MercedCERA INVESTMENT RETIREMENT BOARD AGENDA
THURSDAY, JUNE 24, 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=NGhFeGltSVhaSTlsK2JGWE83TVFydz09
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 – June 10, 2021

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

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

(1) **DISCUSSION AND POSSIBLE ACTION REGARDING INVESTMENTS IN RECOMMEDED FUNDS, ROLL CALL VOTE REQUIRED.**
(Govt. Code § 54956.81)
1. Discussion and possible action to adopt the recommendation regarding Funds/Managers – Cliffwater

2. Discussion on selling a fund – Staff.

RETURN TO OPEN SESSION
Report on any action taken in closed session.

REGULAR CALENDAR

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 quarterly performance and any managers and/or funds – Cliffwater.
2. Discussion and possible action regarding May monthly and quarterly performance reporting as of May 31, 2021 - Meketa Group
3. Discussion on 'Thinking Outside the Box: Where to invest in a low interest rate environment' – Meketa Group.
4. Discussion on Bitcoin – Meketa Group.
5. Discussion and possible action to adopt interest crediting rate for June 30, 2021 – Staff.
6. Discussion on Governor's Order N-08-21 – Staff.
7. 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:
   - SACRS/UC Berkeley Public Pension Investment Management Program, July 13-22, 2021 (virtual conference).
   - SACRS Fall Conference, November 9-12, 2021, Hollywood, CA (in person/virtual conference TBD).

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.

- July 8, 2021
- July 22, 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 ADMINISTRATIVE RETIREMENT BOARD Minutes
THURSDAY, JUNE 10, 2021 – 8:15 A.M.
MERCED COUNTY EMPLOYEES' RETIREMENT ASSOCIATION
TELEPHONE NUMBER: 1-310-372-7549, CONFERENCE CODE: 975839
ALTERNATE CONFERENCE CALL NUMBER (FOR USE ONLY IF PRIMARY NUMBER MALFUNCTIONS): 669-900-6833, Meeting ID: 930 3019 5748, Passcode: 095484

CALL TO ORDER - 8:15 A.M.

ROLL CALL
Board Members Present: Scott Johnston, Al Peterson, Janey Cabral, Karen Adams, Aaron Rosenberg, Scott Silveira, David Ness, Michael Harris and Wendy Alvares. ***Absent:*** Ryan Paskin. ***Counsel:*** Jeff Grant. ***Staff:*** Kristen Santos, Martha Sanchez, Alexis Curry, Michelle Lee, Mark Harman, Sheri Villagrana and Brenda Mojica.

APPROVAL OF MINUTES – May 27, 2021
The MercedCERA Board voted unanimously via roll call vote to approve the May 27, 2021 minutes.
Peterson/Cabral U/A (8-0)

PUBLIC COMMENT
No comments.

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

(1) **CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION**
(Govt. Code § 54956.9(d)(1))
Name of Case: CCC Deputy Sheriffs Assoc. v. CCCERA, et al, Case No. MSN12-1870 (AFSCME v. MercedCERA)

(2) **DISABILITY RETIREMENT APPLICATIONS: PERSONNEL EXCEPTION**
(Govt. Code § § 54957, 31532; Cal Const. art. I, § 1)

1. Informal Hearing
   a. Elias, Robert
   b. Parras, Stacy
2. Formal Hearing
   a. None
3. Disability update and possible action:
   a. Aceves, Martin
   b. Arroyo, Elizabeth
   c. Banda, Gregory
   d. Brooks, Roland

e. Castillo, Araceli
f. Cureton, Michael
g. Daniel, Autumn
h. Herrera, Yvonne
i. Jenkins, Robert L.
j. Kayser, Esther
k. Kirn, Mary Kay
l. Leyro, Domingo
m. Moua, Keo
n. Weatherly, Lana

RETURN TO OPEN SESSION
Report on any action taken in closed session.

1. **CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION**
No action taken. Counsel given direction.

2. **DISABILITY RETIREMENT APPLICATIONS: PERSONNEL EXCEPTION -** Informal Hearing
   a) Elias, Robert
   The MercedCERA Board voted unanimously via roll call vote to grant a non-service connected disability and deny a service-connected disability for Robert Elias.
   Silveira/Cabral U/A (8-0)

   b) Parras, Stacy
   The MercedCERA Board voted unanimously via roll call vote to grant a non-service connected disability and deny a service-connected disability for Stacy Parras.
   Silveira/Peterson U/A (8-0)

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.	Vang, Sue	H.S.A.	30 Yrs. Svc.	Eff: 05/22/2021
b.	Powell, Donald	Sheriff	5 Yrs. Svc.	Eff: 05/31/2021
c.	Gaillard, Juanita	R & R	11 Yrs. Svc.	Eff: 06/01/2021
d.	Lopez, Debbie	H.S.A.	18 Yrs. Svc.	Eff: 06/01/2021
e.	Lewis, Kevin	H.S.A.	33 Yrs. Svc.	Eff: 06/05/2021
f.	Lopez, Susan	H.S.A.	20 Yrs. Svc.	Eff: 05/29/2021
g.	Dinuzzo, Robert	DPW	20 Yrs. Svc.	Eff: 05/22/2021

YTD fiscal year 2020/2021 retirees: 83
YTD fiscal year 2019/2020 retirees: 104
YTD fiscal year 2018/2019 retirees: 103

MONTHLY BUDGET REPORT: Submitted

The MercedCERA Board voted unanimously to approve the consent calendar.
Cabral/Rosenberg U/A (8-0)

BOARD ACTION/DISCUSSION

1. Discussion on Trustee Fiduciary Roles and Responsibilities – Ashley Dunning, Nossaman LLC.
   No action taken.
2. Discussion and possible action to approve the MercedCERA annual budget for FYE 2022 – Staff.
   The MercedCERA Board voted unanimously via roll call vote to adopt the proposed administrative budget and projection for FY 2021/2022.
   Silveira /Peterson U/A (8-0)
3. Discussion on proposed investment officer classification – Staff.
   No action taken.
4. Discussion and possible action to adopt pay code CAP as non-pensionable for the Superior Courts of Merced County – Staff.
   The MercedCERA Board voted unanimously via roll call vote to adopt pay code CAP as non-pensionable for the Superior Courts of Merced County.
   Adams/Peterson U/A (8-0)
5. 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:
   - SACRS/UC Berkeley Public Pension Investment Management Program, July 13-22, 2021 (virtual conference).
   - SACRS Fall Conference, November 9-12, 2021 (in person/virtual conference TBD).

   No action taken.

INFORMATION ONLY

- **Trustee Silveira: Thanked everyone for the great discussions and wanted to thank Mark, Martha and Kristie for the presentations. He also requested to take into consideration going back to in person meetings.**
- **Trustee Harris: Looks forward to meeting in person.**
- **Plan Administrator: Informed the Board that rooms have been secured with the county to host in person meetings with whoever wants to meet in person. Attending remotely will continue as an option. Trustees can choose how they want to attend starting with the next meeting on June 24, 2021.**

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.

- June 24, 2021
- July 8, 2021

ADJOURNMENT

The meeting adjourned at 11:34 A.M.

Accepted By,

Trustee Name/Position	Signature	Date
Scott Johnston/Vice Chair		
Al Peterson/Secretary		

CLIFFWATER LLC

INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Alternative Investment Performance

Merced County Employees' Retirement Association

June 24, 2021

MCERA Private Equity Capital Budget & Implementation Plan

15% fund level target

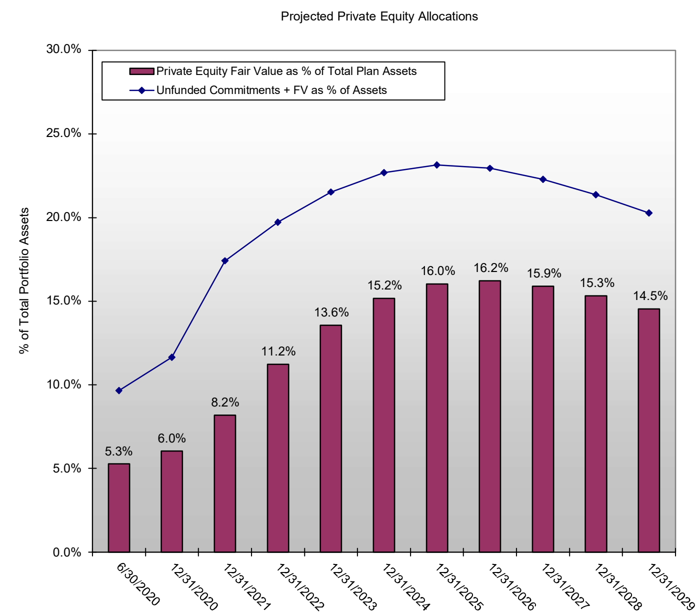
- Annual capital budget target of $40 million, range of $30-$50 million
- Target 4-7 investments, range of $5-$15 million per inv; average size of $8 million per

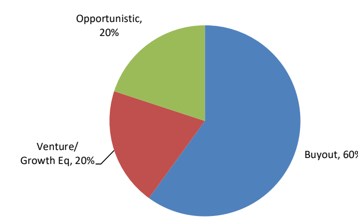
Performance comparisons:

- *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





	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

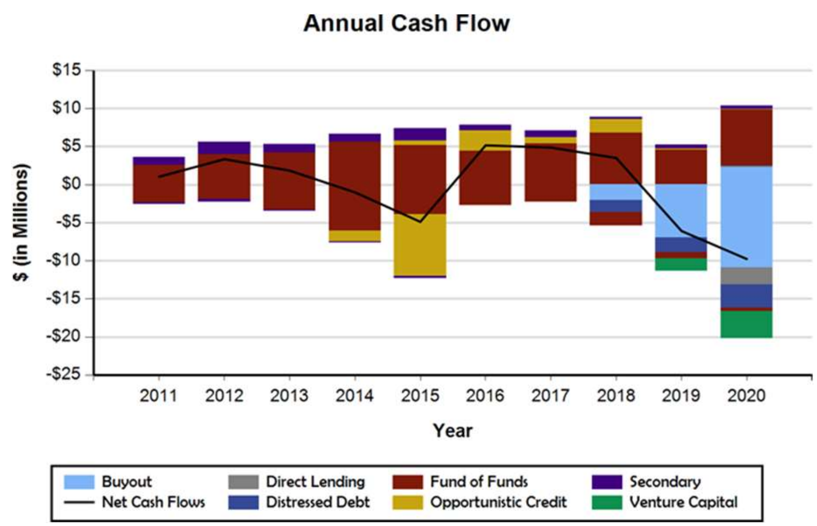
Investment structure (15% fund target; 6.0% invested as of Mar 2021):

- 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 2017-2020 in their investment period
  - Continued rebound in 4Q valuations offsetting the 1Q20 markdowns and there were annual gains of $15 million; contributions exceed distributions by $10 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 Commitments	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain/ Loss	Net IRR	Benchmark
December 31, 2019	31	$140,937	$75,915	$61,712	$47,255	$108,967	$33,052	8.46%	11.45%
December 31, 2020	40	$200,777	$96,088	$72,125	$72,011	$144,136	$48,049	9.83%	12.60%
Annual Change	9	$59,840	$20,173	$10,413	$24,756	$35,169	$14,997		



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

MCERA Private Equity Performance – as of Dec 31, 2020

Partnership Name ($000)	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	5	16,235	8,337	11.75%	7.00%	2.06
Vintage Year 2004 Total		10,000	2,417	7,898	76%	16,230	5	16,235	8,337	11.75%	7.66%	2.06
Vintage Year 2005												
ASP 2005 Non-US Fund	Fund of Funds	1,500	74	1,426	95%	1,717	242	1,958	533	4.78%	4.10%	1.37
ASP 2005 US Fund	Fund of Funds	3,500	177	3,323	95%	4,697	657	5,354	2,030	7.21%	8.17%	1.61
Pantheon Ventures Euro Fund IV	Fund of Funds	1,227	52	1,283	96%	1,584	86	1,670	387	4.61%	4.10%	1.30
Pantheon Ventures USA Fund VI	Fund of Funds	3,750	206	3,544	95%	5,119	278	5,396	1,853	6.52%	8.17%	1.52
Vintage Year 2005 Total		9,977	510	9,576	95%	13,117	1,262	14,379	4,803	6.30%	7.91%	1.50
Vintage Year 2006												
Pantheon Global Secondary Fund III "B"	Secondary	10,000	540	9,460	95%	10,300	271	10,571	1,111	1.98%	N/A	1.12
Vintage Year 2006 Total		10,000	540	9,460	95%	10,300	271	10,571	1,111	1.98%	7.00%	1.12
Vintage Year 2007												
ASP 2007 Direct Fund	Fund of Funds	450	12	438	97%	880	242	1,122	684	12.51%	11.15%	2.56
ASP 2007 Non-US Fund	Fund of Funds	1,575	78	1,497	95%	1,795	689	2,484	987	8.30%	7.81%	1.66
ASP 2007 US Fund	Fund of Funds	2,475	115	2,360	95%	3,743	1,017	4,760	2,400	12.45%	11.15%	2.02
Vintage Year 2007 Total		4,500	205	4,295	95%	6,417	1,949	8,367	4,071	10.72%	8.89%	1.95
Vintage Year 2011												
ASP 2011 Direct Fund	Fund of Funds	500	37	463	93%	539	463	1,001	539	16.33%	18.27%	2.16
ASP 2011 Emerging Markets Fund	Fund of Funds	500	64	436	87%	272	837	1,108	673	17.49%	11.36%	2.54
ASP 2011 Non-US Developed Fund	Fund of Funds	1,500	239	1,261	84%	1,171	1,171	2,342	1,081	14.49%	11.36%	1.86
ASP 2011 US Fund	Fund of Funds	2,500	326	2,175	87%	2,105	2,543	4,647	2,473	16.79%	18.27%	2.14
Pantheon Asia Fund VI	Fund of Funds	1,000	95	906	91%	493	1,043	1,535	629	10.84%	11.36%	1.69
Pantheon Euro Fund VII	Fund of Funds	1,712	228	1,493	87%	1,279	1,430	2,709	1,217	12.40%	11.36%	1.82
Pantheon Ventures USA Fund IX	Fund of Funds	2,000	212	1,788	89%	1,692	2,047	3,738	1,950	15.54%	18.27%	2.09
Vintage Year 2011 Total		9,712	1,202	8,521	88%	7,550	9,533	17,082	8,562	13.81%	14.30%	2.00
Vintage Year 2013												
Invesco Partnership Fund VI, L.P.	Fund of Funds	5,000	1,548	3,958	69%	2,235	6,978	9,213	5,254	17.28%	19.55%	2.33
Vintage Year 2013 Total		5,000	1,548	3,958	69%	2,235	6,978	9,213	5,254	17.28%	13.08%	2.33
Vintage Year 2014												
Ocean Avenue Fund II	Fund of Funds	10,000	1,000	9,000	90%	7,547	10,214	17,761	8,761	17.83%	19.40%	1.97
Raven Asset-Based Opportunity Fund II	Opportunistic Credit	10,000	474	9,526	95%	6,159	2,610	8,769	-757	-2.50%	6.69%	0.92
Vintage Year 2014 Total		20,000	1,474	18,526	93%	13,706	12,824	26,530	8,004	9.65%	17.93%	1.43

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.

CLIFFWATER LLC

MCERA Private Equity Performance – as of Dec 31, 2020

Partnership Name ($000)	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 2017												
GTCR XII	Buyout	5,000	2,004	2,996	60%	680	3,423	4,103	1,107	25.82%	17.67%	1.37
Vintage Year 2017 Total		5,000	2,004	2,996	60%	680	3,423	4,103	1,107	25.82%	16.72%	1.37
Vintage Year 2018												
Carrick Capital Partners III, L.P.	Buyout	5,000	2,655	2,345	47%	0	3,050	3,050	704	20.72%	6.97%	1.30
Cressey & Company Fund VI LP	Buyout	5,000	3,450	1,550	31%	0	2,126	2,126	576	N/M	N/M	1.37
Davidson Kempner Long-Term Distressed Opportuni	Distressed Debt	5,000	785	4,300	84%	85	4,799	4,885	585	7.33%	N/A	1.14
Vintage Year 2018 Total		15,000	6,890	8,195	54%	85	9,975	10,061	1,865	13.56%	9.50%	1.23
Vintage Year 2019												
Accel-KKR Growth Capital Partners III	Buyout	5,000	3,441	1,559	31%	0	1,559	1,559	0	N/M	N/M	1.00
Cortec Group Fund VII, L.P.	Buyout	10,000	7,335	4,206	27%	1,543	3,970	5,513	1,307	N/M	N/M	1.31
Genstar Capital Partners IX, L.P.	Buyout	7,000	4,414	2,748	37%	163	3,461	3,624	876	N/M	N/M	1.32
Summit Partners Growth Equity Fund X-A, L.P.	Buyout	8,000	4,318	3,682	46%	0	4,192	4,192	510	N/M	N/M	1.14
TCV X, L.P.	Venture Capital	5,000	1,829	3,172	63%	0	5,285	5,285	2,114	N/M	N/M	1.67
Vintage Year 2019 Total		35,000	27,172	17,543	22%	1,805	20,804	22,609	5,066	N/M	N/M	1.29
Vintage Year 2020												
Accel-KKR Capital Partners VI, LP	Buyout	5,000	5,000	0	0%	0	-54	-54	-54	N/M	N/M	0.00
Marlin Heritage Europe II, L.P.	Buyout	8,589	7,711	839	10%	0	799	799	-41	N/M	N/M	0.95
Thoma Bravo Discover Fund III, L.P.	Buyout	8,000	8,000	0	0%	0	-13	-13	-13	N/M	N/M	0.00
Silver Point Specialty Credit Fund II, L.P.	Direct Lending	8,000	5,836	2,177	27%	100	2,336	2,436	259	N/M	N/M	1.12
Taconic Market Dislocation Fund III L.P.	Distressed Debt	8,000	5,760	2,240	28%	0	2,415	2,415	175	N/M	N/M	1.08
Spark Capital Growth Fund III, L.P.	Venture Capital	6,000	4,530	1,470	25%	0	1,351	1,351	-119	N/M	N/M	0.92
Spark Capital VI, L.P.	Venture Capital	3,000	2,430	570	19%	0	508	508	-62	N/M	N/M	0.89
Summit Partners Venture Capital Fund V-A, L.P.	Venture Capital	6,000	6,000	0	0%	0	-18	-18	-18	N/M	N/M	0.00
Vintage Year 2020 Total		52,589	47,431	5,119	10%	0	4,983	4,983	-136	N/M	N/M	0.97
Total Portfolio:		**176,777**	**87,393**	**96,087**	**51%**	**72,126**	**72,009**	**144,134**	**48,047**	**9.83%**	**11.79%**	**1.50**
Portfolio Strategy Totals												
Buyout		66,000	48,616	19,086	26%	2,386	21,709	24,095	5,009	29.11%		
Direct Lending		8,000	5,836	2,177	27%	100	2,336	2,436	259	23.04%		
Distressed Debt		13,000	6,545	6,540	50%	85	7,214	7,299	759	8.77%		
Fund of Funds		40,175	6,051	34,947	85%	44,785	24,443	69,228	34,281	11.99%		
Non-US		17,602	8,542	9,141	51%	8,311	6,296	14,607	5,466	8.63%		
Opportunistic Credit		10,000	474	9,526	95%	6,159	2,610	8,769	-757	-2.50%		
Secondary		10,000	540	9,460	95%	10,300	271	10,571	1,111	1.98%		
Venture Capital		36,000	30,789	5,212	14%	0	7,127	7,127	1,916	N/M		
Total Portfolio:		**200,777**	**107,393**	**96,087**	**47%**	**72,126**	**72,006**	**144,132**	**48,044**	**9.83%**	**11.79%**	

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

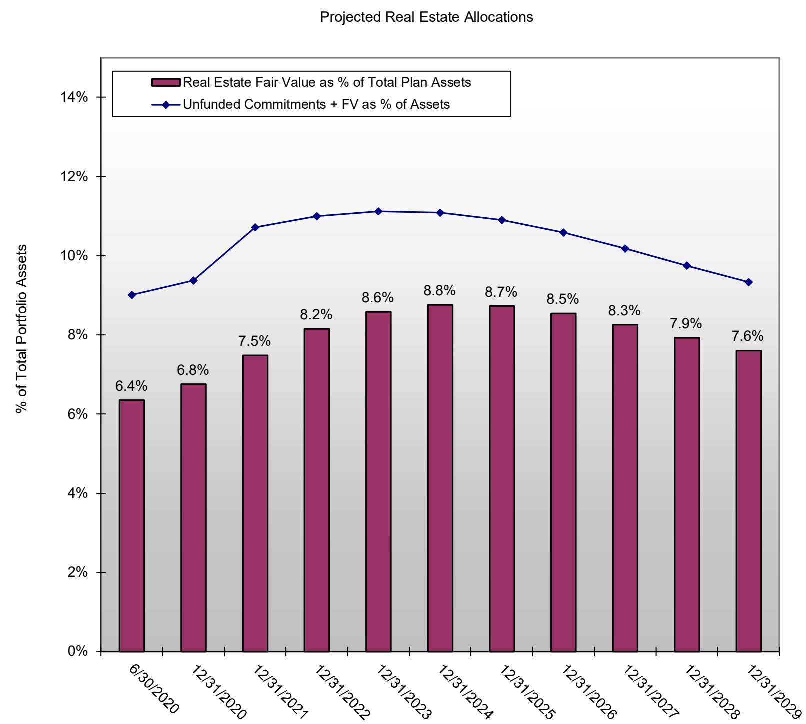
- Annual capital budget target of $15 million, range of $10-$25 million
- Target 2-4 investments, range of $5-$10 million per inv
  - Average investment size of $7 million
  - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising 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



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

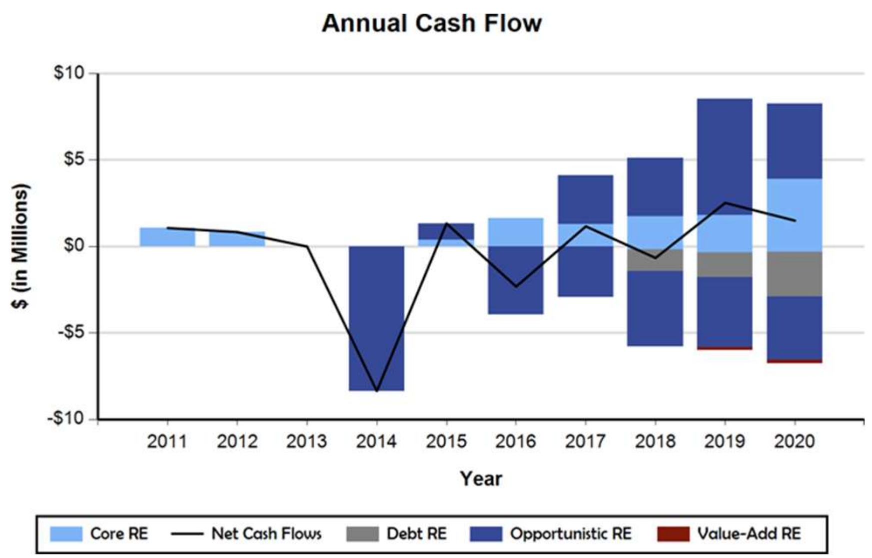
Real estate investment structure (8% target, 7.4% actual as of Mar 2021)

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

Annual Summary

(in thousands)

	Total Partnerships	Total Commitments	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain/ Loss	Net IRR	Benchmark
December 31, 2019	8	$68,352	$43,193	$36,283	$61,673	$97,956	$54,764	8.99%	8.85%
December 31, 2020	10	$84,601	$49,977	$44,567	$59,450	$104,017	$54,040	8.58%	8.56%
Annual Change	2	$16,249	$6,784	$8,284	-$2,223	$6,061	-$724		



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 ($000)	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 1999												
UBS Trumbull Property Fund	Core RE	17,000	0	17,872	100%	27,152	35,309	62,461	44,589	8.39%	10.20%	3.49
Vintage Year 1999 Total		17,000	0	17,872	100%	27,152	35,309	62,461	44,589	8.39%	12.95%	3.49
Vintage Year 2014												
Greenfield Acquisition Partners VII, L.P.	Opportunistic RE	13,000	1,876	12,662	86%	13,668	6,545	20,213	7,551	12.78%	11.07%	1.60
Vintage Year 2014 Total		13,000	1,876	12,662	86%	13,668	6,545	20,213	7,551	12.78%	10.38%	1.60
Vintage Year 2016												
Patron Capital Fund V	Opportunistic RE	14,601	4,827	9,105	67%	3,424	6,626	10,050	945	5.12%	9.65%	1.10
Vintage Year 2016 Total		14,601	4,827	9,105	67%	3,424	6,626	10,050	945	5.12%	10.15%	1.10
Vintage Year 2017												
Carlyle Realty Partners VIII, L.P.	Opportunistic RE	5,000	3,272	2,042	35%	311	1,932	2,243	201	8.42%	6.35%	1.10
Vintage Year 2017 Total		5,000	3,272	2,042	35%	311	1,932	2,243	201	8.42%	7.98%	1.10
Vintage Year 2018												
Taconic CRE Dislocation Fund II	Debt RE	5,000	900	4,172	82%	0	4,692	4,692	520	N/M	N/M	1.12
AG Realty Value Fund X, L.P.	Opportunistic RE	5,000	3,075	1,915	39%	13	2,089	2,102	186	N/M	N/M	1.10
Vintage Year 2018 Total		10,000	3,975	6,087	60%	13	6,781	6,794	707	N/M	N/M	1.12
Vintage Year 2019												
Rockpoint Real Estate Fund VI, L.P.	Opportunistic RE	5,000	4,235	764	15%	0	783	783	19	N/M	N/M	1.02
Carmel Partners Investment Fund VII, L.P	Value-Add RE	5,000	4,618	382	8%	0	221	221	-161	N/M	N/M	0.58
Vintage Year 2019 Total		10,000	8,853	1,146	11%	0	1,004	1,004	-142	N/M	N/M	0.88
Vintage Year 2020												
Cerberus Real Estate Debt Fund, L.P.	Debt RE	7,000	5,941	1,064	15%	0	1,262	1,262	199	N/M	N/M	1.19
Starwood Distressed Opportunity Fund X	Opportunistic RE	8,000	8,000	0	0%	0	-10	-10	-10	N/M	N/M	0.00
Vintage Year 2020 Total		15,000	13,941	1,064	7%	0	1,252	1,252	188	N/M	N/M	1.18
Total Portfolio:		**84,601**	**36,744**	**49,977**	**57%**	**44,567**	**59,450**	**104,017**	**54,039**	**8.58%**	**8.56%**	**2.08**

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

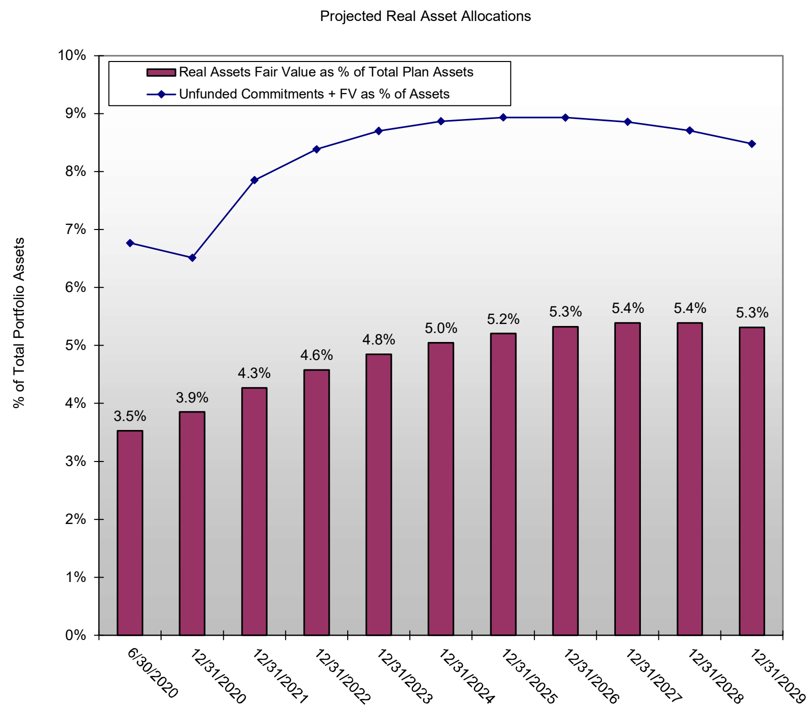
- Annual capital budget target of $15 million, range of $10-$25 million
- Target 2-4 investments, range of $5-$10 million per inv
  - Average investment size of $7 million
  - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising 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%.

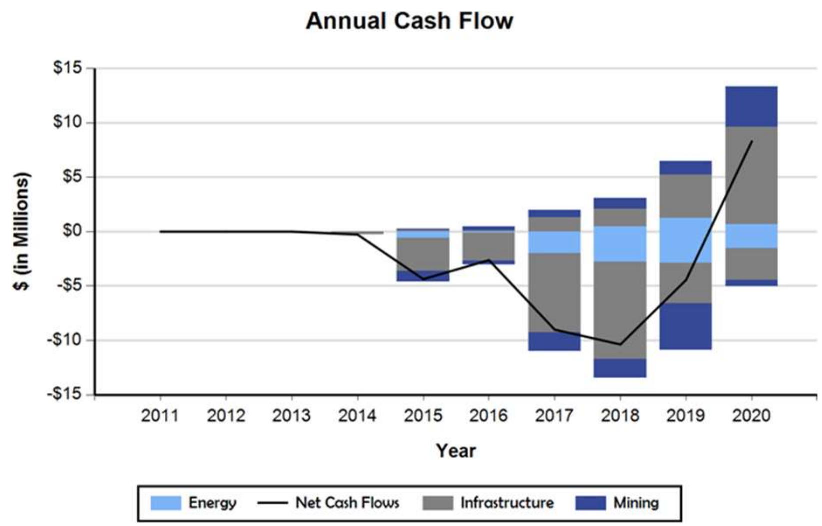
Real assets investment structure (5% target, 5.9% actual as of Mar 2021)

- 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 $8 mm as the infrastructure funds continue to return capital

Annual Summary

(in thousands)

	Total Partnerships	Total Commitments	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain/ Loss	Net IRR	Benchmark
December 31, 2019	12	$70,426	$43,180	$12,222	$39,640	$51,862	$8,683	11.67%	1.78%
December 31, 2020	13	$75,886	$48,318	$25,561	$34,144	$59,705	$11,387	10.58%	-0.64%
Annual Change	1	$5,460	$5,138	$13,339	-$5,496	$7,843	$2,704		



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 2017-19 funds are being built out

Partnership Name ($000)	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 2014												
KKR Global Infrastructure II	Infrastructure	10,000	528	10,855	95%	8,854	8,460	17,314	6,459	16.87%	5.85%	1.59
Vintage Year 2014 Total		10,000	528	10,855	95%	8,854	8,460	17,314	6,459	16.87%		1.59
Vintage Year 2015												
GSO Energy Select Opportunities Fund	Energy	7,500	3,486	4,470	54%	2,050	2,967	5,017	548	4.24%	1.80%	1.12
North Haven Infrastructure Partners II LP	Infrastructure	10,000	1,333	11,245	87%	6,547	7,292	13,839	2,594	9.32%	8.11%	1.23
Taurus Mining Finance Fund	Mining	5,000	648	5,229	87%	3,706	2,105	5,811	582	6.52%	N/A	1.11
Vintage Year 2015 Total		22,500	5,467	20,943	76%	12,302	12,365	24,667	3,724	7.48%		1.18
Vintage Year 2016												
Taurus Mining Finance Annex Fund	Mining	5,000	1,100	4,506	78%	3,369	2,302	5,671	1,165	19.61%	N/A	1.26
Vintage Year 2016 Total		5,000	1,100	4,506	78%	3,369	2,302	5,671	1,165	19.61%		1.26
Vintage Year 2017												
EnCap Energy Capital Fund XI, L.P.	Energy	5,000	3,266	1,734	35%	0	1,091	1,091	-643	-26.31%	-4.39%	0.63
ISQ Global Infrastructure Fund II	Infrastructure	5,000	2,097	3,422	58%	521	3,700	4,221	798	16.82%	N/A	1.23
Vintage Year 2017 Total		10,000	5,363	5,156	46%	521	4,790	5,311	155	2.10%		1.03
Vintage Year 2018												
EnCap Flatrock Midstream IV, L.P.	Energy	3,000	1,857	1,221	38%	78	1,297	1,375	154	6.60%	-0.01%	1.13
Ardian Infrastructure Fund V	Infrastructure	5,386	4,697	659	13%	20	645	666	7	N/M	N/M	N/A
KKR Global Infrastructure Investors III	Infrastructure	5,000	2,785	2,470	44%	163	2,278	2,440	-29	-1.16%	N/A	N/A
Vintage Year 2018 Total		13,386	9,338	4,350	30%	261	4,220	4,481	131	2.38%		1.03
Vintage Year 2019												
Global Energy & Power Infrastructure Fund III	Energy	5,000	3,561	1,571	29%	253	1,425	1,678	107	N/M	N/M	1.07
Tailwater Energy Fund IV, LP	Energy	5,000	4,063	936	19%	0	582	582	-353	N/M	N/M	0.62
Vintage Year 2019 Total		10,000	7,624	2,507	24%	253	2,007	2,261	-246	N/M		0.90
Vintage Year 2021												
ISQ Global Infrastructure Fund III (UST), L.P.	Infrastructure	5,000	5,000	0	0%	0	0	0	0	N/M	N/M	0.00
Vintage Year 2021 Total		5,000	5,000	0	0%	0	0	0	0	N/M		0.00
Total Portfolio:		**75,886**	**34,420**	**48,318**	**55%**	**25,561**	**34,144**	**59,705**	**11,387**	**10.58%**	**-0.64%**	**1.24x**
Portfolio Strategy Totals												
Energy		20,500	12,671	8,361	38%	2,128	5,937	8,066	-295	-1.65%		0.96
Infrastructure		25,000	4,647	24,569	81%	15,563	18,030	33,593	9,024	13.20%		1.37
Non-US		30,386	17,103	15,388	44%	7,870	10,177	18,047	2,659	11.98%		1.17
Total Portfolio:		**75,886**	**34,420**	**48,318**	**55%**	**25,561**	**34,144**	**59,705**	**11,387**	**10.58%**	**-0.64%**	**1.24x**

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 May 31, 2021

						Returns					Sharpe	Incep
Fund	**Market Value**	**Actual %**	**May**	**QTD**	**YTD**	**1 Year**	**3 Year**	**5 Year**	**Incep**	**Std Dev**	**Ratio**	**Date**
Market Neutral												
KLS Diversified Fund LP	3,984,003	3.7%	0.03%	-0.40%	3.06%	16.99%	-2.06%	-	-0.89%	10.77%	-0.17	Oct-17
Laurion Capital, Ltd.	15,376,477	14.2%	9.48%	10.78%	31.49%	45.01%	-	-	23.88%	12.59%	1.65	Jul-18
Market Neutral - HF Total	19,360,480	17.9%	6.44%	7.04%	20.26%	34.22%	10.24%	-	9.18%	8.04%	0.93	Oct-17
HFRI Relative Value (Total) Index			1.13%	2.23%	5.98%	16.82%	4.83%	-	4.72%	6.41%	0.51	Oct-17
Credit/Distressed												
Silver Point Capital Fund, L.P.	16,049,455	14.8%	2.35%	4.66%	14.04%	35.68%	8.73%	-	8.80%	8.32%	0.86	Dec-17
Credit/Distressed - HF Total	16,049,455	14.8%	2.35%	4.66%	14.04%	35.68%	8.73%	-	8.80%	8.32%	0.86	Dec-17
HFRI ED: Distressed/Restructuring Index			2.52%	4.41%	13.28%	36.04%	8.04%	-	7.76%	9.02%	0.69	Dec-17
Event Driven												
Taconic Opportunity Fund L.P.	13,705,579	12.6%	0.00%	1.17%	6.01%	17.02%	-	-	5.18%	6.86%	0.58	Dec-18
Event Driven - HF Total	13,705,579	12.6%	0.00%	1.17%	6.01%	17.02%	-	-	5.18%	6.86%	0.58	Dec-18
HFRI Event-Driven (Total) Index			1.63%	3.88%	11.77%	34.28%	-	-	10.45%	11.19%	0.83	Dec-18
Equity Long/Short												
Archipelago Partners, L.P.	13,840,889	12.8%	-0.24%	2.60%	3.62%	16.63%	6.08%	-	6.69%	8.74%	0.61	Sep-17
Marshall Wace Funds LP - MW Eureka (US) Fund	3,989,535	3.7%	-0.21%	2.18%	3.31%	19.26%	7.53%	-	8.49%	6.75%	1.00	Dec-17
Marshall Wace Funds LP - MW Global Opportunities (US)	9,609,193	8.9%	-0.72%	-0.11%	-7.48%	4.95%	-	-	5.77%	11.75%	0.51	Apr-20
Equity Long/Short - HF Total	27,439,617	25.3%	-0.40%	1.58%	-0.60%	12.60%	4.95%	-	5.98%	8.18%	0.56	Sep-17
HFRI Equity Hedge (Total) Index			1.48%	4.16%	11.26%	39.19%	10.74%	-	10.44%	11.03%	0.81	Sep-17
Global Macro-Discretionary												
Graham Absolute Return Trading Ltd.	8,280,019	7.6%	1.21%	1.65%	8.41%	21.65%	4.32%	-	4.63%	9.48%	0.36	Sep-17
Caxton Global Investments (USA) LLC	10,000,000	9.2%	0.00%	-	-	-	-	-	0.00%	-	-	May-21
Global Macro-Discretionary - HF Total	18,280,019	16.9%	1.01%	1.45%	8.20%	21.41%	4.25%	-	4.58%	9.48%	0.36	Sep-17
HFRI Macro (Total) Index			2.31%	4.78%	9.18%	15.71%	6.10%	-	4.82%	5.21%	0.62	Sep-17
Global Macro-Systematic												
HFRI Macro (Total) Index			2.31%	4.78%	9.18%	15.71%	6.10%	-	4.74%	5.22%	0.61	Nov-17
Multi-Strategy												
Sculptor Domestic Partners II, L.P.	13,594,520	12.5%	-1.77%	0.82%	4.60%	21.93%	11.16%	11.25%	8.46%	7.30%	0.99	Jul-14
Multi-Strategy - HF Total	13,594,520	12.5%	-1.77%	0.82%	4.60%	21.93%	11.16%	11.25%	8.46%	7.30%	0.99	Jul-14
HFRI Relative Value (Total) Index			1.13%	2.23%	5.98%	16.82%	4.83%	5.37%	4.02%	5.02%	0.58	Jul-14
MCERA Hedge Fund Portfolio	108,429,669	100.0%	1.43%	3.01%	8.15%	21.60%	6.23%	7.36%	5.26%	5.71%	0.73	Jul-14
Benchmarks												
HFRI Fund of Funds Composite Index			0.48%	2.69%	4.75%	20.39%	6.09%	5.99%	4.11%	5.38%	0.56	Jul-14
Market Indices												
Libor3Month			0.01%	0.03%	0.07%	0.22%	1.47%	1.42%	1.13%	0.25%	-	Jul-14
Bloomberg Barclays US Aggregate Bond Index			0.33%	1.12%	-2.29%	-0.40%	5.06%	3.25%	3.22%	3.14%	0.67	Jul-14
Bloomberg Barclays US High Yield Bond Index			0.30%	1.39%	2.25%	14.96%	7.11%	7.39%	5.34%	7.33%	0.59	Jul-14
S&P 500 TR			0.70%	6.07%	12.62%	40.32%	18.01%	17.17%	13.90%	14.26%	0.91	Jul-14
MSCI AC World Index Free - Net			1.56%	6.00%	10.84%	41.85%	13.86%	14.18%	9.66%	14.11%	0.65	Jul-14
MSCI EAFE - Net			3.26%	6.37%	10.07%	38.41%	8.23%	9.77%	5.19%	14.56%	0.34	Jul-14
MSCI EMF (Emerging Markets Free) - Net			2.32%	4.87%	7.26%	51.00%	9.65%	13.88%	6.41%	17.02%	0.38	Jul-14

Cliffwater Disclosures

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MEKETA
INVESTMENT GROUP

Merced County Employees' Retirement Association

June 24, 2021

Performance Update

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Economic and Market Update

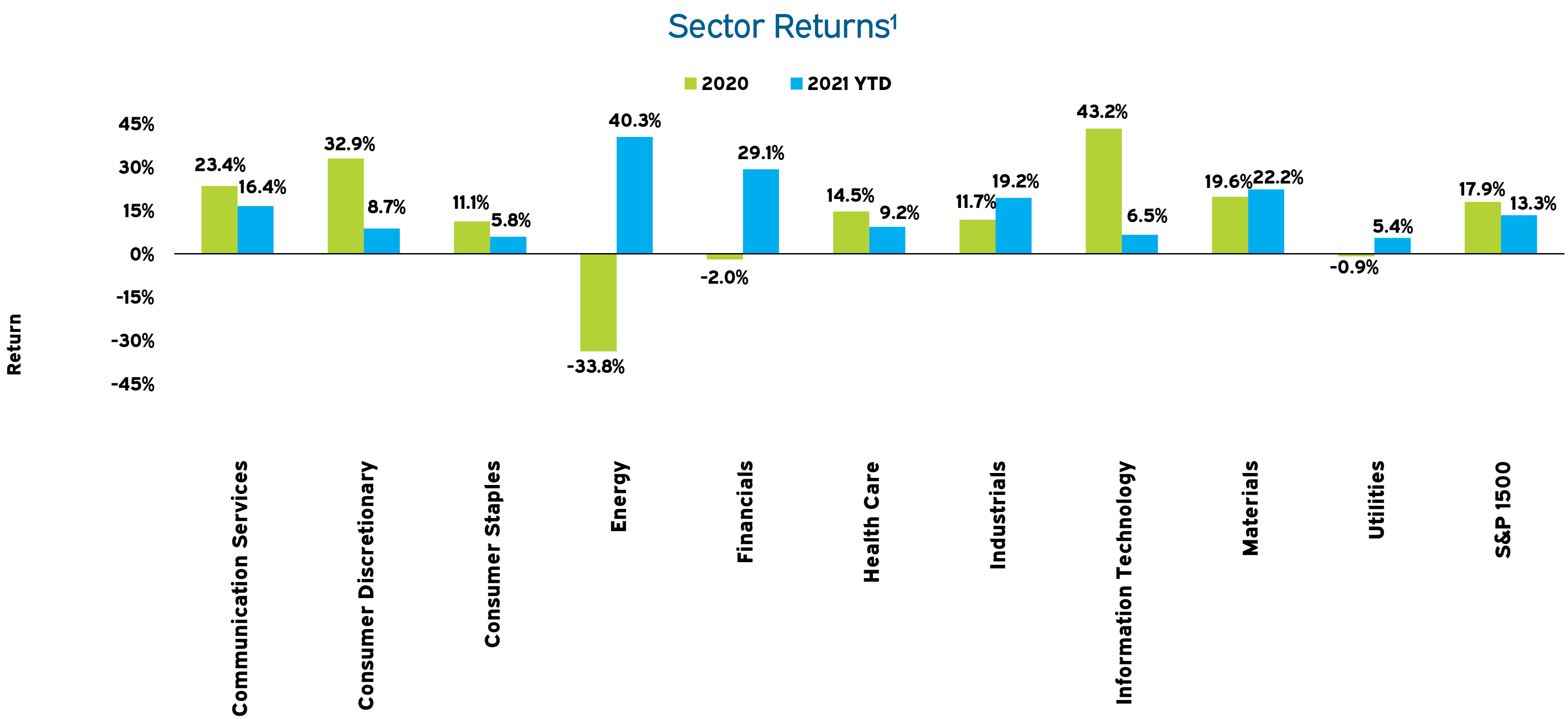
Data as of May 31, 2021

Market Returns[1]

Indices	May	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	0.7%	12.6%	40.3%	18.0%	17.2%	14.4%
MSCI EAFE	3.3%	10.1%	38.4%	8.2%	9.8%	5.9%
MSCI Emerging Markets	2.3%	7.3%	51.0%	9.7%	13.9%	4.1%
MSCI China	0.8%	1.7%	38.7%	8.4%	16.8%	7.3%
Bloomberg Barclays Aggregate	0.3%	-2.3%	-0.4%	5.1%	3.3%	3.3%
Bloomberg Barclays TIPS	1.2%	1.1%	7.1%	6.5%	4.5%	3.4%
Bloomberg Barclays High Yield	0.3%	2.3%	15.0%	7.1%	7.4%	6.4%
10-year US Treasury	0.6%	-5.4%	-7.1%	5.4%	2.2%	3.5%
30-year US Treasury	0.7%	-13.0%	-17.4%	6.7%	3.4%	6.3%

- So far this year, global risk assets continue to rise, leading to significant gains over the trailing year. This has largely been driven by record fiscal and monetary policy stimulus and positive developments with the COVID-19 vaccine. US Treasuries have not fared as well, given the rise in interest rates driven by inflationary fears.
- In May, Treasury yields declined as the Federal Reserve maintained its position that inflation will be transitory. TIPS moved into positive territory for the year, helped by fears of rising prices.
- Equity markets rose in May with international markets leading the way, partly driven by a weakening US dollar.

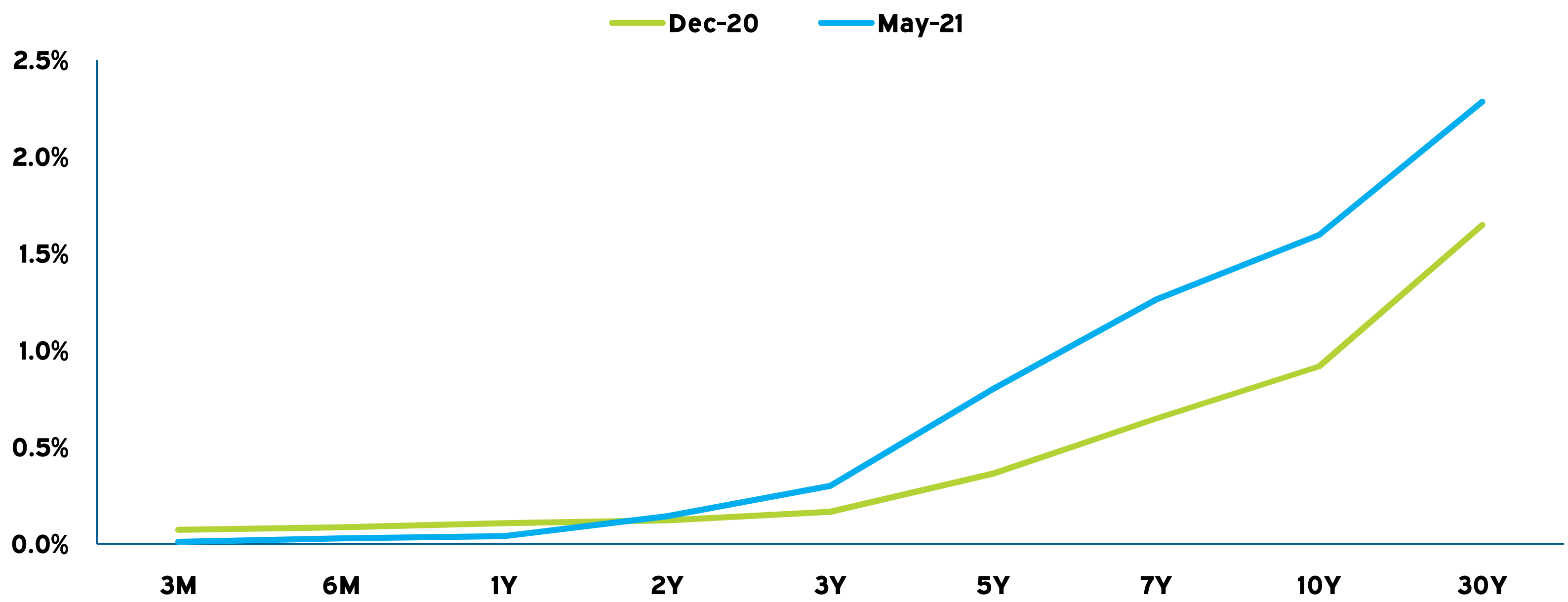
[1] Source: Investment Metrics and Bloomberg. Data is as of May 31, 2021.



- Cyclical sectors like energy and financials continue to lead the way in 2021, as some investors rotate out of stay-at-home focused companies in the technology sector.
- The rotation into value stocks has largely been driven by expectations for the economy to reopen, potentially higher taxes, and rising interest rates. Growth stocks typically produce more of their cash flows further into the future and increased interest rates lead to larger discounts, reducing present values.

[1] Source: Bloomberg. Data is as of May 31, 2021.

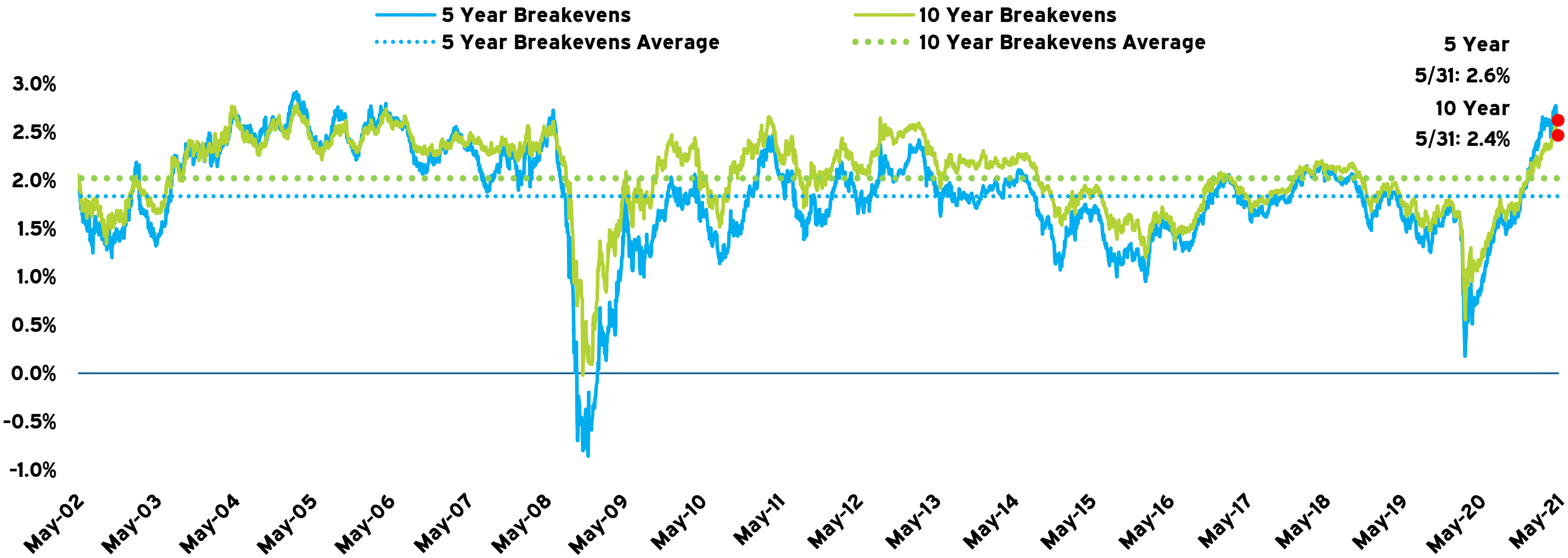
US Yield Curve Steepens[1]



- Thus far in 2021, the yield curve steepened on inflation fears related to gradual signs of economic improvement and developments with the vaccine.
- Shorter-dated rates have largely not moved given Fed policy, while longer-dated rates may continue to steepen if growth and inflation pressures build beyond current expectations.
- Alternatively, the yield curve could decline if the economy starts to weaken or if economic progress is simply accelerated versus the prior expectations.

[1] Source: Bloomberg. Data is as of May 31, 2021.

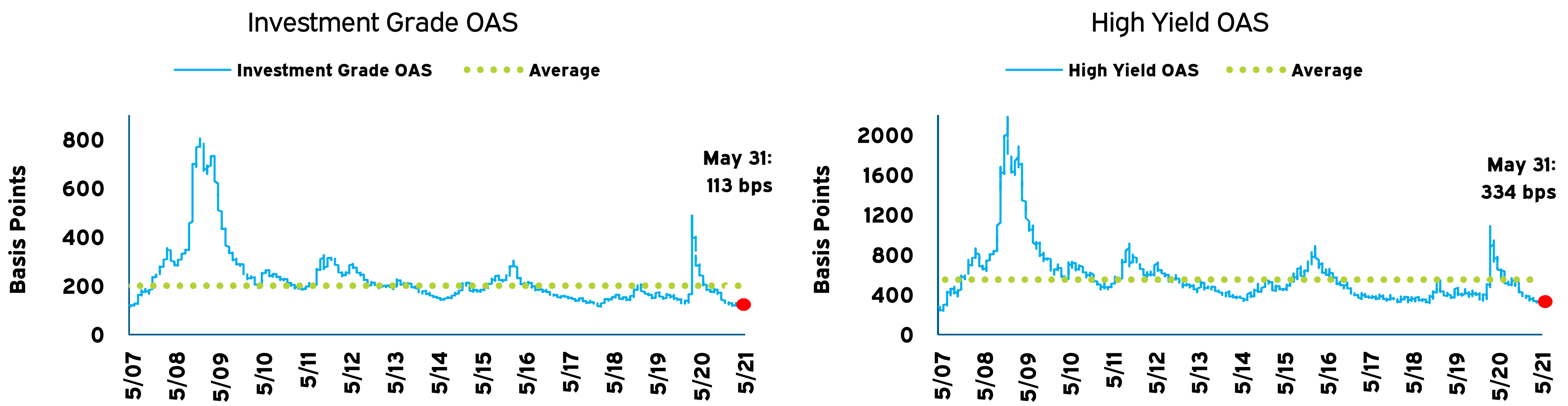
Breakeven Inflation[1]



- Inflation expectations remain well above long-term averages, with the vaccine roll-out, rising raw material prices, and expected additional fiscal stimulus as key drivers.
- Looking forward, 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 May 31, 2021.

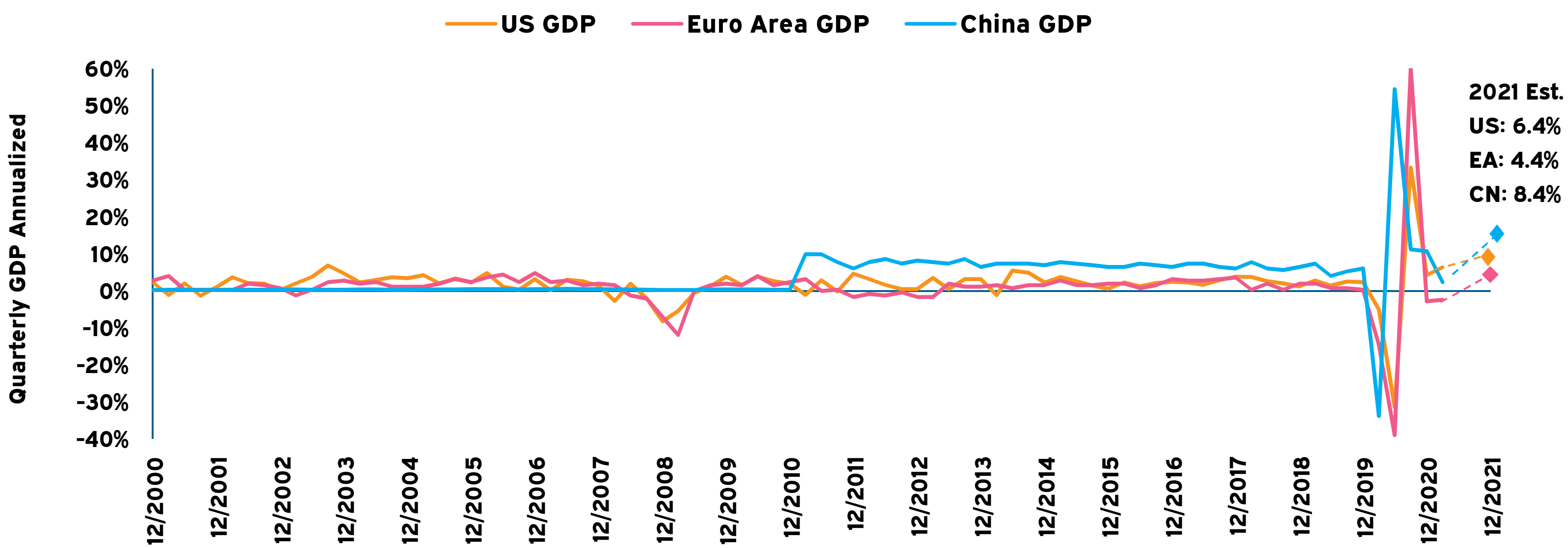
Credit Spreads (High Yield & Investment Grade)[1]



- Credit spreads (the spread above a comparable maturity Treasury) for investment-grade and high yield corporate debt widened sharply at the start of the pandemic as investors sought safety.
- Policy support and the search for yield in a low rate environment led to a decline in credit spreads to below long-term averages, particularly for high yield.

[1] Source: FRED Economic Data. Investment grade represents ICE BofA BBB US Corporate Index OAS. High Yield represents ICE BofA US High Yield Index OAS. Data is as of May 31, 2021.

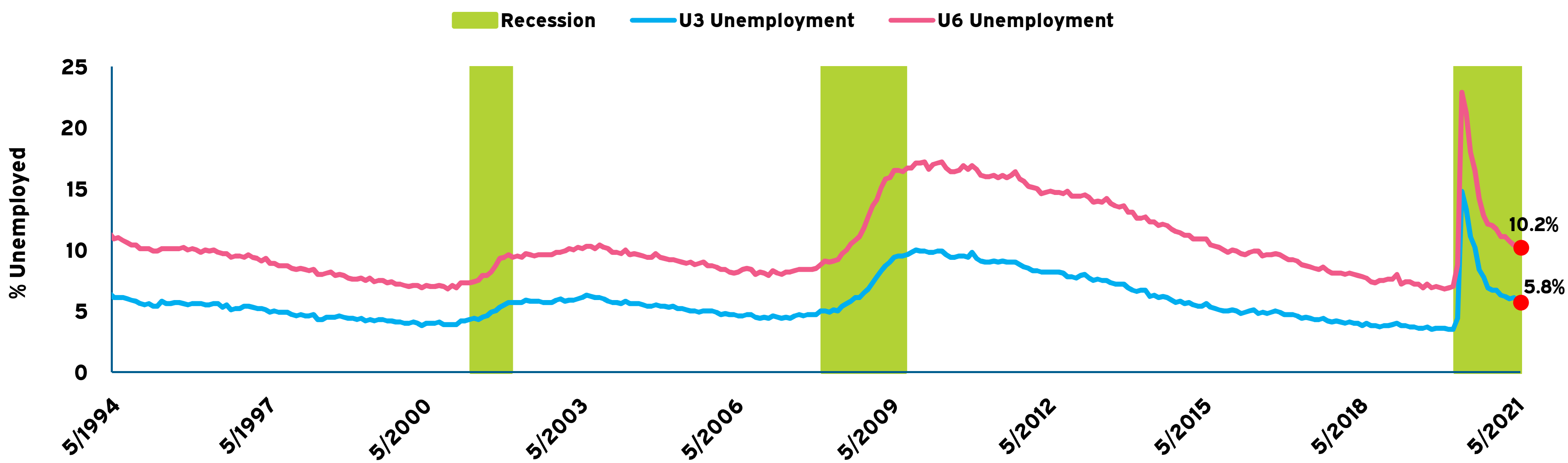
GDP Data Shows Projected Improvements in 2021[1]



- Major economies experienced historic declines in growth during the second quarter of 2020, followed by record increases in the third quarter driven by pent-up demand from the lockdown measures earlier in the year.
- Looking forward, strong growth is expected in 2021 particularly for China, projected to grow at an impressive 8.4%, due in part to their ability to quickly control the virus and reopen their economy. The US is expected to grow faster than the euro area this year, helped by vaccine distribution.

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

US Unemployment[1]



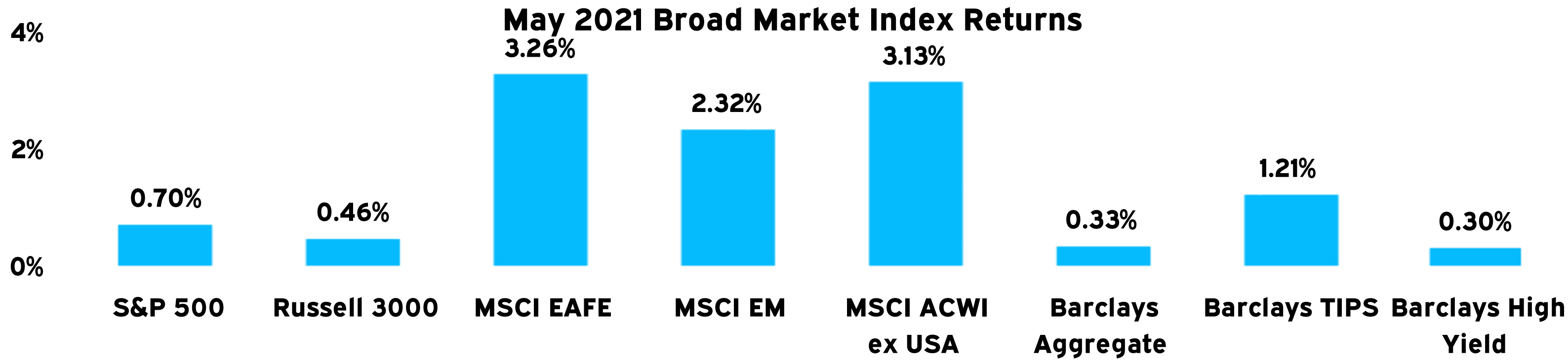
- In May, the unemployment rate (U3) declined after rising slightly in April. It dropped from 6.1% to 5.8%.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers continues to decline but remains much higher at 10.2%.
- Pandemic related concerns, childcare issues, and a mismatch of skills and available jobs have all contributed to slack in the labor market.

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

Performance Highlights

As of May 31, 2021

Market Review and Performance Summary for May 2021



US Treasury 10 yr: -7 basis points

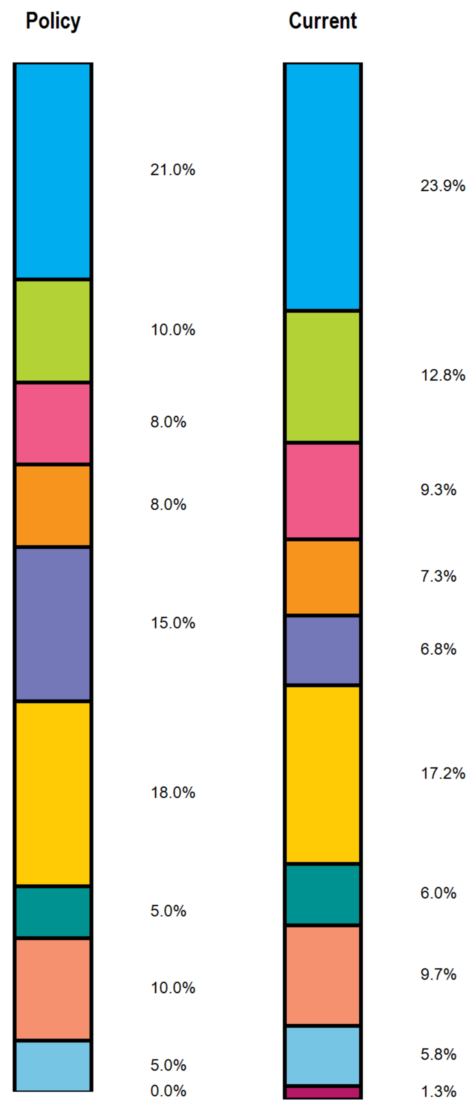
- Equity markets were higher in May, with international markets rising more than US Equities, with the tailwind of the weakening US Dollar. Yields at the longer end of yield curve declined slightly, while the short end remains anchored at/ near zero.
- Inflation expectations declined from the previous month as the Federal Reserve maintained its position that inflation pressures building in the economy were expected to be transitory.

As of May 31, 2021, total assets for the Merced CERA Portfolio are estimated at $1.12 billion.

- Merced CERA reported a monthly return of 0.7%. Most major asset classes reported positive returns, led by Developed International Equity, up 3.3%, while Emerging Markets equities were the only negative asset class with a -1.4% return.

Preliminary Performance Update

As of May 31, 2021

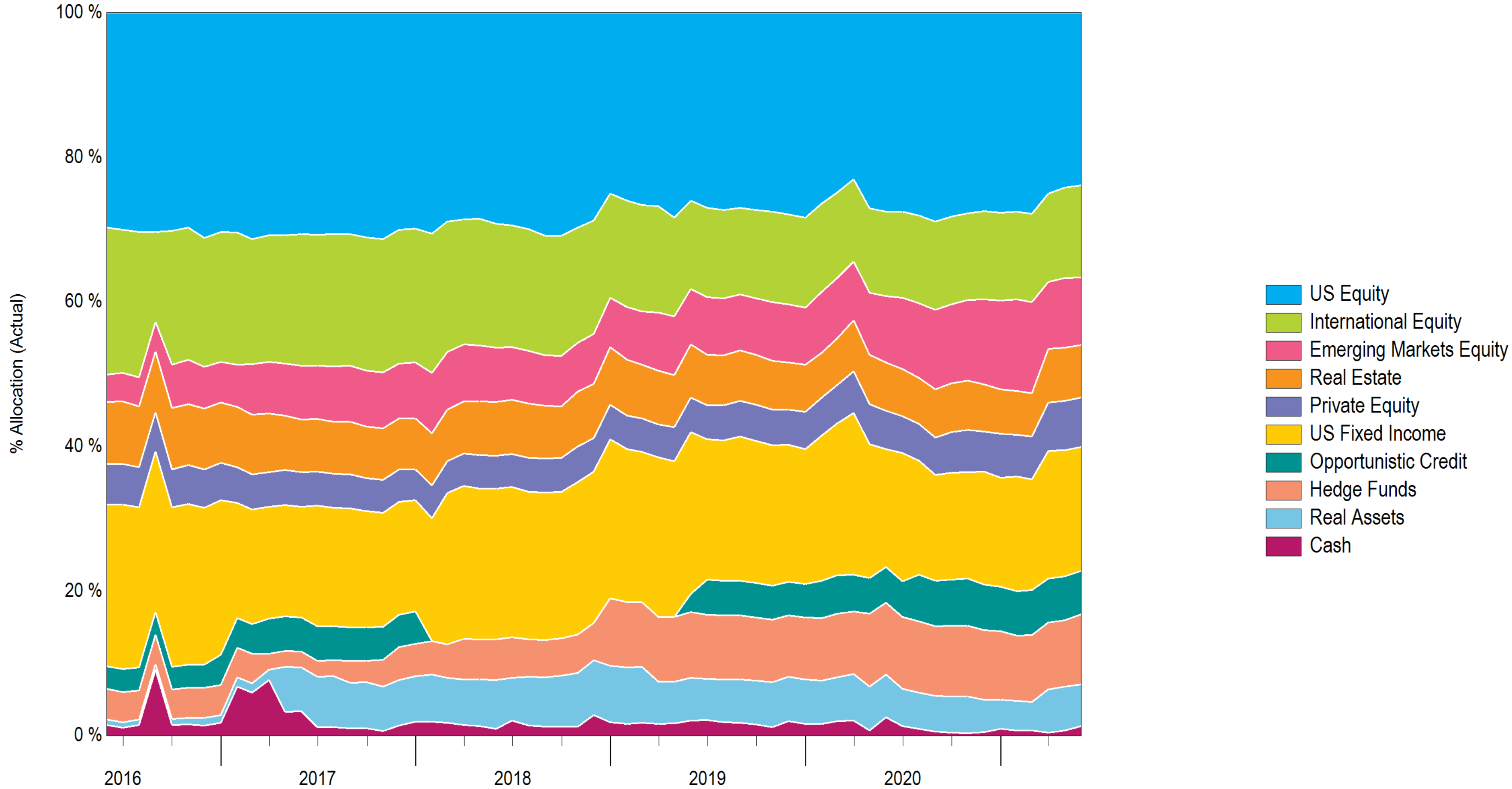


Allocation vs. Targets and Policy

	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
US Equity	$267,910,993	23.9%	21.0%	2.9%	15.0% - 26.0%	Yes
International Equity	$143,155,340	12.8%	10.0%	2.8%	5.0% - 15.0%	Yes
Emerging Markets Equity	$104,626,428	9.3%	8.0%	1.3%	4.0% - 12.0%	Yes
Real Estate	$82,105,295	7.3%	8.0%	-0.7%	6.0% - 10.0%	Yes
Private Equity	$76,040,187	6.8%	15.0%	-8.2%	5.0% - 20.0%	Yes
US Fixed Income	$192,954,826	17.2%	18.0%	-0.8%	13.0% - 23.0%	Yes
Opportunistic Credit	$67,040,940	6.0%	5.0%	1.0%	3.0% - 7.0%	Yes
Hedge Funds	$108,429,669	9.7%	10.0%	-0.3%	5.0% - 15.0%	Yes
Real Assets	$65,077,286	5.8%	5.0%	0.8%	3.0% - 7.0%	Yes
Cash	$15,098,645	1.3%	0.0%	1.3%	0.0% - 5.0%	Yes
Total	**$1,122,439,609**	**100.0%**	**100.0%**			

Cash range displayed for illustrative purposes only.

Asset Allocation History
5 Years Ending May 31, 2021



Asset Class Performance Summary

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund (Net)*	**1,122,439,609**	**100.0**	**0.7**	**3.8**	**6.8**	**23.7**	**26.2**	**11.3**	**11.2**	**8.5**	**8.5**	**Dec-94**
Total Fund (Gross)*			**0.7**	**3.8**	**7.0**	**24.2**	**26.8**	**11.6**	**11.5**	**8.9**	**8.6**	
Policy Index			*0.7*	*2.7*	*7.0*	*23.6*	*23.9*	*10.7*	*11.0*	*9.1*	*6.5*	*Dec-94*
Total Fund w/o Alternatives (Net)	**775,688,527**	**69.1**	**0.7**	**4.5**	**6.5**	**26.5**	**30.3**	**13.2**	**12.7**	**8.4**	**--**	**Dec-94**
Total Fund w/o Alternatives (Gross)			**0.7**	**4.6**	**6.7**	**27.0**	**30.9**	**13.6**	**13.0**	**9.4**	**--**	
Policy Index w/o AI			*1.2*	*4.1*	*7.0*	*26.7*	*30.2*	*11.4*	*11.5*	*--*	*--*	*Dec-94*
US Equity (Net)	**267,910,993**	**23.9**	**0.4**	**6.1**	**11.9**	**38.0**	**40.9**	**16.9**	**17.2**	**14.0**	**10.9**	**Dec-94**
US Equity (Gross)			**0.4**	**6.2**	**12.1**	**38.3**	**41.2**	**17.2**	**17.4**	**14.3**	**11.0**	
Russell 3000			*0.5*	*5.6*	*12.3*	*40.7*	*43.9*	*17.3*	*17.1*	*14.0*	*10.8*	*Dec-94*
International Equity (Net)	**247,781,768**	**22.1**	**1.3**	**6.2**	**7.6**	**39.7**	**48.6**	**16.4**	**15.4**	**7.7**	**6.9**	**Dec-98**
International Equity (Gross)			**1.3**	**6.3**	**8.0**	**40.8**	**49.8**	**17.1**	**16.0**	**8.3**	**7.2**	
International Equity Custom			*2.9*	*5.8*	*9.1*	*37.6*	*44.7*	*9.4*	*11.7*	*6.3*	*5.3*	*Dec-98*
Developed International Equity (Net)	**143,155,340**	**12.8**	**3.3**	**8.0**	**11.3**	**31.6**	**36.1**	**10.3**	**11.4**	**6.3**	**5.2**	**Jan-08**
Developed International Equity (Gross)			**3.4**	**8.1**	**11.7**	**32.4**	**37.0**	**10.7**	**11.8**	**6.8**	**5.7**	
Custom Blended Developed International Equity BM			*3.1*	*6.5*	*10.6*	*36.6*	*41.2*	*8.9*	*10.2*	*6.1*	*4.0*	*Jan-08*
Emerging Markets Equity (Net)	**104,626,428**	**9.3**	**-1.4**	**3.8**	**2.7**	**47.6**	**62.7**	**24.3**	**22.3**	**--**	**10.4**	**Apr-12**
Emerging Markets Equity (Gross)			**-1.3**	**3.9**	**3.1**	**49.0**	**64.3**	**25.4**	**23.4**	**--**	**11.4**	
Custom Blended Emerging Markets Benchmark			*2.3*	*4.9*	*7.3*	*40.7*	*51.0*	*9.9*	*14.2*	*4.4*	*6.1*	*Apr-12*
US Fixed Income (Net)	**192,954,826**	**17.2**	**0.3**	**1.1**	**-2.3**	**-1.0**	**-0.3**	**4.5**	**3.5**	**3.7**	**5.2**	**Dec-94**
US Fixed Income (Gross)			**0.3**	**1.1**	**-2.2**	**-0.9**	**-0.2**	**4.7**	**3.7**	**3.9**	**5.4**	
BBgBarc US Aggregate TR			*0.3*	*1.1*	*-2.3*	*-1.0*	*-0.4*	*4.7*	*3.7*	*3.5*	*5.5*	*Dec-94*
Opportunistic Credit (Net)	**67,040,940**	**6.0**	**0.4**	**1.7**	**4.2**	**14.0**	**16.2**	**--**	**--**	**--**	**7.1**	**May-19**
Opportunistic Credit (Gross)			**0.4**	**1.7**	**4.4**	**14.4**	**16.7**	**--**	**--**	**--**	**7.4**	
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans			*0.4*	*1.2*	*0.2*	*5.6*	*6.5*	*--*	*--*	*--*	*5.5*	*May-19*

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.

	Market Value ($)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate (Net)	**82,105,295**	**7.3**	**NA**	**2.2**	**4.4**	**4.7**	**4.0**	**2.9**	**4.9**	**6.8**	--	**Mar-99**
Real Estate (Gross)			**NA**	**2.2**	**4.4**	**4.7**	**4.0**	**2.9**	**5.0**	**7.5**	**8.0**	
Custom Blended Real Estate Benchmark			*NA*	*0.0*	*2.1*	*1.0*	*2.0*	*4.4*	*5.5*	*8.8*	*7.0*	*Mar-99*
CPI + 5% (Seasonally Adjusted)			*1.1*	*2.2*	*4.8*	*9.3*	*10.3*	*7.5*	*7.5*	*6.9*	--	*Mar-99*
Private Real Estate (Net)	**58,653,795**	**5.2**	**NA**	**0.0**	**1.1**	**1.0**	**0.2**	**1.7**	**4.1**	**6.4**	--	**Mar-99**
Private Real Estate (Gross)			**NA**	**0.0**	**1.1**	**1.0**	**0.2**	**1.7**	**4.2**	**7.1**	**7.8**	
Custom Blended Real Estate Benchmark			*NA*	*0.0*	*2.1*	*1.0*	*2.0*	*4.4*	*5.5*	*8.8*	*7.0*	*Mar-99*
Private Equity (Net)	**76,040,187**	**6.8**	**NA**	**0.2**	**12.3**	**30.9**	**26.4**	**12.8**	**13.2**	**11.0**	**8.9**	**Jun-05**
Private Equity (Gross)			**NA**	**0.2**	**12.3**	**30.9**	**26.4**	**12.8**	**13.2**	**11.3**	**9.1**	
Custom Blended Private Equity Benchmark			*NA*	*0.0*	*15.2*	*41.8*	*33.5*	*21.8*	*21.4*	--	--	*Jun-05*
Russell 3000 +3% 1-Quarter Lag			*3.4*	*3.2*	*19.2*	*61.0*	*39.3*	*18.4*	*20.9*	*16.8*	*13.4*	*Jun-05*
Hedge Fund (Net)	**108,429,669**	**9.7**	**1.3**	**2.8**	**7.7**	**17.9**	**20.6**	**5.6**	**7.1**	--	**5.0**	**Jun-14**
Hedge Fund (Gross)			**1.4**	**3.0**	**8.2**	**19.0**	**21.8**	**6.3**	**7.5**	--	**5.4**	
Custom Blended Hedge Fund Benchmark			*0.2*	*2.4*	*4.5*	*17.7*	*20.0*	*6.0*	*6.1*	--	*4.5*	*Jun-14*
Real Assets (Net)	**65,077,286**	**5.8**	**NA**	**3.3**	**7.2**	**16.2**	**14.7**	**8.5**	**8.0**	**8.3**	--	**Mar-99**
Real Assets (Gross)			**NA**	**3.3**	**7.3**	**16.4**	**14.9**	**8.6**	**8.2**	**9.0**	--	
Custom Blended Real Assets Benchmark			*NA*	*0.0*	*5.4*	*12.4*	*-4.1*	*4.9*	*7.1*	--	--	*Mar-99*
CPI + 5% (Seasonally Adjusted)			*1.1*	*2.2*	*4.8*	*9.3*	*10.3*	*7.5*	*7.5*	*6.9*	--	*Mar-99*
Private Infrastructure (Net)	**20,791,840**	**1.9**	**NA**	**-0.1**	**6.1**	**9.8**	**18.2**	**12.1**	**11.7**	--	**9.2**	**Dec-14**
Private Infrastructure (Gross)			**NA**	**0.0**	**6.3**	**10.0**	**18.4**	**12.3**	**11.8**	--	**9.3**	
S&P Global Infrastructure Net TR USD			*0.5*	*4.0*	*6.9*	*24.5*	*22.8*	*6.0*	*6.3*	*5.4*	*4.3*	*Dec-14*
Private Natural Resources (Net)	**11,782,013**	**1.0**	**NA**	**0.0**	**1.8**	**12.1**	**-8.4**	**3.1**	**9.3**	--	**10.7**	**Sep-15**
Private Natural Resources (Gross)			**NA**	**0.0**	**1.8**	**12.1**	**-8.4**	**3.1**	**9.3**	--	**10.7**	
S&P Global Natural Resources Index TR USD			*5.4*	*9.7*	*22.7*	*52.8*	*55.9*	*6.5*	*12.4*	*2.3*	*13.7*	*Sep-15*
Cash (Net)	**15,098,645**	**1.3**	**0.0**	**0.0**	**0.0**	**0.2**	**0.2**	**0.8**	--	--	--	
Cash (Gross)			**0.0**	**0.0**	**0.0**	**0.2**	**0.2**	**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 12/31/2020 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 (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund(Net)*	**1,122,439,609**	**100.0**	**--**	**0.7**	**3.8**	**6.8**	**23.7**	**26.2**	**11.3**	**11.2**	**8.5**	**8.5**	**Dec-94**
Policy Index				*0.7*	*2.7*	*7.0*	*23.6*	*23.9*	*10.7*	*11.0*	*9.1*	*6.5*	*Dec-94*
Total Fund w/o Alternatives(Net)	**775,688,527**	**69.1**	**69.1**	**0.7**	**4.5**	**6.5**	**26.5**	**30.3**	**13.2**	**12.7**	**8.4**	**--**	**Dec-94**
Policy Index w/o AI				*1.2*	*4.1*	*7.0*	*26.7*	*30.2*	*11.4*	*11.5*	*--*	*--*	*Dec-94*
US Equity(Net)	**267,910,993**	**23.9**	**34.5**	**0.4**	**6.1**	**11.9**	**38.0**	**40.9**	**16.9**	**17.2**	**14.0**	**10.9**	**Dec-94**
Russell 3000				*0.5*	*5.6*	*12.3*	*40.7*	*43.9*	*17.3*	*17.1*	*14.0*	*10.8*	*Dec-94*
Mellon Dynamic US Equity(Net)	122,241,578	10.9	45.6	1.0	7.3	12.9	36.1	38.5	19.5	19.2	--	18.8	Dec-12
S&P 500				*0.7*	*6.1*	*12.6*	*37.6*	*40.3*	*18.0*	*17.2*	*14.4*	*16.0*	*Dec-12*
Mellon Large Cap(Net)	114,418,040	10.2	42.7	0.5	5.9	12.4	39.8	42.9	18.5	17.5	--	17.4	Mar-16
Russell 1000				*0.5*	*5.9*	*12.1*	*39.6*	*42.7*	*18.4*	*17.5*	*14.4*	*17.4*	*Mar-16*
Champlain Small Cap(Net)	31,251,374	2.8	11.7	-1.8	2.5	7.6	--	--	--	--	--	33.6	Nov-20
Russell 2000				*0.2*	*2.3*	*15.3*	*58.9*	*64.6*	*13.1*	*16.0*	*11.9*	*48.4*	*Nov-20*
International Equity(Net)	**247,781,768**	**22.1**	**31.9**	**1.3**	**6.2**	**7.6**	**39.7**	**48.6**	**16.4**	**15.4**	**7.7**	**6.9**	**Dec-98**
International Equity Custom				*2.9*	*5.8*	*9.1*	*37.6*	*44.7*	*9.4*	*11.7*	*6.3*	*5.3*	*Dec-98*
Developed International Equity(Net)	**143,155,340**	**12.8**	**57.8**	**3.3**	**8.0**	**11.3**	**31.6**	**36.1**	**10.3**	**11.4**	**6.3**	**5.2**	**Jan-08**
Custom Blended Developed International Equity BM				*3.1*	*6.5*	*10.6*	*36.6*	*41.2*	*8.9*	*10.2*	*6.1*	*4.0*	*Jan-08*
GQG International Equity(Net)	58,353,612	5.2	40.8	3.6	9.2	11.9	28.2	33.8	--	--	--	18.9	Dec-19
MSCI ACWI ex USA				*3.1*	*6.2*	*9.9*	*36.6*	*42.8*	*8.9*	*10.9*	*5.4*	*17.2*	*Dec-19*
First Eagle International Value Fund(Net)	52,088,009	4.6	36.4	4.0	6.5	7.9	24.3	26.6	--	--	--	10.2	Dec-19
MSCI EAFE				*3.3*	*6.4*	*10.1*	*33.9*	*38.4*	*8.2*	*9.8*	*5.9*	*14.5*	*Dec-19*
MSCI World ex USA				*3.5*	*6.7*	*11.0*	*35.0*	*39.6*	*8.5*	*9.9*	*5.7*	*15.0*	*Dec-19*

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 (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Driehaus International Small Cap Growth(Net)	17,227,702	1.5	12.0	1.6	8.3	13.0	53.4	61.4	--	--	--	28.2	May-19
MSCI ACWI ex US Small Cap Growth NR USD				*1.5*	*6.4*	*9.9*	*44.4*	*49.7*	*10.9*	*12.6*	*7.6*	*20.7*	*May-19*
Acadian ACWI ex U.S. Small Cap Equity(Net)	15,486,017	1.4	10.8	1.6	8.4	20.0	52.5	58.2	--	--	--	22.4	May-19
MSCI ACWI ex US Small Cap				*2.3*	*7.0*	*12.9*	*48.0*	*52.8*	*9.0*	*11.4*	*6.8*	*17.6*	*May-19*
Emerging Markets Equity(Net)	**104,626,428**	**9.3**	**42.2**	**-1.4**	**3.8**	**2.7**	**47.6**	**62.7**	**24.3**	**22.3**	**--**	**10.4**	**Apr-12**
Custom Blended Emerging Markets Benchmark				*2.3*	*4.9*	*7.3*	*40.7*	*51.0*	*9.9*	*14.2*	*4.4*	*6.1*	*Apr-12*
Artisan Developing World TR(Net)	73,499,107	6.5	70.2	-2.0	3.5	1.1	44.2	58.8	--	--	--	49.7	Dec-19
MSCI Emerging Markets				*2.3*	*4.9*	*7.3*	*40.7*	*51.0*	*9.6*	*13.9*	*4.1*	*23.0*	*Dec-19*
RWC(Net)	31,127,321	2.8	29.8	0.1	4.4	7.3	58.5	75.0	--	--	--	27.6	Dec-19
MSCI Emerging Markets				*2.3*	*4.9*	*7.3*	*40.7*	*51.0*	*9.6*	*13.9*	*4.1*	*23.0*	*Dec-19*
US Fixed Income(Net)	**192,954,826**	**17.2**	**24.9**	**0.3**	**1.1**	**-2.3**	**-1.0**	**-0.3**	**4.5**	**3.5**	**3.7**	**5.2**	**Dec-94**
BBgBarc US Aggregate TR				*0.3*	*1.1*	*-2.3*	*-1.0*	*-0.4*	*4.7*	*3.7*	*3.5*	*5.5*	*Dec-94*
Vanguard Total Bond Market Index Fund(Net)	91,909,555	8.2	47.6	0.2	1.2	-2.4	-1.2	-0.5	--	--	--	5.1	May-19
BBgBarc US Aggregate TR				*0.3*	*1.1*	*-2.3*	*-1.0*	*-0.4*	*5.1*	*3.2*	*3.3*	*5.1*	*May-19*
Barrow Hanley(Net)	90,434,424	8.1	46.9	0.3	1.1	-2.4	-0.8	0.1	5.5	3.5	3.4	3.8	Mar-10
BBgBarc US Aggregate TR				*0.3*	*1.1*	*-2.3*	*-1.0*	*-0.4*	*5.1*	*3.2*	*3.3*	*3.6*	*Mar-10*
Vanguard Short-Term Treasury Index Fund(Net)	10,610,847	0.9	5.5	0.1	0.1	0.1	0.2	0.2	2.7	--	--	2.6	Feb-18
BBgBarc US Govt 1-3 Yr TR				*0.1*	*0.1*	*0.1*	*0.2*	*0.3*	*2.8*	*1.8*	*1.2*	*2.7*	*Feb-18*
BBgBarc US Govt 1-5 Yr TR				*0.2*	*0.4*	*-0.2*	*-0.1*	*0.0*	*3.4*	*2.0*	*1.6*	*3.3*	*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 (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Opportunistic Credit(Net)	**67,040,940**	**6.0**	**8.6**	**0.4**	**1.7**	**4.2**	**14.0**	**16.2**	**--**	**--**	**--**	**7.1**	**May-19**
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans				*0.4*	*1.2*	*0.2*	*5.6*	*6.5*	*--*	*--*	*--*	*5.5*	*May-19*
PIMCO Income Fund(Net)	25,585,133	2.3	38.2	0.6	1.7	1.5	9.2	11.2	--	--	--	5.4	Apr-19
BBgBarc US Aggregate TR				*0.3*	*1.1*	*-2.3*	*-1.0*	*-0.4*	*5.1*	*3.2*	*3.3*	*5.1*	*Apr-19*
GoldenTree Multi-Sector Credit(Net)	23,555,235	2.1	35.1	0.6	1.5	3.9	15.5	18.0	--	--	--	7.3	Jun-19
50% BBgBarc US High Yield TR/50% Credit Suisse Leveraged Loans				*0.4*	*1.2*	*2.7*	*12.5*	*13.9*	*5.7*	*6.2*	*5.4*	*6.1*	*Jun-19*
Sculptor Credit Opportunities Domestic Partners, LP(Net)	17,900,571	1.6	26.7	0.0	1.9	8.9	19.3	--	--	--	--	19.3	Jul-20
50% BBgBarc US High Yield TR/50% Credit Suisse Leveraged Loans				*0.4*	*1.2*	*2.7*	*12.5*	*13.9*	*5.7*	*6.2*	*5.4*	*12.5*	*Jul-20*
Real Estate(Net)	**82,105,295**	**7.3**	**7.3**	**NA**	**2.2**	**4.4**	**4.7**	**4.0**	**2.9**	**4.9**	**6.8**	**--**	**Mar-99**
Custom Blended Real Estate Benchmark				*NA*	*0.0*	*2.1*	*1.0*	*2.0*	*4.4*	*5.5*	*8.8*	*7.0*	*Mar-99*
CPI + 5% (Seasonally Adjusted)				*1.1*	*2.2*	*4.8*	*9.3*	*10.3*	*7.5*	*7.5*	*6.9*	*--*	*Mar-99*
Vanguard REIT Index(Net)	23,451,500	2.1	28.6	0.8	8.8	18.3	--	--	--	--	--	25.8	Aug-20
Spliced Vanguard REIT Benchmark				*0.8*	*8.8*	*18.3*	*31.1*	*34.3*	*12.6*	*8.1*	*9.2*	*25.9*	*Aug-20*
Private Real Estate(Net)	**58,653,795**	**5.2**	**71.4**	**NA**	**0.0**	**1.1**	**1.0**	**0.2**	**1.7**	**4.1**	**6.4**	**--**	**Mar-99**
Custom Blended Real Estate Benchmark				*NA*	*0.0*	*2.1*	*1.0*	*2.0*	*4.4*	*5.5*	*8.8*	*7.0*	*Mar-99*
UBS Trumbull Property(Net)	33,291,925	3.0	56.8	NA	0.0	-1.7	-4.7	-4.3	-0.8	1.6	5.8	6.2	Mar-99
Patron Capital V(Net)	7,768,625	0.7	13.2	NA	0.0	-0.1	11.2	3.8	-2.2	7.1	--	6.7	Jan-16

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

Sculptor Credit Opportunities Domestic Partners market value is lagged one month. Current period manager statement was not available at time of report production.

Private Markets values are cash flow adjusted from 12/31/2020 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 (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Greenfield Gap VII(Net)	5,831,292	0.5	9.9	NA	0.0	15.1	18.0	12.6	13.6	13.6	--	13.6	Dec-14
Taconic CRE Dislocation Fund II(Net)	4,159,772	0.4	7.1	NA	0.0	2.0	4.3	6.2	--	--	--	7.4	Nov-18
AG Realty Value Fund X, L.P.(Net)	2,523,108	0.2	4.3	NA	0.0	7.7	14.2	11.6	--	--	--	-3.1	Jun-19
Cerberus Real Estate Debt Fund, L.P.(Net)	2,068,549	0.2	3.5	NA	0.0	3.6	20.9	--	--	--	--	20.9	Jul-20
Carlyle Realty VIII(Net)	1,900,832	0.2	3.2	NA	0.0	3.8	-0.7	16.3	-3.0	--	--	-11.3	Dec-17
Rockpoint Real Estate Fund VI, L.P.(Net)	783,471	0.1	1.3	NA	0.0	6.4	3.4	5.4	--	--	--	0.2	May-20
Carmel Partners Investment Fund VII(Net)	326,222	0.0	0.6	NA	0.0	-5.8	-20.1	-26.9	--	--	--	-38.4	Apr-19
Private Equity(Net)	**76,040,187**	**6.8**	**6.8**	**NA**	**0.2**	**12.3**	**30.9**	**26.4**	**12.8**	**13.2**	**11.0**	**8.9**	**Jun-05**
Custom Blended Private Equity Benchmark				*NA*	*0.0*	*15.2*	*41.8*	*33.5*	*21.8*	*21.4*	*--*	*--*	*Jun-05*
Russell 3000 +3% 1-Quarter Lag				*3.4*	*3.2*	*19.2*	*61.0*	*39.3*	*18.4*	*20.9*	*16.8*	*13.4*	*Jun-05*
Adams Street(Net)	7,119,122	0.6	9.4	NA	0.0	20.5	57.6	40.6	18.3	16.9	15.2	8.9	Sep-05
Ocean Avenue II(Net)	7,013,992	0.6	9.2	NA	0.0	47.2	59.7	68.8	27.2	26.7	--	18.1	Jun-14
TCV X(Net)	5,637,977	0.5	7.4	NA	0.0	29.8	80.0	76.2	--	--	--	24.5	Apr-19
Summit Partners Growth Equity Fund X-A(Net)	5,281,190	0.5	6.9	NA	0.0	4.9	16.0	36.7	--	--	--	11.3	Mar-20
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	5,241,907	0.5	6.9	NA	0.0	2.9	17.6	2.9	8.5	--	--	8.3	Apr-18
Invesco VI(Net)	4,570,524	0.4	6.0	NA	0.0	0.0	30.6	24.8	13.0	14.0	--	12.9	Jun-13
Cortec Group Fund VII(Net)	4,047,991	0.4	5.3	NA	0.0	28.0	54.6	49.6	--	--	--	29.9	Dec-19
Genstar Capital Partners IX(Net)	3,955,179	0.4	5.2	NA	0.0	9.8	38.3	30.2	--	--	--	18.9	Jul-19

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.

	Market Value ($)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Pantheon II(Net)	3,876,671	0.3	5.1	NA	0.0	11.4	42.1	35.8	17.3	16.4	--	13.4	Dec-11
Carrick Capital Partners III(Net)	3,809,554	0.3	5.0	NA	0.0	15.7	26.6	20.1	--	--	--	8.6	Aug-18
GTCR Fund XII(Net)	3,693,867	0.3	4.9	NA	0.0	2.7	40.1	31.9	9.7	--	--	9.7	Jun-18
Spark Capital Growth Fund III(Net)	3,481,339	0.3	4.6	NA	0.0	-2.0	-11.2	-11.2	--	--	--	-9.1	Mar-20
Silver Point Specialty Credit Fund II, L.P.(Net)	3,094,305	0.3	4.1	NA	4.5	10.2	18.7	--	--	--	--	18.7	Jul-20
Cressey & Company Fund VI(Net)	3,001,199	0.3	3.9	NA	0.0	4.8	28.9	27.3	--	--	--	9.4	Jan-19
Taconic Market Dislocation Fund III L.P.(Net)	2,965,287	0.3	3.9	NA	0.0	10.7	10.7	--	--	--	--	10.7	Jul-20
Raven Asset Fund II(Net)	2,609,774	0.2	3.4	NA	0.0	-0.4	-18.0	-17.7	-5.4	-4.4	--	-4.2	Aug-14
Accel-KKR Growth Capital Partners III(Net)	1,700,667	0.2	2.2	NA	0.0	1.4	5.9	5.9	--	--	--	-6.2	Jul-19
TCV XI(Net)	1,501,497	0.1	2.0	NA	0.0	--	--	--	--	--	--	NA	Feb-21
Marlin Heritage Europe II, L.P.(Net)	1,159,190	0.1	1.5	NA	0.0	-3.4	--	--	--	--	--	-3.4	Oct-20
Spark Capital VI(Net)	1,033,434	0.1	1.4	NA	0.0	-2.7	-14.5	-14.5	--	--	--	-11.8	Mar-20
Khosla Ventures VII(Net)	636,000	0.1	0.8	NA	0.0	0.0	--	--	--	--	--	NA	Jan-21
Pantheon Secondary(Net)	270,918	0.0	0.4	NA	0.0	-3.4	11.5	1.1	1.7	1.8	1.7	2.6	Jun-07
Pantheon I(Net)	198,506	0.0	0.3	NA	0.0	11.8	12.1	6.7	-9.1	-2.3	2.0	1.0	Dec-05
Accel-KKR Capital Partners VI(Net)	135,496	0.0	0.2	NA	0.0	--	--	--	--	--	--	-28.5	Feb-21
Invesco IV(Net)	4,602	0.0	0.0	NA	0.0	0.0	-19.6	-42.3	6.6	12.4	11.3	9.8	Jun-05
Khosla Ventures Seed E(Net)	1	0.0	0.0	NA	0.0	--	--	--	--	--	--	NA	Feb-21

Khosla Ventures Seed E cash flow adjusted value is negative. Showing $1 placeholder value instead until next valuation update.

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

	Market Value ($)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hedge Fund(Net)	**108,429,669**	**9.7**	**9.7**	**1.3**	**2.8**	**7.7**	**17.9**	**20.6**	**5.6**	**7.1**	**--**	**5.0**	**Jun-14**
Custom Blended Hedge Fund Benchmark				*0.2*	*2.4*	*4.5*	*17.7*	*20.0*	*6.0*	*6.1*	*--*	*4.5*	*Jun-14*
Silver Point Capital(Net)	16,049,455	1.4	14.8	2.3	4.7	14.0	31.3	35.7	8.8	--	--	8.8	Nov-17
Laurion Capital(Net)	15,376,477	1.4	14.2	9.1	10.2	30.4	40.1	43.8	--	--	--	24.7	Aug-18
Wellington-Archipelago(Net)	13,840,889	1.2	12.8	-0.3	2.4	3.1	11.5	15.1	5.2	--	--	5.9	Aug-17
Taconic Opportunity Fund(Net)	13,705,579	1.2	12.6	0.0	1.2	6.0	14.2	17.0	--	--	--	5.5	Dec-18
Sculptor (OZ) Domestic II(Net)	13,594,520	1.2	12.5	-1.8	0.7	4.0	15.8	19.8	10.1	10.6	--	8.0	Jun-14
Caxton Global Investments(Net)	10,000,000	0.9	9.2										
Marshall Wace Global Opportunities(Net)	9,609,193	0.9	8.9	-0.7	-0.1	-7.5	5.5	5.0	--	--	--	6.2	May-20
Graham Absolute Return(Net)	8,280,019	0.7	7.6	1.0	1.3	7.5	17.8	19.1	3.0	--	--	3.6	Aug-17
Marshall Wace Eureka(Net)	3,989,535	0.4	3.7	-0.4	2.0	2.5	15.8	16.7	5.8	--	--	6.9	Nov-17
KLS Diversified(Net)	3,984,003	0.4	3.7	0.0	-0.4	3.1	11.6	17.0	-2.0	--	--	-1.0	Oct-17
Real Assets(Net)	**65,077,286**	**5.8**	**5.8**	**1.1**	**3.3**	**7.2**	**16.2**	**14.7**	**8.5**	**8.0**	**8.3**	**--**	**Mar-99**
Custom Blended Real Assets Benchmark				*NA*	*0.0*	*5.4*	*12.4*	*-4.1*	*4.9*	*7.1*	*--*	*--*	*Mar-99*
CPI + 5% (Seasonally Adjusted)				*1.1*	*2.2*	*4.8*	*9.3*	*10.3*	*7.5*	*7.5*	*6.9*	*--*	*Mar-99*
SSgA(Net)	32,503,434	2.9	49.9	2.3	7.0	12.7	30.0	32.0	6.4	--	--	6.8	Apr-17
Real Asset NL Custom Blended Index				*2.4*	*7.4*	*14.0*	*31.9*	*34.1*	*6.9*	*--*	*--*	*7.1*	*Apr-17*
Private Infrastructure(Net)	**20,791,840**	**1.9**	**31.9**	**NA**	**-0.1**	**6.1**	**9.8**	**18.2**	**12.1**	**11.7**	**--**	**9.2**	**Dec-14**
S&P Global Infrastructure Net TR USD				*0.5*	*4.0*	*6.9*	*24.5*	*22.8*	*6.0*	*6.3*	*5.4*	*4.3*	*Dec-14*
North Haven Infrastructure II(Net)	7,292,424	0.6	35.1	NA	0.0	1.6	0.2	-1.8	7.3	9.0	--	6.7	May-15
KKR Global II(Net)	6,627,949	0.6	31.9	NA	-0.3	12.1	23.8	53.8	21.7	17.2	--	15.6	Dec-14

Caxton Global Investments returns will be shown after the first full month of performance

	Market Value ($)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
ISQ Global Infrastructure Fund II(Net)	3,845,582	0.3	18.5	NA	0.0	8.1	15.0	16.2	-1.5	--	--	-1.5	Jul-18
KKR Global Infrastructure Investors III(Net)	2,285,956	0.2	11.0	NA	0.0	-2.9	4.4	0.1	--	--	--	-6.7	Jan-19
Ardian Infrastructure Fund V(Net)	739,929	0.1	3.6	NA	0.0	10.3	-27.9	-34.0	--	--	--	-23.3	Oct-19
Private Natural Resources(Net)	**11,782,013**	**1.0**	**18.1**	**NA**	**0.0**	**1.8**	**12.1**	**-8.4**	**3.1**	**9.3**	**--**	**10.7**	**Sep-15**
S&P Global Natural Resources Index TR USD				*5.4*	*9.7*	*22.7*	*52.8*	*55.9*	*6.5*	*12.4*	*2.3*	*13.7*	*Sep-15*
GSO Energy Opportunities(Net)	2,583,420	0.2	21.9	NA	0.0	7.0	35.8	-11.6	-1.5	7.4	--	8.3	Nov-15
Tailwater Energy Fund IV, LP(Net)	1,976,029	0.2	16.8	NA	0.0	-2.0	3.1	-24.7	--	--	--	-23.4	Oct-19
BlackRock Global Energy and Power Infrastructure Fund III LP(Net)	1,768,612	0.2	15.0	NA	0.0	1.0	35.5	0.2	--	--	--	19.7	Jul-19
EnCap XI(Net)	1,582,714	0.1	13.4	NA	0.0	2.1	-4.5	-28.3	-19.6	--	--	-27.3	Jul-17
EnCap IV(Net)	1,312,614	0.1	11.1	NA	0.0	4.8	8.7	-1.1	3.9	--	--	0.9	Feb-18
Taurus Mining(Net)	1,293,660	0.1	11.0	NA	0.0	-3.7	-4.3	-16.8	2.8	7.3	--	9.7	Sep-15
Taurus Mining Annex(Net)	1,264,963	0.1	10.7	NA	0.0	0.9	8.6	15.0	19.7	--	--	23.6	Jan-17
Cash(Net)	**15,098,645**	**1.3**	**1.3**	**0.0**	**0.0**	**0.0**	**0.2**	**0.2**	**0.8**	**--**	**--**	**--**	
Cash(Net)	13,853,948	1.2	91.8	0.0	0.0	0.0	0.2	0.2	1.1	1.1	-4.6	--	Sep-03
Treasury Cash(Net)	1,244,697	0.1	8.2										

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

Benchmark History

As of May 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 Blended 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	BBgBarc US Aggregate TR
3/1/2018	12/31/2019	77.27% BBgBarc US Aggregate TR / 22.73% BBgBarc US Govt 1-5 Yr TR
1/1/2017	2/28/2018	77.27% BBgBarc US Aggregate TR / 22.73% Credit Suisse Leveraged Loans
8/1/2014	12/31/2016	71.93% BBgBarc US Aggregate TR / 17.54% ICE 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% BBgBarc US Aggregate TR / 25% BBgBarc 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	50% Cambridge Glob Priv Eq Qtr Lag / 50% Cambridge Venture Capital (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
3/31/1999	12/31/2019	Real Asset Custom
Private Infrastructure		
12/31/2014	Present	S&P Global Infrastructure Net TR USD
Private Natural Resources		
9/30/2015	Present	S&P Global Natural Resources Index TR USD
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% BBgBarc US TIPS TR

Annual Investment Expense Analysis
As Of May 31, 2021

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Total Fund w/o Alternatives		**$775,688,527**		
US Equity		**$267,910,993**		
Mellon Dynamic US Equity	0.30% of Assets	$122,241,578	$366,725	0.30%
Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	$114,418,040	$42,884	0.04%
Champlain Small Cap	1.00% of Assets	$31,251,374	$312,514	1.00%
International Equity		**$247,781,768**		
Developed International Equity		**$143,155,340**		
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	$15,486,017	$153,312	0.99%
Driehaus International Small Cap Growth	0.90% of Assets	$17,227,702	$155,049	0.90%
GQG International Equity	0.50% of Assets	$58,353,612	$291,768	0.50%
First Eagle International Value Fund	0.79% of Assets	$52,088,009	$411,495	0.79%
Emerging Markets Equity		**$104,626,428**		
Artisan Developing World TR	1.05% of Assets	$73,499,107	$771,741	1.05%
RWC	0.87% of Assets	$31,127,321	$270,808	0.87%
US Fixed Income		**$192,954,826**		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	$90,434,424	$230,869	0.26%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	$10,610,847	$5,305	0.05%
Vanguard Total Bond Market Index Fund	0.04% of Assets	$91,909,555	$32,168	0.04%
Opportunistic Credit		**$67,040,940**		
PIMCO Income Fund	0.50% of Assets	$25,585,133	$127,926	0.50%
GoldenTree Multi-Sector Credit	0.70% of Assets	$23,555,235	$164,887	0.70%
Sculptor Credit Opportunities Domestic Partners, LP	Performance-based 1.00 and 20.00	$17,900,571	$179,006	1.00%

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate		**$82,105,295**		
Vanguard REIT Index	0.10% of Assets	$23,451,500	$23,451	0.10%
Private Real Estate		**$58,653,795**		
Greenfield Gap VII		$5,831,292		
Patron Capital V		$7,768,625		
UBS Trumbull Property		$33,291,925		
Carlyle Realty VIII		$1,900,832		
Taconic CRE Dislocation Fund II		$4,159,772		
Carmel Partners Investment Fund VII		$326,222		
AG Realty Value Fund X, L.P.		$2,523,108		
Rockpoint Real Estate Fund VI, L.P.		$783,471		
Cerberus Real Estate Debt Fund, L.P.		$2,068,549		
Invesco IV		$4,602		
Invesco VI		$4,570,524		
Ocean Avenue II		$7,013,992		
Pantheon I		$198,506		
Pantheon II		$3,876,671		
Pantheon Secondary		$270,918		
Raven Asset Fund II		$2,609,774		
Davidson Kempner Long-Term Distressed Opportunities Fund IV		$5,241,907		
GTCR Fund XII		$3,693,867		
Carrick Capital Partners III		$3,809,554		
Cressey & Company Fund VI		$3,001,199		
TCV X		$5,637,977		
Accel-KKR Growth Capital Partners III		$1,700,667		
Genstar Capital Partners IX		$3,955,179		

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Cortec Group Fund VII		$4,047,991		
Spark Capital Growth Fund III		$3,481,339		
Spark Capital VI		$1,033,434		
Summit Partners Growth Equity Fund X-A		$5,281,190		
Taconic Market Dislocation Fund III L.P.		$2,965,287		
Silver Point Specialty Credit Fund II, L.P.		$3,094,305		
Marlin Heritage Europe II, L.P.		$1,159,190		
Khosla Ventures VII		$636,000		
Accel-KKR Capital Partners VI		$135,496		
Khosla Ventures Seed E		$1		
TCV XI		$1,501,497		
Hedge Fund		**$108,429,669**		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	$13,594,520	$203,918	1.50%
Graham Absolute Return	Performance-based 1.75 and 20.00	$8,280,019	$164,938	1.99%
Wellington-Archipelago	Performance-based 1.00 and 20.00	$13,840,889	$138,409	1.00%
KLS Diversified	Performance-based 2.00 and 20.00	$3,984,003	$79,925	2.01%
Marshall Wace Eureka	Performance-based 2.00 and 20.00	$3,989,535	$79,791	2.00%
Silver Point Capital	Performance-based 1.50 and 20.00	$16,049,455	$316,174	1.97%
Laurion Capital	Performance-based 2.00 and 20.00	$15,376,477	$599,068	3.90%
Taconic Opportunity Fund	Performance-based 1.40 and 20.00	$13,705,579	$191,878	1.40%
Marshall Wace Global Opportunities	Performance-based 2.00 and 20.00	$9,609,193	$192,184	2.00%
Caxton Global Investments		$10,000,000		
Real Assets		**$65,077,286**		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	$32,503,434	$97,510	0.30%

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Private Infrastructure		**$20,791,840**		
KKR Global II		$6,627,949		
North Haven Infrastructure II		$7,292,424		
ISQ Global Infrastructure Fund II		$3,845,582		
KKR Global Infrastructure Investors III		$2,285,956		
Ardian Infrastructure Fund V		$739,929		
Private Natural Resources		**$11,782,013**		
EnCap XI		$1,582,714		
EnCap IV		$1,312,614		
GSO Energy Opportunities		$2,583,420		
Taurus Mining		$1,293,660		
Taurus Mining Annex		$1,264,963		
BlackRock Global Energy and Power Infrastructure Fund III LP		$1,768,612		
Tailwater Energy Fund IV, LP		$1,976,029		
Cash		**$15,098,645**		
Cash		$13,853,948		
Treasury Cash		$1,244,697		

Disclaimer, Glossary, and Notes

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

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

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

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

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

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

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

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.

MEKETA
INVESTMENT GROUP

Merced County Employees' Retirement Association

June 24, 2021

Investing in a Low Rate Environment

Investing in a Low Interest Rate Environment

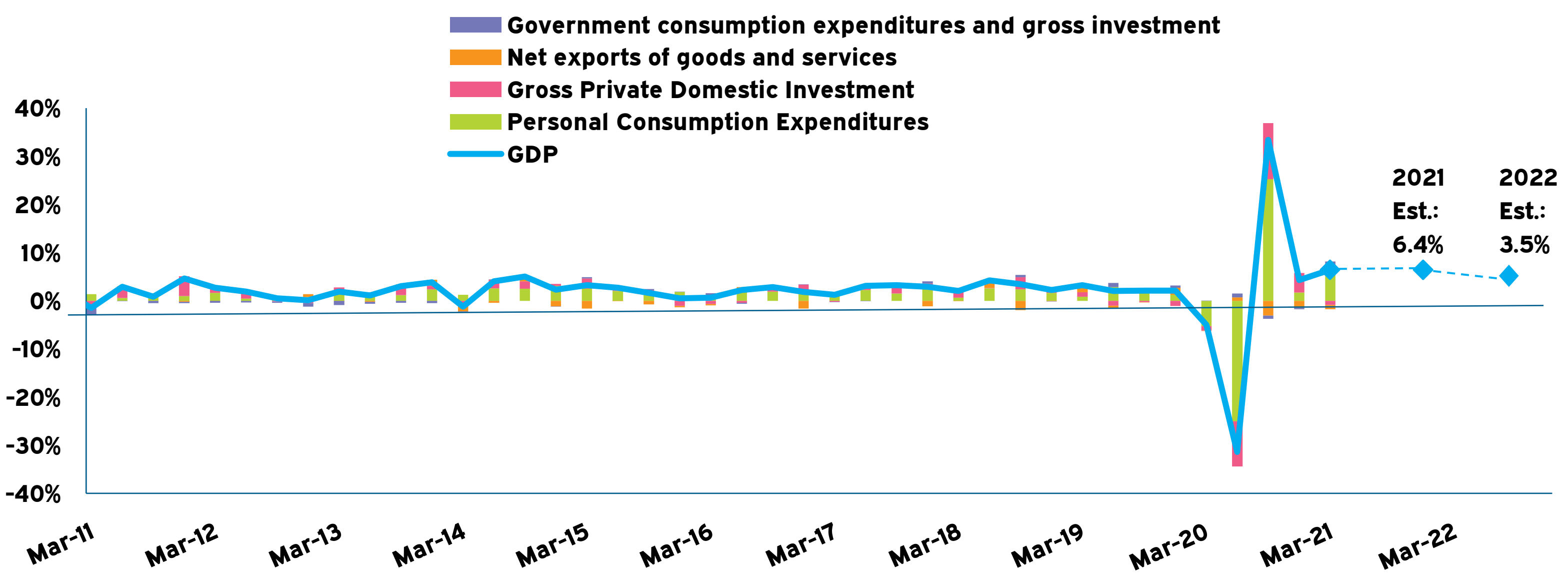
Introduction

- The coronavirus pandemic has had a greater impact on peoples' daily lives, the economy, and markets, than any event since World War II.
- What the total effect will be, both in the near-term and long-term, may not be known for quite some time.
- Even as we emerge from the pandemic it is clear that the world has changed from ten years ago, and what has worked for the past decade is not necessarily going to prove as effective going forward.
- The following document provides background on the current environment. In a following section we will review strategies that could be considered for Merced CERA given that interest rates are so low.

What the Pandemic has Wrought

- The coronavirus pandemic caused unprecedented harm to the global economy last year.

US Real Gross Domestic Product (GDP) Growth[1]



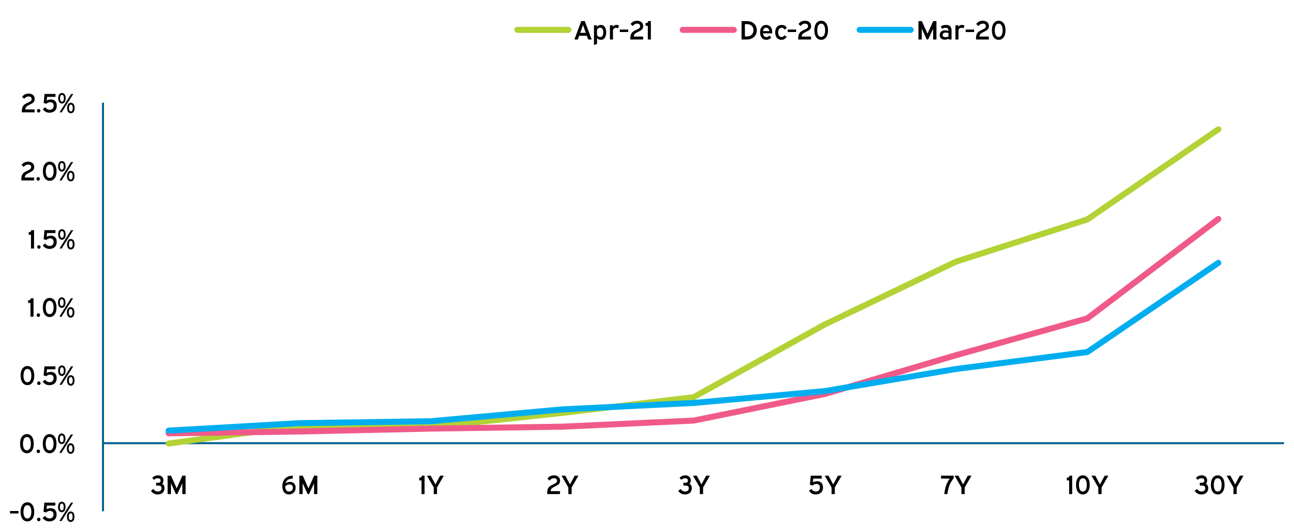
- The economic impact of the pandemic, and the reaction to it by policy makers and markets, caused greater and more wide-spread upheaval than most investors have experienced.
- Despite the recent improvement in growth, questions remain about the path forward particularly related to the labor market, Federal Reserve policy, and inflation.

[1] Source: US Bureau of Economic Analysis. Data is as of the first quarter of 2021 and represents the second estimate. Annual projection for 2021 and 2022 via IMF World Economic Outlook April 2021.

A Low Interest Rate Environment

- In longer dated bonds, initially flight-to-quality flows, low inflation, and lower growth expectations, particularly given indications that economic growth could slow by record amounts, drove rates lower. Since, yields on longer dated bonds have increased on inflationary fears as the economy reopens, but they still remain low.

US Yield Curve Declines[1]

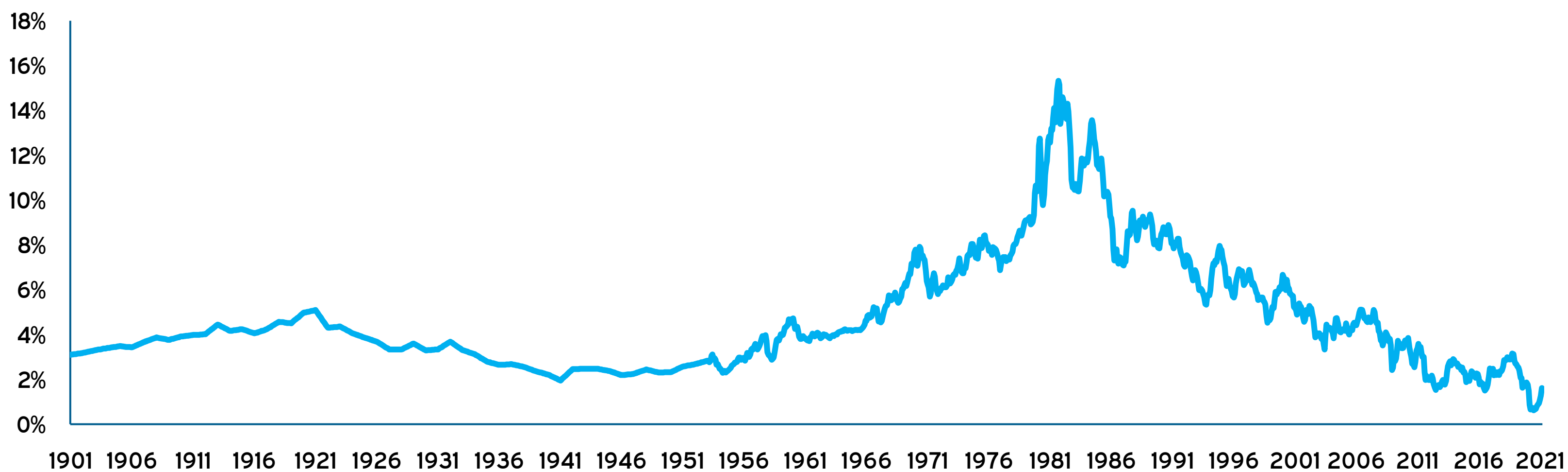


[1] Source: Bloomberg. Data is as of April 30, 2021.

How Low, and for How Long?

- Despite the recent increase in US interest rates, they remain close to all-time lows.
- It is quite possible they are going to stay low.
  - If the Fed thinks this crisis will require low rates across the curve, they could intervene for an extended period.
  - The Fed actively managed the Treasury Yield Curve in the 1940s (during WWII).[1]

US Treasury 10-Year Rates[2]



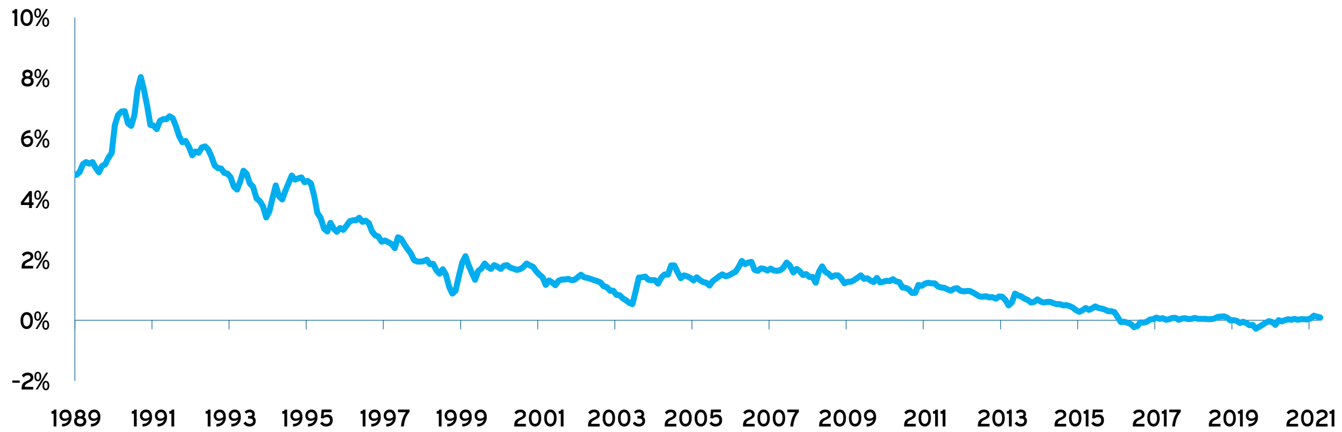
[1] Source: Kenneth D. Garbade, "How the Fed Managed the Treasury Yield Curve in the 1940s," Federal Reserve Bank of New York Liberty Street Economics, April 6, 2020, https://libertystreeteconomics.newyorkfed.org/2020/03/how-the-fed-managed-the-treasury-yield-curve-in-the-1940s.html

[2] Source: FRED, Multpl.com. Data is as of March 2021.

How Low, and for How Long (continued)

- There is global precedent for rates staying low for a long time.
- It may even be possible that rates move lower.
  - US rates could theoretically push past what many once considered a zero bound.
  - Foreign rates have gone negative in recent years, and not just in Japan.[1]

Japanese 10-Year Rates[2]

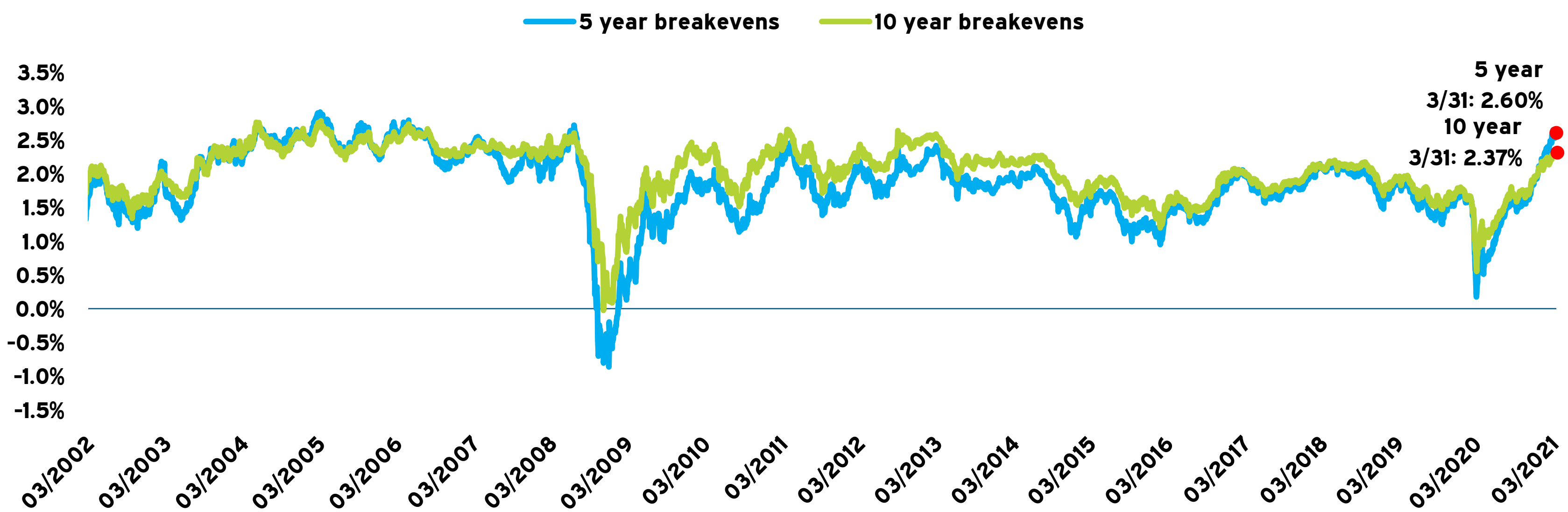


- The most likely reason for the Fed to reverse course on rates would be to fight inflation.
- Even still, there is an increased tolerance for inflation that the Fed has indicated they are willing to accept.

[1] Germany, Japan, Denmark, Sweden, Switzerland, Spain, France, Ireland, Portugal, and Austria have all experienced negative rates at some point since 2016.

[2] Source: FRED, Data is as of March 2021.

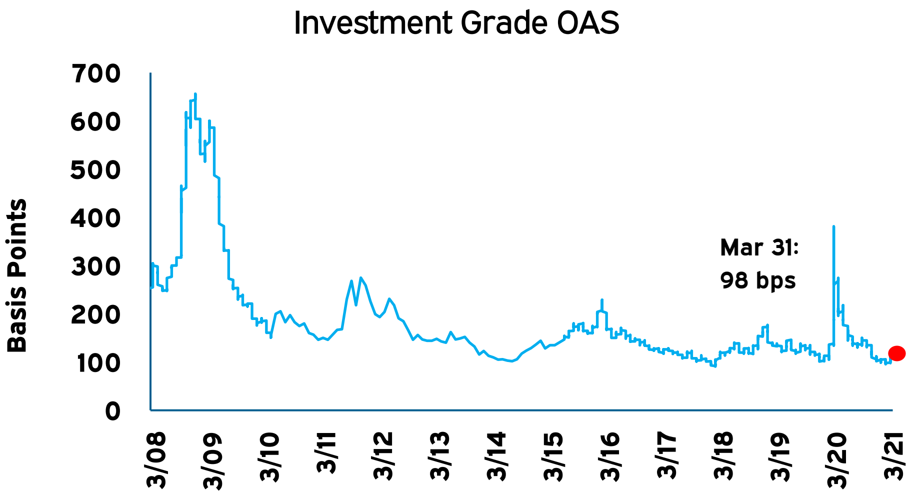
10-Year Breakeven Inflation[1]

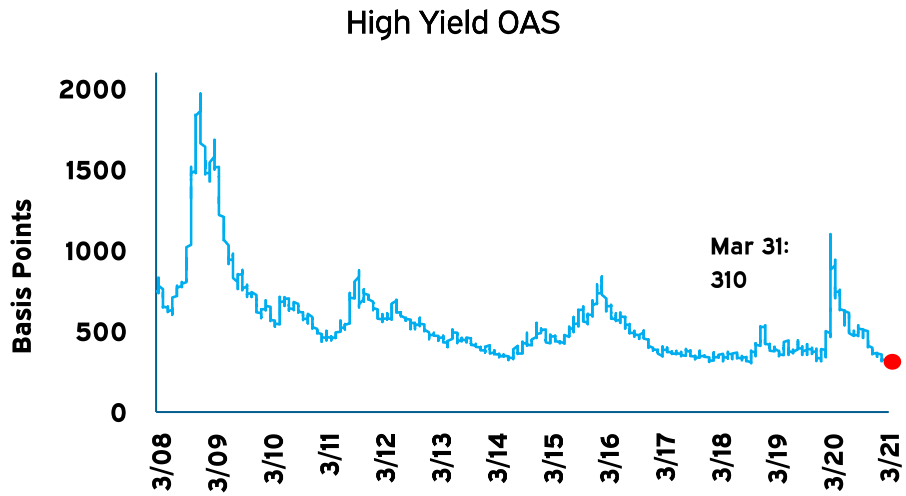


- Inflation breakeven rates declined sharply in early 2020, due to a combination of lower growth and inflation expectations, as well as liquidity dynamics in TIPS during the height of market volatility. Breakeven rates increased as deflationary concerns moderated.
- Inflation expectations have risen abruptly in recent months to above long-term averages, with the vaccine roll-out and expected additional fiscal stimulus as key drivers.
- If inflationary pressures continue to build, particularly above expectations, bonds would likely not do well in that environment.

[1] Source: Bloomberg. Data is as of March 31, 2021.

Credit Spreads (High Yield & Investment Grade)[1]

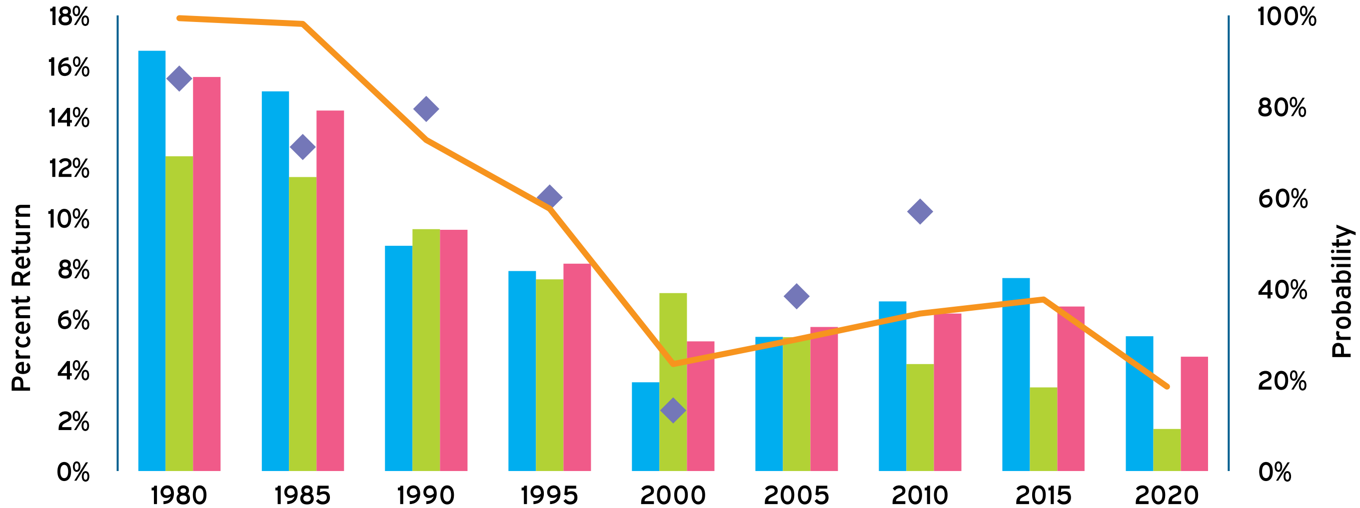




- Credit spreads (the spread above a comparable maturity Treasury) for investment grade and high yield corporate debt widened sharply at the start of the pandemic as investors sought safety.
- Policy support, the search for yield in the low rate environment, and recent increases in Treasury rates have led to a decline in credit spreads to below long-term averages, particularly for high yield.

[1] Source: Bloomberg. High Yield represents US Corporate High Yield average OAS. Investment grade represents liquid investment grade corporate average OAS. Data is as of March 31, 2021.

Low Rates = Low Future Returns[1]

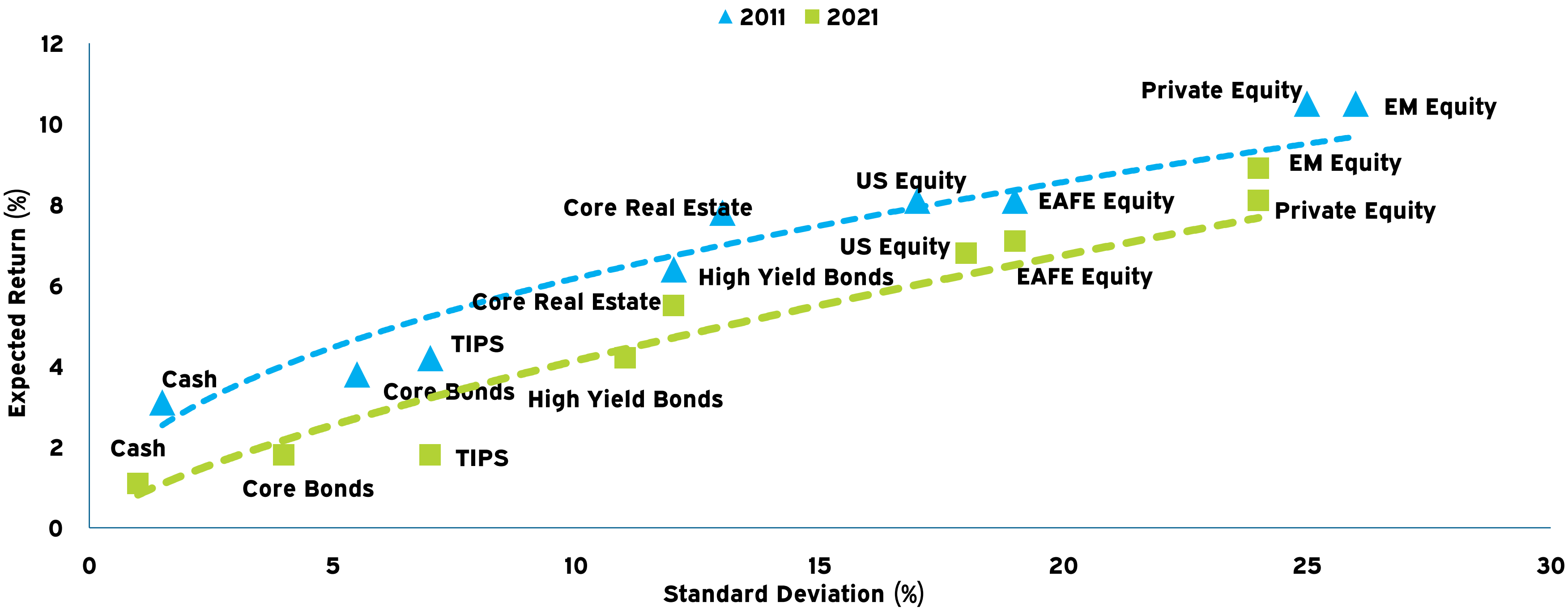


	1980	1985	1990	1995	2000	2005	2010	2015	2020
Equity Expected Return	16.6%	15.0%	8.9%	7.9%	3.5%	5.3%	6.7%	7.6%	5.3%
Bond Expected Return	12.4%	11.6%	9.6%	7.6%	7.0%	5.3%	4.2%	3.3%	1.7%
65/35 Eq/Bond Exp. Ret.	15.6%	14.2%	9.5%	8.2%	5.1%	5.7%	6.2%	6.5%	4.5%
Actual 10-year Return	15.5%	12.8%	14.3%	10.8%	2.4%	6.9%	10.3%		
Probability of earning 7.5%	99%	98%	73%	58%	23%	29%	35%	38%	19%

- A simple stock/bond mix has produced diminishing expected returns over the past 40 years.
- With rates having declined even further, it will be more difficult than ever for institutional investors to achieve their target returns.

[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. Reflects yields and valuations as of June 30, 2020.

Less Return for the Same Risk[1]



- A positive relationship exists between long-term return expectations and the level of risk accepted.
  - However, this relationship is not static.
- Achieving the returns you have in the past will require taking on greater levels of risk than you have historically.

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[1] Expected return and standard deviation are based upon Meketa Investment Group's January 2010 and January 2021 Capital Markets Expectations.

What Can You Do?

- First, determine how much risk you are willing to take:
  - If you can live with lower returns, there is no need to take on more risk.
  - If not, decide how much additional risk and what level of modifications are acceptable.
- Second, consider the following options and determine what changes make sense for you:
  - Take a barbell approach to asset allocation
  - Continue to accept risk
  - Use low rates to your advantage
  - Be opportunistic…and patient
  - Move forward selectively in real estate & infrastructure

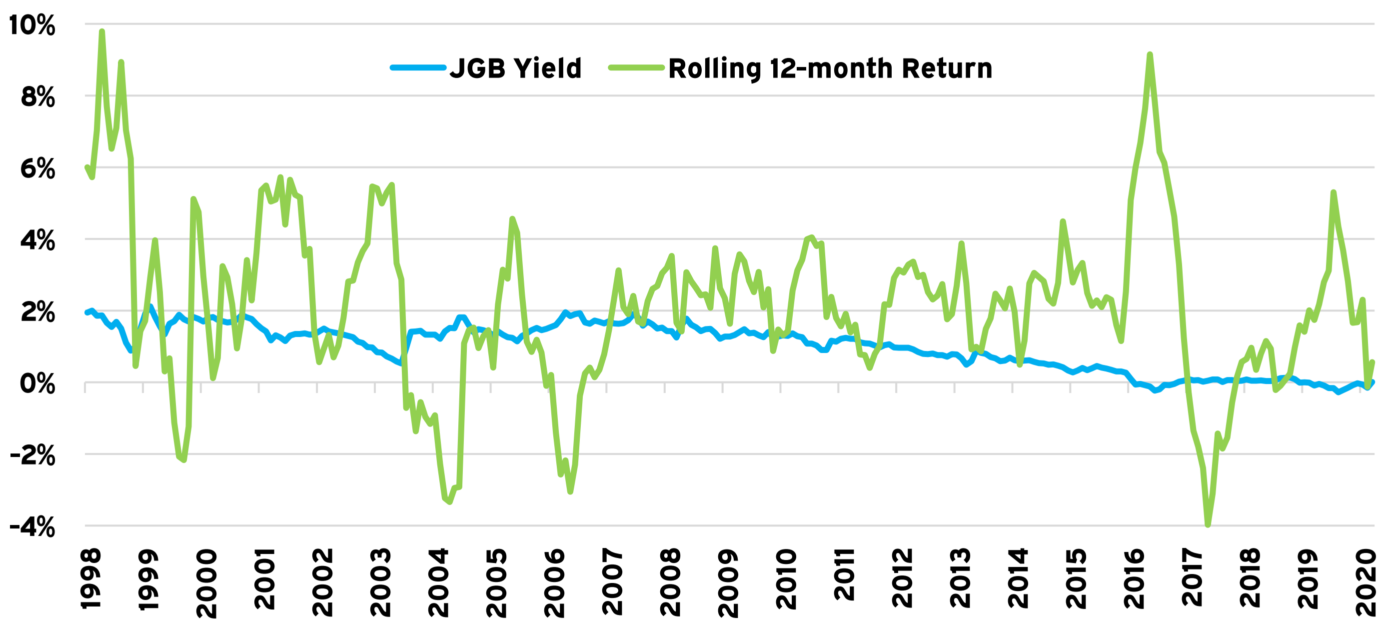
The Barbell Approach: Mixing Low and High Risk Assets

- Target returns for institutional investors have been declining, but not nearly as quickly as interest rates.
- Low interest rates flow through to many asset classes, thus lowering their expected return.
- The lower expected return across asset classes argues for a "barbell approach" to portfolio structuring.
  - This means owning higher-risk assets such as equities along with hedges such as long Treasuries and other Risk Mitigating Strategies (RMS).
- It effectively "crowds out" assets with expected returns in the middle that tend to be correlated with higher risk assets.
  - It will be harder for high yield, bank loans, EM debt, GTAA, and traditional hedge funds to find a home.
- A barbell approach takes on risk more efficiently.
  - It provides better downside protection than a typical portfolio that theoretically has the same level of risk in it.

Should We Fear Bonds When Rates Are Low?

- If the Fed wants to keep rates steady, they can, implying limited downside to bonds.
- A good case study is Japan, who instituted a Zero Interest Rate Policy (ZIRP) in 1999.
- Since the inception of ZIRP in Japan, government bonds have produced fairly steady, if modest, returns.
  - The average annual return was 1.9%, and the worst 12-month decline was a -4% drawdown.

Japanese Government Bond Yields and Returns[1]

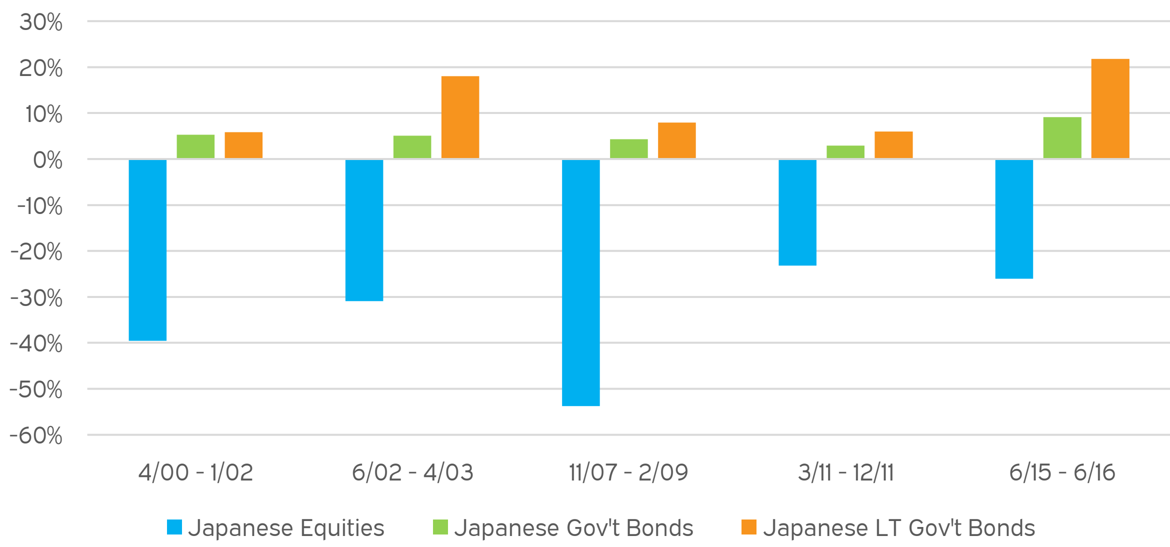


[1] Data Source for JGB returns is the ICE BofA Japan Government Index and its components. 10-year rates fell and stayed below 2% in 1998, hence we used this as the inception point for our analysis.

But Can Bonds Still Provide A Hedge?

- There is an unknown level below which rates cannot fall, perhaps -1.0%.
  - This places a limit on how good of a hedge bonds, especially long bonds, can provide.
- During the worst drawdowns in Japan, government bonds consistently served as a hedge.
  - Long-term government bonds served as a better hedge, despite the low starting yield.

Worst Drawdowns during ZIRP (Cumulative Return)[1]



- The 2015-16 drawdown is particularly informative, as the 10-year rate at the start of the period was just 0.46%, and it declined to -0.23%.

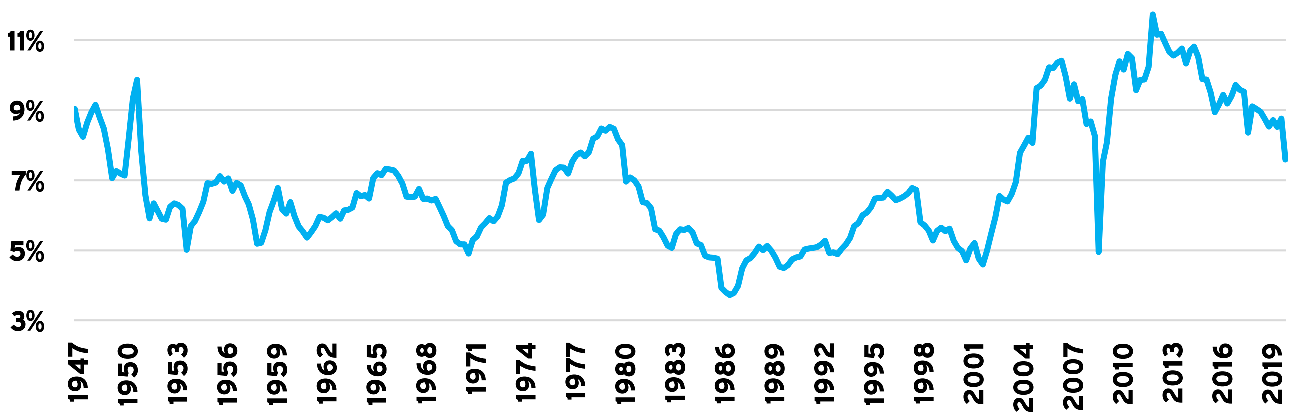
[1] Data Source for JGB returns is the ICE BofA Japan Government Index and its components; for equities, the source is MSCI Japan (local currency).

Risk Mitigating Strategies

- Risk Mitigating Strategies, or "RMS," is an asset allocation program designed to provide robust, impactful diversification benefits and defensive characteristics relative to growth-like asset classes.
- RMS programs are designed to have:
  - Low correlation with traditional portfolios
  - Low to negative correlations to equities during volatile markets or equity drawdowns
- RMS programs generally incorporate at least several of the following strategies:
  - Long Term US Treasuries
  - Trend Following
  - Global Macro
  - Long Volatility
- By diversifying across several of these strategies, it reduces the reliance upon any single component.
  - Each strategy will react differently, depending on the type and magnitude of the drawdown, thus supporting a portfolio approach to building an RMS program

Continue To Accept Risk

- Given lower interest rates, achieving your target return will require continuing to invest in risky assets.
  - Risky assets are less attractive in absolute terms, but perhaps more attractive in relative terms.
- Continue to take advantage of illiquidity via private markets.
  - Private equity, infrastructure and real estate all offer higher relative returns while offering some diversification benefits.
- Ramping up in private markets cannot happen overnight, especially given the amount of capital overhang and current pause in transactions.
  - That means public equities will have to be the mainstay of portfolios.
- But be cognizant of the risks of equities.
  - While we continue to expect equities to produce higher returns than lower risk assets, we expect those returns will be lower than they have been over the past decade.



How to turn low rates to your advantage: Leverage

- If the Fed is going to manage the yield curve such that they keep rates low for a prolonged period, this warrants consideration of leverage.
- Leverage works so long as the return on the purchased assets exceeds the cost of borrowing (i.e., the interest rate) to buy those assets.
  - Borrowing costs are as low as they have ever been, making this a particularly low hurdle.
- Leverage magnifies gains and can make a portfolio more efficient (i.e., produce a better risk-return profile).
  - While leverage amplifies gains, it will do the same for losses.
- Leverage can be achieved in multiple ways:
  - Investment staff can implement leverage.
  - Portable "alpha" strategies can act as a turnkey solution.

Be Opportunistic… and Patient

- The market has rewarded those investors who were willing and able to think opportunistically during past periods of market stress.
  - We don't yet know what the best opportunities are going to be this time around
- An opportunistic approach requires patience (i.e., waiting for the "fat pitch") and a contrarian nature (i.e., having the courage to stand against the dominant view)
  - Major opportunities occur infrequently and are very hard to time
  - Such opportunities are often contrarian in nature
  - Valuations drive long-term returns, but bubbles can last for many years
- Rely predominantly on strategic asset allocation
- But allow for opportunistic movements when:
  - Valuations are at extreme levels, and
  - You have a high level of confidence in your decision

Move Forward Selectively in Real Estate & Infrastructure

- This crisis has driven changes while accelerating several secular trends that were already underway.
  - The decline of brick and mortar retail had already begun.
  - It may launch the shift toward more working from home (i.e., less need for CBD office space) and less travel (i.e., lower demand for hospitality and leisure destinations).
  - Transportation infrastructure has been hit hard and likewise may not recover quickly.
  - Communications infrastructure and data center are the backbone of a digital economy.
  - The shift to renewables may accelerate due to technological improvements and policy decisions.
- Core managers are typically highly diversified and focused on income, so any changes will be gradual.
- Non-core strategies tend to be more focused on particular geographies, sectors, or property types.
  - This allows investors to be more selective and opportunistic.
  - Non-core strategies have greater flexibility to acquire assets at attractive (i.e., distressed) prices.
- Hence we suggest tilting toward non-core strategies that can be more nimble and can benefit from these secular changes.

Summary

- Rates are incredibly low. This does not bode well for future returns.
- It will be more difficult than ever for you to achieve your target return.
  - While doing so will prove challenging, it is not impossible.
- Through a combination of options, you can improve your odds of success.
  - Take a barbell approach to asset allocation.
  - Continue to accept risk, both in public and private markets.
  - Use low rates to your advantage.
  - Be opportunistic, and patient.
  - Pivot in real estate and infrastructure.
- Uncertainty is high.
  - If you just don't know where the market is heading, have a little humility and diversify.

Disclaimer, Glossary, and Notes

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

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

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

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

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

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

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

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.

MEKETA
INVESTMENT GROUP

Merced County Employees' Retirement Association

June 24, 2021

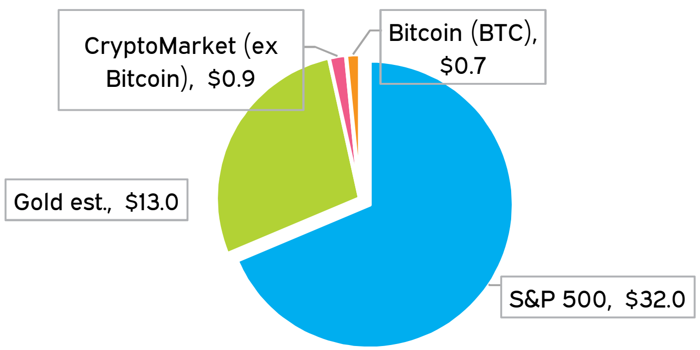
Cryptocurrencies: Bitcoin, Blockchain, and Institutional Investors

Cryptocurrencies
Bitcoin, Blockchain, and Institutional Investors

What is a Digital Currency?

- A crypto-currency is a digital (or virtual) currency.
- Crypto-currency is secured by cryptography.
  - They are anonymous and nearly impossible to counterfeit.
- Unlike traditional currencies, most crypto-currencies are not issued by a central bank.
  - They operate outside the control of governments.
- Transactions can be completed without intermediaries and at a low cost.
  - Transfers can be made online or through a smartphone app.
- The first and most popular crypto-currency is Bitcoin, but new versions continue to be introduced.

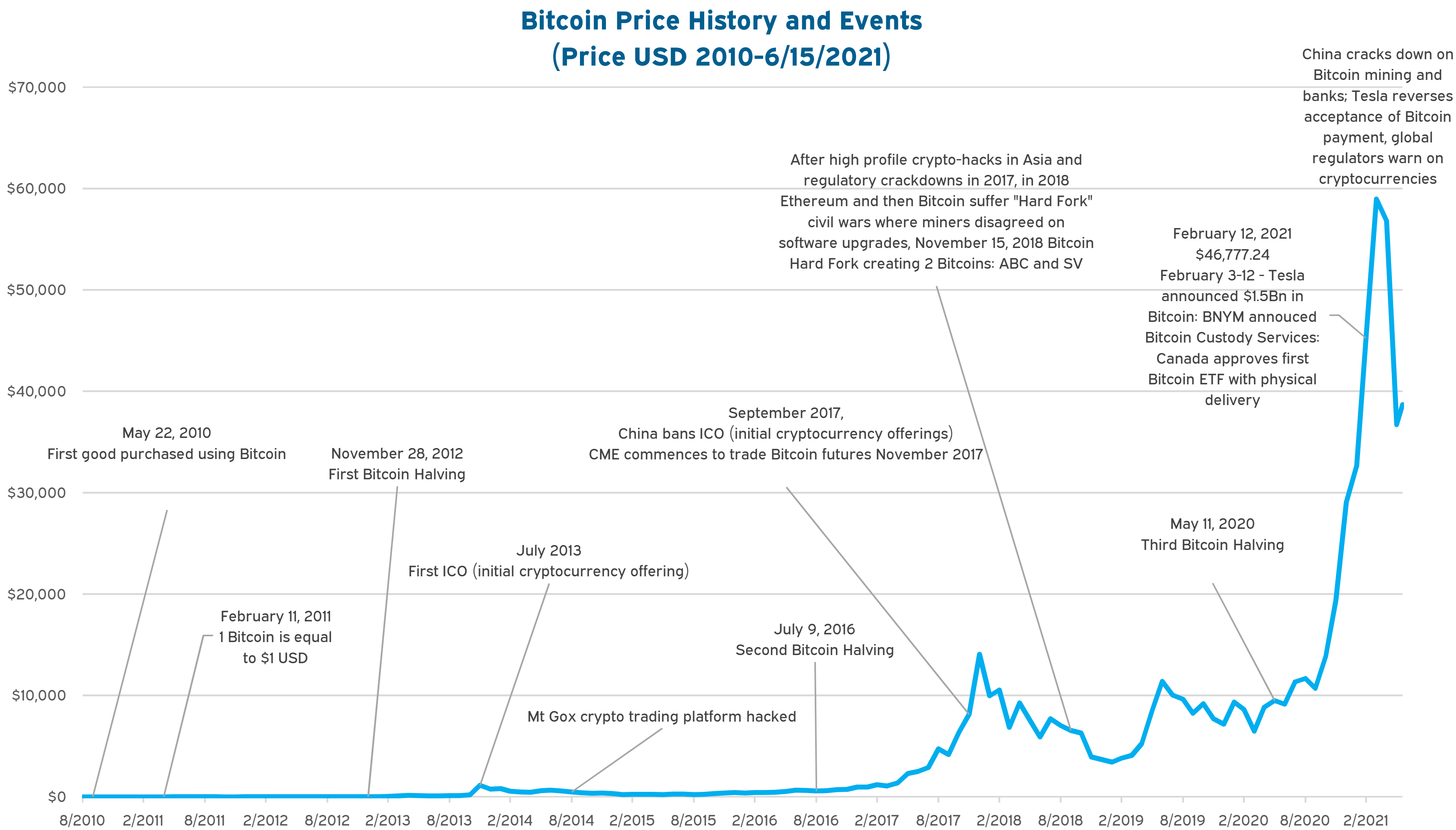
Market Capitalizations (USD T.)[1]



[1] Chart sources: WWW.Yardini.com, Bridgewater and www.coinmarketcap.com as of June 15, 2021.

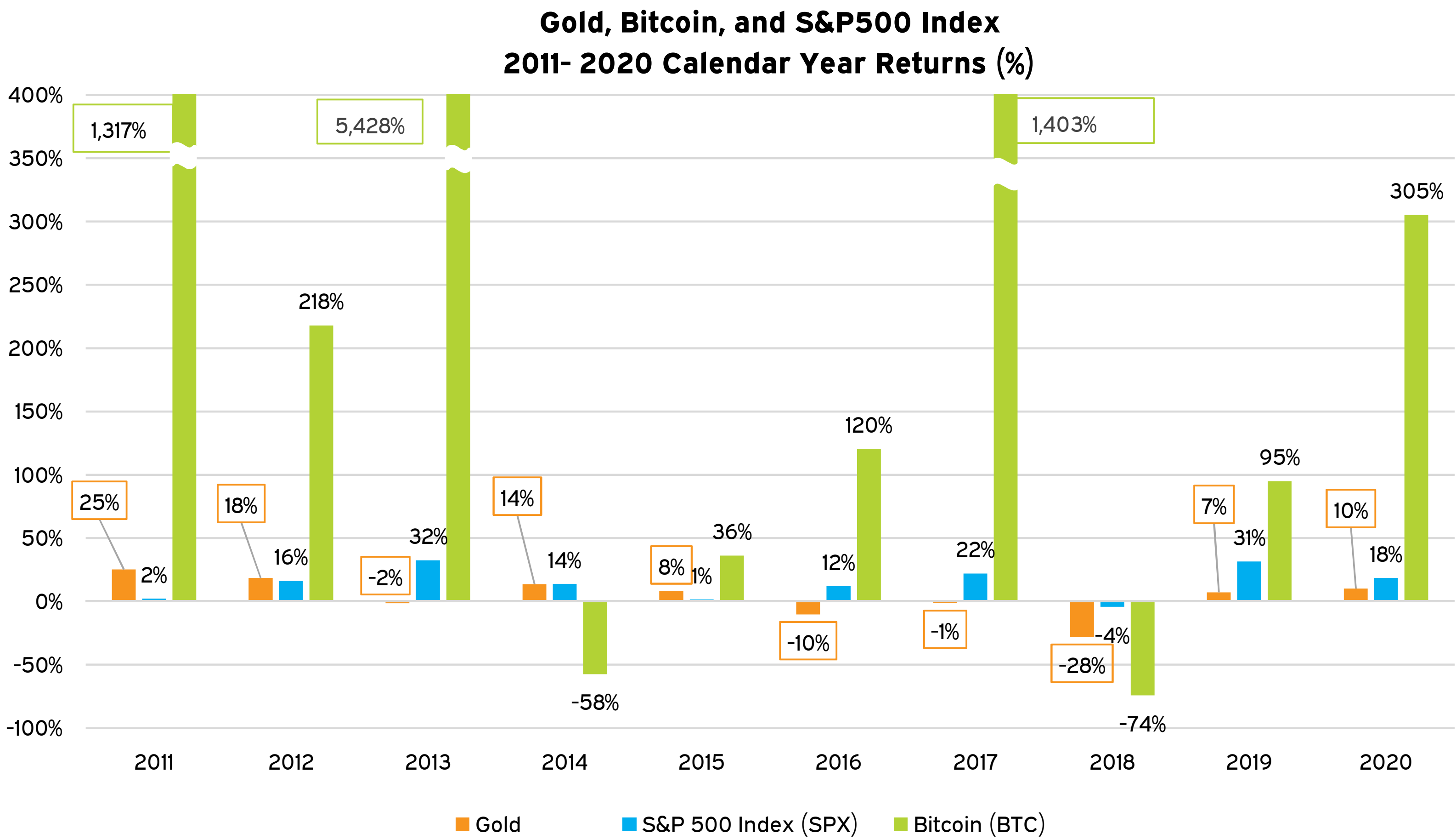
Bitcoin

- Bitcoin ("BTC") is the most mature form of digital money, and was created in 2009 by a person or group of people under the alias Satoshi Nakamoto.
- It was designed to be:
  - Peer-to-peer
  - Anonymous
  - Decentralized
  - An alternative to national fiat currencies


Bitcoin Price History and Events
(Price USD 2010-6/15/2021)
$70,000
$60,000
$50,000
$40,000
$30,000
$20,000
$10,000
$0
8/2010
2/2011
8/2011
2/2012
8/2012
2/2013
8/2013
2/2014
8/2014
2/2015
8/2015
2/2016
8/2016
2/2017
8/2017
2/2018
8/2018
2/2019
8/2019
2/2020
8/2020
2/2021
May 22, 2010
First good purchased using Bitcoin
February 11, 2011
1 Bitcoin is equal
to $1 USD
November 28, 2012
First Bitcoin Halving
July 2013
First ICO (initial cryptocurrency offering)
Mt Gox crypto trading platform hacked
July 9, 2016
Second Bitcoin Halving
September 2017,
China bans ICO (initial cryptocurrency offerings)
CME commences to trade Bitcoin futures November 2017
After high profile crypto-hacks in Asia and regulatory crackdowns in 2017, in 2018 Ethereum and then Bitcoin suffer "Hard Fork" civil wars where miners disagreed on software upgrades, November 15, 2018 Bitcoin Hard Fork creating 2 Bitcoins: ABC and SV
May 11, 2020
Third Bitcoin Halving
February 12, 2021
$46,777.24
February 3-12 - Tesla announced $1.5Bn in Bitcoin: BNYM annouced Bitcoin Custody Services: Canada approves first Bitcoin ETF with physical delivery
China cracks down on Bitcoin mining and banks; Tesla reverses acceptance of Bitcoin payment, global regulators warn on cryptocurrencies

Bitcoin Performance

- Bitcoin has outperformed Gold and the S&P 500 in 8 out of the last 10 years.



Bitcoin Performance, cont.

- The net result for Bitcoin investors has been incredibly volatile, but strong performance.

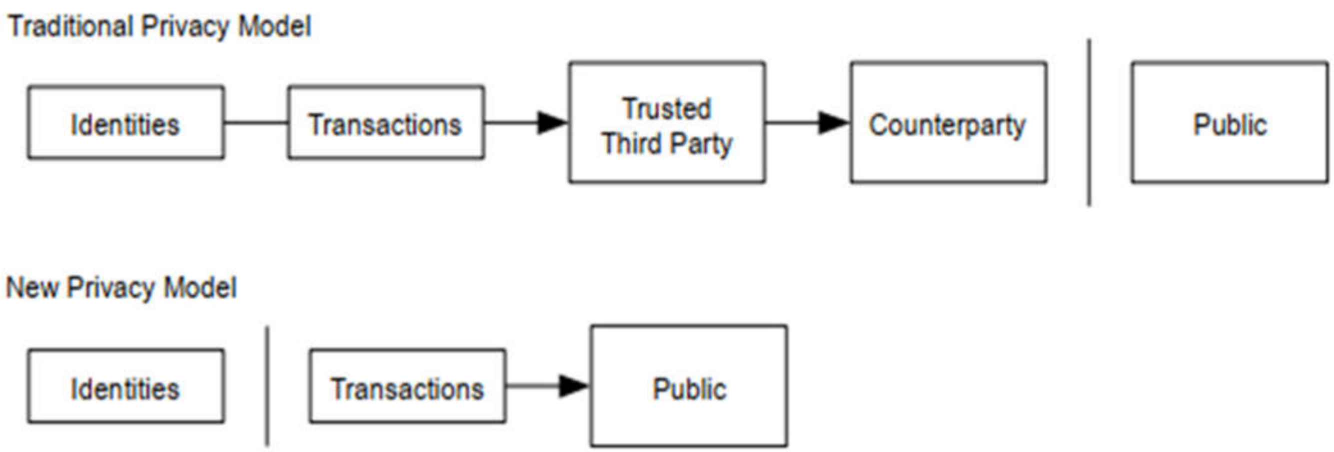
Trailing Performance[1]

	Gold	S&P 500 Index	Bitcoin (BTC)
10–Yr. Annualized Return	2.9%	13.9%	215.2%
10-Yr. Standard Deviation	16.4%	13.5%	201.9%
10-Yr. Skew	0.2	-0.3	4.6
Largest Drawdown	-62.2%	-86.2%	-85.9%

[1] Source: Bloomberg as of 12/31/20. Maximum Drawdowns for Gold and S&P 500 Index calculated from longest available time period. S&P 500 Index maximum drawdown from 1932 to 1933. Gold price maximum drawdown period was from 1980 to 1999, where the price of gold fell for nearly two decades and ended at $251 an ounce.

Why Cryptocurrencies?

- Direct transactions between parties at accelerated rates of speed by eliminating trusted third parties.
- Supra-national transactions outside of transaction frictions like market hours of operation, regulatory interventions, and accounting reconciliations.
- Hyper-speed transactions achieved through blockchain software capacity and encryption.
- Transactions are final and recorded in the block chain software.
- Verification with encryption - digital keys - serve in place of banks' account verification and security.
- 2 keys where one is personal and the other is for transactions between digital wallets.



Sataoshi Nakamoto, "A Peer to Peer Electronic Cash System." ~2007

Crypto Currency Pros & Cons[1]

Pros	Cons
Distributed ledger technology could reduce financial transaction costs	Volatility reduces its usefulness as a store of value and unit of account
Independence from central banks mean that they cannot be devalued by money printing	Could diminish the effectiveness of monetary policy
Potential alternative to fiat currencies	Outside regulated banking systems
Shared ledger and anonymous transactions improves security	Crypto exchange and online wallets can be hacked
Increasing number of retail services coming online	Minimal acceptance and infrastructure limits its usefulness as a means of exchange
Transactions do not require traditional intermediaries	Global regulatory oversight is uncertain, and could limit future acceptance
Readily accessible via the internet	Nothing akin to FDIC insurance
More crypto currencies are becoming available	Uncertain future supply

[1] Source: Bloomberg: https://www.bloomberg.com/news/articles/2020-09-15/india-plans-to-introduce-law-to-ban-trading-in-cryptocurrency?sref=sA9cMIUe

Crypto Mining

- Similar to a precious metal, each individual coin must be "mined."
  - Coins are mined in blocks.
- Mining is the process of using computers to solve hash puzzles.
  - Computers race to solve the puzzles, and the miner that solves it first gets the reward.
- Mining is actually a byproduct of the transaction verification process.
  - It helps maintain the decentralized ledger.
- Mining incurs expenses, in the form of equipment and the electricity costs[1] needed to power and cool it.
- On average, one Bitcoin is mined every ten minutes[2].

[1] As of February 2021, the amount of computer energy needed to mine bitcoin accounted for 0.56% of the world's total electricity consumption, according to the Cambridge Centre for Alternative Finance.
[2] Source: https://www.blockchain.com/charts/total-bitcoins.

Future Supply

- Most digital currencies are designed such that a finite amount of each will ever be produced.
  - The total number of Bitcoins that can ever be mined is 21 million BTC.
  - Ethereum, however, has no upper limit.
- As of December 2020, 18.58 million Bitcoins had been mined.
  - This represents 85% of the total intended supply.
  - The final 15% is expected to be mined by 2140.
    - Miners will continue to receives fees for verifying transactions even after this date.
  - This large gap in time is due to "Halving," which occurs approximately every 4 years.
    - Halving reduces the reward that Bitcoin miners receive by half.
- In May 2020 the reward per block mined was reduced from 12.5 BTC to 6.25 BTC[1].
- There is no limit to the number of digital currencies that can exist.
  - This includes offshoots, or forks, of existing crypto-currencies, such as Bitcoin Cash.
  - It is estimated that there are approximately 4,000 cryptocurrencies.

[1] Source: https://www.blockchain.com/charts/total-bitcoins

Crypto: Commodity or Currency?

- In many ways, Bitcoin and its peers represent an entirely new asset.
- They have attributes of both currencies and commodities[1].
- Commodities are tangible economic goods that are often fungible.
  - Examples include oil, gold, and natural gas .
  - Gold is a historically safe store of value.
- Under the CFTC, Bitcoin and other cryptocurrencies are classified as commodities.
  - In this sense, Bitcoin may be considered a commodity like gold or silver.
  - These precious metals have served as both commodity and currency for thousands of years.

[1] https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/backgrounder_virtualcurrency01.pdf. See also: https://www.sec.gov/ICO. Some industry experts believe that the newly elected administration may have different interpretations of regulatory oversight regarding cryptocurrencies; CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf; and IMF: https://www.imf.org/external/pubs/ft/fandd/2018/06/what-are-cryptocurrencies-like-bitcoin/basics.htm

Crypto: Commodity or Currency?

- Most investors perceive crypto as an alternative currency.
- However, digital currencies do not meet the traditional requirements to be considered money[1].

Criteria	Current Status
store of value	too volatile
means of exchange for goods and services	minimal acceptance
unit of account that measures value	too volatile

- The majority of national currencies, including the US dollar, are fiat money.
  - Fiat money is government-issued currency not backed by gold or other commodities.
  - The value of fiat money comes from the faith people hold in that country's government and economy.
- Like fiat money, Bitcoin is not backed by commodities and its value is based on the belief people hold that it does in fact have value.
  - However, one of the reasons that Bitcoin is more volatile than fiat money is because there is no government or economy on which to base its stability.

[1] IMF: https://www.imf.org/external/pubs/ft/fandd/2018/06/what-are-cryptocurrencies-like-bitcoin/basics.htm. See also CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf

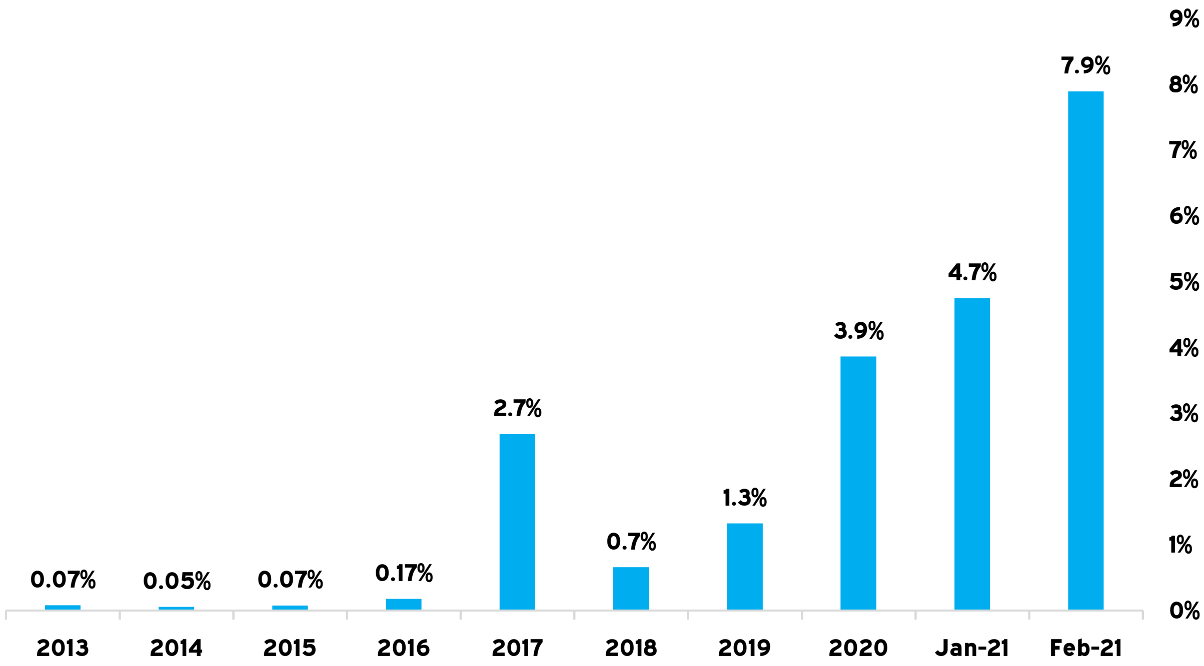
Is Crypto the New Gold?

- An optimistic view is that Bitcoin will act like a digital version of gold in the future.
  - Both have limited supply.
  - Neither can be devalued by a central bank.
  - Neither is ideal for exchanging most good and services.
  - Both are easily portable and globally accessible.
- However, Bitcoin is not a “safe” store of value like gold (yet).
  - Gold has served as a diversifier (against drawdowns) and an inflation hedge historically.
  - Gold has a long history of being consider a store of value.
  - There is no history for bitcoin to observe if it will be a diversifier or inflation hedge.
  - The volatility of bitcoin is many times that of gold or traditional currencies.
    - As liquidity and acceptance increase, volatility will probably decline.

Size of the Crypto Market

- As of February 2021 the market capitalization of Bitcoin reached $1 Trillion USD[1].
  - This is still a fraction of the size of the overall gold market.

Bitcoin Market Capitalization as a % of Estimated Market Capitalization of Physical Gold (USD)



[1] Source: World Gold Council annual physical gold supply and USD price per tonne. CoinMarketCap annual market capitalization for Bitcoin. Between 2013 and 2020, the number of Bitcoins in circulation increased from ~12 million to 18.6 million coins.

Crypto Platforms

- Just like stocks and derivatives are traded on exchanges by brokers, so are digital currencies.
  - A crypto platform is a site for buying and selling digital currency.
- Coinbase is the largest US cryptocurrency exchange; its offerings include:
  - A platform to buy, sell, and convert crypto-currencies.
  - Digital wallets.
  - Loans of up to 30% of a user's Bitcoin balance (up to $20,000).
- Customers who purchase, sell, or transfer Bitcoin will be charged transaction fees by the cryptocurrency exchange.

Platform	Features
Coinbase Platform	• Most used crypto exchange in the US – wallets offered free of charge • Trading and transaction fees are charged based on estimated network transaction costs • Tiered fee assessment sized to value of transaction; 2% flat fee on credit/margin trading
Binance Platform	• A focus on Alt Coins (non-Bitcoin cryptocurrencies); free digital wallet services • Charges 0.1% on all transactions with a 50% discount incentive to pay fees with Binance coin • US trading suspended in 2019 – ordered to terminate crypto collateral for trading crypto futures on margin
Kraken Platform	• Known for advanced market trading, wallet services are free • Spot trading with account is free but with credit card transactions 3.75%, FX trading 0.04% to 0.20%, margin trading 0.01% every 4 hours, 30-day futures tiered fee 0.015% to 0.05%
Cash App Payment App	• Peer to Peer money transfer app (like Venmo for cryptocurrency) • Only offers/accepts Bitcoin • Service fee plus Bitcoin- market price adjustment fee, settles at mid-day price

Different Types of Crypto

- There are thousands of "Altcoins" (i.e., cryptocurrencies other than Bitcoin) in the crypto market.
  - In total, Altcoins comprise ~20% of the crypto market.

Name	Date Created	Operating Goal[1]	2/15/2021 Coin Price	2/15/2021 Market Capitalization
Bitcoin (BTC)	2009	Largest cryptocurrency by market capitalization and by transaction data on its blockchain, has had many software upgrades	$48,003	$896,323,996,363
Ethereum (ETH)	2015	Smart contracts - decentralized Applications & Financial Products	$1,790	$205,016,838,930
Litecoin (LTC)	2011	open-source global payment network, consumer-grade CPUs to mine	$210	$20,150,610,714
Cardano (ADA)	2017	Research based approach with proof of stake peers for decentralized financial applications, Ouroboros proof of stake blockchain	$1	$26,550,380,764
Polkadot (DOT)	2016	Inter-operability between blockchains to connect permissionless and permissioned blockchains and oracles to create systems	$28	$25,377,086,865
Stellar (XLM)	2014	Positioned for Institutional Transactions, allows for cross-currency exchanges	$1	$11,250,225,951
Chainlink (LINK)	2017	Oracle developer for cross-crypto development and payments settlement	$33	$13,470,149,039
Binance (BNB)	2017	Utility currency for paying fees on Binance Platform using proof of stake model, future, crypto-trading platform, crypto collateral margin trading, ERC-20	$130	$2,466,183,706
Tether (USDT)	2015	Stable currency pegged to USD fiat currency with blockchain	$1	$32,081,447,026

[1] Chart sources include: CoinBase. Market capitalization and trading volumes are as of February 15, 2021.; www.coinmarketcap.com and coin proprietary websites and white papers. Coins list above represent most popularly traded cryptocurrencies as of creation of these materials. Coin prices at $1 are less than $1 but have been rounded upwards for simplicity and prices are subject to change.

Liquidity

- Institutional investors require the market for an asset to be liquid for it to be viable
  - That is, they want to be able to trade in the asset without significantly affecting its price
- Most digital currencies do not yet meet this threshold
  - Bitcoin is coming the closest, with its liquidity growing rapidly
  - However, much of the trading volume appears to be more indicative of speculation, not long-term investing

	Market Capacity (Indexed)	Outstanding (USD, Bln)	Cash Volume (USD, Bln)	Derivatives Volume (USD, Bln)
USA Equities	130.4	34,629	329	479.1
USA Bonds	100.6	6,175	264	433.6
Gold	11.4	2,894	39	65.7
Silver	3.4	120	8	20.9
Iron Ore	2.0	-	-	17.6
Bitcoin	1.0	562	6	1.4

Note: Gold and silver amounts outstanding is bars, coins, recycled, and mining; Bitcoin volumes use a conservative estimate, attempting to capture flows indicative of real liquidity

Source: Bridgewater - A Look at the Path for Bitcoin If It Is to Become an Alternative Storehold of Wealth; Rebecca Patterson et al., January 2021.

Regulatory Environment Overview

- Regulatory regimes are still somewhat fragmented and evolving.
  - This is an impediment for institutional investors.
- The market is changing so quickly that regulators are having trouble keeping up.
  - New crypto currencies are being launched with regularity.
- The SEC has focused on Initial Coin Offerings.
  - The SEC has yet to weigh in on regulating cryptocurrencies.
- Regulators are currently most focused on limiting illegal/illicit activity.
  - This could lead to less privacy/anonymity.
- Regulators are also concerned that crypto currencies could undermine their own fiat currencies and their ability to effect monetary policy.
  - This could lead to more draconian policies to reign in digital currencies.
- The uncertainty around the regulatory environment is another impediment for investors.

US Regulators

CFTC[1]:

- Cryptocurrency is classified as a commodity and as such it is regulated by the CFTC .
- Bitcoin futures trading is allowed on the CME.
- The CFTC's mandate is to regulate any derivatives contract that is based on cryptocurrencies, but not the underlying currencies.

SEC[2]:

- The SEC only regulates cryptocurrencies that they deem to be securities.
  - This includes Initial Cryptocurrency Offerings ("ICOs"), but excludes Bitcoin.
  - The SEC filed suit in December 2020 against Ripple for distributing their currency, XRP, without registering.

State Bank Regulators[3]:

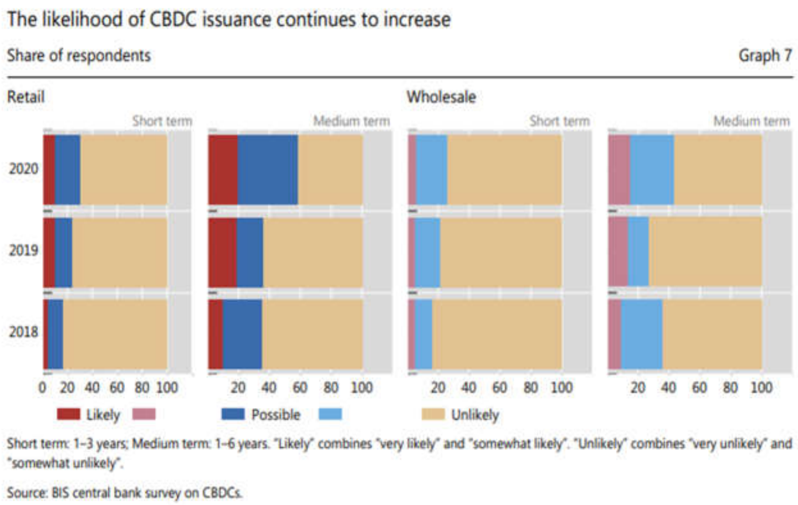
- The Office of the Comptroller of the Currency ("OCC") has ruled that state banks may take custody of cryptocurrencies.
- Any cryptocurrency regulation not mentioned above falls under state jurisdiction.
- Each state employs their own rules and so regulations are not consistent across the country.

[1] Source: CFTC: https://www.cftc.gov/sites/default/files/idc/groups/public/%40customerprotection/documents/file/oceo_bitcoinbasics0218.pdf

[2] Source: CNBC Interview: https://www.youtube.com/watch?v=8YtZJRUak8E&list=ULrkLCygMWDhY&index=1169 and Bloomberg: https://www.bloomberg.com/news/articles/2021-01-15/cryptocurrencies-face-greater-oversight-under-gensler-led-sec?sref=sA9cMIUe

[3] https://www.occ.gov/news-issuances/news-releases/2020/nr-occ-2020-98.html

Crypto & Global Central Banks



- Global central banks are actively evaluating the costs and benefits of issuing their own digital currencies.
- The Bank for International Settlements is spearheading efforts to integrate digital currencies into central bank settlements.
- Central Bank Digital Currencies ("CBDCs") would provide many of the benefits of digital technologies while providing regulatory oversight.
- The Central Bank of China ("PBOC") has at least 80 patents related to the integration of digital currencies into its retail banking system, and it launched a trial in three provinces in August 2020.
- The race by Central Banks to issue digital currency may have unexpected implications for the US dollar.

Source: Reuters, "Central Bank Digital Cash", January 27, 2021. Bank for International Settlements

How to Invest

- Investing in crypto-currencies:
  - Buy directly from an exchange.
    - A digital wallet/custody are a prudent accessory .
  - Buy futures.
    - Similarly, a digital wallet/custody are prudent.
  - There are a small number of traditional commingled vehicles (e.g., trusts, closed-end mutual funds).
    - Most are limited to HNW and institutional investors.
  - ETFs are coming.
    - The first bitcoin ETF has been approved in Canada.
    - In the US, regulators have yet to approve a bitcoin ETF.
  - Over 100 actively managed crypto hedge funds exist.
    - Most investors are HNW or family offices.
- Investing in the technology and infrastructure related to digital currencies:
  - There are a broad array of crypto mining and blockchain stocks.
  - There are four dedicated blockchain ETFs.
  - Venture capital investing in crypto-related technologies is growing but is still niche.

Source: Reuters February 12. 2021.

Crypto Currency Investing Pros & Cons

Pros	Cons
High historical returns	Very high price volatility
Uncorrelated with public market securities	Very short performance track record
Potential alternative to fiat currencies	Stranded/lost digital coins
Regulatory clarity has improved	Regulatory regimes are still somewhat fragmented and evolving
Likely to become more widely adopted, and hence, institutional	The market is still too small/illiquid for most institutional investors
May serve as an inflation hedge	Current digital currencies (e.g., bitcoin) could be supplanted by new ones
Limited supply of individual digital currencies	Uncertain future supply (i.e., new digital currencies)
Currencies appear to be very secure	Potential for exchanges being hacked
Institutional services (e.g., custody, insurance) are being rolled out	These service are still quite limited

Summary

- A crypto-currency (or cyber-currency) is a digital (or virtual) currency.
- Crypto-currency is secured by cryptography, which makes it nearly impossible to counterfeit.
- Unlike traditional currencies, most crypto-currencies are not issued by a central bank, which means they operate outside the control of governments.
- Most fare poorly at two traditional functions of a currency:
  - Serving as a unit of account, due to extreme volatility, and
  - Serving as a store of value, due to extreme volatility.
- The first and most popular crypto-currency is Bitcoin, but new versions continue to be introduced.
- Their future is unclear, due to governance issues, diminishing incentives, and regulatory uncertainty.
- There are different ways to invest in crypto-currencies
  - Direct investment via funds (and soon ETFs)
  - Investment in the underlying technology via venture capital

Disclaimer, Glossary, and Notes

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

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

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM", "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

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

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

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

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

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

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

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.

Merced County Employees' Retirement Association (MercedCERA)
RETIREMENT BOARD AGENDA ITEM

DATE: June 24, 2021

TO: MercedCERA Board of Retirement

FROM: Mark Harman, Fiscal Manager

SUBJECT: Interest Crediting Rates for June 2021

ITEM NUMBER: **5**

ITEM TYPE: **Action**

STAFF RECOMMENDATION:

1. Adopt the proposed interest credit rates of a 0.1890% annual rate, compounded semiannually, to be credited to the active reserves balances and a 7.0% annual rate, compounded semiannually, to retiree and employer reserves balances.

DISCUSSION: Pursuant to the Interest Crediting Policy adopted by the MercedCERA Retirement Board on September 14, 2017 and in accordance with Section 31591 of the County Employees' Retirement Law of 1937, the Retirement Board shall determine a rate of interest to be credited on June 30th to all contributions in the retirement fund which have been on deposit for six months immediately prior to that date.

Active Member Reserves shall be credited first. The policy provides a range of 0% to 7.00% (the actuarial rate of return adopted December 2019). The policy provides guidance for establishing the amount to be credited by using the Bank of America Merrill Lynch Six Month Treasury Bill index. For the rolling twelve-month period, ended May 31, 2021, the index return was 0.1890%, as reported to MercedCERA by Meketa. This rate will be compounded semiannually for the purpose of interest crediting.

Employer and Retiree Reserves shall be credited semi-annually at the actuarial discount rate, if there are sufficient funds. MercedCERA will only credit interest to the extent that there is a current fiscal year net investment revenue or any balance in the Interest Fluctuation Reserve.

The estimated net investment income through June 30, 2021 is as follows:

Balance in Interest Fluctuation Reserve as of July 01, 2020	$116,239,195.72
Total Estimated Investment Gain as of June 30, 2021*	61,871,821.31
Total Estimated Expenses as of June 30, 2021*	(2,722,635.09)
Total Interest Credited December 31, 2020	(19,803,307.82)
Total Estimated Available for Interest Crediting	155,585,074.12
Proposed Interest Crediting to all reserves on June 30, 2021	(20,268,038.92)
Estimated Balance in Interest Fluctuation Reserve as of June 30, 2021	$135,317,035.20

**Investment gains and expenses are based on a blend of actuals and best estimates and may vary greatly between now and the final accounting for transactions occurring during the months of May and June.*

Merced County Employees' Retirement Association (MercedCERA)
RETIREMENT BOARD AGENDA ITEM

DATE: June 24, 2021

TO: MercedCERA Board of Retirement

FROM: Kristie Santos, Plan Administrator

SUBJECT: Governor's Order N-08-21 regarding expiration of post retirement employment waiver(s) (June 30, 2021) and virtual public meetings waiver(s) (September 30, 2021)

ITEM NUMBER: 6

ITEM TYPE: Discussion

DISCUSSION:
One June 11th 2021, Governor Newsom signed new executive orders (N-08-21), which impacts MercedCERA in two important ways; extends the Brown Act and Bagley-Keene Meeting Waivers to September 30, 2021, which allows for optional virtual public meetings, and ends the post retirement employment waiver(s) as of June 30, 2021.

Virtual Public Meeting Option

The Plan Administrator reached out to all MercedCERA Trustees to ask their preference on resuming meeting in person for Board Meetings. All Trustees responded and approximately half of the trustees would like to meet in person and the other half would like to remain remote or have a remote option with Zoom technology.

Because the Governor's Orders have allowed for a virtual option of public meetings until September 30, 2021, MercedCERA meetings will begin in person and open to the public at the Merced County Headquarters Building located at 2222 M Street, Merced, CA in basement conference rooms Los Banos and Livingston. MercedCERA will also be hosting the meeting via Zoom for those Trustees, members of the public and staff that would like to attend remotely. All access information can be found on the MercedCERA Agenda located on our website.

We anticipate this virtual option will continue until September 30, 2021 or until legislation is signed into law regarding virtual options for attending public meetings (amendments to the Brown Act).

Post Retirement Employment Waiver

Because of the State and Federal declared States of Emergencies due to the pandemic, public employers could bring back retired employees (annuitants) to perform vital duties during the emergency. The Post Retirement Employment Waivers allowed for a retired annuitant to work more than 960 hours in a fiscal year as required by Government Section Code 31680.3 and PEPRA. The waiver also allowed public employers to bring retired annuitants back immediately and not comply with the bona fide separation requirement.

As of June 30, 2021, these waivers expire and therefore retired annuitants will again be held to a maximum of 960 hours in a fiscal year and a bona fide separation must be upheld between the time of retirement and the post retirement employment engagement. There are some exceptions to the bona fide separation requirement and any specific questions should be directed to the MercedCERA office. MercedCERA will begin monitoring hours for retired annuitants beginning July 1, 2021.

Attached is the Governor's Order N-08-21 for informational purposes only and graphics on the required bona fide separation requirements from PEPRA and the Internal Revenue Service.

EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

EXECUTIVE ORDER N-08-21

WHEREAS on March 4, 2020, I proclaimed a State of Emergency to exist in California as a result of the threat of COVID-19; and

WHEREAS since March 2020, the State has taken decisive and meaningful actions to reduce the spread, and mitigate the impacts, of COVID-19, saving an untold number of lives; and

WHEREAS as a result of the effective actions Californians have taken, as well as the successful and ongoing distribution of COVID-19 vaccines, California is turning a corner in its fight against COVID-19; and

WHEREAS on June 11, 2021, I issued Executive Order N-07-21, which formally rescinded the Stay-at-Home Order (Executive Order N-33-20, issued on March 19, 2020), as well as the framework for a gradual, risk-based reopening of the economy (Executive Order N-60-20, issued on May 4, 2020); and

WHEREAS in light of the current state of the COVID-19 pandemic in California, it is appropriate to roll back certain provisions of my COVID-19-related Executive Orders; and

WHEREAS certain provisions of my COVID-19 related Executive Orders currently remain necessary to continue to help California respond to, recover from, and mitigate the impacts of the COVID-19 pandemic, including California's ongoing vaccination programs, and the termination of certain provisions of my COVID-19 related Executive Orders during this stage of the emergency would compound the effects of the emergency and impede the State's recovery by disrupting important governmental and social functions; and

WHEREAS under the provisions of Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Order would continue to prevent, hinder, or delay appropriate actions to prevent and mitigate the effects of the COVID-19 pandemic.

NOW, THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes of the State of California, and in particular, Government Code sections 8567, 8571, and 8627, do hereby issue the following Order to become effective immediately:

IT IS HEREBY ORDERED THAT:

The following provisions shall remain in place and shall have full force and effect through June 30, 2021, upon which time they will expire subject to individual conditions described in the enumerated paragraphs below.

1) State of Emergency Proclamation dated March 4, 2020:

a. Paragraph 10. Any facility operating under a waiver pursuant to this provision, memorialized in an All Facilities Letter, may operate pursuant to such a waiver through the stated expiration in the All Facilities Letter or September 30, 2021, whichever occurs first;
b. Paragraph 11;
c. Paragraph 12; and
d. Paragraph 13.

2) Executive Order N-25-20:

a. Paragraph 1; and
b. Paragraph 7, and as applicable to local governments per Executive Order N-35-20, Paragraph 3. Effective July 1, 2021, the waivers in Executive Order N-25-20, Paragraph 7, and Executive Order N-35-20, Paragraph 3, of reinstatement requirements set forth in Government Code sections 7522.56(f) and (g) are terminated.

3) Executive Order N-26-20:

a. Paragraph 1;
b. Paragraph 2;
c. Paragraph 3;
d. Paragraph 5;
e. Paragraph 6; and
f. Paragraph 7.

4) Executive Order N-27-20:

a. Paragraph 1;
b. Paragraph 2; and
c. Paragraph 3.

5) Executive Order N-28-20:

a. Paragraph 3; and
b. Paragraph 6.

6) Executive Order N-31-20:

a. Paragraph 1; and
b. Paragraph 2.

7) Executive Order N-35-20:

a. Paragraph 1. Any facility operating under a waiver pursuant to this provision, memorialized in an All Facilities Letter, may operate pursuant to such a waiver through the stated expiration in the All Facilities Letter or September 30, 2021, whichever occurs first;
b. Paragraph 4;
c. Paragraph 6. To the extent the Director exercised their authority pursuant to this provision on or before June 30, 2021, the extension shall remain valid until the effective expiration;

d. Paragraph 10. The State Bar shall receive the time extension in the aforementioned order for any nomination submitted to the State Bar by the Governor on or before June 30, 2021; and
e. Paragraph 11 (as extended and clarified by N-71-20, Paragraph 6). Claims accruing before June 30, 2021 will remain subject to the 120-day extension granted in the aforementioned orders.

8) Executive Order N-36-20, Paragraph 1. To the extent the Secretary exercised their authority pursuant to this provision, the Secretary shall allow each facility to resume intake in a manner that clears intake backlog as soon as feasible.

9) Executive Order N-39-20:

a. Paragraph 1. Any facility operating under a waiver pursuant to this provision, memorialized in an All Facilities Letter, may operate pursuant to such a waiver through the stated expiration in the All Facilities Letter or September 30, 2021, whichever occurs first;
b. Paragraph 4; and
c. Paragraph 7. The leases or agreements executed pursuant to this provision shall remain valid in accordance with the term of the agreement.

10) Executive Order N-40-20:

a. Paragraph 1. For rulemakings published in the California Regulatory Notice Register pursuant to Government Code section 11346.4(a)(5) prior to June 30, 2021, the deadlines in the aforementioned order shall remain extended in accordance with the order;
b. Paragraph 2 (as extended and clarified by N-66-20, Paragraph 12, and N-71-20, Paragraph 10). Notwithstanding the expiration of this provision, state employees subject to these training requirements shall receive the benefit of the 120-day extension granted by the aforementioned orders. All required training due on or before June 30, 2021 must be completed within 120 days of the statutorily prescribed due date;
c. Paragraph 7 (as extended and clarified by N-66-20, Paragraph 13 and N-71-20, Paragraph 11). With regard to appeals received on or before June 30, 2021, the State Personnel Board shall be entitled to the extension in the aforementioned order to render its decision;
d. Paragraph 8. To the extent the deadlines specified in Government Code section 22844 and California Code of Regulations, title 2, sections 599.517 and 599.518 fell on a date on or before June 30, 2021 absent the extension, they shall expire pursuant to the timeframes specified in the aforementioned orders;
e. Paragraph 16;
f. Paragraph 17; and
g. Paragraph 20.

11) Executive Order N-45-20:

a. Paragraph 4;
b. Paragraph 8;
c. Paragraph 9; and

   d. Paragraph 12. For vacancies occurring prior to June 30, 2021, the deadline to fill the vacancy shall remain extended for the time period in the aforementioned order.

12) Executive Order N-46-20:

   a. Paragraph 1; and
   b. Paragraph 2.

13) Executive Order N-47-20:

   a. Paragraph 2; and
   b. Paragraph 3.

14) Executive Order N-48-20, Paragraph 2 (which clarified the scope of N-34-20).

15) Executive Order N-49-20:

   a. Paragraph 1;
   b. Paragraph 3. For determinations made on or before June 30, 2021, the discharge date shall be within 14 days of the Board's determination; and
   c. Paragraph 4.

16) Executive Order N-50-20, Paragraph 2.

17) Executive Order N-52-20:

   a. Paragraph 6;
   b. Paragraph 7. To the extent an individual has commenced a training program prior to June 30, 2021, that was interrupted by COVID-19, that individual shall be entitled to the extended timeframe in the aforementioned order; and
   c. Paragraph 14; and
   d. Paragraph 16.

18) Executive Order N-53-20:

   a. Paragraph 3;
   b. Paragraph 12 (as extended or modified by N-69-20, Paragraph 10, and N-71-20, Paragraph 27); and
   c. Paragraph 13 (as extended or modified by N-69-20, Paragraph 11, and N-71-20, Paragraph 28).

19) Executive Order N-54-20, Paragraph 7. To the extent the date governing the expiration of registration of vehicles previously registered in a foreign jurisdiction falls on or before June 30, 2021, the deadline is extended pursuant to the aforementioned orders.

20) Executive Order N-55-20:

   a. Paragraph 1. Statutory deadlines related to cost reports, change in scope of service requests, and reconciliation requests occurring on or before June 30, 2021 shall remain subject to the extended deadline in the aforementioned order;

b. Paragraph 4;
c. Paragraph 5;
d. Paragraph 6;
e. Paragraph 8;
f. Paragraph 9;
g. Paragraph 10;
h. Paragraph 13;
i. Paragraph 14. Statutory deadlines related to beneficiary risk assessments occurring on or before June 30, 2021 shall remain subject to the extended deadline in the aforementioned order; and
j. Paragraph 16. Deadlines for fee-for-service providers to submit information required for a Medical Exemption Request extended on or before June 30, 2021 shall remain subject to the extended deadline granted under the aforementioned order.

21) Executive Order N-56-20:

a. Paragraph 1;
b. Paragraph 6;
c. Paragraph 7;
d. Paragraph 8;
e. Paragraph 9; and
f. Paragraph 11.

22) Executive Order N-59-20, Paragraph 6.

23) Executive Order N-61-20:

a. Paragraph 1;
b. Paragraph 2;
c. Paragraph 3; and
d. Paragraph 4.

24) Executive Order N-63-20:

a. Paragraph 8(a) (as extended by N-71-20, Paragraph 40). The deadlines related to reports by the Division of Occupational Safety and Health (Cal/OSHA) and the Occupational Safety & Health Standards Board on proposed standards or variances due on or before June 30, 2021 shall remain subject to the extended timeframe;
b. Paragraph 8(c). To the extent the date upon which the Administrative Director must act upon Medical Provider Network applications or requests for modifications or reapprovals falls on or before June 30, 2021 absent the extension in the aforementioned order, it shall remain subject to the extended timeframe;
c. Paragraph 8(e). To the extent filing deadlines for a Return-to-Work Supplement appeal and any reply or responsive papers fall on or before June 30, 2021, absent the extension in the aforementioned order, they shall remain subject to the extended timeframe;
d. Paragraph 9(a) (as extended and modified by N-71-20, Paragraph 39). Any deadline setting the time for the Labor Commissioner to

issue any citation under the Labor Code, including a civil wage and penalty assessment pursuant to Labor Code section 1741, that, absent the aforementioned order, would have occurred or would occur between May 7, 2020 and September 29, 2021 shall be extended to September 30, 2021. Any such deadline that, absent the aforementioned order, would occur after September 29, 2021 shall be effective based on the timeframe in existence before the aforementioned order;

e. Paragraph 9(b) (as extended and modified by N-71-20, Paragraph 41);
f. Paragraph 9(c) (as extended and modified by N-71-20, Paragraph 39). Any deadline setting the time for a worker to file complaints and initiate proceedings with the Labor Commissioner pursuant to Labor Code sections 98, 98.7, 1700.44, and 2673.1, that, absent the aforementioned order, would have occurred or would occur between May 7, 2020 and September 29, 2021 shall be extended to September 30, 2021. Any such deadline that, absent the aforementioned order, would occur after September 29, 2021 shall be effective based on the timeframe in existence before the aforementioned order;
g. Paragraph 9(d) (as extended and modified by N-71-20, Paragraph 39). Any deadline setting the time for Cal/OSHA to issue citations pursuant to Labor Code section 6317, that, absent the aforementioned order, would have occurred or would occur between May 7, 2020 and September 29, 2021 shall be extended to September 30, 2021. Any such deadline that, absent the aforementioned order, would occur after September 29, 2021 shall be effective based on the timeframe in existence before the aforementioned order;
h. Paragraph 9(e) (as extended and modified by N-71-20, Paragraph 41);
i. Paragraph 10;
j. Paragraph 12. Any peace officer reemployed on or before June 30, 2021 pursuant to the aforementioned order shall be entitled to the extended reemployment period set forth in the order;
k. Paragraph 13;
l. Paragraph 14; and
m. Paragraph 15 (as extended by N-71-20, Paragraph 36).

25) Executive Order N-65-20:

a. Paragraph 5 (as extended by N-71-20, Paragraph 35; N-80-20, Paragraph 4; and N-01-21). Identification cards issued under Health and Safety Code section 11362.71 that would otherwise have expired absent the aforementioned extension between March 4, 2020 and June 30, 2021 shall expire on December 31, 2021; and
b. Paragraph 7.

26) Executive Order N-66-20:

a. Paragraph 3;
b. Paragraph 4; and
c. Paragraph 5.

27) Executive Order N-68-20:

a. Paragraph 1. Notwithstanding the expiration of the aforementioned order, temporary licenses granted on or before June 30, 2021 shall be valid through September 30, 2021; and
b. Paragraph 2. Renewal fee payments otherwise due to the to the California Department of Public Health absent the extension in the aforementioned order on or before June 30, 2021, shall be entitled to the extensions of time set forth in the aforementioned order.

28) Executive Order N-71-20:

a. Paragraph 1;
b. Paragraph 4;
c. Paragraph 16. Where the statutory deadline for opening or completing investigations is set to occur on or before June 30, 2021, the deadline shall remain subject to the extension in the aforementioned order; and
d. Paragraph 17. Where the statutory deadline for serving a notice of adverse action is due on or before June 30, 2021, the deadline shall remain subject to the extension in the aforementioned order.

29) Executive Order N-75-20:

a. Paragraph 7. Children placed in foster care on or before June 30, 2021 shall receive such examinations on or before July 31, 2021;
b. Paragraph 8;
c. Paragraph 9;
d. Paragraph 10. Any facility operating under a waiver pursuant to this provision may operate pursuant to such a waiver through the expiration as set forth by the California Department of Public Health, or September 30, 2021, whichever occurs first; and
e. Paragraph 13.

30) Executive Order N-76-20, Paragraph 3.

31) Executive Order N-77-20:

a. Paragraph 1;
b. Paragraph 2; and
c. Paragraph 3.

32) Executive Order N-78-20 (as extended and modified by N-03-21):

a. Paragraph 1; and
b. Paragraph 2.

33) Executive Order N-83-20:

a. Paragraph 3. To the extent the Director of the Department of Alcoholic Beverage Control suspends deadlines for renewing licenses upon payment of annual fees on or before June 30, 2021, the extension shall remain valid until the effective expiration;

b. Paragraph 5 (which repealed and replaced N-71-20, Paragraph 19, which extended N-52-20, Paragraph 1, and N-69-20, Paragraph 3);
c. Paragraph 6 (which repealed and replaced N-71-20, Paragraph 20, which extended N-52-20, Paragraph 2, and N-69-20, Paragraph 4); and
d. Paragraph 7 (which repealed and replaced N-71-20, Paragraph 21, which extended N-52-20, Paragraph 3, and N-69-20, Paragraph 5).

34) Executive Order N-84-20:

a. Paragraph 1;
b. Paragraph 2;
c. Paragraph 3; and
d. Paragraph 5.

The following provisions shall remain in place and shall have full force and effect through July 31, 2021, upon which time they will expire subject to individual conditions described in the enumerated paragraphs below.

35) Executive Order N-39-20, Paragraph 8 (as extended by N-69-20, Paragraph 2 and N-71-20, Paragraph 8).

36) Executive Order N-53-20, Paragraph 11 (as extended or modified by N-68-20, Paragraph 15, and N-71-20, Paragraph 26).

37) Executive Order N-71-20, Paragraph 25.

38) Executive Order N-75-20:

a. Paragraph 5; and
b. Paragraph 6

The following provisions shall remain in place and shall have full force and effect through September 30, 2021, upon which time they will expire subject to individual conditions described in the enumerated paragraphs below.

39) State of Emergency Proclamation dated March 4, 2020:

a. Paragraph 3; and
b. Paragraph 14. Any facility operating under a waiver pursuant to this provision may operate pursuant to such a waiver through the expiration as set forth by the Department of Social Services, or September 30, 2021, whichever occurs first.

40) Executive Order N-25-20:

a. Paragraph 2;
b. Paragraph 3; and
c. Paragraph 4.

41) Executive Order N-28-20:

a. Paragraph 4; and
b. Paragraph 5.

42) Executive Order N-29-20, Paragraph 3, is withdrawn and replaced by the following text:

Notwithstanding any other provision of state or local law (including, but not limited to, the Bagley-Keene Act or the Brown Act), and subject to the notice and accessibility requirements set forth below, a local legislative body or state body is authorized to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body or state body. All requirements in both the Bagley-Keene Act and the Brown Act expressly or impliedly requiring the physical presence of members, the clerk or other personnel of the body, or of the public as a condition of participation in or quorum for a public meeting are hereby waived.

In particular, any otherwise-applicable requirements that

(i) state and local bodies notice each teleconference location from which a member will be participating in a public meeting;

(ii) each teleconference location be accessible to the public;

(iii) members of the public may address the body at each teleconference conference location;

(iv) state and local bodies post agendas at all teleconference locations;

(v) at least one member of the state body be physically present at the location specified in the notice of the meeting; and

(vi) during teleconference meetings, a least a quorum of the members of the local body participate from locations within the boundaries of the territory over which the local body exercises jurisdiction

are hereby suspended.

A local legislative body or state body that holds a meeting via teleconferencing and allows members of the public to observe and address the meeting telephonically or otherwise electronically, consistent with the notice and accessibility requirements set forth below, shall have satisfied any requirement that the body allow members of the public to attend the meeting and offer public comment. Such a body need not make available any physical location from which members of the public may observe the meeting and offer public comment.

Accessibility Requirements: If a local legislative body or state body holds a meeting via teleconferencing and allows members of the public to observe and address the meeting telephonically or otherwise electronically, the body shall also:

(i) Implement a procedure for receiving and swiftly resolving requests for reasonable modification or accommodation from individuals with disabilities, consistent with the Americans with Disabilities Act and resolving any doubt whatsoever in favor of accessibility; and

(ii) Advertise that procedure each time notice is given of the means by which members of the public may observe the meeting and offer public comment, pursuant to subparagraph (ii) of the Notice Requirements below.

Notice Requirements: Except to the extent this Order expressly provides otherwise, each local legislative body and state body shall:

(i) Give advance notice of the time of, and post the agenda for, each public meeting according to the timeframes otherwise prescribed by the Bagley-Keene Act or the Brown Act, and using the means otherwise prescribed by the Bagley-Keene Act or the Brown Act, as applicable; and

(ii) In each instance in which notice of the time of the meeting is otherwise given or the agenda for the meeting is otherwise posted, also give notice of the means by which members of the public may observe the meeting and offer public comment. As to any instance in which there is a change in such means of public observation and comment, or any instance prior to the issuance of this Order in which the time of the meeting has been noticed or the agenda for the meeting has been posted without also including notice of such means, a body may satisfy this requirement by advertising such means using "the most rapid means of communication available at the time" within the meaning of Government Code, section 54954, subdivision (e); this shall include, but need not be limited to, posting such means on the body's Internet website.

All of the foregoing provisions concerning the conduct of public meetings shall apply through September 30, 2021.

43) Executive Order N-32-20:

a. Paragraph 1;
b. Paragraph 2; and
c. Paragraph 3.

44) Executive Order N-35-20:
a. Paragraph 2; and
b. Paragraph 12.

45) Executive Order N-39-20:

a. Paragraph 2;
b. Paragraph 3; and
c. Paragraph 6.

46) Executive Order N-40-20:

a. Paragraph 12 (as extended or modified by N-66-20, paragraph 16, N-71-20, paragraph 14, and N-75-20, Paragraph 12). To the extent the Director exercised their authority pursuant to this provision on or before September 30, 2021, the extension shall remain valid until the effective expiration of the applicable waiver; and
b. Paragraph 18.

47) Executive Order N-42-20.

48) Executive Order N-43-20.

49) Executive Order N-49-20, Paragraph 2.

50) Executive Order N-54-20:

a. Paragraph 8 (as extended by N-80-20, Paragraph 6); and
b. Paragraph 9. To the extent any timeframe within which a California Native American tribe must request consultation and the lead agency must begin the consultation process relating to an Environmental Impact Report, Negative Declaration, or Mitigated Negative Declaration under the California Environmental Quality Act extends beyond September 30, 2021, the tribe and lead agency will receive the benefit of the extension so long as the triggering event occurred on or before September 30, 2021.

51) Executive Order N-55-20:

a. Paragraph 2;
b. Paragraph 3;
c. Paragraph 7. All on-site licensing visits which would have been due on or before September 30, 2021 shall occur before December 31, 2021;
d. Paragraph 11; and
e. Paragraph 12.

52) Executive Order N-56-20, Paragraph 10 is withdrawn and superseded by the following text:

Paragraph 42 of this Order, including the conditions specified therein, shall apply to meetings held pursuant to Article 3 of Chapter 2 of Part 21 of Division 3 of Title 2 of the Education Code and Education Code section 47604.1(b).

53) Executive Order N-58-20 (as extended by N-71-20, Paragraph 29).

54) Executive Order N-59-20:

a. Paragraph 1. The sworn statement or verbal attestation of pregnancy must be submitted on or before September 30, 2021 and medical verification of pregnancy must be submitted within 30

working days following submittal of the sworn statement or verbal attestation for benefits to continue;
b. Paragraph 2 (as extended and modified by N-69-20, Paragraph 14, and N-71-20, Paragraph 31);
c. Paragraph 3 (as extended and modified by N-69-20, Paragraph 15, and N-71-20, Paragraph 32); and
d. Paragraph 4 (as extended and modified by N-69-20, Paragraph 16, and N-71-20, Paragraph 33).

55) Executive Order N-63-20:

a. Paragraph 8(b). To the extent filing deadlines for claims and liens fall on or before September 30, 2021, absent the extension in the aforementioned order, they shall remain subject to the extended timeframe; and
b. Paragraph 11.

56) Executive Order N-66-20, Paragraph 6.

57) Executive Order N-71-20:

a. Paragraph 15;
b. Paragraph 22; and
c. Paragraph 23.

58) Executive Order N-75-20:

a. Paragraph 1;
b. Paragraph 2; and
c. Paragraph 4.

59) Executive Order N-80-20:

a. Paragraph 3; and
b. Paragraph 7.

60) Executive Order N-83-20

a. Paragraph 2 is withdrawn and replaced by the following text:

The deadline to pay annual fees, including any installment payments, currently due or that will become due during the proclaimed emergency, as specified in Business and Professions Code sections 19942, 19951, 19954, 19955, 19984, and any accompanying regulations is September 30, 2021; the deadlines for submission of any application or deposit fee, as specified in Business and Professions Code sections 19951 (a), 19867, 19868, 19876, 19877, 19942, 19984, and any accompanying regulations is no later than September 30, 2021, or per existing requirements, whichever date is later.

b. Paragraph 4.

61) Executive Order N-03-21, Paragraph 3, is withdrawn and replaced by the following text:

As applied to commercial evictions only, the timeframe for the protections set forth in Paragraph 2 of Executive Order N-28-20 (and extended by Paragraph 21 of Executive Order N-66-20, Paragraph 3 of Executive Order N-71-20, and Paragraph 2 of Executive Order N-80-20) is extended through September 30, 2021.

IT IS FURTHER ORDERED that, as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

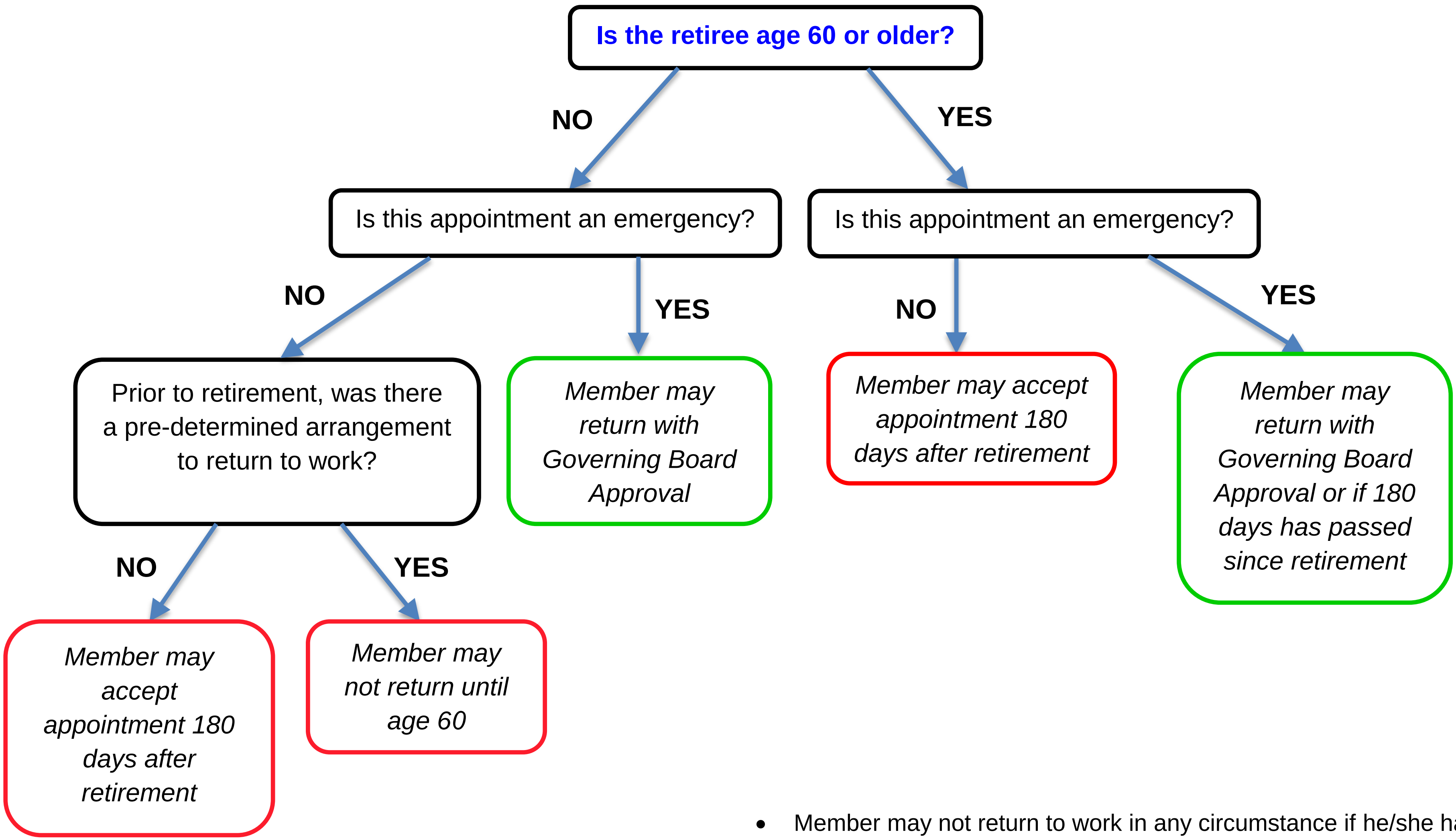
IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 11th day of June 2021.

GAVIN NEWSOM
Governor of California

ATTEST:

SHIRLEY N. WEBER, PH.D.
Secretary of State

PEPRA and IRS Decision Tree for Rehiring Retired General Members

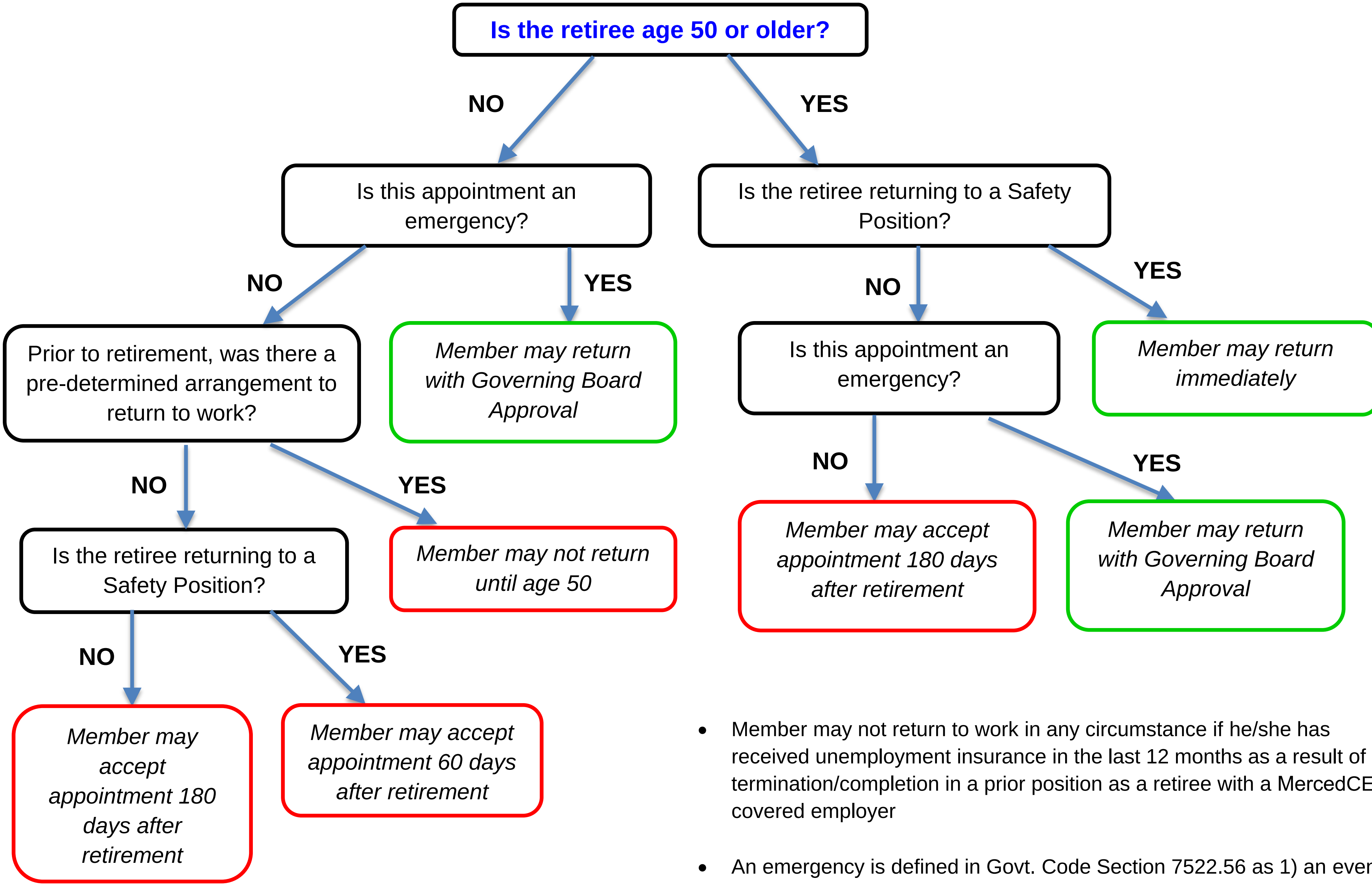


- Member may not return to work in any circumstance if he/she has received unemployment insurance in the last 12 months as a result of termination/completion in a prior position as a retiree with a MercedCERA covered employer

- An emergency is defined in Govt. Code Section 7522.56 as 1) an event that would stop public business or 2) the appointment is necessary to fill a critically needed position

Created 05-02-19

PEPRA and IRS Decision Tree for Rehiring Retired Safety Members



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Created 05-05-19