

**MCERA INVESTMENT RETIREMENT BOARD AGENDA  
THURSDAY, MARCH 28, 2019  
MERCED COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
3199 M STREET, MERCED, CA 95348**

**Please turn your cell phone or other electronic device to non audible mode and please refrain from using them during the Board meeting.**

**CALL TO ORDER: 8:15 A.M.**

- ROLL CALL.
- APPROVAL OF MINUTES – March 14, 2019.

**PUBLIC COMMENT**

Members of the public may comment on any item under the Board's jurisdiction. Matters presented under this item will not be discussed or acted upon by the Board at this time. For agenda items, the public may make comments at the time the item comes up for Board consideration. Persons addressing the Board will be limited to a maximum of five (5) minutes in total. Please state your name for the record.

**CLOSED SESSION**

As provided in the Ralph M. Brown Act, Government Code sections 54950 et seq., the Board may meet in closed session with members of its staff, county employees and its attorneys. These sessions are not open to the public and may not be attended by members of the public. The matters the Board will meet on in closed session are identified below. Any public reports of action taken in the closed session will be made in accordance with Government Code sections 54957.1.

**(1) DISCUSSION AND POSSIBLE ACTION REGARDING INVESTMENTS IN RECOMMENDED FUNDS, ROLL CALL VOTE REQUIRED.**

(Govt. Code § 54956.81)

1. Discussion and possible adoption of private equity recommendations – Cliffwater.

**(2) CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION**

(Govt Code § 54956.9(a))

*Alameda County Deputy Sheriff's Assn. et al v. Alameda County Employees' Retirement Assn., et al.*, Cal. Supreme Court Case No. S247095 (review granted March 28, 2018)

**RETURN TO OPEN SESSION**

Report on any action taken in closed session.

**BOARD ACTION<sup>1</sup>/DISCUSSION**

Pursuant to Govt. Code § 31594 and MCERA's Investment Objectives & Policy Statement due diligence analysis requirement:

1. Discussion and possible action of the 2019 Monthly Investment Performance Report with possible board action on any funds – Meketa Investment Group.

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<sup>1</sup> "Action" means that the Board may dispose of any item by any action, including but not limited to the following acts: approve, disapprove, authorize, modify, defer, table, take no action, or receive and file.

2. Discussion and possible action to adopt Opportunistic Fixed Income Manager Recommendations – Meketa Investment Group.
3. Discussion and possible action to reduce MCERA’s Barrow, Hanley, Mewhinney & Strauss, LLC allocation by half and put funds in Vanguard (VBTIX) – Meketa Investment Group.
4. Reminder - that MCERA Board Education Half Day will begin immediately after the adjournment of this meeting.
5. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MCERA’s Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:
  - a. Meketa Investment Group Conference, April 9, 2019, San Diego, CA.
  - b. Pension Bridge Annual Conference, April 9-10, 2019, San Francisco, CA.
  - c. SACRS Spring Conference, May 7-10, 2019, Squaw Valley, CA.
  - d. Principles of Pension Management for Trustees, August 26-29, 2019 Malibu, CA.
  - e. SACRS Fall Conference, November 12-15, 2019, Monterey, CA.

## **INFORMATION ONLY**

### **MCERA Upcoming Board Meetings:**

Please note: The MCERA Board Meeting and/or Education Day times and dates may be changed in accordance with the Ralph M. Brown Act by the MCERA Board as required.

- April 11, 2019
- April 25, 2019
- May 9, 2019

## **ADJOURNMENT**

All supporting documentation is available for public review in the office of the Merced County Employees’ Retirement Association, 3199 M Street, Merced, California, 95348 during regular business hours, 8:00 a.m. – 5:00 p.m., Monday through Friday.

**The agenda is available online at [www.co.merced.ca.us/retirement](http://www.co.merced.ca.us/retirement)**

Any material related to an item on this Agenda submitted to the Merced County Employees’ Retirement Association, after distribution of the Agenda packet is available for public inspection in the office of the Merced County Employees’ Retirement Association.

Persons who require accommodation for a disability in order to review an agenda, or to participate in a meeting of the Merced County Employees’ Retirement Association per the American Disabilities Act (ADA), may obtain assistance by requesting such accommodation in writing addressed to Merced County Employees’ Association, 3199 M Street, Merced, CA 95348 or telephonically by calling (209) 726-2724. Any such request for accommodation should be made at least 48 hours prior to the scheduled meeting for which assistance is requested.

**MCERA RETIREMENT BOARD MEETING MINUTES  
THURSDAY, MARCH 14, 2019  
MERCED COUNTY EMPLOYEES' RETIREMENT ASSOCIATION  
3199 M STREET, MERCED, CA 95348**

**ROLL CALL: 8:15 A.M.**

**Board Members Present:** Darlene Ingersoll, Karen Adams, Scott Silveira (arrived at 8:20 am), David Ness, Al Peterson, Janey Cabral, Ryan Paskin, Michael Rhodes, Scott Johnston, and Jason Goins. **Counsel:** Forrest Hansen. **Staff:** Kristie Santos, Mark Harman, Michelle Lee, Sheri Villagrana, and Brenda Mojica.

**Absent:** none.

**APPROVAL OF MINUTES: February 28, 2019.**

**Motion to approve the February 28, 2019 meeting minutes as amended.**

**Cabral/Paskin U/A (8-0).**

**PUBLIC COMMENT**

No public comment.

**CLOSED SESSION**

Reorder of Items; Regular Calendar Items 1 and 2 moved before closed session.

**RETURN TO OPEN SESSION**

**(1) DISABILITY RETIREMENT APPLICATIONS: PERSONNEL EXCEPTION**

Disability update and possible action:

**No action taken.**

**CONSENT CALENDAR**

**RETIREMENTS:**

All items of earnable compensation for service or disability retirements listed below are in compliance with the pay code schedule approved by the Board of Retirement. The retirement is authorized; however, administrative adjustments may be necessary to alter the amount due to: audit, late arrival of data, court order, etc.

a. Brewer, Michael	IS	19 Yrs. Svc. Eff. 03/01/2019
b. Hermosillo, Martha	First Five	31 Yrs. Svc. Eff. 03/01/2019
c. Spangler, Samuel	Sheriff	24 Yrs. Svc. Eff. 03/02/2019
d. Diaz, Linda	Health	13 Yrs. Svc. Eff. 03/01/2019
e. Esucdero, Debbie	H.S.A.	12 Yrs. Svc. Eff. 02/22/2019

YTD fiscal year 2018/2019 retirees: 056

YTD fiscal year 2017/2018 retirees: 082

YTD fiscal year 2016/2017 retirees: 065

**REFUND OF SERVICE PURCHASE: None.**

**DEATH BENEFIT:** None.

**MONTHLY BUDGET REPORT:** Submitted.

**Motion to approve Consent Calendar.**

**Goins/Peterson U/A (9-0).**

## **REGULAR CALENDAR**

### **BOARD ACTION<sup>1</sup>/DISCUSSION**

1. Discussion and possible action on Employer Declining Payroll and Termination Policy – Staff.  
**Motion to accept the Employer Declining Payroll and Termination Policy with recommended grammar edits.**  
**Adams/Cabral U/A (9-0).**
2. Discussion and adoption of new payment schedule for Merced Cemetery District due to no active members – Staff.  
**Motion to authorize Plan Administrator to begin discussion of payment options with Merced Cemetery District and to implement approved option.**  
**Ness/Paskin U/A (9-0).**
3. Discussion and possible action to approve the MCERA Board of Retirement elections for the following seats; Seat 7 (primary Safety Member), Seat 7A (Alternate Safety Member) and Seat 2 (General Member) to take place in August/September of 2019 by the Registrar of Voters – Staff.  
**Motion to approve the Plan Administrator to work with Merced County Registrar of Voters to conduct an election for Seat 2, Seat 7 and Seat 7A.**  
**Adams/Rhodes U/A (9-0).**
4. Discussion and possible action to appoint a Trustee and/or the Plan Administrator as a delegated voter and alternate voter for the SACRS Spring Conference – Staff.  
**Motion to appoint the Plan Administrator as the voting delegate for the SACRS Spring Conference.**  
**Ness/Paskin U/A (9-0).**
5. Discussion and possible action on Legislative Update – Staff.  
**No action taken.**
6. REMINDER: Trustee Education Day will begin March 28<sup>th</sup> immediately after MCERA Investment Meeting (estimated start time 9:30AM) here at the MCERA Office located at 3199 M Street, Merced, CA 95348. Continental Breakfast will be served. Time estimated for education day to end is 12:00PM. No lunch will be served.

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- 7. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MCERA’s Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:
  - a. Advanced Principles of Pension Management for Trustees, March 27–29, 2019, Los Angeles, CA.
  - b. Pension Bridge Annual Conference, April 9-10, 2019, San Francisco, CA.
  - c. Meketa Conference, April 9, 2019, San Diego, CA.
  - d. SACRS Spring Conference, May 7-10, 2019, Squaw Valley, CA.
  - e. NCPERS Annual Conference & Exhibition, May 19-22, 2019, Austin, TX.
  - f. Principles of Pension Management for Trustees, August 26-29, 2019 Malibu, CA.
  - g. SACRS Fall Conference, November 12-15, 2019, Monterey, CA.
- **Approval for Trustee Johnston to attend SACRS Spring Conference in Squaw Valley and be the SACRS backup designated voter for SACRS meeting, CA on May 7-10, 2019.**
- **Approval for Trustee Rhodes to attend SACRS Fall Conference in Monterey, CA on November 12-15, 2019.**

Rhodes/Goins U/A (9-0).

**INFORMATION ONLY**

Trustee Cabral updated the Board on her attendance to the CALAPRS General Assembly.

Plan Administrator informed the Board that staff is reviewing IRS Regulations and will be bringing this item back to the Board at a later date. As a result, staff is also working on the Budget, which may be presented in April or May depending on work on IRS Regulations.

Chair Ingersoll reminded the Board of the next scheduled board meeting on March 28, 2019 and immediately following is the Education Half Day.

**ADJOURNMENT**

The meeting adjourned at 9:01 a.m.

Respectfully submitted,

\_\_\_\_\_  
Darlene Ingersoll, Chair

\_\_\_\_\_  
Al Peterson, Secretary

\_\_\_\_\_  
Date

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FUND EVALUATION REPORT

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**Merced County Employees' Retirement Association**  
Performance Report  
February 28, 2019



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- 1. Executive Summary**
- 2. Performance Review As of February 28, 2019**
- 3. Disclaimer, Glossary, and Notes**

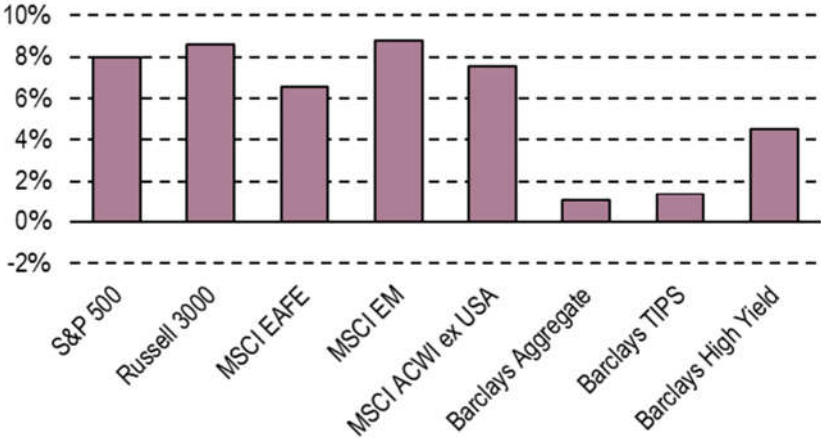
# Executive Summary



### Market Review for Year-to-date 2019

#### January

Returns for Major Indices

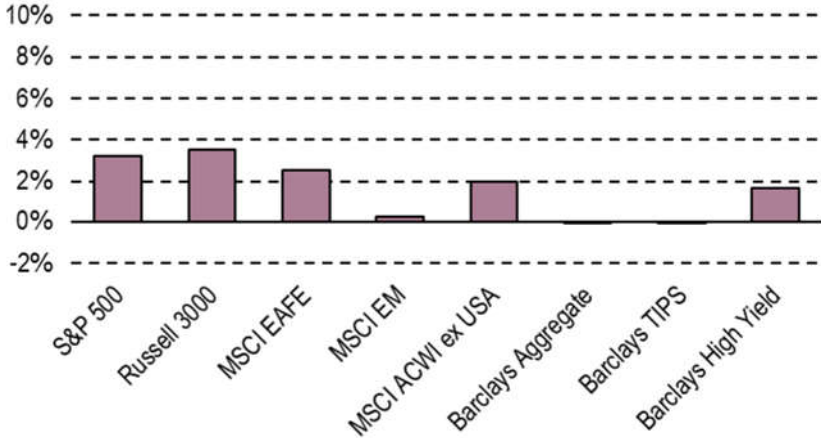


**Growth > Value      Small Cap > Large Cap**  
**US Treasury 10 yr: down 6 bps**

- Markets rebounded from fourth quarter
- World Stocks gained in January - more optimism in trade relations & more dovish shift from Fed
- Rising oil prices helped boost Energy Stocks
- Interest Rates generally fell, with lower quality outpacing higher quality

#### February

Returns for Major Indices



**Growth > Value      Small Cap > Large Cap**  
**US Treasury 10 yr: up 10 bps**

- World Stocks continued to rally from January, in a more muted fashion
- Continued optimism for a compromise in trade relations and a hold on tighter monetary policy.
- Technology and Industrial stocks led markets higher
- Interest Rates increased modestly, slope of yield curve didn't change much, spreads continued to tighten

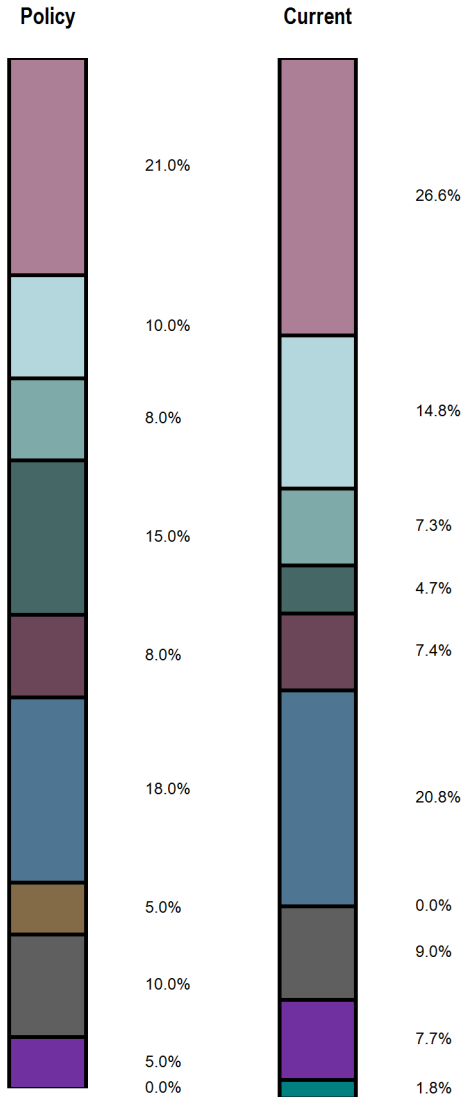


## MCERA Portfolio Overview

**As of February 28, 2019, total assets were at \$828.3 million.**

Though quarter-to-date, we've seen some strong positive results, with the MCERA Portfolio returning +6.6% from the beginning of the year through February. Total Equities were the key drivers, as they posted some very strong absolute returns in January, with Wells Capital, DFA, and PanAgora posting double digit positive returns. Total Equities also helped boost absolute returns in February, but in a more muted fashion vs the previous month. Fixed Income results have been relatively flat, while Hedge Funds reported positive gains.

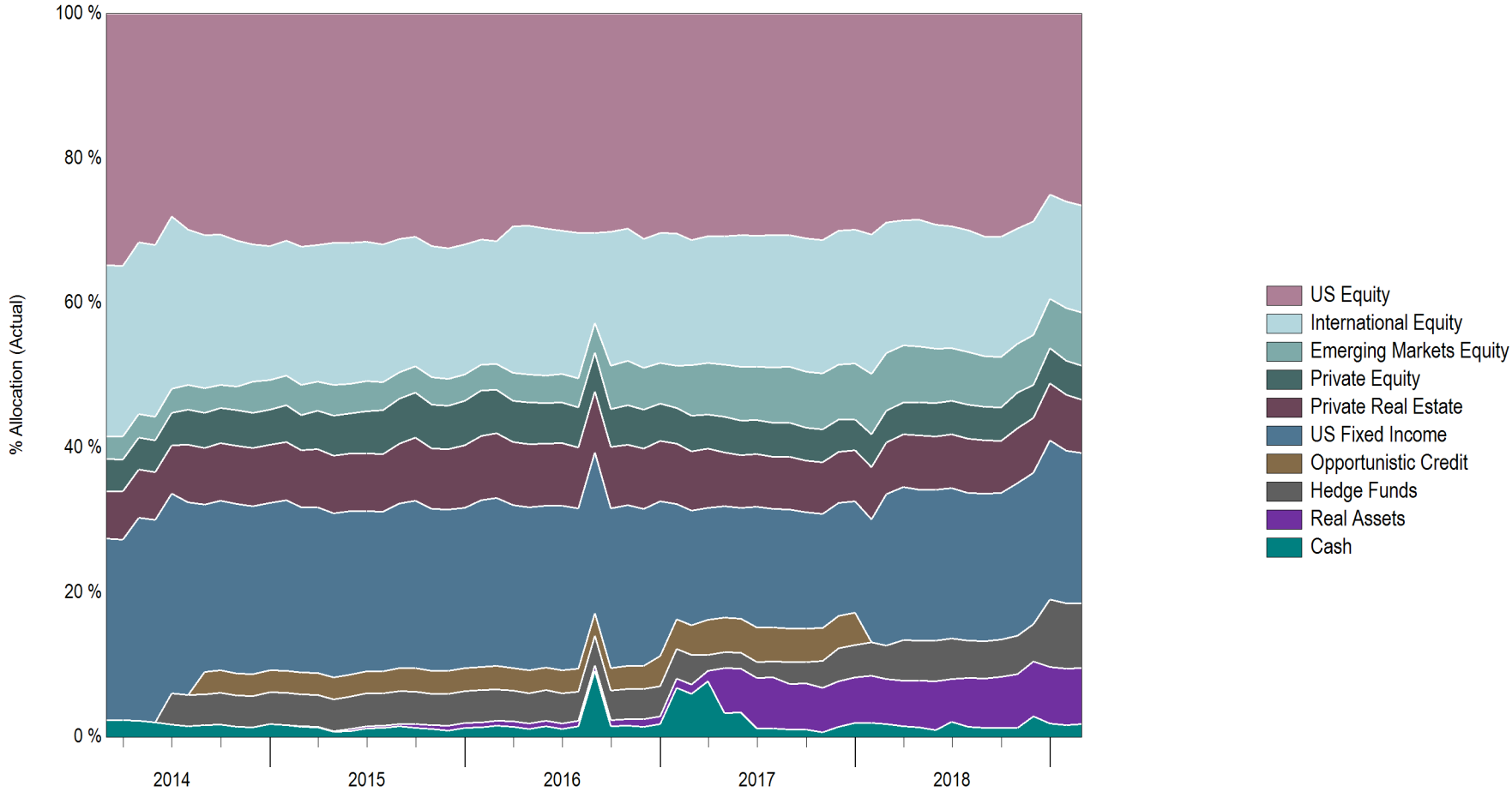
**Performance Review**  
As of February 28, 2019



Cash range displayed for illustrative purposes only.

Allocation vs. Targets and Policy							
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?	
US Equity	\$220,119,329	26.6%	21.0%	5.6%	15.0% - 26.0%	No	
International Equity	\$122,348,020	14.8%	10.0%	4.8%	5.0% - 15.0%	Yes	
Emerging Markets Equity	\$60,854,672	7.3%	8.0%	-0.7%	4.0% - 12.0%	Yes	
Private Equity	\$38,710,326	4.7%	15.0%	-10.3%	5.0% - 20.0%	No	
Private Real Estate	\$61,056,971	7.4%	8.0%	-0.6%	6.0% - 10.0%	Yes	
US Fixed Income	\$172,167,532	20.8%	18.0%	2.8%	13.0% - 23.0%	Yes	
Opportunistic Credit	--	--	5.0%	-5.0%	3.0% - 7.0%	No	
Hedge Funds	\$74,337,874	9.0%	10.0%	-1.0%	5.0% - 15.0%	Yes	
Real Assets	\$63,960,811	7.7%	5.0%	2.7%	3.0% - 7.0%	No	
Cash	\$14,782,240	1.8%	0.0%	1.8%	0.0% - 5.0%	Yes	
<b>Total</b>	<b>\$828,337,775</b>	<b>100.0%</b>	<b>100.0%</b>				

Asset Allocation History  
5 Years Ending February 28, 2019



As of February 28, 2019

## Asset Class Performance Summary

	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund (Net)*</b>	<b>828,337,775</b>	<b>100.0</b>	<b>1.6</b>	<b>1.0</b>	<b>6.6</b>	<b>1.4</b>	<b>9.7</b>	<b>5.9</b>	<b>10.5</b>	<b>7.9</b>	<b>Dec-94</b>
<b>Total Fund (Gross)*</b>			<b>1.7</b>	<b>1.2</b>	<b>6.6</b>	<b>1.6</b>	<b>10.0</b>	<b>6.2</b>	<b>10.8</b>	<b>8.0</b>	
<i>Policy Index</i>			<b>1.3</b>	<b>0.4</b>	<b>5.4</b>	<b>1.3</b>	<b>9.9</b>	<b>6.2</b>	<b>9.6</b>	<b>5.9</b>	<b>Dec-94</b>
<b>Total Fund w/o Alternatives (Net)</b>	<b>575,489,553</b>	<b>69.5</b>	<b>2.1</b>	<b>0.5</b>	<b>8.4</b>	<b>0.1</b>	<b>10.3</b>	<b>5.7</b>	<b>--</b>	<b>--</b>	<b>Dec-94</b>
<b>Total Fund w/o Alternatives (Gross)</b>			<b>2.2</b>	<b>0.7</b>	<b>8.4</b>	<b>0.4</b>	<b>10.6</b>	<b>6.0</b>	<b>--</b>	<b>--</b>	
<i>Policy Index w/o AI</i>			<b>1.9</b>	<b>1.3</b>	<b>8.0</b>	<b>0.9</b>	<b>10.4</b>	<b>5.7</b>	<b>--</b>	<b>--</b>	<b>Dec-94</b>
<b>US Equity (Net)</b>	<b>220,119,329</b>	<b>26.6</b>	<b>3.7</b>	<b>1.9</b>	<b>12.9</b>	<b>4.5</b>	<b>16.2</b>	<b>10.9</b>	<b>17.4</b>	<b>9.9</b>	<b>Dec-94</b>
<b>US Equity (Gross)</b>			<b>3.7</b>	<b>2.1</b>	<b>13.0</b>	<b>4.7</b>	<b>16.5</b>	<b>11.1</b>	<b>17.6</b>	<b>10.0</b>	
<i>80% R1000 / 20% R2000</i>			<b>3.7</b>	<b>2.3</b>	<b>13.0</b>	<b>5.2</b>	<b>15.7</b>	<b>9.9</b>	<b>16.7</b>	<b>9.8</b>	<b>Dec-94</b>
<b>International Equity (Net)</b>	<b>183,202,692</b>	<b>22.1</b>	<b>2.4</b>	<b>-2.8</b>	<b>10.7</b>	<b>-7.1</b>	<b>10.7</b>	<b>2.2</b>	<b>10.1</b>	<b>5.1</b>	<b>Dec-98</b>
<b>International Equity (Gross)</b>			<b>2.4</b>	<b>-2.5</b>	<b>10.8</b>	<b>-6.8</b>	<b>11.1</b>	<b>2.7</b>	<b>10.6</b>	<b>5.3</b>	
<i>International Equity Custom</i>			<b>1.5</b>	<b>-2.1</b>	<b>9.2</b>	<b>-6.8</b>	<b>11.6</b>	<b>3.2</b>	<b>9.7</b>	<b>4.2</b>	<b>Dec-98</b>
<b>US Fixed Income (Net)</b>	<b>172,167,532</b>	<b>20.8</b>	<b>0.0</b>	<b>2.5</b>	<b>1.0</b>	<b>3.0</b>	<b>3.2</b>	<b>2.6</b>	<b>4.6</b>	<b>5.2</b>	<b>Dec-94</b>
<b>US Fixed Income (Gross)</b>			<b>0.0</b>	<b>2.7</b>	<b>1.0</b>	<b>3.2</b>	<b>3.4</b>	<b>2.8</b>	<b>4.9</b>	<b>5.4</b>	
<i>US Fixed Custom</i>			<b>0.0</b>	<b>2.6</b>	<b>0.9</b>	<b>3.0</b>	<b>3.3</b>	<b>2.7</b>	<b>4.0</b>	<b>5.6</b>	<b>Dec-94</b>
<b>Hedge Fund (Net)</b>	<b>74,337,874</b>	<b>9.0</b>	<b>1.4</b>	<b>-1.3</b>	<b>3.0</b>	<b>-0.1</b>	<b>6.3</b>	<b>--</b>	<b>--</b>	<b>3.6</b>	<b>Jun-14</b>
<b>Hedge Fund (Gross)</b>			<b>1.4</b>	<b>-1.1</b>	<b>3.0</b>	<b>0.2</b>	<b>6.4</b>	<b>--</b>	<b>--</b>	<b>3.7</b>	
<i>Hedge Fund Custom</i>			<b>1.1</b>	<b>-1.4</b>	<b>3.5</b>	<b>-1.4</b>	<b>4.3</b>	<b>--</b>	<b>--</b>	<b>2.5</b>	<b>Jun-14</b>
<b>Private Equity (Net)</b>	<b>38,710,326</b>	<b>4.7</b>	<b>0.0</b>	<b>7.6</b>	<b>2.0</b>	<b>14.4</b>	<b>11.7</b>	<b>9.8</b>	<b>7.6</b>	<b>8.1</b>	<b>Jun-05</b>
<b>Private Equity (Gross)</b>			<b>0.0</b>	<b>7.6</b>	<b>2.0</b>	<b>14.4</b>	<b>11.7</b>	<b>9.8</b>	<b>7.8</b>	<b>8.3</b>	
<i>Thomson Reuters Cambridge Private Equity Index</i>			<b>0.0</b>	<b>3.8</b>	<b>0.0</b>	<b>12.3</b>	<b>14.1</b>	<b>13.2</b>	<b>--</b>	<b>--</b>	<b>Jun-05</b>
<b>Real Assets (Net)</b>	<b>125,017,782</b>	<b>15.1</b>	<b>0.3</b>	<b>3.7</b>	<b>3.0</b>	<b>6.0</b>	<b>7.1</b>	<b>7.6</b>	<b>--</b>	<b>--</b>	<b>Mar-99</b>
<b>Real Assets (Gross)</b>			<b>0.3</b>	<b>3.7</b>	<b>3.0</b>	<b>6.1</b>	<b>7.4</b>	<b>8.4</b>	<b>--</b>	<b>--</b>	
<i>Real Asset Custom</i>			<b>0.7</b>	<b>1.1</b>	<b>4.2</b>	<b>4.8</b>	<b>10.0</b>	<b>7.1</b>	<b>--</b>	<b>--</b>	<b>Mar-99</b>

Data prior to March 2018 provided by prior consultant



As of February 28, 2019

	Market Value (\$)	% of Portfolio	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Private Real Estate (Net)</b>	<b>61,056,971</b>	<b>7.4</b>	<b>0.0</b>	<b>5.3</b>	<b>1.9</b>	<b>7.2</b>	<b>8.0</b>	<b>8.3</b>	<b>--</b>	<b>--</b>	<b>Mar-99</b>
<b>Private Real Estate (Gross)</b>			<b>0.0</b>	<b>5.3</b>	<b>1.9</b>	<b>7.2</b>	<b>8.2</b>	<b>9.1</b>	<b>8.1</b>	<b>8.7</b>	
<i>NCREIF ODCE (net)</i>			<i>0.0</i>	<i>3.4</i>	<i>0.0</i>	<i>7.4</i>	<i>7.3</i>	<i>9.4</i>	<i>6.0</i>	<i>7.4</i>	<i>Mar-99</i>
<b>Private Infrastructure (Net)</b>	<b>21,454,591</b>	<b>2.6</b>	<b>0.0</b>	<b>4.1</b>	<b>0.0</b>	<b>5.7</b>	<b>9.7</b>	<b>--</b>	<b>--</b>	<b>6.5</b>	<b>Dec-14</b>
<b>Private Infrastructure (Gross)</b>			<b>0.0</b>	<b>4.1</b>	<b>0.0</b>	<b>5.7</b>	<b>9.7</b>	<b>--</b>	<b>--</b>	<b>6.5</b>	
<i>S&amp;P Global Infrastructure Net TR USD</i>			<i>2.3</i>	<i>3.3</i>	<i>11.2</i>	<i>5.7</i>	<i>9.7</i>	<i>4.6</i>	<i>--</i>	<i>3.7</i>	<i>Dec-14</i>
<b>Private Natural Resources (Net)</b>	<b>10,087,857</b>	<b>1.2</b>	<b>0.0</b>	<b>8.8</b>	<b>2.1</b>	<b>11.0</b>	<b>21.6</b>	<b>--</b>	<b>--</b>	<b>18.1</b>	<b>Sep-15</b>
<b>Private Natural Resources (Gross)</b>			<b>0.0</b>	<b>8.8</b>	<b>2.1</b>	<b>11.0</b>	<b>21.6</b>	<b>--</b>	<b>--</b>	<b>18.1</b>	
<i>S&amp;P Global Natural Resources Index TR USD</i>			<i>1.5</i>	<i>-6.2</i>	<i>11.2</i>	<i>-2.6</i>	<i>16.6</i>	<i>1.8</i>	<i>5.5</i>	<i>14.5</i>	<i>Sep-15</i>
<b>Cash (Net)</b>	<b>14,782,240</b>	<b>1.8</b>	<b>0.0</b>	<b>0.6</b>	<b>0.1</b>	<b>0.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	
<b>Cash (Gross)</b>			<b>0.0</b>	<b>0.6</b>	<b>0.1</b>	<b>0.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	

\*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

As of February 28, 2019

## Trailing Net Performance

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund(Net)*</b>	<b>828,337,775</b>	<b>100.0</b>	<b>--</b>	<b>1.6</b>	<b>1.0</b>	<b>6.6</b>	<b>1.4</b>	<b>9.7</b>	<b>5.9</b>	<b>10.5</b>	<b>7.9</b>	<b>Dec-94</b>
<i>Policy Index</i>				1.3	0.4	5.4	1.3	9.9	6.2	9.6	5.9	Dec-94
<b>Total Fund w/o Alternatives(Net)</b>	<b>575,489,553</b>	<b>69.5</b>	<b>69.5</b>	<b>2.1</b>	<b>0.5</b>	<b>8.4</b>	<b>0.1</b>	<b>10.3</b>	<b>5.7</b>	<b>--</b>	<b>--</b>	<b>Dec-94</b>
<i>Policy Index w/o AI</i>				1.9	1.3	8.0	0.9	10.4	5.7	--	--	Dec-94
<b>US Equity(Net)</b>	<b>220,119,329</b>	<b>26.6</b>	<b>38.2</b>	<b>3.7</b>	<b>1.9</b>	<b>12.9</b>	<b>4.5</b>	<b>16.2</b>	<b>10.9</b>	<b>17.4</b>	<b>9.9</b>	<b>Dec-94</b>
<i>80% R1000 / 20% R2000</i>				3.7	2.3	13.0	5.2	15.7	9.9	16.7	9.8	Dec-94
Mellon Dynamic US Equity(Net)	78,677,963	9.5	35.7	3.2	2.9	12.4	3.5	17.1	12.9	--	16.7	Dec-12
<i>S&amp;P 500</i>				3.2	3.8	11.5	4.7	15.3	10.7	16.7	13.8	Dec-12
Mellon Large Cap(Net)	105,219,271	12.7	47.8	3.4	3.8	12.1	5.0	--	--	--	13.3	Mar-16
<i>Russell 1000</i>				3.4	3.7	12.0	5.0	15.4	10.4	16.8	13.3	Mar-16
DFA Small Cap(Net)	18,049,041	2.2	8.2	4.8	-3.9	15.5	4.1	14.3	--	--	7.6	Jun-14
<i>Russell 2000</i>				5.2	-3.3	17.0	5.6	16.7	7.4	16.6	7.6	Jun-14
PanAgora(Net)	18,173,054	2.2	8.3	6.6	-5.7	17.7	6.1	15.4	7.9	--	9.6	Sep-13
<i>Russell 2000</i>				5.2	-3.3	17.0	5.6	16.7	7.4	16.6	8.8	Sep-13
<b>International Equity(Net)</b>	<b>183,202,692</b>	<b>22.1</b>	<b>31.8</b>	<b>2.4</b>	<b>-2.8</b>	<b>10.7</b>	<b>-7.1</b>	<b>10.7</b>	<b>2.2</b>	<b>10.1</b>	<b>5.1</b>	<b>Dec-98</b>
<i>International Equity Custom</i>				1.5	-2.1	9.2	-6.8	11.6	3.2	9.7	4.2	Dec-98
Copper Rock(Net)	20,192,509	2.4	11.0	1.7	-11.6	10.9	-14.9	4.5	1.6	--	4.0	Sep-13
<i>MSCI World ex USA Small Cap</i>				2.3	-7.7	11.0	-9.6	10.2	3.6	13.0	5.1	Sep-13
Mellon International(Net)	102,155,511	12.3	55.8	2.6	-3.1	9.3	-5.7	--	--	--	7.7	Mar-16
<i>MSCI EAFE</i>				2.5	-3.1	9.3	-6.0	9.3	2.1	9.6	7.3	Mar-16
Wells Capital(Net)	60,854,672	7.3	33.2	2.3	0.9	13.2	-7.0	15.8	5.2	--	3.1	Mar-12
<i>MSCI Emerging Markets</i>				0.2	-0.2	9.0	-9.9	15.0	4.1	10.3	2.6	Mar-12

Historical returns for the US Equity Composite prior to January 2012 and for the International Equity Composite prior to December 2010 are gross only.





As of February 28, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>US Fixed Income(Net)</b>	<b>172,167,532</b>	<b>20.8</b>	<b>29.9</b>	<b>0.0</b>	<b>2.5</b>	<b>1.0</b>	<b>3.0</b>	<b>3.2</b>	<b>2.6</b>	<b>4.6</b>	<b>5.2</b>	<b>Dec-94</b>
<i>US Fixed Custom</i>				0.0	2.6	0.9	3.0	3.3	2.7	4.0	5.6	Dec-94
Barrow Hanley(Net)	134,874,325	16.3	78.3	0.0	2.7	1.1	3.2	1.7	2.3	--	3.2	Mar-10
<i>BBgBarc US Aggregate TR</i>				-0.1	2.7	1.0	3.2	1.7	2.3	3.7	3.1	Mar-10
Vanguard Short-Term Treasury Index Fund(Net)	37,293,207	4.5	21.7	0.1	1.8	0.3	2.2	--	--	--	2.2	Feb-18
<i>BBgBarc US Govt 1-3 Yr TR</i>				0.1	1.9	0.4	2.3	0.8	0.8	1.1	2.3	Feb-18
<b>Hedge Fund(Net)</b>	<b>74,337,874</b>	<b>9.0</b>	<b>9.0</b>	<b>1.4</b>	<b>-1.3</b>	<b>3.0</b>	<b>-0.1</b>	<b>6.3</b>	<b>--</b>	<b>--</b>	<b>3.6</b>	<b>Jun-14</b>
<i>Hedge Fund Custom</i>				1.1	-1.4	3.5	-1.4	4.3	--	--	2.5	Jun-14
OZ Domestic II(Net)	9,980,308	1.2	13.4	3.5	0.6	7.5	1.3	8.8	--	--	5.5	Jun-14
Graham Absolute Return(Net)	7,262,595	0.9	9.8	0.4	-0.7	3.7	-1.0	--	--	--	2.3	Aug-17
Wellington-Archipelago(Net)	11,552,350	1.4	15.5	2.5	0.2	7.2	1.7	--	--	--	4.1	Aug-17
KLS Diversified(Net)	9,186,564	1.1	12.4	-0.2	-1.8	1.2	1.4	--	--	--	2.2	Oct-17
Winton(Net)	5,966,566	0.7	8.0	0.9	-3.3	-1.5	-1.3	--	--	--	0.3	Oct-17
Marshall Wace Eureka(Net)	3,099,920	0.4	4.2	1.2	-2.9	2.8	-0.9	--	--	--	2.4	Nov-17
Silver Point Capital(Net)	12,115,817	1.5	16.3	1.4	-2.8	1.9	-1.5	--	--	--	1.1	Nov-17
<i>HFRI Fund of Funds Composite Index</i>				1.1	-1.2	3.7	-1.2	3.9	1.9	3.5	0.4	Nov-17
Laurion Capital(Net)	5,126,362	0.6	6.9	1.0	--	0.3	--	--	--	--	3.5	Aug-18
Taconic Opportunity Fund(Net)	10,047,392	1.2	13.5	0.5	--	0.8	--	--	--	--	--	Dec-18

Historical returns for the US Fixed Income Composite prior to December 2010 and for Barrow Hanley prior to June 2010 are gross only.



As of February 28, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Private Equity(Net)</b>	<b>38,710,326</b>	<b>4.7</b>	<b>4.7</b>	<b>0.0</b>	<b>7.6</b>	<b>2.0</b>	<b>14.4</b>	<b>11.7</b>	<b>9.8</b>	<b>7.6</b>	<b>8.1</b>	<b>Jun-05</b>
<i>Thomson Reuters Cambridge Private Equity Index</i>				<i>0.0</i>	<i>3.8</i>	<i>0.0</i>	<i>12.3</i>	<i>14.1</i>	<i>13.2</i>	<i>--</i>	<i>--</i>	<i>Jun-05</i>
Adams Street(Net)	7,847,500	0.9	20.3	0.0	8.8	0.0	12.5	12.3	12.4	9.7	7.1	Sep-05
Invesco IV(Net)	474,703	0.1	1.2	0.0	-19.1	0.0	-16.1	5.7	7.1	7.4	8.3	Jun-05
Invesco VI(Net)	6,439,663	0.8	16.6	0.0	5.3	0.0	10.4	11.8	13.3	--	12.1	Jun-13
Ocean Avenue II(Net)	9,430,272	1.1	24.4	0.0	13.8	8.0	32.7	22.0	--	--	12.7	Jun-14
Pantheon I(Net)	1,031,312	0.1	2.7	0.0	5.0	0.0	8.2	7.1	5.6	5.1	3.8	Dec-05
Pantheon II(Net)	4,077,326	0.5	10.5	0.0	10.1	0.0	14.9	14.0	11.4	--	11.8	Dec-11
Pantheon Secondary(Net)	1,313,060	0.2	3.4	0.0	18.3	0.0	15.3	6.4	4.2	1.2	4.1	Jun-07
Raven Asset Fund II(Net)	3,385,915	0.4	8.7	0.0	4.0	0.0	5.9	-0.2	--	--	-1.9	Aug-14
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	2,395,578	0.3	6.2	0.0	15.1	2.8	--	--	--	--	15.9	Apr-18
GTCR Fund XII(Net)	1,026,416	0.1	2.7	0.0	0.0	0.0	--	--	--	--	0.0	Jun-18
Carrick Capital Partners III(Net)	762,581	0.1	2.0	0.0	--	0.0	--	--	--	--	-4.8	Aug-18
Cressey & Company Fund VI(Net)	500,000	0.1	1.3	0.0	--	0.0	--	--	--	--	0.0	Jan-19

All private markets performance and market values reflect a 9/30/2018 capital account balance unless otherwise noted.

The market values for the following funds reflect a 12/31/2018 capital account balance: Davidson Kempner Long-Term Distressed Opportunities Fund IV and Ocean Avenue Fund II.

Adams Street includes Adams Street 2005, Adams Street 2007, and Adams Street 2011.

Historical returns for Invesco IV prior to April 2012 are gross only.

Pantheon I includes Pantheon US Fund VI and Pantheon Europe Fund IV.

Pantheon II includes Pantheon US Fund IX, Pantheon Asia Fund VI, and Pantheon Europe Fund VII.

Pantheon Secondary includes Pantheon GLO SEC III B.



As of February 28, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
TCV X(Net)	26,000	0.0	0.1	--	--	--	--	--	--	--	--	Apr-19
<b>Real Assets(Net)</b>	<b>125,017,782</b>	<b>15.1</b>	<b>15.1</b>	<b>0.3</b>	<b>3.7</b>	<b>3.0</b>	<b>6.0</b>	<b>7.1</b>	<b>7.6</b>	<b>--</b>	<b>--</b>	<b>Mar-99</b>
<i>Real Asset Custom</i>				0.7	1.1	4.2	4.8	10.0	7.1	--	--	Mar-99
SSgA(Net)	32,418,363	3.9	25.9	1.1	-0.8	7.6	2.6	--	--	--	3.8	Apr-17
<i>Real Asset Custom</i>				0.7	1.1	4.2	4.8	10.0	7.1	--	6.9	Apr-17
<b>Private Real Estate(Net)</b>	<b>61,056,971</b>	<b>7.4</b>	<b>48.8</b>	<b>0.0</b>	<b>5.3</b>	<b>1.9</b>	<b>7.2</b>	<b>8.0</b>	<b>8.3</b>	<b>--</b>	<b>--</b>	<b>Mar-99</b>
<i>NCREIF ODCE (net)</i>				0.0	3.4	0.0	7.4	7.3	9.4	6.0	7.4	Mar-99
Greenfield Gap VII(Net)	10,577,944	1.3	17.3	0.0	5.2	0.0	5.9	11.1	--	--	12.4	Dec-14
Patron Capital V(Net)	5,703,497	0.7	9.3	0.0	6.5	5.6	13.4	17.2	--	--	16.7	Jan-16
UBS Trumbull Property(Net)	42,952,430	5.2	70.3	0.0	5.0	1.7	6.8	5.9	7.9	5.6	7.3	Mar-99
Carlyle Realty VIII(Net)	581,501	0.1	1.0	0.0	2.9	35.1	2.9	--	--	--	-21.8	Dec-17
<i>NCREIF-ODCE</i>				0.0	3.9	0.0	8.3	8.2	10.4	7.0	7.1	Dec-17
Taconic CRE Dislocation Fund II(Net)	1,241,598	0.1	2.0	0.0	--	-0.7	--	--	--	--	-0.7	Nov-18
<b>Private Infrastructure(Net)</b>	<b>21,454,591</b>	<b>2.6</b>	<b>17.2</b>	<b>0.0</b>	<b>4.1</b>	<b>0.0</b>	<b>5.7</b>	<b>9.7</b>	<b>--</b>	<b>--</b>	<b>6.5</b>	<b>Dec-14</b>
<i>S&amp;P Global Infrastructure Net TR USD</i>				2.3	3.3	11.2	5.7	9.7	4.6	--	3.7	Dec-14
KKR Global II(Net)	10,330,920	1.2	48.2	0.0	6.3	0.3	8.0	9.2	--	--	10.2	Dec-14
North Haven Infrastructure II(Net)	9,619,275	1.2	44.8	0.0	4.6	0.0	6.0	11.9	--	--	6.2	May-15
ISQ Global Infrastructure Fund II(Net)	1,195,788	0.1	5.6	0.0	-31.9	0.0	--	--	--	--	-31.9	Jul-18
<i>DJ Brookfield Global Infrastructure Net TR USD</i>				2.6	4.7	12.2	10.3	10.3	5.3	13.5	4.7	Jul-18

The market values for the following funds reflect a 12/31/2018 capital account balance: Patron Capital V, UBS Trumbull Property, Carlyle Realty VIII, Taconic CRE Dislocation, KKR Global II and KKR Global Infrastructure Investors III.



As of February 28, 2019

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
KKR Global Infrastructure Investors III(Net)	308,608	0.0	1.4	0.0	--	-10.9	--	--	--	--	-10.9	Jan-19
<b>Private Natural Resources(Net)</b>	<b>10,087,857</b>	<b>1.2</b>	<b>8.1</b>	<b>0.0</b>	<b>8.8</b>	<b>2.1</b>	<b>11.0</b>	<b>21.6</b>	<b>--</b>	<b>--</b>	<b>18.1</b>	<b>Sep-15</b>
<i>S&amp;P Global Natural Resources Index TR USD</i>				1.5	-6.2	11.2	-2.6	16.6	1.8	5.5	14.5	Sep-15
EnCap XI(Net)	598,054	0.1	5.9	0.0	-14.0	-4.6	-19.2	--	--	--	-36.4	Jul-17
EnCap IV(Net)	827,735	0.1	8.2	0.0	-9.1	0.6	-16.5	--	--	--	-16.5	Feb-18
GSO Energy Opportunities(Net)	4,568,830	0.6	45.3	0.0	5.0	0.0	7.4	20.3	--	--	17.9	Nov-15
Taurus Mining(Net)	2,394,074	0.3	23.7	0.0	15.0	4.9	18.7	22.1	--	--	18.6	Sep-15
Taurus Mining Annex(Net)	1,699,164	0.2	16.8	0.0	23.7	7.3	28.3	--	--	--	32.8	Jan-17
<b>Cash(Net)</b>	<b>14,782,240</b>	<b>1.8</b>	<b>1.8</b>	<b>0.0</b>	<b>0.6</b>	<b>0.1</b>	<b>0.8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	
Cash(Net)	9,061,572	1.1	61.3	0.0	1.0	0.2	1.2	1.0	0.8	--	--	Sep-03
Treasury Cash(Net)	5,720,667	0.7	38.7									

\*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

The market values for the following funds reflect a 12/31/2018 capital account balance: Encap XI, Encap IV, Taurus Mining, Taurus Mining Annex.



### Benchmark History

As of February 28, 2019

Total Fund		
1/1/2019	Present	21% US Equity Custom / 18% International Equity Custom / 23% US Fixed Custom / 10% Hedge Fund Custom / 15% Thomson Reuters Cambridge Private Equity Index / 13% Real Asset Custom
1/1/2017	12/31/2018	27% US Equity Custom / 23% International Equity Custom / 22% US Fixed Custom / 5% Hedge Fund Custom / 9% Thomson Reuters Cambridge Private Equity Index / 14% Real Asset Custom
7/1/2014	12/31/2016	22.7% Russell 1000 / 5.7% Russell 2000 / 23.6% International Equity Custom / 28.5% US Fixed Custom / 4.5% Hedge Fund Custom / 8% NCREIF ODCE (net) / 7% Cambridge Assoc. U.S. Private Equity Index
US Equity		
12/31/1994	Present	80% Russell 1000 / 20% Russell 2000
International Equity		
1/1/2019	Present	56% MSCI EAFE Gross / 44% MSCI Emerging Markets Gross
1/1/2017	12/31/2018	69.56% MSCI EAFE Gross / 30.44% MSCI Emerging Markets Gross
7/1/2013	12/31/2016	MSCI ACWI ex USA Gross
US Fixed Income		
3/1/2018	Present	77.27% BBgBarc US Aggregate TR / 22.73% BBgBarc US Govt 1-5 Yr TR
1/1/2017	2/28/2018	77.27% BBgBarc US Aggregate TR / 22.73% Credit Suisse Leveraged Loans
8/1/2014	12/31/2016	71.93% BBgBarc US Aggregate TR / 17.54% ICE BofAML US High Yield TR / 10.53% Credit Suisse Leveraged Loans
Hedge Fund		
7/1/2017	Present	100% HFRI Fund of Funds Composite Index
1/1/2015	6/30/2017	50% HFRI Fund of Funds Composite Index / 50% HFRI RV: Multi-Strategy Index
Real Assets		
1/1/2019	Present	62% NCREIF ODCE (net) / 19% S&P Global Natural Resources Index TR USD / 19% S&P Global Infrastructure TR USD
6/1/2013	12/31/2018	57.14% NCREIF ODCE (net) / 21.43% S&P Global Natural Resources Index TR USD / 21.43% S&P Global Infrastructure TR USD

As of February 28, 2019

## Annual Investment Expense Analysis

As Of February 28, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
<b>Total Fund w/o Alternatives</b>		<b>\$575,489,553</b>		
<b>US Equity</b>		<b>\$220,119,329</b>		
Mellon Dynamic US Equity	0.30% of Assets	\$78,677,963	\$236,034	0.30%
Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$105,219,271	\$41,044	0.04%
DFA Small Cap	0.35% of Assets	\$18,049,041	\$63,172	0.35%
PanAgora	0.80% of Assets	\$18,173,054	\$145,384	0.80%
<b>International Equity</b>		<b>\$183,202,692</b>		
Copper Rock	0.85% of Assets	\$20,192,509	\$171,636	0.85%
Mellon International	0.04% of Assets	\$102,155,511	\$40,862	0.04%
Wells Capital	0.90% of First 100.0 Mil, 0.85% Thereafter	\$60,854,672	\$547,692	0.90%
<b>US Fixed Income</b>		<b>\$172,167,532</b>		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$134,874,325	\$319,749	0.24%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$37,293,207	\$18,647	0.05%
<b>Hedge Fund</b>		<b>\$74,337,874</b>		
OZ Domestic II	Performance-based 1.50 and 20.00	\$9,980,308	\$214,894	2.15%
Graham Absolute Return	Performance-based 1.75 and 20.00	\$7,262,595	\$132,852	1.83%
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$11,552,350	\$172,973	1.50%
KLS Diversified	Performance-based 2.00 and 20.00	\$9,186,564	\$183,731	2.00%
Winton	Performance-based 0.90 and 20.00	\$5,966,566	\$64,596	1.08%
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$3,099,920	\$69,504	2.24%
Silver Point Capital	Performance-based 2.00 and 20.00	\$12,115,817	\$277,354	2.29%
Laurion Capital		\$5,126,362		
Taconic Opportunity Fund		\$10,047,392		

As of February 28, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Invesco IV		\$474,703		
Invesco VI		\$6,439,663		
Ocean Avenue II		\$9,430,272		
Pantheon I		\$1,031,312		
Pantheon II		\$4,077,326		
Pantheon Secondary		\$1,313,060		
Raven Asset Fund II		\$3,385,915		
Davidson Kempner Long-Term Distressed Opportunities Fund IV		\$2,395,578		
GTCR Fund XII		\$1,026,416		
Carrick Capital Partners III		\$762,581		
Cressey & Company Fund VI		\$500,000		
TCV X		\$26,000		
<b>Real Assets</b>		<b>\$125,017,782</b>		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$32,418,363	\$97,255	0.30%
<b>Private Real Estate</b>		<b>\$61,056,971</b>		
Greenfield Gap VII		\$10,577,944		
Patron Capital V		\$5,703,497		
UBS Trumbull Property		\$42,952,430		
Carlyle Realty VIII		\$581,501		
Taconic CRE Dislocation Fund II		\$1,241,598		
<b>Private Infrastructure</b>		<b>\$21,454,591</b>		

As of February 28, 2019

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
KKR Global II		\$10,330,920		
North Haven Infrastructure II		\$9,619,275		
ISQ Global Infrastructure Fund II		\$1,195,788		
KKR Global Infrastructure Investors III		\$308,608		
<b>Private Natural Resources</b>		<b>\$10,087,857</b>		
EnCap XI		\$598,054		
EnCap IV		\$827,735		
GSO Energy Opportunities		\$4,568,830		
Taurus Mining		\$2,394,074		
Taurus Mining Annex		\$1,699,164		
<b>Cash</b>		<b>\$14,782,240</b>		
Cash		\$9,061,572		
Treasury Cash		\$5,720,667		



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**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.

**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.

**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.

**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.

**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%.

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

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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.

Sources: [Investment Terminology](#), International Foundation of Employee Benefit Plans, 1999.

[The Handbook of Fixed Income Securities](#), Fabozzi, Frank J., 1991.



**Merced County Employees' Retirement Association**  
**Opportunistic Fixed Income Manager Search**  
**Board Summary**

## Background

- During the asset allocation discussions in late 2018, MCERA voted to adopt a 5% target allocation to Opportunistic Fixed Income Strategies.

	Allocation range		
	Target Mix%	Minimum %	Maximum %
Domestic Equity	21.0	15.0	26.0
Developed Market Equity	10.0	5.0	15.0
Emerging Market Equity	8.0	4.0	12.0
Private Equity	15.0	5.0	20.0
Real Estate	8.0	6.0	10.0
Domestic Fixed Income	18.0	13.0	23.0
Opportunistic Fixed Income	5.0	3.0	7.0
Hedge Fund	10.0	5.0	15.0
Real Assets	5.0	3.0	7.0

- The primary role of the addition to this sub-asset class within the MCERA Fixed Income portfolio was two-fold: 1) to provide additional diversification and 2) to generate higher yielding return potential than the Core Fixed Income sleeve.
- Meketa held meetings in January and February, 2019 with the Investment Sub-Committee, whose task was to review and weigh-in on the potential candidates brought forth. Candidates under consideration included both opportunistic credit strategies only, as well as multi-sector strategies. Recall that:
  - Opportunistic Credit Managers** – focus primarily on Credit (HY/BL) Opportunities
  - Opportunistic Multi-Sector Managers** – Expand the opportunity set to include Credit Opportunities + Interest Rate Sensitive Opportunities



- Initial discussions and analysis centered on the following key questions for the Sub-Committee to consider:
  - How best do we position the opportunistic credit portion of the fixed income portfolio?
  - What is the exposure we are seeking – credit, multi-sector, or a combination of both?
  - Of the managers under consideration, which are best suited for MCERA's needs?
  - How best do we compliment the Fund's current fixed income allocation comprised of BHMS and Vanguard ST Treasury Bond Index?
- Following Meketa's early assessment of an initial eight candidates, further additional quantitative and qualitative assessments were conducted on the four "best fit" managers based on Meketa's analysis and Sub-Committee discussion. In addition, portfolio analysis was conducted to assess not only the strengths of the managers on a stand-alone basis, but also the manager risk and return analysis in the context of the overall fixed income portfolio.

## Summary and Recommendation

- **Meketa, with the support of the Sub-Committee, recommends hiring two managers**, equally-weighted, to fulfill the 5% target allocation:
  - **GoldenTree**, an Opportunistic Credit Manager (2.5% of portfolio).
  - **PIMCO Income Fund**, an Opportunistic Multi-Sector Manager (2.5% of portfolio).
- We believe the combination of GoldenTree/PIMCO exhibits a strong risk/ return profile. Over the common period analyzed, GoldenTree/PIMCO exhibited superior returns and consistently lower volatility compared to the Barclays Aggregate Index.
  - By adopting the recommended pairing of these two managers, we believe the MCERA portfolio is well positioned to achieve its goal of *higher yielding returns* and *diversification*.
- **Additionally, we recommend MCERA reduce its exposure to BHMS by 50%**, using the proceeds to purchase the Vanguard Total Bond Market Index Fund Institutional Share Class (VBTIX), a passive core bond alternative. Currently, MCERA pays 24 basis points for the BHMS strategy, which is actively managed. Vanguard's passive alternative, with a similar risk/return profile, is being offered at 4 basis points.
  - This recommended action would **lower** total fixed income estimated fees from *29 bps to 23 bps*.
- Detailed analysis supporting Meketa's Recommendations is found within the Appendix at the end of this presentation.

# Appendix

## Candidates Reviewed-Phase I

## Investment Manager Overview As of September 30, 2018

	<b>Brandywine</b>	<b>Invesco</b>	<b>Manulife</b>	<b>PIMCO</b>
Firm Location	Philadelphia, Pennsylvania	Atlanta, Georgia	Toronto, Ontario	Newport Beach, California
Firm Inception	1986	1935	1887	1971
Total Firm Assets	\$74.3 billion	\$980.9 billion	\$392.8 billion	\$1,719.0 billion
Strategy	Global Multi-Sector Income	Multi-Sector Credit	Strategic Fixed Income Opportunities	PIMCO Income Fund
Strategy Inception	2013	2013	2010	2007
Assets Managed in Strategy	\$1.0 billion	\$0.9 billion	\$8.5 billion	\$206.9 billion
Benchmark Index	3-month Libor	Custom <sup>1</sup>	Bloomberg Barclays Multiverse Index	Bloomberg Barclays U.S. Aggregate
Investment Vehicle	Mutual Fund: LFLIX	Commingled Fund	Mutual Fund: JIPRX	Mutual Fund: PIMIX
Minimum Investment	N/A	\$0.5 million	\$1 Million	\$1 million
Effective Management Fee	0.65%	0.35%	0.67%	0.50%

	<b>Beach Point</b>	<b>Brigade</b>	<b>GoldenTree</b>	<b>Osterweis</b>
Firm Location	Los Angeles, California	New York, NY	New York, NY	San Francisco, California
Firm Inception	2009	2006	2000	1983
Total Firm Assets	\$12 billion	\$20 billion	\$25 billion	\$7.7 billion
Strategy	Dynamic Income	Opportunistic Credit	Multi-Sector Credit	Strategic Income
Strategy Inception	2013	2009	2015	2002
Assets Managed in Strategy	\$0.3 billion	\$5 billion	\$1.5 billion	\$6.2 billion
Benchmark Index	Bloomberg Barclays High Yield	50% High Yield/50% Bank Loan <sup>2</sup>	50% High Yield/50% Bank Loan	Bloomberg Barclays U.S. Aggregate
Investment Vehicle	Limited Partnership	Limited Partnership	Limited Partnership	Mutual Fund: OSTIX
Minimum Investment	\$1 million	\$1 million	\$5 million	N/A
Effective Management Fee	0.65%	0.75%	0.80%	0.88%

<sup>1</sup> MSCI 40/15/30/15 Custom Benchmark.

<sup>2</sup> 50% HUCO / 50% CSLL.



## **Opportunistic: Multi-Sector Manager Reviews**

## PIMCO

### Organization:

- PIMCO is a majority-owned subsidiary of Allianz SE (ETR: ALV), a publicly traded German financial services company. The firm currently has over \$1.7 trillion in assets under management. PIMCO is well-staffed, with hundreds of investment professionals located in offices around the globe. Since 2014, the firm has seen several high-level departures and turnover, including the abrupt departure of founder Bill Gross. The turnover has resulted in a reorganization of individuals at the top of the firm.

### Investment Team:

- The PIMCO Income Strategy is managed by Daniel Ivascyn, Managing Director and Group Chief Investment Officer. He joined the firm in 1998 and is now lead portfolio manager and a member of PIMCO'S Executive Committee and Investment Committee. Mr. Ivascyn is supported by portfolio managers Joshua Anderson and Alfred Murata who joined PIMCO in 2003 and 2001 respectively.

### Investment Philosophy:

- The philosophy revolves around the principle of utilizing a global multi-sector and benchmark agnostic approach to generate attractive risk-adjusted total return over time. The firm believes that no single risk should dominate returns. The team seeks to add value through the use of top-down strategies such as the firm's exposure to interest rates, or duration, changing volatility, yield curve positioning, and sector rotation. PIMCO also employs bottom-up strategies involving analysis and selection of specific securities.
- The objectives of PIMCO's Income strategy are to deliver consistent income while generating attractive risk-adjusted total return over time. The strategy aims to meet these objectives by utilizing a global multi-sector, benchmark agnostic approach that takes advantage of PIMCO's global resources to source the best income-generating ideas while emphasizing quality and staying senior in the capital structure.

## PIMCO (continued)

### Investment Process:

- The investment process begins with determining top-down views at PIMCO's annual secular forum, where the firm's investment professionals gather with outside economists and research professionals to debate changes to PIMCO's 3-5 year economic outlook. Next, the team implements these views by identifying securities that achieve target characteristics and meet the team's issue selection criteria; within each sector, analysts conduct security analysis using both quantitative and qualitative techniques to determine relative value opportunities among individual issues.
- The bottom-up process of security selection is a critical aspect of PIMCO's overall investment process. PIMCO considers the full-spectrum of global fixed income sectors when evaluating individual securities for inclusion in its Income Strategy accounts. Specific portfolio investment restrictions are accounted for by the generalist portfolio manager assigned to the account. While the generalist portfolio managers are active participants in all phases of portfolio management including security selection and trading, security analysis is conducted primarily by PIMCO's specialists using proprietary models and analytics internally developed and maintained by the firm's financial engineers. The specialists are charged with determining relative value opportunities within their sectors.



## **Brandywine Global Asset Management**

### **Organization:**

- Brandywine, located in Philadelphia, PA, was founded in 1986. The firm is a wholly owned subsidiary of Legg Masson but operates independently and preserves investment autonomy.
- Total firm assets under management exceed \$74 billion, with approximately 75% of total assets invested in fixed income strategies. The Global Multi-Sector Income strategy has close to \$970 million in assets as of September 30, 2018.

### **Investment Team:**

- The Global Multi-Sector investment team consists of Gerhardt Herbert, Brian Kloss, Tracy Chen, Jack McIntyre, and Anunjeet Sareen. Mr. Herbert, the Head of Global Credit, and Mr. Kloss, the Head of High Yield, both joined the firm in 2010. Tracy Chen, Head of Structured Credit, joined the firm in 2008, while Portfolio Manager Jack McIntyre has been part of the research team since 1998.
- There are 12 analysts and 6 traders that support the investment team. There is a strong mentorship process at Brandywine by which senior professionals help analysts hone their skill sets.

## **Brandywine Global Asset Management (Continued)**

### **Investment Philosophy:**

- The investment philosophy is value driven and rests upon the idea that currencies, spreads, and interest rates serve as economic regulators. These changes in economic behavior show mean reversion qualities, thus revealing exploitable opportunities and providing the potential to capture alpha.
- The team values macroeconomic research and fundamental analysis equally as the investable universe incorporates securities with a higher default rate than sovereigns and investment grade securities. The investable universe includes a broad mix of global securities, including sovereign debt, emerging markets debt, global high yield credit, global investment-grade credit, structured credit, convertible securities, preferred stock, common stock, and currencies.

### **Investment Process:**

- Global Multi-Sector Income is a flexible strategy that targets what the team believes to be the best opportunities for total return while also aiming to protect principal and seeking a high level of income. Their approach to achieving these goals is to tactically allocate across fixed income credit sectors globally that offer the most attractive combination of value and durable fundamentals.
- Brandywine's investment process is twofold, combining both macroeconomic and fundamental analysis. Quantitative screens help identify sectors and issuers with higher relative value based on macroeconomic views and factors such as sector economics and risks, yield and option adjusted spread analysis, as well as the probability of credit default.
- Then the team focuses on analyzing the quality of the company's earnings, covenants, capital structure of the issuer as well as value of a firm's assets through a wide variety of scenarios. Decisions are implemented by portfolio managers after the team has built a consensus around a particular investment idea. Position sizes typically reflect level of agreement and conviction level.

## Invesco

### Organization:

- Invesco Advisers is located in Atlanta, GA and had \$980.9 billion assets under management as of September 30, 2018. The firm is an indirectly owned subsidiary of Invesco Ltd., a publicly traded company listed on the New York Stock Exchange under the ticker IVZ, and is a constituent of the S&P 500 Index. Employees hold a 7% stake. Additionally, to increase stockholder and management alignment investment professionals are required to invest a portion of their deferred compensation plan into Invesco stock.
- The Invesco Multi-Sector Credit Strategy was established in 2013 and currently has \$877.7 million assets under management. The Multi-Sector Credit strategy is a stand-alone product within the firm's "Multi Sector" category.

### Investment Team:

- Joseph Portera is the lead portfolio manager for the Multi Sector Credit strategy. He also leads Invesco's Global High Income efforts, as well as serving as lead portfolio manager for Invesco's High Yield Strategy. Mr. Portera has 38 years of industry experience and has managed the strategy since inception in 2013. Joseph Portera is supported by Senior Portfolio Managers Jennifer Hartyiksen, Ayi Hooper, and Ken Hill.
- Firm wide Invesco has a total of 385 portfolio managers, 281 research analysts and 90 traders. The analyst teams for the four underlying components for the Multi Sector Credit strategy support other products within their assigned asset class. All analysts are specialists within their asset class, and have developed expertise in their respective industries by getting to know management teams, sponsors, customers, and suppliers.

## Invesco (continued)

### Investment Philosophy:

- The Multi Sector Credit strategy is designed to deliver favorable excess returns while maintaining a low risk profile through a fundamentally-driven investment process. The team applies a disciplined and research-intensive process that combines bottom-up and top-down analysis to construct and implement portfolios.
- The strategy seeks to capture positive excess returns through macroeconomic risk positioning, risk budgeting, tactical sector rotation, and fundamental credit selection. There is an emphasis on four core global credit sectors, which are limited to: global investment grade at 40%, hard currency emerging market debt at 15%, bank loans at 30%, and global high yield at 15%. Additionally, the team has the ability to invest up to 15% of the portfolio opportunistically. Portfolio weights are reexamined every year.

### Investment Process:

- The investment process consists of four steps. First, strategic asset allocation is considered, which ensures that the portfolio is diversified across asset classes and sources of risk. At this stage the four credit component weights are determined using a risk parity approach.
- The team conducts a tactical asset allocation where they modify the four core credit asset classes within predefined boundaries. The strategy may also hold up to 15% cash and 15% opportunistic investments from across the fixed income universe including municipal bonds, commercial and residential mortgaged backed securities, as well as collateralized loan obligations.
- After tactical allocations are considered, the team delves into security selection, which is fundamentally driven. Finally, holistic risk management is applied across the portfolio. The decision making body consists of the four portfolio managers for the strategy. However, Joe Portera has the final say on all investment decisions.
- The investment team anticipates that tactical allocation will add one-third of the return over strategic asset allocation, and security selection will contribute the remaining two-thirds.

## Manulife

### Organization:

- Manulife Asset Management (US) is a wholly owned subsidiary of Manulife Financial Corporation, a publicly traded company (NYSE:MFC) that traces its roots back to the 1800s. Manulife Asset Management (US) is located in Boston, Massachusetts and was first organized in 1968. The firm has \$393 billion in assets under management.
- The Strategic Fixed Income Opportunities strategy was established in 2010 and has \$9 billion assets under management.

### Investment Team:

- The strategy is run by four portfolio managers including Daniel Janis III and Tomas Goggins, who have been managing the strategy since inception. Kisoo Park and Christopher Chapman joined the strategy as portfolio managers in 2011 and 2017, respectively. Daniel Janis III, Thomas Goggins, Kisoo Park, and Christopher Chapman have 34, 31, 32, and 19 years of experience, respectively.
- Portfolio managers are supported by Peter Azzinaro, global macro strategist, investment analysts Kelly Lim, Joseph Rothwell, and Charles Tomes, and portfolio specialist David Zielinski.
- Manulife has a total of 187 portfolio managers, 204 research analysts, and eight traders. The U.S. based fixed income analysts are organized by industry and sector and they are responsible for following securities in their sectors that are owned by client portfolios, interpreting changes and anticipating new information.

## Manulife (continued)

### Investment Philosophy:

- The strategy has a disciplined investment style that emphasizes geographic locations which the team believes that have the greatest potential for total return and low volatility.
- The investment philosophy is reliant upon global relative value and seeks to add value through sector rotation, security selection, and opportunistic currency investments .The strategy primarily invests in global government bonds, corporate bonds, emerging markets bonds, and high yield bonds. The investment team expects performance to be attributed 40% to sector allocation, 20% security selection, 20% currency management, 10% yield curve management, 5% duration, and 5% trading/execution.

### Investment Process:

- Macroeconomic analysis is the first step in the investment process, where the team determines bond and currency scenarios as well as political trends. At the end of this analysis, the team produces a scorecard which summarizes the attractiveness of the global landscape based on macro-economic factors. Then the team identifies relative-value opportunities within and across sectors in an investment universe of developed governments, developed corporates, securitized assets and emerging markets.
- Once relative value is determined, currency management is employed to analyze the impact of currency exposure and volatility. Some of the things that the team looks at when implementing currency management include currency trends, cost considerations and technical analysis. The last step is to run pre-trade compliance checks, test portfolio risk factors and to execute buy/sell positions. Portfolio is limited in its use of derivatives.
- Daniel Janis, lead portfolio manager for the strategy, has final decision making authority regarding assets, country, and sector allocations.

## **Opportunistic: Credit Manager Reviews**

## GoldenTree Asset Management

### Organization

- GoldenTree was founded in 2000 by Steve Tananbaum and is based in New York City, with an additional office in London. The firm currently manages approximately \$25 billion in credit strategies and is 100% employee owned by 26 partners.
- The firm's flagship strategy is a multi-sector hedge fund with over \$6 billion in assets. The firm also manages separate stand-alone strategies in the high yield, bank loan, structured credit, and distressed debt asset classes.
- The Multi-Sector strategy was launched in 2015 and currently has over \$1.5 billion in assets under management. The Multi-Sector commingled fund has over \$460 million in assets under management.

### Investment Team

- The investment team is led by Steve Tananbaum, who has nearly 30 years of investment experience. Four senior portfolio managers, Joe Naggar, Lee Kruter, Pierre de Chillaz, and Fred Haddad, oversee investments in structured credit, high yield, and bank loans, Europe, and CLOs, respectively.
- The portfolio managers are supported by an investment team of over 30 individuals that is divided into industry, structured credit, and distressed analysts, as well as capital markets and trading teams. CIO Steve Tananbaum oversees all strategies at the firm but works very closely with the portfolio managers on portfolio construction and risk management. Further, the investment team is comprised of very senior analysts who will drive the credit selection in their areas of expertise. The decision making process at GoldenTree is very team-oriented and collaborative.
- The key portfolio managers for the Multi-Sector Credit strategy are Steve Tananbaum, Joe Naggar and Lee Kruter.



## GoldenTree Asset Management, continued

### Investment Philosophy

- The Multi-Sector strategy seeks to generate mid-to-high single digit returns, net of fees, by allocating to the bank loan, high yield, and structured credit markets. The strategy starts with taking the firm's stand-alone portfolios in each of those spaces and further customizing them to build the portfolio.
- Risk is managed by rotating credit sector weights as well as adjusting the composition of sleeves within each credit sector. In addition, GoldenTree can grow the cash allocation if they feel the need to be more risk averse. While GoldenTree seeks to add value through credit sector rotation, they believe that bottom-up issue selection will be the key driver of value and risk management for the strategy. The portfolio will not be managed with strict minimum or maximum credit sector weights.

### Investment Process

- GoldenTree's credit analysis focuses on a robust evaluation of a company or security's enterprise value, and investing with a significant margin of safety defined most often by asset coverage. The Multi-Sector strategy is able to leverage GoldenTree's analysis across a company's capital structure to find the most attractive investment for a given security. The investment team will seek to identify catalysts at the company or security level that will lead to a return in excess of its yield.
- The key decision makers for the strategy are CIO Steven Tananbaum, high yield and bank loan portfolio manager Lee Kruter, and structured credit portfolio manager Joe Naggar. These three hold regular portfolio management meetings throughout the week, as well as informal discussions regarding individual positions and portfolio risks.

## Beach Point Capital Management

### Organization

- Beach Point was founded in 2009 by Carl Goldsmith and Scott Klein and is based in Los Angeles, CA with additional offices in New York, NY and London, UK. The firm has been 100% employee-owned since inception.
- Beach Point was formed when Goldsmith and Klein spun the alternative credit team out of Post Advisory. Smith and Klein had led this effort at Post since 1997.
- Today the firm is focused on the management of credit portfolios ranging from liquid performing credit strategies to distressed and other alternative credit strategies. Total firm assets are over \$12 billion.
- The Dynamic Income fund was launched in 2013 and has over \$300 million in assets under management. Beach Point manages several billion in separately managed accounts with similar guidelines to the Dynamic Income Fund.

### Investment Team

- Co-Founders Scott Klein and Carl Goldsmith are also Co-CIOs and oversee all of the firm's investment strategies. In addition to Klein and Goldsmith, Allan Schweitzer and Sinjin Bowron oversee the Dynamic Income strategy on a day-to-day basis as lead portfolio managers.
- An investment team of 20 supports the portfolio managers on all firm strategies. Nearly all members of Beach Point's investment team came from Post Advisory with Messrs. Goldsmith and Klein. Approximately one-third of the research staff has a legal background, a benefit in analyzing credit documents and structures.

## Beach Point Capital Management, continued

### Investment Philosophy

- Beach Point takes a very opportunistic approach to investing and augments it with a relative value strategy that is constantly assessing the risk-adjusted return potential of the portfolio positions versus the overall opportunity set. The Dynamic Income strategy seeks to outperform the high yield and bank loan markets on a risk-adjusted basis, with a focus on maintaining a lower volatility profile.
- The firm believes that risk is often misunderstood and mispriced in smaller off-the run bond and loan issues. As a result their portfolios tend to be overweight to smaller and middle market issuers. The team also evaluates non-traditional financings such as debtor-in-possession (“DIP”), bridge loans and other unique private transactions that can offer differentiated return streams or opportunities to enhance the return potential of the portfolio.
- The Dynamic Income strategy will allocate to both high yield bonds and bank loans. While the majority of the portfolio tends to be allocated to high yield, the bank loan allocation has historically fluctuated between 8% and 35%. The portfolio does not allocate meaningfully to structured credit (<5%), but can invest opportunistically in distressed debt, equities, or equity-like securities.

### Investment Process

- Investment ideas are generated by both portfolio managers and analysts based on their extensive industry experience, close relationships with companies, and contacts on the sell side.
- The credit research process is extremely thorough and involves an in-depth analysis of the capital structure, covenants, asset coverage, and liquidation value. Bonds and loans are evaluated using a proprietary Value Scoring Model developed by the team while at Post. Potential investments are reviewed by the team and scrutinized by the portfolio managers. The portfolio will generally consist of 100 to 150 issuers and be concentrated in the team’s best investment ideas. Industry exposure is loosely constrained to allow for portfolio over-weights in sectors that offer the most attractive opportunities.

## Brigade Capital Management

### Organization:

- Brigade was formed in 2006 by Don Morgan, who spun out several members of MacKay Shield's high yield bond team. Brigade has a small passive private equity owner, but the majority of the equity is retained by current Brigade employees.
- The firm's flagship strategy is a long-short credit hedge fund, but they started the Opportunistic Credit strategy in 2009 as a result of new credit investment opportunities stemming from the Global Financial Crisis. The strategy has grown to over \$5 billion in assets under management.
- Total firm assets are more than \$20 billion across several credit-focused strategies that span the return and liquidity spectrum.

### Investment Team:

- The Opportunistic Credit strategy is led by Mr. Morgan, who works closely with senior portfolio manager Doug Pardon who oversees the Opportunistic and High Yield Bond strategies.
- The portfolio managers leverage the credit investment team that consists of more than 30 individuals. Brigade's investment team is separated into corporate (high yield, bank loans, equities), distressed, and structured products groups. Eight of the team members have over 20 years of experience in credit investing, and four of the team members have worked together since the firm's inception. Several investment team members are equity owners of the firm.

## Brigade Capital Management, continued

### Investment Philosophy

- Brigade takes a truly opportunistic and value-oriented approach to investing. The portfolio managers evaluate investment opportunities across capital structures, geographies and credit sectors seeking to identify the best return opportunities with somewhat limited downside potential. Brigade takes a long-term view of credit and is comfortable owning securities through volatile or uncertain periods, even restructurings if they feel there is significant total return potential. The portfolio can also have a high allocation to the lowest credit ratings segments. The portfolio tends to allocate mostly to high yield bonds and bank loans, but will also invest in structured credit, municipal bonds, distressed situations, as well as other corporate securities.
- The investment team tends to focus on more liquid securities so they can adjust portfolio positioning based on their overall market views, as well as when security prices and relative value changes. Brigade will also opportunistically use macro hedges to adjust overall portfolio risk and credit market beta. Brigade has been very active when adjusting the risk exposures of the portfolio.

Historical Exposures	Average	Maximum	Minimum
CCC and Below	20.2%	41.1%	5.6%
Bank Loan	29.3%	50.2%	14.3%
High Yield	52.5%	75.0%	6.1%
Market/Industry Credit Hedges	-11.4%	-27.4%	0%

### Investment Process

- Brigade's industry and credit sector analysts are responsible for following all securities in their universe and communicating recommendations to the Opportunistic Credit portfolio managers. The portfolio managers will incorporate these recommendations with their overall market sentiment and views of risk to build the portfolio.
- Analysts take a total return approach to underwriting and evaluating opportunities. They will hold positions that they expect could experience volatility or near-term uncertainty, if they believe this volatility is justified by greater long-term return potential. Core portfolio positions are typically about 1% and capped at 3%, with total positions ranging from 100-150.

## Osterweis Capital Management

### Organization

- Osterweis is a San Francisco-based asset manager founded in 1983 by John Osterweis with the purpose of serving the portfolio management needs of high net worth individuals. The firm now has several institutional investors but it has a predominantly retail investor base. The company is 99% employee owned, with ownership distributed among 21 employees and the remaining 1% is owned by two external directors.
- The firm has over \$7.7 billion assets under management in five investment strategies. The Strategic Income strategy was started in 2002 and is by far the firm's largest with approximately \$6 billion in assets.

### Investment Team

- The Strategic Income strategy is managed by a small team of three portfolio managers. Carl Kaufman is the lead portfolio manager, and he works closely with Brad Kane and Crain Manchuck who are considered to portfolio managers as well. These two have worked on the team for 5 years and 2 years, respectively.
- This three person team mostly spends most of their time evaluating investment opportunities in the high yield and convertible bond universes. They then have the ability to leverage Osterweis' other investment teams to evaluate investment grade bonds and securitized credit sectors.

## Osterweis Capital Management, continued

### Investment Philosophy

- The Strategic Income strategy employs a multi-sector approach seeking to build a portfolio with a yield premium to the Aggregate Bond index but with similar risk. Given the firm's roots in managing capital for high net worth individuals, the strategy is focused more on capital preservation and absolute returns versus outperforming a credit index.
- The strategy will allocate mostly to high yield bonds and then augment this exposure with allocations to investment grade bonds (as well as commercial paper) when they find good relative value to high yield, and also to convertible bonds as return enhancement. Finally, the team will build the cash position when they are more cautious on the credit markets. Historically the strategy has averaged a 67% allocation to high yield.
- The investment team tends to focus on nearer term maturities as they are able to build higher conviction in their credit analysis over shorter periods. They are also very conscious of interest rate risk, especially in the current environment. Duration of the overall portfolio has averaged approximately 1.75 years, or slightly less than half of the high yield market.

### Investment Process

- While the team has the ability to invest in bank loans as well, they tend to focus on a company's traditional bonds and convertible bonds. The team performs fundamental credit analysis in which an issuers balance sheet, competitive advantage, pricing power, operating history, and management is assessed to identify which securities are expected to have both downside protection and total return potential.
- The three-person team will also discuss the current market environment, as well as risks and valuations across credit sectors to ensure the portfolio is not overly exposed to certain risks. When evaluating positions against each other for inclusion in the portfolio, the team tends to think about yield per unit of duration.
- The portfolio will be fairly concentrated in 125 to 150 issuers and at times may have large position weights of 4% to 5%. Portfolio turnover is fairly low, typically around 30% per annum.

### Portfolio Characteristics: Opportunistic Multi-Sector As of September 30, 2018

	Brandywine	Invesco	Manulife	PIMCO	<i>Bloomberg Barclays U.S. Universal</i>
<b>Portfolio Profile:</b>					
Effective Duration (years)	4.9	3.8	2.4	2.9	5.9
Yield to Maturity	3.6	5.6	4.0	7.0	3.8
Number of Holdings	65	2,214	889	5,225	16,140
Annual Turnover (%)	100	108	59	266	-
Average Credit Quality	A-	BB+	BBB	BBB+	AA
<b>Credit Quality Breakdown (%):</b>					
AAA	19	1	9	47	61
AA	17	0	5	3	4
A	19	2	10	5	12
BBB	15	14	27	9	15
BB	22	29	26	13	4
B	7	43	12	13	4
CCC & Below	2	3	2	10	1
Unrated (Includes Cash)	0	8	10	0	0
<b>Sector Exposure (%):</b>					
Treasury & Agency	14	2	7	16	37
Corporate	27	33	12	10	31
Municipal	0	0	2	0	1
MBS	18	0	2	51	25
CMBS	0	0	3	6	0
ABS	0	0	5	2	0
High Yield	20	20	26	11	0
Bank Loans	0	28	12	3	0
Convert/Pref./Equity	0	0	9	1	0
Sovereign	16	13	21	15	5
Non-Corporate	0	0	0	47	0
Other	4	2	0	0	0
Cash and Equivalents	1	4	1	-63	0



**Portfolio Characteristics: Opportunistic Credit  
As of September 30, 2018**

	Beach Point	Brigade	GoldenTree	Osterweis	<i>Bloomberg Barclays High Yield</i>
<b>Portfolio Profile:</b>					
Effective Duration (years)	3.0	1.2	1.9	1.5	3.9
Yield to Maturity	6.6	7.4	6.4	5.6	6.5
Number of Holdings	117	176	208	124	1,820
Annual Turnover (%)	102	133	110	53	-
Average Credit Quality	B	B	BB-	BB	B
<b>Credit Quality Breakdown (%):</b>					
AAA	0	0	0	0	0
AA	0	0	3	0	0
A	0	0	2	2	0
BBB	2	2	6	4	4
BB	27	10	17	20	48
B	59	56	34	43	38
CCC & Below	7	20	12	5	10
Unrated (Includes Cash)	5	12	26	26	0
<b>Sector Exposure (%):</b>					
Treasury & Agency	0	0	0	0	0
Corporate	1	0	2	5	0
Municipal	0	1	0	0	0
MBS	0	0	0	0	0
CMBS	0	1	0	0	0
ABS	0	0	7	0	0
High Yield	64	37	54	73	100
Bank Loans	30	49	16	0	0
Convt./Pref./Equity	0	4	0	9	0
CLO	1	2	11	0	0
Sovereign	0	0	0	0	0
Non-Corporate	0	0	0	0	0
Other (Gov't Related)	0	0	0	13	0
Cash and Equivalents	4	6	10	0	0

**Risk Statistics: Opportunistic Multi-Sector<sup>1</sup>**  
(As of September 30, 2018)

	Brandywine	Invesco	Manulife	PIMCO	BB U.S. Universal
Common Period Performance (%)	3.6	3.9	3.3	5.4	2.4
Best 3 Month Performance (%)	6.1	5.4	3.1	3.9	3.1
Worst 3 Month Performance (%)	-4.3	-2.5	-2.3	-1.1	-2.9
<b>Risk Measures:</b>					
Standard Deviation (%)	3.9	3.1	2.4	2.4	2.6
Tracking Error (%)	3.2	2.8	2.4	2.5	N/A
Beta	0.80	0.63	0.47	0.46	1.00
Correlation to Benchmark	0.54	0.53	0.52	0.51	1.00
Downside Deviation (%)	2.3	1.9	1.4	1.4	1.6
Upside Capture (%)	98	99	72	106	100
Downside Capture (%)	48	37	12	-9	100
<b>Risk-Adjusted Performance:</b>					
Jensen's Alpha (%)	1.6	2.2	1.9	4.1	N/A
Sharpe Ratio	0.8	1.1	1.1	2.0	0.7
Information Ratio	0.4	0.6	0.4	1.2	N/A

<sup>1</sup> Data consists of longest common period (November 2013-September 2018).

### Risk Statistics: Opportunistic Credit (As of September 30, 2018)<sup>1</sup>

	Beach Point	Brigade	GoldenTree	Osterweis	<i>Bloomberg Barclays High Yield</i>
Common Period Performance (%)	6.5	6.7	6.1	4.9	6.2
Best 3 Month Performance (%)	5.7	12.7	5.3	6.2	9.2
Worst 3 Month Performance (%)	-3.0	-8.5	-2.5	-4.4	-6.2
<b>Risk Measures:</b>					
Standard Deviation (%)	3.8	7.0	2.8	3.5	5.6
Tracking Error (%)	2.2	2.4	3.1	2.6	N/A
Beta	0.64	1.16	0.45	0.58	1.00
Correlation to Benchmark	0.95	0.94	0.92	0.92	1.00
Downside Deviation (%)	2.0	4.2	1.6	2.4	3.4
Upside Capture (%)	81	111	63	65	100
Downside Capture (%)	52	113	17	49	100
<b>Risk-Adjusted Performance:</b>					
Jensen's Alpha (%)	2.3	-0.4	2.8	1.0	N/A
Sharpe Ratio	1.5	0.8	1.9	1.2	1.0
Information Ratio	0.1	0.2	0	-0.5	N/A

<sup>1</sup> Data consists of longest common period (August 2015-September 2018).



**Trailing and Calendar Year Performance<sup>1</sup>: Opportunistic Multi-Sector**  
(As of September 30, 2018)

	Brandywine	Invesco	Manulife	PIMCO	<i>Bloomberg Barclays U.S. Universal</i>
<b>Trailing Period Returns (%):</b>					
YTD	-0.8	0.0	-1.7	-0.2	-1.4
1 year	-0.4	0.6	-1.6	1.0	-1.0
3 years	5.6	5.0	3.2	5.8	2.0
5 years	3.9	-	3.6	5.6	2.5
7 years	-	-	5.2	7.7	2.6
10 years	-	-	-	9.6	4.2
<b>Calendar Year Returns (%):</b>					
2017	5.8	5.9	5.7	8.6	4.1
2016	12.4	9.3	5.3	8.7	3.9
2015	-2.6	-1.0	1.6	2.6	0.4
2014	2.8	4.8	5.0	7.2	5.6
2013	-	-	3.4	4.8	-1.3
2012	-	-	12.7	22.2	5.5
2011	-	-	2.5	6.4	7.4
2010	-	-	-	20.5	7.2
2009	-	-	-	19.2	8.6
2008	-	-	-	-5.4	2.4

<sup>1</sup> Data shown is net of fees and taken from eVestment Alliance using the managers' proposed vehicles and fees. All performance is net of fees.



## Trailing and Calendar Year Performance<sup>1</sup>: Opportunistic Credit (As of September 30, 2018)

	Beach Point	Brigade	GoldenTree	Osterweis	<i>Bloomberg Barclays High Yield</i>
<b>Trailing Period Returns (%):</b>					
YTD	2.3	4.8	3.2	2.7	2.6
1 year	3.0	5.0	4.6	3.8	3.0
3 years	7.5	8.7	6.9	6.0	8.1
5 years	6.2	5.1	-	4.4	5.5
7 years	-	7.3	-	5.5	7.6
10 years	-	-	-	6.7	9.5
<b>Calendar Year Returns (%):</b>					
2017	7.3	7.0	7.3	6.1	7.5
2016	13.4	22.4	11.5	11.1	17.1
2015	2.1	-9.8	-	-0.8	-4.5
2014	3.1	0.9	-	1.4	2.5
2013	-	7.3	-	6.7	7.4
2012	-	17.1	-	8.7	15.8
2011	-	6.8	-	4.2	5.0
2010	-	13.6	-	10.3	15.1
2009	-	-	-	24.9	58.2
2008	-	-	-	-5.3	-26.2

<sup>1</sup> Data shown is net of fees and taken from eVestment Alliance using the managers' proposed vehicles and fees. All performance is net of fees.

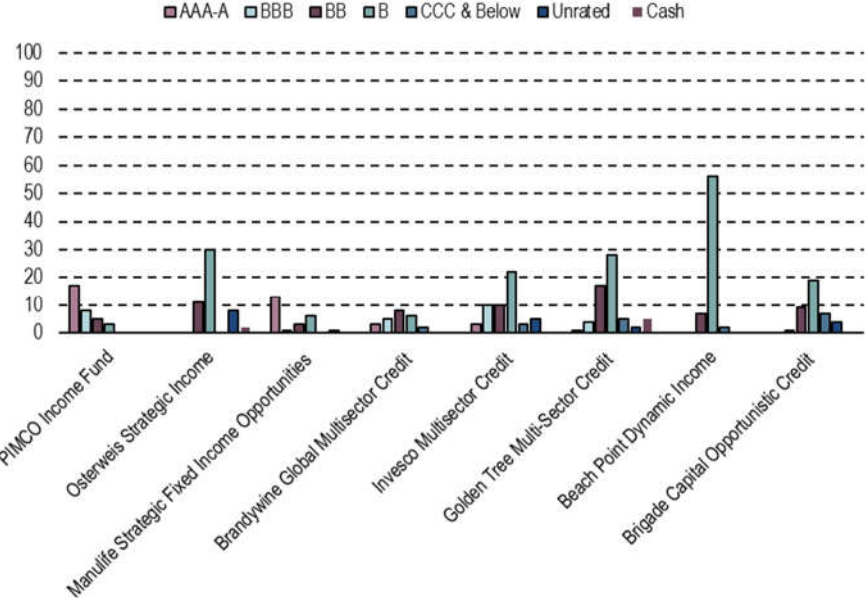
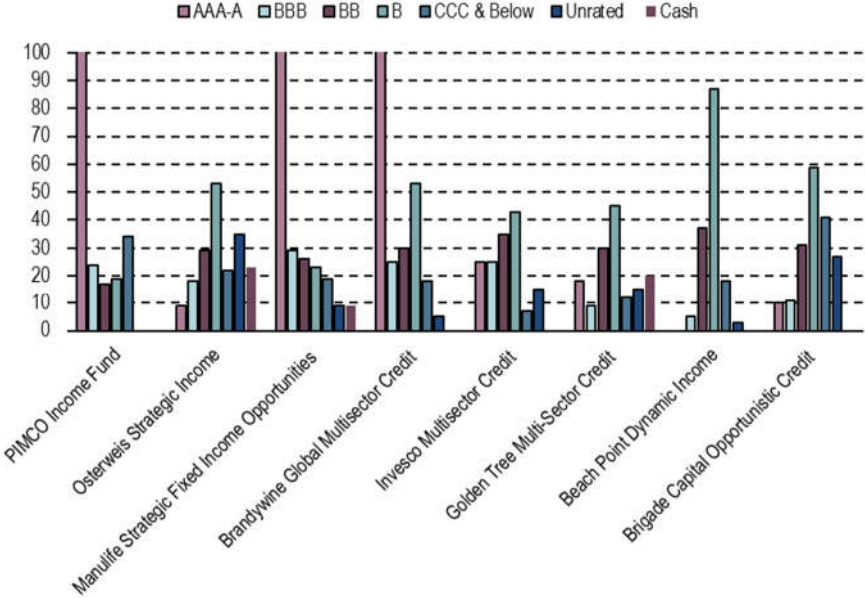


Phase I: Opportunistic Fixed Income Manager Search

**Credit Allocations: Opportunistic Multi-Sector & Opportunistic Credit**  
(As of September 30, 2018)

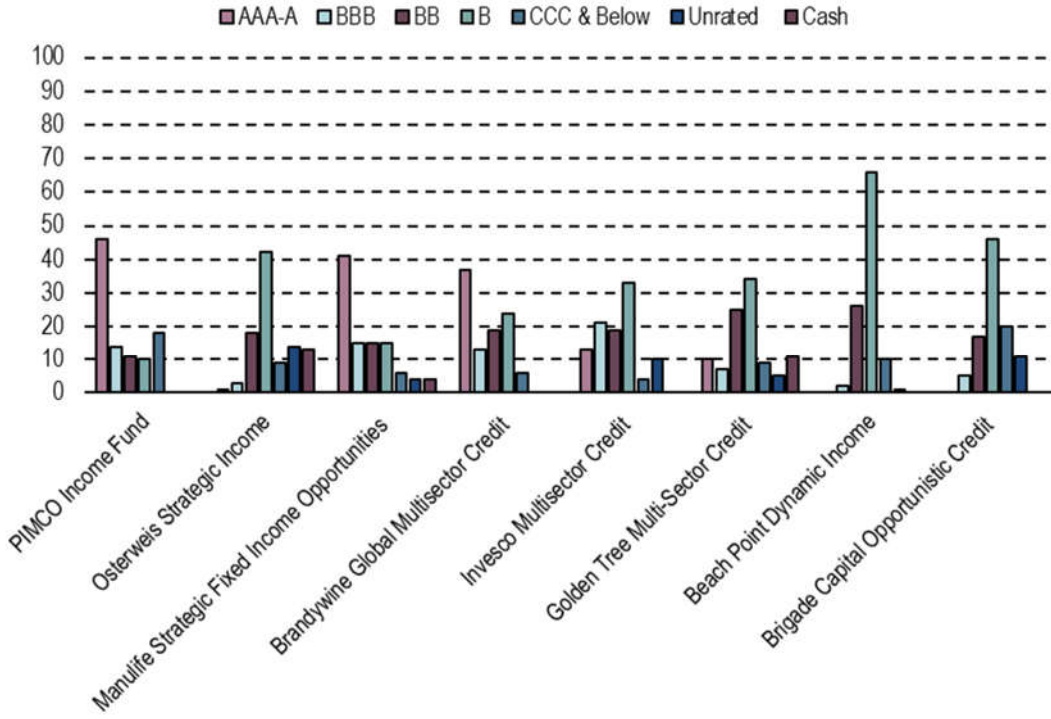
**Maximum Exposure**

**Minimum Exposure**

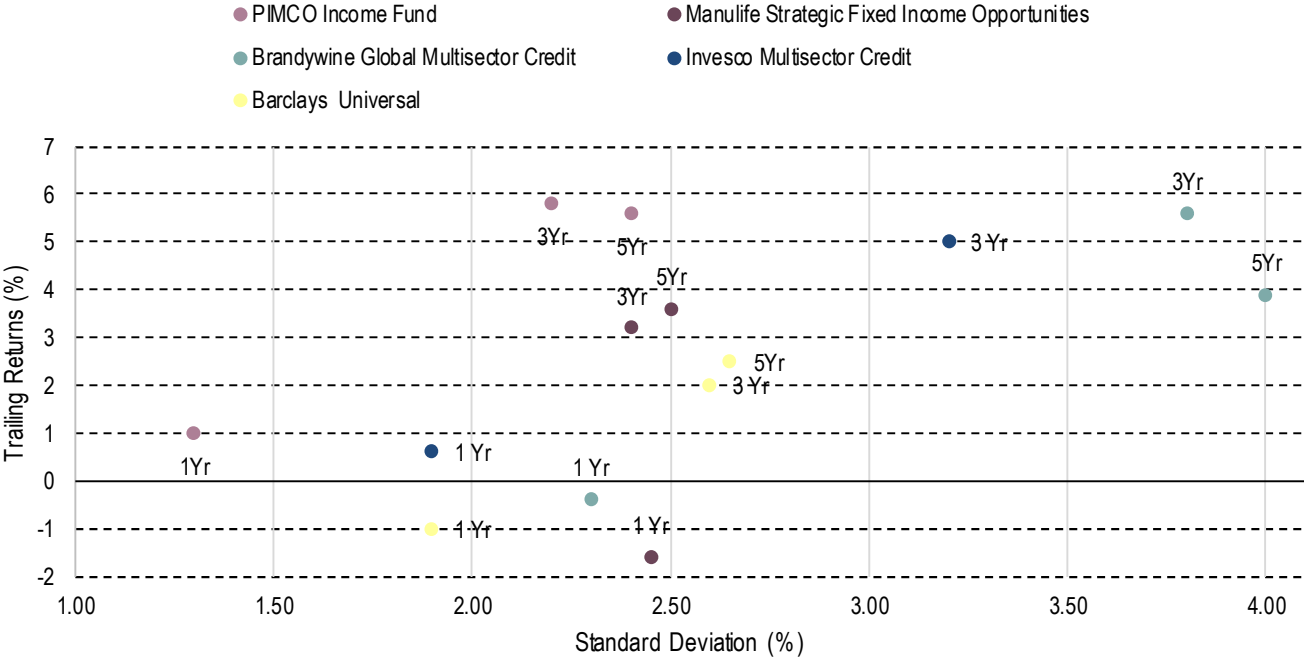


### Credit Allocations: Opportunistic Multi-Sector & Opportunistic Credit (As of September 30, 2018)

#### Average Exposure



### Risk/Return Chart: Opportunistic Multi-Sector (As of September 30, 2018)<sup>1</sup>



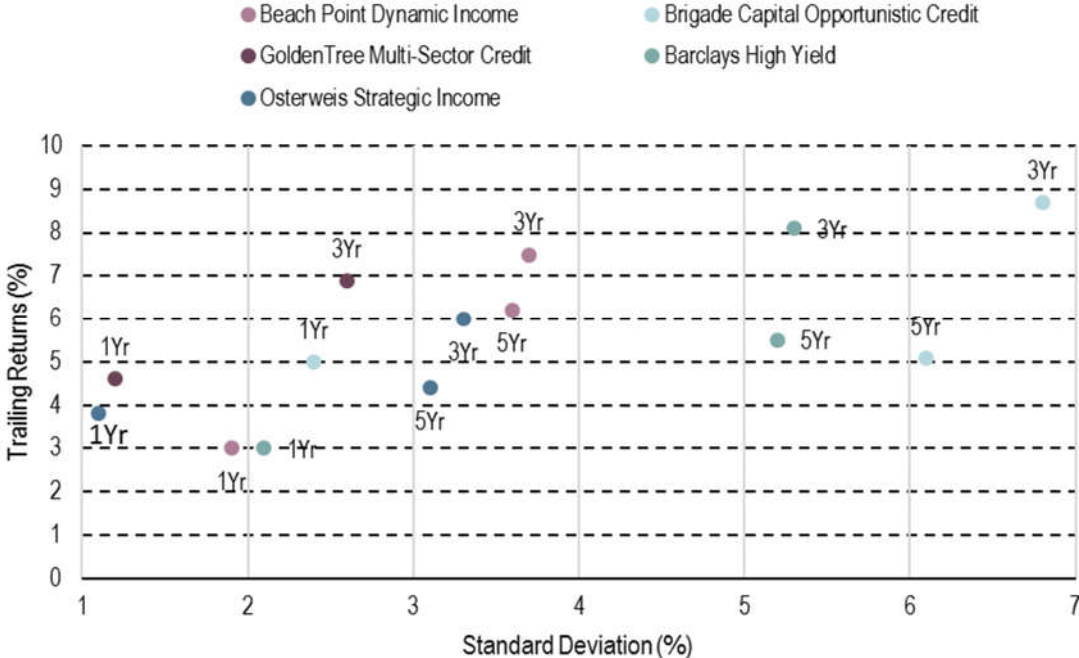
- PIMCO was the best performer on a risk-adjusted basis over the one-, three-, and five-year trailing periods.

<sup>1</sup> Invesco does not have five-year trailing performance.





### Risk/Return Chart: Opportunistic Credit (As of September 30, 2018)<sup>1</sup>



- GoldenTree was the best performer on a risk-adjusted basis over the one- and three-year trailing periods. Beach Point outperformed on a risk-adjusted basis over the five-year trailing period.

<sup>1</sup> GoldenTree does not have five-year trailing period performance.



## Correlations: Opportunistic Multi-Sector & Opportunistic Credit Common Period: August 2015-June 2018

	BHMS Core Fixed Income	Vanguard Short-Term Bond Index	PIMCO Income Fund	Osterweis Strategic Income	Manulife Strategic Fixed Income Opportunities	Brandywine Global Multisector Credit	Invesco Multisector Credit	Bloomberg Barclays U.S. Universal	Beach Point Dynamic Income	Brigade Capital Opportunistic Credit	GoldenTree Multi-Sector Credit	Bloomberg Barclays High Yield
BHMS Core Fixed Income	1.00	0.92	0.38	0.07	0.34	0.46	0.31	0.98	0.18	0.17	0.11	0.20
Vanguard Short-Term Bond Index	0.92	1.00	0.30	-0.01	0.20	0.33	0.18	0.90	0.07	0.14	0.03	0.10
PIMCO Income Fund	0.38	0.30	1.00	0.74	0.71	0.70	0.86	0.52	0.77	0.72	0.79	0.78
Osterweis Strategic Income	0.07	-0.01	0.74	1.00	0.62	0.64	0.87	0.23	0.85	0.93	0.95	0.93
Manulife Strategic Fixed Income Opportunities	0.34	0.20	0.71	0.62	1.00	0.84	0.84	0.47	0.74	0.62	0.70	0.71
Brandywine Global Multisector Credit	0.46	0.33	0.70	0.64	0.84	1.00	0.85	0.60	0.79	0.70	0.70	0.79
Invesco Multisector Credit	0.31	0.18	0.86	0.87	0.84	0.85	1.00	0.47	0.91	0.87	0.91	0.93
Bloomberg Barclays U.S. Universal	0.98	0.90	0.52	0.23	0.47	0.60	0.47	1.00	0.35	0.33	0.27	0.37
Beach Point Dynamic Income	0.18	0.07	0.77	0.85	0.74	0.79	0.91	0.35	1.00	0.85	0.89	0.95
Brigade Capital Opportunistic Credit	0.17	0.14	0.72	0.93	0.62	0.70	0.87	0.33	0.85	1.00	0.93	0.94
GoldenTree Multi-Sector Credit	0.11	0.03	0.79	0.95	0.70	0.70	0.91	0.27	0.89	0.93	1.00	0.92
Bloomberg Barclays High Yield	0.20	0.10	0.78	0.93	0.71	0.79	0.93	0.37	0.95	0.94	0.92	1.00

## Candidates Reviewed-Phase II

## Hypothetical Portfolio Returns<sup>1</sup> (As of December 31, 2018)<sup>2</sup>

As of 12/31/2018	GoldenTree (Combined w/ MCERA FI) (%)	GoldenTree & PIMCO (Combined w/ MCERA FI) (%)	PIMCO (Combined w/ MCERA FI) (%)	Bloomberg Barclays Agg (%)
TOTAL RETURN	2.37	2.37	2.38	1.89
Max 3 Month Return	2.40	2.38	2.38	3.03
Min 3 Month Return	-1.91	-2.32	-2.72	-3.17
1 Year Return	0.06	0.20	0.35	0.01
3 Year Ann Return	2.78	2.77	2.76	2.06
5 Year Ann Return	2.69	2.79	2.88	2.52

- All three portfolios outperformed the Barclays Aggregate Bond Index. Interestingly, the Barclays Aggregate exhibited a wider range of maximum and minimum three-month returns. Both the GoldenTree and PIMCO portfolios had smaller ranges compared to the Barclays Aggregate – which is likely a function how well both managers complement the existing conservative core fixed income managers, mitigating more on the downside.
- Overall, the returns amongst the three were similar, exceeding the Barclays Aggregate for trailing one, three, and five year periods. When examining rolling one-year returns within the common period, all the portfolios were able to outpace the Barclays Aggregate two-thirds of the time, indicating impressive consistency.
- Note that the worst three-month return for the GoldenTree portfolio was better than the PIMCO portfolio.

<sup>1</sup> All returns are net of fees.

<sup>2</sup> Common period is from February 1, 2013 to December 31, 2018.



### Hypothetical Portfolio Risk Metrics (As of December 31, 2018)<sup>1</sup>

As of 12/31/2018	GoldenTree (Combined w/ MCERA FI)	GoldenTree & PIMCO (Combined w/ MCERA FI)	PIMCO (Combined w/ MCERA FI)	Bloomberg Barclays Agg
<b>Risk Metrics</b>				
STD DEV	1.92%	2.04%	2.19%	2.86%
1 Year Std Dev	1.51%	1.76%	2.08%	2.98%
3 Year Ann Std Dev	1.79%	1.87%	2.00%	2.84%
5 Year Ann Std Dev	1.81%	1.88%	1.98%	2.77%
BETA	0.63	0.69	0.74	-
Tracking Error	1.23%	1.06%	0.93%	-
Correlation	0.94	0.96	0.97	-
Downside Deviation	1.27%	1.39%	1.53%	1.91%
Upside Capture	79.15%	82.62%	86.11%	-
Downside Capture	51.81%	57.14%	62.49%	-
Information Ratio	0.38	0.45	0.52	-
Modified Sharpe	1.23	1.16	1.09	0.66
Max Drawdown	-2.31%	-2.66%	-3.15%	-3.67%

- All the portfolios looked impressive vs the Barclays Aggregate in terms of risk metrics. Each portfolio was able to consistently generate meaningful outperformance with consistently lower volatility and beta. All three portfolios had less volatility vs the Barclays Aggregate when comparing standard deviation on a rolling one-year basis.

<sup>1</sup> Common period is from February 1, 2013 to December 31, 2018.



- Most of the risk-related metrics were moderately better for the GoldenTree portfolio. The tracking error was a little higher, but it is not necessarily signaling more risk as the overall standard deviation for GoldenTree was lower.
- The GoldenTree portfolio exhibited more favorable relative measures in terms of Standard Deviation, Beta, Downside Deviation, Downside Capture Ratio, Modified Sharpe, and Max Drawdown.

## Hypothetical Portfolio Additional Correlations and Negative Equity Scenario Analysis (As of December 31, 2018)<sup>1</sup>

As of 12/31/2018	GoldenTree (Combined w/ MCERA FI)	GoldenTree & PIMCO (Combined w/ MCERA FI)	PIMCO (Combined w/ MCERA FI)	Bloomberg Barclays Agg
<i>Additional Correlations</i>				
Correlation w/ S&P	0.12	0.08	0.05	-0.08
Correlation w/ S&P down months	-0.19	-0.28	-0.35	-0.31
Correlation w/ MCERA ex FI	0.25	0.22	0.18	0.04
<i>Recent Negative Equity Scenarios</i>				
4Q 2018 Sell-Off Return	0.09%	0.67%	1.26%	1.64%
Rate Panic Return (2/18)	-0.50%	-0.58%	-0.65%	-0.95%
Oil Prices Fall (11/15 - 1/16)	-0.07%	0.15%	0.38%	0.78%
China slows (6/15-8/15)	-0.66%	-0.61%	-0.56%	-0.55%
Portfolio Level Fee Estimate	0.32%	0.30%	0.27%	-

- With respect to correlations and scenario examinations, all three portfolios come close, but are not at the same level as the Barclays Aggregate. On an absolute basis, the portfolios still had very low correlations and performed well during recent equity down periods.
- PIMCO portfolio fared better in the recent scenario comparisons. Its correlation with S&P down periods was impressive, but also had the lowest fee estimate.
- It's not surprising to see that GoldenTree trailed marginally in all four periods due to a slightly higher correlation with equities.

<sup>1</sup> Common period is from February 1, 2013 to December 31, 2018.



## Portfolio Look Through

(As of December 31, 2018)

As of 12/31/18	GoldenTree (Combined w/ MCERA FI)	GoldenTree & PIMCO (Combined w/ MCERA FI)	PIMCO (Combined w/ MCERA FI)	Bloomberg Barclays Agg
Portfolio Profile:				
Effective Duration (years)	4.34	4.30	4.26	5.87
Yield to Maturity	4.17	4.01	3.84	3.28
Credit Quality Breakdown:				
AAA	55	59	62	73
AA	3	3	3	4
A	11	11	11	10
BBB	12	13	13	14
BB	4	3	3	0
B	7	6	4	0
CCC & Below	2	2	2	0
Unrated	3	2	0	0
Cash	2	1	1	0
Sector Exposure:				
Treasury & Agency	34	36	39	40
Corporate	23	23	23	24
Municipal	1	1	2	0
MBS	17	17	17	28
CMBS	0	7	13	2
ABS	4	4	4	1
High Yield	10	5	1	0
Bank Loans	4	3	2	0
Convert/Pref./Equity	0	0	1	0
CLO	3	2	1	0
Sovereign	0	0	-1	1
Non-Corporate	1	1	1	4
Other	0	2	4	0
Cash and Equivalents	2	-2	-6	0



### **Portfolio Look Through**

(As of December 31, 2018) (Continued)

- The durations of all the portfolio's were over 1.5 years shorter than the Barclays Aggregate – being short duration would benefit on a relative basis in periods of rising interest rates.
- The yields of the portfolios were also significantly higher, which would suggest possibilities of higher returns but generally comes with higher credit risk.
- All three portfolios have limited below-investment grade exposure, with the majority in the higher quality range, with limited exposure to BBB (lowest tier of investment grade).
- All three portfolios have healthy sector mixes for a U.S. fixed income perspective, with GoldenTree and PIMCO clearly delineating between CMBS and High Yield.