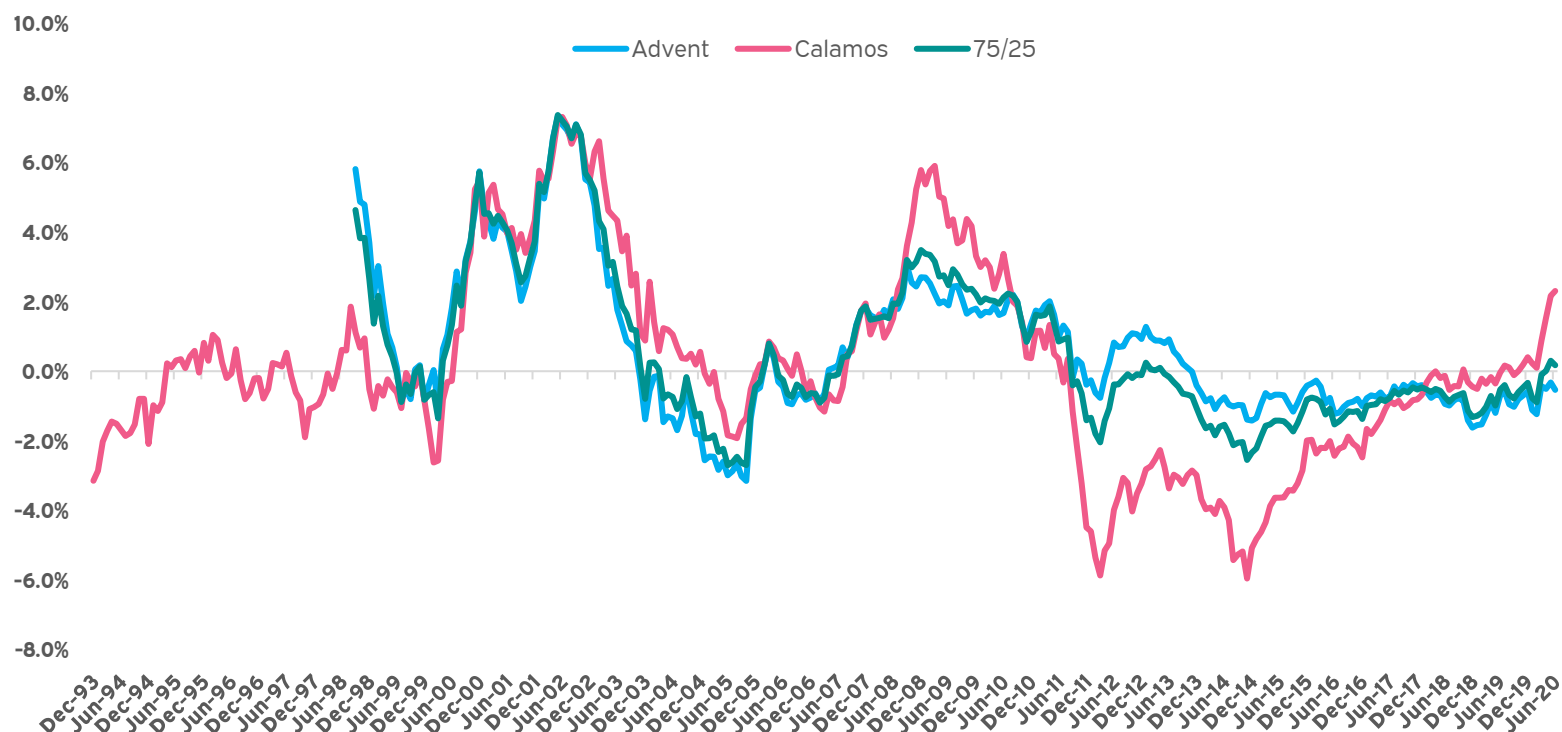
Manager Comparisons, Historical Performance, and Management Fees

Trailing and Calendar Year Performance (gross of fees) As of June 30, 2020

As of 6/30/2020	Advent Balanced	Calamos US Convertibles	75% Advent /25 % Calamos ¹	ICE BofAML All US Convertible Index
Trailing Period Returns (%):				
MRQ	23.3	30.3	25.0	24.2
YTD	6.9	14.6	8.8	7.2
1 Years	14.3	22.3	16.3	15.3
3 Years	11.2	14.0	11.9	11.7
5 Years	8.3	10.3	8.8	9.2
7 Years	9.5	10.3	9.7	10.4
10 Years	10.5	9.8	10.3	10.9
Calendar Year Returns (%):				
2019	23.2	20.5	22.5	23.2
2018	-1.7	1.6	-0.9	0.2
2017	14.0	15.8	14.4	13.7
2016	7.3	5.6	6.8	10.4
2015	-1.6	-2.6	-1.8	-3.0
2014	7.9	6.2	7.5	9.4
2013	23.5	21.4	23.0	24.9
2012	13.7	6.6	11.9	15.0
2011	-4.1	-3.0	-3.8	-5.2
2010	19.7	12.5	17.9	16.8

¹ Assumption: Rebalanced Monthly

Rolling Three-Year Period Excess Returns vs. Benchmark As of June 30, 2020



As of 06/30/2020	Total Periods	Periods Outperformed	Percentage (%)	Average Excess Return (%)	Median Excess Return (%)	Max (%)	Min (%)	Range (%)
Advent	262	132	50	0.7	0.0	7.3	-3.2	10.5
Calamos	319	146	46	0.1	-0.1	7.3	-6.0	13.3
75% Advent /25 % Calamos ¹	262	117	45	0.6	-0.2	7.4	-2.7	10.1

¹ Assumption: Rebalanced Monthly

State of Connecticut Retirement Plans and Trust Funds
Manager Comparisons, Historical Performance, and Management Fees

Monthly Excess Return Correlation
25.5 years¹
As of June 30, 2020

	Advent	Calamos
Advent		0.41
Calamos	0.41	

¹ Common period is from January 1995, given the inception date of the Advent strategy in January 1995.

State of Connecticut Retirement Plans and Trust Funds

Manager Comparisons, Historical Performance, and Management Fees

Management Fees

Manager	Fee Schedule	Mandate Size (\$ mm)	Estimated Effective Fee	Peer Ranking ¹
Advent	0.54% on all assets	93	50 bps	22
Calamos	0.55% on the first \$100mm, 0.45% on next \$150mm, 0.35% thereafter	32	45 bps	6

¹ The peer group is the eVestment US Convertibles.

Glossary

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

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

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

Tracking Error: This statistic measures the standard deviation of excess returns relative to a benchmark. Tracking error is calculated by multiplying the standard deviation of the monthly excess returns of a portfolio relative to a benchmark by the square root of twelve in order to annualize. The higher the tracking error, the greater the volatility of excess returns relative to a benchmark.

Return on Assets: A commonly used measurement showing how effective management is in using its assets to generate earnings. This ratio is calculated as net income divided by total assets.

Return on Equity: A commonly used measure of the profitability of the business in relation to equity. This ratio shows how well a company uses investments to generate earnings growth. ROE is calculated by dividing net income by shareholder's equity.

Return on Invested Capital: This performance ratio determines the amount of return a company is making above its average cost for debt and equity. ROIC will measure how much cash a company gets back for each dollar it invests in its business.

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Investment Manager Analysis, Travers, Frank J., 2004



ADVENT
CAPITAL MANAGEMENT, LLC



September 9, 2020

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ADVENT
CAPITAL MANAGEMENT, LLC

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- II. Balanced Strategy
- III. Characteristics & Performance

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-



ADVENT
CAPITAL MANAGEMENT, LLC

I. Advent Capital Management

Advent Adds Value

- Advent has one of the largest platforms in the world **emphasizing convertibles as an asset class.**
- **Advent utilizes a dynamic bottom-up, fundamental approach to security selection.** Our **cash flow model** seeks to identify changes in company fundamentals before they are reflected in reported earnings or security price movements.
- **Advent has a unique 360° view of the capital markets** by globally managing both long-only and hedge fund strategies – evaluating all parts of the capital structure.
- **Advent is a tier one institutional account globally,** which commands access to company managements, outside research and new issue allocations.
- **As a fiduciary, Advent places the interest of our clients first.** Advent's client base includes some of the world's largest public and corporate pension plans, foundations, endowments, insurance companies and high net worth individuals.
- **Advent is a signatory to the UN PRI.**

~\$9.3 billion

**AUM in traditional, alternative,
closed-end fund strategies**

57 employees

New York and London

21

Investment Professionals

22 years

**Average analyst experience
covering their sector or region**

Since 1995



Synergistic Strategies



II. Balanced Strategy

Investment Philosophy...**Focus on Positive Asymmetry**

We seek superior returns from “theoretically cheap”, positively asymmetric balanced convertible securities with attractive risk/reward profiles offering 75% - 85% of the underlying equity upside, while limiting downside risk to approximately 50%.

Investment Strategy

- We identify stable to improving credits through our cash flow, interest coverage and balance sheet analysis.
- Credit analysis is the primary tool in selecting balanced convertibles, which has provided equity-like returns with lower risk over time.
- Credit focus enhances returns and limits downside risk by gauging probabilities of upgrades, downgrades, early redemptions and corporate event risk; we often detect weakness before those who take an equity approach. We avoid distressed convertibles.
- A diversified portfolio helps to minimize risk with position sizes typically between 1% - 3% with a maximum of 5%.



Portfolio Management Team

TRACY MAITLAND

President, CIO

- Serves as President & Chief Investment Officer of Advent , overseeing all investment activities of the firm
- Co-Portfolio Manager of the Balanced Convertible Strategy since its inception in 1995
- Prior to founding Advent, he was a Director in the Convertible Securities Department at Merrill Lynch. His experience spans trading, sales, origination and portfolio management of convertible securities
- 38 years of experience in convertibles

DAVID HULME, ASIP

Managing Director

- Co-Portfolio Manager on the Balanced Strategies
- Prior to joining Advent in 2002, he worked at Van Eck Global Asset Management as an Investment Director and Portfolio Manager
- 26 years of investment experience as a Portfolio Manager and Research Analyst
- 18+ years working on the Balanced Strategies

Supported by an experienced Investment Team and Risk Management Committee

- Investment team of 21 professionals including 7 research analysts
- Risk Management Committee consists of Advent's Chief Financial Officer/Chief Administrative Officer, Chief Operating Officer, Chief Risk Officer and Director of Research

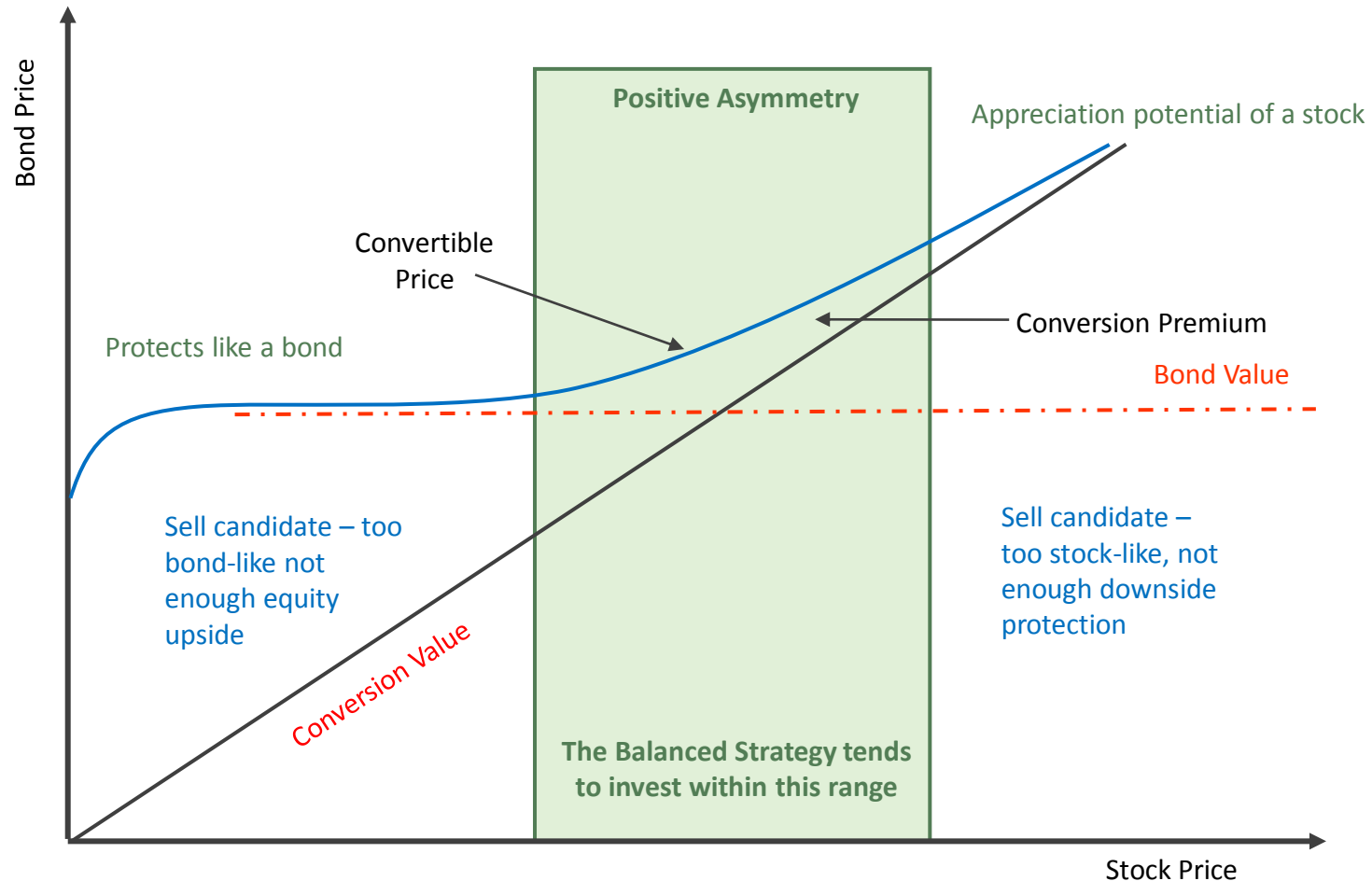
A Global Research Team

- 7 capital structure analysts: 5 sector, focused globally and 2 multi-lingual, focused regionally
- Seasoned analysts with an **average of 22 years of experience covering their sectors**
- Long tenured well-developed relationships with CEOs and CFOs provide key insights into company and industry dynamics
- **Proactive approach** to analyzing securities and the relative value they provide within a company's capital structure
- 400-600 company meetings, onsite visits, and individual management calls conducted annually



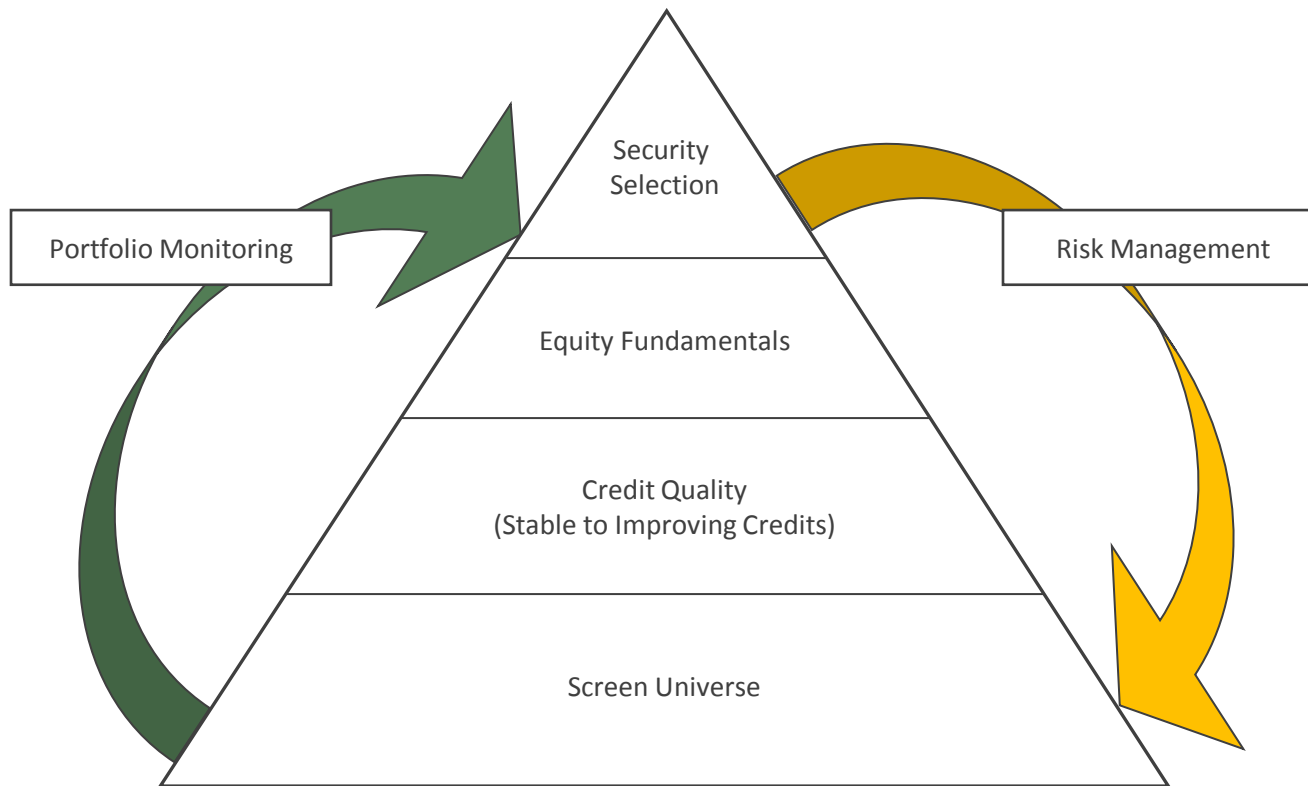


Convertible Price Dynamics



Bottom-Up Idea Generation

Advent utilizes bottom-up research to achieve long-term superior investment returns. Our research team performs fundamental credit and equity analysis which enables portfolio managers to determine the most attractive opportunities.





Step 1: Screen the Convertible Securities Universe

Use a convertible valuation model to identify theoretically cheap convertibles with attractive risk/reward profiles offering 75% - 85% of the underlying equity upside, while limiting downside risk to approximately 50%.

Step 2: Analyze Credit Quality

Extreme focus on the credit quality of potential investment. Seek to identify stable-to-improving trends in cash flow and interest coverage. Confirm that investment value provides worthy downside protection.

Step 3: Analyze Equity Fundamentals

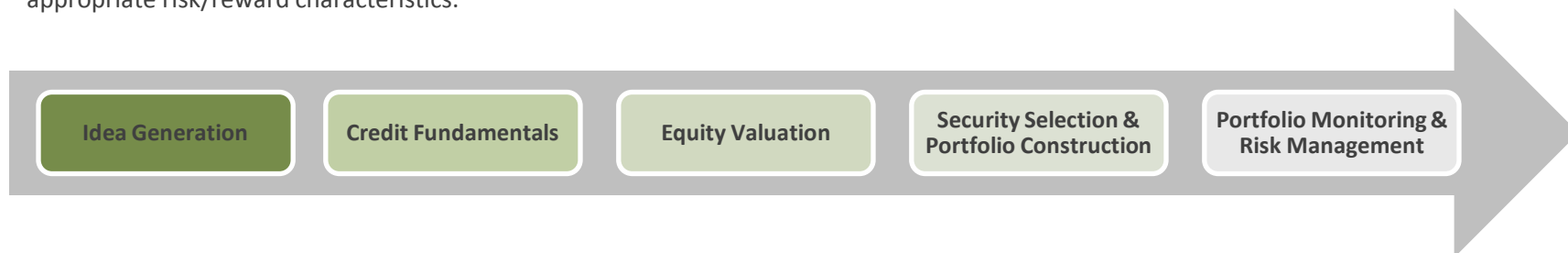
Examine the equity fundamentals, identifying company and industry dynamics that may act as intermediate catalysts for stock price appreciation including accelerating earnings momentum, changing industry dynamics, new product announcements, and corporate developments including restructuring or takeover and relative valuation.

Step 4: Security Selection and Portfolio Construction

Utilize a bottom-up process to identify theoretically cheap convertibles with stable-to-improving fundamentals. Investment ideas are put forward and reviewed in an interactive process between portfolio managers and analysts. Investment meetings are held twice weekly (or on an ad hoc basis) to discuss new issues, analyst recommendations and portfolio investments. Once a recommended security is approved by the portfolio managers, it is added to the Reservoir. Security position sizes are determined in order to achieve the optimal risk/reward.

Step 5: Continual Portfolio Monitoring and Risk Management

Determine whether each security is maintaining its investment potential and adhere to a sell discipline if the security no longer offers the appropriate risk/reward characteristics.





Convertible Universe Screening Results

>2% Cheap, 2% - 4% Current Yield, and 10% - 60% Conversion Premium

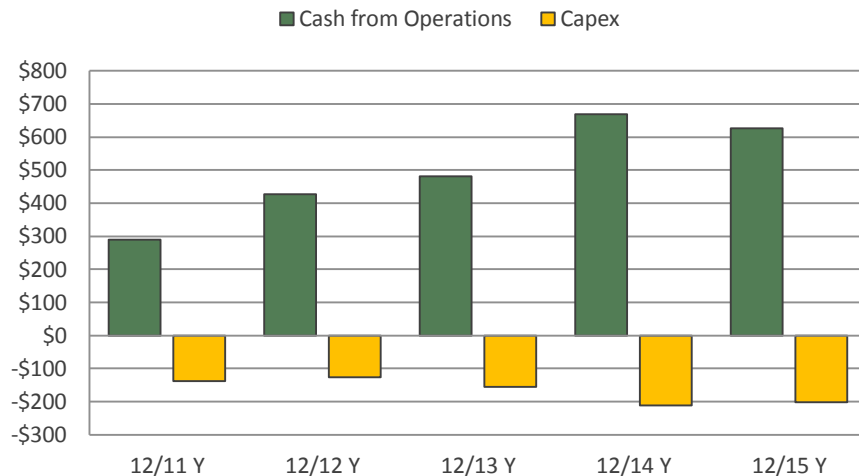
Ticker	Issuer	Coupon	Put / Maturity	Type	Convert Price	Stock Price	CY	Ytp/m	Prem %	B/E	C/P	%Chp	Inv Prem	Inv Value	Delta 1\$	Delta 1%
AAWW	Atlas Air Worldwide Holdings	2.250	2022	Bond	102.718	49.19	2.19	1.38	54.6	-	3.2	3.9	11.3	92.3	52.4	32.4
ARCC	Ares Capital	3.750	2022	Bond	100.045	17.48	3.75	3.73	10.8	-	2.9	4.5	1.5	98.6	35.5	30.4
CARB	Carbonite	2.500	2022	Bond	118.232	25.31	2.11	nm	20.7	-	1.1	2.8	34.0	88.2	68.8	54.9
CNMD	Conmed	2.625	2024	Bond	106.633	77.94	2.46	1.22	21.5	-	4.9	4.0	27.4	83.7	69.0	54.4
ECPG	Encore Cap Group	3.250	2022	Bond	94.515	32.06	3.44	5.25	34.3	-	3.0	8.3	9.7	86.1	58.2	39.1
EZPW	EZCORP	2.875	2024	Bond	115.959	9.73	2.48	nm	19.2	-	2.3	3.7	52.5	76.1	79.1	63.6
GBX	Greenbrier Cos	2.875	2024	Bond	101.170	38.36	2.84	2.62	57.9	-	4.9	7.2	8.6	93.2	52.5	30.6
HLX	Helix Energy Solutions	4.125	2023	Bond	108.915	7.55	3.79	2.04	36.6	-	2.0	11.4	13.4	96.0	64.4	41.1
INVA	Theravance	2.125	2023	Bond	100.774	14.14	2.11	1.91	40.9	-	3.8	4.9	20.6	83.6	63.7	42.9
IRWD	Ironwood Pharmaceuticals	2.250	2022	Bond	109.290	13.66	2.06	nm	32.6	-	3.3	3.5	24.9	87.5	66.0	47.8
KBR	KBR	2.500	2023	Bond	100.160	19.02	2.50	2.46	34.4	-	4.6	9.8	13.0	88.6	60.5	40.3
LYV	Live Nation Entertainment	2.500	2023	Bond	114.742	62.24	2.18	nm	25.4	-	4.0	3.0	26.0	91.1	68.8	52.7
MDCO	The Medicines	2.750	2023	Bond	81.031	25.55	3.39	8.01	55.3	-	1.3	14.6	-3.6	84.1	43.6	23.9
NR	Newpark Resources	4.000	2021	Bond	114.020	8.15	3.51	nm	30.6	-	2.7	4.7	21.8	93.6	66.1	47.8
PRAA	PRA Group	3.500	2023	Bond	91.148	27.65	3.84	5.90	52.4	-	2.2	5.7	10.7	82.3	52.6	32.2
SIRI	Liberty Media/Sirius XM	2.125	2023	Bond	98.440	5.97	2.16	2.53	32.2	15.2	4.1	6.5	5.8	93.1	49.9	35.2
XNPT	XenoPort	2.500	2022	Bond	89.490	7.07	2.79	6.56	35.7	-	2.9	10.9	5.7	84.7	56.0	36.6

Source: Kynex. These examples are shown to exemplify Advent's research and analysis process only. The analysis is based on industry sources that we believe to be accurate. Advent makes no representation, however, as to the accuracy of this information. This is not a recommendation to buy or sell any specific security. The holdings identified do not represent all of the securities purchased, sold, or recommended and past performance does not guarantee future results.

Credit Analysis

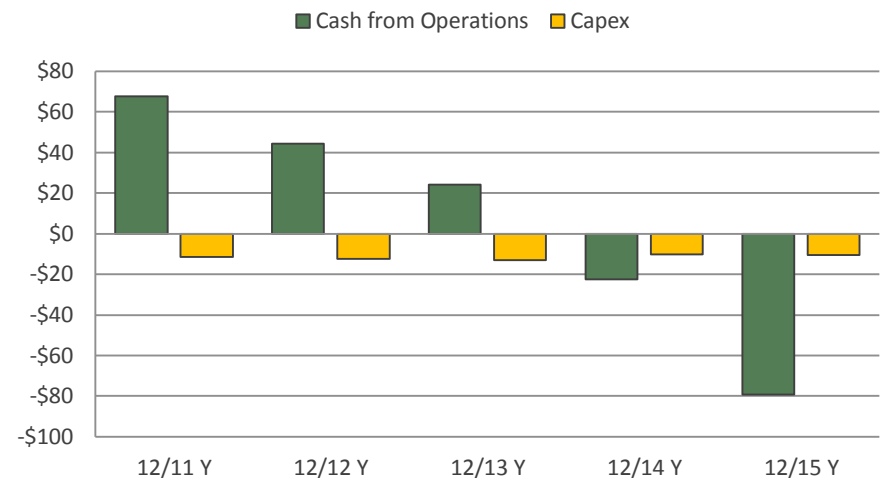
Analyze Free Cash Flow to identify companies with stable-to-improving trends

Jarden (JAH)



INVEST

Jakks Pacific (JAKK)



AVOID

Investment Team Communication

Daily:

Morning Investment Call – call among analysts, traders and portfolio managers on developments in their sectors

Morning Analyst Notes – sent out daily pre market open by analysts

Domestic and Global Convertible Index Movers List Top 20 (+/-) – sent post close to show materials changes

Position Reports – daily firm wide security holdings by account

Trade Summary Report – sent out by operational group post-close summarizing daily trade activity

Risk Review – provides maximum position size, credit rating limit, issuer size and maximum industry weight

Weekly / Bi-Monthly:

Distribution of Convertible Screens for All Portfolios

Investment Meetings – used to discuss new and existing positions. New ideas put forward by research analysts and reviewed by portfolio managers.

International Strategy Meeting – focused on international securities and regional themes

Risk Management Committee – provides independent risk oversight at a strategy and firm wide level

Ongoing:

Reservoir – continuous monitoring of official investment list

Analyst Research Reports/Company Updates – distributed to entire investment team, archived in shared directory for review

Constant Interaction and Collaboration Between All Members of the Investment Team (New York and London connected by frequent videoconferencing)

Risk Management Overview

- We evaluate risk on a firm, portfolio and position level.
- Advent is an investment adviser registered with the Securities and Exchange Commission. Advent Capital Management UK Limited, a wholly-owned subsidiary of Advent located in London, is authorized and regulated by the U.K. Financial Conduct Authority.

Implementation

- The Risk Management Committee functions to provide risk oversight at a strategy/portfolio level and on a firm wide/enterprise basis. The Risk Management Committee's focus is collaborative and in close coordination with the investment team.
- Diversification: We reduce risk by managing diverse portfolios across multiple issuers, sectors and regions. The broad diversification should produce returns uncorrelated to any single factor.
- Investment Guidelines: Serve to manage top-down risks in the portfolio, including placing a cap on sector, and single issuer concentration. Sector and regional exposure are limited to the greater of 2x the benchmark weight or 25%. The firm's exposure is limited to 25% of a given issue.
- Adherence to stringent pricing policy based on objective, independent sources.

III. Characteristics & Performance

BALANCED STRATEGY CHARACTERISTICS



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Portfolio Characteristics

As of July 31, 2020

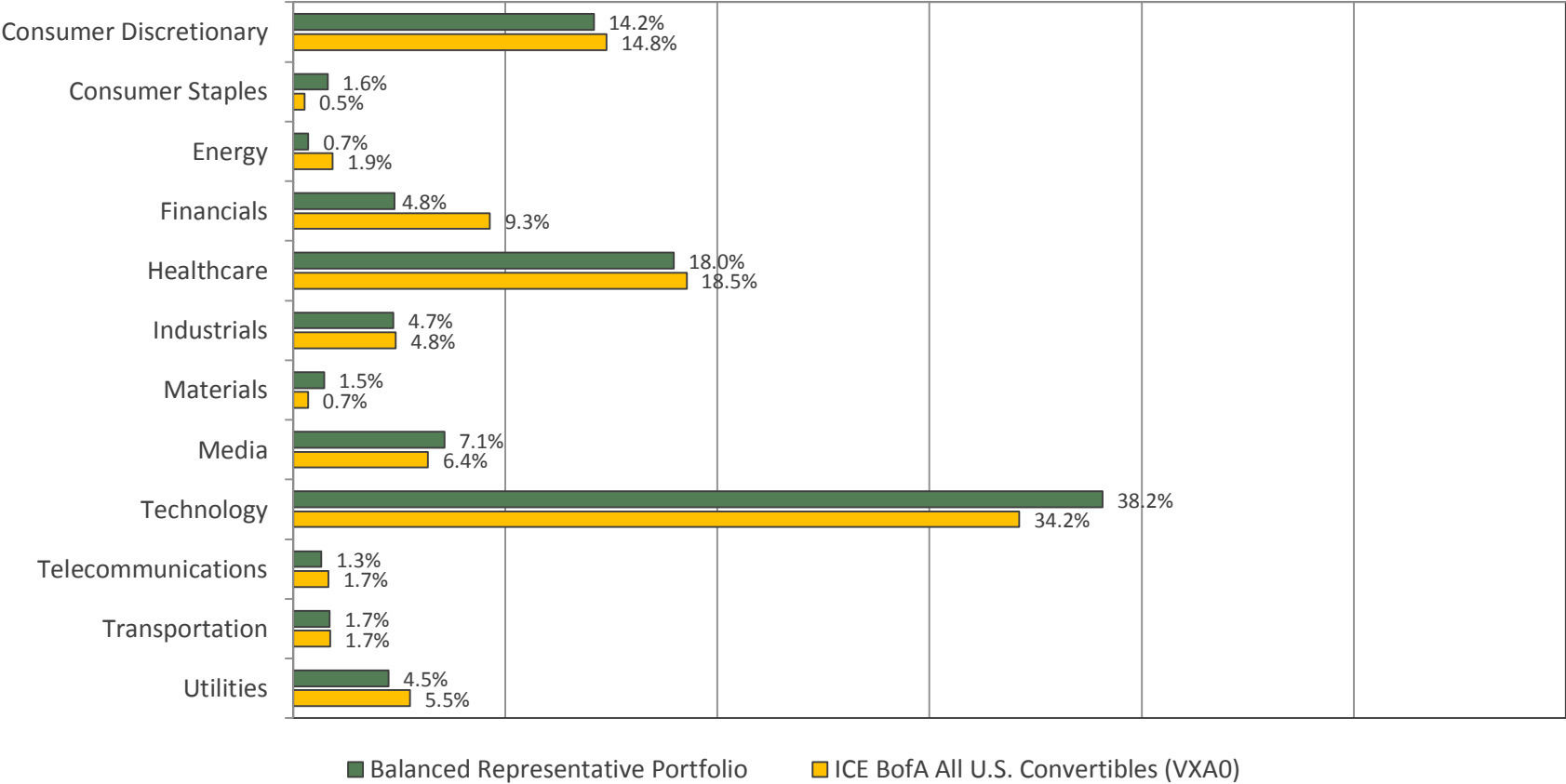
	Credit Quality	Current Yield	Delta	Conversion Premium
Balanced Representative Portfolio	BB	2.2%	61.7%	27.4%
ICE BofA All U.S. Convertibles Index (VXA0)	BB	2.2%	62.9%	32.4%

Source: ICE Data Services. Characteristics for indexes are calculated by Advent using the holdings and weightings reported by the index provider as of the referenced date. Advent corrects erroneous Delta values reported by the index provider (e.g., a Delta reported as less than zero is set at zero, and a Delta reported as greater than 100 is set at 100). Advent's calculation of Conversion Premium excludes index holdings that have a conversion premium greater than 500, and re-weights the remaining holdings proportionately. Credit quality is a simple average based on S&P, Moody's, and Fitch ratings. Each security's available agency ratings are assigned a numerical value from 1 (AAA/Aaa) to 22 (D). The numerical values are averaged and rounded to the nearest whole integer before being converted into S&P rating nomenclature.



Sector Diversification

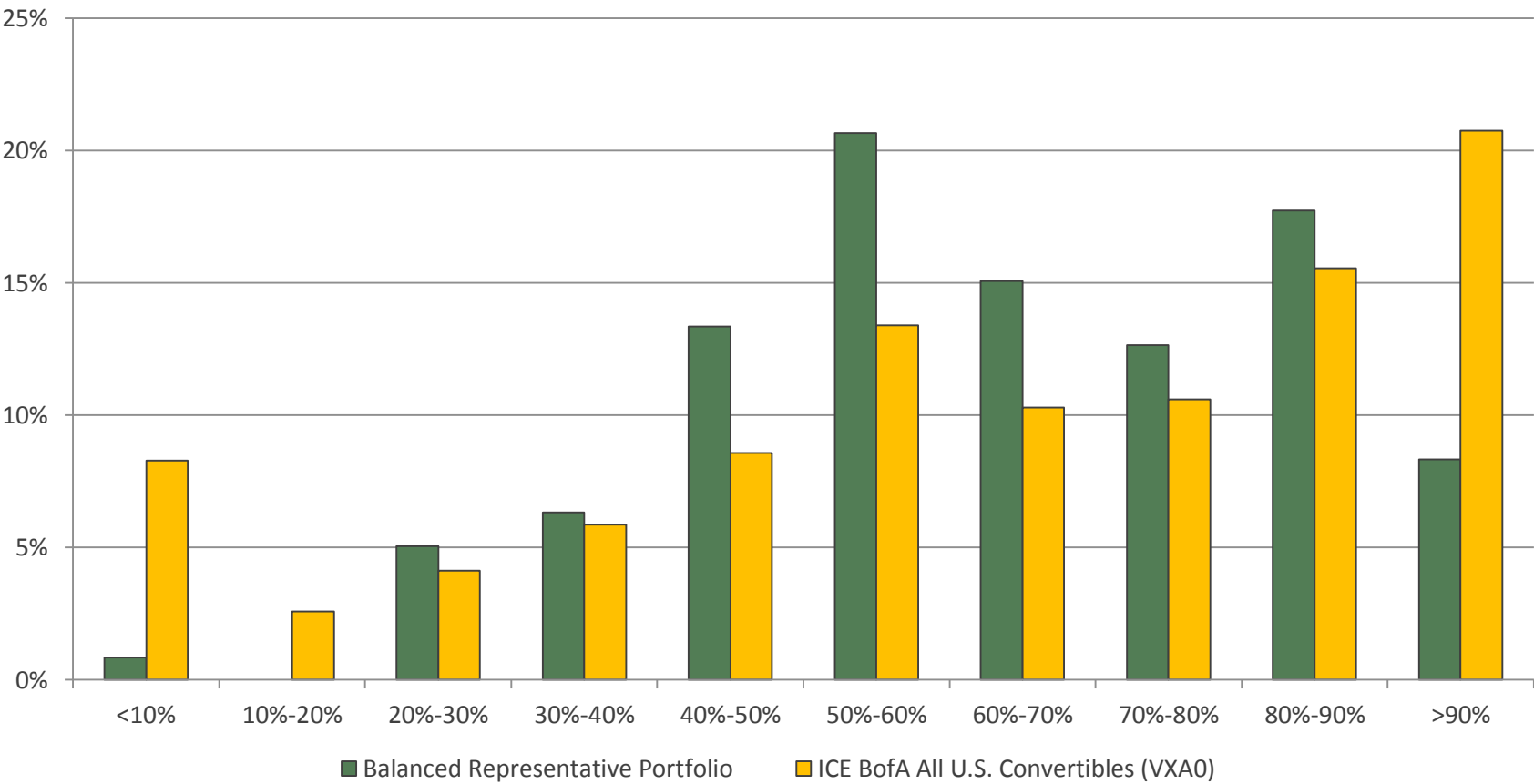
As of July 31, 2020



Source: ICE Data Services. Portfolio characteristics above are for a representative portfolio within the Balanced Convertible Institutional Composite. This information is shown to exemplify Advent’s research and analysis process only. The analysis is based on industry sources that we believe to be accurate. Advent makes no representation, however, as to the accuracy of this information.

Delta Distribution Illustrates the Portfolio’s Focus on Positive Asymmetry

As of July 31, 2020



Source: Kynex, ICE Data Services. Portfolio characteristics above are for a representative portfolio within the Balanced Convertible Institutional Composite. This information is shown to exemplify Advent’s research and analysis process only. The analysis is based on industry sources that we believe to be accurate. Advent makes no representation, however, as to the accuracy of this information. This is not a recommendation to buy or sell any specific security.



Composite Risk/Return Characteristics

As of July 31, 2020

	YTD	1 Year	3 Year Ann.	5 Year Ann.	10 Year Ann.	15 Year Ann.	Since Inception Ann. Return	Since Inception Ann. Standard Deviation	Since Inception Ann. Sharpe Ratio
Balanced Convertible Institutional Composite (Gross)	13.52	19.26	12.42	9.65	10.58	8.74	9.73	12.55	0.60
Balanced Convertible Institutional Composite (Net)	13.09	18.67	11.88	9.14	10.06	8.19	9.16	12.54	0.55
ICE BofA US Convertible Index (VXA0)	15.03	21.64	13.59	10.85	11.17	8.60	8.76	12.66	0.51
S&P 500 Index	2.38	11.96	12.01	11.49	13.84	8.96	9.24	15.10	0.46
Russell 2000 Index	(10.57)	(4.59)	2.69	5.10	10.07	6.77	7.93	19.90	0.29

GOAL: To Generate a Long-Term Track Record of Equity-Like Returns with Lower Risk



BALANCED STRATEGY PERFORMANCE



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Balanced Strategy: Participate in the Upside, Protect on the Downside

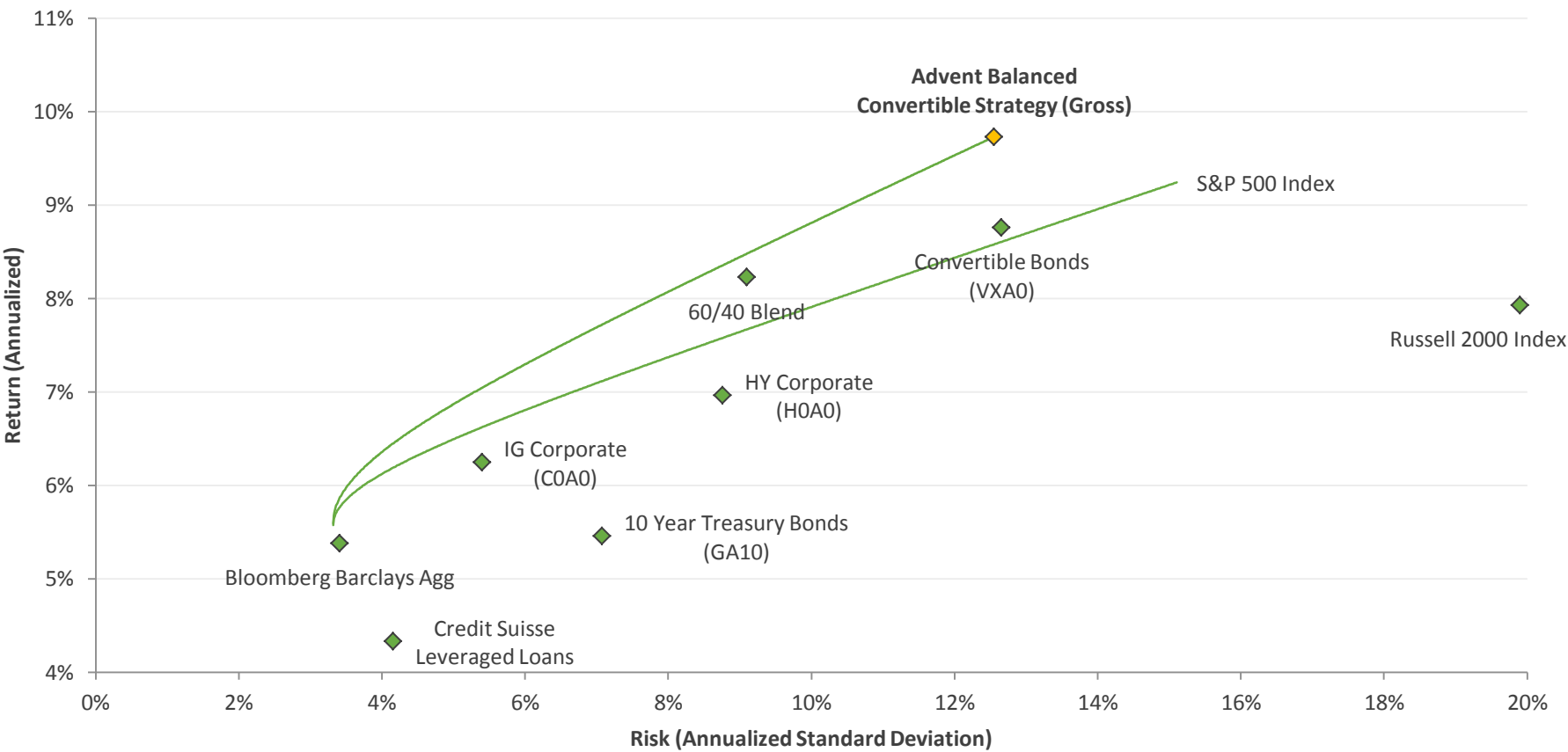
	Annual Returns		Market Capture
	<u>Balanced Composite</u> (Gross)	S&P 500	<u>Balanced Composite</u> (Gross)
2020	13.52%	2.38%	567.0%
2019	23.23%	31.49%	73.8%
2018	-1.70%	-4.38%	38.7%
2017	13.97%	21.83%	64.0%
2016	7.26%	11.96%	60.7%
2015	-1.58%	1.38%	N/A
2014	7.90%	13.69%	57.7%
2013	23.47%	32.39%	72.5%
2012	13.70%	16.00%	85.6%
2011	-4.08%	2.11%	N/A
2010	19.71%	15.06%	130.8%
2009	42.38%	26.46%	160.1%
2008	-31.72%	-37.00%	85.7%
2007	8.74%	5.49%	159.0%
2006	11.45%	15.79%	72.5%
2005	3.44%	4.91%	70.1%
2004	6.08%	10.88%	55.9%
2003	26.34%	28.68%	91.8%
2002	-9.63%	-22.10%	43.6%
2001	-6.57%	-11.89%	55.3%
2000	10.51%	-9.10%	N/A
1999	27.96%	21.04%	132.9%
1998	12.57%	28.58%	44.0%
1997	23.58%	33.36%	70.7%
1996	19.38%	22.96%	84.4%
1995	7.67%	6.02%	127.4%

Summary:

	<u>Balanced Composite</u>	
	<u>(Gross)</u>	<u>S&P 500</u>
Sum of Up Year Returns	306.67%	352.49%
Sum of Down Year Returns	-39.11%	-84.47%
Market Upside Capture	87%	
Market Downside Capture	46%	

Advent's Balanced Strategy seeks to **enhance the positive asymmetric nature of convertibles**, historically participating in 87% of the upside while protecting on the downside (46%).

Efficient Frontier



Source: Bloomberg, Advent Capital Management, LLC, ICE Data Services. Data set is from October 1995 (the inception of the Balanced Convertible Strategy) through July 2020. "T Bills" represent the three month Treasury Rate. GA10 represents the ICE BofA Current 10-Year US Treasury Index. COA0 represents the ICE BofA Corporate Master Index. HOA0 represents the ICE BofA US High Yield Index. VOA0 is the ICE BofA All US Convertibles Excluding Mandatories Index. 60/40 Blend represents a blend of 60% S&P 500 and 40% Bloomberg Barclays Capital US Aggregate Index. Returns presented on a gross basis are substantially higher than returns presented on a net basis because gross returns do not reflect the deduction of investment advisory fees and other expenses that would be incurred by a client. Investment advisory fees have a compounding effect in reducing the value of a client portfolio over time. Past performance is not a guarantee of future results. Please see the "Disclosures" section at the end of this presentation.

BALANCED STRATEGY PERFORMANCE



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Composite Monthly Returns (Gross)

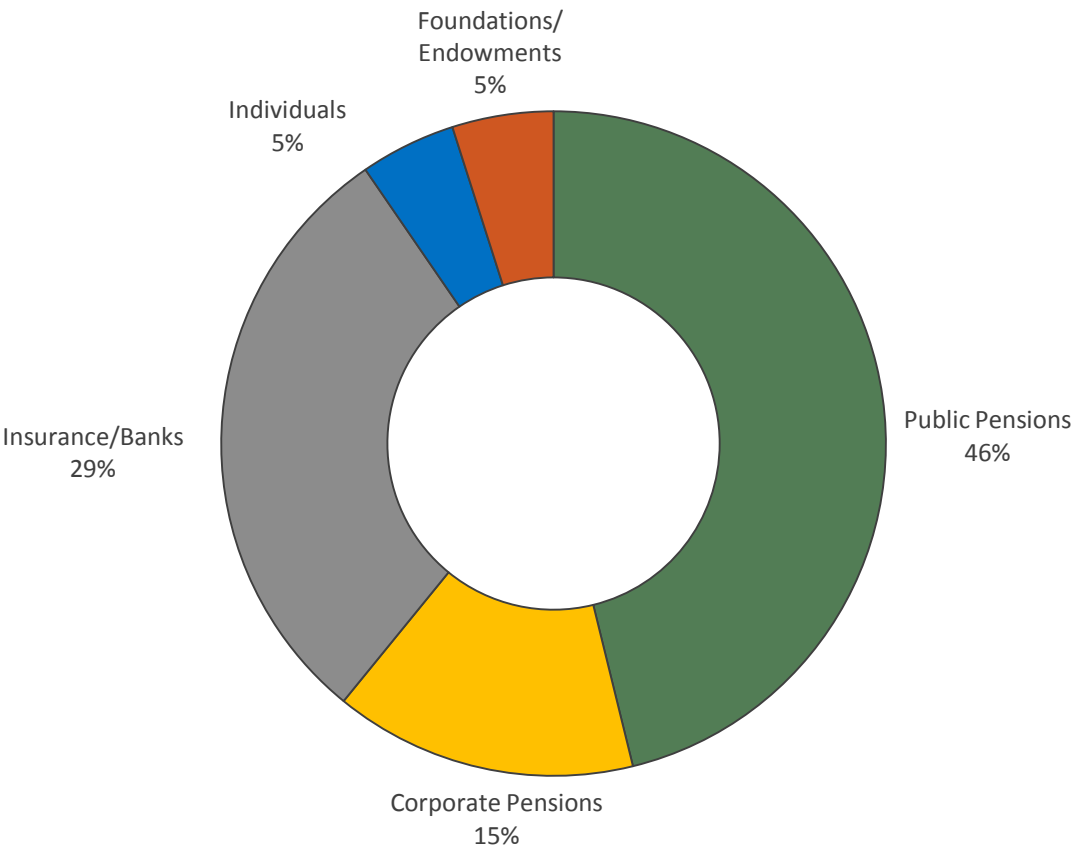
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
2020	1.26%	-3.27%	-11.49%	10.76%	6.79%	4.26%	6.18%						13.52%
2019	7.63%	3.03%	0.04%	2.89%	-3.86%	4.99%	1.81%	-2.26%	-0.30%	1.77%	3.50%	2.35%	23.23%
2018	3.23%	-1.27%	0.32%	-0.49%	3.76%	0.15%	0.72%	3.30%	-0.34%	-6.26%	0.69%	-5.00%	-1.70%
2017	2.59%	1.81%	0.84%	0.98%	0.21%	0.80%	2.66%	-0.20%	1.48%	1.77%	0.30%	-0.04%	13.97%
2016	-5.94%	0.11%	3.97%	0.68%	1.97%	-0.58%	4.37%	0.26%	1.31%	-2.07%	2.33%	1.04%	7.26%
2015	-0.77%	4.61%	0.01%	0.21%	2.54%	-2.00%	-0.17%	-4.25%	-3.63%	3.80%	0.17%	-1.71%	-1.58%
2014	0.94%	3.88%	-1.28%	-0.56%	2.26%	2.81%	-2.29%	3.49%	-3.56%	1.93%	0.71%	-0.40%	7.90%
2013	3.95%	0.18%	2.87%	2.27%	2.40%	-1.77%	4.13%	-1.65%	3.73%	1.60%	1.69%	2.08%	23.47%
2012	5.59%	2.53%	0.54%	-1.41%	-4.06%	2.50%	0.84%	2.43%	2.18%	-0.83%	1.00%	1.92%	13.70%
2011	1.89%	2.79%	0.55%	2.27%	-1.20%	-2.17%	-2.01%	-5.78%	-6.01%	7.14%	-1.57%	0.69%	-4.08%
2010	-2.36%	3.01%	4.72%	2.70%	-4.73%	-3.10%	5.44%	-1.38%	6.03%	2.93%	0.63%	4.97%	19.71%
2009	-0.33%	-2.35%	5.28%	7.53%	4.48%	0.84%	7.74%	3.56%	4.37%	-2.63%	3.71%	4.30%	42.38%
2008	-3.10%	-0.08%	-3.61%	5.22%	1.85%	-3.39%	-3.69%	0.12%	-11.96%	-18.71%	-4.75%	7.50%	-31.72%
2007	1.89%	0.15%	0.54%	2.38%	2.98%	-0.50%	-2.78%	-0.69%	4.77%	3.89%	-2.79%	-1.10%	8.74%
2006	3.55%	0.47%	2.39%	0.27%	-2.67%	-0.70%	-0.76%	1.31%	2.12%	2.73%	1.85%	0.50%	11.45%
2005	-2.81%	0.49%	-2.62%	-3.90%	3.43%	2.24%	3.30%	-0.48%	0.87%	-1.99%	3.15%	2.09%	3.44%
2004	2.39%	1.60%	-0.01%	-4.26%	0.82%	1.24%	-4.45%	0.41%	1.87%	0.78%	3.57%	2.30%	6.08%
2003	0.78%	-1.21%	1.06%	5.52%	5.40%	0.33%	0.60%	1.31%	1.40%	3.66%	1.99%	2.99%	26.34%
2002	-0.10%	-2.48%	3.42%	-0.96%	-0.81%	-4.41%	-6.45%	0.24%	-2.79%	2.87%	3.52%	-1.61%	-9.63%
2001	3.06%	-7.87%	-4.78%	8.84%	-0.57%	-1.83%	-2.25%	-2.74%	-8.31%	4.74%	4.46%	1.99%	-6.57%
2000	1.28%	11.26%	-0.82%	-2.84%	-4.00%	7.60%	-1.23%	9.13%	-2.69%	-3.34%	-9.43%	7.30%	10.51%
1999	1.34%	-2.53%	1.80%	1.47%	-2.12%	4.82%	-1.08%	-1.31%	-0.09%	5.54%	5.96%	12.07%	27.96%
1998	0.26%	4.60%	4.23%	1.39%	-1.54%	0.83%	-0.95%	-10.73%	1.57%	4.09%	4.90%	4.33%	12.57%
1997	3.11%	1.15%	-0.36%	1.19%	4.32%	3.54%	4.65%	3.01%	2.08%	-2.72%	0.22%	1.41%	23.58%
1996	3.54%	0.92%	1.62%	1.62%	1.56%	1.11%	-2.32%	2.94%	2.76%	0.51%	3.22%	0.50%	19.38%
1995										1.37%	4.21%	1.92%	7.67%

The Balanced Composite represents the Balanced Convertible Institutional Composite. Inception date of the Balanced Composite is October 1, 1995. Returns presented on a gross basis are substantially higher than returns presented on a net basis because gross returns do not reflect the deduction of investment advisory fees and other expenses that would be incurred by a client. Investment advisory fees have a compounding effect in reducing the value of a client portfolio over time. Past performance is not a guarantee of future results. Please see the "Disclosures" section at the end of this presentation.

A. Client Base

Asset Breakdown Across Strategies by Client Type

As of June 30, 2020

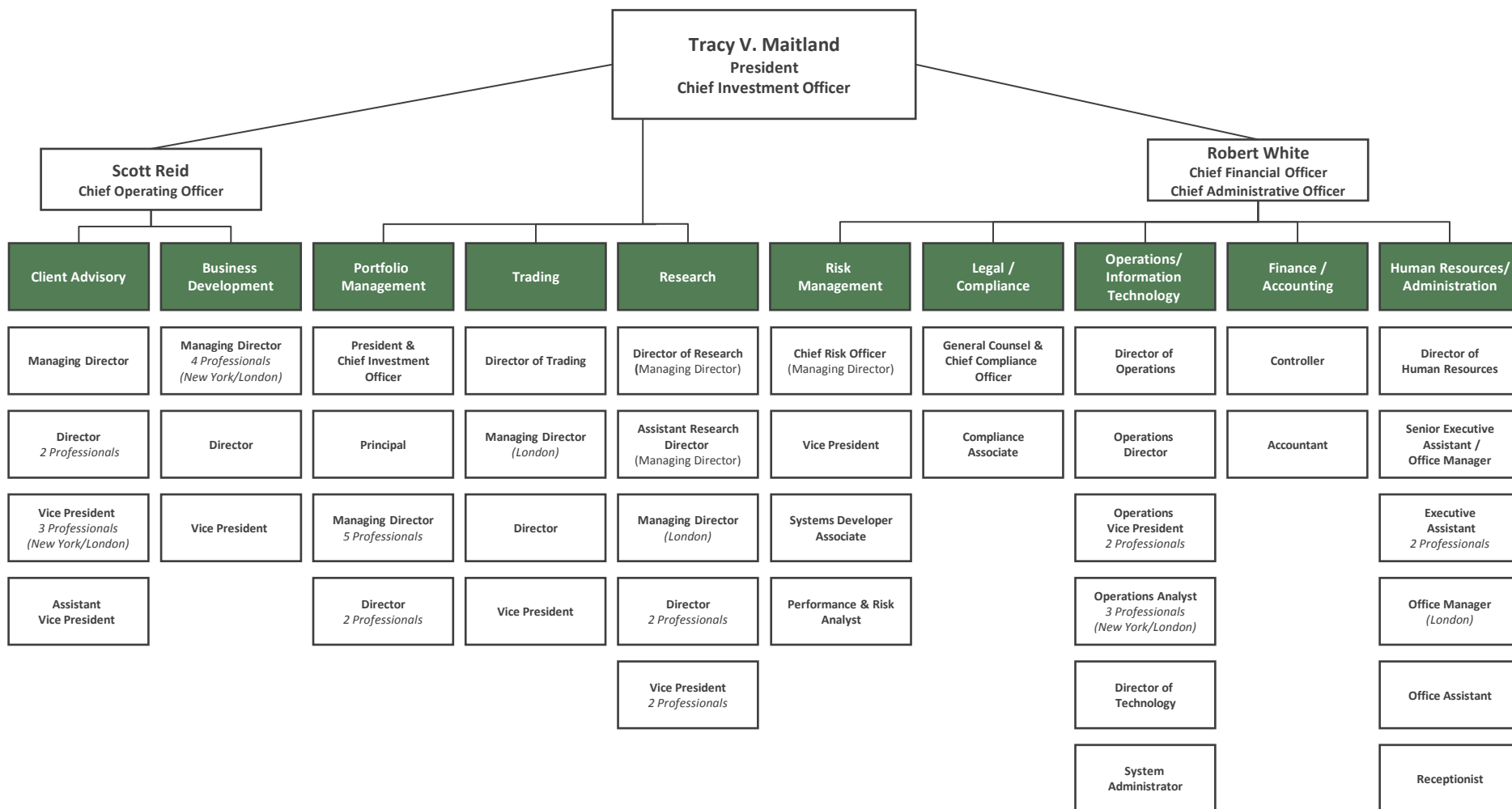


B. Organizational Chart

ORGANIZATIONAL CHART



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As of April 30, 2020. There are 2 people represented twice in the above chart due to dual responsibilities.

C. Disclosures

DISCLOSURES



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Firm Information:

Advent Capital Management, LLC (Advent) is an investment adviser registered with the Securities and Exchange Commission under the Investment Advisers Act of 1940. Advent is an independent, privately held limited liability company. Advent Capital Management UK Limited, a wholly-owned subsidiary of Advent located in London, is authorized and regulated by the U.K. Financial Conduct Authority. Advent specializes in global and domestic convertible, high yield, and event-driven strategies based on a credit focused investment process with offices in New York and London. Advent has approximately \$8.6 billion in assets under management (as of 5/31/20). We manage institutional assets across long-only, alternative and closed end fund strategies. A list of all firm composites is available upon request.

Advent claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The verification report(s) is/are available upon request. Advent has been independently verified for the period 9/30/95 – 12/31/19. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The Balanced Convertible Institutional Composite has been examined for the periods 10/01/95 - 12/31/19. The verification and performance examination reports are available upon request. Additional information regarding policies for valuing portfolios, calculating performance and preparing compliant presentations are available upon request. Past performance does not guarantee future results. This performance report should not be construed as a recommendation to purchase or sell any particular securities held in composite accounts. Market conditions can vary widely over time and can result in a loss of portfolio value. Performance reflects the reinvestment of dividends and other earnings.

Balanced Convertible Institutional Composite

Year	Total Return Gross of Fees %	Total Return Net of Fees %	ICE BofA All Convertible Index %	Number of Portfolios	Dispersion %	Total Composite Assets End of Period (\$MM)	Total Firm Assets End of Period (\$MM)
2010	19.72	19.07	16.79	5	0.15	322.2	5,799.9
2011	-4.08	-4.59	-5.17	9	0.07	485.4	5,537.9
2012	13.70	13.18	14.96	10	0.10	963.7	6,092.1
2013	23.47	22.91	24.92	13	0.13	1,472.0	7,591.3
2014	7.91	7.43	9.44	13	0.27	1,614.9	8,427.9
2015	-1.58	-2.02	-2.99	16	0.34	1,630.6	8,563.3
2016	7.26	6.77	10.43	15	0.16	1,581.4	8,835.2
2017	13.96	13.46	13.70	14	0.10	1,615.4	9,350.1
2018	-1.70	-2.17	0.15	15	0.08	1,647.1	8,479.6
2019	23.23	22.64	23.15	16	0.22	1,221.5	9,300.1

Composite Characteristics:

1) Advent's Balanced Convertible Institutional Composite (Composite) consists of the following:

- Inception of the Composite was October 1, 1995 and the creation of the Composite was October 1, 1995.
- Periods presented represent only institutional accounts.
- Accounts in the Composite invest in balanced convertible securities that seek to participate in 75-85% of the equity upside and only 50% of the downside.
- As of 12/31/11, the 3-year ex-post standard deviation for the Composite was 13.03%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 12.84%.
- As of 12/31/12, the 3-year ex-post standard deviation for the Composite was 11.49%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 10.86%.
- As of 12/31/13, the 3-year ex-post standard deviation for the Composite was 9.87%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 9.67%.
- As of 12/31/14, the 3-year ex-post standard deviation for the Composite was 7.76%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 7.68%.
- As of 12/31/15, the 3-year ex-post standard deviation for the Composite was 8.40%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 8.26%.
- As of 12/31/16, the 3-year ex-post standard deviation for the Composite was 8.85%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 8.81%.
- As of 12/31/17, the 3-year ex-post standard deviation for the Composite was 7.92%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 7.84%.

DISCLOSURES



- As of 12/31/18, the 3-year ex-post standard deviation for the Composite was 8.26%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 8.17%.
- As of 12/31/19, the 3-year ex-post standard deviation for the Composite was 8.97%. The ICE BofA All Convertible Index (VXA0) 3-year ex-post standard deviation was 8.28%.

2) The following is the criteria for inclusion in the Advent Balanced Convertible Institutional Composite:

- Through 3/31/11, all accounts must have had an initial account value of at least \$5,000,000. As of 04/01/11, all accounts must have an initial account value of at least \$3,000,000.
- The Composite will be composed of all accounts that meet the criteria to invest in Rule 144A securities. Advent changed its composite criteria to Rule 144A eligible accounts in July of 1997. The decision was made to assure the Composite was more representative of the overall convertible market.
- The current Composite does not include non-QIB accounts due to their inability to invest in Rule 144A securities.

3) The following pertains to performance results:

- All performance is presented in U.S. Dollars.
- Returns are presented both gross of fees and net of actual management fees paid by the Advent accounts but not expenses paid by the clients. The Balanced Convertible Strategy advertised fee schedule is 0.80% on the first 25 million, 0.65% on the next 25 million, 0.55% on the next 50 million, and 0.50% on over 100 million. The management fees are described in Part 2 Advent's Form ADV. Returns presented on a gross basis are substantially higher than returns presented on a net basis because gross returns do not reflect the deduction of investment advisory fees and other expenses that would be incurred by a client. Investment advisory fees have a compounding effect in reducing the value of a client portfolio over time.
- Past performance is not necessarily indicative of future results.

4) Benchmark Information:

- The Composite is benchmarked to the ICE BofA All Convertible Index.
- The ICE BofA All Convertible Index is comprised of U.S. Convertible Securities and is a rule-driven index with a goal to create an unbiased proxy for the broad U.S. convertible market.
- Benchmark returns are not covered by the report of the independent verifiers.

Calculation Methodology:

The dispersion measure is the asset-weighted standard deviation for accounts in the composite for the entire year.

DISCLOSURES



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CAPITAL MANAGEMENT, LLC

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SEPTEMBER 9, 2020

State of Connecticut Investment Advisory Council

Calamos U.S. Convertible Strategy

Robert Behan, CFA – President and Head of Global Distribution

Joe Wysocki, CFA – SVP, Co-Portfolio Manager

Agenda

- Firm Overview
- Convertible Market Update
- Convertible Investment Process
- Calamos U.S. Convertible Strategy
- Biographies
- Appendix

Firm Overview

Calamos Firm Overview

Calamos Overview

- Multi-disciplined, global asset manager
- Headquartered in Chicago-metro area, offices in New York, San Francisco, Milwaukee and the Miami area
- Founded in 1977
- AUM of U.S. \$26.5 billion, including \$10.8 billion in convertible assets
- Institutional Assets[†] of U.S. \$13.9 billion
- 311 employees*, 74 investment professionals

Assets By Category (in USD, Millions)

• Alternatives	\$10,406 M
• Lower-Volatility Equity/Risk Managed	\$3,268 M
• Convertibles	\$2,494 M
• Fixed Income	\$4,299 M
• Growth Equity	\$2,810 M

Key Features

- Active – Global – Growth
- Pioneer in convertible, liquid alternative and fundamental low-volatility strategies
- Unique blend of quantitative and qualitative investment processes
- Comprehensive analysis of idiosyncratic risk factors, including ESG-related principles (UN PRI signatory)
- Team of teams platform and product set, integrated through Co-CIO-led investment committee and institutional-quality infrastructure

Data as of June 30, 2020.

[†] Institutional Assets include institutional share classes of open-end funds as well as assets managed for institutions.

* Total represents full-time employees of the operating subsidiaries of Calamos Asset Management, Inc. Part-time employees and consultants are excluded.

Why Calamos Convertible Bonds

Experience

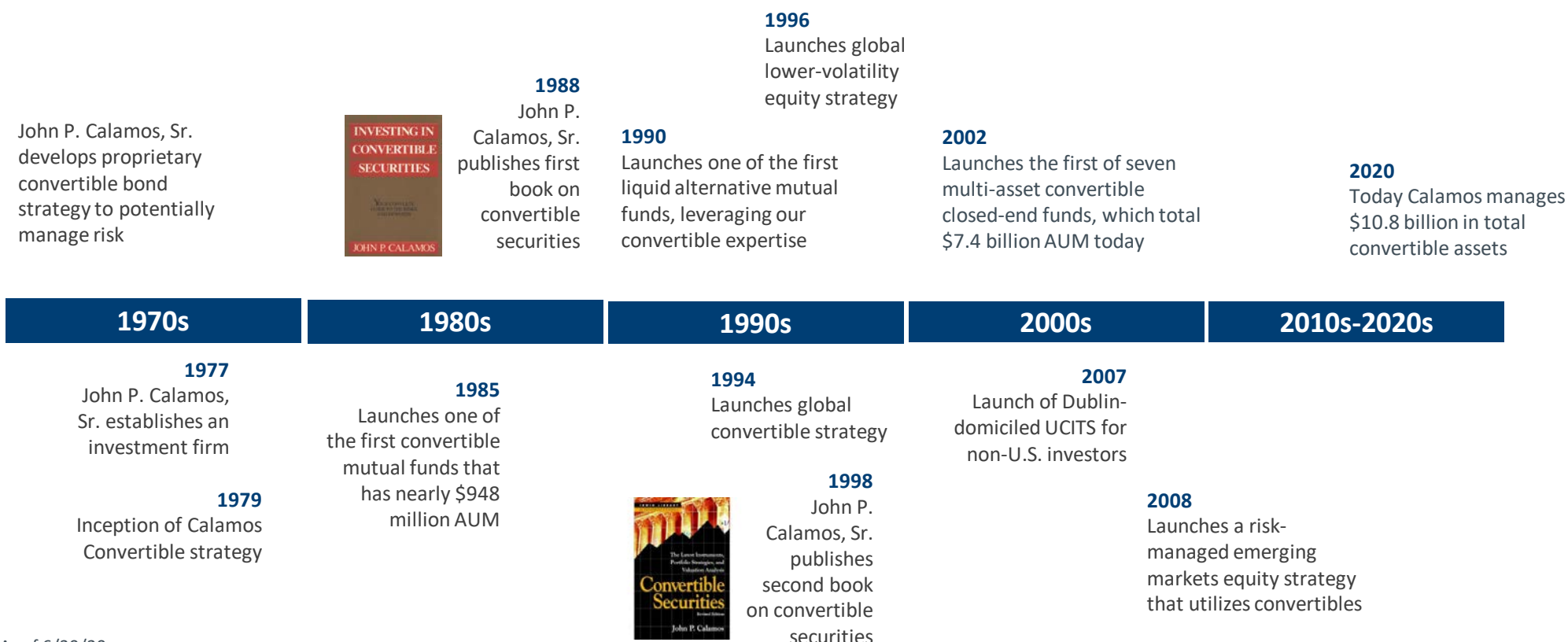
- Calamos Investments is an industry leader in the convertible bond asset class. Our founder, John P. Calamos, Sr., pioneered actively managed convertible strategies for the institutional market more than 40 years ago.

Process

- Since the firm's inception, we have employed a consistent, time-tested investment process implemented through a cohesive team-managed approach.

Scale

- With over \$10.8B in convertibles under management across our platform, Calamos clients glean the benefits of scale, expertise and commitment to the asset class.



All About Convertible Securities

Convertible securities are an opportunity for investors who want to participate in equities but are willing to exchange the maximum possible upside for protection against the downside of equities. The asset class was pioneered by Calamos Founder, Chairman and Global CIO John P. Calamos, Sr., more than 40 years ago.

At right, subscribe to our monthly newsletter tracking the convertible securities market, including performance, issuance and credit quality.

Why Convertibles?



Actively managed convertible securities can be deployed strategically and tactically in an asset allocation, as Calamos Founder, Chairman and Global CIO John Calamos, Sr. and Eli Pars, Co-CIO, Head of Alternative Strategies and Co-Head of Convertible Strategies, and Senior Co-Portfolio Manager discuss in this video.

U.S. Convertible Market Snapshot



SUBSCRIBE

Global Convertible Market Snapshot



SUBSCRIBE

The Case for Strategic Convertible Allocations



The July 2020 *Case for Strategic Convertible Allocations*, written by John P. Calamos, Sr., Founder, Chairman and Global CIO, and Eli Pars, CFA Co-CIO and Senior Co-Portfolio Manager, argues that the structural characteristics of convertibles can serve investors well, given Calamos' expectations for advancing but volatile equity markets and economic recovery.

All About Convertible Securities

Our [Convertible Securities: Structures, Valuation, Market Environment and Asset Allocation](#) guide is a resource on how convertible bonds work. It's written by Calamos Founder, Chairman and Global Chief Investment Officer John P. Calamos, Sr.

The Latest on Convertibles

Investment Ideas Blog: Converts

With CICVX There's No Need to Make a Market Call

The Calamos Convertible Fund team's continuous focus on balancing risk and reward is designed to mitigate the downside—including establishing floors in the event of unforeseen pullbacks—while pursuing the potential for upside capture by remaining exposed to positive trends and well-executing companies.

[Read Post](#)

No, It's Not 'Too Late' for Convertibles

Investment professionals, do you wish you had done more in convertibles earlier this year? If so, it's not too late to consider now. Calamos Convertible Fund can be a core portion of your equity allocation, offering attractive risk/reward attributes to help navigate equity markets.

[Read Post](#)

Calamos on the Markets: CIO Conference Call Series Resumes Aug. 4

What do we see ahead? Investment professionals are invited to join a series of conference calls with the Calamos Investment Management team providing perspectives on their respective domains, including convertibles, liquid alternatives, U.S. and international /emerging markets equities, and fixed income.

[Read Post](#)

With Soaring Global Convertible Issuance as the Backdrop, CXGCX Outperformed Equity and Convertible Markets

Global convertible issuance has soared in 2020, and the Global Convertibles Fund has outperformed both its index and global equities year-to-date.

[Read Post](#)

No Matter What: CMNIX

Here's why we call the market neutral fund category leader both consistent and resilient.

[Read Post](#)

John Calamos on Calamos Convertible Fund's 14% First Half

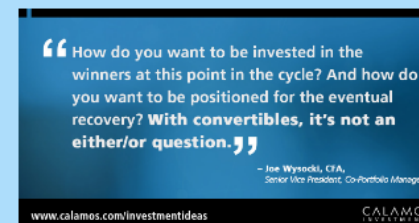
Calamos Founder, Chairman and Global Chief Investment Officer John P. Calamos, Sr. comments on Calamos Convertible Fund (CICVX), its prospects for the second half of the year and the convertible market in general.

[Read Post](#)

July saw many convertible issuers tied to new and existing growth trends report solid results, sending their equities higher and helping [#convertiblesecurities](#). This serves as a reminder that there is more to convertibles than just new issuance. bit.ly/2Y6TRXN



Here's the appeal of \$CICVX—there's no need to make a market call. bit.ly/2XWk7nw [#convertiblesecurities](#)



Whitepapers

- Convertible Securities Offer Many Benefits, Including as a Hedge Against Inflation
- John P. Calamos, Sr. October 22, 2018 Q&A with Wall Street Transcript
- Convertible Securities: Potential Advantages in Rising Interest Rate Environments
- The Opportunity of Convertible Securities
- The Case for Strategic Convertible Allocations

Calamos Investment Organization

Calamos Investment Committee

Investment Disciplines

U.S. Growth
Equities

Global
Equities

Convertibles

Multi-Asset

Fixed Income

Alternatives

Global Trading

Portfolio
Specialists

Portfolio Risk
Management

Investment
Operations

Sector Research

Technology

Health Care

Financials

Consumer

Cyclicals

74 Total Investment Professionals

6 Global CIO/Co-CIOs

33 years avg. experience

15 Portfolio Managers

22 years avg. experience

38 Research Team Members

14 years avg. experience

4 Portfolio Specialists

26 years avg. experience

6 Traders

25 years avg. experience

5 Risk Mgmt./Quant.

16 years avg. experience

Calamos U.S. Convertible Investment Team

Portfolio Management

<p>John Hillenbrand, CPA Co-CIO, Head of Multi-Asset Strategies and Co-Head of Convertible Strategies, Sr. Co-PM</p> <p>Industry Experience: 28 years Tenure: 18 years</p>	<p>Eli Pars, CFA Co-CIO, Head of Alternative Strategies and Co-Head of Convertible Strategies, Sr. Co-PM</p> <p>Industry Experience: 33 years Tenure: 13 years</p>	<p>Jon Vacko, CFA Sr. Co-Portfolio Manager</p> <p>Industry Experience: 28 years Tenure: 20 years</p>	<p>Joe Wysocki, CFA Co-Portfolio Manager</p> <p>Industry Experience: 20 years Tenure: 17 years</p>	<p>Matthew Freund, CFA Co-CIO, Head of Fixed Income Strategies, Sr. Co-PM</p> <p>Industry Experience: 31 years Tenure: 4 years</p>
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Sector Coverage

Consumer	Cyclicals	Health Care	Financials	Technology	Scott Henderson, CFA
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Portfolio Specialist

13 Total Investment Professionals

5 Co-CIO/Co-PMs 28 years avg. experience	1 Portfolio Specialist 29 years avg. experience	7 Research Team Members 15 years avg. experience
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This team also draws upon the resources of the broader Calamos Investment Organization.

Convertible Market Update

Convertibles Combine Advantages of Stocks and Traditional Fixed Income Securities

UPSIDE OPPORTUNITY

When the underlying stock rises, convertibles may capture a portion of the capital appreciation



DOWNSIDE RISK MITIGATION POTENTIAL

If the underlying stock price drops, convertibles provide consistent income and other fixed income characteristics (e.g., principal repayment)

Due to their hybrid characteristics, convertibles have historically:

Performed well in rising equity markets

Helped to mitigate downside during declines

Outperformed bonds when interest rates rise

Enhanced opportunities for investors to tailor the risk and reward characteristics of their portfolios

Convertible securities are subject to default risk. See appendix for discussion of "lower-volatility".

Convertibles and Rising Interest Rates

- As fixed income securities, convertibles can be affected by rising interest rates. However, they are also equity sensitive because of the option to convert them into a predetermined number of issuer shares
- In general, the more a convertible's price is determined by the value of its underlying equities, the greater its resilience to rising interest rates
- **In the past 20 years when the 10-year Treasury yield rose more than 100 basis points, convertibles tend to be more like equities than bonds**

Returns in Rising Interest Rate Environments

	10/5/98- 1/20/00	11/7/01- 4/1/02	6/13/03- 6/14/04	6/1/05- 6/28/06	12/30/08- 6/10/09	10/7/10- 2/8/11	7/26/12- 12/27/13	7/8/16- 12/16/16	9/7/17- 5/17/18
Yield increase (bps)*	263	122	176	134	187	134	157	123	106
ICE BofA All U.S. Convertibles Index	68.85%	2.29%	11.49%	9.46%	24.68%	11.63%	35.49%	7.58%	8.69%
S&P 500 Index	46.59%	3.07%	14.66%	6.71%	9.41%	14.89%	42.09%	8.65%	11.84%
Bloomberg Barclays Capital U.S. Government Credit Index	-3.38%	-3.09%	-3.64%	-1.49%	-2.08%	-3.94%	-2.14%	-4.88%	-3.36%

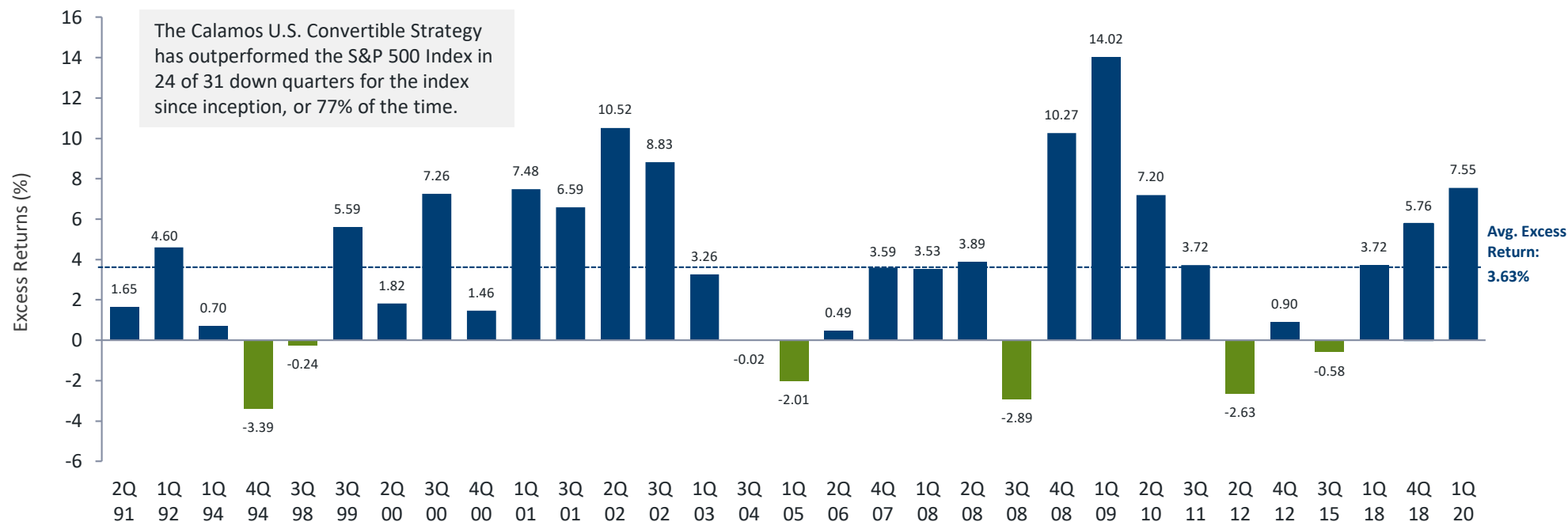
*10-year Treasury yield. Performance shown is cumulative.

Sources: Morningstar and Bloomberg; Source: ICE Data Indices, LLC, used with permission. ICE permits use of the ICE BofA indices and related data on an 'as is' basis, makes no warranties regarding same, does not guarantee the suitability, quality, accuracy, timeliness, and/or completeness of the ICE BofA Indices or data included in, related to, or derived therefrom, assumes no liability in connection with the use of the foregoing and does not sponsor, endorse or recommend Calamos Advisors LLC or any of its products or services.

Performance data quoted represents past performance, which is no guarantee of future results. Returns shown are cumulative. Current performance may be higher or lower than the performance quoted. Rising rate environment from troughs to peak since 10/5/1998. Investors cannot invest directly in an index. Data as of 6/30/20.

A Risk Managed Approach during Down Markets

Composite's Excess Returns During Negative Quarters versus the S&P 500 Index



ANNUALIZED RETURNS

SINCE INCEPTION (1/1/91)

Calamos U.S. Convertible Strategy	10.09%
S&P 500 Index	10.13%

RISK STATISTICS (SINCE INCEPTION 1/1/91)

STANDARD
DEVIATION

BETA

R²

10.88%	0.64	71.77
14.45%	1.00	100.00

Source: Calamos Investments.

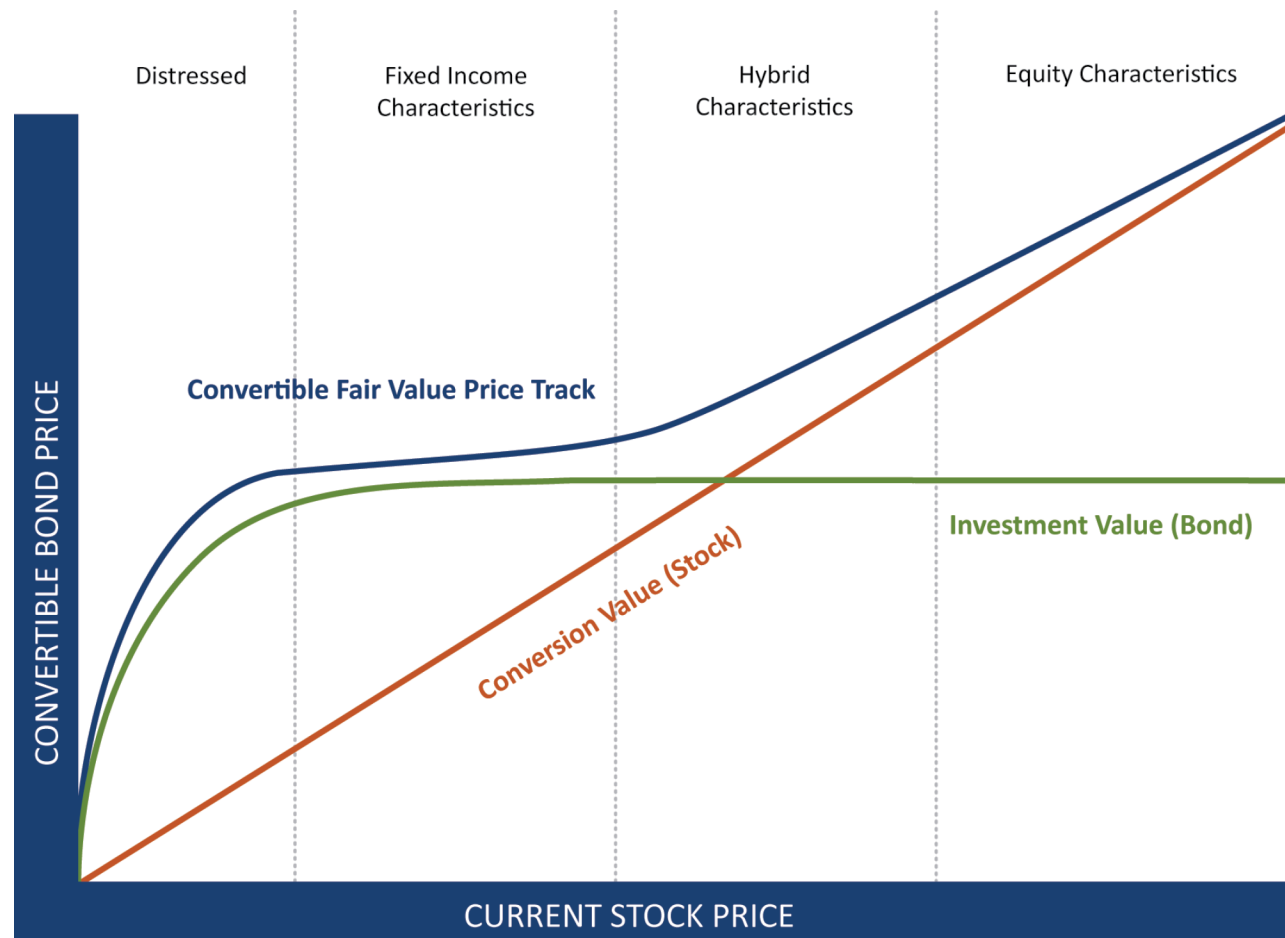
Past performance is no guarantee of future results. Returns are excess returns. Returns during some of the quarters shown were negative. Excess returns are calculated from gross of fee returns. Inception 1/1991. The inception dates and performance results shown are for the composite.

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The Market Cycle and Convertible Characteristics

CONVERTIBLE UNIVERSE*

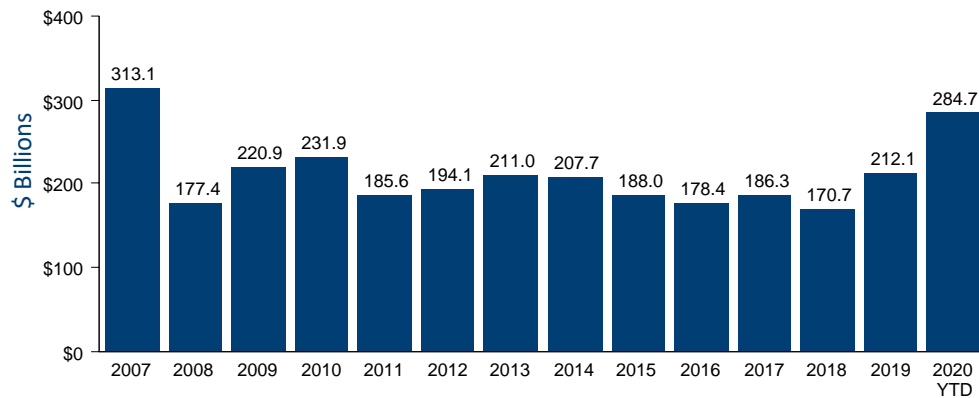
	YIELD ALTERNATIVES	TOTAL RETURN ALTERNATIVES	EQUITY ALTERNATIVES
3/1/2000	18.9%	27.8%	53.3%
2/28/2009	67.4%	20.9%	11.7%
7/31/2020	20.8%	43.9%	35.3%



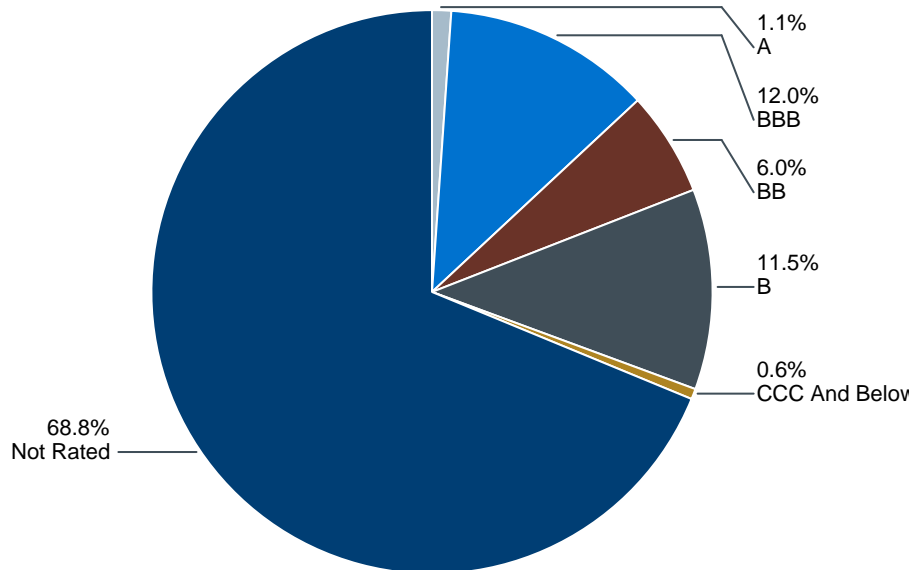
*Source: ICE BofA All U.S. Convertibles Index (VXA0)

U.S. Convertible Market

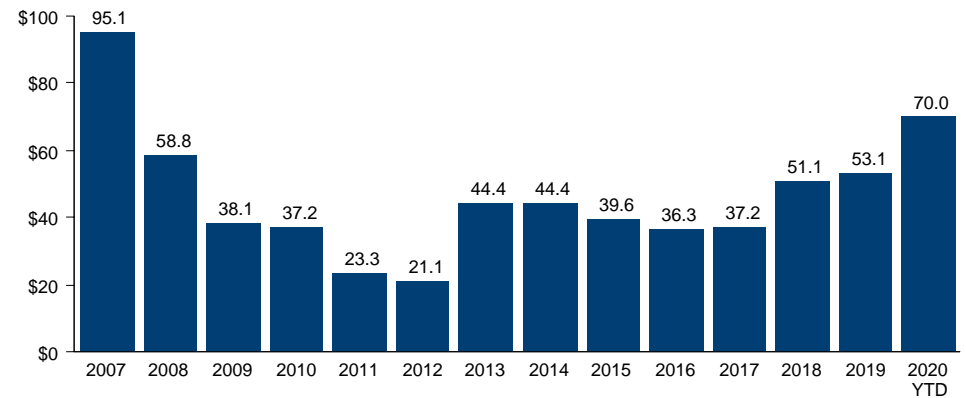
CONVERTIBLE MARKET ASSETS



CREDIT QUALITY (VXA0)



CONVERTIBLE ISSUANCE



SUMMARY STATISTICS

	ICE BofA ALL US CONVERTIBLES INDEX - NEW ISSUES (VNEW)	ICE BofA ALL US CONVERTIBLES INDEX (VXA0)
Weighted Average Current Yield	2.0%	2.2%
Weighted Average Investment Premium	41.2%	53.0%
Weighted Average Conversion Premium	26.7%	26.2%
Weighted Average Quality Rating	BBB3	BB2

Source: BofA Convertible Research — VXA0 Index (used to represent the U.S. convertible market) and VNEW Index (tracks the U.S. convertible bonds issued in the last six months).

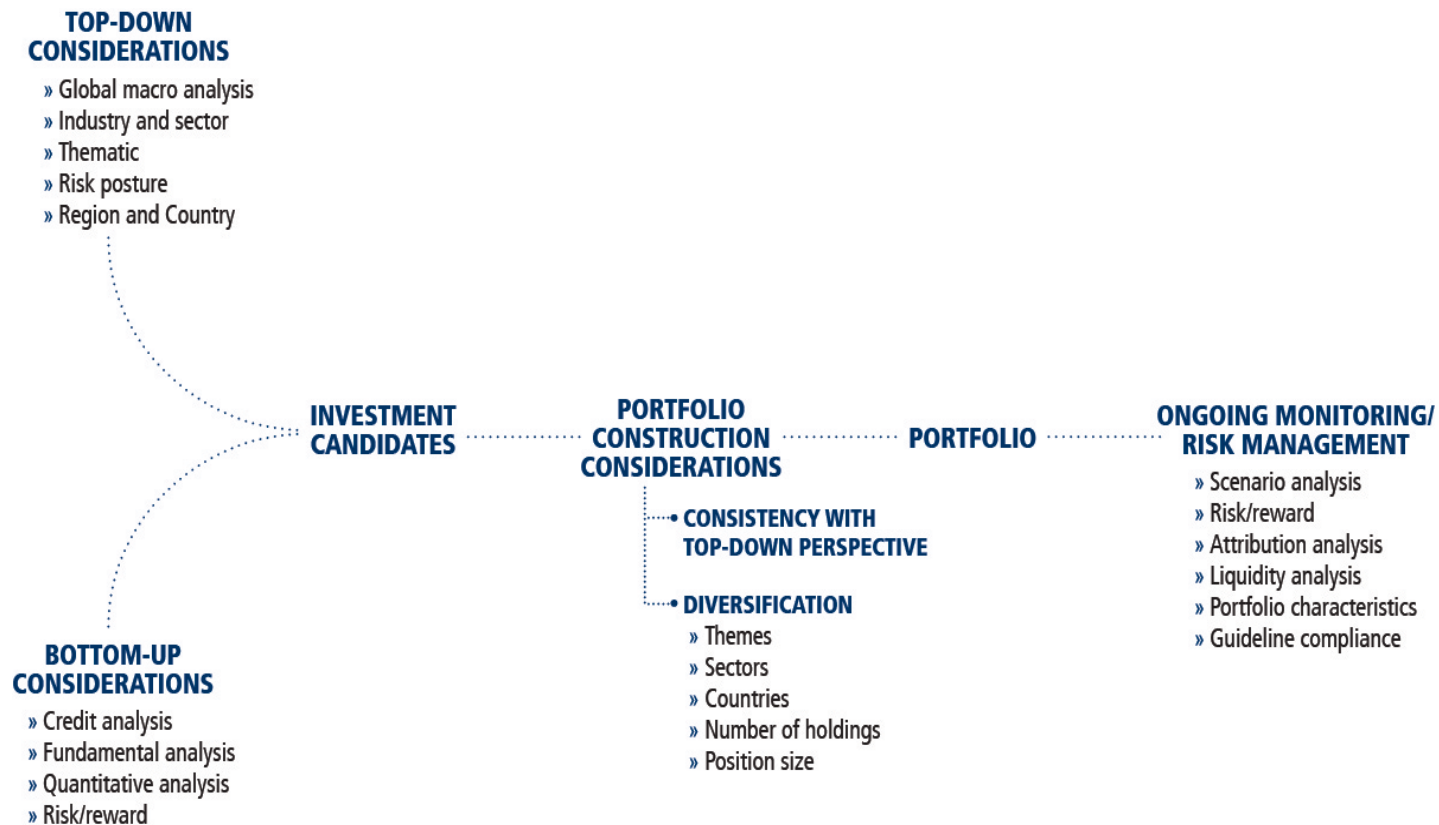
Credit Quality — Reflects the lower of the ratings of Standard & Poor's Corporation and Moody's Investors Service, Inc. and are adjusted to the scale shown. Ratings are relative, subjective and not absolute standards of quality.

Convertible Investment Process

Calamos Investment Process

Key Characteristics of Our Approach:

- Global macro outlook
- Bottom-up fundamental analysis
- Capital structure research
- High-conviction portfolios
- Integrated, multi-team approach
- Disciplined, consistent processes



Investment candidates emerge from the intersection of our top-down and bottom-up analysis.

Each security is further vetted within the context of the portfolio.

Ongoing monitoring and risk management seek to ensure appropriate risk/reward parameters are maintained.

Convertible Investment Process

Calamos Proprietary Credit Analysis

- Principal Safety – *Credit Analysis*
- Bankruptcy prediction
- Industry comparison
- Multivariate analysis
- Probability and ratio analysis

Calamos Proprietary Equity Analysis

- Company Growth Prospects – *Equity Analysis*
- Earnings potential
- Cash Flow return on capital
- Expected return
- Management analysis and analyst recommendations

Calamos Proprietary Convertible Analysis

- Convertible Risk/Reward – *Convertible Analysis*
- Risk/reward
- Theoretical valuation
- Protective covenants
- Expected return

Calamos Portfolio Construction Process

- Portfolio Construction – *Analysis of the Security Relative to the Overall Portfolio*
- Security risk/reward
- Overall portfolio risk/reward
- Sector participation
- Industry/Sector diversification
- Expected return on portfolio
- Investment quality
- Cash flow from investment income
 - Equity analysis
 - Credit analysis
 - Convertible analysis

Calamos U.S. Convertible Strategy

Calamos U.S. Convertible Strategy - Overview

Strategy Overview: The Calamos U.S. Convertible Strategy is a U.S. convertible strategy that leverages Calamos' capital structure research by investing in convertible securities, in order to generate consistent alpha and manage downside volatility.

Investable Universe: U.S. convertible securities and common stocks

Assets in Strategy: \$2.0 Billion

Strategy Inception Date: 10/1/1979

Benchmark: ICE BofA All U.S. Convertibles Index (VXA0)

Typical Investment Guidelines

Holdings: Diversified holdings, 75-125 portfolio holdings

Maximum Position Size: 5% at Market Value

Cash Weighting: Fully invested; Cash 0-5%

Sector Diversification: The greater of 2x the benchmark weight or 40%

Security Type: Generally invests 80% of assets in convertible securities at all times

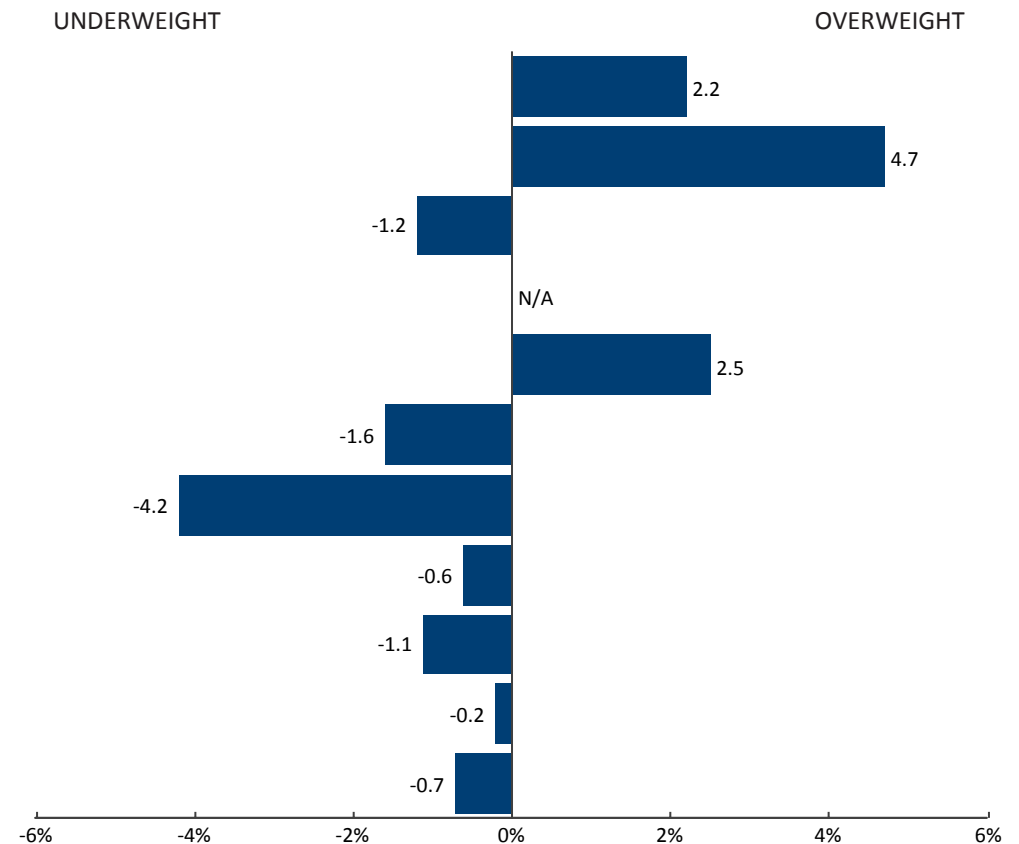
Assets in Strategy reflect all assets that are currently being managed (collectively) under the strategy, which may contain multiple performance composites.

At the discretion of Calamos Advisors LLC the maximum position size and cash weighting may fluctuate slightly above these ranges while staying within investment guidelines.

Calamos U.S. Convertible Strategy - Sector Allocation

SECTOR WEIGHTINGS

	REPRESENTATIVE PORTFOLIO	ICE BOFA ALL U.S. CONVERTIBLES INDEX
Information Technology	35.2%	33.0%
Consumer Discretionary	20.4%	15.7%
Health Care	17.5%	18.7%
Communication Services	9.6%	9.5%
Industrials	7.4%	4.9%
Utilities	3.9%	5.5%
Financials	3.5%	7.7%
Energy	1.3%	1.9%
Real Estate	0.8%	1.9%
Consumer Staples	0.4%	0.6%
Materials	0.0%	0.7%



Statistics based on percentage of invested portfolio and are subject to change.
Sector Weightings exclude any government/sovereign bonds, or options on broad indexes the portfolio may hold.

Calamos U.S. Convertible Strategy - Portfolio Characteristics

CHARACTERISTICS

	REPRESENTATIVE PORTFOLIO	ICE BOFA ALL U.S. CONVERTIBLES INDEX
# of Holdings	114	477
Portfolio Turnover (12 Months)	81.2%	N/A
Current Yield	1.7%	2.1%
Yield to Maturity	1.2%	2.0%
Time to Maturity	4.1 Years	3.9 Years
Duration	2.1 Years	2.0 Years
Wtd. Avg. Credit Quality	BB-	BB-
Median Investment Premium	32.5%	10.6%
Median Conversion Premium	20.8%	31.5%
ROIC	14.2%	12.6%
Debt/Capital	49.2%	51.5%

QUALITY ALLOCATION[†]

	REPRESENTATIVE PORTFOLIO	ICE BOFA ALL U.S. CONVERTIBLES INDEX
AAA	0.0%	0.0%
AA	0.0%	0.0%
A	2.0%	1.3%
BBB	18.6%	19.8%
BB	45.3%	40.6%
B	28.8%	30.8%
CCC and below	5.3%	7.5%
Unrated Securities	0.0%	0.0%

[†]Bond Ratings & Weighted Average Credit Quality — Reflects information from nationally recognized rating agencies including Standard & Poor's Corporation and Moody's Investors Service, Inc., as well as Calamos' proprietary credit scores and are adjusted to the scale shown. Ratings are relative, subjective and not absolute standards of quality. Securities with multiple ratings may reflect the most or least conservative ratings and unrated securities receive a proprietary rating as permitted by investment guidelines. Excludes equity securities and cash.

REPRESENTATIVE PORTFOLIO TEN LARGEST HOLDINGS*

SECURITY/TYPE	SECTOR	PORTFOLIO WTG.
Tesla, Inc. 1.25% Cv Due 2021	Consumer Discretionary	4.2%
Splunk, Inc. 1.13% Cv Due 2027	Information Technology	2.3%
Microchip Technology, Inc. 1.63% Cv Due 2027	Information Technology	2.3%
Tesla, Inc. 2.00% Cv Due 2024	Consumer Discretionary	2.1%
DexCom, Inc. 0.25% Cv Due 2025	Health Care	2.0%
Booking Holdings, Inc. 0.75% Cv Due 2025	Consumer Discretionary	2.0%
Broadcom, Inc. 8.00% Cv Pfd	Information Technology	1.9%
Inphi Corp. 0.75% Cv Due 2025	Information Technology	1.9%
Coupa Software, Inc. 0.38% Cv Due 2026	Information Technology	1.8%
RingCentral, Inc. 0% Cv Due 2025	Information Technology	1.8%

*Ten largest holdings exclude cash or cash equivalents, any government / sovereign bonds or instruments on broad based indexes the portfolio may hold.

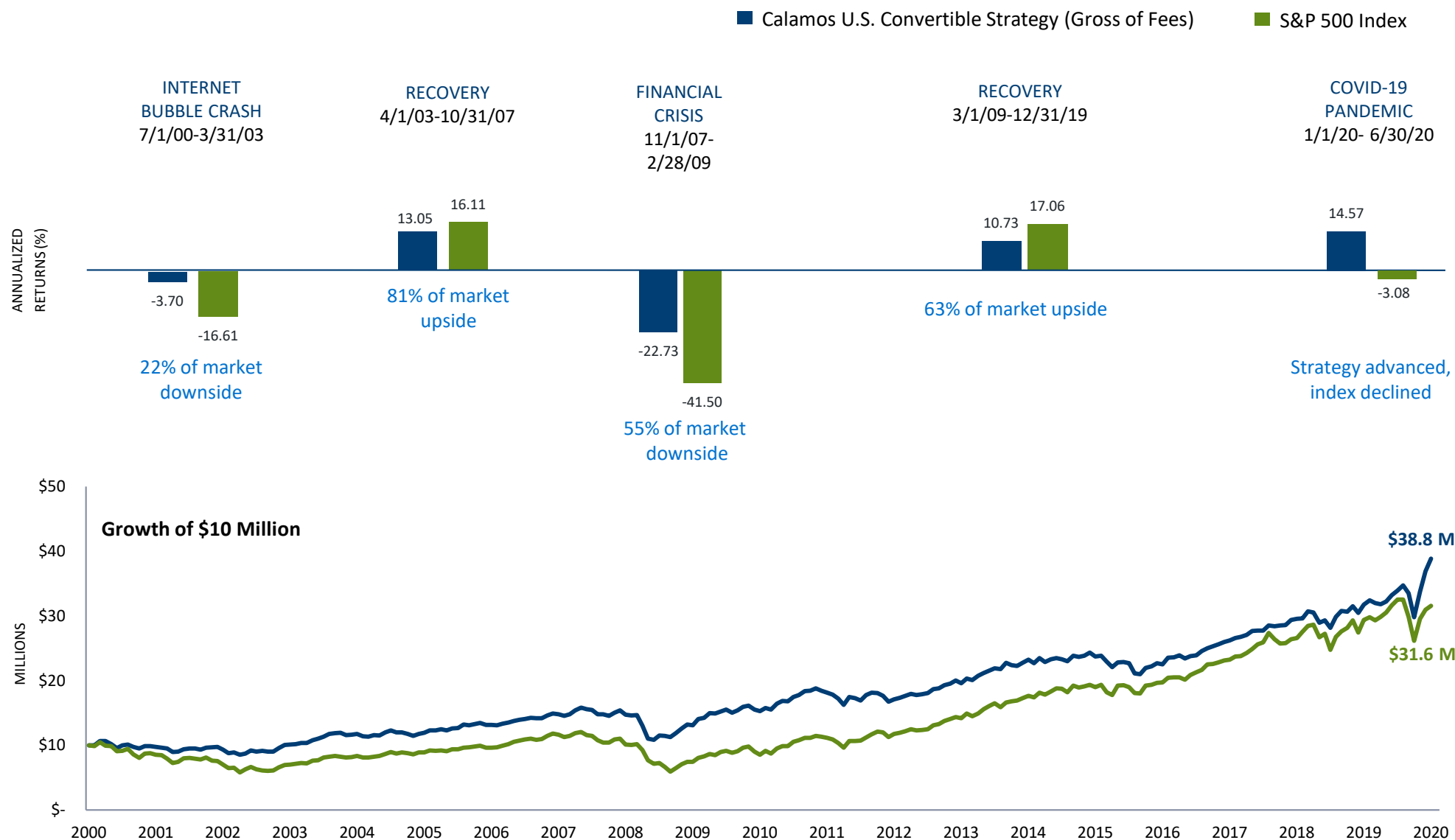
SECURITY TYPE ALLOCATION

	REPRESENTATIVE PORTFOLIO	CURRENT YIELD
Convertibles	92.7%	1.7%
Common Stock	1.8%	0.6%
Cash	5.8%	N/A

Statistics based on percentage of invested portfolio and are subject to change.

Managing Risk over Market Cycles over 20 Years:

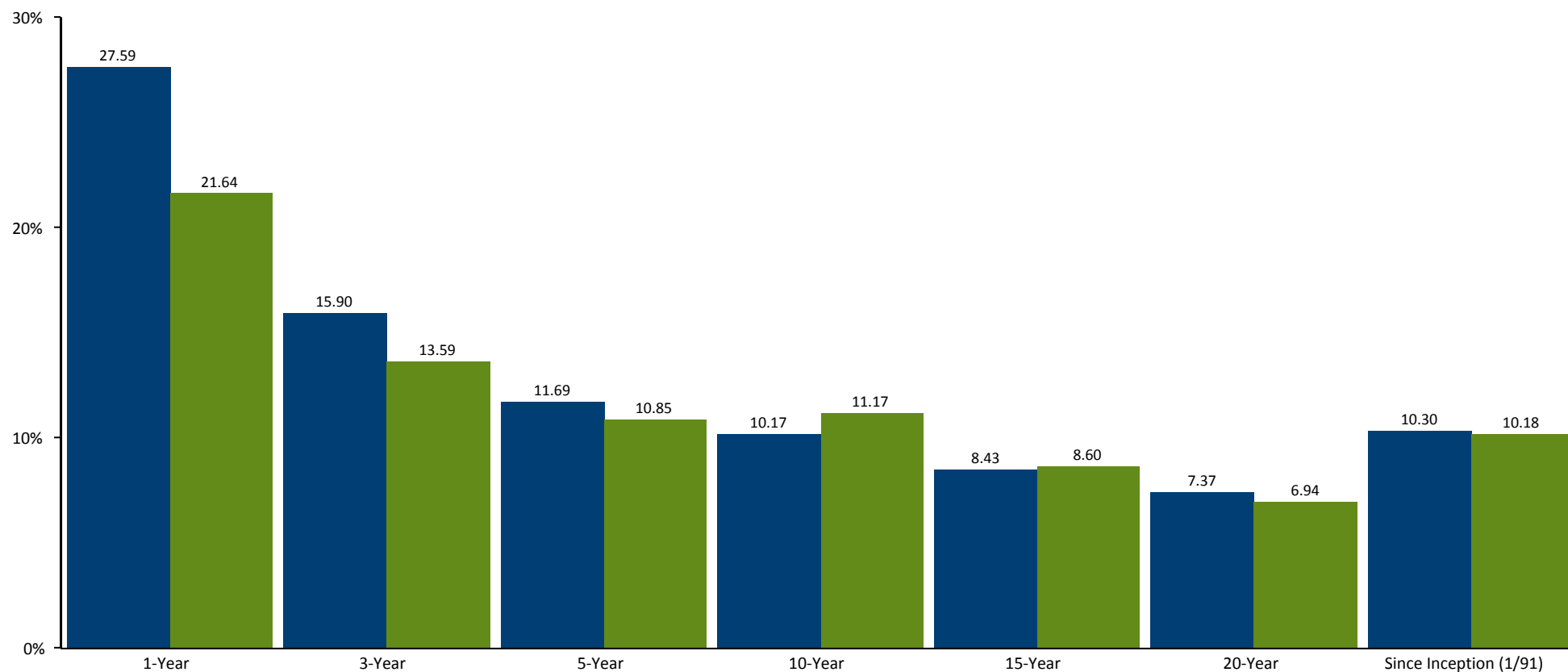
U.S. Convertible Strategy versus U.S. Equity Market



Past performance is no guarantee of future results. Current performance may be lower or higher than the performance quoted. The principal value and return of an investment will fluctuate so that your shares, when redeemed, may be worth more or less than their original cost. Returns greater than 12 months are annualized. Source: Mellon Analytical Solutions LLC.

Calamos U.S. Convertible Strategy - Annualized Returns

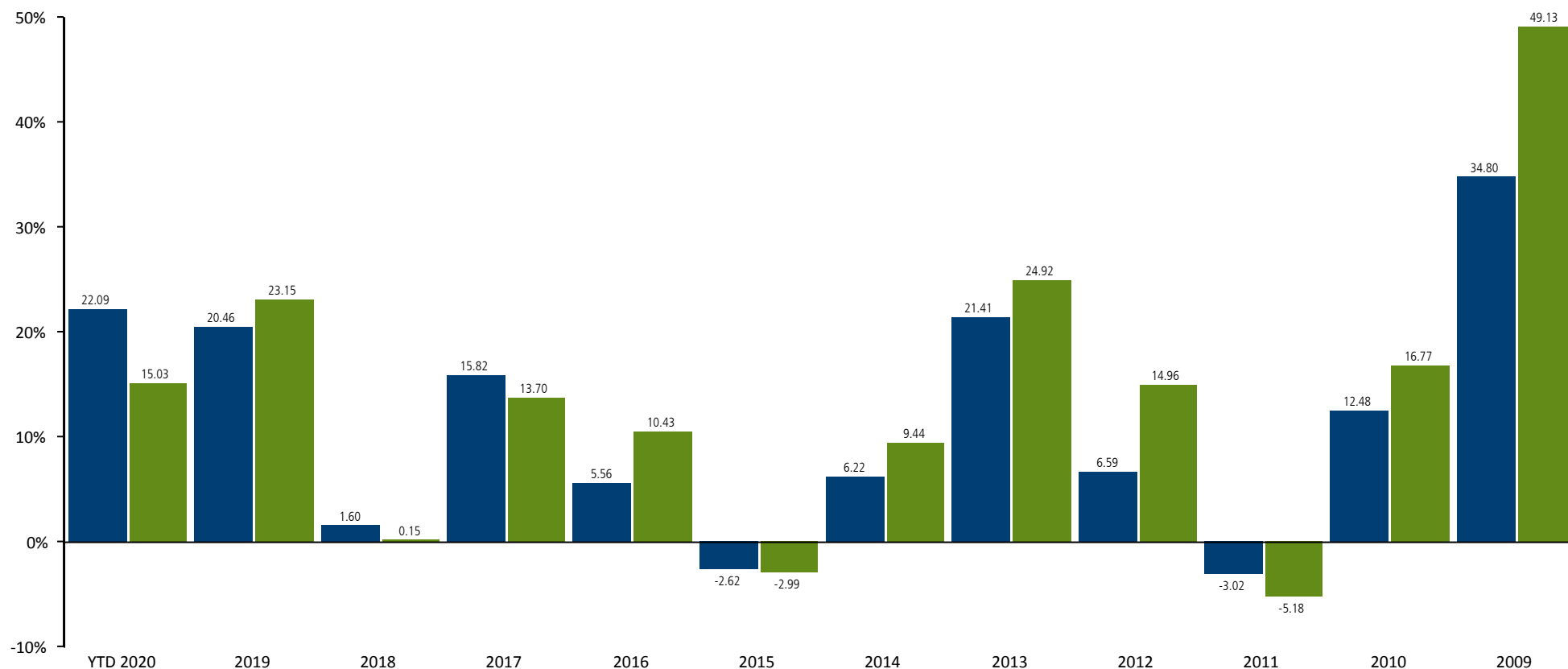
- Calamos Institutional Convertible Composite
- ICE BofA All U.S. Convertibles Index



Composite returns are gross of fees. Net of fees returns for 1-year, 3-year, 5-year, 10-year, 15-year, 20-year and since inception periods are 26.69%, 15.09%, 10.91%, 9.41%, 7.72%, 6.68% and 9.61%, respectively. **Past performance is no guarantee of future results. Please see back page for supplemental information.** Clients actual returns will be reduced by advisory fees and other expenses including custody, brokerage fees, and other services. Please see Calamos Advisors Form ADV Part 2A for standard fee structure. Please see accompanying disclosures before making an investing decision.

Calamos U.S. Convertible Strategy - Calendar Year Returns

■ Calamos Institutional Convertible Composite
■ ICE BofA All U.S. Convertibles Index



Composite returns are gross of fees. Net of fees returns for ytd 2020, 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010 and 2009 are 21.58%, 19.63%, 0.89%, 15.02%, 4.83%, -3.31%, 5.48%, 20.61%, 5.88%, -3.65%, 11.74% and 33.89%, respectively.

Past performance is no guarantee of future results. Please see back page for supplemental information.

Clients actual returns will be reduced by advisory fees and other expenses including custody, brokerage fees, and other services. Please see Calamos Advisors Form ADV Part 2A for standard fee structure. Please see accompanying disclosures before making an investing decision.

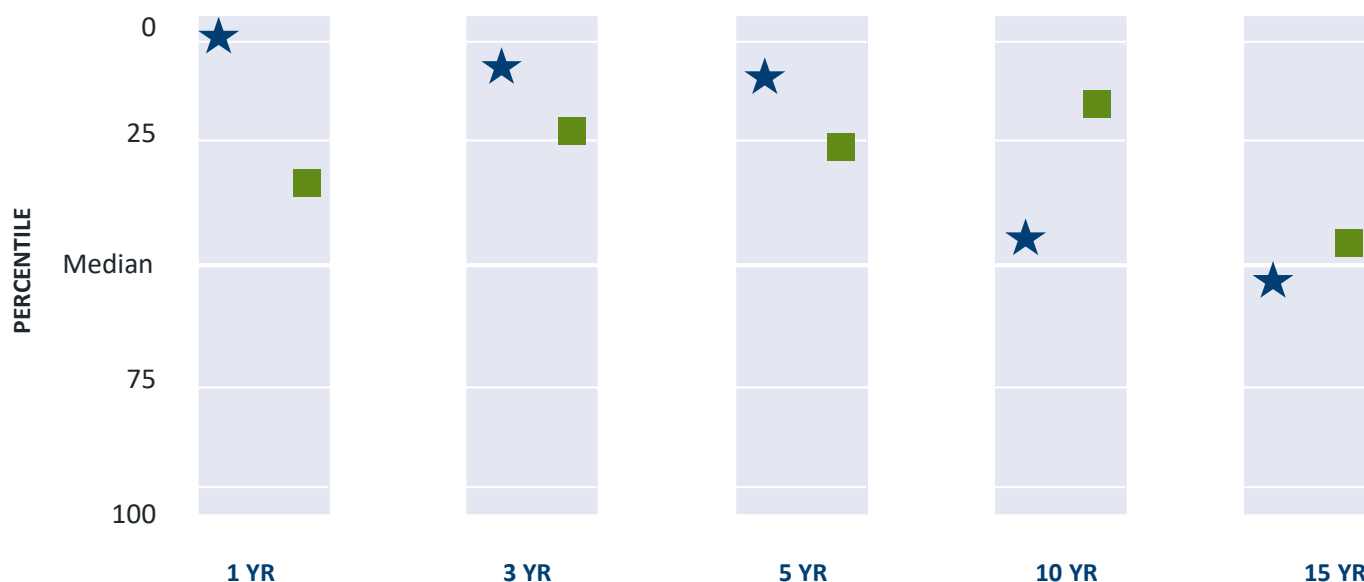
Calamos U.S. Convertible Strategy Returns Peer Group Rankings

eVestment U.S. Convertibles Universe

★ Calamos U.S. Convertible Strategy

■ ICE BofA All U.S. Convertibles Index

QUARTILE RANKING ANALYSIS ANNUALIZED RETURNS



	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
Calamos U.S. Convertible Strategy (gross of fees)	22.32%	3	14.02%	9	10.34%	12	9.78%	45	8.20%	52
ICE BofA All U.S. Convertibles Index	15.34%	32	11.71%	23	9.24%	27	10.91%	18	8.32%	43
Median	12.46%	-	9.71%	-	7.88%	-	9.73%	-	8.24%	-
Number of Observations	35		35		34		32		26	

Source: eVestment Alliance. Rankings are based on gross of fees data. The rankings represent percentile within peer group.
Past performance is no guarantee of future results. Please see accompanying disclosures before making an investment decision.

Biographies

Biographies

Joe Wysocki, CFA

Senior Vice President, Co-Portfolio Manager

Joseph Wysocki is responsible for portfolio management and investment research. He joined Calamos in 2003 and has 20 years of industry experience. Prior to joining Calamos, he worked on the fixed income team at Strong Capital Management. Joe received a B.A. in Economics with a minor in Computer Science from Lake Forest College and an M.B.A. from Northern Illinois University.

Jon Vacko, CFA

Senior Vice President, Senior Co-Portfolio Manager

Jon Vacko is responsible for portfolio management and investment research. He joined the firm in 2000 and has 28 years of industry experience. Prior to joining Calamos, Jon was a credit analyst with Duff & Phelps Credit Rating (now part of Fitch Ratings) in the Financial Institutions Group and served as an examiner with the Federal Reserve Bank of Chicago. He received a B.B.A. in Finance from the University of Wisconsin and an M.B.A. from the University of Chicago.

John Hillenbrand, CPA

Co-CIO, Head of Multi-Asset Strategies and Co-Head of Convertible Strategies, Senior Co-Portfolio Manager

As a Co-Chief Investment Officer, John Hillenbrand is responsible for oversight of investment team resources, investment processes, performance and risk. As Head of Multi-Asset Strategies and Co-Head of Convertible Strategies, he manages investment team members and has portfolio management responsibilities for those investment verticals. He is also a member of the Calamos Investment Committee, which is charged with providing a top-down framework, maintaining oversight of risk and performance metrics, and evaluating investment process. John joined Calamos in 2002 and has 28 years of industry experience. Prior to joining Calamos, he served as an equity research analyst at Credit Suisse First Boston and ABN AMRO and as an Account Manager - Business Credit Group at Continental Bank. John received a B.B.A. in Public Accounting from Loyola University and an MBA in Analytic Finance from the University of Chicago Graduate School of Business. He is also a member of the American Institute of Certified Public Accountants.

Eli Pars, CFA

Co-CIO, Head of Alternative Strategies and Co-Head of Convertible Strategies, Sr. Co-PM

As a Co-Chief Investment Officer, Eli Pars is responsible for oversight of investment team resources, investment processes, performance and risk. As Head of Alternative Strategies and Co-Head of Convertible Strategies, he manages investment team members and has portfolio management responsibilities for those investment verticals. He is also a member of the Calamos Investment Committee, which is charged with providing a top-down framework, maintaining oversight of risk and performance metrics, and evaluating investment process. Eli has 33 years of industry experience, including 13 at Calamos. Prior to returning to Calamos in 2013, he was a Portfolio Manager at Chicago Fundamental Investment Partners, where he co-managed a convertible arbitrage portfolio. Previously, he held senior roles at Mulligan Partners LLC, Ritchie Capital and SAM Investments/The Hampshire Company. Earlier in his career, Eli was a Vice President and Assistant Portfolio Manager at Calamos. He received a B.A. in English Literature from the University of Illinois and an M.B.A. with a specialization in Finance from the University of Chicago Graduate School of Business.

Biographies

Matt Freund, CFA

Co-CIO, Head of Fixed Income Strategies, Senior Co-Portfolio Manager

As a Co-Chief Investment Officer, Matt Freund is responsible for oversight of investment team resources, investment processes, performance and risk. As Head of Fixed Income Strategies, he manages investment team members and has portfolio management responsibilities. He is also a member of the Calamos Investment Committee, which is charged with providing a top-down framework, maintaining oversight of risk and performance metrics, and evaluating investment process. Matt joined Calamos in 2016 and has 31 years of industry experience. Prior to joining Calamos, he was Chief Investment Officer of USAA Investments, leading the teams responsible for the portfolio management of USAA's mutual funds and affiliated portfolios, including P&C and life insurance products, and overseeing more than \$140 billion in assets. During this time, he also served as lead portfolio manager for several highly regarded fixed income mutual funds. Earlier in his career, Matt served as a senior investment analyst for MetLife in the Capital Markets Group. He received a B.A. in Accounting from Franklin & Marshall College and an M.B.A. from Indiana University.

Robert F. Behan, CFA

President and Head of Global Distribution

Robert F. Behan leads Global Distribution, which includes the firm's Intermediary, Institutional, International, and Strategic Partner channels. His duties include distribution, market analysis, and product optimization, selection and placement. As a member of the executive management team, he has responsibilities including business execution, strategic growth initiatives, and corporate development, along with the firm's overall global distribution strategy and execution. Bob serves as Vice President to the Calamos Investment Trust. He joined the firm in 2007 and has 32 years of industry experience. Bob joined Calamos as Director of Retirement Distribution. He has extensive industry experience in several senior positions including Vice President – Head of Sales for Citizens Advisers, Vice President – Head of Institutional Northeast for Strong Capital Management, and Vice President– Large Market Institutional for CIGNA Retirement and Investment Services. At each of his prior firms, Bob attained #1 producer status, and at age 29 was the youngest person to join CIGNA's prestigious "Gold Circle." Bob is frequently sought out for his insights on trends in the financial services industry. He has recently been quoted in Ignites, Fund Action, MFWire, and Pensions & Investments. He received a B.A. in Economics from Syracuse University and is also a CFA charterholder.

Appendix

Calamos Institutional Convertible Composite

COMPOSITE PERFORMANCE: INSTITUTIONAL CONVERTIBLE COMPOSITE (JANUARY 1, 2010 THROUGH DECEMBER 31, 2019)

YEAR	COMPOSITE RETURN GROSS-OF-FEES	COMPOSITE RETURN NET-OF-FEES	ICE BOFA U.S. CONVERTIBLE INDEX RETURN	THREE YEAR ANNUALIZED STANDARD DEVIATION		TOTAL COMPOSITE ASSETS END OF PERIOD (MILLIONS)	# OF CLIENTS	DISPERSION	TOTAL FIRM ASSETS END OF PERIOD (MILLIONS)
				COMPOSITE	ICE BOFA U.S. CONVERTIBLE INDEX				
2010	12.5	11.7	16.8	15.9	19.1	4,679	34	0.76	35,026
2011	(3.0)	(3.7)	(5.2)	11.2	12.7	3,141	27	0.35	32,342
2012	6.6	5.9	15.0	10.1	10.7	1,605	23	0.24	30,478
2013	21.4	20.6	24.9	9.2	9.5	1,416	12	0.59	26,489
2014	6.2	5.5	9.4	7.6	7.6	1,393	6	0.26	23,489
2015	(2.6)	(3.3)	(3.0)	7.8	8.1	994	4	-	21,675
2016	5.6	4.8	10.4	8.8	8.7	651	3	-	17,889
2017	15.8	15.0	13.7	7.9	7.7	617	2	-	20,196
2018	1.6	0.9	0.2	8.0	8.2	604	2	-	20,891
2019	20.5	19.6	23.2	7.6	8.3	819	2	-	25,527

SCHEDULE OF COMPOSITE PERFORMANCE

Calamos Advisors LLC claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. The Firm has been independently verified for the periods January 1, 1991 through December 31, 2019.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firmwide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The Calamos Institutional Convertible Composite has been examined for the periods January 1, 2009 through December 31, 2019. The verification and performance examination reports are available upon request.

The Firm is a registered investment advisor with the Securities Exchange Commission under the Investment Advisors Act of 1940. The Firm manages a variety of equity and fixed income strategies and open- and closed-end mutual funds primarily for institutional, sub-advisory and high net worth individuals. The Firm's list of composite descriptions, as well as information regarding the firm's policies for valuing investments, calculating performance, and preparing compliant presentations, are available upon request by calling 877-841-0098 or sending an email to caminfo@calamos.com.

Calamos Institutional Convertible Composite

SCHEDULE OF COMPOSITE PERFORMANCE

Calamos Institutional Convertible Composite is an actively managed convertible bond composite that invests primarily in high-quality US convertible bonds. The Composite was created March 1, 2014, calculated with an inception date of January 1, 1991. Results include all fully discretionary accounts, including those no longer with the Firm. **Past performance is no guarantee of future results.**

- Composite constituent accounts may periodically purchase and sell options, which may be used for risk management and portfolio diversification purposes. The risks associated with this strategy may (1) be reduced if security holdings do not correlate to the performance of the underlying positions, (2) lose all or part of the cash paid for purchasing options, (3) reduce the effectiveness of the option strategies in unusual market conditions, (4) result in a lack of ready market of any particular option, (5) not reduce portfolio volatility to the extent desired, and (6) may result in an increased exposure to a market decline due to reduction in option holdings.
- Composite constituent accounts may periodically invest in foreign countries. There can be special risks associated with investing in foreign securities, including fluctuations in currency exchange rates, increased price volatility and difficulty obtaining information. In addition, emerging markets may present additional risk due to potential for greater economic and political instability in less developed countries. Forward currency hedges may be used to limit or reduce exposure in a foreign currency.
- Composite constituent accounts may periodically invest in futures contracts. Security futures are not suitable for all investors. Investing in security futures involves substantial risk. A purchase or sale of a futures contract may result in losses in excess of the amount invested in the futures contract. In addition, there are significant differences between the securities and futures markets that could result in an imperfect correlation between the markets, causing a given transaction not to achieve its objectives.
- Composite constituent accounts may sell securities short to enhance income and protect against market risk by hedging a portion of equity risk. There can be no assurance that a portfolio will be able to close out a short position (i.e. purchase the same securities) at any particular time or at an acceptable or advantageous price.
- The Composite is valued at least monthly and is asset weighted using beginning-of-the-month market values. Monthly returns are geometrically linked to calculate quarterly and annual returns. Only portfolios which are fully invested in the agreed upon client mandate are included in the composite (generally the first day of the month following inception). Cash flows are time-weighted based on the date of occurrence.
- Investments in mutual funds are stated at fair value based on end of day published net asset values. Investments in securities traded on a national securities exchange are stated at the last reported sales price on the day of valuation. Other securities, including derivatives, traded in the over-the-counter market and listed securities for which no sale was reported on that date are stated at the last quoted bid price. Convertible bonds and other securities for which quotations are not readily available are valued at fair value based on observable inputs such as market prices for similar instruments as validated by third party pricing agencies. Investment transactions are recorded on a trade date basis. Interest income is accrued and dividend income is recognized on ex-date. Valuations are computed and returns are based on U.S. dollars. Additional information regarding policies for calculating and reporting returns is available upon request.
- Gross-of-fee returns do not reflect the impact of investment advisory and performance fees but do reflect the impact of trading expenses such as brokerage commissions, exchange fees and/or taxes, and bid-offer spreads from external brokers. Net-of-fees returns reflect the gross-of-fees returns reduced by the impact of investment advisory and performance fees. Investment advisory and performance fees are calculated separately for each portfolio based upon the actual underlying fee schedule in effect for each respective portfolio included in the composite. Therefore, performance may differ from one portfolio to another. The standard investment advisory fee schedule is as follows: 0.75% on the first \$25 million; 0.70% on the next \$25 million; and 0.65% on the balance. All returns include reinvestment of net realized gains, interest and dividend income. The effect of fees and expenses on performance will vary with the relative size of the fee and account performance. Advisory fees are described in Form ADV Part 2A.
- Composite dispersion represents the asset-weighted standard deviation of annual returns of all accounts that were included in the composite for a full calendar year. This calculation is made only for composites with more than five accounts. The calculation determines the deviation of each return from the asset-weighted mean value of the composite member returns.
- Three-year annualized ex-post standard deviation for both the composite and benchmark measures how widely the actual returns over the period were dispersed from the average return over the same period. This statistic is not presented for those periods where a trailing three year performance record is unavailable.
- The assigned composite benchmark is the ICE BofA U.S. Convertible Index (VXA0) which consists of all U.S. denominated, publicly traded, SEC-registered convertible securities with over \$50 million in aggregate market value. On March 18, 2020 the benchmark changed from the ICE BofA All U.S. Convertibles Ex Mandatory Index (VOA0) which is comprised of approximately 700 issues of convertible bonds and preferreds of all qualities, excluding mandatories. This benchmark change was made retroactive to January 1, 1991 and more accurately reflects the Composite's investment universe for those periods. The index has not been examined by the Firm's independent GIPS verifier.
- The results portrayed on the preceding pages are for the Calamos Institutional Convertible Composite. Actual account performance is likely to differ from the composite performance shown for a variety of reasons, including but not limited to: differences in market conditions, portfolio turnover and in the number, types, availability and diversity of securities that can be purchased; economies of scale, regulations and other factors applicable to the management of separate accounts and mutual funds; client-imposed investment restrictions; the timing of client investments and withdrawals; the deduction of taxes; tax considerations; and other factors. When shown, representative portfolio holdings and portfolio characteristics are specific only to the portfolio shown at that point in time. Representative portfolios are selected by the advisor based on account characteristics that the advisor feels accurately represents the investment strategy as a whole. Other portfolios in the Composite will vary in composition, characteristics, and will experience different investment results.
- Beginning July 1, 2014 the composite minimum, which excluded accounts valued at less than \$1 million, was removed from the composite definition.

Additional Disclosure

The information in this report should not be considered a recommendation to purchase or sell any particular security. There is not assurance that any securities discussed herein will remain in an account's portfolio at the time you receive this report or that securities sold have not been repurchased. The securities discussed do not represent the account's entire portfolio and in the aggregate may represent only a small percentage of an account's portfolio holdings.

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Calamos Advisors LLC is a federally registered investment advisor.

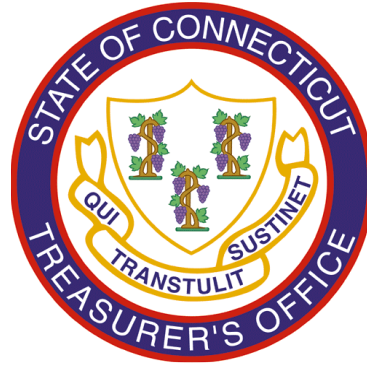
Form ADV Part 2A, which provides background information about the firm and its business practices, is available upon written request to:

Attn: Compliance Officer
Calamos Advisors LLC
2020 Calamos Court
Naperville, IL 60563-2787

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The Connecticut Retirement Plans and Trust Funds



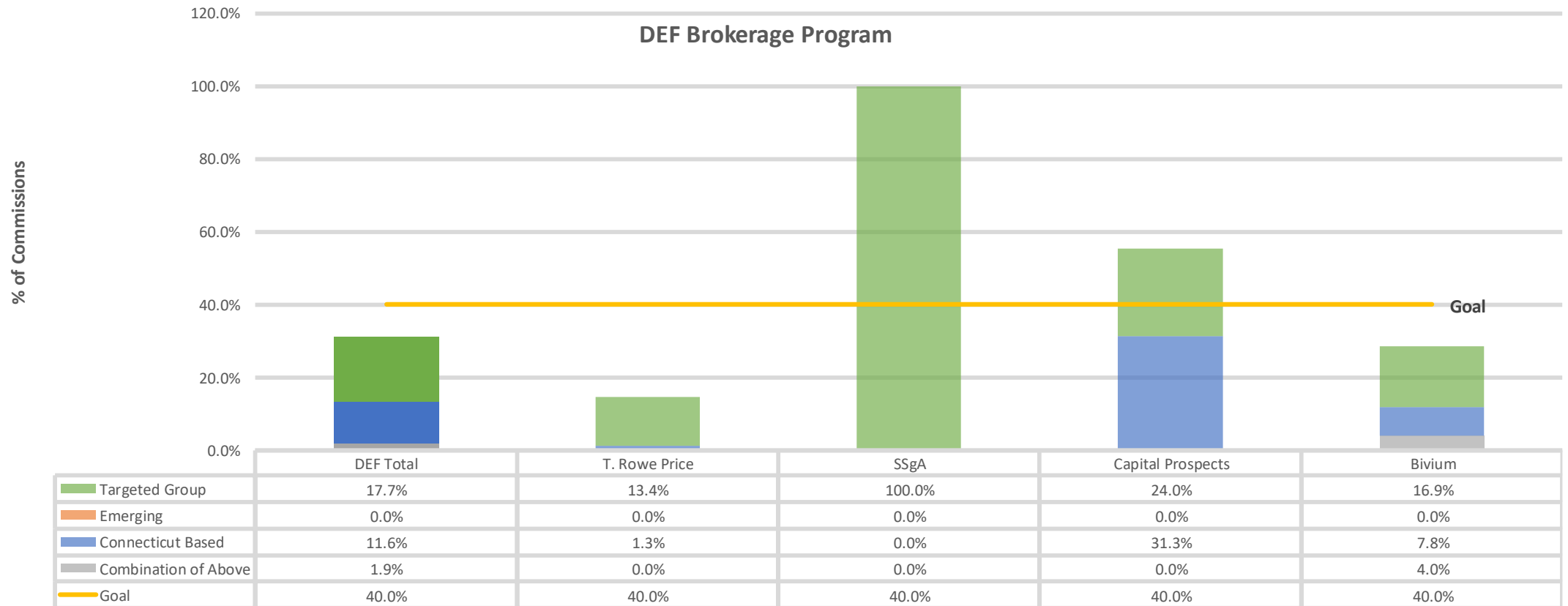
Q2 2020 Brokerage Program

CRPTF Brokerage Program

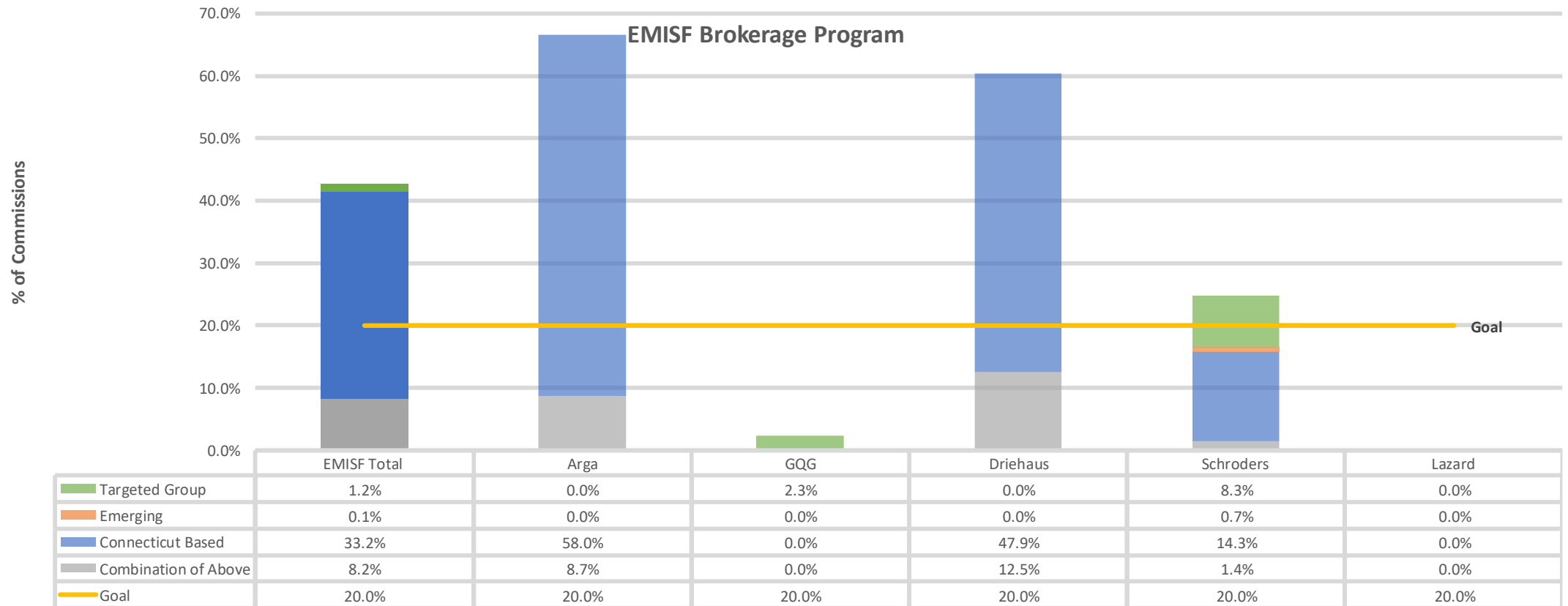
We are pleased to present the results of our investment management equity commissions paid and fixed income trading volumes executed across priority trading entities under our recently revised and adopted CRPTF Brokerage Program. The following slides detail trading activities executed by our outside investment managers with broker-dealers that are owned and actively managed by minorities, women, veterans, or persons with disabilities as well as Connecticut-based or emerging firms. Note that regardless of the type or ownership of any CRPTF underlying trading entity, all trades are always executed with a clear objective of delivering best execution for our portfolios and underlying beneficiaries. We've engaged with our outside managers across the four key public market asset classes detailed within our Q2 2020 report to ensure accuracy of performance relative to program goals. The results presented herein are our first effort since adopting the revised Brokerage Program, and our expectations are for improved accuracy of reporting and performance relative to objectives going forward. Our quarterly reviews of these results will be our primary means of monitoring and managing conformity with CRPTF's Brokerage Program objectives.

The detailed results attached reflect mixed outcomes relative to our goals. The performance of total commissions paid to targeted equity trading firms for the U.S. domestic equity mandates came-in at near 30%, versus a target of 40% for this large and highly efficient asset class sub-sector. For developed market international stocks, despite a goal of 20%, commissions paid to our targeted trading entities were over 70%. For emerging market international stocks, our investment managers also exceeded our goal of 20% commissions paid to program trading entities, topping 40%. Lastly, as a percentage of total trading volume for core fixed income, outside managers executed trades of only 4% with qualified broker-dealers versus a target of 20% (note this is the first time we have included a fixed income asset sector in our Brokerage Program). As stated above, our increased oversight on these trading metrics relative to goals will help us manage outcomes for our Brokerage Program in the future.

Domestic Equity Fund Q2 2020



Emerging Market International Stock Fund Q2 2020



Core Fixed Income Fund Q2 2020

