

**MercedCERA ADMINISTRATIVE AND INVESTMENT RETIREMENT
BOARD AGENDA
THURSDAY, SEPTEMBER 23, 2021 – 8:15 A.M.
MERCED COUNTY EMPLOYEES’ RETIREMENT ASSOCIATION**

**MERCED COUNTY ADMINISTRATION BUILDING
2222 M STREET, MERCED
LOS BANOS AND LIVINGSTON CONFERENCE ROOMS, BASEMENT
ZOOM CONFERENCE**

<https://us06web.zoom.us/j/93030195748?pwd=NGhFeGltSVhaSTlsK2JGWE83TVFvdz09>

DIAL IN NUMBER: 669-900-6833, MEETING ID: 930 3019 5748, PASSCODE: 095484

(FOR USE ONLY IF ZOOM CONNECTION MALFUNCTIONS)

TELEPHONE NUMBER: 1-310-372-7549, CONFERENCE CODE: 975839

CALL TO ORDER - 8:15 A.M.

Important Notice Regarding SARS-COV-2

In order to minimize the spread of COVID-19, the Board of Retirement is meeting at the County of Merced Administration Building conference center to provide for sufficient social distancing for the Board and members of the public. Additionally, members of the MercedCERA Board as well as members of the public may elect to participate in this meeting offsite via conference call. Members of the public may attend the meeting in person or listen to the meeting and offer public comment telephonically by calling into the telephone number provided above and entering the stated conference code. If you have any issues participating in the meeting telephonically or require reasonable accommodation for your participation, please contact MercedCERA staff at 209-726-2724. Please turn your cell phone or other electronic device to non-audible mode.

ROLL CALL

APPROVAL OF MINUTES – August 26, 2021

PUBLIC COMMENT

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

CONSENT CALENDAR

Consent matters are expected to be routine and may be acted upon, without discussion, as one unit. If an item is taken off the Consent Calendar for discussion, it will be heard as the last item(s) of the Board Action/Discussion as appropriate.

RETIREMENTS: Pursuant to Govt. Code § 31663.25 or § 31672

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. Kasper, Janet H.S.A. 19 Yrs. Svc. Eff: 08/14/2021

b. Taylor, Don	H.S.A.	19 Yrs. Svc.	Eff: 08/14/2021
c. Bagri, Jenny	H.S.A.	16 Yrs. Svc.	Eff: 08/14/2021
d. Yerrick, Patricia	Sheriff	20 Yrs. Svc.	Eff: 08/21/2021
e. Martinez, Patricia	Health	29 Yrs. Svc.	Eff: 08/14/2021
f. Wall, Walter	District Attorney	12 Yrs. Svc.	Eff: 08/16/2021
g. Heredia, Rosie	Superior Courts	13 Yrs. Svc.	Eff: 07/26/2021

YTD fiscal year 2021/2022 retirees: 19
YTD fiscal year 2020/2021 retirees: 87
YTD fiscal year 2019/2020 retirees: 105

MONTHLY BUDGET REPORT: Submitted

BOARD ACTION/DISCUSSION

1. Discussion regarding monthly performance reporting with possible action on any funds or managers - Meketa Group.
2. Discussion regarding performance reporting on alternative funds with possible action on any funds or managers – Cliffwater.
3. Discussion on Government Code Section 7514.7 Alternate Fee Reporting for MercedCERA – Cliffwater.
4. Discussion and possible action to approve the following regarding the MercedCERA Portfolio:
 - a. Asset allocation scenarios including alternatives – Meketa & Cliffwater
 - b. Discount rate – Cheiron (presentation link below)
<https://presentation.cheiron.us/presentation/view/MercedCERA%20Discount%20Rate%20Discussion,%20Sept%202021?token=JfJpqMsX0JfcUAdigiAq>
5. Discussion and possible action on Legislative Review – Staff.
6. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MercedCERA’s Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:
 - CALAPRS Principles for Trustees, September 28-30, 2021 (virtual only).
 - SACRS Fall Conference, November 9-12, 2021, Hollywood, CA (in person only – no virtual option).

INFORMATION ONLY

MercedCERA UPCOMING BOARD MEETINGS

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

- October 14, 2021
- October 28, 2021

ADJOURNMENT

The Agenda and supporting documentation, including any material that was submitted to the Merced County Employees' Retirement Association Board after the distribution of the Agenda, are available online at www.co.merced.ca.us/retirement.

All supporting documentation for Agenda items, including any material that was submitted to the retirement board after the distribution of the Agenda, is also available for public inspection Monday through Friday from 8:00 a.m. to 5:00 p.m. at the administrative office for the Merced County Employees' Retirement Association located at 3199 M Street, Merced, California 95348.

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.

Persons who require accommodation for any audio, visual or other disability or Spanish or Hmong interpretation 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. Please address your written request 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.

Spanish and Hmong interpreters are available.

Interpretes de espanol y hmong estan disponibles.

Peb muaj tug paab txhais lug Mev hab Hmoob.

**MercedCERA INVESTMENT RETIREMENT BOARD AGENDA MINUTES
THURSDAY, AUGUST 26, 2021 – 8:15 A.M.
MERCED COUNTY EMPLOYEES' RETIREMENT ASSOCIATION**

**MERCED COUNTY ADMINISTRATION BUILDING
2222 M STREET, MERCED
LOS BANOS AND LIVINGSTON CONFERENCE ROOMS, BASEMENT
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DIAL IN NUMBER: 669-900-6833, MEETING ID: 930 3019 5748, PASSCODE: 095484

(FOR USE ONLY IF ZOOM CONNECTION MALFUNCTIONS)

TELEPHONE NUMBER: 1-310-372-7549, CONFERENCE CODE: 975839

CALL TO ORDER: 8:15 A.M.

Board members present: Ryan Paskin, Al Peterson, Scott Johnston, Karen Adams, David Ness, Wendy Alvarez, Aaron Rosenberg, Michael Harris and Janey Cabral. **Counsel:** Jeff Grant. **Staff:** Kristen Santos, Martha Sanchez, Mark Harman, Sheri Villagrana, and Brenda Mojica. **Absent:** Scott Silveira.

APPROVAL OF MINUTES – August 12, 2021

The MercedCERA Board voted unanimously via roll call vote to approve the August 12, 2021 minutes as presented.

Peterson/Cabral U/A (8-0)

PUBLIC COMMENT

No comment

BOARD ACTION/DISCUSSION

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

1. Discussion and possible action on monthly performance reporting and possible action on any managers – Meketa.
No action taken.
2. Discussion on presentation of 'Analysis of MercedCERA's use of hedged assets and alternatives' – Meketa and Cliffwater.
No action taken.
3. Discussion and possible action on Legislative Update from SACRS – Staff.
The MercedCERA Board voted unanimously via roll call vote for the Plan Administrator to send a letter to the state legislators regarding AB 826.
Adams/Cabral U/A (8-0)
4. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MercedCERA's Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:
 - CALARS Principles of Pension Governance for Trustees, September 28-30, 2021 (via Zoom).
 - SACRS Fall Conference, November 9-12, 2021 (in person/virtual conference TBD).

INFORMATION ONLY

None

MercedCERA UPCOMING BOARD MEETINGS:

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

- September 9, 2021
- September 23, 2021

ADJOURNMENT

The meeting adjourned at 9:27 A.M.

Accepted By,

Trustee Name/Position	Signature	Date
Ryan Paskin/Chair		
Al Peterson/Secretary		

Non-Administrative Expenses		Original Projection	Current Projection	Expended 06/2021	Expended YTD	Bal Remaining	% Exp YTD
21800 · Investment Expenses		3,500,000.00	3,500,000.00	622,830.12	2,603,671.94	896,328.06	74%
6/2/2021	Golden Valley Engineering - 2021-05 Due Diligence - New Building			240.00			
6/2/2021	Nossaman - 2021-04 - Taconic CRE DOF III			15,688.35			
6/2/2021	Nossaman - 2021-04 - KKR Global Infrastructure Investors IV			15,397.20			
6/2/2021	Nossaman - 2021-04 - Carlyle Realty Partners IX			10,920.60			
6/2/2021	Nossaman - 2021-04 - Caxton Hedge Fund			2,902.50			
6/2/2021	Nossaman - 2021-04 - KLS Diversified Fund			1,987.20			
6/2/2021	Nossaman - 2021-04 - GTCR XIII			720.00			
6/2/2021	Cliffwater - 2021-05 Consulting			33,333.33			
6/29/2021	Mellon LC SIF - 2021-Q2 Mgt Fee			10,834.49			
6/29/2021	Mellon Dynamic - 2021-Q2 Mgt Fee			98,365.43			
6/29/2021	Acadian - 2021-Q2 Mgt Fee			32,394.00			
6/29/2021	Driehaus - 2021-Q2 Mgt Fee			33,888.00			
6/29/2021	SSgA - 2021-Q2 Mgt Fee			24,096.46			
6/29/2021	UBS TPF - 2021-Q2 Mgt Fee			72,912.35			
6/29/2021	Taconic CRE II - 2021-Q1 & Q2 Mgt Fees			37,191.78			
6/29/2021	KKR GII II - 2021-Q2 Mgt Fees			18,882.00			
6/29/2021	GSO EOF - 2021-Q1 Mgt Fee			11,605.00			
6/29/2021	GSO EOF - 2021-Q2 Mgt Fee			10,372.00			
6/29/2021	KKR GII III - Mgt Fees through 6/30/2021			69,381.00			
6/29/2021	Meketa - 2021- Q2 - Consult Serv			55,500.00			
6/29/2021	Cliffwater - 2021-06 Consulting			33,333.33			
6/29/2021	Nossaman - 2021-06 - Carlyle Realty Partners IX			3,073.50			
6/29/2021	Nossaman - 2021-05 - Caxton Hedge Fund			2,182.50			
6/29/2021	Nossaman - 2021-06 - Starwood DOF XII			135.00			
6/29/2021	Nossaman - 2021-06 - KKR Global Infrastructure Investors IV			83.70			
6/29/2021	Nossaman - 2021-05 - Summit Partners VCF V			2,070.00			
6/29/2021	Nossaman - 2021-06 - Nautic Partners			15,065.55			
6/29/2021	Nossaman - 2021-05 - Taconic CRE DOF III			55.80			
6/29/2021	Nossaman - 2021-05 - Carlyle Realty Partners IX			2,091.60			
6/29/2021	Nossaman - 2021-05 - KKR Global Infrastructure Investors IV			8,127.45			
Total 21800 · Investment Expenses				622,830.12			
21802 · Actuarial Services		150,000.00	150,000.00	35,693.50	126,834.25	23,165.75	85%
6/29/2021	Cheiron - 2021-Q2 Actuarial Services			5,348.50			
6/29/2021	Segal - 2021-01 through 2021-05 Actuarial Services			14,487.50			
6/29/2021	Segal - 2021-06 Actuarial Services			15,857.50			
Total 21802 · Actuarial Services				35,693.50			
21812 · Data Processing		90,000.00	90,000.00	7,576.81	54,434.71	35,565.29	60%
6/16/2021	Comcast - 2021-06 WiFi Chgs			251.44			
6/21/2021	2021-05 Cradlepoint Data Chgs			264.00			
6/21/2021	2021-05 IS Billing			3,350.34			
6/29/2021	2021-06 Cradlepoint Data Chgs			264.00			
6/29/2021	2021-06 IS Billing			3,447.03			
Total 21812 · Data Processing				7,576.81			

Merced County Employees' Retirement Association
 Non-Administrative Expenditures Report (Preliminary)
 For the Month and Fiscal Year Ended June 30, 2021

Non-Administrative Expenses		Original Projection	Current Projection	Expended 06/2021	Expended YTD	Bal Remaining	% Exp YTD
21834 · Legal Services		325,000.00	390,000.00	42,150.98	326,368.24	63,631.76	84%
6/7/2021	2021-06 Cost Allocation - County Counsel			7,703.21			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			8,048.50			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			4,870.50			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			4,384.50			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			3,034.00			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			2,072.00			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			1,760.00			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			541.79			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			518.58			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			186.16			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			166.53			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			129.50			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			126.02			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			70.00			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			20.00			
6/8/2021	Ted Cabral - 2021-05 Disab Legal Svcs			255.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			2,923.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			2,645.50			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			1,033.50			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			443.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			307.03			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			304.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			90.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			70.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			60.00			
6/29/2021	Ted Cabral - 2021-06 Disab Legal Svcs			1,440.00			
6/29/2021	Nossaman - 2021-04 - Gen Adv & Couns			410.90			
6/29/2021	Nossaman - 2021-04 - Litigation re AB 197			31,616.19			
6/29/2021	Nossaman - 2021-05 - Litigation re AB 197			16,201.37			
6/29/2021	Nossaman - 2021-06 - Litigation re AB 197			9,214.50			
6/29/2021	Nossaman - 2021-06 - Gen Adv and Counsel			1,291.40			
6/29/2021	Hanson Bridgett - 2021-05 Tax Compliance / Determination letter			132.30			
6/29/2021	RLI - Abatement for Nossaman AB197 Legal			(59,918.00)			
Total 21834 · Legal Services				42,150.98			
21840 · Custodial Banking Services		135,000.00	135,000.00	28,631.76	114,704.82	20,295.18	85%
6/3/2021	2021-05 NT STIF Custodial Fee			1,890.86			
6/4/2021	2021-05 Wire Fees			165.00			
6/29/2021	2021-06 Wire Fees			165.00			
6/29/2021	2021-06 NT STIF Fee			1,285.90			
6/29/2021	Northern Trust - 2021-Q2 Custody Fees			25,125.00			
Total 21840 · Custodial Banking Services				28,631.76			
22350 · Software and Technology		505,000.00	440,000.00	2,345.40	375,650.50	64,349.50	85%
6/8/2021	Digital Deployment - Apr 2021 SLA			900.00			
6/29/2021	LexisNexis - 2021-05 Chgs			272.70			
6/29/2021	Digital Deployment - June 2021 SLA			900.00			
6/29/2021	LexisNexis - 2021-06 Chgs			272.70			
Total 22350 · Software and Technology				2,345.40			
Depreciation Expense		250,000.00	250,000.00	244,175.64	248,895.06	1,104.94	
Total Non-Administrative Items		4,955,000.00	4,955,000.00	983,404.21	3,850,559.52	1,104,440.48	78%

Merced County Employees' Retirement Association
Non-Administrative Expenses Prev Year Comparison (Preliminary)
06/30/2021

Expense	<u>June 21</u>	<u>June 20</u>	<u>\$ Change</u>	<u>% Change</u>
62025 · Non-Administrative Expenses				
21800 · Investment Expenses	\$ 622,830.12	\$ 670,096.84	\$ (47,266.72)	-7.05%
21802 · Actuarial Services	35,693.50	18,392.75	17,300.75	94.06%
21812 · Data Processing	7,576.81	9,966.29	(2,389.48)	-23.98%
21834 · Legal Services	42,150.98	49,854.85	(7,703.87)	-15.45%
21840 · Custodial Banking Services	28,631.76	27,391.59	1,240.17	4.53%
22350 · Software and Technology	2,345.40	16,062.49	(13,717.09)	-85.40%
Total 62025 · Non-Administrative Expenses	<u>\$ 739,228.57</u>	<u>\$ 791,764.81</u>	<u>\$ (52,536.24)</u>	-6.64%

Merced County Employees' Retirement Association
 Capital Asset Expenditures Report (Preliminary)
 For the Month and Fiscal Year Ended June 30, 2021

Capital Assets Expenditures	Adopted	Current Budget	Expended 06/2021	Expended YTD	Bal Remaining	% Exp YTD
86261 - Copier/Printer Lease Buyout	7,500.00	7,500.00		6,537.11	962.89	87%
Total 86261 - Copier/Printer Lease Buyout			-			
86337 - HVAC Repair and Maintenance	50,000.00	50,000.00	-	19,760.00	30,240.00	40%
Total 86337 - HVAC Repair and Maintenance			-			
Total Capital Assets Expenditures	57,500.00	57,500.00	-	26,297.11	31,202.89	46%

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month and Fiscal Year Ended June 30, 2021

Administrative Budget	Adopted	Current Budget	Expended 06/2021	Expended YTD	Bal Remaining	% Exp YTD
10110 · Salaries & Wages	1,305,000.00	1,305,000.00	123,500.62	1,159,346.02	145,653.98	89%
6/11/2021 Office Payroll - 2021 PP 12			46,950.27			
6/25/2021 Office Payroll - 2021 PP 13			42,251.30			
6/29/2021 Office Payroll - 2021 PP 14 - FY2021 Portion			34,299.05			
Total 10110 · Salaries & Wages			<u>123,500.62</u>			
20600 · Communications	4,500.00	5,500.00	987.10	5,307.75	192.25	97%
6/8/2021 AT&T - 2021-05 Chgs			147.09			
6/21/2021 2021-05 Cell Phone Chgs			88.00			
6/21/2021 2021-05 Comm Chgs			223.45			
6/29/2021 2021-06 Cell Phone Chgs			132.00			
6/29/2021 AT&T - 2021-06 Chgs			146.28			
6/29/2021 2021-06 Comm Chgs			250.28			
Total 20600 · Communications			<u>987.10</u>			
20900 · Household Expense	12,500.00	12,500.00	854.00	10,614.36	1,885.64	85%
6/8/2021 Bob's Pest Control - 2021-05 Svcs			40.00			
6/22/2021 Geil - 2021-06 Janitorial Svc			774.00			
6/29/2021 Bob's Pest Control - 2021-06 Svcs			40.00			
Total 20900 · Household Expense			<u>854.00</u>			
21000 · Insurance - Other	85,000.00	85,000.00	-	80,339.00	4,661.00	95%
Total 21000 · Insurance - Other			<u>-</u>			
21301 · Maintenance Structure Improvement	20,900.00	20,900.00	725.31	12,156.34	8,743.66	58%
6/21/2021 2021-05/6 DPW Charges			99.87			
6/29/2021 2021-06 DPW Charges			285.44			
6/29/2021 Yard Masters - 2021-06 Landscape Maint			340.00			
Total 21301 · Maintenance Structure Improvement			<u>725.31</u>			
21500 · Membership	7,500.00	7,500.00	-	5,870.00	1,630.00	78%
Total 21500 · Membership			<u>-</u>			
21700 · Office Expense - General	18,000.00	28,000.00	1,334.25	27,603.87	396.13	99%
6/1/2021 REMCO - Abatement for Data Compilation & Mailing Labels			(45.00)			
6/2/2021 First Choice - 2021-05 Water Svc			9.05			
6/22/2021 2021-05 Pacific Shredding			10.00			
6/22/2021 2021-05 Office Depot			365.19			
6/23/2021 First Choice - 2021-05 Water Cooler Rental			7.00			
6/29/2021 First Choice - 2021-06 Water Cooler Rental			7.00			
6/29/2021 2021-06 Stores Billing			420.54			
6/29/2021 Ingraham Trophies - 2021-06 Name Plates			378.88			
6/29/2021 Uline - Cleaning and Sanitary Supplies			172.54			
6/29/2021 First Choice - 2021-06 Water Svc			9.05			
Total 21700 · Office Expense - General			<u>1,334.25</u>			

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month and Fiscal Year Ended June 30, 2021

Administrative Budget	Adopted	Current Budget	Expended 06/2021	Expended YTD	Bal Remaining	% Exp YTD
21710 · Office Expense - Postage	15,750.00	16,750.00	2,441.37	16,497.59	252.41	98%
6/21/2021 2021-05 IS Postage Chgs			1,024.76			
6/22/2021 2021-05 Mailroom Chgs			212.21			
6/29/2021 2021-06 Mailroom Chgs			181.44			
6/29/2021 2021-06 IS Postage Chgs			1,022.96			
Total 21710 · Office Expense - Postage			<u>2,441.37</u>			
21805 · Audits	60,000.00	63,000.00	5,795.80	62,836.87	163.13	100%
6/1/2021 MGO - Consulting Srvc Thru 04/30/2021			2,844.00			
6/22/2021 Brown Armstrong - FY 20-21 Audit Progress Through 2021-05			1,109.50			
6/29/2021 Brown Armstrong - FY 20-21 Audit Progress Through 2021-06			1,842.30			
Total 21805 · Audits			<u>5,795.80</u>			
21808 · Board Membership	18,000.00	18,000.00	3,000.00	11,100.00	6,900.00	62%
6/1/2021 2021-04 Bd Mtgs			200.00			
6/1/2021 2021-04 Bd Mtgs			300.00			
6/1/2021 2021-04 Bd Mtgs			300.00			
6/1/2021 2021-04 Bd Mtgs			300.00			
6/29/2021 2021-06 Bd Mtgs			200.00			
6/29/2021 2021-06 Bd Mtgs			200.00			
6/29/2021 2021-05 Bd Mtgs			200.00			
6/29/2021 2021-05 Bd Mtgs			200.00			
6/29/2021 2021-05 Bd Mtgs			200.00			
6/29/2021 2021-06 Bd Mtgs			200.00			
6/29/2021 2021-06 Bd Mtgs			200.00			
6/29/2021 2021-06 Bd Mtgs			100.00			
6/29/2021 2021-05 Bd Mtgs			100.00			
6/29/2021 2021-05 Sub Comm Mtgs			100.00			
6/29/2021 2021-05 Bd Mtgs			100.00			
6/29/2021 2021-04 Bd Mtgs			100.00			
Total 21808 · Board Membership			<u>3,000.00</u>			
21811 · Court Reporters	2,000.00	2,000.00	-	-	2,000.00	0%
Total 21811 · Court Reporters			<u>-</u>			
21816 · Medical Services	80,000.00	69,000.00	-	15.00	68,985.00	0%
Total 21816 · Medical Services			<u>-</u>			
21872 · Investigations	1,000.00	1,000.00	-	-	1,000.00	0%
Total 21872 · Investigations			<u>-</u>			
21900 · Publications & Legal Notices	4,500.00	4,500.00	-	3,321.25	1,178.75	74%
Total 21900 · Publications & Legal Notices			<u>-</u>			
22300 · Spec Dept Exp - Other	500.00	500.00	-	6.14	493.86	1%
Total 22300 · Spec Dept Exp - Other			<u>-</u>			

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month and Fiscal Year Ended June 30, 2021

Administrative Budget	Adopted	Current Budget	Expended 06/2021	Expended YTD	Bal Remaining	% Exp YTD
22310 · Election Expense	10,000.00	21,000.00	-	20,938.65	61.35	100%
Total 22310 · Election Expense			-			
22327 · Spec Dept Exp - Cost Allocation	43,005.00	43,005.00	3,002.17	36,190.04	6,814.96	84%
6/7/2021 2021-06 Cost Allocation			3,002.17			
Total 22327 · Spec Dept Exp - Cost Allocation			3,002.17			
22500 · Transportation & Travel	400.00	400.00	79.30	172.05	227.95	43%
6/29/2021 2021-05 - 2021-06 Mail Runs			79.30			
Total 22500 · Transportation & Travel			79.30			
22505 · Trans & Travel - Staff Development	7,500.00	7,500.00	-	80.00	7,420.00	1%
Total 22505 · Trans & Travel - Staff Development			-			
22515 · Trans & Travel - In State	50,000.00	32,000.00	650.00	2,993.92	29,006.08	9%
6/15/2021 CALAPRS - 2021-06 Virtual Benefits RT			50.00			
6/22/2021 CALAPRS - 2021-06 Virtual Benefits RT			50.00			
6/23/2021 CALAPRS - 2021-06 Virtual Benefits RT			50.00			
6/29/2021 CALAPRS - 2020-09 Virtual Admin Institute			500.00			
Total 22515 · Trans & Travel - In State			650.00			
22516 · Trans & Travel - Out of State	10,000.00	10,000.00	-	-	10,000.00	0%
Total 22516 · Trans & Travel - Out of State			-			
22600 · Utilities	15,000.00	18,000.00	3,090.96	17,850.87	149.13	99%
6/9/2021 PG&E - 2021-05 Svcs			830.84			
6/16/2021 City of Merced - 2021-05 WS&G			468.18			
6/29/2021 City of Merced - 2021-06 WS&G			438.99			
6/29/2021 PG&E - 2021-06 Svcs			1,352.95			
Total 22600 · Utilities			3,090.96			
Depreciation Expense	23,000.00	23,000.00	15,657.36	15,657.36	7,342.64	
Total Administrative Budget	1,794,055.00	1,794,055.00	161,118.24	1,488,897.08	305,157.92	83%

Merced County Employees' Retirement Association
 Non-Administrative Expenditures Report (Preliminary)
 For the Month Ended July 31, 2021

Non-Administrative Expenses	Original Projection	Current Projection	Expended 07/2021	Expended YTD	Bal Remaining	% Exp YTD
21800 · Investment Expenses	3,250,000.00	3,250,000.00	98,395.00	98,395.00	3,151,605.00	3%
7/9/2021 GSO EOF - Operating Fund Expenses			5,486.00			
7/9/2021 GSO EOF - Credit Facility Paydown			35,136.00			
7/20/2021 Barrow Hanley - 2021-Q3 Mgt Fee			57,773.00			
Total 21800 · Investment Expenses			<u>98,395.00</u>			
21802 · Actuarial Services	150,000.00	150,000.00	-	-	150,000.00	0%
Total 21802 · Actuarial Services			<u>-</u>			
21812 · Data Processing	90,000.00	90,000.00	251.44	251.44	89,748.56	0%
6/16/2021 Comcast - 2021-07 WiFi Chgs			251.44			
Total 21812 · Data Processing			<u>251.44</u>			
21834 · Legal Services	365,000.00	365,000.00	-	-	365,000.00	0%
Total 21834 · Legal Services			<u>-</u>			
21840 · Custodial Banking Services	135,000.00	135,000.00	28,631.76	28,631.76	106,368.24	21%
Total 21840 · Custodial Banking Services			<u>28,631.76</u>			
22350 · Software and Technology	425,000.00	425,000.00	118,357.16	118,357.16	306,642.84	28%
7/1/2021 CPAS - Annual Support FY21-22 Q1 & Q2 Portion			81,000.00			
7/1/2021 CPAS - Annual Maint FY21-22 Q1 & Q2 Portion			11,982.96			
7/1/2021 IBM - 2021-2022 Cognos License			16,747.20			
7/8/2021 CPAS - 2021-07 Hosting			6,107.00			
7/21/2021 Digital Deployment - July 2021 SLA			900.00			
7/22/2021 Intuit - 2021-2022 QuickBooks Online			1,620.00			
Total 22350 · Software and Technology			<u>118,357.16</u>			
Depreciation Expense	250,000.00	250,000.00	-	-	250,000.00	
Total Non-Administrative Items	4,665,000.00	4,665,000.00	217,003.60	245,635.36	4,419,364.64	5%

Merced County Employees' Retirement Association
Non-Administrative Expenses Prev Year Comparison (Preliminary)
07/31/2021

Expense	<u>July 21</u>	<u>July 20</u>	<u>\$ Change</u>	<u>% Change</u>
62025 · Non-Administrative Expenses				
21800 · Investment Expenses	\$ 98,395.00	\$ 66,237.00	\$ 32,158.00	48.55%
21802 · Actuarial Services	-	-	-	0.00%
21812 · Data Processing	251.44	-	251.44	100.00%
21834 · Legal Services	-	-	-	0.00%
21840 · Custodial Banking Services	-	-	-	0.00%
22350 · Software and Technology	118,357.16	138,208.70	(19,851.54)	-14.36%
Total 62025 · Non-Administrative Expenses	<u>\$ 217,003.60</u>	<u>\$ 204,445.70</u>	<u>\$ 12,557.90</u>	6.14%

Merced County Employees' Retirement Association
 Capital Asset Expenditures Report (Preliminary)
 For the Month Ended July 31, 2021

Capital Assets Expenditures	Adopted	Current Budget	Expended 07/2021	Expended YTD	Bal Remaining	% Exp YTD
81386 - Cubicle Expansion	18,500.00	18,500.00		6,537.11	11,962.89	35%
Total 81386 - Cubicle Expansion			-			
Total Capital Assets Expenditures	18,500.00	18,500.00	-	6,537.11	11,962.89	35%

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month Ended July 31, 2021

Administrative Budget	Adopted	Current Budget	Expended 07/2021	Expended YTD	Bal Remaining	% Exp YTD
10110 - Salaries & Wages	1,650,000.00	1,650,000.00	51,499.78	51,499.78	1,598,500.22	3%
7/9/2021 Office Payroll - 2021 PP 14 - FY2022 Portion			8,574.76			
7/23/2021 Office Payroll - 2021 PP 15			42,925.02			
Total 10110 - Salaries & Wages			<u>51,499.78</u>			
20600 - Communications	7,100.00	7,100.00	-	-	7,100.00	0%
Total 20600 - Communications			<u>-</u>			
20900 - Household Expense	13,500.00	13,500.00	69.38	69.38	13,430.62	1%
7/1/2021 ADT - 2021-07 Security Svcs			69.38			
Total 20900 - Household Expense			<u>69.38</u>			
21000 - Insurance - Other	90,000.00	90,000.00	82,122.00	82,122.00	7,878.00	91%
7/1/2021 The Hartford - 2021-2022 Business Owners Policy			2,843.00			
7/8/2021 Alliant Insurance - 2021-2022 Fiduciary Liability Insurance			79,279.00			
Total 21000 - Insurance - Other			<u>82,122.00</u>			
21301 - Maintenance Structure Improvement	19,000.00	19,000.00	-	-	19,000.00	0%
Total 21301 - Maintenance Structure Improvement			<u>-</u>			
21500 - Membership	7,500.00	7,500.00	4,000.00	4,000.00	3,500.00	53%
7/29/2021 SACRS - 2021-2022 Membership Dues			4,000.00			
Total 21500 - Membership			<u>4,000.00</u>			
21700 - Office Expense - General	18,000.00	18,000.00	-	-	18,000.00	0%
Total 21700 - Office Expense - General			<u>-</u>			
21710 - Office Expense - Postage	16,500.00	16,500.00	-	-	16,500.00	0%
Total 21710 - Office Expense - Postage			<u>-</u>			
21805 - Audits	90,000.00	90,000.00	-	-	90,000.00	0%
Total 21805 - Audits			<u>-</u>			

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month Ended July 31, 2021

Administrative Budget	Adopted	Current Budget	Expended 07/2021	Expended YTD	Bal Remaining	% Exp YTD
21808 · Board Membership	18,000.00	18,000.00	-	-	18,000.00	0%
Total 21808 · Board Membership			-			
21811 · Court Reporters	2,000.00	2,000.00	-	-	2,000.00	0%
Total 21811 · Court Reporters			-			
21816 · Medical Services	25,000.00	25,000.00	-	-	25,000.00	0%
Total 21816 · Medical Services			-			
21872 · Investigations	1,000.00	1,000.00	-	-	1,000.00	0%
Total 21872 · Investigations			-			
21900 · Publications & Legal Notices	4,500.00	4,500.00	3,172.19	3,172.19	1,327.81	70%
7/1/2021 GASB 2021-2023 Subscription			287.00			
7/8/2021 Dow Jones - 2021-2022 Wall Street Journal Online Subscription			2,885.19			
Total 21900 · Publications & Legal Notices			3,172.19			
22300 · Spec Dept Exp - Other	500.00	500.00	-	-	500.00	0%
Total 22300 · Spec Dept Exp - Other			-			
22310 · Election Expense	20,000.00	20,000.00	-	-	20,000.00	0%
Total 22310 · Election Expense			-			
22327 · Spec Dept Exp - Cost Allocation	27,000.00	27,000.00	-	-	27,000.00	0%
Total 22327 · Spec Dept Exp - Cost Allocation			-			
22500 · Transportation & Travel	400.00	400.00	-	-	400.00	0%
Total 22500 · Transportation & Travel			-			
22505 · Trans & Travel - Staff Development	4,000.00	4,000.00	-	-	4,000.00	0%
Total 22505 · Trans & Travel - Staff Development			-			

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month Ended July 31, 2021

Administrative Budget	Adopted	Current Budget	Expended 07/2021	Expended YTD	Bal Remaining	% Exp YTD
22515 · Trans & Travel - In State	35,000.00	35,000.00	1,000.00	1,000.00	34,000.00	3%
7/1/2021 SACRS/UC Berkeley 2021 Program			500.00			
7/1/2021 SACRS/UC Berkeley 2021 Program			500.00			
Total 22515 · Trans & Travel - In State			1,000.00			
22516 · Trans & Travel - Out of State	7,500.00	7,500.00	-	-	7,500.00	0%
Total 22516 · Trans & Travel - Out of State			-			
22600 · Utilities	17,000.00	17,000.00	-	-	17,000.00	0%
Total 22600 · Utilities			-			
Depreciation Expense	23,000.00	23,000.00	-	-	23,000.00	
Total Administrative Budget	2,096,500.00	2,096,500.00	141,863.35	141,863.35	1,954,636.65	7%

Merced County Employees' Retirement Association
 Non-Administrative Expenditures Report (Preliminary)
 For the Month Ended August 31, 2021

Non-Administrative Expenses	Original Projection	Current Projection	Expended 08/2021	Expended YTD	Bal Remaining	% Exp YTD
21800 · Investment Expenses	3,250,000.00	3,250,000.00	142,122.33	240,517.33	3,009,482.67	7%
8/4/2021 GSO EOF - Credit Facility Paydown			108,789.00			
8/6/2021 Cliffwater - 2021-07 PE & HF Consulting			33,333.33			
Total 21800 · Investment Expenses			<u>142,122.33</u>			
21802 · Actuarial Services	150,000.00	150,000.00	-	-	150,000.00	0%
Total 21802 · Actuarial Services			<u>-</u>			
21812 · Data Processing	90,000.00	90,000.00	4,645.67	4,897.11	85,102.89	5%
8/18/2021 2021-07 Cradlepoint Data Chgs			264.00			
8/23/2021 2021-07 IS Billing			4,123.86			
8/26/2021 Comcast - 2021-09 WiFi Chgs			257.81			
Total 21812 · Data Processing			<u>4,645.67</u>			
21834 · Legal Services	365,000.00	365,000.00	41,908.39	41,908.39	323,091.61	11%
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			629.50			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			1,130.00			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			74.00			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			826.00			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			300.50			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			186.04			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			593.50			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			5,885.00			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			179.17			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			5,878.57			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			329.00			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			2,590.00			
8/10/2021 Ted Cabral - 2021-07 Disab Legal Svcs			60.00			
8/25/2021 Nossaman - 2021-07 AB 197 Legal			12,712.95			
8/31/2021 2021-07 Cost Allocation - County Counsel			5,267.08			
8/31/2021 2021-07 Cost Allocation - County Counsel			5,267.08			
Total 21834 · Legal Services			<u>41,908.39</u>			
21840 · Custodial Banking Services	135,000.00	135,000.00	1,082.69	1,082.69	133,917.31	1%
8/4/2021 2021-07 Northern Trust STIF Custodial Fee			917.69			
8/18/2021 2021-07 Wire Fees			165.00			
Total 21840 · Custodial Banking Services			<u>1,082.69</u>			
22350 · Software and Technology	425,000.00	425,000.00	48,887.43	167,244.59	257,755.41	39%
8/10/2021 LexisNexis - 2021-07 Chgs			525.20			
8/10/2021 Digital Deployment - July 2021 SLA			900.00			
8/10/2021 Digital Deployment - Website Development Svcs			33,432.50			
8/13/2021 LifeStatus 360 - FY 21-22 Death Audit Report			620.00			
8/13/2021 Spriggs - 2021-Q3 BizHub Base Rate Charge			1,061.83			
8/23/2021 Domain.com - URL Purchase			133.90			
8/25/2021 CPAS - 2021-09 Hosting			6,107.00			
8/26/2021 CPAS - 2021-08 Hosting			6,107.00			
Total 22350 · Software and Technology			<u>48,887.43</u>			
Depreciation Expense	250,000.00	250,000.00	-	-	250,000.00	
Total Non-Administrative Items	4,665,000.00	4,665,000.00	238,646.51	455,650.11	4,209,349.89	10%

Merced County Employees' Retirement Association
Non-Administrative Expenses Prev Year Comparison (Preliminary)
08/31/2021

Expense	<u>August 21</u>	<u>August 20</u>	<u>\$ Change</u>	<u>% Change</u>
62025 · Non-Administrative Expenses				
21800 · Investment Expenses	\$ 142,122.33	\$ 165,008.27	\$ (22,885.94)	-13.87%
21802 · Actuarial Services	-	(367.50)	367.50	100.00%
21812 · Data Processing	4,645.67	6,577.63	(1,931.96)	-29.37%
21834 · Legal Services	41,908.39	27,444.41	14,463.98	52.70%
21840 · Custodial Banking Services	1,082.69	1,398.90	(316.21)	-22.60%
22350 · Software and Technology	48,887.43	43,373.95	5,513.48	12.71%
Total 62025 · Non-Administrative Expenses	<u>\$ 238,646.51</u>	<u>\$ 243,435.66</u>	<u>\$ (4,789.15)</u>	-1.97%

Merced County Employees' Retirement Association
 Capital Asset Expenditures Report (Preliminary)
 For the Month Ended August 31, 2021

Capital Assets Expenditures	Adopted	Current Budget	Expended 08/2021	Expended YTD	Bal Remaining	% Exp YTD
81386 - Cubicle Expansion	18,500.00	18,500.00		6,537.11	11,962.89	35%
Total 81386 - Cubicle Expansion			-			
Total Capital Assets Expenditures	18,500.00	18,500.00	-	6,537.11	11,962.89	35%

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month Ended August 31, 2021

Administrative Budget	Adopted	Current Budget	Expended 08/2021	Expended YTD	Bal Remaining	% Exp YTD
10110 - Salaries & Wages	1,650,000.00	1,650,000.00	89,947.91	141,447.69	1,508,552.31	9%
8/6/2021 Office Payroll - 2021 PP 16			45,188.16			
8/20/2021 Office Payroll - 2021 PP 17			44,759.75			
Total 10110 · Salaries & Wages			89,947.91			
20600 - Communications	7,100.00	7,100.00	520.43	520.43	6,579.57	7%
8/5/2021 AT&T - 2021-07 Chgs			146.18			
8/18/2021 2021-07 Comm Chgs			242.25			
8/18/2021 2021-07 Cell Chgs			132.00			
Total 20600 · Communications			520.43			
20900 - Household Expense	13,500.00	13,500.00	1,776.76	1,846.14	11,653.86	14%
8/10/2021 Bob's Pest Control - 2021-07 Svcs			40.00			
8/24/2021 Geil Enterprises - 2021-08 Janitorial Svcs			774.00			
8/25/2021 Geil Enterprises - 2021-07 Janitorial Svcs			774.00			
8/26/2021 ADT - 2021-08 Security Svcs			94.38			
8/26/2021 ADT - 2021-09 Security Svcs			94.38			
Total 20900 · Household Expense			1,776.76			
21000 - Insurance - Other	90,000.00	96,000.00	13,674.00	95,796.00	204.00	100%
8/5/2021 PRISM - FY 21-22 Master Crime Policy			13,674.00			
Total 21000 · Insurance - Other			13,674.00			
21301 - Maintenance Structure Improvement	19,000.00	19,000.00	1,734.65	1,734.65	17,265.35	9%
8/5/2021 Yard Masters - 2021-07 Landscape Maint			340.00			
8/9/2021 Yard Masters - 2021-07 Cut & removal of tree limb			150.00			
8/16/2021 Modern Air - Inv 106382 - A/C Diagnostic & Repairs			805.65			
8/16/2021 Modern Air - Inv 106456 - A/C Diagnostic			99.00			
8/24/2021 Yard Masters - 2021-08 Landscape Maint			340.00			
Total 21301 · Maintenance Structure Improvement			1,734.65			
21500 - Membership	7,500.00	7,500.00	4,000.00	4,000.00	3,500.00	53%
Total 21500 · Membership			-			
21700 - Office Expense - General	18,000.00	18,000.00	256.49	256.49	17,743.51	1%
8/4/2021 First Choice - 2021-07 Water Svc			15.93			
8/11/2021 First Choice - 2021-07 Water Cooler Rental			7.00			
8/23/2021 2021-07 Stores Billing			217.63			
8/25/2021 First Choice - 2021-08 Water Svc			15.93			
Total 21700 · Office Expense - General			256.49			

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month Ended August 31, 2021

Administrative Budget	Adopted	Current Budget	Expended 08/2021	Expended YTD	Bal Remaining	% Exp YTD
21710 · Office Expense - Postage	16,500.00	16,500.00	1,311.36	1,311.36	15,188.64	8%
8/20/2021 2021-07 Mailroom Chgs			288.03			
8/23/2021 2021-07 IS Postage			1,023.33			
Total 21710 · Office Expense - Postage			<u>1,311.36</u>			
21805 · Audits	90,000.00	90,000.00	-	-	90,000.00	0%
Total 21805 · Audits			<u>-</u>			
21808 · Board Membership	18,000.00	18,000.00	-	-	18,000.00	0%
Total 21808 · Board Membership			<u>-</u>			
21811 · Court Reporters	2,000.00	2,000.00	-	-	2,000.00	0%
Total 21811 · Court Reporters			<u>-</u>			
21816 · Medical Services	25,000.00	19,000.00	-	-	19,000.00	0%
Total 21816 · Medical Services			<u>-</u>			
21872 · Investigations	1,000.00	1,000.00	-	-	1,000.00	0%
Total 21872 · Investigations			<u>-</u>			
21900 · Publications & Legal Notices	4,500.00	4,500.00	332.10	3,504.29	995.71	78%
8/16/2021 Merced Sun Star - 2021-2022 Subscription			332.10			
Total 21900 · Publications & Legal Notices			<u>332.10</u>			
22300 · Spec Dept Exp - Other	500.00	500.00	-	-	500.00	0%
Total 22300 · Spec Dept Exp - Other			<u>-</u>			

Merced County Employees' Retirement Association
Administrative Expenditures Report (Preliminary)
For the Month Ended August 31, 2021

Administrative Budget	Adopted	Current Budget	Expended 08/2021	Expended YTD	Bal Remaining	% Exp YTD
22310 · Election Expense	20,000.00	20,000.00	-	-	20,000.00	0%
Total 22310 · Election Expense			-			
22327 · Spec Dept Exp - Cost Allocation	27,000.00	27,000.00	4,467.00	4,467.00	22,533.00	17%
8/31/2021 2021-07 Cost Allocation			2,233.50			
8/31/2021 2021-08 Cost Allocation			2,233.50			
Total 22327 · Spec Dept Exp - Cost Allocation			4,467.00			
22500 · Transportation & Travel	400.00	400.00	-	-	400.00	0%
Total 22500 · Transportation & Travel			-			
22505 · Trans & Travel - Staff Development	4,000.00	4,000.00	-	-	4,000.00	0%
Total 22505 · Trans & Travel - Staff Development			-			
22515 · Trans & Travel - In State	35,000.00	35,000.00	1,050.00	2,050.00	32,950.00	6%
8/4/2021 CALAPRS - Virtual Benefits Round Table			50.00			
8/4/2021 CALAPRS - Virtual Principles for Trustees 2021			500.00			
8/4/2021 CALAPRS - Virtual Benefits Round Table			50.00			
8/4/2021 CALAPRS - Virtual Benefits Round Table			50.00			
8/10/2021 CALAPRS - Disability Staff Training			100.00			
8/10/2021 CALAPRS - Disability Staff Training			100.00			
8/10/2021 CALAPRS - Disability Staff Training			100.00			
8/25/2021 CALAPRS - 2021-09 Accountants Round Table			100.00			
Total 22515 · Trans & Travel - In State			1,050.00			
22516 · Trans & Travel - Out of State	7,500.00	7,500.00	-	-	7,500.00	0%
Total 22516 · Trans & Travel - Out of State			-			
22600 · Utilities	17,000.00	17,000.00	2,125.24	2,125.24	14,874.76	13%
8/5/2021 PG&E - 2021-07 Svcs			1,662.85			
8/16/2021 City of Merced - 2021-07 WS&G			462.39			
Total 22600 · Utilities			2,125.24			
Depreciation Expense	23,000.00	23,000.00	-	-	23,000.00	
Total Administrative Budget	2,096,500.00	2,096,500.00	117,195.94	259,059.29	1,837,440.71	12%

Merced County Employees' Retirement Association
Quarterly Expense Report (Preliminary)
For the Fiscal Quarter and Fiscal Year Ended June 30, 2021

Non-Administrative Projection													
		Current									Remaining		
		Projection	Q1 Expended	Q1 %	Q2 Expended	Q2 %	Q3 Expended	Q3 %	Q4 Expended	Q4 %	Total Expended	Projected	% Exp
21800	Investment Expenses	\$ 3,500,000.00	\$ 268,754.15	8%	\$ 660,846.40	19%	\$ 452,746.87	13%	\$ 1,221,324.52	35%	\$ 2,603,671.94	\$ 896,328.06	74%
21802	Actuarial Services	150,000.00	(367.50)	0%	45,971.25	31%	34,134.50	23%	47,096.00	31%	126,834.25	23,165.75	85%
21812	Data Processing	90,000.00	10,893.72	12%	12,603.37	14%	13,852.81	15%	17,084.81	19%	54,434.71	35,565.29	60%
21834	Legal Services	390,000.00	63,290.53	16%	79,551.51	20%	91,028.36	23%	92,497.84	24%	326,368.24	63,631.76	84%
21840	Custodial Banking Services	135,000.00	2,433.40	2%	53,107.61	39%	3,636.03	3%	55,527.78	41%	114,704.82	20,295.18	85%
22350	Software & Technology	440,000.00	211,459.35	48%	28,641.47	7%	118,241.69	27%	17,307.99	4%	375,650.50	64,349.50	85%
	Depreciation Expense	250,000.00	4,719.42	2%	-	0%	-	0%	244,175.64	98%	248,895.06	1,104.94	100%
Total Non-Administrative Items		\$ 4,955,000.00	\$ 561,183.07	11%	\$ 880,721.61	18%	\$ 713,640.26	14%	\$ 1,695,014.58	34%	\$ 3,850,559.52	\$ 1,104,440.48	78%

Capital Assets Budget													
		Current									Remaining		
		Appropriation	Q1 Expended	Q1 %	Q2 Expended	Q2 %	Q3 Expended	Q3 %	Q4 Expended	Q4 %	Total Expended	Appropriation	% Exp
86261	Copier/Printer Lease Buyout	\$ 7,500.00	\$ 6,537.11	87%	\$ -	0%	\$ -	0%	\$ -	0%	\$ 6,537.11	\$ 962.89	87%
86337	HVAC Repair And Maintenance	50,000.00	-	0%	-	0%	-	0%	19,760.00	40%	19,760.00	30,240.00	40%
Total Capital Assets Budget		\$ 57,500.00	\$ 6,537.11	11%	\$ -	0%	\$ -	0%	\$ 19,760.00	34%	\$ 26,297.11	\$ 31,202.89	46%

Administrative Budget													
		Current									Remaining		
		Appropriation	Q1 Expended	Q1 %	Q2 Expended	Q2 %	Q3 Expended	Q3 %	Q4 Expended	Q4 %	Total Expended	Appropriation	% Exp
10110	Salaries & Wages	\$ 1,305,000.00	\$ 226,706.23	17%	\$ 312,140.09	24%	\$ 269,242.67	21%	\$ 351,257.03	27%	\$ 1,159,346.02	\$ 145,653.98	89%
20600	Communications	5,500.00	764.65	14%	1,217.99	22%	1,356.15	25%	1,968.96	36%	5,307.75	192.25	97%
20900	Household Expense	12,500.00	2,988.81	24%	2,563.38	21%	1,242.41	10%	3,819.76	31%	10,614.36	1,885.64	85%
21000	Insurance-Other	85,000.00	80,339.00	95%	-	0%	-	0%	-	0%	80,339.00	4,661.00	95%
21301	Maintenance Structure Improvement	20,900.00	975.00	5%	1,779.38	9%	2,469.79	12%	6,932.17	33%	12,156.34	8,743.66	58%
21500	Membership	7,500.00	4,000.00	53%	570.00	8%	300.00	4%	1,000.00	13%	5,870.00	1,630.00	78%
21700	Office Expense-General	28,000.00	1,293.97	5%	22,629.42	81%	1,296.04	5%	2,384.44	9%	27,603.87	396.13	99%
21710	Office Expense-Postage	16,750.00	2,091.44	12%	3,540.20	21%	5,895.32	35%	4,970.63	30%	16,497.59	252.41	98%
21805	Audits	63,000.00	7,699.70	12%	18,223.75	29%	23,010.62	37%	13,902.80	22%	62,836.87	163.13	100%
21808	Board Membership	18,000.00	1,000.00	6%	4,000.00	22%	2,200.00	12%	3,900.00	22%	11,100.00	6,900.00	62%
21811	Court Reporters	2,000.00	-	0%	-	0%	-	0%	-	0%	-	2,000.00	0%
21816	Medical Services	69,000.00	15.00	0%	-	0%	-	0%	-	0%	15.00	68,985.00	0%
21872	Investigations	1,000.00	-	0%	-	0%	-	0%	-	0%	-	1,000.00	0%
21900	Publications & Legal Notices	4,500.00	3,321.25	74%	-	0%	-	0%	-	0%	3,321.25	1,178.75	74%
22300	Spec Dept Expense-Other	500.00	-	0%	6.14	1%	-	0%	-	0%	6.14	493.86	1%
22310	Election Expense	21,000.00	-	0%	8,683.96	41%	-	0%	12,254.69	58%	20,938.65	61.35	100%
22327	Spec Dept Exp-Cost Allocation	43,005.00	9,129.51	21%	9,047.51	21%	9,006.51	21%	9,006.51	21%	36,190.04	6,814.96	84%
22500	Transportation & Travel	400.00	-	0%	21.16	5%	40.51	10%	110.38	28%	172.05	227.95	43%
22505	Trans & Travel-Staff Development	7,500.00	-	0%	-	0%	-	0%	80.00	1%	80.00	7,420.00	1%
22515	Trans & Travel-In State	32,000.00	670.00	2%	400.00	1%	400.00	1%	1,523.92	5%	2,993.92	29,006.08	9%
22516	Trans & Travel-Out Of State	10,000.00	-	0%	-	0%	-	0%	-	0%	-	10,000.00	0%
22600	Utilities	18,000.00	3,736.18	21%	4,852.31	27%	3,700.61	21%	5,561.77	31%	17,850.87	149.13	99%
	Depreciation Expense	23,000.00	-	0%	-	0%	-	0%	15,657.36	68%	15,657.36	7,342.64	68%
Total Administrative Budget		\$ 1,794,055.00	\$ 344,730.74	19%	\$ 389,675.29	22%	\$ 320,160.63	18%	\$ 434,330.42	24%	\$ 1,488,897.08	\$ 305,157.92	83%
Total MercedCERA		\$ 6,806,555.00	\$ 912,450.92	13%	\$ 1,270,396.90	19%	\$ 1,033,800.89	15%	\$ 2,149,105.00	32%	\$ 5,365,753.71	\$ 1,440,801.29	79%

Merced County Employees' Retirement Association
Non-Admin Expenses Prev Year Comparison (Preliminary)
For the Quarter Ended June 30, 2021

	<u>Apr - Jun 21</u>	<u>Apr - Jun 20</u>	<u>\$ Change</u>	<u>% Change</u>
Expense				
62025 · Non-Administrative Expenses				
21800 · Investment Expenses				
IED0001 · PanAgora Asset Management	\$ -	\$ 55,798.30	\$ (55,798.30)	-100.00%
IED0002 · Dimensional Fund Advisors	-	29,742.72	(29,742.72)	-100.00%
IED0003 · Mellon LC SIF	21,763.34	29,028.66	(7,265.32)	-25.03%
IED0004 · Mellon Dynamic	200,660.26	224,533.24	(23,872.98)	-10.63%
IEE0005 · Mellon Int SIF	-	8,595.01	(8,595.01)	-100.00%
IEE0006 · Acadian Ex US SCF	59,725.00	19,532.00	40,193.00	205.78%
IEE0007 · Driehaus ISCG	64,792.00	41,256.00	23,536.00	57.05%
IEF0001 · Barrow Hanley	60,044.00	45,736.00	14,308.00	31.28%
IEP0001 · SSgA RAS	24,096.46	35,662.16	(11,565.70)	-32.43%
IER0001 · UBS Realty Investors	145,989.94	159,453.62	(13,463.68)	-8.44%
IER0006 · Taconic CRE II	74,896.70	-	74,896.70	100.00%
IEX0015 · KKR Global Infrastructure II	25,881.00	44,778.00	(18,897.00)	-42.20%
IEX0018 · GSO EOF	115,010.00	19,441.00	95,569.00	491.59%
IEX0026 · KKR GII III	69,381.00	88,606.00	(19,225.00)	-21.70%
ISC001 · Meketa Investment Group	110,000.00	108,000.00	2,000.00	1.85%
ISC002 · Cliffwater LLC	133,333.32	133,333.32	-	0.00%
ISL001 · Nossaman - Investments	115,061.50	175,392.15	(60,330.65)	-34.40%
21800 · Investment Expenses - Other	690.00	2,955.63	(2,265.63)	-76.66%
Total 21800 · Investment Expenses	1,221,324.52	1,221,843.81	(519.29)	-0.04%
21802 · Actuarial Services	47,096.00	125,720.25	(78,624.25)	-62.54%
21812 · Data Processing	17,084.81	19,173.06	(2,088.25)	-10.89%
21834 · Legal Services	92,497.84	103,127.43	(10,629.59)	-10.31%
21840 · Custodial Banking Services	55,527.78	31,521.80	24,005.98	76.16%
22350 · Software and Technology	17,307.99	35,215.46	(17,907.47)	-50.85%
Total 62025 · Non-Administrative Expenses	\$ 1,450,838.94	\$ 1,536,601.81	\$ (85,762.87)	-5.58%

Merced County Employees' Retirement Association

September 23, 2021

Performance Update

1. Economic and Market Update as of August 31, 2021
2. Performance Highlights as of August 31, 2021
3. Preliminary Performance Update as of August 31, 2021
4. Disclaimer, Glossary, and Notes

Economic and Market Update

Data as of August 31, 2021

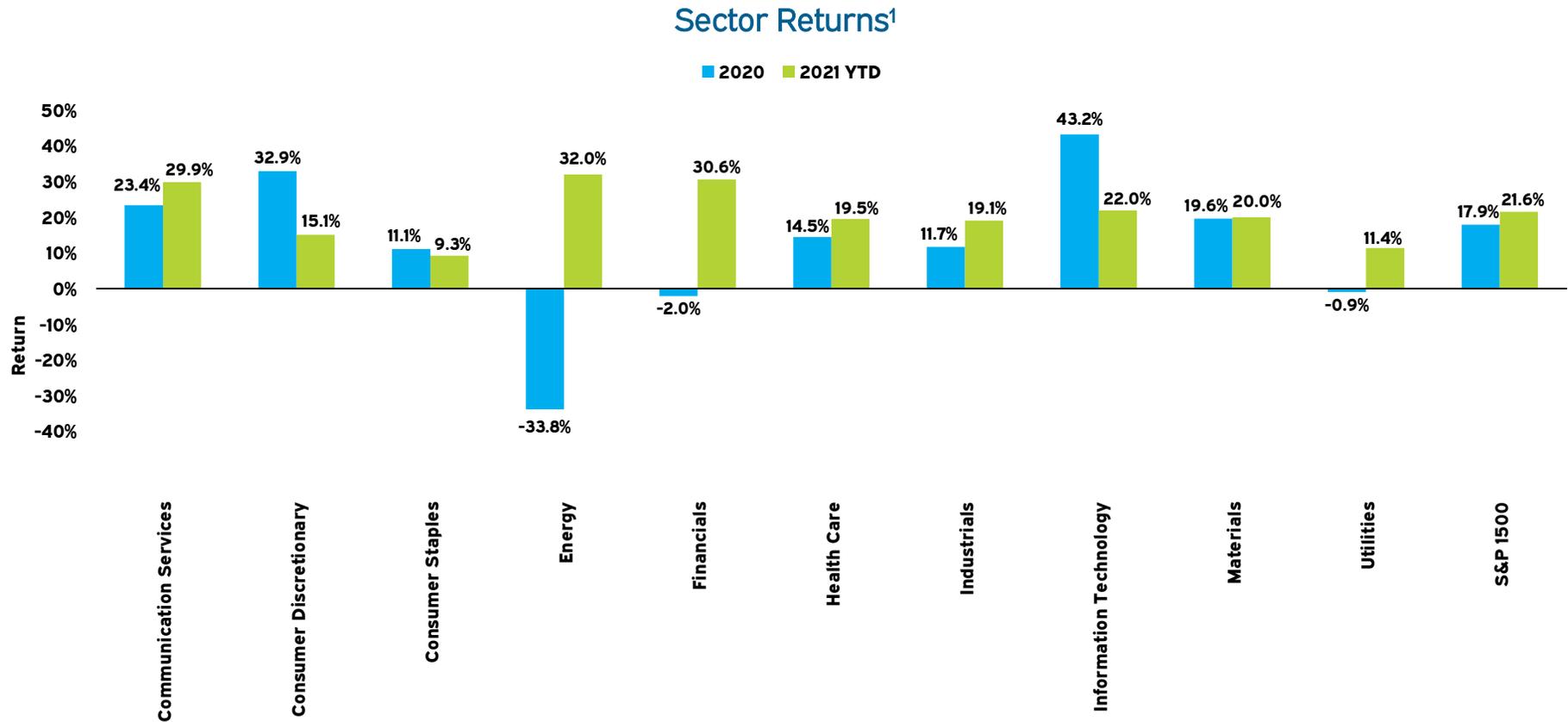


Market Returns¹

Indices	August	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	3.0%	21.6%	31.2%	18.1%	18.0%	16.3%
MSCI EAFE	1.8%	11.6%	26.1%	9.0%	9.7%	7.3%
MSCI Emerging Markets	2.6%	2.8%	21.1%	9.9%	10.4%	4.9%
MSCI China	0.0%	-12.3%	-5.1%	7.3%	10.8%	7.3%
Bloomberg Barclays Aggregate	-0.2%	-0.7%	-0.1%	5.4%	3.1%	3.2%
Bloomberg Barclays TIPS	-0.2%	4.3%	5.6%	7.3%	4.6%	3.2%
Bloomberg Barclays High Yield	0.5%	4.6%	10.1%	7.1%	6.7%	7.1%
10-year US Treasury	-0.4%	-2.5%	-4.1%	6.3%	2.2%	3.0%
30-year US Treasury	-0.3%	-5.8%	-9.6%	9.4%	3.2%	5.8%

- Equity markets had strong results in August with the US extending its year-to-date outperformance. So far in 2021, struggles with the vaccine rollout have hurt the relative performance of international equity markets, with China’s crackdown on technology companies further weighing on emerging markets.
- In August, Treasuries pulled back after a rally as growth expectations picked-up slightly.

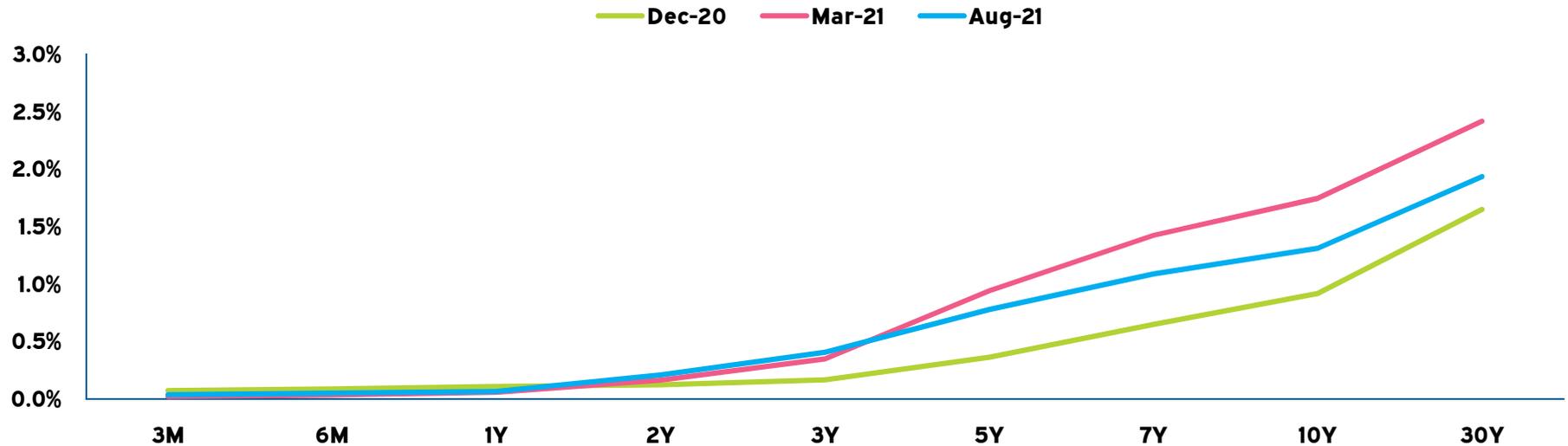
¹ Source: Investment Metrics and Bloomberg. Data is as of August 31, 2021.



- Cyclical sectors like energy and financials continue to lead the way in 2021 with strong returns, followed closely by communication services.

¹ Source: Bloomberg. Data is as of August 31, 2021.

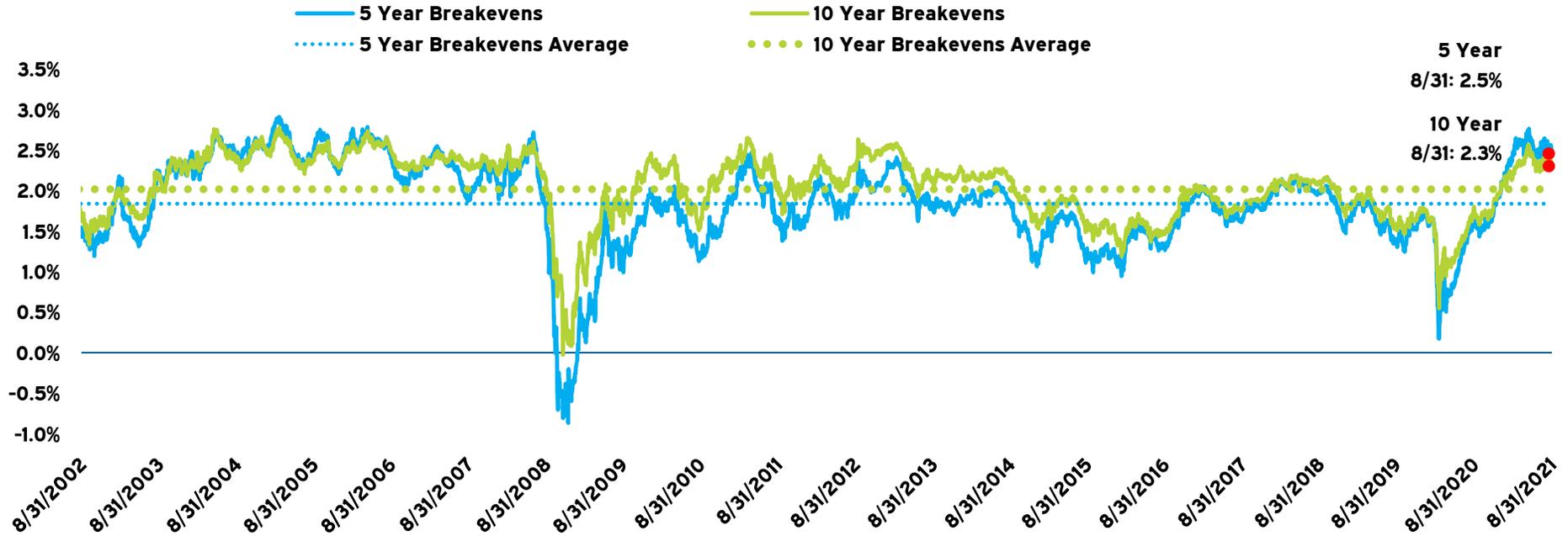
US Yield Curve Begins to Flatten After Sharp Steepening to Start 2021¹



- During the first half of 2021, the yield curve steepened, on higher growth expectations related to gradual signs of economic improvement given the vaccine rollout.
- Shorter-dated rates were largely unchanged due to Fed policy. Longer-dated rates rose slightly in August though given a modest improvement in growth expectations, but they remain below their recent peak in March 2021.
- The yield curve could resume its steepening if growth and inflation pressures build beyond current expectations. Alternatively, if the economy weakens, or if economic progress is simply accelerated versus prior expectations, a flattening trend could continue.

¹ Source: Bloomberg. Data is as of August 31, 2021.

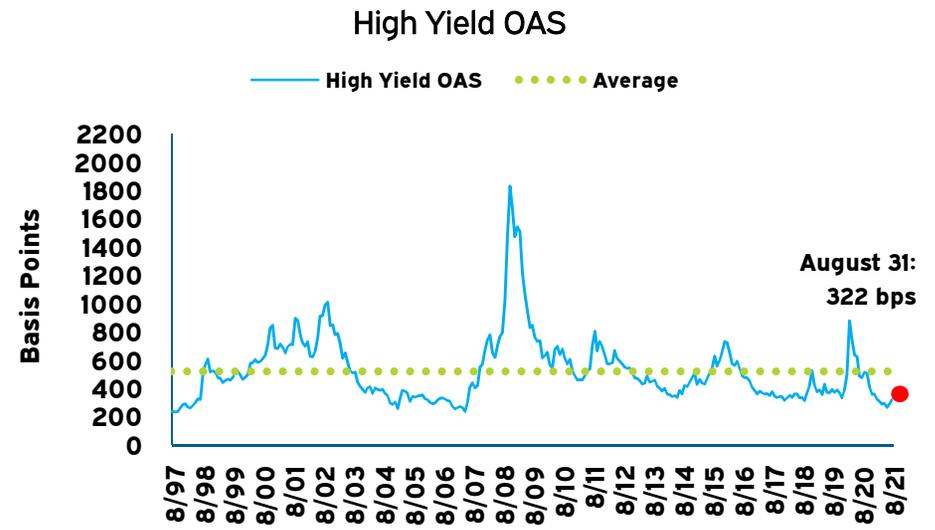
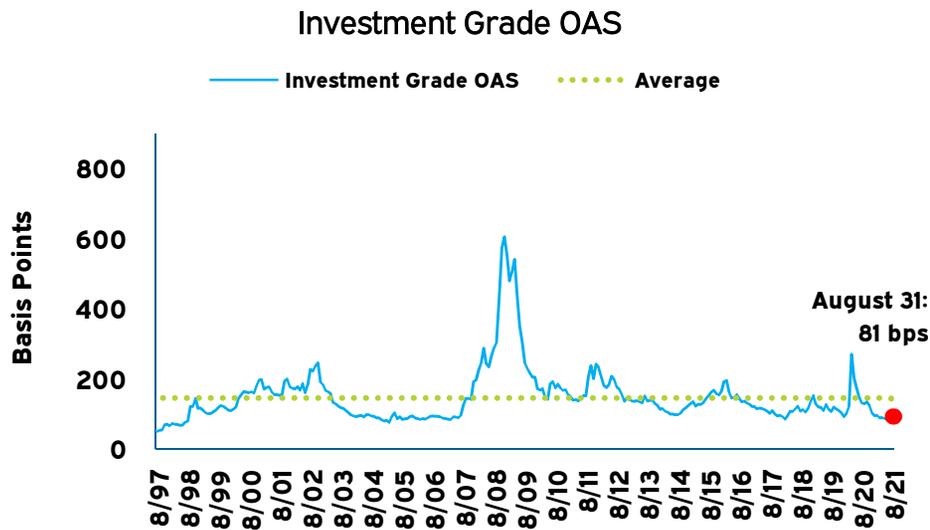
Breakeven Inflation¹



- Inflation expectations remain well above long-term averages, particularly in the short-term, with the vaccine roll-out, still relatively high raw material prices, and expected additional fiscal stimulus as key drivers.
- Recently though, inflation expectations declined from their peaks as base effects wane, growth forecasts moderate, and cost pressures slow.
- Looking ahead, the track of economic growth and the inflationary effects of the unprecedented US fiscal response will be key issues. Additionally, changes to Fed policy focused on an average inflation target may play a role in the inflation market dynamics.

¹ Source: Bloomberg. Data is as of August 31, 2021.

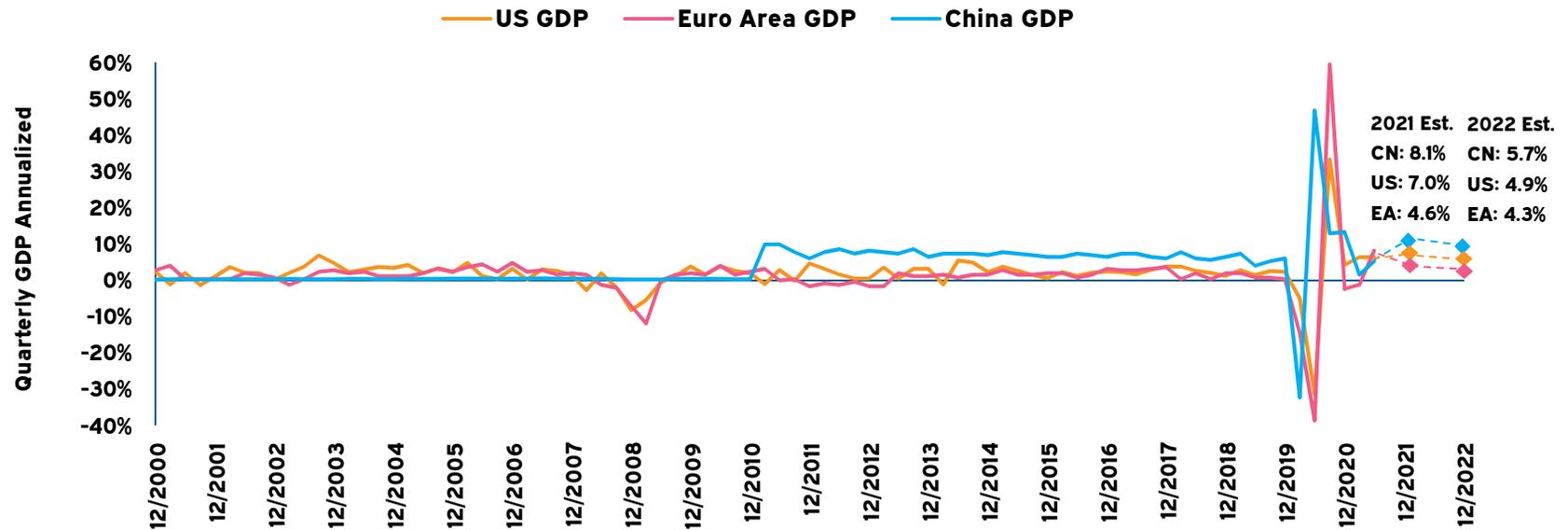
Credit Spreads (High Yield & Investment Grade)¹



- Credit spreads (the spread above a comparable maturity Treasury) for investment-grade and high yield corporate debt remain at historically low levels in spite of elevated inflation expectations.
- Policy support and the search for yield in a low-rate environment have been key drivers in the decline in US credit spreads to below long-term averages, particularly for high yield issuers.

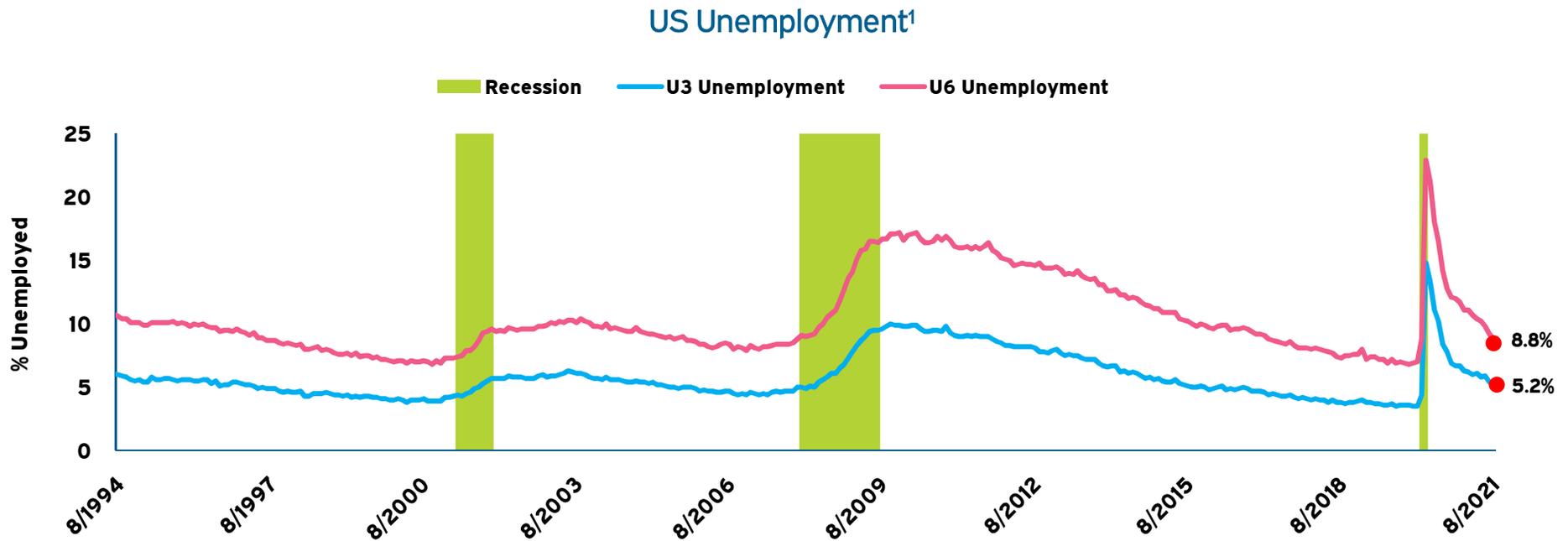
¹ Source: Barclays Live. Data represents OAS and is as of August 31, 2021.

GDP Data Shows Projected Improvements in 2021¹



- In late 2020 and early 2021, major economies grew at rates far above potential. These very high rates of growth are not expected to continue, though, as reopening trends moderate and demand normalizes.
- The US is expected to grow faster than the euro area this year and next, with some growth pulled forward due to the relative success in distributing the vaccine and a substantially larger fiscal stimulus response to the pandemic.
- China is projected to grow at an impressive 8.1% in 2021 and 5.7% in 2022 both above the expected US growth rate.

¹ Source: Bloomberg, and IMF; Euro Area and China figures annualized by Meketa. Projections via July 2021 IMF World Economic Outlook and represent annual numbers.



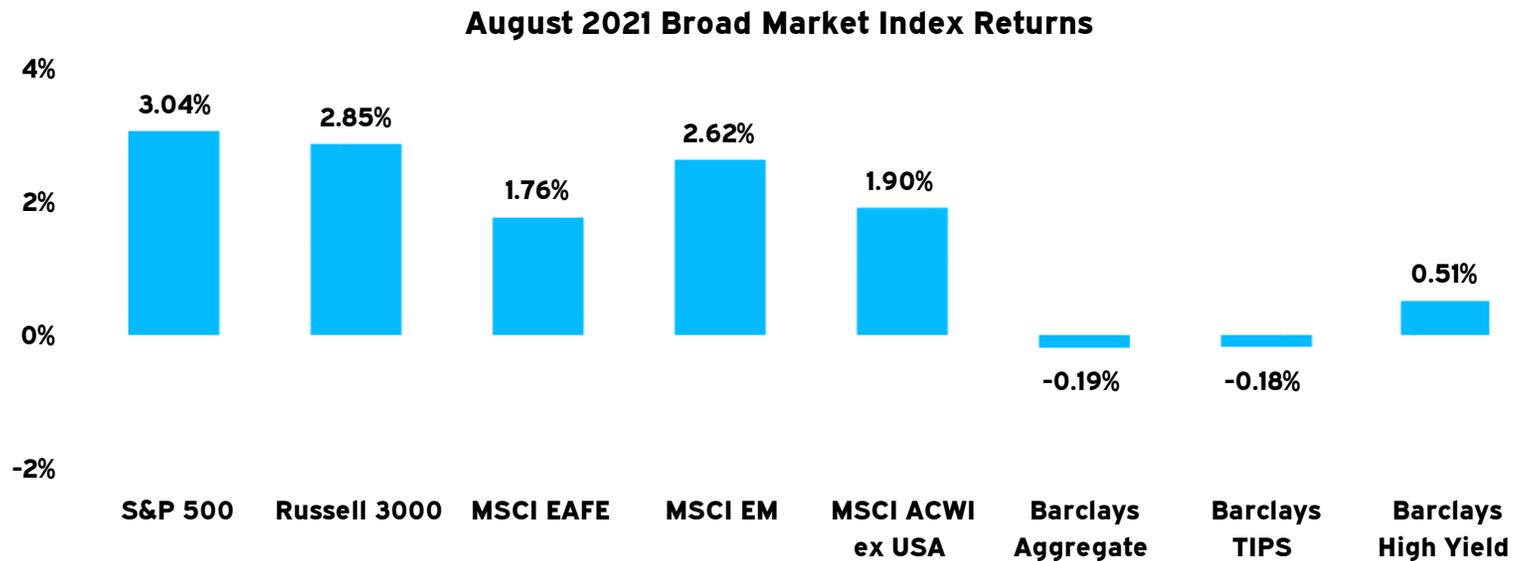
- The unemployment rate (U3) fell in August from 5.4% to 5.2% and remains above pre-pandemic levels, but far below the pandemic peak.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers continues to decline but remains much higher at 8.8%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have contributed to the continued slack in the labor market. The track of the unemployment rate from here will be a key consideration in the Federal Reserve's pace of reducing its policy support.

¹ Source: Bloomberg. Data is as of August 31, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.

Performance Highlights

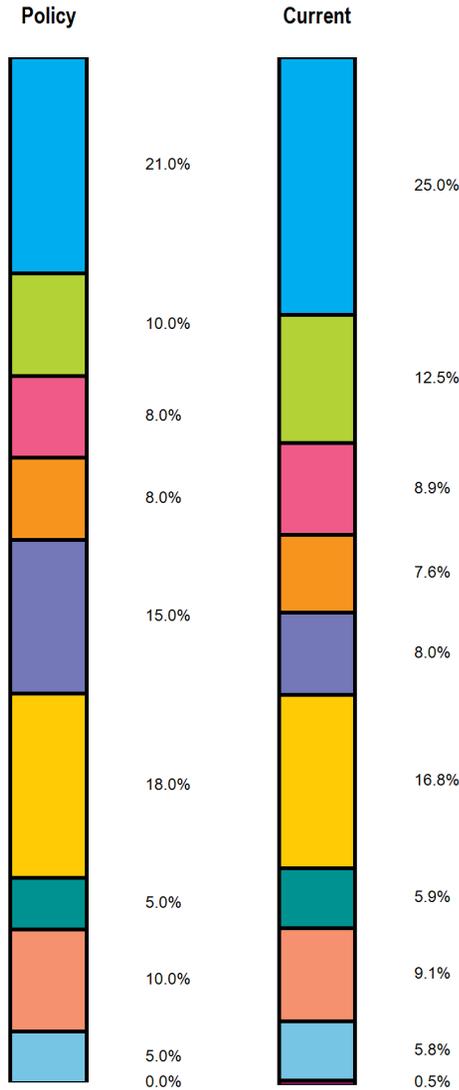
As of August 31, 2021

Market Review and Performance Summary for August 2021



- Equity markets had strong results in August with the US continuing its outperformance. Emerging Markets bounced back from the sharp decline in July, posting positive returns for the month. Treasuries pulled back due of optimistic growth expectations.
- Merced CERA reported a monthly return of +1.2% net of fees. US equities led all asset classes, up +3.0%. Private Infrastructure had the largest drawdown with a -0.3% return, driven by KKR Global Infrastructure's underperformance at -1.6%.
- As of August 31, 2021, total assets for the Merced CERA Portfolio are estimated at \$1.16 billion.

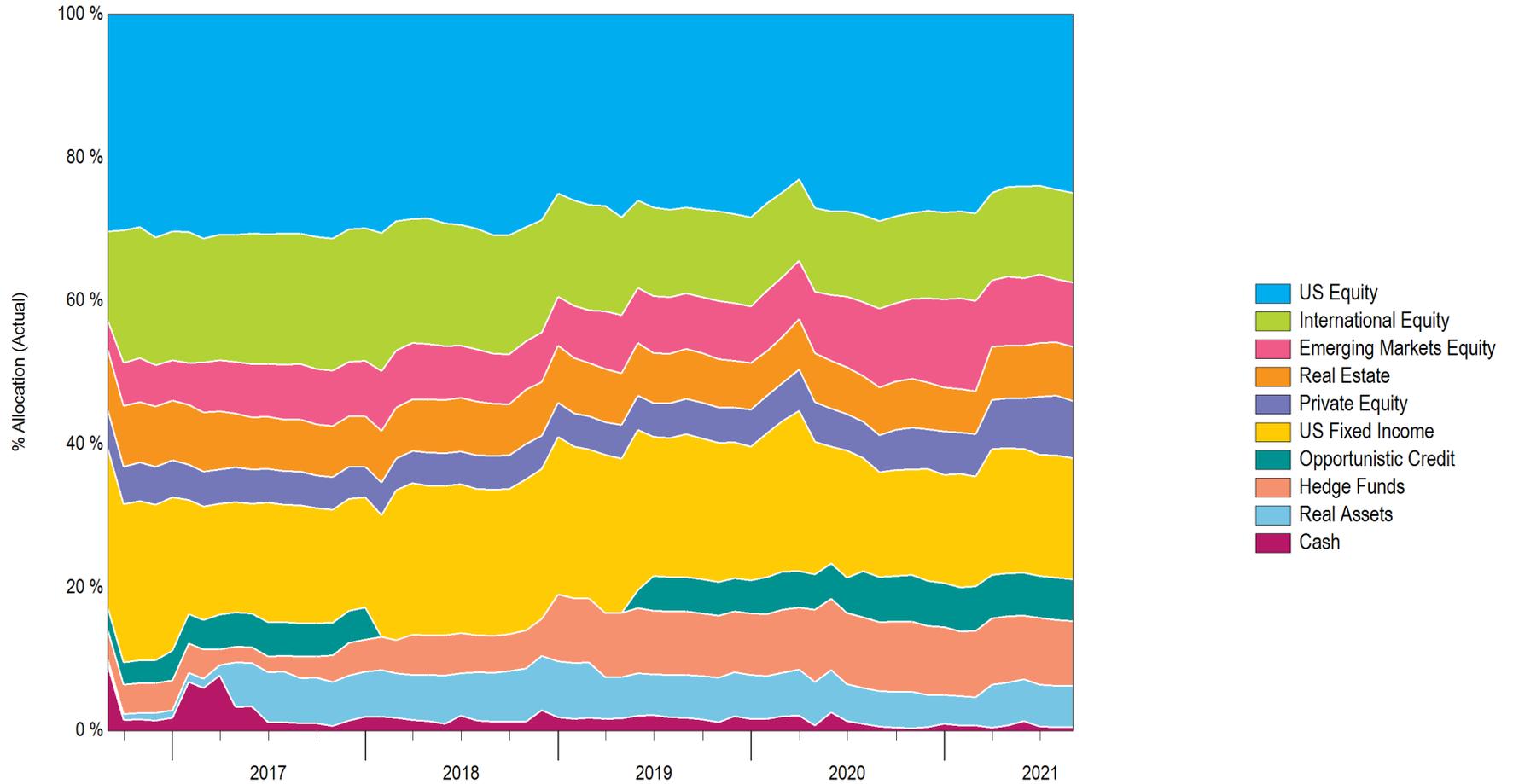
Preliminary Performance Update as of August 31, 2021



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
US Equity	\$289,505,133	25.0%	21.0%	4.0%	15.0% - 26.0%	Yes
International Equity	\$144,970,995	12.5%	10.0%	2.5%	5.0% - 15.0%	Yes
Emerging Markets Equity	\$103,352,762	8.9%	8.0%	0.9%	4.0% - 12.0%	Yes
Real Estate	\$87,660,483	7.6%	8.0%	-0.4%	6.0% - 10.0%	Yes
Private Equity	\$93,031,909	8.0%	15.0%	-7.0%	5.0% - 20.0%	Yes
US Fixed Income	\$195,213,146	16.8%	18.0%	-1.2%	13.0% - 23.0%	Yes
Opportunistic Credit	\$67,926,783	5.9%	5.0%	0.9%	3.0% - 7.0%	Yes
Hedge Funds	\$105,054,977	9.1%	10.0%	-0.9%	5.0% - 15.0%	Yes
Real Assets	\$66,696,794	5.8%	5.0%	0.8%	3.0% - 7.0%	Yes
Cash	\$5,762,300	0.5%	0.0%	0.5%	0.0% - 5.0%	Yes
Total	\$1,159,175,282	100.0%	100.0%			

Cash range displayed for illustrative purposes only.

Asset Allocation History
5 Years Ending August 31, 2021



Asset Class Performance Summary											
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund (Net)*	1,159,175,282	100.0	1.2	1.3	10.7	19.7	11.9	11.3	9.5	8.6	Dec-94
Total Fund (Gross)*			1.2	1.4	11.0	20.2	12.2	11.6	9.9	8.7	
<i>Policy Index</i>			<i>1.1</i>	<i>1.1</i>	<i>11.3</i>	<i>22.2</i>	<i>11.2</i>	<i>11.0</i>	<i>9.3</i>	<i>6.6</i>	<i>Dec-94</i>
Total Fund w/o Alternatives (Net)	800,968,819	69.1	1.6	1.7	10.1	19.7	13.6	12.6	10.1	--	Dec-94
Total Fund w/o Alternatives (Gross)			1.6	1.8	10.4	20.2	14.0	12.9	10.5	--	
<i>Policy Index w/o AI</i>			<i>1.7</i>	<i>1.6</i>	<i>9.6</i>	<i>20.4</i>	<i>11.4</i>	<i>11.2</i>	<i>--</i>	<i>--</i>	<i>Dec-94</i>
US Equity (Net)	289,505,133	25.0	3.0	5.3	21.0	33.0	17.0	17.8	16.2	11.1	Dec-94
US Equity (Gross)			3.0	5.3	21.2	33.3	17.2	18.1	16.5	11.2	
<i>Russell 3000</i>			<i>2.9</i>	<i>4.6</i>	<i>20.4</i>	<i>33.0</i>	<i>17.1</i>	<i>17.7</i>	<i>16.0</i>	<i>11.0</i>	<i>Dec-94</i>
International Equity (Net)	248,323,757	21.4	1.7	-1.1	7.9	23.0	17.6	14.7	9.0	6.9	Dec-98
International Equity (Gross)			1.8	-1.0	8.5	24.1	18.3	15.3	9.7	7.2	
<i>International Equity Custom</i>			<i>2.2</i>	<i>-0.4</i>	<i>8.1</i>	<i>24.6</i>	<i>9.8</i>	<i>10.6</i>	<i>7.5</i>	<i>5.2</i>	<i>Dec-98</i>
Developed International Equity (Net)	144,970,995	12.5	1.3	2.0	12.7	21.6	11.3	11.3	7.7	5.2	Jan-08
Developed International Equity (Gross)			1.4	2.1	13.2	22.4	11.7	11.6	8.2	5.7	
<i>Custom Blended Developed International Equity BM</i>			<i>1.9</i>	<i>2.7</i>	<i>12.4</i>	<i>28.0</i>	<i>9.7</i>	<i>10.2</i>	<i>7.5</i>	<i>4.1</i>	<i>Jan-08</i>
Emerging Markets Equity (Net)	103,352,762	8.9	2.3	-5.2	1.5	22.8	26.5	19.2	--	10.0	Apr-12
Emerging Markets Equity (Gross)			2.4	-5.1	2.1	24.0	27.6	20.2	--	11.0	
<i>Custom Blended Emerging Markets Benchmark</i>			<i>2.6</i>	<i>-4.3</i>	<i>2.8</i>	<i>21.1</i>	<i>10.0</i>	<i>10.7</i>	<i>5.2</i>	<i>5.5</i>	<i>Apr-12</i>
US Fixed Income (Net)	195,213,146	16.8	-0.2	0.8	-0.8	-0.1	4.9	3.3	3.7	5.2	Dec-94
US Fixed Income (Gross)			-0.2	0.8	-0.7	0.0	5.0	3.5	3.9	5.4	
<i>BBgBarc US Aggregate TR</i>			<i>-0.2</i>	<i>0.9</i>	<i>-0.7</i>	<i>-0.1</i>	<i>5.1</i>	<i>3.4</i>	<i>3.4</i>	<i>5.5</i>	<i>Dec-94</i>
Opportunistic Credit (Net)	67,926,783	5.9	0.3	0.7	6.0	11.9	--	--	--	7.1	May-19
Opportunistic Credit (Gross)			0.4	0.8	6.4	12.5	--	--	--	7.4	
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>			<i>0.2</i>	<i>0.8</i>	<i>1.8</i>	<i>4.5</i>	<i>--</i>	<i>--</i>	<i>--</i>	<i>5.6</i>	<i>May-19</i>

The current US Fixed Income benchmark is the Barclays US Agg. Please refer to the benchmark history for the composition of the US Fixed Income benchmark in earlier periods. Data prior to March 2018 provided by prior consultant.

Total Fund | As of August 31, 2021

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate (Net)	87,660,483	7.6	0.6	1.9	8.2	8.6	3.5	5.2	7.1	--	Mar-99
Real Estate (Gross)			0.6	1.9	8.2	8.6	3.5	5.3	7.8	8.1	
<i>Custom Blended Real Estate Benchmark</i>			0.0	0.0	5.3	4.1	4.8	5.8	8.7	7.1	Mar-99
<i>CPI + 5% (Seasonally Adjusted)</i>			0.7	1.6	7.8	10.5	7.9	7.7	7.0	--	Mar-99
Private Real Estate (Net)	61,781,271	5.3	0.0	0.0	2.5	2.3	1.5	4.0	6.5	--	Mar-99
Private Real Estate (Gross)			0.0	0.0	2.5	2.4	1.5	4.0	7.2	7.8	
<i>Custom Blended Real Estate Benchmark</i>			0.0	0.0	5.3	4.1	4.8	5.8	8.7	7.1	Mar-99
Private Equity (Net)	93,031,909	8.0	0.0	0.0	27.1	48.1	16.2	15.7	11.3	9.6	Jun-05
Private Equity (Gross)			0.0	0.0	27.1	48.1	16.2	15.7	11.6	9.8	
<i>Custom Private Equity Benchmark</i>			0.0	0.0	28.1	57.1	23.2	21.3	20.5	--	Jun-05
<i>Russell 3000 +3% 1-Quarter Lag</i>			0.7	6.1	31.3	48.1	21.5	20.8	17.6	13.9	Jun-05
Hedge Fund (Net)	105,054,977	9.1	0.8	-0.8	6.9	13.7	5.3	6.9	--	4.8	Jun-14
Hedge Fund (Gross)			0.8	-0.8	7.6	14.7	6.0	7.3	--	5.1	
<i>Custom Blended Hedge Fund Benchmark</i>			1.1	0.4	5.4	13.7	6.3	5.9	--	4.5	Jun-14
Real Assets (Net)	66,696,794	5.8	-0.1	0.7	10.8	17.4	9.2	8.3	8.7	--	Mar-99
Real Assets (Gross)			0.0	0.8	11.1	17.7	9.4	8.4	9.3	--	
<i>Custom Blended Real Assets Benchmark</i>			0.0	0.0	10.6	18.0	6.4	7.5	--	--	Mar-99
<i>CPI + 5% (Seasonally Adjusted)</i>			0.7	1.6	7.8	10.5	7.9	7.7	7.0	--	Mar-99
Private Infrastructure (Net)	21,260,981	1.8	-0.3	-0.3	11.6	15.5	13.7	12.9	--	9.7	Dec-14
Private Infrastructure (Gross)			0.0	0.0	12.2	16.1	14.0	13.0	--	9.8	
<i>Cambridge Infrastructure (1 Quarter Lagged)</i>			0.0	0.0	6.6	15.3	8.8	11.1	8.9	10.1	Dec-14
Private Natural Resources (Net)	12,473,131	1.1	0.0	0.0	7.8	18.6	3.3	8.8	--	11.3	Sep-15
Private Natural Resources (Gross)			0.0	0.0	7.8	18.6	3.3	8.8	--	11.3	
<i>Cambridge Energy Upstream & Royalties & Private Energy (1 Quarter Lagged)</i>			0.0	0.0	14.8	20.7	--	--	--	--	Sep-15
Cash (Net)	5,762,300	0.5	0.0	0.0	0.0	0.1	0.8	--	--	--	
Cash (Gross)			0.0	0.0	0.0	0.1	0.8	--	--	--	

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

Private Markets values are cash flow adjusted from 3/31/2021 NAVs unless otherwise noted.

Real Assets includes State Street Real Asset NL Fund.

Trailing Net Performance													
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
Total Fund(Net)*	1,159,175,282	100.0	--	1.2	1.3	10.7	19.7	11.9	11.3	9.5	8.6	Dec-94	
<i>Policy Index</i>				<i>1.1</i>	<i>1.1</i>	<i>11.3</i>	<i>22.2</i>	<i>11.2</i>	<i>11.0</i>	<i>9.3</i>	<i>6.6</i>	<i>Dec-94</i>	
Total Fund w/o Alternatives(Net)	800,968,819	69.1	69.1	1.6	1.7	10.1	19.7	13.6	12.6	10.1	--	Dec-94	
<i>Policy Index w/o AI</i>				<i>1.7</i>	<i>1.6</i>	<i>9.6</i>	<i>20.4</i>	<i>11.4</i>	<i>11.2</i>	<i>--</i>	<i>--</i>	<i>Dec-94</i>	
US Equity(Net)	289,505,133	25.0	36.1	3.0	5.3	21.0	33.0	17.0	17.8	16.2	11.1	Dec-94	
<i>Russell 3000</i>				<i>2.9</i>	<i>4.6</i>	<i>20.4</i>	<i>33.0</i>	<i>17.1</i>	<i>17.7</i>	<i>16.0</i>	<i>11.0</i>	<i>Dec-94</i>	
Mellon Dynamic US Equity(Net)	133,890,311	11.6	46.2	3.4	6.4	23.5	32.6	19.7	20.0	--	19.5	Dec-12	
<i>S&P 500</i>				<i>3.0</i>	<i>5.5</i>	<i>21.6</i>	<i>31.2</i>	<i>18.1</i>	<i>18.0</i>	<i>16.3</i>	<i>16.5</i>	<i>Dec-12</i>	
Mellon Large Cap(Net)	123,200,000	10.6	42.6	2.9	5.0	21.0	32.5	18.5	18.3	--	18.1	Mar-16	
<i>Russell 1000</i>				<i>2.9</i>	<i>5.0</i>	<i>20.7</i>	<i>32.3</i>	<i>18.4</i>	<i>18.2</i>	<i>16.4</i>	<i>18.1</i>	<i>Mar-16</i>	
Champlain Small Cap(Net)	32,414,822	2.8	11.2	1.9	1.8	12.0	--	--	--	--	39.0	Nov-20	
<i>Russell 2000</i>				<i>2.2</i>	<i>-1.5</i>	<i>15.8</i>	<i>47.1</i>	<i>10.7</i>	<i>14.4</i>	<i>13.6</i>	<i>49.0</i>	<i>Nov-20</i>	
International Equity(Net)	248,323,757	21.4	31.0	1.7	-1.1	7.9	23.0	17.6	14.7	9.0	6.9	Dec-98	
<i>International Equity Custom</i>				<i>2.2</i>	<i>-0.4</i>	<i>8.1</i>	<i>24.6</i>	<i>9.8</i>	<i>10.6</i>	<i>7.5</i>	<i>5.2</i>	<i>Dec-98</i>	
Developed International Equity(Net)	144,970,995	12.5	58.4	1.3	2.0	12.7	21.6	11.3	11.3	7.7	5.2	Jan-08	
<i>Custom Blended Developed International Equity BM</i>				<i>1.9</i>	<i>2.7</i>	<i>12.4</i>	<i>28.0</i>	<i>9.7</i>	<i>10.2</i>	<i>7.5</i>	<i>4.1</i>	<i>Jan-08</i>	
GQG International Equity(Net)	60,458,310	5.2	41.7	2.5	4.1	15.9	19.0	--	--	--	18.4	Dec-19	
<i>MSCI ACWI ex USA</i>				<i>1.9</i>	<i>0.2</i>	<i>9.4</i>	<i>24.9</i>	<i>9.4</i>	<i>9.9</i>	<i>6.6</i>	<i>14.3</i>	<i>Dec-19</i>	
First Eagle International Value Fund(Net)	50,964,967	4.4	35.2	-0.1	-0.2	5.5	15.0	--	--	--	7.4	Dec-19	
<i>MSCI EAFE</i>				<i>1.8</i>	<i>2.5</i>	<i>11.6</i>	<i>26.1</i>	<i>9.0</i>	<i>9.7</i>	<i>7.3</i>	<i>13.2</i>	<i>Dec-19</i>	
<i>MSCI World ex USA</i>				<i>1.6</i>	<i>2.3</i>	<i>12.4</i>	<i>26.6</i>	<i>9.2</i>	<i>9.8</i>	<i>7.1</i>	<i>13.5</i>	<i>Dec-19</i>	

Historical returns for the US Equity Composite prior to January 2012 and for the International Equity Composite prior to December 2010 are gross only. Developed International Equity and Emerging Markets Equity composites were only reported as one composite prior to March 2018.

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Driehaus International Small Cap Growth(Net)	17,802,327	1.5	12.3	2.5	3.4	16.5	39.4	--	--	--	26.5	May-19
<i>MSCI ACWI ex US Small Cap Growth NR USD</i>				2.6	3.8	14.5	32.4	13.4	13.3	9.2	20.3	May-19
Acadian ACWI ex U.S. Small Cap Equity(Net)	15,745,391	1.4	10.9	0.2	-0.2	22.0	38.4	--	--	--	20.6	May-19
<i>MSCI ACWI ex US Small Cap</i>				2.3	3.1	15.7	35.5	11.0	11.5	8.3	16.8	May-19
Emerging Markets Equity(Net)	103,352,762	8.9	41.6	2.3	-5.2	1.5	22.8	26.5	19.2	--	10.0	Apr-12
<i>Custom Blended Emerging Markets Benchmark</i>				2.6	-4.3	2.8	21.1	10.0	10.7	5.2	5.5	Apr-12
Artisan Developing World TR(Net)	73,188,723	6.3	70.8	1.9	-6.0	0.6	19.5	--	--	--	41.0	Dec-19
<i>MSCI Emerging Markets</i>				2.6	-4.3	2.8	21.1	9.9	10.4	4.9	16.6	Dec-19
RWC(Net)	30,164,040	2.6	29.2	3.3	-3.3	4.0	34.6	--	--	--	21.0	Dec-19
<i>MSCI Emerging Markets</i>				2.6	-4.3	2.8	21.1	9.9	10.4	4.9	16.6	Dec-19
US Fixed Income(Net)	195,213,146	16.8	24.4	-0.2	0.8	-0.8	-0.1	4.9	3.3	3.7	5.2	Dec-94
<i>BBgBarc US Aggregate TR</i>				-0.2	0.9	-0.7	-0.1	5.1	3.4	3.4	5.5	Dec-94
Vanguard Total Bond Market Index Fund(Net)	93,135,603	8.0	47.7	-0.2	1.0	-0.7	0.1	--	--	--	5.4	May-19
<i>Bloomberg US Aggregate TR</i>				-0.2	0.9	-0.7	-0.1	5.4	3.1	3.2	5.3	May-19
Barrow Hanley(Net)	91,466,734	7.9	46.9	-0.2	0.7	-1.1	-0.4	5.8	3.3	3.4	3.8	Mar-10
<i>Bloomberg US Aggregate TR</i>				-0.2	0.9	-0.7	-0.1	5.4	3.1	3.2	3.7	Mar-10
Vanguard Short-Term Treasury Index Fund(Net)	10,610,810	0.9	5.4	0.0	0.2	0.1	0.1	2.6	--	--	2.4	Feb-18
<i>Bloomberg US Govt 1-3 Yr TR</i>				0.0	0.2	0.1	0.2	2.7	1.7	1.2	2.5	Feb-18
<i>Bloomberg US Govt 1-5 Yr TR</i>				-0.1	0.3	-0.2	-0.1	3.3	1.9	1.5	3.0	Feb-18

The current US Fixed Income benchmark is the Barclays US Agg. Please refer to the benchmark history for the composition of the US Fixed Income benchmark in earlier periods.

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

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Opportunistic Credit(Net)	67,926,783	5.9	8.5	0.3	0.7	6.0	11.9	--	--	--	7.1	May-19
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>				0.2	0.8	1.8	4.5	--	--	--	5.6	May-19
PIMCO Income Fund(Net)	25,563,971	2.2	37.6	0.2	0.6	2.4	7.1	--	--	--	5.2	Apr-19
<i>Bloomberg US Aggregate TR</i>				-0.2	0.9	-0.7	-0.1	5.4	3.1	3.2	5.3	Apr-19
GoldenTree Multi-Sector Credit(Net)	23,902,713	2.1	35.2	0.5	0.7	5.5	11.8	--	--	--	7.1	Jun-19
<i>50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans</i>				0.5	0.7	4.3	9.3	5.6	5.7	6.0	6.2	Jun-19
Sculptor Credit Opportunities Domestic Partners, LP(Net)	18,460,099	1.6	27.2	0.3	0.7	12.3	19.7	--	--	--	19.5	Jul-20
<i>50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans</i>				0.5	0.7	4.3	9.3	5.6	5.7	6.0	12.1	Jul-20
Real Estate(Net)	87,660,483	7.6	7.6	0.6	1.9	8.2	8.6	3.5	5.2	7.1	--	Mar-99
<i>Custom Blended Real Estate Benchmark</i>				0.0	0.0	5.3	4.1	4.8	5.8	8.7	7.1	Mar-99
<i>CPI + 5% (Seasonally Adjusted)</i>				0.7	1.6	7.8	10.5	7.9	7.7	7.0	--	Mar-99
Vanguard REIT Index(Net)	25,879,212	2.2	29.5	2.1	6.7	29.5	37.8	--	--	--	37.8	Aug-20
<i>Spliced Vanguard REIT Benchmark</i>				2.2	6.7	29.6	37.9	13.3	8.5	11.0	37.9	Aug-20
Private Real Estate(Net)	61,781,271	5.3	70.5	0.0	0.0	2.5	2.3	1.5	4.0	6.5	--	Mar-99
<i>Custom Blended Real Estate Benchmark</i>				0.0	0.0	5.3	4.1	4.8	5.8	8.7	7.1	Mar-99
UBS Trumbull Property(Net)	31,013,639	2.7	50.2	0.0	0.0	-0.7	-3.7	-1.1	1.5	5.6	6.2	Mar-99
Patron Capital V(Net)	8,067,842	0.7	13.1	0.0	0.0	2.5	14.0	-0.3	7.7	--	6.9	Jan-16

GoldenTree Multi-Sector Credit market value based on manager estimate.

Sculptor Credit Opportunities Domestic Partners market value based on manager estimate.

Private Markets values are cash flow adjusted from 3/31/2021 NAVs.

Data prior to March 2018 provided by prior consultant.

Private Real Estate results prior to 1/1/2019 were included in the Real Assets composite. All results for the Private Real Estate composite that include the period prior to 1/1/2019 will reflect only the latest lineup of managers that Meketa received information for, therefore it may not reflect the entire Private Real Estate composite at that given time.

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Greenfield Gap VII(Net)	5,507,609	0.5	8.9	0.0	0.0	15.4	18.4	12.0	12.7	--	13.1	Dec-14
Taconic CRE Dislocation Fund II(Net)	4,055,377	0.3	6.6	0.0	0.0	4.0	6.3	--	--	--	7.4	Nov-18
Taconic CRE Dislocation Onshore Fund III(Net)	4,000,000	0.3	6.5									
Cerberus Real Estate Debt Fund, L.P.(Net)	2,755,732	0.2	4.5	0.0	0.0	6.9	24.8	--	--	--	20.9	Jul-20
AG Realty Value Fund X, L.P.(Net)	2,555,468	0.2	4.1	0.0	0.0	9.1	15.7	--	--	--	-2.2	Jun-19
Carlyle Realty VIII(Net)	1,581,168	0.1	2.6	0.0	0.0	7.8	3.1	-1.8	--	--	-9.6	Dec-17
Rockpoint Real Estate Fund VI, L.P.(Net)	1,326,777	0.1	2.1	0.0	0.0	10.4	7.3	--	--	--	2.9	May-20
Carmel Partners Investment Fund VII(Net)	920,262	0.1	1.5	0.0	0.0	-9.9	-23.6	--	--	--	-36.5	Apr-19
Starwood Distressed Opportunity Fund XII Global(Net)	-2,603	0.0	0.0									
Private Equity(Net)	93,031,909	8.0	8.0	0.0	0.0	27.1	48.1	16.2	15.7	11.3	9.6	Jun-05
<i>Custom Private Equity Benchmark</i>				0.0	0.0	28.1	57.1	23.2	21.3	20.5	--	Jun-05
<i>Russell 3000 +3% 1-Quarter Lag</i>				0.7	6.1	31.3	48.1	21.5	20.8	17.6	13.9	Jun-05
Ocean Avenue II(Net)	7,866,541	0.7	8.5	0.0	0.0	80.8	96.2	35.6	31.7	--	20.8	Jun-14
Genstar Capital Partners IX(Net)	7,343,410	0.6	7.9	0.0	0.0	18.0	48.6	--	--	--	20.5	Jul-19
Adams Street(Net)	7,092,456	0.6	7.6	0.0	0.0	33.3	74.3	20.6	18.4	15.2	9.4	Sep-05
TCV X(Net)	6,382,287	0.6	6.9	0.0	0.0	47.0	103.7	--	--	--	28.1	Apr-19
Spark Capital Growth Fund III(Net)	5,730,896	0.5	6.2	0.0	0.0	24.5	12.8	--	--	--	8.4	Mar-20
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	5,365,742	0.5	5.8	0.0	0.0	5.9	21.0	6.7	--	--	8.6	Apr-18

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

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.

Total Fund | As of August 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
GTCR Fund XII(Net)	4,658,149	0.4	5.0	0.0	0.0	14.2	55.9	13.7	--	--	12.6	Jun-18
Carrick Capital Partners III(Net)	4,628,204	0.4	5.0	0.0	0.0	17.4	28.5	8.6	--	--	8.4	Aug-18
Summit Partners Growth Equity Fund X-A(Net)	4,480,376	0.4	4.8	0.0	0.0	-13.9	-4.8	--	--	--	-4.1	Mar-20
Pantheon II(Net)	4,304,234	0.4	4.6	0.0	0.0	32.8	69.4	21.5	19.9	--	15.1	Dec-11
Cortec Group Fund VII(Net)	4,073,198	0.4	4.4	0.0	0.0	26.0	52.2	--	--	--	24.0	Dec-19
Silver Point Specialty Credit Fund II, L.P.(Net)	3,650,672	0.3	3.9	0.0	0.0	13.4	22.1	--	--	--	18.7	Jul-20
Thoma Bravo Discover Fund III(Net)	3,490,960	0.3	3.8	0.0	0.0	--	--	--	--	--	4.5	Jun-21
Taconic Market Dislocation Fund III L.P.(Net)	3,334,027	0.3	3.6	0.0	0.0	24.5	24.5	--	--	--	20.7	Jul-20
Cressey & Company Fund VI(Net)	3,332,652	0.3	3.6	0.0	0.0	16.4	43.1	--	--	--	12.8	Jan-19
Invesco VI(Net)	3,049,091	0.3	3.3	0.0	0.0	82.5	138.4	36.5	28.4	--	21.1	Jun-13
Accel-KKR Growth Capital Partners III(Net)	3,031,742	0.3	3.3	0.0	0.0	15.5	20.6	--	--	--	0.3	Jul-19
Marlin Heritage Europe II, L.P.(Net)	2,818,981	0.2	3.0	0.0	0.0	-2.0	--	--	--	--	-2.0	Oct-20
Raven Asset Fund II(Net)	2,646,236	0.2	2.8	0.0	0.0	1.0	-16.8	-5.6	-4.4	--	-3.9	Aug-14
TCV XI(Net)	1,906,264	0.2	2.0	0.0	0.0	--	--	--	--	--	-5.2	Feb-21
Spark Capital VI(Net)	1,474,433	0.1	1.6	0.0	0.0	-3.4	-15.2	--	--	--	-10.4	Mar-20
Khosla Ventures VII(Net)	1,175,248	0.1	1.3	0.0	0.0	-4.8	--	--	--	--	-4.8	Jan-21
Summit Partners Venture Capital Fund V-A(Net)	581,676	0.1	0.6	0.0	0.0	--	--	--	--	--	-1.9	May-21
Pantheon Secondary(Net)	266,447	0.0	0.3	0.0	0.0	-5.0	9.6	-3.0	1.7	1.0	2.4	Jun-07
Accel-KKR Capital Partners VI(Net)	206,411	0.0	0.2	0.0	0.0	--	--	--	--	--	-41.3	Feb-21

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

Total Fund | As of August 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Pantheon I(Net)	200,325	0.0	0.2	0.0	0.0	12.9	13.1	-9.9	-2.4	1.6	1.1	Dec-05
Invesco IV(Net)	581	0.0	0.0	0.0	0.0	-12.5	-29.7	2.2	9.2	8.3	8.7	Jun-05
GTCR Fund XIII/A & B(Net)	-240	0.0	0.0									
Khosla Ventures Seed E(Net)	-59,090	0.0	-0.1									
Hedge Fund(Net)	105,054,977	9.1	9.1	0.8	-0.8	6.9	13.7	5.3	6.9	--	4.8	Jun-14
<i>Custom Blended Hedge Fund Benchmark</i>				<i>1.1</i>	<i>0.4</i>	<i>5.4</i>	<i>13.7</i>	<i>6.3</i>	<i>5.9</i>	<i>--</i>	<i>4.5</i>	<i>Jun-14</i>
Silver Point Capital(Net)	16,869,336	1.5	16.1	0.8	1.7	19.9	33.2	10.3	--	--	9.6	Nov-17
Wellington-Archipelago(Net)	14,105,970	1.2	13.4	0.8	1.5	4.7	8.3	5.8	--	--	6.0	Aug-17
Sculptor (OZ) Domestic II(Net)	13,903,548	1.2	13.2	0.9	0.6	5.9	11.9	10.9	10.6	--	8.0	Jun-14
Laurion Capital(Net)	13,881,461	1.2	13.2	0.0	-8.8	17.4	26.5	19.0	--	--	18.4	Aug-18
Taconic Opportunity Fund(Net)	13,718,718	1.2	13.1	0.0	-0.7	6.1	12.8	--	--	--	5.0	Dec-18
Marshall Wace Global Opportunities(Net)	9,845,579	0.8	9.4	2.6	2.5	-5.2	3.2	--	--	--	7.0	May-20
Caxton Global Investments(Net)	9,576,215	0.8	9.1	0.3	-1.1	--	--	--	--	--	-4.2	Jun-21
Graham Absolute Return(Net)	7,787,557	0.7	7.4	1.1	-3.6	0.8	4.7	1.5	--	--	1.7	Aug-17
Marshall Wace Eureka(Net)	4,157,076	0.4	4.0	1.6	2.7	6.4	15.2	7.4	--	--	7.5	Nov-17
KLS Diversified(Net)	1,209,516	0.1	1.2	-0.5	-0.1	2.5	8.5	-3.3	--	--	-1.1	Oct-17
Real Assets(Net)	66,696,794	5.8	5.8	-0.1	0.7	10.8	17.4	9.2	8.3	8.7	--	Mar-99
<i>Custom Blended Real Assets Benchmark</i>				<i>0.0</i>	<i>0.0</i>	<i>10.6</i>	<i>18.0</i>	<i>6.4</i>	<i>7.5</i>	<i>--</i>	<i>--</i>	<i>Mar-99</i>
<i>CPI + 5% (Seasonally Adjusted)</i>				<i>0.7</i>	<i>1.6</i>	<i>7.8</i>	<i>10.5</i>	<i>7.9</i>	<i>7.7</i>	<i>7.0</i>	<i>--</i>	<i>Mar-99</i>
SSgA(Net)	32,962,682	2.8	49.4	0.1	1.6	14.2	23.1	7.4	--	--	6.7	Apr-17
<i>Real Asset NL Custom Blended Index</i>				<i>0.0</i>	<i>1.9</i>	<i>16.4</i>	<i>25.8</i>	<i>8.1</i>	<i>--</i>	<i>--</i>	<i>7.2</i>	<i>Apr-17</i>

Total Fund | As of August 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Private Infrastructure(Net)	21,260,981	1.8	31.9	-0.3	-0.3	11.6	15.5	13.7	12.9	--	9.7	Dec-14
<i>Cambridge Infrastructure (1 Quarter Lagged)</i>				0.0	0.0	6.6	15.3	8.8	11.1	8.9	10.1	Dec-14
KKR Global II(Net)	7,901,717	0.7	37.2	-0.2	-0.2	33.3	47.3	28.4	21.3	--	18.0	Dec-14
North Haven Infrastructure II(Net)	5,301,954	0.5	24.9	0.0	0.0	-0.3	-1.7	5.6	8.6	--	6.1	May-15
ISQ Global Infrastructure Fund II(Net)	4,035,385	0.3	19.0	0.0	0.0	9.8	16.8	13.5	--	--	-0.9	Jul-18
KKR Global Infrastructure Investors III(Net)	3,148,505	0.3	14.8	-1.6	-1.6	0.4	7.9	--	--	--	-4.9	Jan-19
Ardian Infrastructure Fund V(Net)	920,073	0.1	4.3	0.0	0.0	-6.8	-39.1	--	--	--	-27.5	Oct-19
ISQ Global Infrastructure Fund III(Net)	-46,653	0.0	-0.2									
Private Natural Resources(Net)	12,473,131	1.1	18.7	0.0	0.0	7.8	18.6	3.3	8.8	--	11.3	Sep-15
<i>Cambridge Energy Upstream & Royalties & Private Energy (1 Quarter Lagged)</i>				0.0	0.0	14.8	20.7	--	--	--	--	Sep-15
GSO Energy Opportunities(Net)	2,759,716	0.2	22.1	0.0	0.0	24.8	58.4	2.5	7.6	--	10.9	Nov-15
Tailwater Energy Fund IV, LP(Net)	2,617,361	0.2	21.0	0.0	0.0	8.0	13.7	--	--	--	-16.5	Oct-19
BlackRock Global Energy and Power Infrastructure Fund III LP(Net)	1,909,364	0.2	15.3	0.0	0.0	2.5	37.5	--	--	--	18.0	Jul-19
EnCap XI(Net)	1,696,223	0.1	13.6	0.0	0.0	7.8	0.8	-16.6	--	--	-24.8	Jul-17
EnCap IV(Net)	1,335,636	0.1	10.7	0.0	0.0	5.2	9.2	7.2	--	--	1.0	Feb-18
Taurus Mining(Net)	1,111,980	0.1	8.9	0.0	0.0	-6.5	-7.0	-0.7	6.0	--	8.7	Sep-15
Taurus Mining Annex(Net)	1,042,852	0.1	8.4	0.0	0.0	-1.3	6.1	14.1	--	--	21.6	Jan-17
Cash(Net)	5,762,300	0.5	0.5	0.0	0.0	0.0	0.1	0.8	--	--	--	
Cash(Net)	4,959,543	0.4	86.1	0.0	0.0	0.0	0.1	1.1	1.1	0.8	--	Sep-03
Treasury Cash(Net)	802,757	0.1	13.9									

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

Benchmark History As of August 31, 2021

Total Fund		
1/1/2020	Present	21% Russell 3000 / 10% Custom Blended Developed International Equity BM / 8% Custom Blended Emerging Markets Benchmark / 18% BBgBarc US Aggregate TR / 10% Custom Blended Hedge Fund Benchmark / 15% Custom Private Equity Benchmark / 5% Custom Blended Real Assets Benchmark / 8% Custom Blended Real Estate Benchmark / 5% 50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans
7/1/2019	12/31/2019	21% US Equity Custom / 18% International Equity Custom / 18% US Fixed Custom / 10% Custom Blended Hedge Fund Benchmark / 15% Thomson Reuters Cambridge Private Equity Index / 5% Real Asset Custom / 8% NCREIF ODCE (net) / 5% 50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans
1/1/2019	6/30/2019	21% US Equity Custom / 18% International Equity Custom / 23% US Fixed Custom / 10% Custom Blended Hedge Fund Benchmark / 15% Thomson Reuters Cambridge Private Equity Index / 5% Real Asset Custom / 8% NCREIF ODCE (net)
1/1/2017	12/31/2018	27% US Equity Custom / 23% International Equity Custom / 22% US Fixed Custom / 5% Custom Blended Hedge Fund Benchmark / 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% Custom Blended Hedge Fund Benchmark / 8% NCREIF ODCE (net) / 7% Cambridge Assoc. U.S. Private Equity Legacy Index
Total Fund w/o Alternatives		
1/1/2017	Present	37.5% US Equity Custom / 31.94% International Equity Custom / 30.56% US Fixed Custom
7/1/2014	12/31/2016	28.2% Russell 1000 / 7.1% Russell 2000 / 29.3% International Equity Custom / 35.4% US Fixed Custom
US Equity		
1/1/2020	Present	Russell 3000
12/31/1994	12/31/2019	80% R1000 / 20% R2000
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
Developed International Equity		
1/1/2020	Present	80% MSCI EAFE / 20% MSCI ACWI ex US Small Cap
1/31/2008	12/31/2019	MSCI EAFE
Emerging Markets Equity		
1/1/2020	Present	MSCI Emerging Markets
4/30/2012	12/31/2019	MSCI Emerging Markets Gross
US Fixed Income		
1/1/2020	Present	Bloomberg US Aggregate TR
3/1/2018	12/31/2019	77.27% Bloomberg US Aggregate TR / 22.73% Bloomberg US Govt 1-5 Yr TR
1/1/2017	2/28/2018	77.27% Bloomberg US Aggregate TR / 22.73% Credit Suisse Leveraged Loans
8/1/2014	12/31/2016	71.93% Bloomberg US Aggregate TR / 17.54% ICE BofA US High Yield TR / 10.53% Credit Suisse Leveraged Loans
12/31/1994	7/31/2014	US Fixed Custom

Opportunistic Credit		
5/1/2019	Present	50% Bloomberg US Aggregate TR / 25% Bloomberg US High Yield TR / 25% Credit Suisse Leveraged Loans
Real Estate		
1/1/2020	Present	NCREIF ODCE (lagged one quarter)
3/31/1999	12/31/2019	NCREIF ODCE (net)
Vanguard REIT Index		
8/31/2020	Present	MSCI US IMI Real Estate 25-50 GR USD
Private Real Estate		
1/1/2020	Present	NCREIF ODCE (lagged one quarter)
3/31/1999	12/31/2019	NCREIF ODCE (net)
Private Equity		
1/1/2020	Present	Cambridge Global Private Equity & VC (1 Quarter Lagged)
6/30/2005	12/31/2019	Thomson Reuters Cambridge Private Equity Index
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		
1/1/2020	Present	50% Cambridge Infrastructure (1 Quarter Lagged) / 50% Cambridge Energy Upstream & Royalties & Private Energy (1 Quarter Lagged)
3/31/1999	12/31/2019	Real Asset Custom
Private Infrastructure		
12/31/2014	Present	Cambridge Infrastructure (1 Quarter Lagged)
Private Natural Resources		
9/30/2015	Present	Cambridge Energy Upstream & Royalties & Private Energy (1 Quarter Lagged)
SSgA		
4/30/2017	Present	25% Bloomberg Roll Select Commodities Index TR USD / 25% S&P Global LargeMidCap Commodity and Resources NR USD / 10% S&P Global Infrastructure TR USD / 15% DJ US Select REIT TR USD / 25% Bloomberg US TIPS TR

Annual Investment Expense Analysis				
As Of August 31, 2021				
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Total Fund w/o Alternatives		\$800,968,819		
US Equity		\$289,505,133		
Mellon Dynamic US Equity	0.30% of Assets	\$133,890,311	\$401,671	0.30%
Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$123,200,000	\$44,640	0.04%
Champlain Small Cap	1.00% of Assets	\$32,414,822	\$324,148	1.00%
International Equity		\$248,323,757		
Developed International Equity		\$144,970,995		
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	\$15,745,391	\$155,879	0.99%
Driehaus International Small Cap Growth	0.90% of Assets	\$17,802,327	\$160,221	0.90%
GQG International Equity	0.50% of Assets	\$60,458,310	\$302,292	0.50%
First Eagle International Value Fund	0.79% of Assets	\$50,964,967	\$402,623	0.79%
Emerging Markets Equity		\$103,352,762		
Artisan Developing World TR	1.05% of Assets	\$73,188,723	\$768,482	1.05%
RWC	0.87% of Assets	\$30,164,040	\$262,427	0.87%
US Fixed Income		\$195,213,146		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$91,466,734	\$232,933	0.25%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$10,610,810	\$5,305	0.05%
Vanguard Total Bond Market Index Fund	0.04% of Assets	\$93,135,603	\$32,597	0.04%
Opportunistic Credit		\$67,926,783		
PIMCO Income Fund	0.50% of Assets	\$25,563,971	\$127,820	0.50%
GoldenTree Multi-Sector Credit	0.70% of Assets	\$23,902,713	\$167,319	0.70%
Sculptor Credit Opportunities Domestic Partners, LP	Performance-based 1.00 and 20.00	\$18,460,099	\$184,601	1.00%

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate		\$87,660,483		
Vanguard REIT Index	0.10% of Assets	\$25,879,212	\$25,879	0.10%
Private Real Estate		\$61,781,271		
Greenfield Gap VII		\$5,507,609		
Patron Capital V		\$8,067,842		
UBS Trumbull Property		\$31,013,639		
Carlyle Realty VIII		\$1,581,168		
Taconic CRE Dislocation Fund II		\$4,055,377		
Carmel Partners Investment Fund VII		\$920,262		
AG Realty Value Fund X, L.P.		\$2,555,468		
Rockpoint Real Estate Fund VI, L.P.		\$1,326,777		
Cerberus Real Estate Debt Fund, L.P.		\$2,755,732		
Taconic CRE Dislocation Onshore Fund III		\$4,000,000		
Starwood Distressed Opportunity Fund XII Global		-\$2,603		
Invesco IV		\$581		
Invesco VI		\$3,049,091		
Ocean Avenue II		\$7,866,541		
Pantheon I		\$200,325		
Pantheon II		\$4,304,234		
Pantheon Secondary		\$266,447		
Raven Asset Fund II		\$2,646,236		
Davidson Kempner Long-Term Distressed Opportunities Fund IV		\$5,365,742		
GTCR Fund XII		\$4,658,149		
Carrick Capital Partners III		\$4,628,204		
Cressey & Company Fund VI		\$3,332,652		
TCV X		\$6,382,287		

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Accel-KKR Growth Capital Partners III		\$3,031,742		
Genstar Capital Partners IX		\$7,343,410		
Cortec Group Fund VII		\$4,073,198		
Spark Capital Growth Fund III		\$5,730,896		
Spark Capital VI		\$1,474,433		
Summit Partners Growth Equity Fund X-A		\$4,480,376		
Taconic Market Dislocation Fund III L.P.		\$3,334,027		
Silver Point Specialty Credit Fund II, L.P.		\$3,650,672		
Marlin Heritage Europe II, L.P.		\$2,818,981		
Khosla Ventures VII		\$1,175,248		
Accel-KKR Capital Partners VI		\$206,411		
Khosla Ventures Seed E		-\$59,090		
TCV XI		\$1,906,264		
Thoma Bravo Discover Fund III		\$3,490,960		
Summit Partners Venture Capital Fund V-A		\$581,676		
GTCR Fund XIII/A & B		-\$240		
Hedge Fund		\$105,054,977		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	\$13,903,548	\$234,865	1.69%
Graham Absolute Return	Performance-based 1.75 and 20.00	\$7,787,557	\$153,571	1.97%
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$14,105,970	\$166,609	1.18%
KLS Diversified	Performance-based 2.00 and 20.00	\$1,209,516	\$24,190	2.00%
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$4,157,076	\$96,777	2.33%
Silver Point Capital	Performance-based 1.50 and 20.00	\$16,869,336	\$281,718	1.67%
Laurion Capital	Performance-based 2.00 and 20.00	\$13,881,461	\$279,017	2.01%
Taconic Opportunity Fund	Performance-based 1.40 and 20.00	\$13,718,718	\$192,885	1.41%
Marshall Wace Global Opportunities	Performance-based 2.00 and 20.00	\$9,845,579	\$248,392	2.52%
Caxton Global Investments	Performance-based 1.95 and 22.50	\$9,576,215	\$192,554	2.01%

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Assets		\$66,696,794		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$32,962,682	\$98,888	0.30%
Private Infrastructure		\$21,260,981		
KKR Global II		\$7,901,717		
North Haven Infrastructure II		\$5,301,954		
ISQ Global Infrastructure Fund II		\$4,035,385		
KKR Global Infrastructure Investors III		\$3,148,505		
Ardian Infrastructure Fund V		\$920,073		
ISQ Global Infrastructure Fund III		-\$46,653		
Private Natural Resources		\$12,473,131		
EnCap XI		\$1,696,223		
EnCap IV		\$1,335,636		
GSO Energy Opportunities		\$2,759,716		
Taurus Mining		\$1,111,980		
Taurus Mining Annex		\$1,042,852		
BlackRock Global Energy and Power Infrastructure Fund III LP		\$1,909,364		
Tailwater Energy Fund IV, LP		\$2,617,361		
Cash		\$5,762,300		
Cash		\$4,959,543		
Treasury Cash		\$802,757		

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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.

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.



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Alternative Investment Performance
Merced County Employees' Retirement Association

September 23, 2021

MCERA Private Equity Capital Budget & Implementation Plan

15% fund level target

- Annual capital budget target of \$40 million, range of \$30-\$50 million
- Target 4-7 investments, range of \$5-\$15 million per inv; average size of \$8 million per

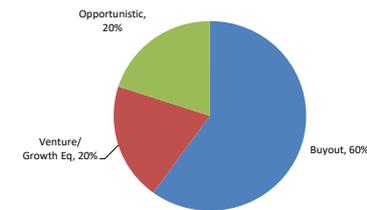
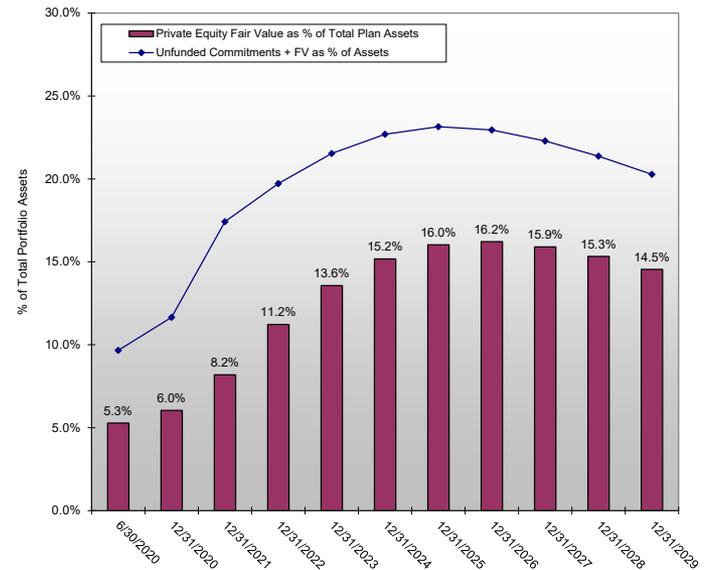
Performance comparisons:

- *Long term investment objective:* Earn a return premium over public equity (Russell 3000 + 3%)
- *Recommended primary asset class benchmark:* Cambridge Associates Global Private Equity & VC Index
- *Recommended fund benchmarks:* Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to Cambridge Associates Global Private Equity & VC Index

MCERA CY 2021 commitments:

- Genstar X – buyout (VY 2021), \$8 mm
- Nautic X – buyout (VY 2021), \$8 mm
- Marlin Heritage III – buyout (VY 2021), \$8 mm
- TCV Expansion – venture capital (VY 2021), \$8 mm
- Summit Growth XI – buyout (VY 2022), \$8 mm

Projected Private Equity Allocations



	Target	Ranges
Buyout	60%	40-80%
Venture/Growth Eq	20%	10-30%
Opportunistic	20%	10-30%
	100%	

Note: MCERA's existing private equity portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth of 5.5%.

MCERA Private Equity Investment Structure & Portfolio Assessment

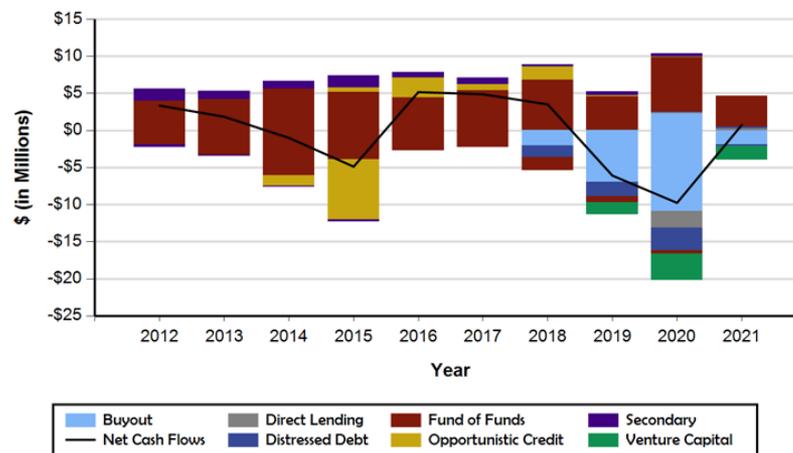
Investment structure (15% fund target; 7.3% invested as of Jun 2021):

- Current portfolio is barbelled with half of commitments in 2007 & earlier FoFs and half in 2011 & later FoFs
 - Overall portfolio has not met performance expectations; 2011 & later portfolio is still in development with the funds in VY 2017-2021 in their investment period
 - Continued rebound in 1Q valuations offsetting the 1Q20 markdowns and there were annual gains of \$28 million; contributions exceed distributions by \$9 million as the newer portfolios are being built
 - Portfolio is diversified by strategy but overall it is in a negative cash flow situation

Annual Summary

(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
March 31, 2020	31	\$ 140,878	\$ 77,933	\$ 63,643	\$ 45,603	\$ 109,246	\$ 31,313	8.03%	10.75%
March 31, 2021	40	\$ 200,291	\$ 99,760	\$ 76,543	\$ 82,823	\$ 159,366	\$ 59,606	10.88%	13.14%
Annual Change	0	\$ 59,413	\$ 21,827	\$ 12,900	\$ 37,220	\$ 50,120	\$ 28,293		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MCERA Private Equity Performance – as of Mar 31, 2021

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
Vintage Year 2004												
Invesco Partnership Fund IV, L.P.	Fund of Funds	10,000	2,417	7,898	76%	16,230	4	16,234	8,336	11.75%	7.92%	2.06x
Vintage Year 2004 Total		10,000	2,417	7,898	76%	16,230	4	16,234	8,336	11.75%	8.20%	2.06x
Vintage Year 2005												
ASP 2005 Non-US Fund	Fund of Funds	1,500	74	1,426	95%	1,717	240	1,956	531	4.75%	4.58%	1.37x
ASP 2005 US Fund	Fund of Funds	3,500	177	3,323	95%	4,697	695	5,392	2,069	7.26%	7.55%	1.62x
Pantheon Ventures Euro Fund IV	Fund of Funds	1,175	50	1,284	96%	1,584	89	1,674	390	4.64%	4.58%	1.30x
Pantheon Ventures USA Fund VI	Fund of Funds	3,750	206	3,544	95%	5,284	111	5,395	1,851	6.52%	7.55%	1.52x
Vintage Year 2005 Total		9,925	507	9,576	95%	13,282	1,135	14,417	4,840	6.32%	7.49%	1.51x
Vintage Year 2006												
Pantheon Global Secondary Fund III	Secondary	10,000	540	9,460	95%	10,300	266	10,566	1,106	1.97%	8.59%	1.12x
Vintage Year 2006 Total		10,000	540	9,460	95%	10,300	266	10,566	1,106	1.97%	7.20%	1.12x
Vintage Year 2007												
ASP 2007 Direct Fund	Fund of Funds	450	12	438	97%	880	252	1,132	694	12.53%	11.17%	2.58x
ASP 2007 Non-US Fund	Fund of Funds	1,575	78	1,497	95%	1,851	692	2,543	1,046	8.52%	7.40%	1.70x
ASP 2007 US Fund	Fund of Funds	2,475	115	2,360	95%	3,847	1,058	4,905	2,545	12.72%	11.17%	2.08x
Vintage Year 2007 Total		4,500	205	4,295	95%	6,578	2,002	8,580	4,285	11.36%	8.93%	2.00x
Vintage Year 2011												
ASP 2011 Direct Fund	Fund of Funds	500	37	463	93%	569	459	1,028	565	16.47%	19.63%	2.22x
ASP 2011 Emerging Markets Fund	Fund of Funds	500	64	436	87%	309	826	1,136	700	17.39%	11.32%	2.61x
ASP 2011 Non-US Developed Fund	Fund of Funds	1,500	239	1,261	84%	1,239	1,210	2,450	1,189	15.03%	11.32%	1.94x
ASP 2011 US Fund	Fund of Funds	2,500	326	2,175	87%	2,277	2,688	4,965	2,791	17.63%	19.63%	2.28x
Pantheon Asia Fund VI	Fund of Funds	1,000	95	906	91%	575	1,040	1,615	709	11.46%	11.32%	1.78x
Pantheon Euro Fund VII	Fund of Funds	1,639	218	1,493	87%	1,407	1,462	2,869	1,377	13.16%	11.32%	1.92x
Pantheon Ventures USA Fund IX	Fund of Funds	2,000	212	1,788	89%	1,904	2,326	4,229	2,441	17.40%	19.63%	2.37x
Vintage Year 2011 Total		9,639	1,192	8,521	88%	8,280	10,012	18,292	9,771	15.76%	13.23%	2.15x
Vintage Year 2013												
Invesco Partnership Fund VI, L.P.	Fund of Funds	5,000	1,548	3,958	69%	2,359	11,481	13,841	9,882	24.58%	22.40%	3.50x
Vintage Year 2013 Total		5,000	1,548	3,958	69%	2,359	11,481	13,841	9,882	24.58%	14.19%	3.50x
Vintage Year 2014												
Ocean Avenue Fund II	Fund of Funds	10,000	1,000	9,000	90%	10,547	8,767	19,313	10,313	19.35%	20.77%	2.15x
Raven Asset-Based Opp Fund II	OppCredit	10,000	474	9,526	95%	6,159	2,646	8,805	-720	-2.31%	7.05%	0.92x
Vintage Year 2014 Total		20,000	1,474	18,526	93%	16,706	11,413	28,119	9,593	10.84%	18.73%	1.52x

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

MCERA Private Equity Performance – as of Mar 31, 2021

Partnership Name	Strategy	(A)	Unfund. Amount	(B)	% Drawn	(C)	(D)	(C+D)	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
		Commit. Amount		Cumulat. Cont.		Cumulat. Dist.	Fair Value	Total Value				
Vintage Year 2017												
GTCR XII	Buyout	5,000	1,880	3,120	62%	680	3,964	4,644	1,524	29.54%	25.42%	1.49x
Vintage Year 2017 Total		5,000	1,880	3,120	62%	680	3,964	4,644	1,524	29.54%	21.00%	1.49x
Vintage Year 2018												
Carrick Capital Partners III, L.P.	Buyout	5,000	1,895	3,105	62%	0	3,874	3,874	769	18.84%	18.24%	1.25x
Cressey & Company Fund VI LP	Buyout	5,000	2,575	2,425	49%	0	3,333	3,333	908	30.22%	18.24%	1.37x
DK LT Distr Opp Fund IV	Distressed Debt	5,000	535	4,550	89%	85	5,202	5,287	737	8.01%	N/A	1.16x
Vintage Year 2018 Total		15,000	5,005	10,080	67%	85	12,408	12,494	2,413	14.73%	21.15%	1.24x
Vintage Year 2019												
Accel-KKR Growth Capital Partners III	Buyout	5,000	3,299	1,701	34%	0	1,964	1,964	263	N/M	N/M	1.15x
Cortec Group Fund VII, L.P.	Buyout	10,000	7,257	4,283	27%	1,543	3,986	5,529	1,245	N/M	N/M	1.29x
Genstar Capital Partners IX, L.P.	Buyout	7,000	4,414	2,748	37%	163	3,800	3,963	1,215	N/M	N/M	1.44x
Summit Partners Growth Eq Fund X-A	Buyout	8,000	4,990	3,010	38%	0	3,850	3,850	840	N/M	N/M	1.28x
Silver Point Specialty Credit Fund II, TCX X, L.P.	Direct Lending	8,000	6,081	1,917	24%	100	2,110	2,210	293	N/M	N/M	1.15x
	Venture Capital	5,000	1,688	3,312	66%	0	6,170	6,170	2,858	66.59%	32.09%	1.86x
Vintage Year 2019 Total		43,000	27,729	16,970	36%	1,805	21,880	23,685	6,715	45.14%	23.13%	1.40x
Vintage Year 2020												
Accel-KKR Capital Partners VI, LP	Buyout	5,000	4,810	190	4%	0	105	105	-84	N/M	N/M	0.56x
GTCR Fund XIII/A & B LP	Buyout	8,000	8,000	0	0%	0	0	0	0	N/M	N/M	N/A
Marlin Heritage Europe II, L.P.	Buyout	8,226	7,037	1,206	14%	0	1,179	1,179	-27	N/M	N/M	0.98x
Thoma Bravo Discover Fund III, L.P.	Buyout	8,000	8,000	0	0%	0	51	51	51	N/M	N/M	N/A
Taconic Market Dislocation Fund III	Distressed Debt	8,000	5,950	2,227	26%	237	2,534	2,771	543	N/M	N/M	1.24x
Spark Capital Growth Fund III, L.P.	Venture Capital	6,000	3,450	2,550	43%	0	3,421	3,421	871	N/M	N/M	1.34x
Spark Capital VI, L.P.	Venture Capital	3,000	2,025	975	33%	0	904	904	-71	N/M	N/M	0.93x
Summit Partners VC Fund V-A, L.P.	Venture Capital	6,000	6,000	0	0%	0	-24	-24	-24	N/M	N/M	N/A
Vintage Year 2020 Total		52,226	45,272	7,148	13%	237	8,170	8,407	1,259	N/M	N/M	1.18x

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

MCERA Private Equity Performance – as of Mar 31, 2021

Partnership Name	(A)	(B)	(C)	(D)	(C+D)							
Strategy	Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	Fair Value	Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	
Vintage Year 2021												
Khosla Ventures Seed E, L.P.	Venture Capital	2,000	1,958	42	2%	0	31	31	-11	N/M	N/M	0.74x
Khosla Ventures VII, L.P.	Venture Capital	6,000	5,862	138	2%	0	107	107	-31	N/M	N/M	0.78x
TCV XI, L.P.	Venture Capital	8,000	7,973	27	0%	0	-51	-51	-78	N/M	N/M	-1.86x
Vintage Year 2021 Total		16,000	15,793	207	1%	0	87	87	-120	N/M	N/M	0.42x
Portfolio Total :		200,291	103,563	99,760	48%	76,543	82,823	159,366	59,606	10.88%	13.14%	1.60x
Portfolio Strategy Totals												
Buyout		74,226	54,157	21,787	27%	2,386	26,105	28,491	6,703	29.61%		1.31x
Direct Lending		8,000	6,081	1,917	24%	100	2,110	2,210	293	N/M		1.15x
Distressed Debt		13,000	6,485	6,777	50%	322	7,736	8,058	1,280	12.22%		1.19x
Fund of Funds		49,065	6,870	43,248	86%	57,276	33,400	90,676	47,428	12.34%		2.10x
Opportunistic Credit		10,000	474	9,526	95%	6,159	2,646	8,805	-720	-2.32%		0.92x
Secondary		10,000	540	9,460	95%	10,300	266	10,566	1,106	1.98%		1.12x
Venture Capital		36,000	28,956	7,044	20%	0	10,559	10,559	3,515	65.00%		1.50x
Portfolio Total :		200,291	103,563	99,760	48%	76,543	82,823	159,366	59,606	10.88%	13.14%	1.60x

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

MCERA Real Estate Capital Budget & Implementation Plan

8% fund level target

- Annual capital budget target of \$15 million, range of \$10-\$25 million
- Target 2-4 investments, range of \$5-\$10 million per inv
 - Average investment size of \$7 million
 - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising cycle
- Retain core real estate exposure but lower it to 25% of the portfolio due to current valuations; use REITS as a substitute until funding private real estate investments is needed

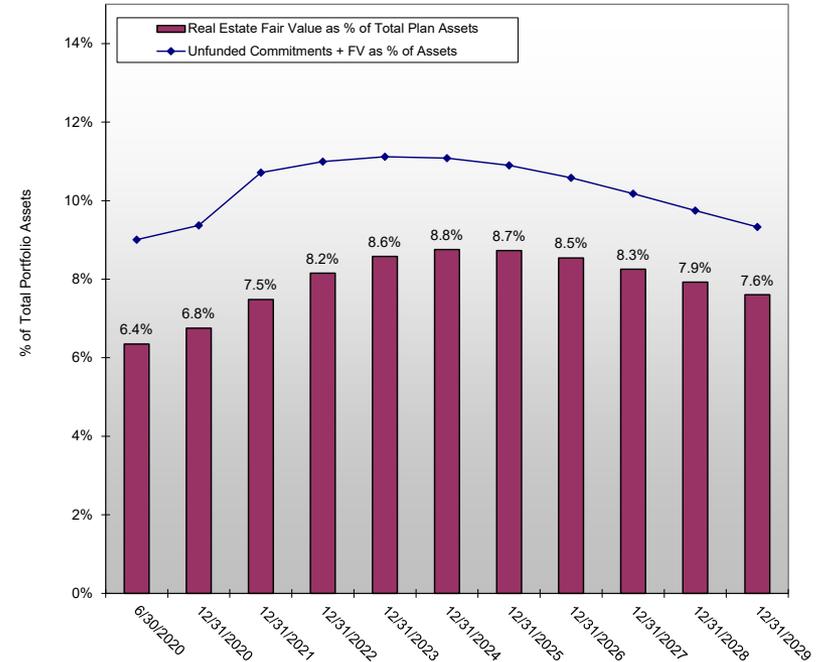
Performance comparisons:

- *Long term investment objective:* Earn a return premium over inflation (CPI-U + 5%)
- *Recommended primary asset class benchmark:* NCREIF NFI-ODCE; revisit over time as the structure of the portfolio changes
- *Recommended fund benchmarks:* Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to Cambridge Associates Global Real Estate Index

MCERA CY 2021 commitments:

- Caryle RE IX – opportunistic RE (VY 2021), \$8 mm
- Taconic CRE III – RE debt (VY 2021), \$8 mm

Projected Real Estate Allocations



Note: MCERA's existing real estate portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical averages. Total fund growth rate of 5.5%.

MCERA Real Estate Investment Structure & Portfolio Assessment

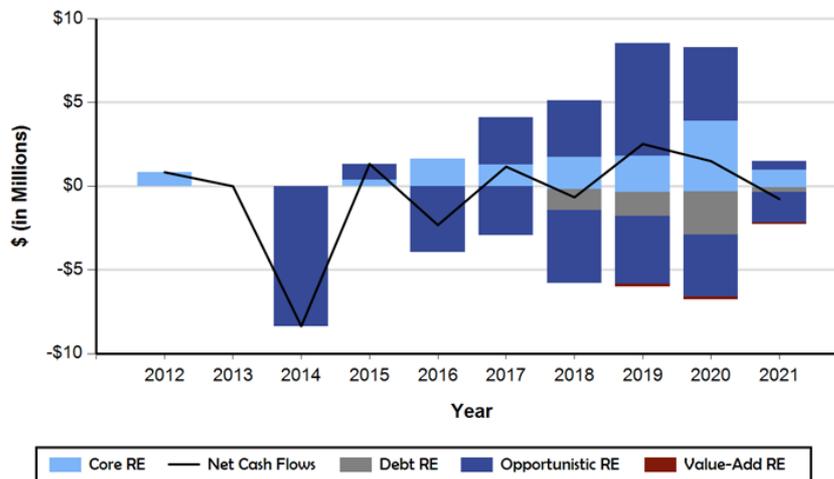
Real estate investment structure (8% target, 7.5% actual as of Jun 2021)

- MCERA invested in 1999 in a private core real estate fund; direct program began in 2014
- Contributions exceeded distributions by \$2 million over the past year; overall RE activity has declined and valuations remain muted

Annual Summary

(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
March 31, 2020	8	\$ 68,055	\$ 43,814	\$ 39,693	\$ 57,595	\$ 97,288	\$ 53,473	8.81%	8.78%
March 31, 2021	10	\$ 83,985	\$ 52,240	\$ 46,068	\$ 61,087	\$ 107,154	\$ 54,914	8.55%	8.49%
Annual Change	2	\$ 15,930	\$ 8,426	\$ 6,375	\$ 3,492	\$ 9,866	\$ 1,441		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MCERA Real Estate Performance – as of Dec 31, 2020

Real Estate Portfolio

- MCERA began investing in the UBS Trumbull core real estate fund in 1999 and this represents the bulk of the real estate portfolio
 - Opportunistic funds began being added in 2014 and they are in the early stages of development with the VY 2016 fund now out of its “j-curve”
- Overall performance has met objectives, driven by the core RE fund; opportunistic fund performance is not meaningful

Partnership Name	Strategy	(A)		(B)		(C)	(D)	(C+D)		IRR	TVPI	
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn			Cumulat. Dist.	Fair Value			Total Value
Vintage Year 1999												
UBS Trumbull Property Fund	Core RE	17,000	0	17,949	100%	28,113	34,784	62,897	44,949	8.36%	10.20%	3.50x
Vintage Year 1999 Total		17,000	0	17,949	100%	28,113	34,784	62,897	44,949	8.36%	12.95%	3.50x
Vintage Year 2014												
Greenfield Acquisition Partners VII,	Opportunistic RE	13,000	1,876	12,662	86%	13,905	6,323	20,229	7,567	12.57%	9.82%	1.60x
Vintage Year 2014 Total		13,000	1,876	12,662	86%	13,905	6,323	20,229	7,567	12.57%	9.62%	1.60x
Vintage Year 2016												
Patron Capital Fund V	Opportunistic RE	13,985	3,499	10,245	75%	3,424	7,969	11,393	1,148	5.65%	10.19%	1.11x
Vintage Year 2016 Total		13,985	3,499	10,245	75%	3,424	7,969	11,393	1,148	5.65%	10.67%	1.11x
Vintage Year 2017												
Carlyle Realty Partners VIII, L.P.	Opportunistic RE	5,000	3,354	2,249	33%	599	1,919	2,518	269	9.47%	9.94%	1.12x
Vintage Year 2017 Total		5,000	3,354	2,249	33%	599	1,919	2,518	269	9.47%	10.05%	1.12x
Vintage Year 2018												
Taconic CRE Dislocation Fund II	Debt RE	5,000	900	4,172	82%	0	4,806	4,806	634	10.21%	10.67%	1.15x
AG Realty Value Fund X, L.P.	Opportunistic RE	5,000	2,638	2,362	47%	26	2,555	2,581	219	N/M	N/M	1.09x
Vintage Year 2018 Total		10,000	3,538	6,534	65%	26	7,361	7,387	853	10.10%	10.86%	1.13x
Vintage Year 2019												
Rockpoint Real Estate Fund VI, L.P.	Opportunistic RE	5,000	4,235	764	15%	0	813	813	48	N/M	N/M	1.06x
Carmel Partners Investment Fund VII,	Value-Add RE	5,000	4,513	487	10%	0	307	307	-180	-38.11%	-1.45%	0.63x
Vintage Year 2019 Total		10,000	8,748	1,251	13%	0	1,119	1,119	-132	-11.18%	2.17%	0.89x
Vintage Year 2020												
Cerberus Real Estate Debt Fund, L.P.	Debt RE	7,000	5,647	1,351	19%	0	1,612	1,612	262	N/M	N/M	1.19x
Starwood Distressed Opp Fund XII	Opportunistic RE	8,000	8,000	0	0%	0	-3	-3	-3	N/M	N/M	N/A
Vintage Year 2020 Total		15,000	13,647	1,351	9%	0	1,610	1,610	259	N/M	N/M	1.19x
Portfolio Total :		83,985	34,661	52,240	59%	46,068	61,087	107,154	54,914	8.55%	8.49%	2.05x

Note: The benchmark at the total portfolio level is NCREIF NFI-ODCE . Private real estate benchmark at the fund level is the Cambridge Value Add or Opportunistic RE Indices while the Cambridge Global Real Estate Index at the vintage year level.

MCERA Real Asset Capital Budget & Implementation Plan

5% fund level target

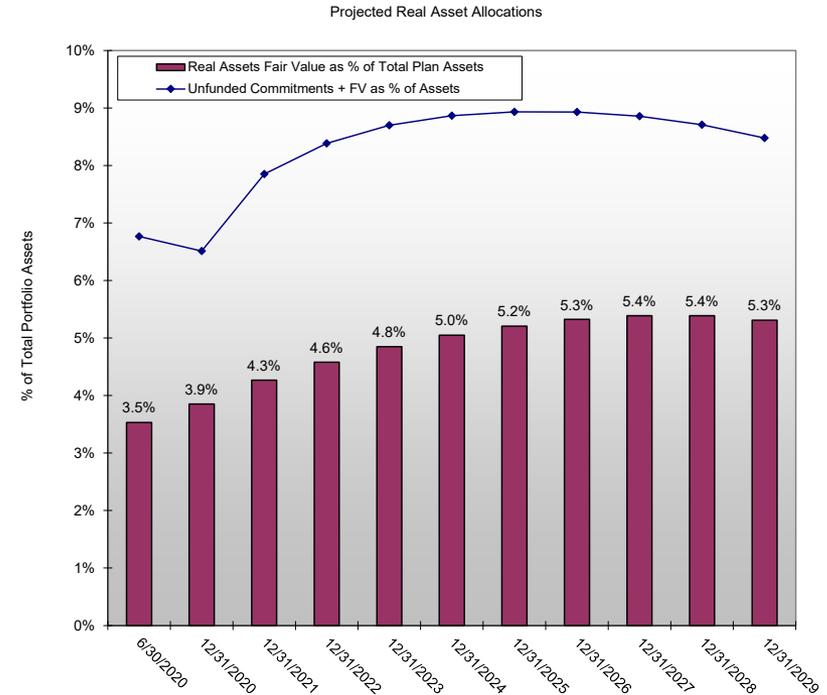
- Annual capital budget target of \$15 million, range of \$10-\$25 million
- Target 2-4 investments, range of \$5-\$10 million per inv
 - Average investment size of \$7 million
 - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising cycle
- Portfolio targeted to be equally split between infrastructure and energy/natural resource funds

Performance comparisons:

- *Long term investment objective:* Earn a return premium over inflation (CPI-U + 5%)
- *Recommended primary asset class benchmark:* 50/50 Cambridge Global Infrastructure/Cambridge Energy Upstream & Royalties and Private Energy Index
- *Recommended fund benchmarks:* Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to the 50/50 index

MCERA CY 2021 commitments (\$8 mm):

- KKR GIP IV - global infrastructure (VY 2021)



Note: MCERA's existing real asset portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth rate of 5.5%.

MCERA Real Assets Investment Structure & Portfolio Assessment

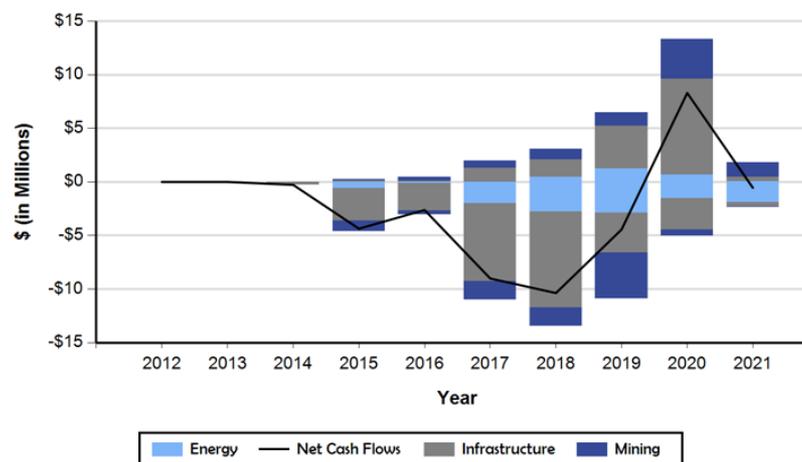
Real assets investment structure (5% target, 5.7% actual as of Jun 2021)

- Program is designed to be equally divided between private infrastructure and natural resource funds along with a public real asset component
- Private fund commitments began in 2014 to infrastructure and 2015 to natural resources
- The overall portfolio is immature with the funds in the early stage of development
 - Distributions exceed contributions by \$6 mm as the infrastructure funds continue to return capital

Annual Summary

(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
March 31, 2020	12	\$ 70,316	\$ 46,737	\$ 16,958	\$ 37,582	\$ 54,541	\$ 7,804	9.55%	-6.69%
March 31, 2021	13	\$ 75,659	\$ 50,701	\$ 27,393	\$ 36,588	\$ 63,981	\$ 13,280	11.33%	1.05%
Annual Change	1	\$ 5,343	\$ 3,964	\$ 10,435	\$ (994)	\$ 9,440	\$ 5,476		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MCERA Real Assets Performance – as of Dec 31, 2020

Real Asset Portfolio

- MCERA began allocating to real assets in 2014 via direct fund commitments
- Portfolio is in its early stages of development so performance is not meaningful; the gains in infrastructure funds offset the losses in the energy funds; the VY 2017-21 funds are being built out

Partnership Name	Strategy	(A)		(B)		(C)		(C+D)		IRR	TVPI	
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	(D) Fair Value	Total Value	(C+D-B) Gain/Loss			Net IRR
Vintage Year 2014												
KKR Global Infrastructure II	Infrastructure	10,000	528	11,001	95%	9,150	9,544	18,694	7,693	18.55%	8.72%	1.70x
Vintage Year 2014 Total		10,000	528	11,001	95%	9,150	9,544	18,694	7,693	18.55%		1.70x
Vintage Year 2015												
GSO Energy Select Opportunities Fund	Energy	7,500	3,486	4,470	54%	2,052	3,394	5,447	977	6.87%	5.53%	1.22x
North Haven Infrastructure Partners II	Infrastructure	10,000	1,333	11,245	87%	6,547	7,157	13,703	2,459	8.45%	9.13%	1.22x
Taurus Mining Finance Fund	Mining	5,000	606	5,271	88%	4,331	1,485	5,815	544	5.88%	N/A	1.10x
Vintage Year 2015 Total		22,500	5,425	20,986	76%	12,930	12,036	24,965	3,980	7.58%		1.19x
Vintage Year 2016												
Taurus Mining Finance Annex Fund	Mining	5,000	1,058	4,548	79%	4,131	1,554	5,685	1,137	18.07%	N/A	1.25x
Vintage Year 2016 Total		5,000	1,058	4,548	79%	4,131	1,554	5,685	1,137	18.07%		1.25x
Vintage Year 2017												
EnCap Energy Capital Fund XI, L.P.	Energy	5,000	3,184	1,816	36%	0	1,260	1,260	-557	-19.28%	3.41%	0.69x
ISQ Global Infrastructure Fund II	Infrastructure	5,000	1,951	3,679	61%	632	3,905	4,537	858	15.36%	N/A	1.23x
Vintage Year 2017 Total		10,000	5,135	5,495	49%	632	5,165	5,796	301	3.49%		1.05x
Vintage Year 2018												
EnCap Flatrock Midstream IV, L.P.	Energy	3,000	1,841	1,237	39%	78	1,318	1,397	159	6.06%	3.62%	1.13x
Ardian Infrastructure Fund V	Infrastructure	5,159	4,494	659	13%	20	625	645	-14	-1.67%	N/A	0.98x
KKR Global Infrastructure Investors III	Infrastructure	5,000	2,777	2,492	44%	176	2,402	2,578	87	2.75%	N/A	1.03x
Vintage Year 2018 Total		13,159	9,111	4,388	31%	275	4,346	4,620	232	3.54%		1.05x
Vintage Year 2019												
Global Energy & Power Infra Fund III	Energy	5,000	3,199	1,954	36%	275	1,813	2,089	134	N/M	N/M	1.07x
Tailwater Energy Fund IV, LP	Energy	5,000	2,669	2,329	47%	0	2,178	2,178	-151	N/M	N/M	0.94x
Vintage Year 2019 Total		10,000	5,869	4,284	41%	275	3,992	4,267	-17	N/M		1.00x
Vintage Year 2021												
ISQ Global Infrastructure Fund III	Infrastructure	5,000	5,000	0	0%	0	-47	-47	-47	N/M	N/M	N/A
Vintage Year 2021 Total		5,000	5,000	0	0%	0	-47	-47	-47	N/M		N/A
Portfolio Total :		75,659	32,126	50,701	58%	27,393	36,588	63,981	13,280	11.33%	1.05%	1.26x
Portfolio Strategy Totals												
Energy		25,500	14,379	11,807	44%	2,406	9,964	12,370	563	2.53%		1.05x
Infrastructure		40,159	16,083	29,075	60%	16,525	23,586	40,111	11,036	13.84%		1.38x
Mining		10,000	1,664	9,819	83%	8,462	3,038	11,500	1,681	10.60%		1.17x
Portfolio Total :		75,659	32,126	50,701	58%	27,393	36,588	63,981	13,280	11.33%	1.05%	1.26x

Note: Benchmark is 50% S&P Natural Resources and 50% S&P Infrastructure. Benchmarks for individual funds are the respective Cambridge strategy benchmark.

MCERA Hedge Fund Performance – as of Aug 31, 2021

Fund	Market Value	Actual %	Aug	QTD	YTD	Returns				Std Dev	Sharpe Ratio	Incep Date
						1 Year	3 Year	5 Year	Incep			
Market Neutral												
KLS Diversified Fund LP	1,209,516	1.2%	-0.42%	-0.10%	2.50%	8.52%	-3.63%	-	-0.97%	10.42%	-0.18	Oct-17
Laurion Capital, Ltd.	13,881,461	13.2%	0.05%	-8.61%	18.70%	27.96%	19.16%	-	17.93%	13.62%	1.18	Jul-18
Market Neutral - HF Total	15,090,976	14.4%	0.01%	-7.61%	9.87%	17.55%	5.84%	-	6.09%	8.94%	0.54	Oct-17
HFRI Relative Value Total			0.48%	0.23%	6.81%	12.37%	4.73%	-	4.61%	6.20%	0.52	Oct-17
Credit/Distressed												
Silver Point Capital Fund, L.P.	16,869,336	16.1%	0.85%	1.67%	19.86%	33.16%	9.99%	-	9.64%	8.14%	0.98	Dec-17
Credit/Distressed - HF Total	16,869,336	16.1%	0.85%	1.67%	19.86%	33.16%	9.99%	-	9.64%	8.14%	0.98	Dec-17
HFRI EDDistressed/Restructuring Index			0.44%	-0.35%	14.19%	28.82%	7.79%	-	7.45%	8.73%	0.69	Dec-17
Event Driven												
Taconic Opportunity Fund L.P.	13,718,718	13.1%	0.03%	-0.69%	6.11%	12.81%	-	-	4.74%	6.58%	0.55	Dec-18
Event Driven - HF Total	13,718,718	13.1%	0.03%	-0.69%	6.11%	12.81%	-	-	4.74%	6.58%	0.55	Dec-18
HFRI Event-Driven (Total) Index			0.96%	-0.32%	11.36%	24.74%	-	-	9.31%	10.71%	0.77	Dec-18
Equity Long/Short												
Archipelago Partners, L.P.	14,105,970	13.4%	0.91%	1.72%	5.61%	9.70%	6.29%	-	6.76%	8.46%	0.64	Sep-17
Marshall Wace Funds LP - MW Eureka (US) Fund	4,157,076	4.0%	1.64%	2.88%	7.65%	17.47%	9.26%	-	9.09%	6.54%	1.13	Dec-17
Marshall Wace Funds LP - MW Global Opportunities (US) Fund	9,845,579	9.4%	2.61%	2.51%	-5.20%	3.19%	-	-	6.54%	10.77%	0.62	Apr-20
Equity Long/Short - HF Total	28,108,626	26.8%	1.61%	2.16%	1.83%	8.37%	5.58%	-	6.24%	7.94%	0.62	Sep-17
HFRI Equity Hedge (Total) Index			1.18%	-0.02%	11.92%	27.00%	10.91%	-	9.92%	10.73%	0.80	Sep-17
Global Macro-Discretionary												
Graham Absolute Return Trading Ltd.	7,787,557	7.4%	1.11%	-3.48%	1.97%	6.65%	2.82%	-	2.75%	9.62%	0.18	Sep-17
Caxton Global Investments (USA) LLC	9,576,215	9.1%	0.27%	-1.05%	-	-	-	-	-4.24%	5.52%	-	May-21
Global Macro-Discretionary - HF Total	17,363,772	16.5%	0.65%	-2.16%	2.78%	7.49%	3.09%	-	2.95%	9.45%	0.20	Sep-17
HFRI Macro (Total) Index Cliff			0.23%	-0.36%	7.96%	11.05%	5.66%	-	4.21%	5.06%	0.55	Sep-17
Multi-Strategy												
Sculptor Domestic Partners II, L.P.	13,903,548	13.2%	0.95%	0.69%	6.98%	13.80%	12.37%	11.37%	8.49%	7.17%	1.02	Jul-14
Multi-Strategy - HF Total	13,903,548	13.2%	0.95%	0.69%	6.98%	13.80%	12.37%	11.37%	8.49%	7.17%	1.02	Jul-14
HFRI Relative Value Total			0.48%	0.23%	6.81%	12.37%	4.73%	4.97%	3.97%	4.93%	0.59	Jul-14
MCERA Hedge Fund Portfolio	105,054,977	100.0%	0.80%	-0.76%	7.54%	14.62%	5.78%	7.20%	4.98%	5.66%	0.69	Jul-14
Benchmarks												
HFRI Fund of Funds Composite Index			1.14%	0.35%	5.32%	13.66%	6.29%	5.79%	4.04%	5.31%	0.56	Jul-14
Market Indices												
Libor3Month			0.01%	0.02%	0.11%	0.18%	1.29%	1.39%	1.09%	0.25%	-	Jul-14
Bloomberg Barclays US Aggregate Bond Index			-0.19%	0.93%	-0.69%	-0.08%	5.44%	3.11%	3.34%	3.11%	0.73	Jul-14
Bloomberg Barclays US High Yield Bond Index			0.51%	0.90%	4.55%	10.14%	7.11%	6.66%	5.47%	7.20%	0.62	Jul-14
S&P 500 TR			3.04%	5.49%	21.58%	31.17%	18.08%	18.02%	14.60%	14.04%	0.97	Jul-14
MSCI AC World Index Free - Net			2.50%	3.21%	15.91%	28.64%	14.34%	14.29%	9.99%	13.87%	0.68	Jul-14
MSCI EAFE - Net			1.76%	2.53%	11.58%	26.12%	9.00%	9.72%	5.21%	14.33%	0.35	Jul-14
MSCI EMF (Emerging Markets Free) - Net			2.62%	-4.29%	2.84%	21.12%	9.87%	10.40%	5.55%	16.96%	0.34	Jul-14

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Los Angeles • New York

2020 Alternative Asset Fee and Expense Reporting
MCERA Investment Retirement Board Meeting
September 23, 2021

Background

California Assembly Bill 2833 was enacted in 2016 and became effective January 1, 2017 as California Government Code Section 7514.7 (the “Code”)

- The Code requires California public pension plans (“California Plans”) to obtain and publicly disclose certain fee and expense data and information on an annual basis in a public meeting

The law applies to any private fund that is an alternative investment vehicle whose contract with a California Plan was entered into on or after January 1, 2017, or for any existing contract as of December 31, 2016 for which an additional capital commitment is made on or after January 1, 2017

- California Plans are required to use “reasonable efforts” to obtain the required information for contracts entered into prior to January 1, 2017

The intent of the legislation is to increase transparency of the fees public investors are paying

Code Section 7514.7 Disclosure Requirements

1. The fees and expenses that the California Plan pays directly to the alternative investment vehicle, the fund manager, or related parties.
2. The California Plan's pro rata share of fees and expenses not included in paragraph (1) that are paid from the alternative investment vehicle to the fund manager or related parties.
3. The California Plan's pro rata share of carried interest distributed to the fund manager or related parties.
4. The California Plan's pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
5. Any additional information described in subdivision (b) of Section 6254.26 of the Code.

The Code also requires that the California Plan's disclosure report include the since inception gross and net rate of return of each alternative investment vehicle.

Code Section 6254.26 Disclosure Requirements

1. The name, address, and vintage year of each alternative investment vehicle.
2. The dollar amount of the commitment made to each alternative investment vehicle by the California Plan since inception.
3. The dollar amount of cash contributions made by the California Plan to each alternative investment vehicle since inception.
4. The dollar amount, on a fiscal year end basis, of cash distributions received by the California Plan from each alternative investment vehicle.
5. The dollar amount, on a fiscal year end basis, of cash distributions received by the California Plan plus remaining value of partnership assets attributable to the California Plan's investment in each alternative investment vehicle.
6. The net internal rate of return of each alternative investment vehicle since inception.
7. The investment multiple of each alternative investment vehicle since inception
8. The dollar amount of the total management fees and costs paid on an annual fiscal year-end basis, by the California Plan to each alternative investment vehicle.
9. The dollar amount of cash profit received by the California Plan from each alternative investment vehicle on a fiscal year-end basis.

Data Presentation

Presentation of results broken out by asset class, shown separately for the Code (7514.7) and Section 6254.26

- Data provided for the Code shown for calendar year 2020
- Data provided for 6254.26 shown since inception

The reporting was provided to MCERA and Cliffwater from each fund manager

- Neither MCERA nor Cliffwater have conducted an independent verification or audit of the information

Reporting the data as of December 31, 2020 to meet the reporting requirements

- This follows the prior annual disclosure reporting as of December 31, 2019
- May consider converting the reporting period from calendar year end to fiscal year end



Appendix – Fee and Expense Reporting Data

Private Equity Calendar Year 2020 (7514.7)

Merced County Employees' Retirement Association - Calendar Year 2020 Data (7514.7) - Private Equity

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
Accel-KKR Capital Partners VI, LP	5,000,000	(54,080)	3,047	50,000	3,483	N/A	3,644	N/A	N/A
Accel-KKR Growth Capital Partners III	5,000,000	1,559,389	N/A	20,545	28,388	N/A	0	N/A	N/A
ASP 2005 Non-US Fund	1,500,000	241,759	(24,577)	1,500	227	0	0	54	0
ASP 2005 US Fund	3,500,000	656,575	108,915	3,500	1,122	0	0	309	0
ASP 2007 Direct Fund	450,000	242,431	98,060	1,790	207	33	(6)	19,221	33
ASP 2007 Non-US Fund	1,575,000	689,395	118,428	4,724	383	0	0	272	0
ASP 2007 US Fund	2,475,000	1,017,379	356,652	7,424	1,126	0	0	3,312	0
ASP 2011 Direct Fund	500,000	462,573	10,411	5,961	580	19	4	916	19
ASP 2011 Emerging Markets Fund	500,000	836,633	83,616	3,500	224	0	0	0	0
ASP 2011 Non-US Developed Fund	1,500,000	1,171,406	143,750	10,500	809	0	0	915	0
ASP 2011 US Fund	2,500,000	2,542,899	429,502	17,500	2,194	0	0	4,841	0
Carrick Capital Partners III, L.P.	5,000,000	3,049,557	0	112,500	9,237	0	0	0	0
Cortec Group Fund VII, L.P.	10,000,000	3,970,199	0	200,000	963	37,400	0	0	0
Cressey & Company Fund VI LP	5,000,000	2,126,199	0	100,000	18,736	15,565	7,000	0	0
Davidson Kempner Long-Term Distressed Opportunit	5,000,000	4,799,406	0	66,170	N/A	N/A	0	0	12,708
Genstar Capital Partners IX, L.P.	7,000,000	3,461,101	1,752	3,596	5,784	N/A	34,826	0	0
GTCR Fund XIII/A & B LP	8,000,000	(5,284)	0	5,255	5,476	1,261	2,054	0	0
GTCR XII	5,000,000	3,423,324	218,787	77,796	44,213	4,370	0	95,268	0
Invesco Partnership Fund IV, L.P.	10,000,000	4,028	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Invesco Partnership Fund VI, L.P.	5,000,000	8,748,630	0	42,500	11,986	0	0	0	0
Marlin Heritage Europe II, L.P.	8,588,578	798,714	0	25,060	26,001	0	12,940	0	0
Ocean Avenue Fund II	10,000,000	10,213,992	5,252,376	78,613	12,609	0	12,255	0	0
Pantheon Asia Fund VI	1,000,000	1,042,623	60,181	6,750	521	0	(2,037)	0	0
Pantheon Euro Fund VII	1,711,581	1,429,964	237,894	11,524	1,385	0	(4,785)	0	0
Pantheon Global Secondary Fund III "B"	10,000,000	270,918	354,917	21,039	5,303	0	(2,082)	0	0
Pantheon Ventures Euro Fund IV	1,226,940	85,653	(68,499)	4,331	2,454	0	(43)	N/A	0
Pantheon Ventures USA Fund IX	2,000,000	2,046,523	300,828	13,500	1,525	0	(3,029)	0	0
Pantheon Ventures USA Fund VI	3,750,000	277,853	67,435	6,867	4,584	0	(83)	N/A	0
Raven Asset-Based Opportunity Fund II	10,000,000	2,609,774	116,685	30,254	19,544	0	0	0	0
Silver Point Specialty Credit Fund II, L.P.	8,000,000	2,336,135	79,968	9,611	N/A	N/A	0	0	2,684
Spark Capital Growth Fund III, L.P.	6,000,000	1,351,339	0	112,500	N/A	N/A	0	N/A	N/A
Spark Capital VI, L.P.	3,000,000	508,434	0	56,250	N/A	N/A	0	N/A	N/A
Summit Partners Growth Equity Fund X-A, L.P.	8,000,000	4,191,590	0	247	14,116	247	20,857	0	0
Summit Partners Venture Capital Fund V-A, L.P.	6,000,000	(17,690)	0	0	12,723	0	4,967	0	4,565
Taconic Market Dislocation Fund III L.P.	8,000,000	2,414,685	36,824	5,130	15,113	0	2,475	0	0
TCV X, L.P.	5,000,000	5,285,207	0	79,375	32,086	0	0	0	0
Thoma Bravo Discover Fund III, L.P.	8,000,000	(13,206)	0	0	10,376	0	2,831	0	53

This reporting relies upon the accuracy and completeness of information (which may or may not be audited by the fund manager) provided to MCERA and Cliffwater by each fund manager or its professional staff. Neither MCERA nor Cliffwater has conducted an independent verification of the information provided nor have we conducted an audit of such information.

¹ Other fees and expenses paid to the GP are reported gross of income wherever possible.

* N/A = not available or not applicable

Private Equity Since Inception (6254.26)

Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Private Equity

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
Accel-KKR Capital Partners VI, LP	Menlo Park, CA	2020	5,000,000	0	0	(54,080)	(54,080)	0.0%	N/A	0.00
Accel-KKR Growth Capital Partners III	Menlo Park, CA	2019	5,000,000	1,559,389	0	1,559,389	1,559,389	0.0%	N/A	1.00
ASP 2005 Non-US Fund	Chicago, IL	2005	1,500,000	1,425,750	1,716,719	241,759	1,958,478	4.8%	6.6%	1.37
ASP 2005 US Fund	Chicago, IL	2005	3,500,000	3,323,250	4,697,058	656,575	5,353,633	7.2%	9.0%	1.61
ASP 2007 Direct Fund	Chicago, IL	2007	450,000	438,300	879,819	242,431	1,122,250	12.5%	16.5%	2.56
ASP 2007 Non-US Fund	Chicago, IL	2007	1,575,000	1,497,040	1,794,925	689,395	2,484,320	8.3%	10.2%	1.66
ASP 2007 US Fund	Chicago, IL	2007	2,475,000	2,359,917	3,742,705	1,017,379	4,760,084	12.4%	14.7%	2.02
ASP 2011 Direct Fund	Chicago, IL	2011	500,000	462,789	538,803	462,573	1,001,376	16.3%	22.9%	2.16
ASP 2011 Emerging Markets Fund	Chicago, IL	2011	500,000	435,750	271,823	836,633	1,108,456	17.5%	19.4%	2.54
ASP 2011 Non-US Developed Fund	Chicago, IL	2011	1,500,000	1,260,750	1,170,655	1,171,406	2,342,061	14.5%	17.4%	1.86
ASP 2011 US Fund	Chicago, IL	2011	2,500,000	2,174,502	2,104,598	2,542,899	4,647,497	16.8%	18.7%	2.14
Carrick Capital Partners III, L.P.	San Francisco, CA	2018	5,000,000	2,345,071	0	3,049,557	3,049,557	20.7%	37.4%	1.30
Cortec Group Fund VII, L.P.	New York, NY	2019	10,000,000	4,205,621	1,542,551	3,970,199	5,512,750	46.9%	71.2%	1.31
Cressey & Company Fund VI LP	Chicago, IL	2018	5,000,000	1,550,000	0	2,126,199	2,126,199	24.6%	37.1%	1.37
Davidson Kempner Long-Term Distressed Opportunit	New York, NY	2018	5,000,000	4,300,000	85,341	4,799,406	4,884,747	7.3%	9.6%	1.14
Genstar Capital Partners IX, L.P. ¹	San Francisco, CA	2019	7,000,000	2,747,959	163,334	3,461,101	3,624,435	38.0%	29.6%	1.32
GTCR Fund XIII/A & B LP	Chicago, IL	2021	8,000,000	0	0	(5,284)	(5,284)	0.0%	N/A	0.00
GTCR XII	Chicago, IL	2017	5,000,000	2,996,000	679,942	3,423,324	4,103,266	25.8%	30.3%	1.37
Invesco Partnership Fund IV, L.P.	New York, NY	2004	10,000,000	7,897,828	16,230,016	4,028	16,234,044	11.7%	N/A	2.06
Invesco Partnership Fund VI, L.P.	New York, NY	2011	5,000,000	3,958,355	2,234,812	8,748,630	10,983,442	20.8%	17.0%	2.77
Marlin Heritage Europe II, L.P.	London, U.K.	2020	8,588,578	839,217	0	798,714	798,714	-4.8%	N/A	0.95
Ocean Avenue Fund II	Santa Monica, CA	2014	10,000,000	9,000,000	7,546,671	10,213,992	17,760,663	17.8%	21.8%	1.97
Pantheon Asia Fund VI	London, United Kingdom	2011	1,000,000	906,318	492,799	1,042,623	1,535,422	10.8%	13.9%	1.69
Pantheon Euro Fund VII	London, United Kingdom	2011	1,711,581	1,492,637	1,279,303	1,429,964	2,709,267	12.4%	17.5%	1.82
Pantheon Global Secondary Fund III "B"	London, United Kingdom	2006	10,000,000	9,460,000	10,300,000	270,918	10,570,918	2.0%	4.4%	1.12
Pantheon Ventures Euro Fund IV	London, United Kingdom	2005	1,226,940	1,283,343	1,584,496	85,653	1,670,149	4.6%	8.6%	1.30
Pantheon Ventures USA Fund IX	London, United Kingdom	2011	2,000,000	1,788,000	1,691,819	2,046,523	3,738,342	15.5%	19.0%	2.09
Pantheon Ventures USA Fund VI	London, United Kingdom	2005	3,750,000	3,543,750	5,118,576	277,853	5,396,429	6.5%	8.5%	1.52
Raven Asset-Based Opportunity Fund II	New York, NY	2014	10,000,000	9,525,926	6,159,237	2,609,774	8,769,011	-2.5%	14.7%	0.92
Silver Point Specialty Credit Fund II, L.P.	Greenwich, CT	2020	8,000,000	2,176,917	99,547	2,336,135	2,435,682	23.0%	62.6%	1.12
Spark Capital Growth Fund III, L.P.	Boston, MA	2020	6,000,000	1,470,000	0	1,351,339	1,351,339	-19.4%	116.6%	0.92
Spark Capital VI, L.P.	Boston, MA	2020	3,000,000	570,000	0	508,434	508,434	-23.4%	1.9%	0.89
Summit Partners Growth Equity Fund X-A, L.P.	Boston, MA	2019	8,000,000	3,681,601	0	4,191,590	4,191,590	77.6%	N/A	1.14
Summit Partners Venture Capital Fund V-A, L.P.	Boston, MA	2020	6,000,000	0	0	(17,690)	(17,690)	0.0%	N/A	0.00
Taconic Market Dislocation Fund III L.P.	New York, NY	2020	8,000,000	2,240,000	0	2,414,685	2,414,685	12.6%	62.8%	1.08
TCV X, L.P.	Menlo Park, CA	2019	5,000,000	3,171,500	0	5,285,207	5,285,207	65.7%	N/A	1.67
Thoma Bravo Discover Fund III, L.P.	Chicago, IL	2020	8,000,000	0	0	(13,206)	(13,206)	0.0%	0.0%	0.00

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Real Assets and Real Estate Calendar Year 2020 (7514.7)

Merced County Employees' Retirement Association - Calendar Year 2020 Data (7514.7) - Real Assets

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
Ardian Infrastructure Fund V	5,386,265	645,484	2	43,900	7,548	4,444	1,993	0	0
EnCap Energy Capital Fund XI, L.P.	5,000,000	1,090,773	0	75,000	640	0	0	0	0
EnCap Flatrock Midstream IV, L.P.	3,000,000	1,296,693	164	45,000	543	0	0	0	0
Global Energy & Power Infrastructure Fund III F, L.P.	5,000,000	1,424,800	57,106	50,061	6,344	3,845	9,953	0	4,548
GSO Energy Select Opportunities Fund	7,500,000	2,967,292	180,538	52,418	7,250	0	17,911	0	0
ISQ Global Infrastructure Fund II	5,000,000	3,699,639	(4,627)	74,408	12,794	0	12,672	0	10,198
KKR Global Infrastructure II	10,000,000	8,459,882	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KKR Global Infrastructure Investors III	5,000,000	2,277,734	64,483	62,500	6,226	21,646	6,581	0	21,854
North Haven Infrastructure Partners II LP	10,000,000	7,292,424	713,190	85,713	14,310	0	4,480	0	5
Tailwater Energy Fund IV, LP	5,000,000	582,445	0	100,000	10,334	479	10,804	0	0
Taurus Mining Finance Annex Fund	5,000,000	2,302,256	20,247	31,783	3,313	0	(110,471)	0	0
Taurus Mining Finance Fund	5,000,000	2,104,991	20,247	28,576	2,251	0	747,162	0	0

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Merced County Employees' Retirement Association - Calendar Year 2020 Data (7514.7) - Real Estate

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
AG Realty Value Fund X, L.P.	5,000,000	2,088,734	63,710	87,500	12,221	394	(50,675)	0	0
Carlyle Realty Partners VIII, L.P.	5,000,000	1,932,090	226,497	75,000	12,412	0	29,984	0	0
Carmel Partners Investment Fund VII, L.P.	5,000,000	220,933	N/A	75,000	N/A	N/A	0	0	15,262
Cerberus Real Estate Debt Fund, L.P.	7,000,000	1,262,375	10,196	2,085	35,388	0	45,000	0	0
Greenfield Acquisition Partners VII, L.P.	13,000,000	6,545,117	1,334,592	182,595	38,412	0	(5,144)	0	0
Patron Capital Fund V	14,600,582	6,625,848	250,475	139,101	85,835	0	0	0	0
Rockpoint Real Estate Fund VI, L.P.	5,000,000	783,471	0	74,999	3,907	0	18,085	0	3,325
Starwood Distressed Opportunity Fund XII Global, L.P.	8,000,000	(10,314)	0	0	9,710	0	435	0	N/A
Taconic CRE Dislocation Fund II	5,000,000	4,692,067	243,230	75,069	11,492	0	12,969	0	0
UBS Trumbull Property Fund	17,000,000	35,309,249	67,184	314,345	18,556	N/A	(1,451,395)	0	0

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Real Assets and Real Estate Since Inception (6254.26)

Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Real Assets

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
Ardian Infrastructure Fund V	Paris, France	2019	5,386,265	658,814	20,038	645,484	665,523	1.0%	12.6%	1.01
EnCap Energy Capital Fund XI, L.P.	Houston, TX	2017	5,000,000	1,733,994	0	1,090,773	1,090,773	-26.3%	-17.6%	0.63
EnCap Flatrock Midstream IV, L.P.	Houston, TX	2018	3,000,000	1,221,412	78,358	1,296,693	1,375,051	6.6%	13.0%	1.13
Global Energy & Power Infrastructure Fund III F, L.P.	New York, NY	2019	5,000,000	1,571,069	253,498	1,424,800	1,678,298	8.6%	17.7%	1.07
GSO Energy Select Opportunities Fund	New York, NY	2015	7,500,000	4,469,672	2,049,943	2,967,292	5,017,235	4.2%	6.6%	1.12
ISQ Global Infrastructure Fund II	New York, NY	2017	5,000,000	3,422,386	520,884	3,699,639	4,220,523	16.8%	21.5%	1.23
KKR Global Infrastructure II	New York, NY	2014	10,000,000	10,855,009	8,853,774	8,459,882	17,313,656	16.9%	19.7%	1.59
KKR Global Infrastructure Investors III	New York, NY	2018	5,000,000	2,469,733	162,526	2,277,734	2,440,260	-1.2%	3.3%	0.99
North Haven Infrastructure Partners II LP	New York, NY	2014	10,000,000	11,244,593	6,546,649	7,292,424	13,839,073	9.3%	15.9%	1.23
Tailwater Energy Fund IV, LP	Dallas, TX	2019	5,000,000	935,636	0	582,445	582,445	-34.0%	-13.4%	0.62
Taurus Mining Energy Annex Fund	Sydney, Australia	2016	5,000,000	4,506,201	3,369,236	2,302,256	5,671,492	19.6%	30.1%	1.26
Taurus Mining Finance Fund	Sydney, Australia	2015	5,000,000	5,229,231	3,705,882	2,104,991	5,810,873	6.5%	11.6%	1.11

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Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Real Estate

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
AG Realty Value Fund X, L.P.	New York, NY	2018	5,000,000	1,924,692	22,452	2,088,734	2,111,186	10.7%	21.9%	1.10
Carlyle Realty Partners VIII, L.P.	Washington, DC	2017	5,000,000	2,042,106	310,595	1,932,090	2,242,685	8.4%	26.8%	1.10
Carmel Partners Investment Fund VII, L.P.	San Francisco, CA	2019	5,000,000	381,553	0	220,933	220,933	-41.1%	N/A	0.58
Cerberus Real Estate Debt Fund, L.P.	New York, NY	2018	7,000,000	1,063,572	0	1,262,375	1,262,375	34.9%	N/A	1.19
Greenfield Acquisition Partners VII, L.P.	Westport, CT	2014	13,000,000	12,661,667	13,667,534	6,545,117	20,212,651	12.8%	17.3%	1.60
Patron Capital Fund V	London, United Kingdom	2016	14,600,582	9,097,879	3,424,049	6,625,848	10,049,898	5.1%	15.0%	1.10
Rockpoint Real Estate Fund VI, L.P.	Boston, MA	2019	5,000,000	764,447	0	783,471	783,471	2.5%	N/A	1.02
Starwood Distressed Opportunity Fund XII Global, L.P.	Greenwich, CT	2020	8,000,000	0	0	(10,314)	(10,314)	0.0%	N/A	0.00
Taconic CRE Dislocation Fund II	New York, NY	2018	5,000,000	4,171,781	0	4,692,067	4,692,067	10.2%	14.8%	1.12
UBS Trumbull Property Fund	New York, NY	1999	17,000,000	17,872,002	27,151,994	35,309,249	62,461,242	8.4%	8.5%	3.49

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Hedge Funds Calendar Year 2020 (7514.7)

Merced County Employees' Retirement Association - Calendar Year 2020 Data (7514.7) - Hedge Funds

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
Archipelago Partners, L.P.	N/A	13,356,751	1,661,753	116,437	N/A	N/A	6,660	221,862	N/A
Graham Absolute Return Trading Ltd. - Class A	N/A	7,637,357	637,357	143,381	N/A	N/A	13,042	8,588	N/A
KLS Diversified Fund LP	N/A	8,354,209	(1,558,216)	161,858	42,728	N/A	436,235	0	0
Laurion Capital, Ltd. Class A 18-07	N/A	11,694,353	2,537,123	185,130	N/A	N/A	0	587,382	N/A
Marshall Wace Global Opportunities Fund Class B	N/A	10,385,995	4,836	129,326	N/A	N/A	5,940	128,046	N/A
MW Eureka Fund Class B2	N/A	3,861,801	21,111	70,458	N/A	N/A	6,547	77,777	N/A
OZ Domestic Partners II, LP	N/A	12,996,378	N/A	141,076	N/A	N/A	0	359,414	N/A
Silver Point Capital Fund, L.P.	N/A	14,073,922	0	180,890	55,271	2,526	0	432,573	0
Taconic Opportunity Fund L.P.	N/A	12,928,550	54,675	161,233	34,953	0	87,433	0	0
Winton Futures Fund Limited - Class B	N/A	4,949,909	N/A	47,599	N/A	N/A	6,875	N/A	N/A

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Hedge Funds Since Inception (6254.26)

Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Hedge Funds

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
Archipelago Partners, L.P.	Boston, MA	2017	N/A	11,000,000	0	13,356,751	13,356,751	6.4%	8.6%	1.21
Graham Absolute Return Trading Ltd. - Class A	Rowayton, CT	2017	N/A	7,000,000	2,517	7,637,357	7,639,874	2.7%	17.8%	1.09
KLS Diversified Fund LP	New York, NY	2017	N/A	9,000,000	6,782,878	8,354,209	15,137,087	-1.9%	0.2%	1.68
Laurion Capital, Ltd. Class A 18-07	New York, NY	2018	N/A	9,000,000	0	11,694,353	11,694,353	15.1%	N/A	1.30
Marshall Wace Global Opportunities Fund Class B	Dublin, Ireland	2020	N/A	9,000,000	0	10,385,995	10,385,995	21.0%	20.7%	1.15
MW Eureka Fund Class B2	London, United Kingdom	2017	N/A	3,000,000	0	3,861,801	3,861,801	8.5%	11.5%	1.29
OZ Domestic Partners II, LP	New York, NY	2014	N/A	14,000,000	8,000,000	12,996,378	20,996,378	8.3%	11.8%	1.50
Silver Point Capital Fund, L.P.	Greenwich, CT	2017	N/A	12,000,000	0	14,073,922	14,073,922	5.5%	8.6%	1.17
Taconic Opportunity Fund L.P.	New York, NY	2018	N/A	12,000,000	0	12,928,550	12,928,550	3.3%	12.4%	1.08
Winton Futures Fund Limited - Class B	London, United Kingdom	2017	N/A	6,000,000	2,450,983	4,949,909	7,400,892	-5.6%	N/A	1.23

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Merced County Employees' Retirement Association

September 23, 2021

Asset Allocation: Phase I

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2. Alternative Policy Options

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- Risk Survey Results
- The Inflation Variable
- Disclaimer

Introduction

Introduction

- Over the last several meetings, Meketa in conjunction with Trustee members and Cliffwater (private markets consultant), have discussed a variety of topics ahead of the Asset Allocation Review.
- Today's meeting continues the dialogue, and explores various alternatives.
- We begin the asset allocation update with a reminder of the changes in expected returns among relevant asset classes in 2021, followed by a review of the MCERA's current asset allocation policy targets alongside various alternatives. These alternatives have centered on:
 - Option A: Reduction of Investment Grade Bonds (IGB) in favor of LT Govt Bonds
 - Option B: Reduction of Hedge Funds and shifting IGB exposure to long and short duration FI assets
 - Option C: Reduction of IGB in favor of a higher allocation to hedge funds
 - Option D: Reduction of IGB in favor of a higher allocation to equity
- Given the challenging environment we are currently faced with of low rates coupled with high valuations, reaching the Plan's current actuarial rate of 7% becomes difficult to achieve without increasing portfolio risk.
- The goal of this review is not to declare one portfolio the "right" choice or the only prudent choice, but to highlight the risk and return tradeoffs of different policy portfolios, and to foster healthy dialogue between Trustee members.

Meketa 20 year Asset Class Expected Returns

	2021 E(R) (%)	2020 E(R) (%)	Change (%)	Comments
US Equity	6.8	7.4	-0.6	Higher price-to-earnings, lower dividend
Developed Market Equity (non-US)	7.1	7.9	-0.8	Higher price-to-earnings, lower dividend
Emerging Market Equity	8.1	9.1	-1.0	Higher price-to-earnings, lower dividend
Global Equity	7.1	7.8	-0.7	Higher price-to-earnings, lower dividend
Private Equity/Debt	8.9	9.1	-0.2	Higher prices, partly offset by lower borrowing costs
Cash Equivalents	1.1	2.4	-1.3	Lower rates
Short-term Investment Grade Bonds	1.3	2.6	-1.3	Lower yields
Investment Grade Bonds	1.8	3.0	-1.2	Lower yields
Short-term TIPS	1.4	2.7	-1.3	Lower yields
Long-term Government Bonds	2.5	3.2	-0.7	Lower yields
High Yield Bonds	4.2	5.2	-1.0	Lower yields and tighter spreads
Bank Loans	4.0	5.0	-1.0	Lower yields
Emerging Market Bonds (major)	3.7	4.5	-0.8	Lower yields
Emerging Market Bonds (local)	3.9	4.8	-0.9	Lower yields
Real Estate	6.9	7.5	-0.6	Lower cap rates
Natural Resources (Private)	8.3	8.8	-0.5	Higher prices
Commodities: naïve	3.7	4.3	-0.6	Lower collateral returns
Global Macro	4.3	4.6	-0.3	Higher prices, lower yields
CTA - Trend Following	4.7	4.8	-0.1	Higher leverage assumption offset by lower cash return

- Mainly due to higher prices and lower yields, asset classes experienced a downward adjustment for long-term expectations.

Alternative Policy Options

Asset Allocation Policy Options¹

	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B – HF Reduction (%)	Option C – FI Reduction (%)	Option D – Equity Addition (%)
Public Equity	39	39	39	39	39	44
US Equity	21	21	21	21	21	24
Developed Market Equity (non-US)	10	10	10	10	10	11
Emerging Market Equity	8	8	8	8	8	9
US Fixed Income	18	18	18	21	10	13
Investment Grade Bonds	17	17	12	12	4	12
Short-term Investment Grade Bonds	1	1	1	4	3	1
Long-term Government Bonds	0	0	5	5	3	0
Opportunistic Credit	5	5	5	5	5	5
High Yield Bonds	2.5	2.5	2.5	2.5	2.5	2.5
Bank Loans	2.5	2.5	2.5	2.5	2.5	2.5
Real Estate	8	8	8	8	8	8
Private Equity	15	15	15	15	15	15
Hedge Funds	10	10	10	7	18	10
Hedge Funds (General)	10	0	0	0	8	0
Long-Short	0	2	2	2	2	2

¹ Expected return and standard deviation are based upon Meketa Investment Group's 2020 Annual Asset Study. Throughout this document, returns for periods longer than one year are annualized.

Asset Allocation Overview

	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B - HF Reduction (%)	Option C - FI Reduction (%)	Option D - Equity Addition (%)
Fixed Income/Long-Short Credit	0	1	1	1	1	1
Relative Value/Arbitrage	0	2	2	2	2	2
Real Assets	5	5	5	5	5	5
Natural Resources (Private)	2	2	2	2	2	2
Commodities (naive)	1	1	1	1	1	1
Infrastructure (Core Private)	2	2	2	2	2	2
<i>Expected Return (20 years)</i>	<i>6.69</i>	<i>6.70</i>	<i>6.79</i>	<i>6.69</i>	<i>6.91</i>	<i>6.96</i>
<i>Standard Deviation</i>	<i>12.8</i>	<i>12.9</i>	<i>12.7</i>	<i>12.5</i>	<i>13.2</i>	<i>13.8</i>

Types of Risk Analysis Addressed

- MVO-based risk analytics:
 - Includes worst-case return expectations and Value at Risk (VAR).¹
 - Relies on assumptions underlying MVO.
- Scenario analysis:
 - Stress tests policy portfolios using actual historical examples.
 - Stress tests policy portfolios under specific hypothetical scenarios.

¹ VaR is a risk measure that estimates the maximum loss on a portfolio over a given time horizon and a given confidence level (usually 95% or 99%).

MVO-Based Risk Analysis

Scenario	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B - HF Reduction (%)	Option C - FI Reduction (%)	Option D - Equity Addition (%)
Worst Case Returns (1)						
One Year	-19.1	-19.2	-18.9	-18.6	-19.6	-20.5
Three Years (annualized)	-9.1	-9.1	-8.9	-8.7	-9.3	-9.9
Five Years (annualized)	-5.8	-5.8	-5.6	-5.5	-5.9	-6.3
Ten Years (annualized)	-2.3	-2.3	-2.1	-2.1	-2.3	-2.6
Twenty Years (annualized)	0.3	0.2	0.4	0.4	0.3	0.1
Probability of Experiencing Negative Returns						
One Year	29.4	29.5	29.0	28.9	29.4	29.9
Three Years	17.4	17.5	16.9	16.8	17.4	18.1
Five Years	11.3	11.4	10.8	10.7	11.3	12.0
Ten Years	4.3	4.4	4.0	4.0	4.3	4.8
Twenty Years	0.8	0.8	0.7	0.7	0.8	0.9
Probability of Achieving at least a 7% Return						
One Year	48.9	49.0	49.2	48.9	49.6	49.8
Three Years	48.1	48.2	48.6	48.0	49.3	49.6
Five Years	47.6	47.7	48.2	47.5	49.1	49.5
Ten Years	46.6	46.7	47.5	46.4	48.7	49.3
Twenty Years	45.2	45.3	46.5	45.0	48.2	49.0

- Option B, which reduces hedge fund assets, while shifting core fixed income exposures with varying durations is structured to be the most defensive portfolio. However, it is the least likely to reach the target return over the long term.

Historical Negative Scenario Analysis¹
(Cumulative Return)

Scenario	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B - HF Reduction (%)	Option C - FI Reduction (%)	Option D - Equity Addition (%)
COVID-19 Market Shock (Feb 2020-Mar 2020)	-17.0	-17.0	-16.3	-15.9	-17.2	-18.7
Taper Tantrum (May - Aug 2013)	0.0	0.0	-0.4	-0.5	0.1	0.2
Global Financial Crisis (Oct 2007 - Mar 2009)	-27.6	-27.6	-26.8	-25.8	-29.2	-30.4
Popping of the TMT Bubble (Apr 2000 - Sep 2002)	-10.6	-9.8	-9.5	-9.0	-12.2	-13.5
LTCM (Jul - Aug 1998)	-8.2	-8.0	-7.9	-7.6	-8.9	-9.0
Rate spike (1994 Calendar Year)	3.4	3.3	3.0	2.9	3.8	3.5
Crash of 1987 (Sep - Nov 1987)	-10.6	-10.3	-10.3	-10.1	-11.1	-11.7
Strong dollar (Jan 1981 - Sep 1982)	3.2	3.6	3.6	4.5	0.9	1.8
Volcker Recession (Jan - Mar 1980)	-4.1	-4.2	-4.4	-4.4	-3.7	-4.0
Stagflation (Jan 1973 - Sep 1974)	-18.7	-18.5	-19.0	-18.4	-20.7	-21.0

- Option B, HF Reduction, would have performed the best in environments of declining equity markets, due to its more conservative positioning.
- HF Reduction would have fared worst during periods of rising rates; however, the losses in these environments are dwarfed by the losses during an equity downturn.

¹ See the Appendix for our scenario inputs. In periods where the ideal benchmark was not yet available we used the next closest benchmark(s) as a proxy.

Historical Positive Scenario Analysis¹
(Cumulative Return)

Scenario	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B - HF Reduction (%)	Option C - FI Reduction (%)	Option D - Equity Addition (%)
Global Financial Crisis Recovery (Mar 2009 - Nov 2009)	34.4	34.5	34.2	33.5	35.1	37.2
Best of Great Moderation (Apr 2003 - Feb 2004)	29.6	29.6	29.6	28.8	31.0	31.8
Peak of the TMT Bubble (Oct 1998 - Mar 2000)	44.6	43.4	43.2	42.1	47.4	46.3
Plummeting Dollar (Jan 1986 - Aug 1987)	50.7	50.2	50.2	49.9	51.5	54.1
Volcker Recovery (Aug 1982 - Apr 1983)	30.3	30.5	30.8	30.8	29.5	31.8
Bretton Wood Recovery (Oct 1974 - Jun 1975)	26.8	26.8	26.9	26.6	27.2	28.9

- Option D, an increase to equity, would have been the best option for capturing most of the upside in strongly positive markets with Option A participating the least given its exposure to long-term government bonds.

¹ See the Appendix for our scenario inputs. In periods where the ideal benchmark was not yet available we used the next closest benchmark(s) as a proxy.

Stress Testing: Impact of Market Movements
(Expected Return under Stressed Conditions)¹

Scenario	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B - HF Reduction (%)	Option C - FI Reduction (%)	Option D - Equity Addition (%)
10-year Treasury Bond rates rise 100 bps	3.7	3.7	3.1	3.0	3.9	4.2
10-year Treasury Bond rates rise 200 bps	-0.6	-0.6	-1.8	-1.8	-0.4	0.0
10-year Treasury Bond rates rise 300 bps	-4.1	-4.1	-5.8	-5.8	-4.0	-3.2
Baa Spreads widen by 50 bps, High Yield by 200 bps	0.3	0.3	0.5	0.6	0.0	0.1
Baa Spreads widen by 300 bps, High Yield by 1000 bps	-21.4	-21.5	-21.1	-20.5	-22.4	-23.2
Trade Weighted Dollar gains 10%	-3.6	-3.6	-3.5	-3.4	-3.9	-4.1
Trade Weighted Dollar gains 20%	-1.9	-2.0	-1.6	-1.4	-2.2	-2.4
U.S. Equities decline 10%	-5.8	-5.8	-5.7	-5.5	-6.3	-6.4
U.S. Equities decline 25%	-16.9	-16.9	-16.8	-16.4	-17.9	-18.2
U.S. Equities decline 40%	-25.7	-25.8	-25.6	-25.0	-26.8	-27.8

- Each policy portfolio has a different sensitivity to four major risk factors: interest rates, credit spreads, currency fluctuations, and equity values.
- The Fund's primary risk factors would continue to be an equity market decline and a widening of credit spreads, no matter the policy.

¹ Assumes that assets not directly exposed to the factor are affected nonetheless. See the Appendix for further details.

Stress Testing: Impact of Positive Market Movements
(Expected Return under Stressed Conditions)¹

Scenario	MCERA Policy (%)	MCERA Current Portfolio (%)	Option A - LT Treasury Addition (%)	Option B - HF Reduction (%)	Option C - FI Reduction (%)	Option D - Equity Addition (%)
10-year Treasury Bond rates drop 100 bps	2.8	2.8	3.4	3.5	2.7	2.5
10-year Treasury Bond rates drop 200 bps	10.7	10.6	11.8	11.8	10.4	10.7
Baa Spreads narrow by 30bps, High Yield by 100 bps	7.3	7.3	7.3	7.1	7.7	7.8
Baa Spreads narrow by 100bps, High Yield by 300 bps	13.6	13.7	13.4	13.0	14.1	14.5
Trade Weighted Dollar drops 10%	7.4	7.4	7.3	7.2	7.6	7.8
Trade Weighted Dollar drops 20%	20.1	20.1	20.7	20.5	20.3	21.3
U.S. Equities rise 10%	6.7	6.7	6.7	6.6	7.0	7.0
U.S. Equities rise 30%	15.3	15.3	15.4	15.2	15.7	16.4

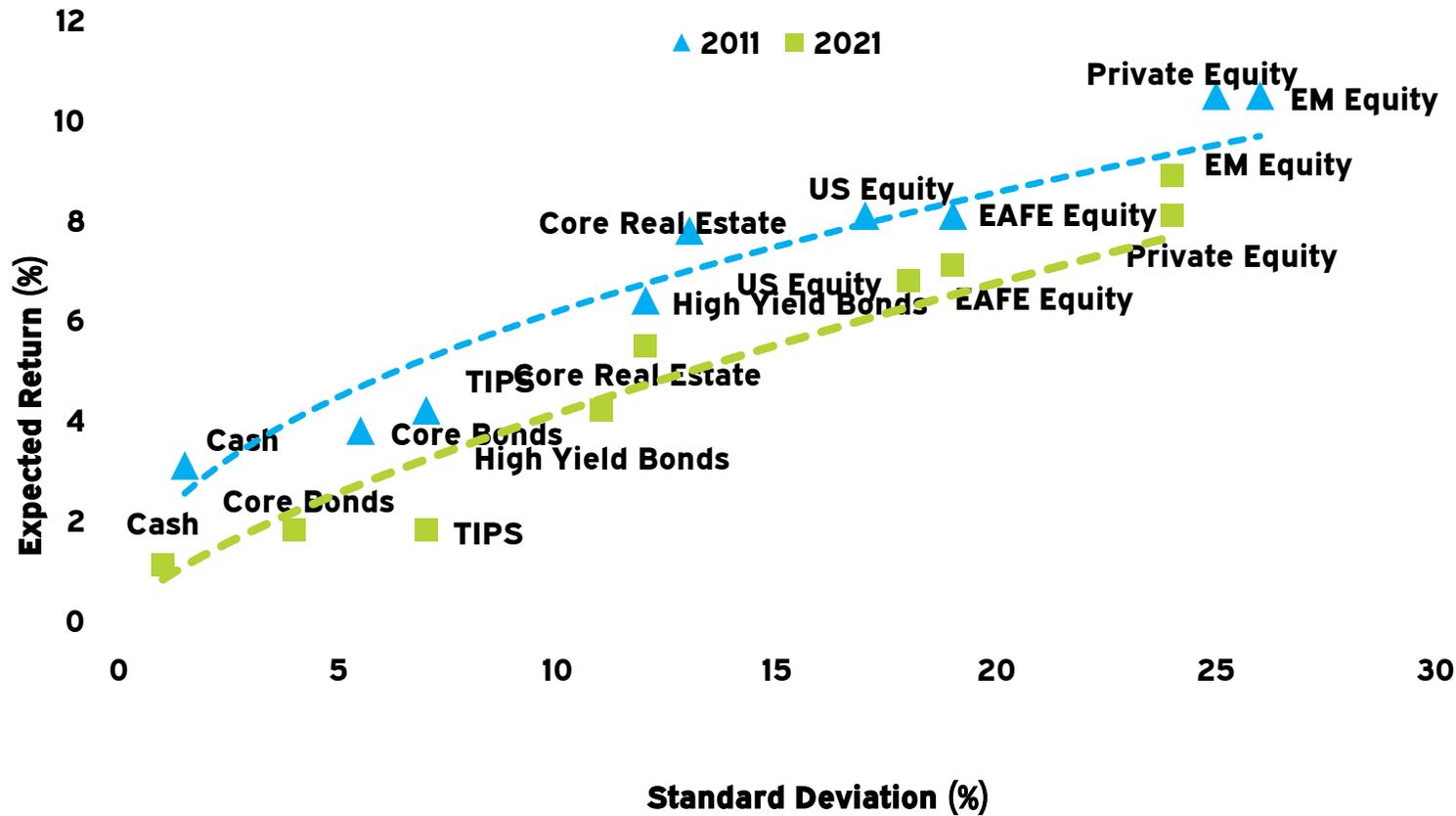
- The portfolio with the least downside risk (Option B) is likewise the portfolio that participates least in upside scenarios.

¹ Assumes that assets not directly exposed to the factor are affected nonetheless. See the Appendix for further details.

Mean Variance Optimization

- MVO is the traditional starting point for determining asset allocation.
- MVO mathematically determines an “efficient frontier” of policy portfolios with the highest risk-adjusted returns.
- All asset classes exhibit only three characteristics, which serve as inputs to the model:
 - Expected return
 - Expected volatility
 - Expected covariance with all other assets
- The model assumes:
 - Normal return distribution
 - Stable volatility and covariances over time
 - Returns are not serially correlated
- The MVO model tends to underestimate the risks of large negative events.

Investable Universe over Time: Less Return for the Same or More Risk¹



- A positive relationship exists between long-term return expectations and the level of risk accepted.
- However, this relationship is not static.

¹ Expected return and standard deviation are based upon Meketa Investment Group's Annual Asset Study.

Appendix

Capital Market Expectations

Setting Capital Market Expectations

- Capital Markets Expectations are the inputs needed to conduct MVO.
 - MVO is the traditional starting point for determining asset allocation.
- Consultants (including Meketa) generally set them once a year.
 - Our results are published in January, based on December 31 data.
- This involves setting long-term expectations for a variety of asset classes for:
 - Returns
 - Standard Deviation
 - Correlations (i.e., covariance)
- Our process relies on both quantitative and qualitative methodologies.

Asset Class Definitions

- We identify asset classes and strategies that are appropriate for long-term allocation of funds, and that also are investable.
- Several considerations influence this process:
 - Unique return behavior,
 - Observable historical track record,
 - A robust market,
 - And client requests.
- We then make forecasts for each asset class.
 - We created inputs for 86 “asset classes” in 2021.

Building 10-year forecasts

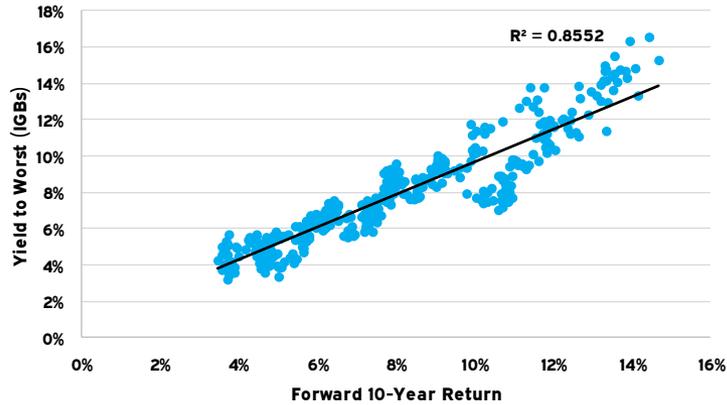
- Our first step is to develop 10-year forecasts based on fundamental models.
 - Each model is based on the most important factors that drive returns for that asset class:

Asset Class Category	Major Factors
Equities	Dividend Yield, GDP Growth, Valuation
Bonds	Yield to Worst, Default Rate, Recovery Rate
Commodities	Collateral Yield, Roll Yield, Inflation
Infrastructure	Public IS Valuation, Income, Growth
Natural Resources	Price per Acre, Income, Public Market Valuation
Real Estate	Cap Rate, Yield, Growth
Private Equity	EBITDA Multiple, Debt Multiple, Public VC Valuation
Hedge Funds and Other	Leverage, Alternative Betas

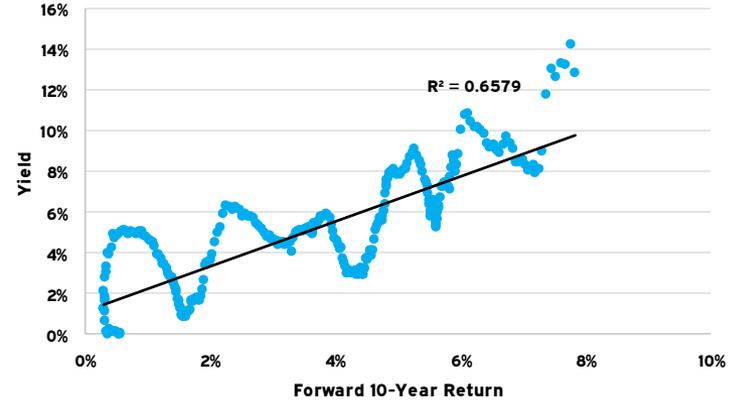
- The common components are income, growth, and valuation.

Some factors are naturally more predictive than others

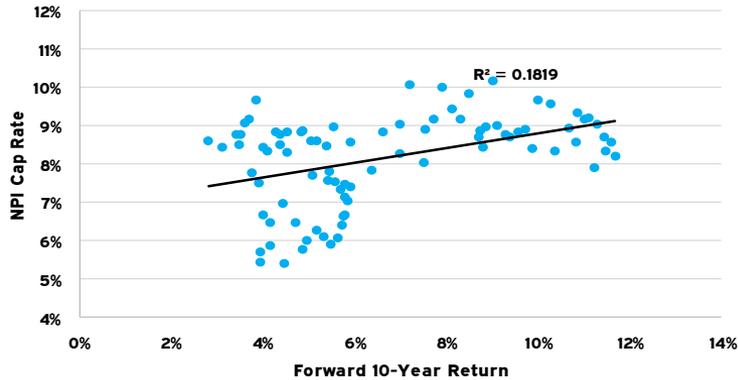
Investment Grade Bonds
Yield to Worst vs. Forward 10-Year Returns



Cash (90-day T-Bill)
Yield vs. Forward 10-Year Returns



Core Real Estate
Cap Rates vs. Forward 10-Year Returns



US Equities
Shiller CAPE vs. Forward 10-Year Returns



10-year Model Example: Equities

- We use a fundamental model for equities that combines income and capital appreciation.

$$E(R) = \text{Dividend Yield} + \text{Expected Earnings Growth} + \text{Multiple Effect} + \text{Currency Effect}$$

- Meketa Investment Group evaluates historical data statistically to develop expectations for dividend yield, earnings growth, the multiple effect and currency effect.
- Our models assume that there is a reversion toward mean pricing over this timeframe.

10-year Model Example: Bonds

- The short version for investment grade bond models is:

$$E(R) = \text{Current YTW (yield to worst)}$$

- Our models assume that there is a reversion to the mean for spreads (though not yields).
- For TIPS, we add the real yield of the TIPS index to the breakeven inflation rate.
- As with equities, we make currency adjustments when necessary for foreign bonds.
- For bonds with credit risk, Meketa Investment Group estimates default rates and loss rates in order to project an expected return:

$$E(R) = \text{YTW} - (\text{Annual Default Rate} \times \text{Loss Rate})$$

Moving from 10-year to 20-year Forecasts

- Our next step is to combine our 10-year forecasts with projections for years 11-20 for each asset class.
- We use a risk premia approach to forecast 10-year returns in ten years (i.e., years 11-20).
 - We start with an assumption (market informed, such as the 10-year forward rate) for what the risk free rate will be in ten years,
 - We then add a risk premia for each asset class.
 - We use historical risk premia as a guide, but many asset classes will differ from this, especially if they have a shorter history.
 - We seek consistency with finance theory (i.e., riskier assets will have a higher risk premia assumption).
- Essentially, we assume mean-reversion over the first ten years (where appropriate), and consistency with CAPM thereafter.
- The final step is to make any qualitative adjustments.
 - The Investment Policy Committee reviews the output and may make adjustments.

The other inputs: standard deviation and correlation

- Standard deviation:
 - We review the trailing fifteen-year standard deviation, as well as skewness.
 - Historical standard deviation serves as the base for our assumptions.
 - If there is a negative skew, we increased the volatility assumption based on the size of the historical skewness.

Asset Class	Standard Deviation	Skewness	Assumption
Bank Loans	6.6%	-2.3	9.0%

- We also adjust for private market asset classes with “smoothed” return streams.
- Correlation:
 - We use trailing fifteen-year correlations as our guide.
 - Again, we make adjustments for “smoothed” return streams.
- Most of our adjustments are conservative in nature (i.e., they increase the standard deviation and correlation).

Comparing the Results from 2021 to 2020

Rate Sensitive

	2021 E(R) (%)	2020 E(R) (%)	Δ from 2020 (%)	Notes
Cash Equivalents	1.1	2.4	-1.3	Lower rates
Short-term Investment Grade Bonds	1.3	2.6	-1.3	Lower yields
Investment Grade Bonds	1.8	3.0	-1.2	Lower yields
Intermediate Government Bonds	1.4	2.4	-1.0	Lower yields
Long-term Government Bonds	2.5	3.2	-0.7	Lower yields
Mortgage Backed Securities	1.8	3.1	-1.3	Lower yields
Investment Grade Corporate Bonds	2.3	3.6	-1.3	Lower yields, tighter spreads
Long-term Corporate Bonds	3.2	4.2	-1.0	Lower yields, tighter spreads
Short-term TIPS	1.4	2.7	-1.3	Lower yields
TIPS	1.8	2.9	-1.1	Lower yields
Long-term TIPS	2.9	3.3	-0.4	Lower yields
Global ILBs	1.9	2.4	-0.5	Lower yields
Foreign Bonds	1.7	2.4	-0.7	Lower yields

Comparing the Results from 2021 to 2020

Credit

	2021 E(R) (%)	2020 E(R) (%)	Δ from 2020 (%)	Notes
High Yield Bonds	4.2	5.2	-1.0	Lower yields and tighter spreads
Higher Quality High Yield	3.8	4.5	-0.7	Lower yields and tighter spreads
Bank Loans	4.0	5.0	-1.0	Lower yields
Collateralized Loan Obligations(CLOs)	4.2	NA	NA	<i>New Asset Class</i>
Emerging Market Bonds (major)	3.7	4.5	-0.8	Lower yields
Emerging Market Bonds (local)	3.9	4.8	-0.9	Lower yields
Private Debt	6.8	6.9	-0.1	Lower yields
Direct Lending	6.7	NA	NA	<i>Consolidated Asset Class</i>
Mezzanine Debt	6.9	7.0	-0.1	Lower yields
Distressed Debt	7.0	7.0	0.0	Lower yields

Comparing the Results from 2021 to 2020

Equities

	2021 E(R) (%)	2020 E(R) (%)	Δ from 2020 (%)	Notes
US Equity	6.8	7.4	-0.6	Higher price-to-earnings, lower dividend
US Large Cap	6.7	7.2	-0.5	Higher price-to-earnings, lower dividend
US Mid Cap	6.9	7.6	-0.7	Higher price-to-earnings, lower dividend
US Small Cap	7.1	7.9	-0.8	Higher price-to-earnings
Developed Non-US Equity	7.1	7.9	-0.8	Higher price-to-earnings, lower dividend
Dev. Non-US Small Cap	7.0	7.8	-0.8	Higher price-to-earnings, lower dividend
Emerging Market Equity	8.1	9.1	-1.0	Higher price-to-earnings, lower dividend
Emerging Market Small Cap	8.2	9.0	-0.8	Higher price-to-earnings, lower dividend
Frontier Market Equity	8.9	10.0	-1.1	Higher price-to-earnings, lower dividend
Global Equity	7.1	7.8	-0.7	Higher price-to-earnings, lower dividend
Low Volatility Equity	6.4	NA	NA	<i>New Asset Class</i>
Private Equity	9.1	9.4	-0.3	Higher prices, offset by lower borrowing costs
Buyouts	9.0	9.4	-0.4	Higher prices, offset by lower borrowing costs
Venture Capital	9.6	9.3	0.3	Higher earnings

Comparing the Results from 2021 to 2020

Real Assets

	2021 E(R) (%)	2020 E(R) (%)	Δ from 2020 (%)	Notes
Real Estate	6.9	7.5	-0.6	Lower cap rates
REITs	7.2	7.0	0.2	Higher yields
Core Private Real Estate	5.5	6.3	-0.8	Lower cap rate, partially offset by lower cost of borrowing
Value-Added Real Estate	7.7	8.4	-0.7	Lower cap rate, partially offset by lower cost of borrowing
Opportunistic Real Estate	9.2	9.9	-0.7	Lower cap rate, partially offset by lower cost of borrowing
Natural Resources (Public)	7.3	8.3	-1.0	Higher price-to-earnings
Natural Resources (Private)	8.3	8.8	-0.5	Higher Prices
Energy	9.0	9.4	-0.4	Lower prices offset by lower earnings expectations
Opportunistic Green Strategies	8.8	NA	NA	<i>New Asset Class</i>
Gold Mining	7.9	NA	NA	<i>New Asset Class</i>
Gold (Metal)	2.3	NA	NA	<i>New Asset Class</i>
Commodities	3.7	4.3	-0.6	Lower collateral returns
Infrastructure (Public)	7.4	7.5	-0.1	Lower price-to-earnings
Infrastructure (Core Private)	7.0	6.7	0.3	Lower prices and lower cost of borrowing
Infrastructure (Non-Core Private)	9.0	9.1	-0.1	Higher prices offset by lower cost of borrowing

Comparing the Results from 2021 to 2020

Alternative Strategies (Other)

	2021 E(R) (%)	2020 E(R) (%)	Δ from 2020 (%)	Notes
Hedge Funds	4.3	4.9	-0.6	Higher prices, lower yields
Long-Short	3.8	4.3	-0.5	Higher prices, lower cash return
Event Driven	4.9	5.8	-0.9	Higher prices, lower yields
Global Macro	4.3	4.6	-0.3	Higher prices, lower yields
CTA – Trend Following	4.7	4.8	-0.1	Higher leverage assumption offset by lower cash return
Fixed Income/L-S Credit	3.4	4.0	-0.6	Lower yields
Relative Value/Arbitrage	4.6	5.3	-0.7	Lower yields
Insurance Linked Strategies	4.6	4.1	0.5	Higher yields
Risk Parity (10% vol)	4.0	5.4	-1.4	Higher prices, lower yields
TAA	4.1	4.4	-0.3	Higher prices, lower yields
Alternative Risk Premia	4.1	NA	NA	<i>New Asset Class</i>
US Inflation	2.1	2.6	-0.5	

2020 Peer Survey

- Annually, Horizon Actuarial Services, LLC publishes a survey of capital market assumptions that they collect from various investment advisors.¹
- The Horizon survey is a useful tool to determine whether a consultant's expectations for returns (and risk) are reasonable.

Asset Class	10-Year Average (%)	Meketa 10-Year (%)	20-Year Average (%)	Meketa 20-Year (%)
Cash Equivalents	1.6	0.5	2.3	1.3
TIPS	2.0	1.3	2.7	2.1
US Core Bonds	2.6	1.2	3.6	2.1
US High Yield Bonds	4.9	4.0	5.6	4.9
Emerging Market Debt	5.2	4.0	5.9	4.3
Private Debt	7.8	6.5	7.9	6.7
US Equity (large cap)	6.2	5.2	7.1	7.2
Developed Non-US Equity	6.8	7.4	7.5	7.8
Emerging Non-US Equity	7.9	8.4	8.4	8.8
Private Equity	9.1	8.1	9.9	9.1
Real Estate	5.8	6.4	6.6	7.0
Infrastructure	6.9	6.4	7.3	6.4
Commodities	3.2	4.3	4.0	3.9
Hedge Funds	4.7	3.1	5.7	4.3
Inflation	2.0	1.8	2.2	2.2

¹ The 2020 survey included 39 respondents. The 10-year horizon included all 39 respondents, and the 20-year horizon included 18 respondents. Figures based on Meketa's 2020 interim CMEs.

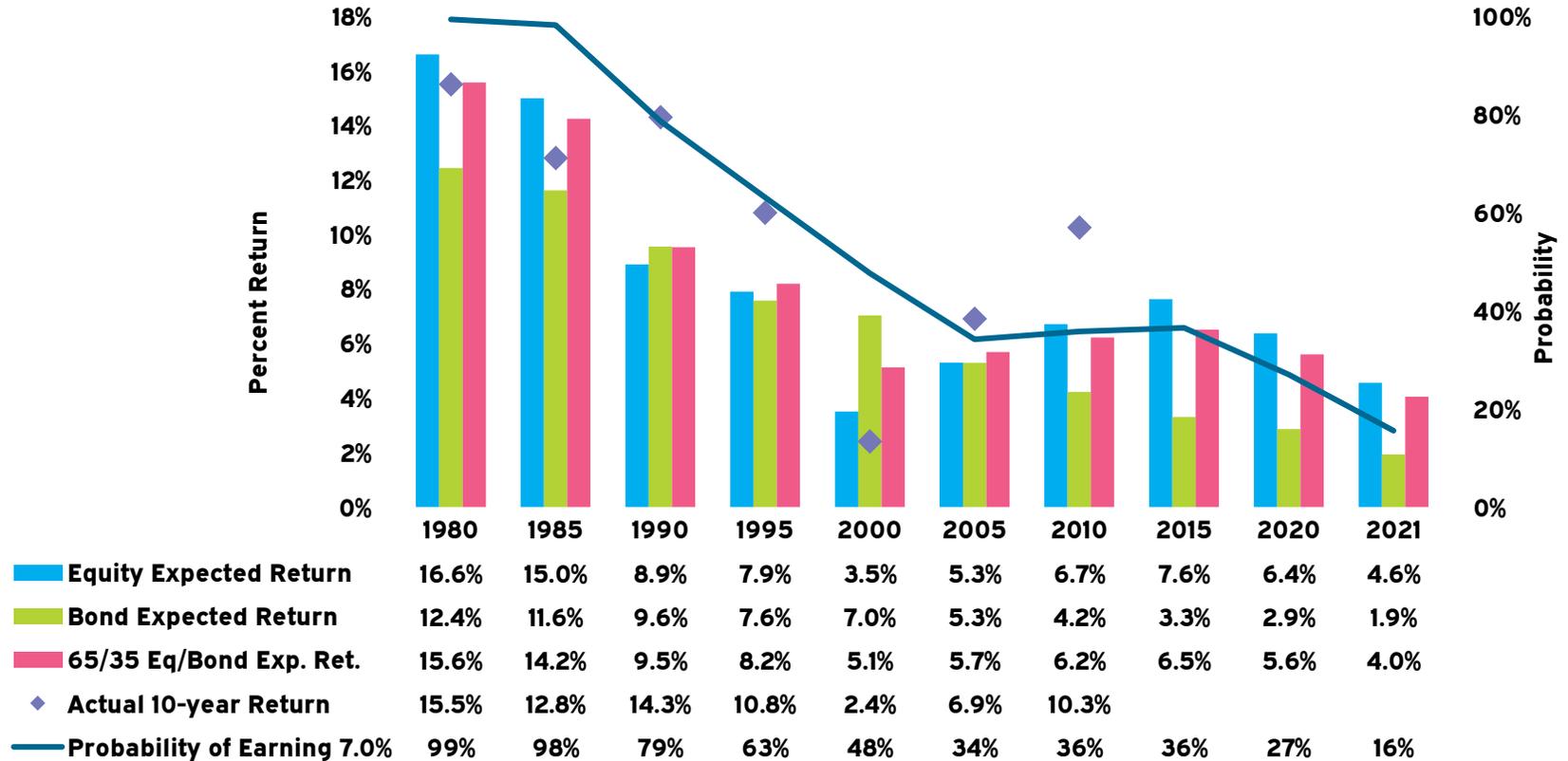
Meketa Investment Group 2021 Annual Asset Study
 Twenty-Year Annualized Return and Volatility Expectations for Major Asset Classes

Asset Class	Annualized Compounded Return (%)	Annualized Average Return (%)	Annualized Standard Deviation (%)
Rate Sensitive			
Cash Equivalents	1.1	1.1	1.0
Investment Grade Bonds	1.8	1.9	4.0
Long-term Government Bonds	2.5	3.2	12.0
TIPS	1.8	2.0	7.0
Credit			
High Yield Bonds	4.2	4.8	11.0
Bank Loans	4.0	4.4	9.0
Emerging Market Bonds (major; unhedged)	3.7	4.3	11.0
Emerging Market Bonds (local; unhedged)	3.9	4.9	14.0
Direct Lending	6.7	7.7	14.0
Mezzanine Debt	6.9	8.2	16.0
Distressed Debt	7.0	9.2	21.0
Equities			
Public US Equity	6.8	8.4	18.0
Public Developed Market Equity	7.1	8.9	19.0
Public Emerging Market Equity	8.1	11.0	24.0
Private Equity Composite	9.1	13.0	28.0
Real Assets			
REITs	7.2	10.6	26.0
Core Private Real Estate	5.5	6.2	12.0
Value Added Real Estate	7.2	9.7	20.0
Opportunistic Real Estate	9.2	12.6	26.0
High Yield Real Estate Debt	6.0	7.6	18.0
Natural Resources (Private)	8.3	11.0	23.0
Commodities	3.7	5.1	17.0
Infrastructure (Core)	7.0	8.0	14.0
Infrastructure (Non-Core)	9.0	11.4	22.0
Other			
Hedge Funds	4.3	4.5	7.0

Meketa Investment Group 2021 Annual Asset Study: Correlation Expectations

	Investment Grade Bonds	TIPS	High Yield Bonds	US Equity	Developed Market Equity	Emerging Market Equity	Private Equity	Real Estate	Natural Resources (private)	Commodities	Core Infrastructure (private)	Hedge Funds
Investment Grade Bonds	1.00											
TIPS	0.77	1.00										
High Yield Bonds	0.23	0.41	1.00									
US Equity	0.02	0.19	0.75	1.00								
Developed Market Equity	0.10	0.24	0.76	0.89	1.00							
Emerging Market Equity	0.15	0.33	0.75	0.78	0.87	1.00						
Private Equity	0.00	0.05	0.70	0.85	0.80	0.75	1.00					
Real Estate	0.20	0.10	0.50	0.50	0.45	0.40	0.45	1.00				
Natural Resources (private)	0.10	0.10	0.45	0.65	0.60	0.60	0.60	0.45	1.00			
Commodities	0.02	0.31	0.54	0.53	0.60	0.65	0.30	0.15	0.65	1.00		
Core Infrastructure (private)	0.30	0.30	0.60	0.55	0.55	0.50	0.45	0.60	0.60	0.35	1.00	
Hedge Funds	0.05	0.26	0.78	0.86	0.88	0.86	0.60	0.45	0.65	0.67	0.60	1.00

The Secular Decline in Investment Returns¹



- The chart above illustrates that a portfolio comprising of 65% domestic stocks and 35% investment grade bonds has produced diminishing expected returns as well as actual returns over the past 30 years.

¹ Expected return assumptions for 1) Bonds equals the yield of the ten-year Treasury plus 100 basis points, and 2) Equities equals the dividend yield plus the earnings yield of the S&P 500 index (using the inflation-adjusted trailing 10-year earnings). Probability calculation is for the subsequent ten years.

Risk Survey Results

Summary

- 100% participation rate with all 7 Trustee Members responded to the survey.
- The results of the survey inform:
 - Risk tolerances of the respondents.
 - Respondents Views on the Portfolio and MCERA's investment objectives.
 - Their Sentiment on particular asset classes and their value to MCERA.
- Key Takeaways: Where consensus was highest amongst the group was on.
 - Use of hedge fund strategies providing stability to funding ratio levels over time.
 - View that hedge fund returns are generally in line with performance expectations.
 - Cash flow position of the fund being a key consideration in constructing an AA.
 - Recognition that choosing between one strategy/ asset classes over another may be suitable if they share similar risk factor exposures and portfolio functions.
 - Opportunistic investments can add value.
 - Illiquid strategies carry a higher return (“illiquidity premium”).
 - Other areas as it relates to portfolio objectives and implementation of decisions generated greater dispersion.

Risk Survey Results

Question	Response: (# of people selecting)
Please rank the following objectives in order of importance with 1 being most important and 3 being least important.	
Achieving a final funding ratio of at least 100% by the end of the funding period (primarily focused on an end goal)	1 (most important): 3 2: 1 3 (least important): 3
Maintaining consistent progress towards improving the current funding ratio (primarily focused on an intermediate-term goals)	1 (most important): 3 2: 3 3 (least important): 1
Minimizing major total portfolio declines (greater than -15% in a fiscal year)	1 (most important): 1 2: 3 3 (least important): 3
To achieve long term goals, should MercedCERA be taking more, less, or the same amount of investment risk in the portfolio?	Same: 5 More: 1 Less: 1
What is considered to be a bad but not necessarily a catastrophic year to the respondent?	-8% to -12%: 1 -12% to -16%: 3 -16% to -20%: 2 Greater than -20% decline: 1

Question	Response
<p>Which of the following outcomes is of the greatest concern over the next 10 years?</p>	<p>Not achieving the actuarial rate: 0 Materially underperforming peers: 1 Not achieving the actuarial rate: 2 A Stagnant or declining funded ratio: 3 A double digit decline: 1</p>
<p>What is the minimum funded ratio that the respondent is willing to accept in a market crisis scenario (i.e., very rapid deterioration in economic conditions)?</p>	<p>55%: 1 60%: 2 65%: 2 75%: 1 Other %: 1, need more info to reply</p>
<p>Hedge Fund strategies can provide stability in funding ratio levels over time.</p>	<p>Agree: 7 Disagree: 0</p>
<p>Performance of the hedge fund portfolio is in line with my expectations of its intended role:</p>	<p>Somewhat agree with this statement: 3 Agree with this statement: 4</p>
<p>The cash-flow position of the Fund (e.g., net positive contributions or net negative benefit payments) is an important consideration when constructing an investment portfolio.</p>	<p>Strongly Agree: 2 Agree: 4 Disagree: 1 Strongly Disagree: 0</p>

Question	Response
<p>Shifting asset allocation away from policy (i.e., tactical allocations) from time-to-time adds value.</p>	<p>Strongly Agree: 2 Agree: 3 Disagree: 2 Strongly Disagree: 0</p>
<p>Different strategies and/or asset classes may be interchangeable if they share similar risk factor exposures and portfolio functions.</p>	<p>Strongly Agree: 1 Agree: 5 Disagree: 1 Strongly Disagree: 0</p>
<p>Opportunistic investments have the potential to add value.</p>	<p>Strongly Agree: 3 Agree: 4 Disagree: 0 Strongly Disagree: 0</p>
<p>High fee strategies are worthwhile if they produce high net-of-fee returns. (e.g., a strategy with a 1% management fee and a 9% expected net-of-fee return is preferred to a strategy with a 20 basis point management fee and an 8.0% expected net-of-fee return).</p>	<p>Strongly Agree: 2 Agree: 2 Disagree: 2 Strongly Disagree: 1</p>

Question	Response
<p>Illiquid strategies typically return more than similar-risk, liquid strategies (e.g., private equity typically returns more than public equity on a risk-adjusted basis).</p>	<p>Strongly Agree: 2 Agree: 4 Disagree: 1 Strongly Disagree: 0</p>
<p>Producing a return pattern that is different than peers is important (given the same long-term return).</p>	<p>Strongly Agree: 0 Agree: 3 Disagree: 4 Strongly Disagree: 0</p>

The Inflation Variable

The Inflation Variable: Evaluating Potential Outcomes

WORKING PAPER

JULY 2021

This research note is a response to the many client questions we have received about rising inflation and its potential impact on portfolio performance. It follows our recent note, *Inflation: Is It Coming and Should We Care?*¹, which explored the history of inflation in the US, why the inflation situation may be changing, and what impact inflation may have on asset prices.

Asset owners are well aware that inflation has an impact on performance. However, the extent of the impact and even the direction depend on several factors. Accordingly, Meketa developed a quantitative tool to assist decision-makers in their consideration of the potential impacts of a range of inflationary scenarios upon investment portfolios. This note explores the most influential variables – from the source of inflation, whether it was anticipated, and the length of the inflationary period, among other factors – and outlines how these considerations can be expected to affect performance across asset classes.

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¹ <https://meketa.com/leadership/inflation-is-it-coming-and-should-we-care/>

Current drivers of inflation

The COVID-19 pandemic disrupted both the demand and supply side of the global economy, causing short-term inflationary pressures. On the demand side, extraordinary fiscal and monetary stimulus have combined with pent-up savings to elevate consumer spending. The magnitude of these actions is difficult to overstate. US debt-to-GDP rose steadily between 2010 and 2020, with typical quarterly growth ranging from -1% to +3%. However, in 2020-Q3 it rose 28%, nearly five times the previous high mark (2008-Q4) of 5.9%.

Monetary policy tells a similar story of swift and aggressive intervention. The expansion of the Federal Reserve's balance sheet was both quicker and larger following March 2020 than the similar "Quantitative Easing" of 2008. The range of action to support financial assets also spanned a broader range as the Federal Open Market Committee instructed its trading desk to purchase not only US Treasuries but corporate debt as well.

Further on the demand-side, the pandemic induced major reductions in consumer activity: in each of the 12 months between April 2020 and April 2021, the personal savings rate was over 10%, with a peak of 33.7% in April 2020. In the 85 months

preceding the pandemic, the savings rate never eclipsed 10%. While not all the foregone consumption will necessarily be made up for as economies re-open, the force of consumers resuming economic activity after a year of subdued spending is surely inflationary.

The pandemic has similarly disrupted supply chains as manufacturers face unanticipated challenges to resume normal activities. Supply chains for semi-conductors, oil, and lumber are among the most impacted. The semi-conductor shortage began in the used automobile market as suppliers of used cars slashed chip orders, correctly anticipating a halt in transportation activity, while technology producers increased purchases as lockdown measures ushered in a year of virtual living. Now, as countries and economies re-open, car manufacturers cannot get the chips they need to meet demand. The lumber industry braced for a slump in the housing market that never came. Sawmills slowed production, but housing market demand remained strong, perhaps as many elected to relocate from cities to suburban locales in the face of global lockdowns and the drop in interest rates made financing a mortgage attractive. At its recent peak, lumber futures hit a record high of \$1,615, a staggering 7x multiple of its April 2020 lows.

The availability of human capital has also become a supply side issue as low-wage employers report widespread difficulty hiring workers even while unemployment rates remain well above their pre-pandemic levels. Reasons for this include: shifts in employer preferences induced by the pandemic, unsatisfactory wages, and bolstered unemployment benefits. A University of Chicago study found that 42% of those on benefits receive more than they did in their previous jobs. Basic economic analysis suggests that to overcome the gap between labor demand and supply, the price of labor (wages) must rise, or the price at which labor is willingly supplied must fall. The former would occur if employers increase wages, which would be inflationary for the economy. The latter might happen if unemployment benefits return to lower levels, forcing a return to the workforce at current wage offerings; this would be disinflationary.

The case for short-term inflation

Despite the inflationary forces on both the supply and demand sides, there is little reason to believe these factors will cause high long-term inflation. We expect pent-up demand, monetary intervention, fiscal stimulus, and supply chain disruptions to subside in the near-term and relieve the current inflationary pressures. After these economic shocks subside, the long-term disinflationary trends of the US's aging population, disruptive technology, and low borrowing costs will still be in place.² Fixed-income markets seem to reflect this view as well, as the 30-year Treasury rate is virtually unchanged from its pre-pandemic level of around 2%. For reference, 10-year breakeven³ rates remain at a modest 2.25%, on par with its pre-pandemic range.

² The literature on the relationship between the average age of a country's citizens and inflation implies a negative correlation, with Japan being the most notable example.

³ Breakeven inflation expectation rates, as measured by the difference in yields between a nominal Treasury and a Treasury Inflation Protection Security (TIPS) across the same maturity points, are a typical method by which market participants assess inflation expectations.

Globally, the US's high year-over-year inflation (5.0%) seems to be the exception rather than the rule. Inflation rates in other major economies are mostly lower: Eurozone (2%), Australia (1.1%), China (1.3%), Canada (3.4%), UK (1.5%), and Japan (-0.4%). To the extent that the relatively high inflation in the US is driven by relatively strong US fiscal and monetary stimulus, we equivalently expect US inflation to come in line with that of comparable peer nations as fiscal and monetary interventions subside. The wildcard situation for more persistent inflation is the uncertainty around continued stimulus. Specifically, 1) will additional spending be forthcoming from Congress, and if so, how large and for how long will it be, and 2) what actions might the Fed take to reverse its stimulative course, and when?

Inflation scenario analysis: three inflationary regimes

Although we expect the current inflationary forces to be transitory, we believe that accurately forecasting future events is extremely difficult as current trends may quickly change and new, unforeseen variables may arise.

To this end, we developed a quantitative tool that analyzes asset class performance under various inflation scenarios. This Inflation Scenario Analysis tool allows investors to “experience” an array of potential outcomes to better inform portfolio construction decisions. Further, it enables us to help our clients better understand the risk that inflation poses to their portfolios and to help them structure their portfolios to mitigate this risk.

The core of this model considers the long-held investment theory that equity assets are negatively correlated with expected and unexpected inflation. On the other hand, tangible assets such as commodities and gold have historically performed well in periods of rising inflation and may offset inflation's drag on a portfolio's performance. Our Inflation Scenario Analysis tool examines these theories under a range of inflationary regimes while examining the relationship between assets and inflation⁴ and controlling for the economic environment.

⁴ Please see Appendix B: Model Methodology for an explanation of non-linear asset inflation relationships.

The Scenario Analysis tool estimates average, annualized returns for a broad array of asset classes under different kinds of inflationary scenarios. Please refer to Appendix A and Appendix B for a detailed explanation on the regression models and expected returns calculation.

Scenario 1: Inflation Above Expectation

The Inflation Above Expectation scenario estimates average, annualized asset returns when realized inflation is above expected inflation (i.e., when there is “surprise” inflation).

Table 1 shows that at low levels, surprise inflation has a small, negative impact on equity assets and long-term bonds (less than 220 bp decline), and the negative returns

grow as surprise inflation increases - reinforcing the belief that equity assets and long-term bonds perform poorly in inflationary periods, particularly when inflation is much higher than expected. TIPS provide only a modest hedge as their returns are slightly negative. Commodities and gold provide the best hedge at varying surprise inflation levels but even these represent only modest gains, illustrating how damaging unexpected inflation can be to even a well-diversified portfolio of assets.

Asset Class	Inflation Slightly Higher than Expected	Inflation Moderately Higher than Expected	Inflation Meaningfully Higher than Expected
US Equity	-1.0	-4.2	-12.8
Global Equity	-0.7	-3.6	-12.3
Long-term Government Bonds	-2.2	-5.8	-11.4
TIPS	-0.5	-1.4	-3.7
Short-term TIPS	0.1	0.0	-0.4
Commodities	1.7	3.1	1.2
Gold	0.9	1.9	2.6

TABLE 1
Inflation Above Expectation Scenario: Average, Annualized Asset Returns

Note: Please see Appendix B: Model Methodology for detailed descriptions of each inflation scenario.

Scenario 2: Inflation in a High/Low Growth Environment

The Inflation and High Growth Environment scenario estimates average, annualized asset returns when realized inflation varies in an environment with high economic growth.

As expected, equities experience the highest returns in each of the high growth scenarios. However, equity returns decline modestly as inflation increases (Table 2). Gold seems to perform poorly in high growth environments generally, while the returns of TIPS are relatively flat. On the other hand, commodities' returns increase as inflation grows, suggesting they are a good inflation hedge during periods of strong economic growth.

Asset Class	High Growth and Low Inflation	High Growth and Moderate Inflation	High Growth and High Inflation
US Equity	18.6	16.9	14.3
Global Equity	27.7	23.1	18.2
Long-term Government Bonds	3.3	-0.4	-2.5
TIPS	0.9	0.5	1.1
Short-term TIPS	-0.3	-0.2	0.1
Commodities	6.1	10.6	12.1
Gold	-10.2	-8.5	-4.0

TABLE 2
Inflation and High Growth Environment Scenario: Average, Annualized Asset Returns

Scenario 3: Inflation and Low Growth Environment

The Inflation and Low Growth Environment scenario estimates average, annualized asset returns when realized inflation varies in an environment with low economic growth.

Equities and long-term government bonds perform poorly in low growth economic environments, and their performance worsens as inflation increases. Commodities are the best hedge in low growth and moderate-to-high inflation periods – the expected return for commodities is positive in all scenarios and returns increase with higher inflation. Gold provides a small hedge only when inflation is high, while TIPS are not a great hedge during periods of low growth.

Asset Class	Low Growth and Low Inflation	Low Growth and Moderate Inflation	Low Growth and High Inflation
US Equity	-9.3	-10.6	-12.6
Global Equity	-12.1	-15.4	-18.9
Long-term Government Bonds	-4.4	-7.9	-9.8
TIPS	-1.6	-2.0	-1.4
Short-term TIPS	-0.6	-0.5	-0.2
Commodities	2.2	6.5	8.0
Gold	-4.2	-2.4	2.4

TABLE 3
Inflation and Low Growth Environment Scenario: Average, Annualized Asset Returns

Scenario 4: Moderate Inflation Period

Meketa also analyzed the effect of the length of the inflation period on asset returns under “moderate” inflation and “extreme” inflation.

The Moderate Inflation Period scenario estimates expected asset returns for short, medium and long-term periods when the realized inflation level is moderate.

Equities have slightly negative expected returns in moderate inflation periods, and the returns grow more negative with longer inflation periods (Table 4). Commodities are a very strong hedge for short- to long-term inflation periods, while gold is the second-best hedge and experiences its highest returns in long-term inflation periods.

Asset Class	Very Brief, Moderate Inflation Spike	Brief, Moderate Inflation Spike	Extended, Moderate Inflation Spike
US Equity	-15	-3.1	-9.9
Global Equity	-3.3	-5.0	-11.9
Long-term Government Bonds	-6.1	-6.3	-5.8
TIPS	-0.1	0.0	0.7
Short-term TIPS	0.4	0.4	0.2
Commodities	14.8	15.5	14.6
Gold	5.2	8.6	23.6

TABLE 4
Moderate Inflation Period Scenario: Average, Annualized Asset Returns

Scenario 5: Extreme Inflation Period

The Extreme Inflation Period scenario estimates expected asset returns for short, medium and long-term periods when the realized inflation level is very high, similar to levels experienced in 1971-1972.

Table 5 shows that the patterns observed in the Moderate Inflation Period scenario continue for the Extreme Inflation Period case. For example, at extreme levels of inflation, gold is a very strong inflation hedge in all scenarios and performs best in long-term inflation periods. Commodities are also a very strong hedge, but their returns decline modestly as the length of the inflation period grows. Equities perform very poorly during these periods.

Asset Class	Very Brief, Extreme Inflation Spike	Brief, Extreme Inflation Spike	Extended, Extreme Inflation Spike
US Equity	-11.4	-14.2	-18.7
Global Equity	-13.5	-16.2	-20.5
Long-term Government Bonds	-6.0	-5.5	-4.3
TIPS	0.8	1.1	1.6
Short-term TIPS	0.2	0.2	0.0
Commodities	15.3	14.0	11.4
Gold	27.4	34.6	47.2

TABLE 5
Extreme Inflation Period
Scenario: Average,
Annualized Asset Returns

Conclusion

The current drivers of inflation are real and warrant careful consideration. However, we believe that they are likely to remain short-term. Pent-up demand and supply chain issues are direct consequences of the now-receding pandemic, particularly in the US. Monetary and fiscal stimulus are direct policy responses.

As pandemic-related risks continue to decline and economies re-open, it stands to reason that these short-term drivers of inflation will similarly subside. The core structural dis-inflationary realities of global demographics (e.g., an aging US population) and low borrowing costs should continue to dominate the long-term inflation view, which we hold as low to moderate.

Although rising prices will likely subside in the near-term, there is still considerable uncertainty about the outcome. Moreover, inflation still has a sizeable impact on asset prices, and the impact varies based on the type of inflationary environment. Understanding inflation's effect on different asset classes can help investors develop a portfolio that is well-positioned to hedge against inflation risk.

Appendix A: Model approach and limitations

The Inflation Scenario Analysis tool is based on a multivariate regression model that estimates the effects of realized and surprise inflation on monthly asset returns, controlling for the economic environment. Quadratic independent variables are added to the regression model to account for potential non-linearity between an asset class and inflation. Estimated returns are then calculated as the expected value of asset class returns, conditional on the inflation scenario.

The reasons for this model approach are detailed below.

Control for the economic environment. Meketa wanted to control for the economic environment when looking at an asset's inflation hedging ability. Economic theory holds that inflation and growth are tightly related – low levels of inflation tend to spur economic activity, but when economic activity heats up too quickly, inflation grows. A regression model allowed us to estimate how much an asset's performance is due to the economic environment compared to its actual inflation-hedging ability.

Avoid mis-specification. An asset class' inflation hedging ability is typically measured through the correlation of asset performance and inflation levels in historical periods. However, the real relationship between inflation and many asset classes is likely non-linear. Hence, inferring the relationship of inflation and asset returns with linear correlations could mis-specify their real relationship.

Small sample size. Meketa was limited to using regression models to identify the relationship between inflation and asset performance due to the small sample size. Non-parametric models require large sample sizes to perform well, but our sample size was 576 months.

Easy interpretation. The estimated coefficients in a regression model are easy to interpret and validate with theory. Linear regression coefficients are interpreted as elasticities – the effect of Y given one unit increase in X holding all else constant.

As with all regression models, the results of our multivariate regressions depend on the following assumptions to be true:

- The linear functional form represents the true data-generating process.
- The covariance between the error term and independent variables are 0.
- The error term is normally distributed around 0 and has a finite variance.
- The residuals are homoscedastic and are not correlated.

The assumptions need to hold true for our estimators to be unbiased. In addition, by using a model with historical data, Meketa assumes that future asset behavior is similar to past asset behavior.

Appendix B: Model Methodology

Inflation above expectation

The model examines the effect of surprise inflation on asset returns, controlling for the economic environment and realized inflation:

$$\text{Asset Returns} = \beta_0 + \beta_1 \text{Unemployment} + \beta_2 \text{Unemployment}^2 + \beta_3 \text{Inflation} + \beta_4 \text{Inflation}^2 + \beta_5 \text{Surprise Inflation} + \beta_6 \text{Surprise Inflation}^2$$

where Asset Returns is the monthly asset class return from 1973 to 2020, unemployment is the 3-month rolling average unemployment rate, inflation is the monthly change in CPI from the 3-month rolling average CPI, and surprise inflation is the difference between this month and last month's inflation rate. Unemployment and inflation data are taken from the St. Louis Federal Reserve Bank's FRED database. The independent variables Unemployment^2 , Inflation^2 and $\text{Surprise Inflation}^2$ capture the non-linear effects of realized inflation, surprise inflation, and the economic environment on asset returns. For example, the relationship between Long-term Government Bonds and realized inflation may be an upside-down U shape in periods of high economic growth – Long-term Government Bond returns are positive when monthly inflation is low at .2%, but returns turn negative when monthly inflation reaches higher levels, such as 0.5%.

The estimate is the annualized return of:

$$\beta_5 * E[\text{Surprise Inflation} | \text{Scenario}] + \beta_6 * E[\text{Surprise Inflation}^2 | \text{Scenario}]$$

where the scenarios are low (.05%, 25th percentile), medium (.15%, median), and high (.3%, 75th percentile) surprise inflation.

Inflation and high/low growth

The model examines the combined effect of inflation and GDP Growth on asset returns:

$$\text{Asset Returns} = \beta_0 + \beta_1 \text{GDP Growth} + \beta_2 \text{GDP Growth}^2 + \beta_3 \text{Inflation} + \beta_4 \text{Inflation}^2$$

where Asset Returns is the monthly asset return from 1973 to 2020, GDP Growth is the percent change in GDP from the previous quarter, and inflation is the monthly change in CPI from the 3-month rolling average CPI. GDP Growth and inflation data are taken from the St. Louis Federal Reserve Bank's FRED database. Since GDP data is only quarterly, the regression was run on quarterly asset return, GDP and inflation observations.

The estimate is the annualized return of:

$$\beta_1 * E[\text{GDP Growth} | \text{Scenario}] + \beta_2 * E[\text{GDP Growth}^2 | \text{Scenario}] + \beta_3 * E[\text{Inflation} | \text{Scenario}] + \beta_4 * E[\text{Inflation}^2 | \text{Scenario}]$$

where the GDP Growth scenarios are high growth rate of 1% (75th percentile) and low growth rate of .3% (25th percentile). The inflation scenarios are low (.07%, 25th percentile), medium (.25%, median), and high (.5%, 75th percentile) realized inflation.

Inflation duration

The model examines the effect of inflation duration on asset return, controlling for the economic environment:

$$Asset\ Returns = \beta_0 + \beta_1 Unemployment + \beta_2 Unemployment^2 + \beta_3 Inflation + \beta_4 Inflation^2$$

where Asset Returns is the monthly asset return from 1973 to 2020, unemployment is the 3-month rolling average unemployment rate, and inflation is the monthly change in CPI from the 3-month rolling average CPI. Unemployment and inflation data are taken from the St. Louis Federal Reserve Bank's FRED database.

The estimate is the annualized return of:

$$\beta_3 * E[Inflation | Scenario] + \beta_4 * E[Inflation^2 | Scenario]$$

where the scenarios are short (1-2 months), medium (4-8 months) or long-term (12+ months) inflation duration.

Appendix C: Benchmarking

The following table lists the benchmarks used for each asset class.

Asset Class	Benchmark
US Equity	Russell 3000
Global Equity	MSCI ACWI
Long-term Government Bonds	Bloomberg Barclays US Treasury: Long Index
TIPS	Bloomberg Barclays Global Inflation-Linked: US Tips
Short-term TIPS	Bloomberg Barclays US Treasury Tips 1-5 Years Index
Commodities	Bloomberg Commodity Index
Gold	LBMA Gold Price PM USD

TABLE 6
Asset Class Benchmarks

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September 3, 2021

TO: State Association of County Retirement Systems
 FROM: Edelstein Gilbert Robson & Smith, LLC
 RE: **Legislative Update – September 2021**

General Update

The Legislature has returned from summer recess for the final few weeks of session.

Last week, the Legislature passed the fiscal committee deadline, where the Appropriations Committee in each house heard hundreds of bills for the biannual “suspense file” hearing. It is at this point in the legislative process that the number of viable bills dwindles further, as many bills are held in this committee due to costs to the state.

Now that the fiscal deadline has passed, legislators have until September 10 to pass all remaining active bills out of the Legislature. They are spending the final weeks holding floor session every day to get through the bill load on their desks before bills are sent to the Governor for his consideration.

Legislation of Interest

SB 634 (Committee on Labor, Public Employment, and Retirement) - SACRS Sponsored Bill. This bill makes a few clarifying changes to the CERL, including clarifying that a 37 Act Retirement board may contract with a private physician to provide medical advice to the board to process disability claims and changing an obsolete code reference related to when a 37 Act system member may opt to continue as a member of the 37 Act system instead of enrolling in CalSTRS.

The bill passed out of the Legislature and will be considered by the Governor.

AB 361 (Rivas) - Virtual Meetings for Declared Emergencies. This bill is sponsored by the CA Special Districts Association and would codify the Governor’s Executive Order allowing for teleconference for declared emergencies. The bill would require local agencies to re-declare an emergency every 30 days that would then allow them to continue meeting remotely.

Recent amendments add an urgency clause so the bill will go into effect immediately after it is signed.

The bill is currently on the Senate floor.

AB 339 (Lee) – Large City Council and Board of Supervisor Public Meetings – This bill would require until December 31, 2023 that city councils and boards of supervisors in jurisdictions over 250,000 residents provide both in person and teleconference options for the public to attend their meetings.

The bill is currently on the Senate floor.

AB 826 (Irwin) - Compensation Earnable. This bill was recently amended into a bill that prescribes that the definition of compensation earnable in CERL includes any form of remuneration, whether paid in cash or as in-kind benefits, if certain requirements are met.

The bill is co-sponsored by SEIU and the Ventura County Board of Supervisors. They argue that some pay items, like their Flexible Benefit Allowance was not clearly addressed in the *Alameda* decision and should not be excluded, because members receive the full cash value, it is a regular, set amount paid every pay period, and it isn't subject to pension spiking or any other manipulation.

SACRS does not have a position on the bill.

Recent amendments to the bill clarify that the provisions of the bill only apply to Ventura County.

The bill is currently on the Senate Floor.

AB 845 (Rodriguez) - COVID-19 Presumption. This bill creates a rebuttable presumption for members that a COVID-19 related illness contracted on the job must be eligible for an in-service disability retirement. The provisions sunset January 1, 2023. The bill is sponsored by SEIU. The co-chairs of the Legislative Committee have been closely engaged with the sponsor and committee staff working on the legislation to ensure smooth implementation in CERL Systems.

This bill was signed into law by the Governor on July 23.