#### MercedCERA RETIREMENT BOARD AGENDA THURSDAY, JULY 28, 2022 – 8:15 A.M. MERCED COUNTY EMPLOYEES' RETIREMENT ASSOCIATION

#### MERCED COUNTY ADMINISTRATION BUILDING 2222 M STREET, MERCED ATWATER CONFERENCE ROOM, 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 - July 14, 2022

#### PUBLIC COMMENT

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

#### **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 THREAT TO PUBLIC SERVICES OR FACILITIES

(Government Code § 54957, subdivision (a)) Consultation with: Staff.

#### **RETURN TO OPEN SESSION**

Report on any action taken in closed session.

#### **BOARD ACTION/DISCUSSION**

- 1. Discussion and possible action on monthly and/or quarterly performance and possible action on any funds or managers Meketa.
- 2. Discussion and possible action on presentation regarding Stagflation Alison Adams, Meketa.
- 3. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MercedCERA's Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:
  - CALAPRS Principles for Pension Governance for Trustees, August 29-September 1, 2022, Tiburon, CA.
  - Administrator's Institute (for Plan Administrator only), September 28 30, 2022, Long Beach, CA.
  - SACRS Fall Conference, November 8 11, 2022, Long Beach, CA (registration not currently open).
  - CALAPRS General Assembly, March 4 7, 2023 Monterey, CA (registration not currently open)

#### **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.

- August 11, 2022
- August 25, 2022

#### **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.

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Spanish and Hmong interpreters are available.

Interpretes de espanol y hmong estan disponibles.

Peb muaj tug paab txhais lug Mev hab Hmoob.

#### MercedCERA RETIREMENT BOARD MINUTES THURSDAY, JULY 14, 2022 – 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

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ROLL CALL

#### APPROVAL OF MINUTES – June 09, 2022

The MercedCERA Board voted unanimously via roll call vote to approve the minutes from the June 9, 2022 meeting.

Peterson/Silveira U/A (9/0)

#### PUBLIC COMMENT

Members of the public may comment on any item under the Board's jurisdiction including items on the Board's agenda. Matters presented under this item will not be discussed or acted upon by the Board at this time. Persons addressing the Board will be limited to a maximum of five (5) minutes in total. Please state your name for the record. **None.** 

#### **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.	Miller, Victoria	Child Support Servi	ces 13 Yrs. Svc.	Eff: 06/17/2022
b.	Delgadillo, Raul	H.S.A.	25 Yrs. Svc.	Eff: 06/18/2022
c.	Alday, Rodney	Admin Services	27 Yrs. Svc. Eff	f: 07/02/2022
d.	Smyth, D Renee	B.H.R.S.	30 Yrs. Svc Eff	f: 06/18/2022
e.	Wilson, Ralph	D.P.W.	20 Yrs. Svc. Ef	f: 07/02/2022
f.	Provencio, Gloria	M.C.M.C.	12 Yrs. Svc. Ef	f: 07/01/2022
g.	Petty, Rebecca	H.S.A.	25 Yrs. Svc. Ef	f: 07/02/2022
h.	Moua, Keo (SCD)	B.H.R.S.	22 Yrs. Svc. Ef	f: 10/01/2020*
i.	Johnson, Dennis	Sheriff	14 Yrs. Svc. Ef	f: 07/11/2022
j.	Soofi, Jin	B.H.R.S.	02 Yrs. Svc. Ef	f: 07/08/2022

YTD fiscal year 2022/2023 retirees: 06 YTD fiscal year 2021/2022 retirees: 96 YTD fiscal year 2020/2021 retirees: 89 \*Service Connected Disability from Oct 2020

MONTHLY BUDGET REPORT: Delayed due to year end closing.

**VIRTUAL MEETINGS:** Reaffirm the adoption of Merced County Employee's Retirement Association Resolution No. 2021-02, and its findings that the Governor's proclaimed state of emergency related to the COVID-19 pandemic remains active, that the state of emergency impacts the ability of the Trustees and public to safely meet in person, and state or local officials continue to impose or recommend measures to promote social distancing.

## The MercedCERA Board voted unanimously via roll call vote to approve the consent calendar.

Silveira/Adams U/A (9/0)

#### **BOARD ACTION/DISCUSSION**

- Discussion and possible action to appoint MercedCERA Board Chair, Vice Chair and Secretary – Chair.
   The Board voted unanimously via roll call vote to appoint Trustees Paskin as Chair, Johnston as V. Chair and Peterson as Secretary. Adams/Silveira U/A (9/0)
- Discussion on the potential disposition of real property owned by the Association located at 3199 M Street, Merced, CA Staff.
  Staff given direction.
- Discussion and possible action to approve proposed policy on the release of information for members, trustees and employees – Staff.
   The MercedCERA Board voted unanimously via roll call vote to approve the proposed policy.
   Adams/Cabral U/A (9/0)
- Discussion on the arrangement for professional photographs of trustees and full-time staff for the MercedCERA webpage – Staff.
   No action taken, information only.

- The Chair asked Trustees to vote to add an urgent agenda item to consider a non-pensionable pay code as requested by the County of Merced.
  A motion was made to add the urgent agenda item and Board voted unanimously via roll call vote to add the item.
  Cabral/Adams U/A (9/0)
- 6. Discussion and possible action to approve non-pensionable pay code 3457 On Call Enhanced Pay for regular and probationary employees in the classification of Supervising Social Workers I/II for Child Welfare Services Emergency Response.
   The Marcod CEPA Board voted unanimously via roll call vote to approve the non-

#### The MercedCERA Board voted unanimously via roll call vote to approve the nonpensionable pay code of 3457. Silveira/Cabral U/A (9/0)

- 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 Program, July 17-20, 2022, Berkeley, CA.
  - CALAPRS Principles for Pension Governance for Trustees, August 29-September 1, 2022, Tiburon, CA.
  - Administrator's Institute (for Plan Administrator only), September 28 30, 2022, Long Beach, CA.
  - SACRS Fall Conference, November 8 11, 2022, Long Beach, CA (registration not currently open).
  - CALAPRS General Assembly, March 4 7, 2023 Monterey, CA (registration not currently open)

#### Plan Administrator to attend the Administrator's Institute in Long Beach, CA. Trustees Harris, Rosenberg and Paskin to attend the Principles for Pension Governance for Trustees in Tiburon, CA.

Trustees Ness and Cabral to attend the SACRS Fall Conference in Long Beach, CA.

The Board voted unanimously via roll call vote to send the Trustees and Plan Administrator to the above training courses. Johnston/Peterson U/A (9/0)

### **INFORMATION ONLY**

- Trustee Cabral would like an update on the progress of work with the CPAS system.
- Trustees were given a verbal update that on July 19<sup>th</sup> the Board of Supervisors will hear the MercedCERA agenda item to adopt section code 31522.3, which puts the investment officer position under the direction of the MercedCERA Retirement Board.
- Investment Subcommittee meeting will follow immediately after the July 28<sup>th</sup> meeting (virtual meeting)

### 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 28, 2022 (note room change very small room, trustees encouraged to attend virtually)
- August 11, 2022

### **ADJOURNMENT**

#### Meeting adjourned at 8:58AM

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## MEKETA

## Merced County Employees' Retirement Association

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- **3.** Performance Update as of May 31, 2022
- 4. Preliminary Performance Update as of June 30, 2022
- 5. Disclaimer, Glossary, and Notes

## Economic and Market Update

Data as of May 31, 2022

## Commentary

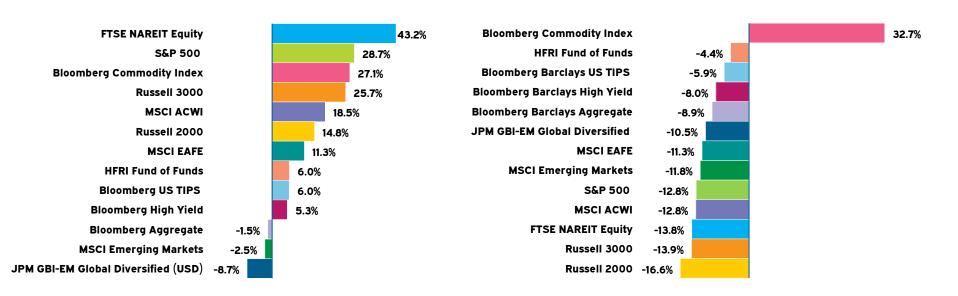
- → There were no major market movements in May as investors waited for developments with inflation, the pace of monetary policy tightening, the war in Ukraine, ongoing supply chain issues, and China's lockdown of major economic centers to stem the spread of COVID-19.
  - Equities were mixed, with international equities largely outperforming US equities.
  - Value-oriented equities outpaced growth, influenced by higher interest rates and notable weakness in some high-profile technology companies.
  - The global bond selloff slowed, as inflation fears, and policy expectations eased modesty despite monetary policy officials remaining steadfast in their near-term tightening expectations.
  - Nonetheless, inflation remains high globally.
- → The war in Ukraine, lingering COVID-19 issues, persistent inflation, and strict lockdowns in China will all have considerable economic and financial consequences for the global economy going forward.

# MEKETA

2021

### **Economic and Market Update**

2022 Through May



#### Index Returns<sup>1</sup>

- → Outside of emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes rose in 2021.
- → In May, many major asset classes recovered modestly from losses in the first quarter and April, with US stocks mostly unchanged and bonds higher by 0.6%.<sup>2</sup> Commodities continued to provide strong performance, adding 1.5% in May, and bringing the year-to-date gain to over 32%.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg and FactSet. Data is as of May 31, 2022.

<sup>&</sup>lt;sup>2</sup> As measured by the S&P 500 and Bloomberg Aggregate.

# MEKETA

	May	Q1	YTD	1 YR	3 YR	5 YR	10 YR
Domestic Equity	(%)	(%)	(%)	(%)	(%)	(%)	(%)
S&P 500	0.2	-4.6	-12.8	-0.3	16.4	13.4	14.4
Russell 3000	-0.1	-5.3	-13.9	-3.7	15.6	12.7	14.0
Russell 1000	-0.2	-5.1	-13.7	-2.7	16.0	13.1	14.2
Russell 1000 Growth	-2.3	-9.0	-21.9	-6.3	18.3	16.1	16.0
Russell 1000 Value	1.9	-0.7	-4.5	0.9	12.7	9.5	12.0
Russell MidCap	0.1	-5.7	-12.9	-6.8	12.9	10.5	12.8
Russell MidCap Growth	-3.9	-12.6	-25.4	-18.7	9.4	10.6	12.6
Russell MidCap Value	1.9	-1.8	-5.9	-0.1	13.4	9.1	12.3
Russell 2000	0.2	-7.5	-16.6	-16.9	9.7	7.7	10.8
Russell 2000 Growth	-1.9	-12.6	-24.8	-25.7	6.2	6.9	10.5
Russell 2000 Value	1.9	-2.4	-8.2	-7.7	12.2	7.8	10.7

## Domestic Equity Returns<sup>1</sup>

## US Equities: Russell 3000 Index declined 0.1%, and value indices significantly outperformed growth in May.

- → US stocks were largely flat for the month with strong gains in energy, as well as utilities and financials, being balanced by declines in consumer-focused sectors (discretionary and staples).
- → Value stocks continued to outperform growth stocks in May, maintaining the recent trend as rising rates and inflation continued to weigh on growth companies.
- $\rightarrow$  Small company stocks outpaced large company stocks for the month.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 31, 2022.

MEKETA INVESTMENT GROUP



Foreign Equity	<b>May</b> (%)	Q1 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	0.7	-5.4	-10.7	-12.3	6.5	4.4	6.4
MSCI EAFE	0.7	-5.9	-11.3	-10.4	6.4	4.2	7.1
MSCI EAFE (Local Currency)	-0.2	-3.7	-5.3	1.1	8.2	5.5	9.6
MSCI EAFE Small Cap	-0.7	-8.5	-15.4	-16.0	6.6	4.1	8.9
MSCI Emerging Markets	0.4	-7.0	-11.8	-19.8	5.0	3.8	4.2
MSCI Emerging Markets (Local Currency)	-0.2	-6.1	-9.6	-15.7	6.4	5.7	6.7
MSCI China	1.2	-14.2	-16.7	-35.9	-0.1	1.3	5.0

## Foreign Equity Returns<sup>1</sup>

## International Equities (MSCI EAFE) gained 0.7% and Emerging Markets (MSCI EM) returned 0.4% in May.

- → Non-US stocks (developed and emerging markets) outperformed US stocks in May but remain notably negative for the year-to-date period.
- → The war in Ukraine, high inflation, and slowing growth continue to weigh on sentiment despite the positive return for the month in both developed and emerging markets.
- → Gains in May for emerging markets were largely driven by China where COVID-19 restrictions were loosened and government stimulus increased.
- $\rightarrow$  Like the US, value stocks outperformed growth stocks across developed and emerging markets.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 31, 2022.

							Current				
Fixed Income	May (%)	Q1 (%)	<b>YTD</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Yield (%)	Duration (Years)		
Bloomberg Universal	0.6	-6.1	-9.1	-8.4	0.2	1.3	2.1	3.8	6.5		
Bloomberg Aggregate	0.6	-5.9	-8.9	-8.2	0.0	1.2	1.7	3.4	6.7		
Bloomberg US TIPS	-1.0	-3.0	-5.9	-1.4	4.4	3.7	2.0	3.1	7.3		
Bloomberg High Yield	0.2	-4.8	-8.0	-5.3	3.3	3.6	5.4	7.1	4.7		
JPM GBI-EM Global Diversified (USD)	1.8	-6.5	-10.5	-16.5	-2.6	-1.3	-0.5	6.9	4.9		

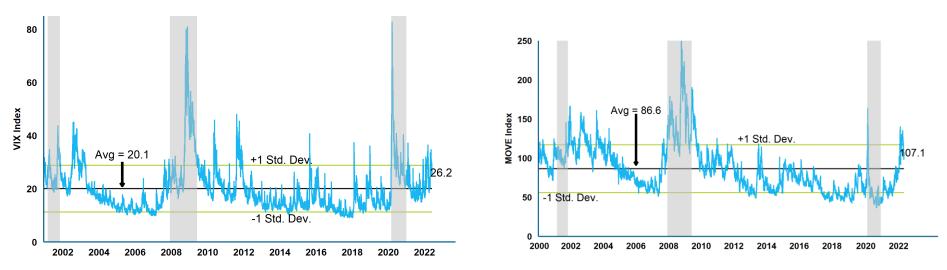
## Fixed Income Returns<sup>1</sup>

## Fixed Income: Bloomberg Universal 0.6% in May.

- → Slight interest rate declines led to positive performance for the broad US investment grade bond market (Bloomberg Aggregate). The nominal 10-year Treasury yield peaked at 3.13% before declining to 2.85% by month-end, while the 2-year Treasury yield declined from 2.73% to 2.56%.
- $\rightarrow$  US credit spreads widened for high yield debt but tightened slightly for investment grade bonds.
- $\rightarrow$  Emerging market debt led the way for the month but remains the worst performer year-to-date.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of May 31, 2022.





## Equity and Fixed Income Volatility<sup>1</sup>

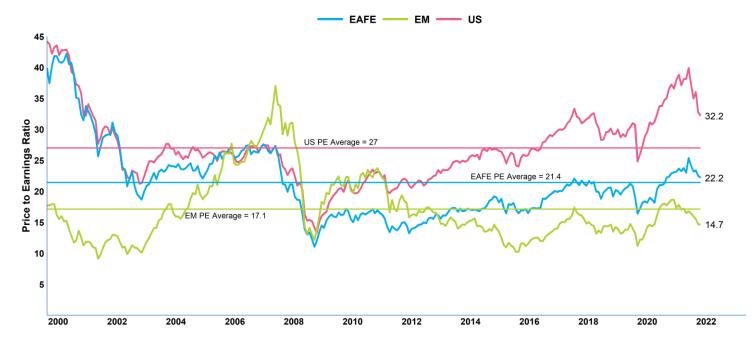
 $\rightarrow$  Volatility in both equities (VIX) and fixed income (MOVE) declined in May.

 $\rightarrow$  A modest easing of inflation concerns and a decline in policy expectations supported investor sentiment.

 $\rightarrow$  It is worth noting though that both have recently significantly spiked given persistently high inflation.

<sup>&</sup>lt;sup>1</sup> Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of May 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.



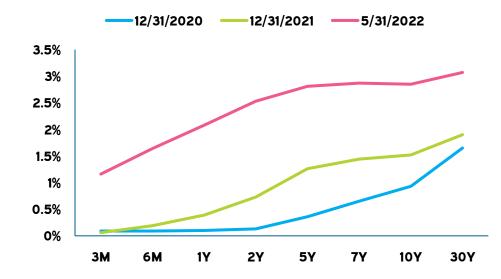


## Equity Cyclically Adjusted P/E Ratios<sup>1</sup>

- $\rightarrow$  Valuations in the US remain well above long-term averages despite the recent decline.
- → International developed market valuations remain below the US and are approaching their long-term average, with those for emerging markets under the long-term average.

<sup>&</sup>lt;sup>1</sup> US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of May 31, 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.

## MEKETA



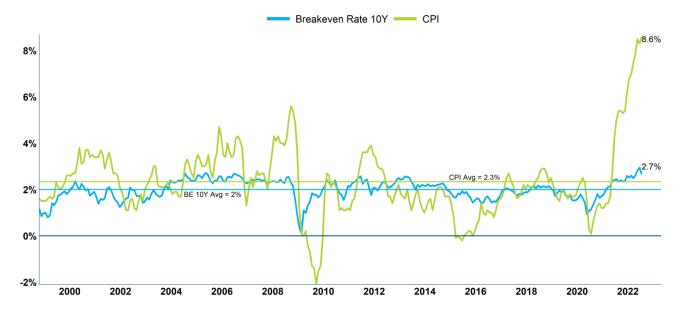
## US Yield Curve<sup>1</sup>

- → In May, rates remain well above those at the start of the year, as markets continue to reflect elevated inflation and rate expectations.
- → After a brief inversion in April, which historically has often signaled building recessionary pressures, the spread between two-year and ten-year Treasuries ended May at around 30 basis points.
- → Since month-end, rates have significantly increased across maturities with the yield curve flattening. This has been driven by the above-expectations CPI level and the Federal Reserve's plans to tighten policy further.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 31, 2022.







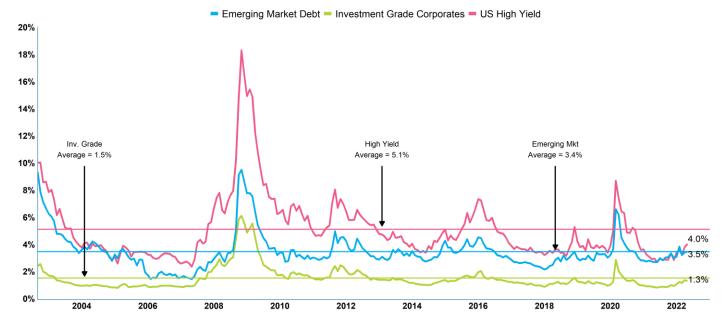
## Ten-Year Breakeven Inflation and CPI<sup>1</sup>

- $\rightarrow$  Inflation expectations (breakevens) declined modestly in May after breaching 3.0% in April.
- → Trailing twelve-month CPI rose in May (8.6% versus 8.3%) and notably came in above expectations. Inflation levels in the US remain well above the long-term average of 2.3%.
- $\rightarrow$  Rising prices for energy (particularly oil), food, and for new and used cars, remain key drivers of higher inflation.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.







- $\rightarrow$  Credit spreads (the spread above a comparable maturity Treasury) were mixed in May.
- → In the US, spreads for high yield increased (4.0% versus 3.8%) while investment grade spreads remained the same. Emerging market spreads also increased (3.5% versus 3.4% during the month) but finished lower than US high yield spreads.
- $\rightarrow$  Despite the recent increase, US high yield spreads remain well below the long-term average (4.0% versus 5.1%).

<sup>&</sup>lt;sup>1</sup> Sources: Bloomberg. Data is as of May 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.



## Global Economic Outlook

The IMF significantly lowered global growth forecasts in their latest projections, driven by the economic impacts of the war in Ukraine.

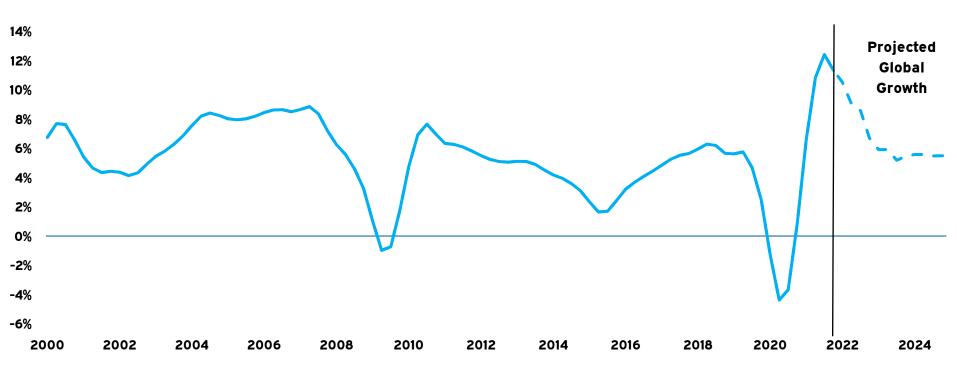
- $\rightarrow$  The IMF forecasts final global GDP growth to come in at 6.1% in 2021 and 3.6% in 2022 (0.8% below the prior 2022 estimate), both still above the past ten-year average of 3.0%.
- → In advanced economies, GDP is projected to increase 3.3% in 2022 and 2.4% in 2023. The US has limited economic ties with Russia but saw another downgrade in the 2022 growth forecast (3.7% versus 4.0%) largely due to policy tightening happening faster than previously expected. The euro area saw a significant downgrade in expected growth (2.8% versus 3.9%) in 2022 as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 2.4% this year.
- → Growth projections for emerging markets are higher than developed markets, at 3.8% in 2022 and 4.4% in 2023. China's growth was downgraded (4.4% versus 4.8%) for 2022 given tight COVID-19 restrictions and continued property sector problems.

		Real GDP (%)1		Inflation (%) <sup>1</sup>						
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average				
World	3.6	3.6	3.0	7.4	4.8	3.5				
Advanced Economies	3.3	2.4	1.6	5.7	2.5	1.5				
US	3.7	2.3	2.1	7.7	2.9	1.9				
Euro Area	2.8	2.3	0.9	5.3	2.3	1.2				
Japan	2.4	2.3	0.5	1.0	0.8	0.5				
Emerging Economies	3.8	4.4	4.2	8.7	6.5	5.1				
China	4.4	5.1	6.7	2.1	1.8	2.1				

 $\rightarrow$  The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

<sup>1</sup> Source: IMF World Economic Outlook. Real GDP forecasts from April WEO Update. Inflation forecasts are as of the April 2022 Update." Actual 10 Year Average" represents data from 2012 to 2021.





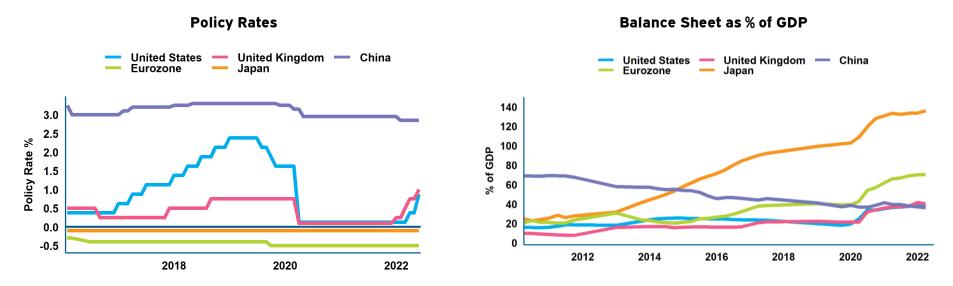
## Global Nominal Gross Domestic Product (GDP) Growth<sup>1</sup>

ightarrow Global economies are expected to slow in 2022 compared to 2021.

→ Looking forward, the track of the conflict between Russia and Ukraine, continued supply chain issues, ongoing inflationary pressures, tighter monetary policy, and lingering pandemic problems all remain key with the risk for continued downgrades in growth forecasts.

<sup>&</sup>lt;sup>1</sup> Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated May 2022.





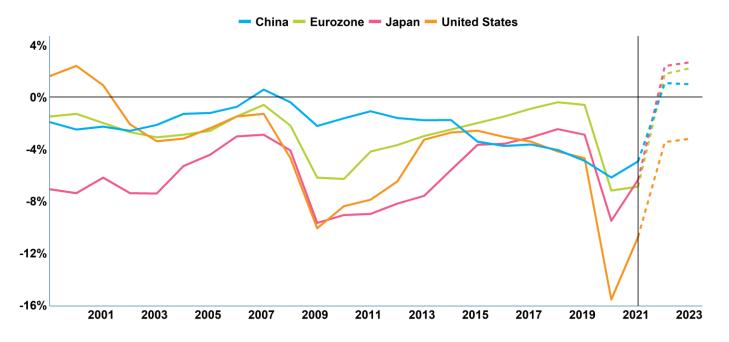
### Central Bank Response<sup>1</sup>

- → After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are reducing or considering reducing support, in the face of high inflation.
- → The pace of withdrawing support will likely vary across central banks with the US expected to take a more aggressive approach. The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.
- $\rightarrow$  The one notable outlier is China, where the central bank recently lowered rates and reserve requirements in response to slowing growth.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Policy rate data is as of May 31, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of March 31, 2022.



## Budget Surplus / Deficit as a Percentage of GDP<sup>1</sup>

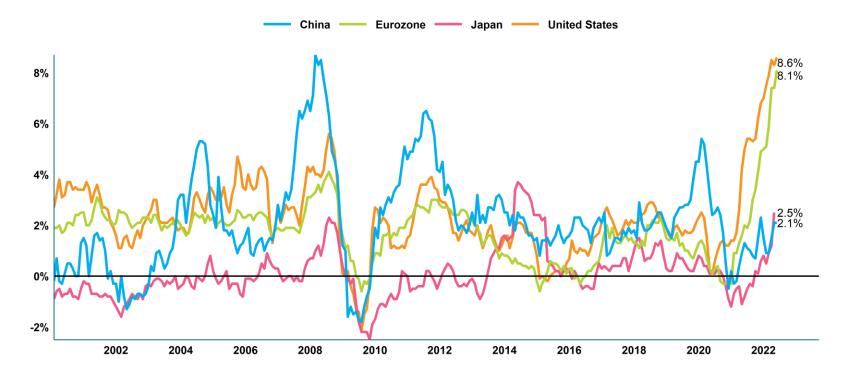


- → Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- $\rightarrow$  As fiscal stimulus programs end, and economic recoveries continue, deficits should improve in the coming years.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.



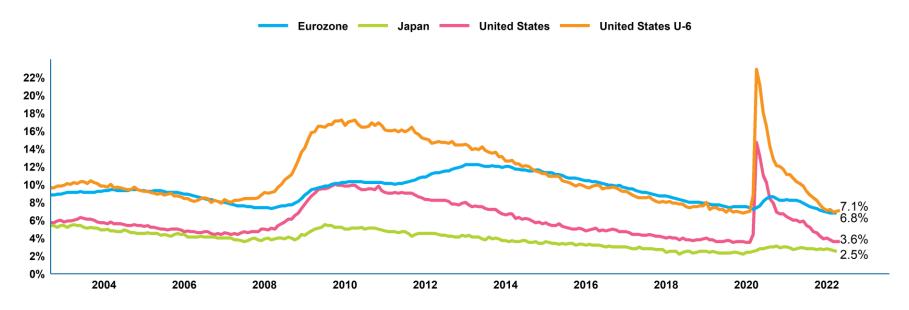
## Inflation (CPI Trailing Twelve Months)<sup>1</sup>



- $\rightarrow$  Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it remains at levels not seen in decades.
- → Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key drivers of inflation globally.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 2022, except for Japan, where the most recent data available is as of April 30, 2022.



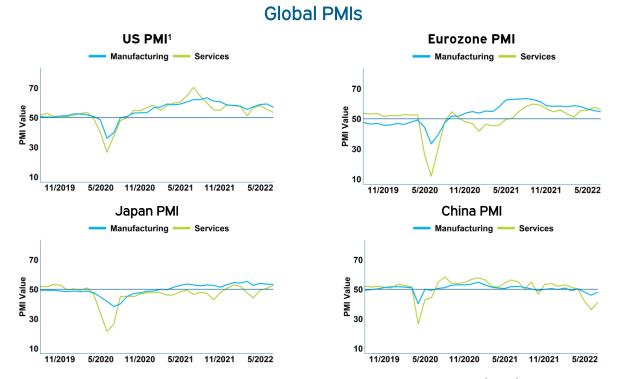


### Unemployment<sup>1</sup>

- → As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- → US unemployment, which experienced the steepest rise from the pandemic, declined back to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 7.1%.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of April 30, 2022.

# MEKETA



- → After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have experienced some pressures recently.
- → Service sector PMIs in the US and Europe have recently declined due to higher prices and supply issues, while they continue to improve in Japan as pandemic restrictions ease. In China they remain in contraction due to strict policies.
- → In most countries, manufacturing PMIs are in expansion territory as pandemic-related production issues ease and orders increase. China is the one exception, though, with the manufacturing PMI falling below 50 due again to increased COVID-19 restrictions.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Markit Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of May 2022. Readings below 50 represent economic contractions.





#### US Dollar versus Broad Currencies<sup>1</sup>

- $\rightarrow$  The US dollar weakened slightly against a broad basket of peers in May.
- → Safe-haven flows, relatively stronger growth, and higher rates have all been key drivers of the dollar's on-going strength.
- → The euro, yen, and yuan have all experienced significant declines versus the dollar, adding to inflation and slowing growth concerns.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data as of May 31, 2022.



### Summary

## Key Trends in 2022:

- $\rightarrow$  The impacts of record high inflation will remain key going forward, with volatility likely to remain high.
- $\rightarrow$  The war in Ukraine has created significant uncertainty, with a wide range of potential outcomes.
- → Expect growth to slow globally in 2022 to the long-term trend. Inflation, monetary policy, and the war will all be key.
- → The end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- → Monetary policy will likely tighten globally but will remain relatively accommodative. The risk of overtightening policy impacting growth remains.
- $\rightarrow$  Valuations remain high in the US but have declined from recent peaks.
- → Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

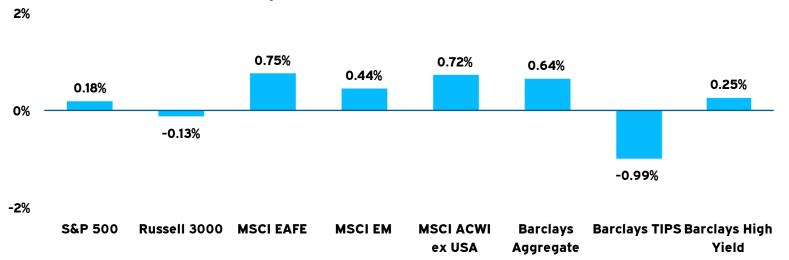
**Performance Highlights** As of May 31, 2022



## Merced County Employees' Retirement Association

Performance Highlights as of May 31, 2022

## Market Review and Performance Summary for May 2022



#### May 2022 Broad Market Index Returns

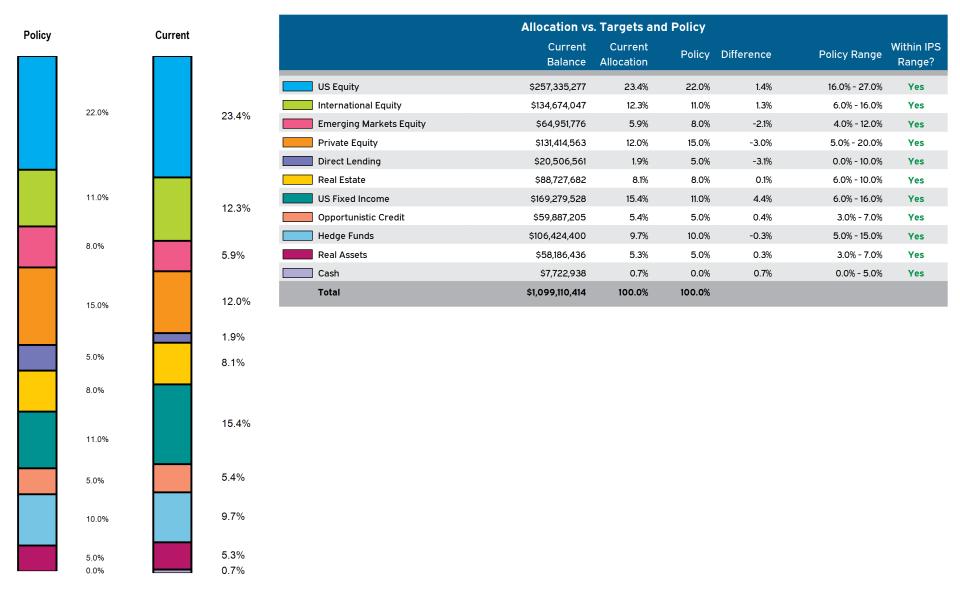
- → US equities saw relatively flat returns for May, in line with most asset classes as investors waited for developments with inflation. International equities outperformed US equities, with China's loosening COVID-19 policies weighed favorable on emerging markets. Slight interest rate declines weighed favorably on US investment grade bonds.
- → Merced CERA reported a monthly return of -0.3% net of fees. Marketable equities saw the largest drawdowns, with Emerging Markets posting -5.7% for the month, largely due to underperformance of Artisan Developing World. Developed International equities saw the strongest returns for the month at 2.1%, largely due to GQG International. US Equities saw slight declines, returning -0.5%.
- $\rightarrow$  As of May 31, 2022, total assets for the Merced CERA Portfolio are estimated at \$1.10 billion.

Performance Update As of May 31, 2022

# MEKETA

## **Merced County Employees' Retirement Association**

Total Fund | As of May 31, 2022

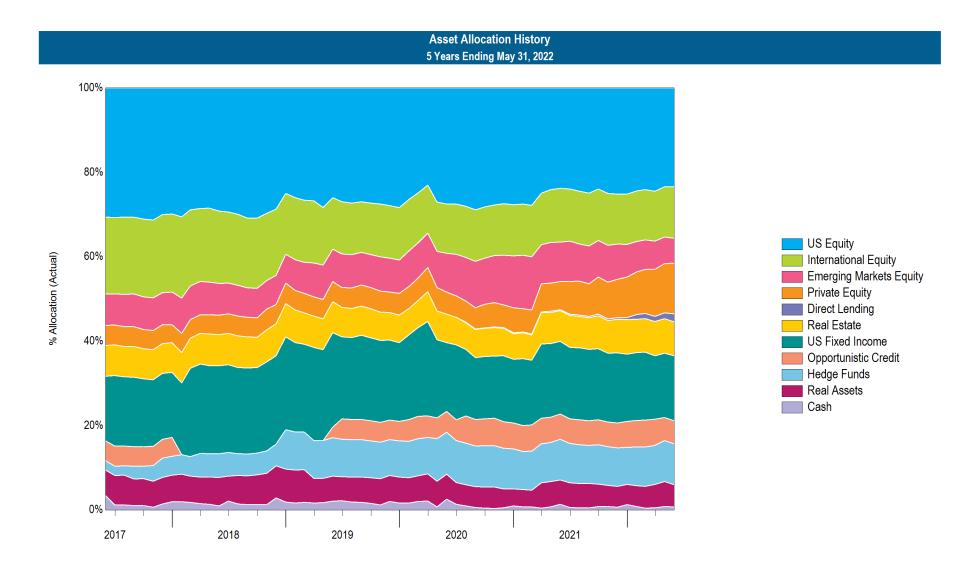


Cash range displayed for illustrative purposes only.



## Merced County Employees' Retirement Association

Total Fund | As of May 31, 2022





## Merced County Employees' Retirement Association

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)*	1,099,110,414	100.0	-0.3	-4.7	-7.6	-3.6	-1.6	10.4	8.4	8.8	8.1	Dec-94
Total Fund (Gross)*			-0.3	-4.7	-7.5	-3.3	-1.2	10.7	8.7	9.2	8.3	
Policy Index			-0.2	-4.9	-6.1	-1.4	1.3	10.5	8.4	9.1	6.3	Dec-94
Total Fund w/o Alternatives (Net)	686,127,833	62.4	-0.3	-6.9	-13.0	-11.2	-9.8	9.4	7.5	8.6		Dec-94
Total Fund w/o Alternatives (Gross)			-0.3	-6.9	-12.8	-10.9	-9.4	9.8	7.9	8.9		
Policy Index w/o Al			0.4	-5.9	-11.3	-9.5	-8.7	7.9	6.6	7.8		Dec-94
US Equity (Net)	257,335,277	23.4	-0.5	-9.8	-15.5	-6.5	-4.1	14.8	12.3	14.3	10.3	Dec-94
US Equity (Gross)			-0.5	-9.8	-15.4	-6.3	-3.8	15.1	12.6	14.5	10.4	
Russell 3000			-0.1	-9.1	-13.9	-6.0	-3.7	15.5	12.5	13.8	10.3	Dec-94
International Equity (Net)	199,625,823	18.2	-0.6	-7.6	-15.7	-20.6	-19.5	11.0	6.9	7.8	5.7	Dec-98
International Equity (Gross)			-0.5	-7.5	-15.4	-20.0	-18.8	11.8	7.5	8.4	6.0	
International Equity Custom			0.7	-5.4	-11.3	-13.7	-14.2	6.4	4.4	7.0	4.3	Dec-98
Developed International Equity (Net)	134,674,047	12.3	2.1	-2.4	-5.8	-5.3	-6.0	10.7	6.6	8.0	4.4	Jan-08
Developed International Equity (Gross)			2.2	-2.3	-5.6	-4.7	-5.4	11.3	7.1	8.6	4.9	
Custom Blended Developed International Equity BM			0.4	-6.1	-11.7	-10.1	-11.0	6.8	4.4	7.3	2.9	Jan-08
Emerging Markets Equity (Net)	64,951,776	5.9	-5.7	-16.9	-30.7	-40.4	-37.9	8.6	5.9	5.5	4.3	Apr-12
Emerging Markets Equity (Gross)			-5.6	-16.7	-30.4	-39.9	-37.3	9.6	6.8	6.5	5.3	
Custom Blended Emerging Markets Benchmark			0.4	-5.1	-11.8	-20.0	-19.8	5.1	4.0	4.5	3.2	Apr-12
US Fixed Income (Net)	169,279,528	15.4	0.6	-3.1	-8.8	-8.9	-8.2	-0.2	1.0	2.1	4.7	Dec-94
US Fixed Income (Gross)			0.6	-3.1	-8.7	-8.8	-8.1	-0.1	1.1	2.3	4.8	
BBgBarc US Aggregate TR			0.6	-3.2	-8.9	-8.9	-8.2	-0.1	1.2	1.9	5.0	Dec-94
Opportunistic Credit (Net)	59,887,205	5.4	-1.1	-2.5	-4.5	-2.2	-1.5	4.3			4.3	May-19
Opportunistic Credit (Gross)			-1.0	-2.4	-4.3	-1.8	-0.9	4.7			4.7	
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans			-0.2	-3.0	-7.1	-6.2	-5.5	1.6		-	1.8	May-19

#### Total Fund | As of May 31, 2022

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.



## Merced County Employees' Retirement Association

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	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate (Net)	88,727,682	8.1	-1.3	-2.5	-3.4	8.0	10.0	4.2	5.7	7.1		Mar-99
Real Estate (Gross)			-1.3	-2.5	-3.4	8.1	10.0	4.3	5.8	7.6	8.1	
Custom Blended Real Estate Benchmark			0.0	0.0	7.4	23.6	28.4	10.8	9.2	10.1	7.8	Mar-99
CPI + 5% (Seasonally Adjusted)			1.4	2.1	6.2	12.5	13.9	9.7	8.8	7.6		Mar-99
Private Real Estate (Net)	64,614,829	5.9	0.0	0.0	1.2	11.6	13.2	3.9	5.6	7.0		Mar-99
Private Real Estate (Gross)			0.0	0.0	1.2	11.7	13.3	4.0	5.6	7.5	8.0	
Custom Blended Real Estate Benchmark			0.0	0.0	7.4	23.6	28.4	10.8	9.2	10.1	7.8	Mar-99
Private Equity (Net)	131,414,563	12.0	0.0	0.0	7.6	29.8	43.8	24.7	20.7	13.7	10.9	Jun-05
Private Equity (Gross)			0.0	0.0	7.6	29.8	43.8	24.7	20.7	13.8	11.0	
Custom Private Equity Benchmark			-2.1	-7.0	0.3	12.4	23.5	24.5	20.1	20.4		Jun-05
Direct Lending (Net)	20,506,561	1.9	0.0	0.0	1.8	1.3	2.4				11.7	Jul-20
Direct Lending (Gross)			0.0	0.0	1.8	1.3	2.4				11.7	
S&P LSTA Leverage Loan Index + 2%			-2.3	-2.0	-1.6	1.2	1.7	5.1	5.4	6.1	7.6	Jul-20
Hedge Fund (Net)	106,424,400	9.7	-0.7	-1.1	0.4	0.9	1.0	5.6	5.5		4.5	Jun-14
Hedge Fund (Gross)			-0.6	-1.0	0.8	1.7	1.8	6.5	6.1		4.9	
Custom Blended Hedge Fund Benchmark			-1.0	-2.2	-4.9	-3.8	-3.2	5.1	4.1		3.5	Jun-14
Real Assets (Net)	58,186,436	5.3	0.6	-0.1	9.4	16.5	19.7	12.2	10.7	9.5		Mar-99
Real Assets (Gross)			0.6	0.0	9.5	16.8	20.0	12.4	10.8	10.1		
Custom Blended Real Assets Benchmark			4.2	0.3	12.4	19.9	25.9	10.8	9.7			Mar-99
CPI + 5% (Seasonally Adjusted)			1.4	2.1	6.2	12.5	13.9	9.7	8.8	7.6		Mar-99
Private Infrastructure (Net)	23,497,439	2.1	0.0	0.0	2.6	5.6	11.4	12.4	13.8		9.5	Dec-14
Private Infrastructure (Gross)			0.0	0.0	2.6	6.0	11.8	12.7	13.9		9.6	
S&P Global Infrastructure TR USD			3.7	0.3	7.8	14.4	12.5	8.2	6.5	8.7	6.2	Dec-14
Private Natural Resources (Net)	12,867,955	1.2	0.0	0.0	17.0	31.9	39.6	10.7	10.8		14.6	Sep-15
Private Natural Resources (Gross)			0.0	0.0	17.0	31.9	39.6	10.7	10.8		14.6	
S&P Global Natural Resources Index TR USD			4.7	0.2	17.0	22.1	19.5	18.6	12.7	7.1	14.5	Sep-15
Cash (Net)	7,722,938	0.7	0.0	0.0	0.0	0.0	0.0	0.5				
Cash (Gross)			0.0	0.0	0.0	0.0	0.0	0.5				

#### Total Fund | As of May 31, 2022

\*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 12/31/2021 NAVs unless otherwise noted.

Real Assets includes State Street Real Asset NL Fund.



### Total Fund | As of May 31, 2022

		Trai	ling Net	Perforn	nance								
	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)*	1,099,110,414	100.0		-0.3	-4.7	-7.6	-3.6	-1.6	10.4	8.4	8.8	8.1	Dec-94
Policy Index				-0.2	-4.9	-6.1	-1.4	1.3	10.5	8.4	9.1	6.3	Dec-94
Total Fund w/o Alternatives(Net)	686,127,833	62.4	62.4	-0.3	-6.9	-13.0	-11.2	-9.8	9.4	7.5	8.6		Dec-94
Policy Index w/o Al				0.4	-5.9	-11.3	-9.5	-8.7	7.9	6.6	7.8		Dec-94
US Equity(Net)	257,335,277	23.4	37.5	-0.5	-9.8	-15.5	-6.5	-4.1	14.8	12.3	14.3	10.3	Dec-94
Russell 3000				-0.1	-9.1	-13.9	-6.0	-3.7	15.5	12.5	13.8	10.3	Dec-94
BNY Mellon Newton Dynamic US Equity(Net)	120,190,394	10.9	46.7	0.0	-10.1	-15.8	-4.7	-2.0	17.0	14.5		16.4	Dec-12
S&P 500				0.2	-8.6	-12.8	-2.6	-0.3	16.4	13.4	14.4	14.2	Dec-12
BNY Mellon Large Cap(Net)	111,363,838	10.1	43.3	-0.2	-9.1	-13.7	-5.1	-2.7	16.1	13.1		13.9	Mar-16
Russell 1000				-0.2	-9.1	-13.7	-5.1	-2.7	16.0	13.1	14.2	13.9	Mar-16
Champlain Small Cap(Net)	25,781,046	2.3	10.0	-4.4	-11.9	-21.2	-19.0	-17.5				6.6	Nov-20
Russell 2000				0.2	-9.8	-16.6	-18.5	-16.9	9.7	7.7	10.8	14.1	Nov-20
International Equity(Net)	199,625,823	18.2	29.1	-0.6	-7.6	-15.7	-20.6	-19.5	11.0	6.9	7.8	5.7	Dec-98
International Equity Custom				0.7	-5.4	-11.3	-13.7	-14.2	6.4	4.4	7.0	4.3	Dec-98
Developed International Equity(Net)	134,674,047	12.3	67.5	2.1	-2.4	-5.8	-5.3	-6.0	10.7	6.6	8.0	4.4	Jan-08
Custom Blended Developed International Equity BM				0.4	-6.1	-11.7	-10.1	-11.0	6.8	4.4	7.3	2.9	Jan-08
GQG International Equity(Net)	57,019,744	5.2	42.3	3.9	0.1	-3.6	-1.8	-2.3				9.9	Dec-19
MSCI ACWI ex USA				0.7	-5.6	-10.7	-11.8	-12.4	6.5	4.4	6.4	4.3	Dec-19
First Eagle International Value Fund(Net)	48,772,612	4.4	36.2	0.7	-3.3	-4.1	-4.5	-6.4				3.3	Dec-19
MSCI EAFE				0.7	-5.8	-11.3	-9.4	-10.4	6.4	4.2	7.2	3.8	Dec-19
MSCI World ex USA				0.8	-5.8	-10.3	-8.1	-9.0	7.1	4.7	7.1	4.7	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
Acadian ACWI ex U.S. Small Cap Equity(Net) MSCI ACWI ex US Small Cap	14,858,629	1.4	11.0	1.2 -0.9	-4.9 -7.3	-5.7 -13.4	-5.9 -12.8	-4.1 -13.4	15.4 8.6	 5.1	 7.8	13.1 6.5	May-19 <i>May-19</i>
Driehaus International Small Cap Growth(Net)	14,023,062	1.3	10.4	0.9	-6.0	-18.9	-19.1	-19.3	10.6			10.3	May-19
MSCI ACWI ex US Small Cap Growth NR USD				-1.5	-9.4	-18.8	-17.9	-17.7	8.6	5.5	7.9	6.6	May-19
Emerging Markets Equity(Net)	64,951,776	5.9	32.5	-5.7	-16.9	-30.7	-40.4	-37.9	8.6	5.9	5.5	4.3	Apr-12
Custom Blended Emerging Markets Benchmark				0.4	-5.1	-11.8	-20.0	-19.8	5.1	4.0	4.5	3.2	Apr-12
Artisan Developing World TR(Net)	41,777,787	3.8	64.3	-9.2	-21.6	-36.5	-46.3	-43.2				1.6	Dec-19
MSCI Emerging Markets				0.4	-5.1	-11.8	-20.0	-19.8	5.0	3.8	4.2	3.6	Dec-19
RWC(Net)	23,173,989	2.1	35.7	1.4	-6.8	-17.0	-25.7	-25.6				2.9	Dec-19
MSCI Emerging Markets				0.4	-5.1	-11.8	-20.0	-19.8	5.0	3.8	4.2	3.6	Dec-19
US Fixed Income(Net)	169,279,528	15.4	24.7	0.6	-3.1	-8.8	-8.9	-8.2	-0.2	1.0	2.1	4.7	Dec-94
BBgBarc US Aggregate TR				0.6	-3.2	-8.9	-8.9	-8.2	-0.1	1.2	1.9	5.0	Dec-94
Barrow Hanley(Net)	80,755,375	7.3	47.7	0.6	-3.3	-9.2	-9.4	-8.8	0.3	1.3	1.8	2.7	Mar-10
Bloomberg US Aggregate TR				0.6	-3.2	-8.9	-8.9	-8.2	0.0	1.2	1.7	2.6	Mar-10
Vanguard Total Bond Market Index $Fund(Net)$	78,241,666	7.1	46.2	0.6	-3.3	-9.1	-9.0	-8.3	0.0			0.6	May-19
Bloomberg US Aggregate TR				0.6	-3.2	-8.9	-8.9	-8.2	0.0	1.2	1.7	0.6	May-19
Vanguard Short-Term Treasury Index Fund(Net)	10,282,487	0.9	6.1	0.6	0.1	-2.4	-2.9	-3.1	0.5			1.3	Feb-18
Bloomberg US Govt 1-3 Yr TR				0.6	0.1	-2.4	-2.9	-3.1	0.6	1.0	0.8	1.3	Feb-18
Bloomberg US Govt 1-5 Yr TR				0.7	-0.2	-3.6	-4.2	-4.5	0.4	1.0	0.9	1.4	Feb-18

### Total Fund | As of May 31, 2022

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)	59,887,205	5.4	8.7	-1.1	-2.5	-4.5	-2.2	-1.5	4.3			4.3	May-19
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans				-0.2	-3.0	-7.1	-6.2	-5.5	1.6			1.8	May-19
GoldenTree Multi-Sector Credit(Net)	22,985,266	2.1	38.4	-1.3	-3.3	-5.1	-3.1	-2.4	3.9		-	3.9	Jun-19
50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans				-1.1	-2.8	-5.2	-3.6	-2.7	3.1	3.5	4.8	3.1	Jun-19
Sculptor Credit Opportunities Domestic Partners, LP(Net)	19,162,933	1.7	32.0	-2.3	-1.6	-0.3	4.5	6.1				13.6	Jul-20
50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans				-1.1	-2.8	-5.2	-3.6	-2.7	3.1	3.5	4.8	4.8	Jul-20
PIMCO Income Fund(Net)	17,739,006	1.6	29.6	0.6	-2.0	-6.1	-5.4	-5.1	1.8			1.9	Apr-19
Bloomberg US Aggregate TR				0.6	-3.2	-8.9	-8.9	-8.2	0.0	1.2	1.7	0.6	Apr-19
Real Estate(Net)	88,727,682	8.1	8.1	-1.3	-2.5	-3.4	8.0	10.0	4.2	5.7	7.1		Mar-99
Custom Blended Real Estate Benchmark				0.0	0.0	7.4	23.6	28.4	10.8	9.2	10.1	7.8	Mar-99
CPI + 5% (Seasonally Adjusted)				1.4	2.1	6.2	12.5	13.9	9.7	8.8	7.6		Mar-99
Vanguard REIT Index(Net)	24,112,854	2.2	27.2	-4.6	-8.6	-14.0	-0.6	2.0				15.3	Aug-20
Spliced Vanguard REIT Benchmark				-4.6	-8.6	-14.0	-0.5	2.1	8.2	7.9	9.0	15.4	Aug-20
Private Real Estate(Net)	64,614,829	5.9	72.8	0.0	0.0	1.2	11.6	13.2	3.9	5.6	7.0		Mar-99
Custom Blended Real Estate Benchmark				0.0	0.0	7.4	23.6	28.4	10.8	9.2	10.1	7.8	Mar-99
UBS Trumbull Property(Net)	28,103,422	2.6	43.5	0.0	0.0	4.8	14.9	16.1	2.4	3.6	6.2	6.6	Mar-99
Patron Capital V(Net)	7,546,077	0.7	11.7	0.0	0.0	-30.0	-18.4	-16.2	-8.7	6.2	-	2.7	Jan-16

### Total Fund | As of May 31, 2022

Private Markets values are cash flow adjusted from 12/31/2021 NAVs.

Data prior to March 2018 provided by prior consultant.

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



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Cerberus Real Estate Debt Fund, L.P.(Net)	4,742,134	0.4	7.3	0.0	0.0	3.7	3.3	6.4				14.1	Jul-20
AG Realty Value Fund X, L.P.(Net)	4,357,716	0.4	6.7	0.0	0.0	11.3	21.2	22.7	4.9			4.9	Jun-19
Taconic CRE Dislocation Fund $\mathrm{II}(\mathrm{Net})$	3,796,293	0.3	5.9	0.0	0.0	8.2	3.7	6.5	8.3			6.9	Nov-18
Rockpoint Real Estate Fund VI, L.P.(Net)	3,697,129	0.3	5.7	0.0	0.0	5.4	28.0	32.8			-	14.7	May-20
Greenfield Gap VII(Net)	3,290,754	0.3	5.1	0.0	0.0	33.2	53.1	53.5	27.1	21.2		18.3	Dec-14
Taconic CRE Dislocation Onshore Fund III(Net)	2,737,217	0.2	4.2										
Carlyle Realty VIII(Net)	2,289,872	0.2	3.5	0.0	0.0	18.3	98.3	105.9	38.7			7.4	Dec-17
Carmel Partners Investment Fund VII(Net)	1,830,938	0.2	2.8	0.0	0.0	-0.4	-3.1	-7.3	-25.9			-29.9	Apr-19
Starwood Distressed Opportunity Fund XII Global(Net)	1,681,276	0.2	2.6										
Carmel Partners Investment Fund VIII(Net)	594,459	0.1	0.9										
Carlyle Realty Partners IX(Net)	-52,460	0.0	-0.1										
Private Equity(Net)	131,414,563	12.0	12.0	0.0	0.0	7.6	29.8	43.8	24.7	20.7	13.7	10.9	Jun-05
Custom Private Equity Benchmark				-2.1	-7.0	0.3	12.4	23.5	24.5	20.1	20.4		Jun-05
TCV X(Net)	10,667,362	1.0	8.1	0.0	0.0	9.5	63.0	84.5	43.7			41.0	Apr-19
Ocean Avenue II(Net)	9,596,823	0.9	7.3	0.0	0.0	18.4	46.6	80.1	47.1	39.2		24.6	Jun-14
Cortec Group Fund VII(Net)	9,190,959	0.8	7.0	0.0	0.0	4.9	32.9	30.9			-	30.3	Dec-19
Genstar Capital Partners IX(Net)	8,806,522	0.8	6.7	0.0	0.0	4.4	27.9	37.4				25.1	Jul-19
Spark Capital Growth Fund III(Net)	8,311,646	0.8	6.3	0.0	0.0	1.2	40.3	78.3				22.6	Mar-20
Summit Partners Growth Equity Fund X-A(Net)	7,568,750	0.7	5.8	0.0	0.0	1.9	20.3	-1.2			-	5.6	Mar-20



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Thoma Bravo Discover Fund III(Net)	6,865,718	0.6	5.2	0.0	0.0	5.9	3.6	8.2			-	8.2	Jun-21
Taconic Market Dislocation Fund III L.P.(Net)	6,524,159	0.6	5.0	0.0	0.0	2.0	19.5	34.3				23.0	Jul-20
Adams Street(Net)	6,496,067	0.6	4.9	0.0	0.0	4.1	22.7	35.7	25.4	21.3	17.2	10.3	Sep-05
Carrick Capital Partners III(Net)	5,523,557	0.5	4.2	0.0	0.0	23.1	33.8	35.8	26.0			15.1	Aug-18
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	5,425,594	0.5	4.1	0.0	0.0	10.9	23.2	26.8	11.7		-	12.5	Apr-18
GTCR Fund XII(Net)	5,290,233	0.5	4.0	0.0	0.0	4.1	41.3	57.2	42.2			20.0	Jun-18
Accel-KKR Growth Capital Partners III(Net)	5,105,423	0.5	3.9	0.0	0.0	4.9	50.5	71.5				15.3	Jul-19
Cressey & Company Fund VI(Net)	5,068,057	0.5	3.9	0.0	0.0	4.9	52.2	69.0	35.5			24.3	Jan-19
Marlin Heritage Europe II, L.P.(Net)	4,121,840	0.4	3.1	0.0	0.0	6.2	-11.5	-10.3				-8.2	Oct-20
Pantheon II(Net)	4,118,046	0.4	3.1	0.0	0.0	2.8	15.9	38.2	24.4	21.2	16.8	15.6	Dec-11
TCV XI(Net)	3,977,087	0.4	3.0	0.0	0.0	21.5	20.4	14.2				10.4	Feb-21
Khosla Ventures VII(Net)	3,400,933	0.3	2.6	0.0	0.0	14.2	17.3	11.6				8.1	Jan-21
GTCR Fund XIII/A & B(Net)	2,290,796	0.2	1.7										
Summit Partners Venture Capital Fund V-A(Net)	2,147,859	0.2	1.6										
Spark Capital VI(Net)	2,128,960	0.2	1.6	0.0	0.0	3.0	3.8	2.9				-5.5	Mar-20
Invesco VI(Net)	1,769,282	0.2	1.3	0.0	0.0	0.0	93.3	180.3	67.7	44.2		28.3	Jun-13
Accel-KKR Capital Partners VI(Net)	1,556,905	0.1	1.2										

### Total Fund | As of May 31, 2022

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
Genstar Capital Partners X(Net)	1,481,158	0.1	1.1										
Khosla Ventures Seed E(Net)	964,034	0.1	0.7										
Spark Capital Growth Fund IV(Net)	900,000	0.1	0.7										
Nautic Partners X(Net)	754,278	0.1	0.6										
Spark Capital VII(Net)	540,000	0.0	0.4										
TCV Velocity Fund I(Net)	500,858	0.0	0.4										
Pantheon Secondary(Net)	216,078	0.0	0.2	0.0	0.0	-0.6	-18.9	-20.2	-11.1	-3.0	-1.6	0.9	Jun-07
Pantheon I(Net)	117,258	0.0	0.1	0.0	0.0	-8.8	-19.8	-19.1	-16.3	-7.6	-0.6	-0.3	Dec-05
Raven Asset Fund II(Net)	19,715	0.0	0.0	0.0	0.0	194.0	442.7	450.3	62.6	39.2		20.0	Aug-14
Accel-KKR Growth Capital Partners $IV(Net)$	-16,725	0.0	0.0										
Summit Partners Growth Equity Fund XI-A(Net)													
Direct Lending(Net)	20,506,561	1.9	1.9	0.0	0.0	1.8	1.3	2.4				11.7	Jul-20
S&P LSTA Leverage Loan Index + 2%				-2.3	-2.0	-1.6	1.2	1.7	5.1	5.4	6.1	7.6	Jul-20
Silver Point Specialty Credit Fund II, L.P.(Net)	6,476,782	0.6	31.6	0.0	0.0	2.2	1.7	2.8				11.9	Jul-20
Ares Senior Direct Lending Fund II(Net)	5,029,778	0.5	24.5										
Varagon Capital Direct Lending Fund(Net)	5,000,000	0.5	24.4										
AG Direct Lending Fund IV Annex(Net)	4,000,000	0.4	19.5										

# MEKETA

# Merced County Employees' Retirement Association

	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)	106,424,400	9.7	9.7	-0.7	-1.1	0.4	0.9	1.0	5.6	5.5		4.5	Jun-14
Custom Blended Hedge Fund Benchmark				-1.0	-2.2	-4.9	-3.8	-3.2	5.1	4.1		3.5	Jun-14
Silver Point Capital(Net)	17,881,557	1.6	16.8	-2.2	-1.2	3.1	7.8	11.4	13.1			9.4	Nov-17
Wellington-Archipelago(Net)	14,399,502	1.3	13.5	-0.5	-1.7	-1.2	2.8	3.0	6.1			5.3	Aug-17
Taconic Opportunity Fund(Net)	14,298,500	1.3	13.4	0.2	-0.1	1.9	3.5	4.3	4.8			5.2	Dec-18
Laurion Capital(Net)	12,739,305	1.2	12.0	0.8	-1.8	-9.4	-17.6	-19.0	11.1			11.5	Aug-18
Sculptor (OZ) Domestic II(Net)	12,474,221	1.1	11.7	-4.1	-7.1	-9.7	-11.0	-9.9	5.0	5.8		5.6	Jun-14
Caxton Global Investments(Net)	11,294,719	1.0	10.6	0.9	3.0	12.5	16.7	12.9				11.9	May-21
Marshall Wace Global Opportunities(Net)	9,893,135	0.9	9.3	0.4	-1.1	1.9	3.0	3.0				4.6	May-20
Graham Absolute Return(Net)	9,139,095	0.8	8.6	-0.1	3.2	13.2	11.3	8.3	5.4			4.6	Aug-17
Marshall Wace Eureka(Net)	4,304,367	0.4	4.0	0.2	0.1	0.3	4.8	6.0	8.0			6.7	Nov-17
Real Assets(Net)	58,186,436	5.3	5.3	0.6	-0.1	9.4	16.5	19.7	12.2	10.7	9.5		Mar-99
Custom Blended Real Assets Benchmark				4.2	0.3	12.4	19.9	25.9	10.8	9.7			Mar-99
CPI + 5% (Seasonally Adjusted)				1.4	2.1	6.2	12.5	13.9	9.7	8.8	7.6		Mar-99
SSgA(Net)	21,821,042	2.0	37.5	1.6	0.0	11.9	19.3	19.0	13.7	9.3		9.1	Apr-17
Real Asset NL Custom Blended Index				0.8	-1.0	9.3	17.7	17.9	13.6	9.4		9.1	Apr-17
Private Infrastructure(Net)	23,497,439	2.1	40.4	0.0	0.0	2.6	5.6	11.4	12.4	13.8		9.5	Dec-14
S&P Global Infrastructure TR USD				3.7	0.3	7.8	14.4	12.5	8.2	6.5	8.7	6.2	Dec-14
KKR Global II(Net)	5,642,585	0.5	24.0	0.0	0.0	-1.2	4.7	24.8	26.5	21.7		16.8	Dec-14
North Haven Infrastructure $II(Net)$	5,241,693	0.5	22.3	0.0	0.0	6.3	14.9	12.8	7.3	12.0		7.6	May-15
ISQ Global Infrastructure Fund II(Net)	5,059,633	0.5	21.5	0.0	0.0	4.3	13.0	14.8	13.3			2.4	Jul-18



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
KKR Global Infrastructure Investors III(Net)	3,661,342	0.3	15.6	0.0	0.0	2.4	-15.3	-10.9	-3.8			-7.9	Jan-19
Ardian Infrastructure Fund V(Net)	2,262,518	0.2	9.6	0.0	0.0	1.4	10.6	-6.9			-	-17.2	Oct-19
KKR Global Infrastructure Investors $IV(Net)$	1,320,456	0.1	5.6								- 1		
ISQ Global Infrastructure Fund III(Net)	309,212	0.0	1.3										
Private Natural Resources(Net)	12,867,955	1.2	22.1	0.0	0.0	17.0	31.9	39.6	10.7	10.8		14.6	Sep-15
S&P Global Natural Resources Index TR USD				4.7	0.2	17.0	22.1	19.5	18.6	12.7	7.1	14.5	Sep-15
Tailwater Energy Fund IV, LP(Net)	3,730,769	0.3	29.0	0.0	0.0	15.5	33.5	47.1				-2.1	Oct-19
EnCap XI(Net)	3,399,015	0.3	26.4	0.0	0.0	4.9	31.4	38.8	-5.4			-16.9	Jul-17
BlackRock Global Energy and Power Infrastructure Fund III LP(Net)	2,656,085	0.2	20.6	0.0	0.0	2.8	4.3	5.9			-	14.6	Jul-19
GSO Energy Opportunities(Net)	1,332,690	0.1	10.4	0.0	0.0	6.0	19.8	39.7	7.4	8.7		12.7	Nov-15
EnCap IV(Net)	1,081,361	0.1	8.4	0.0	0.0	115.6	178.9	180.2	44.6		-	28.3	Feb-18
Taurus Mining(Net)	291,760	0.0	2.3	0.0	0.0	87.7	111.6	105.5	23.0	18.5		20.5	Sep-15
Carnelian Energy Capital IV(Net)	208,486	0.0	1.6								- 1		
Taurus Mining Annex(Net)	167,789	0.0	1.3	0.0	0.0	428.0	872.2	850.5	133.2	80.2		81.2	Jan-17
Cash(Net)	7,722,938	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.5				
Cash(Net)	6,325,348	0.6	81.9	0.0	0.0	0.1	0.1	0.1	0.7	1.0	0.8		Sep-03
Treasury Cash(Net)	1,397,591	0.1	18.1										

### Total Fund | As of May 31, 2022

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



	Annual Investment Expense A	nalysis		
	As Of May 31, 2022			
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Total Fund w/o Alternatives		\$686,127,833		
US Equity		\$257,335,277		
BNY Mellon Newton Dynamic US Equity	0.30% of Assets	\$120,190,394	\$360,571	0.30%
BNY Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$111,363,838	\$42,273	0.04%
Champlain Small Cap	1.00% of Assets	\$25,781,046	\$257,810	1.00%
International Equity		\$199,625,823		
Developed International Equity		\$134,674,047		
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	\$14,858,629	\$147,100	0.99%
Driehaus International Small Cap Growth	0.90% of Assets	\$14,023,062	\$126,208	0.90%
GQG International Equity	0.50% of Assets	\$57,019,744	\$285,099	0.50%
First Eagle International Value Fund	0.79% of Assets	\$48,772,612	\$385,304	0.79%
Emerging Markets Equity		\$64,951,776		
Artisan Developing World TR	1.05% of Assets	\$41,777,787	\$438,667	1.05%
RWC	0.87% of Assets	\$23,173,989	\$201,614	0.87%
US Fixed Income		\$169,279,528		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$80,755,375	\$211,511	0.26%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$10,282,487	\$5,141	0.05%
Vanguard Total Bond Market Index Fund	0.04% of Assets	\$78,241,666	\$27,385	0.04%
Opportunistic Credit		\$59,887,205		
PIMCO Income Fund	0.50% of Assets	\$17,739,006	\$88,695	0.50%
GoldenTree Multi-Sector Credit	0.70% of Assets	\$22,985,266	\$160,897	0.70%
Sculptor Credit Opportunities Domestic Partners, LP	Performance-based 1.00 and 20.00	\$19,162,933	\$191,629	1.00%



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate		\$88,727,682		
Vanguard REIT Index	0.10% of Assets	\$24,112,854	\$24,113	0.10%
Private Real Estate		\$64,614,829		
Greenfield Gap VII		\$3,290,754		
Patron Capital V		\$7,546,077		
UBS Trumbull Property		\$28,103,422		
Carlyle Realty VIII		\$2,289,872		
Taconic CRE Dislocation Fund II		\$3,796,293		
Carmel Partners Investment Fund VII		\$1,830,938		
AG Realty Value Fund X, L.P.		\$4,357,716		
Rockpoint Real Estate Fund VI, L.P.		\$3,697,129		
Cerberus Real Estate Debt Fund, L.P.		\$4,742,134		
Taconic CRE Dislocation Onshore Fund III		\$2,737,217		
Starwood Distressed Opportunity Fund XII Global		\$1,681,276		
Carlyle Realty Partners IX		-\$52,460		
Carmel Partners Investment Fund VIII		\$594,459		
Invesco VI		\$1,769,282		
Ocean Avenue II		\$9,596,823		
Pantheon I		\$117,258		
Pantheon II		\$4,118,046		
Pantheon Secondary		\$216,078		
Raven Asset Fund II		\$19,715		
Davidson Kempner Long-Term Distressed Opportunities Fun IV	d	\$5,425,594		
GTCR Fund XII		\$5,290,233		
Carrick Capital Partners III		\$5,523,557		
Cressey & Company Fund VI		\$5,068,057		



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
τςν χ		\$10,667,362		
Accel-KKR Growth Capital Partners III		\$5,105,423		
Genstar Capital Partners IX		\$8,806,522		
Cortec Group Fund VII		\$9,190,959		
Spark Capital Growth Fund III		\$8,311,646		
Spark Capital VI		\$2,128,960		
Summit Partners Growth Equity Fund X-A		\$7,568,750		
Taconic Market Dislocation Fund III L.P.		\$6,524,159		
Marlin Heritage Europe II, L.P.		\$4,121,840		
Khosla Ventures VII		\$3,400,933		
Accel-KKR Capital Partners VI		\$1,556,905		
Khosla Ventures Seed E		\$964,034		
ΤΟΥ ΧΙ		\$3,977,087		
Thoma Bravo Discover Fund III		\$6,865,718		
Summit Partners Venture Capital Fund V-A		\$2,147,859		
GTCR Fund XIII/A & B		\$2,290,796		
Genstar Capital Partners X		\$1,481,158		
Nautic Partners X		\$754,278		
Spark Capital Growth Fund IV		\$900,000		
Spark Capital VII		\$540,000		
TCV Velocity Fund I		\$500,858		
Accel-KKR Growth Capital Partners IV		-\$16,725		
Summit Partners Growth Equity Fund XI-A		-\$14,670		



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Direct Lending		\$20,506,561		
Silver Point Specialty Credit Fund II, L.P.		\$6,476,782		
Ares Senior Direct Lending Fund II		\$5,029,778		
Varagon Capital Direct Lending Fund		\$5,000,000		
AG Direct Lending Fund IV Annex		\$4,000,000		
Hedge Fund		\$106,424,400		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	\$12,474,221	\$187,113	1.50%
Graham Absolute Return	Performance-based 1.75 and 20.00	\$9,139,095	\$160,482	1.76%
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$14,399,502	\$143,995	1.00%
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$4,304,367	\$89,165	2.07%
Silver Point Capital	Performance-based 1.50 and 20.00	\$17,881,557	\$268,223	1.50%
Laurion Capital	Performance-based 2.00 and 20.00	\$12,739,305	\$275,169	2.16%
Taconic Opportunity Fund	Performance-based 1.40 and 20.00	\$14,298,500	\$206,184	1.44%
Marshall Wace Global Opportunities	Performance-based 2.00 and 20.00	\$9,893,135	\$206,083	2.08%
Caxton Global Investments	Performance-based 1.95 and 22.50	\$11,294,719	\$243,881	2.16%
Real Assets		\$58,186,436		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$21,821,042	\$65,463	0.30%
Private Infrastructure		\$23,497,439		
KKR Global II		\$5,642,585		
North Haven Infrastructure II		\$5,241,693		
ISQ Global Infrastructure Fund II		\$5,059,633		
KKR Global Infrastructure Investors III		\$3,661,342		
Ardian Infrastructure Fund V		\$2,262,518		
ISQ Global Infrastructure Fund III		\$309,212		
KKR Global Infrastructure Investors IV		\$1,320,456		



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Private Natural Resources		\$12,867,955		
EnCap XI		\$3,399,015		
EnCap IV		\$1,081,361		
GSO Energy Opportunities		\$1,332,690		
Taurus Mining		\$291,760		
Taurus Mining Annex		\$167,789		
BlackRock Global Energy and Power Infrastru	icture Fund III LP	\$2,656,085		
Tailwater Energy Fund IV, LP		\$3,730,769		
Carnelian Energy Capital IV		\$208,486		
Cash		\$7,722,938		
Cash		\$6,325,348		
Treasury Cash		\$1,397,591		

Preliminary Performance Update As of June 30, 2022

# MEKETA

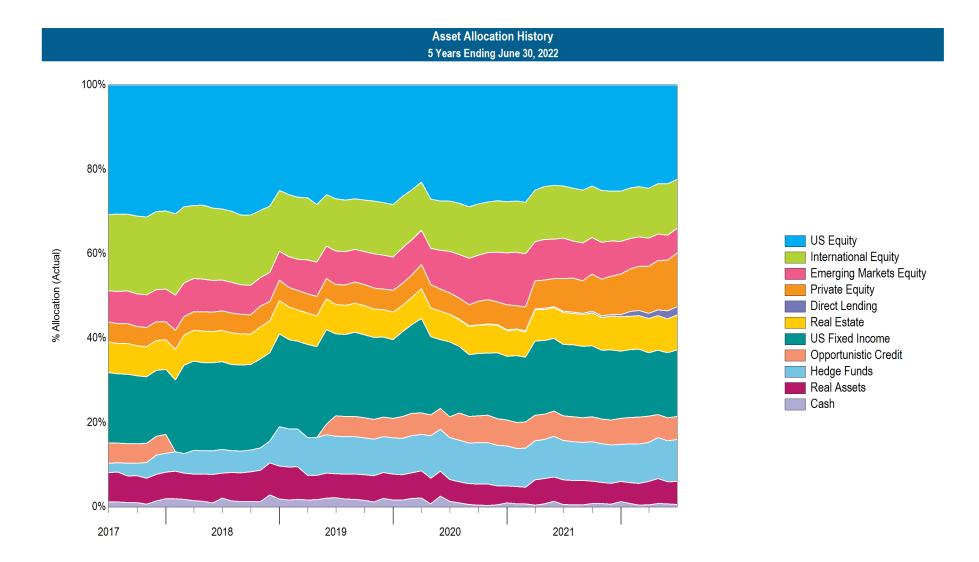
### Merced County Employees' Retirement Association

Total Fund | As of June 30, 2022

Policy		Current			Allocation vs	. Targets an	d Policy			
Policy		Guirein			Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
				US Equity	\$236,059,671	22.3%	22.0%	0.3%	16.0% - 27.0%	Yes
	22.0%		22.3%	International Equity	\$122,782,545	11.6%	11.0%	0.6%	6.0% - 16.0%	Yes
	22.076		22.3%	Emerging Markets Equity	\$61,960,967	5.9%	8.0%	-2.1%	4.0% - 12.0%	Yes
				Private Equity	\$134,481,662	12.7%	15.0%	-2.3%	5.0% - 20.0%	Yes
				Direct Lending	\$20,574,246	1.9%	5.0%	-3.1%	0.0% - 10.0%	Yes
				Real Estate	\$87,698,618	8.3%	8.0%	0.3%	6.0% - 10.0%	Yes
	11.0%		11.6%	US Fixed Income	\$166,361,404	15.7%	11.0%	4.7%	6.0% - 16.0%	Yes
				Opportunistic Credit	\$57,876,237	5.5%	5.0%	0.5%	3.0% - 7.0%	Yes
				Hedge Funds	\$105,029,591	9.9%	10.0%	-0.1%	5.0% - 15.0%	Yes
	8.0%		5.9%	Real Assets	\$57,366,572	5.4%	5.0%	0.4%	3.0% - 7.0%	Yes
				Cash	\$6,373,936	0.6%	0.0%	0.6%	0.0% - 5.0%	Yes
			12.7%	Total	\$1,056,565,448	100.0%	100.0%			
	15.0%									
			1.9%							
	5.0%		8.3%							
	8.0%									
			15.7%							
	11.0%									
			5.5%							
	5.0%		0.070							
			0.0%							
	10.0%		9.9%							
	F 0%		5.4%							
	5.0% 0.0%		0.6%							

Cash range displayed for illustrative purposes only.







	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund (Net)*	1,056,565,448	100.0	-3.8	-8.3	-11.1	-7.3	7.7	7.5	8.1	7.9	Dec-94
Total Fund (Gross)*			-3.8	-8.3	-11.0	-6.9	8.1	7.8	8.5	8.1	
Policy Index			-3.6	-8.4	-9.5	-5.0	7.7	7.4	8.4	6.2	Dec-94
Total Fund w/o Alternatives (Net)	645,040,824	61.1	-5.9	-12.5	-18.1	-16.5	5.5	6.2	7.6		Dec-94
Total Fund w/o Alternatives (Gross)			-5.9	-12.4	-18.0	-16.1	5.9	6.5	8.0		
Policy Index w/o Al			-6.1	-11.7	-16.7	-15.1	4.0	5.2	6.8		Dec-94
US Equity (Net)	236,059,671	22.3	-8.3	-17.3	-22.5	-14.3	8.9	10.2	12.9	9.9	Dec-94
US Equity (Gross)			-8.3	-17.3	-22.4	-14.0	9.2	10.4	13.1	10.0	
Russell 3000			-8.4	-16.7	-21.1	-13.9	9.6	10.2	12.3	9.9	Dec-94
International Equity (Net)	184,743,512	17.5	-7.5	-14.5	-22.0	-26.5	6.0	5.3	6.5	5.3	Dec-98
International Equity (Gross)			-7.4	-14.4	-21.7	-25.9	6.8	5.9	7.1	5.6	
International Equity Custom			-8.1	-13.0	-18.4	-20.7	1.4	2.6	5.4	4.0	Dec-98
Developed International Equity (Net)	122,782,545	11.6	-8.8	-11.0	-14.2	-13.7	5.4	4.7	6.5	3.7	Jan-08
Developed International Equity (Gross)			-8.8	-10.9	-13.9	-13.1	6.0	5.2	7.1	4.2	
Custom Blended Developed International Equity BM			-9.6	-15.1	-20.2	-18.7	1.3	2.3	5.5	2.2	Jan-08
Emerging Markets Equity (Net)	61,960,967	5.9	-4.6	-20.7	-33.9	-43.2	4.5	4.9	4.6	3.8	Apr-12
Emerging Markets Equity (Gross)			-4.5	-20.5	-33.5	-42.6	5.5	5.8	5.6	4.7	
Custom Blended Emerging Markets Benchmark			-6.6	-11.4	-17.6	-25.3	0.6	2.4	3.3	2.5	Apr-12
US Fixed Income (Net)	166,361,404	15.7	-1.6	-4.6	-10.2	-10.3	-1.1	0.7	1.9	4.6	Dec-94
US Fixed Income (Gross)			-1.5	-4.6	-10.1	-10.2	-1.0	0.8	2.1	4.8	
BBgBarc US Aggregate TR			-1.6	-4.7	-10.3	-10.3	-1.0	0.9	1.7	4.9	Dec-94
Opportunistic Credit (Net)	57,876,237	5.5	-3.2	-5.6	-7.6	-5.4	2.8			3.1	May-19
Opportunistic Credit (Gross)			-3.2	-5.5	-7.3	-4.9	3.2			3.5	
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans			-3.0	-5.9	-9.8	-9.0	0.2			0.8	May-19

### Total Fund | As of June 30, 2022

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.



	I otal Fund   As of June 30, 2022										
	Market Value	% of	1 Mo	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Real Estate (Net)	87,698,618	8.3	-0.2	-2.6	-3.5	7.9	4.2	5.4	6.8		Mar-99
Real Estate (Gross)			-0.2	-2.6	-3.5	7.9	4.2	5.5	7.4	8.0	
Custom Blended Real Estate Benchmark			7.4	7.4	15.3	32.6	13.2	10.4	10.6	8.1	Mar-99
CPI + 5% (Seasonally Adjusted)			1.7	3.9	8.0	14.4	10.2	9.1	7.7		Mar-99
Private Real Estate (Net)	65,396,224	6.2	2.6	2.6	3.8	14.5	4.8	5.8	7.0		Mar-99
Private Real Estate (Gross)			2.6	2.6	3.8	14.6	4.9	5.9	7.6	8.1	
Custom Blended Real Estate Benchmark			7.4	7.4	15.3	32.6	13.2	10.4	10.6	8.1	Mar-99
Private Equity (Net)	134,481,662	12.7	0.8	0.8	8.4	30.8	25.0	20.9	13.6	10.9	Jun-05
Private Equity (Gross)			0.8	0.8	8.4	30.8	25.0	20.9	13.7	11.0	
Custom Private Equity Benchmark			2.6	-4.6	2.8	15.3	23.6	20.7	20.1		Jun-05
Direct Lending (Net)	20,574,246	1.9	0.7	0.7	2.5	2.0				11.6	Jul-20
Direct Lending (Gross)			0.7	0.7	2.5	2.0				11.6	
S&P LSTA Leverage Loan Index + 2%			-1.9	-3.9	-3.5	-0.8	4.2	5.0	5.8	6.2	Jul-20
Hedge Fund (Net)	105,029,591	9.9	-1.4	-2.4	-0.9	-0.5	4.8	4.9	-	4.3	Jun-14
Hedge Fund (Gross)			-1.4	-2.3	-0.5	0.3	5.7	5.5		4.7	
Custom Blended Hedge Fund Benchmark			-1.4	-4.1	-6.7	-5.7	3.9	3.7		3.2	Jun-14
Real Assets (Net)	57,366,572	5.4	-0.6	-0.6	8.8	15.9	11.5	10.4	9.2		Mar-99
Real Assets (Gross)			-0.6	-0.6	8.9	16.2	11.7	10.5	9.8		
Custom Blended Real Assets Benchmark			-11.7	-11.5	-0.8	5.8	3.7	6.8			Mar-99
CPI + 5% (Seasonally Adjusted)			1.7	3.9	8.0	14.4	10.2	9.1	7.7		Mar-99
Private Infrastructure (Net)	24,352,954	2.3	2.8	2.8	5.5	8.6	13.5	13.4		9.8	Dec-14
Private Infrastructure (Gross)			2.8	2.8	5.5	9.0	13.7	13.5		9.9	
S&P Global Infrastructure TR USD			-7.7	-7.4	-0.5	5.6	3.5	4.8	7.2	5.0	Dec-14
Private Natural Resources (Net)	13,196,169	1.2	8.0	8.0	26.4	42.5	13.6	12.4		15.8	Sep-15
Private Natural Resources (Gross)			8.0	8.0	26.4	42.5	13.6	12.4		15.8	
S&P Global Natural Resources Index TR USD			-15.7	-15.6	-1.4	2.9	8.6	8.9	4.6	11.5	Sep-15
Cash (Net)	6,373,936	0.6	0.0	0.1	0.1	0.1	0.5				
Cash (Gross)			0.0	0.1	0.1	0.1	0.5				

#### Total Fund | As of June 30, 2022

\*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 preliminary 03/31/2022 NAVs unless otherwise noted.

Real Assets includes State Street Real Asset NL Fund.



										•		
		Trailing	Net Per	iormanc	:e							
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund(Net)*	1,056,565,448	100.0		-3.8	-8.3	-11.1	-7.3	7.7	7.5	8.1	7.9	Dec-94
Policy Index				-3.6	-8.4	-9.5	-5.0	7.7	7.4	8.4	6.2	Dec-94
Total Fund w/o Alternatives(Net)	645,040,824	61.1	61.1	-5.9	-12.5	-18.1	-16.5	5.5	6.2	7.6		Dec-94
Policy Index w/o Al				-6.1	-11.7	-16.7	-15.1	4.0	5.2	6.8		Dec-94
US Equity(Net)	236,059,671	22.3	36.6	-8.3	-17.3	-22.5	-14.3	8.9	10.2	12.9	9.9	Dec-94
Russell 3000				-8.4	-16.7	-21.1	-13.9	9.6	10.2	12.3	9.9	Dec-94
BNY Mellon Newton Dynamic US Equity(Net)	109,825,137	10.4	46.5	-8.6	-17.9	-23.0	-12.9	10.6	12.3		15.2	Dec-12
S&P 500				-8.3	-16.1	-20.0	-10.6	10.6	11.3	13.0	13.0	Dec-12
BNY Mellon Large Cap(Net)	102,037,171	9.7	43.2	-8.4	-16.7	-21.0	-13.0	10.2	11.0		12.1	Mar-16
Russell 1000				-8.4	-16.7	-20.9	-13.0	10.2	11.0	12.8	12.1	Mar-16
Champlain Small Cap(Net)	24,197,364	2.3	10.3	-6.1	-17.3	-26.0	-24.0				2.3	Nov-20
Russell 2000				-8.2	-17.2	-23.4	-25.2	4.2	5.2	9.4	7.7	Nov-20
International Equity(Net)	184,743,512	17.5	28.6	-7.5	-14.5	-22.0	-26.5	6.0	5.3	6.5	5.3	Dec-98
International Equity Custom				-8.1	-13.0	-18.4	-20.7	1.4	2.6	5.4	4.0	Dec-98
Developed International Equity(Net)	122,782,545	11.6	66.5	-8.8	-11.0	-14.2	-13.7	5.4	4.7	6.5	3.7	Jan-08
Custom Blended Developed International Equity BM				-9.6	-15.1	-20.2	-18.7	1.3	2.3	5.5	2.2	Jan-08
GQG International Equity(Net)	51,388,558	4.9	41.9	-9.9	-9.8	-13.1	-11.5				5.3	Dec-19
MSCI ACWI ex USA				-8.6	<i>-13</i> .7	-18.4	-19.4	1.4	2.5	4.8	0.6	Dec-19
First Eagle International Value Fund(Net)	45,905,817	4.3	37.4	-5.9	-9.0	-9.7	-10.1				0.8	Dec-19
MSCI EAFE				-9.3	-14.5	-19.6	-17.8	1.1	2.2	5.4	-0.1	Dec-19
MSCI World ex USA				-9.4	-14.7	-18.8	-16.8	1.7	2.7	5.4	0.6	Dec-19

### Total Fund | As of June 30, 2022

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



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Acadian ACWI ex U.S. Small Cap Equity(Net) MSCI ACWI ex US Small Cap	12,956,923	1.2	10.6	-12.9 <i>-11.0</i>	-17.1 -17.5	-17.8 <i>-22.9</i>	-18.0 <i>-22.4</i>	8.4 <i>2.9</i>	 2.6	 6.2	7.9 <i>2</i> .5	May-19 <i>May-19</i>
Driehaus International Small Cap Growth(Net) MSCI ACWI ex US Small Cap Growth NR USD	12,531,247	1.2	10.2	-10.7 <i>-11.5</i>	-16.1 <i>-19.8</i>	-27.6 <i>-28.</i> 1	-27.8 <i>-27.3</i>	5.7 <i>2</i> .8	 3.0	 6.3	6.1 <i>2.4</i>	May-19 <i>May-19</i>
Emerging Markets Equity(Net)	61,960,967	5.9	33.5	-4.6	-20.7	-33.9	-43.2	4.5	4.9	4.6	3.8	Apr-12
Custom Blended Emerging Markets Benchmark				-6.6	-11.4	-17.6	-25.3	0.6	2.4	3.3	2.5	Apr-12
Artisan Developing World TR(Net) MSCI Emerging Markets	40,143,094	3.8	64.8	-3.9 -6.6	-24.6 <i>-11.4</i>	-39.0 <i>-17.6</i>	-48.4 <i>-25.3</i>	 0.6	 2.2	 3.1	0.0 <i>0.8</i>	Dec-19 <i>Dec-19</i>
RWC(Net) MSCI Emerging Markets	21,817,874	2.1	35.2	-5.9 -6.6	-12.3 <i>-11.4</i>	-21.8 <i>-17.6</i>	-30.0 <i>-25.3</i>	 0.6	 2.2	 3.1	0.4 <i>0.8</i>	Dec-19 <i>Dec-19</i>
US Fixed Income(Net)	166,361,404	15.7	25.8	-1.6	-4.6	-10.2	-10.3	-1.1	0.7	1.9	4.6	Dec-94
BBgBarc US Aggregate TR				-1.6	-4.7	-10.3	-10.3	-1.0	0.9	1.7	4.9	Dec-94
Barrow Hanley(Net)	79,219,401	7.5	47.6	-1.7	-5.0	-10.8	-11.0	-0.8	1.0	1.6	2.5	Mar-10
Bloomberg US Aggregate TR				-1.6	-4.7	-10.3	-10.3	-0.9	0.9	1.5	2.5	Mar-10
Vanguard Total Bond Market Index $Fund(Net)$	76,925,635	7.3	46.2	-1.5	-4.7	-10.4	-10.4	-0.9			0.1	May-19
Bloomberg US Aggregate TR				-1.6	-4.7	-10.3	-10.3	-0.9	0.9	1.5	0.1	May-19
Vanguard Short-Term Treasury Index Fund(Net)	10,216,368	1.0	6.1	-0.6	-0.5	-3.0	-3.6	0.1			1.1	Feb-18
Bloomberg US Govt 1-3 Yr TR				-0.6	-0.5	-3.0	-3.5	0.2	0.9	0.8	1.1	Feb-18
Bloomberg US Govt 1-5 Yr TR				-0.7	-0.9	-4.2	-4.9	0.0	0.9	0.9	1.2	Feb-18

### Total Fund | As of June 30, 2022

The current US Fixed Income benchmark is the Barclays US Agg. Please refer to the benchmark history for the composition of the US Fixed Income benchmark in earlier periods. Historical returns for the US Fixed Income Composite prior to December 2010 and for Barrow Hanley prior to June 2010 are gross only.



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Opportunistic Credit(Net)	57,876,237	5.5	9.0	-3.2	-5.6	-7.6	-5.4	2.8			3.1	May-19
50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans				-3.0	-5.9	-9.8	-9.0	0.2		-	0.8	May-19
GoldenTree Multi-Sector Credit(Net)	22,534,754	2.1	38.9	-2.0	-5.2	-6.9	-5.0	2.8			3.2	Jun-19
50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans				-4.4	-7.1	-9.4	-7.8	1.1	2.6	4.2	1.5	Jun-19
Sculptor Credit Opportunities Domestic Partners, LP(Net)	18,246,945	1.7	31.5	-4.8	-6.3	-5.1	-0.5			-	10.3	Jul-20
50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans				-4.4	-7.1	-9.4	-7.8	1.1	2.6	4.2	2.3	Jul-20
PIMCO Income Fund(Net)	17,094,537	1.6	29.5	-3.2	-5.2	-9.2	-8.5	0.3			0.8	Apr-19
Bloomberg US Aggregate TR				-1.6	-4.7	-10.3	-10.3	-0.9	0.9	1.5	0.1	Apr-19
Real Estate(Net)	87,698,618	8.3	8.3	-0.2	-2.6	-3.5	7.9	4.2	5.4	6.8		Mar-99
Custom Blended Real Estate Benchmark				7.4	7.4	15.3	32.6	13.2	10.4	10.6	8.1	Mar-99
CPI + 5% (Seasonally Adjusted)				1.7	3.9	8.0	14.4	10.2	9.1	7.7		Mar-99
Vanguard REIT Index(Net)	22,302,394	2.1	25.4	-7.5	-15.5	-20.5	-8.0				9.8	Aug-20
Spliced Vanguard REIT Benchmark				-7.5	-15.4	-20.5	-7.9	4.9	5.8	7.6	9.9	Aug-20
Private Real Estate(Net)	65,396,224	6.2	74.6	2.6	2.6	3.8	14.5	4.8	5.8	7.0		Mar-99
Custom Blended Real Estate Benchmark				7.4	7.4	15.3	32.6	13.2	10.4	10.6	8.1	Mar-99
UBS Trumbull Property(Net)	28,103,422	2.7	43.0	0.0	0.0	4.8	14.9	2.4	3.3	6.0	6.6	Mar-99
Patron Capital V(Net)	7,662,700	0.7	11.7	1.5	1.5	-28.9	-17.1	-8.2	3.6	-	2.9	Jan-16

### Total Fund | As of June 30, 2022

GoldenTree Multi-Sector Credit and Sculptor Credit Opportunities Domestic Partners market values are based on manager estimates.

Private Markets values are cash flow adjusted from preliminary 03/31/2022 NAVs.

Data prior to March 2018 provided by prior consultant.

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



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Cerberus Real Estate Debt Fund, L.P.(Net)	4,983,999	0.5	7.6	-0.2	-0.2	3.5	3.1				13.4	Jul-20
AG Realty Value Fund X, L.P.(Net)	4,344,467	0.4	6.6	5.8	5.8	17.8	28.2	6.9			6.7	Jun-19
Rockpoint Real Estate Fund VI, L.P.(Net)	4,033,013	0.4	6.2	9.1	9.1	15.0	39.6				18.7	May-20
Taconic CRE Dislocation Fund II(Net)	3,592,288	0.3	5.5	2.1	2.1	10.5	5.9	9.1			7.3	Nov-18
Carlyle Realty VIII(Net)	2,827,297	0.3	4.3	27.2	27.2	50.5	152.3	50.3			13.1	Dec-17
Taconic CRE Dislocation Onshore Fund $\operatorname{III}(\operatorname{Net})$	2,816,890	0.3	4.3									
Greenfield Gap VII(Net)	2,793,134	0.3	4.3	1.5	1.5	35.3	55.5	27.7	21.6		18.3	Dec-14
Carmel Partners Investment Fund VII(Net)	1,937,916	0.2	3.0	4.2	4.2	3.8	1.0	-24.9			-28.4	Apr-19
Starwood Distressed Opportunity Fund XII Global(Net)	1,791,318	0.2	2.7									
Carmel Partners Investment Fund VIII(Net)	542,722	0.1	0.8							- 1		
Carlyle Realty Partners IX(Net)	-32,943	0.0	-0.1									
Private Equity(Net)	134,481,662	12.7	12.7	0.8	0.8	8.4	30.8	25.0	20.9	13.6	10.9	Jun-05
Custom Private Equity Benchmark				2.6	-4.6	2.8	15.3	23.6	20.7	20.1		Jun-05
Ocean Avenue II(Net)	9,974,311	0.9	7.4	3.9	3.9	23.1	52.4	49.0	40.3		24.9	Jun-14
TCV X(Net)	9,622,770	0.9	7.2	-9.8	-9.8	-1.2	47.0	38.8			35.4	Apr-19
Genstar Capital Partners IX(Net)	9,221,689	0.9	6.9	4.7	4.7	9.3	33.9				26.3	Jul-19
Cortec Group Fund VII(Net)	9,145,542	0.9	6.8	-0.5	-0.5	4.4	32.2				28.9	Dec-19
Spark Capital Growth Fund III(Net)	9,134,458	0.9	6.8	9.9	9.9	11.3	54.2				26.8	Mar-20
Summit Partners Growth Equity Fund X-A(Net)	7,543,906	0.7	5.6	-1.8	-1.8	0.1	18.1				4.5	Mar-20
Thoma Bravo Discover Fund III(Net)	7,244,818	0.7	5.4	5.5	5.5	11.7	9.3			-	13.0	Jun-21



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Taconic Market Dislocation Fund III L.P.(Net)	6,704,861	0.6	5.0	2.8	2.8	4.8	22.8				23.6	Jul-20
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	5,930,026	0.6	4.4	12.4	12.4	24.7	38.5	16.1		-	15.3	Apr-18
Adams Street(Net)	5,694,176	0.5	4.2	-8.1	-8.1	-4.3	12.7	22.0	19.3	15.7	9.7	Sep-05
Carrick Capital Partners III(Net)	5,651,955	0.5	4.2	1.4	1.4	24.8	35.6	26.6			15.1	Aug-18
GTCR Fund XII(Net)	5,574,267	0.5	4.1	5.4	5.4	9.7	48.9	44.7			21.1	Jun-18
Cressey & Company Fund VI(Net)	5,298,640	0.5	3.9	-0.4	-0.4	4.5	51.6	35.3			23.5	Jan-19
Accel-KKR Growth Capital Partners III(Net)	4,944,988	0.5	3.7	-3.1	-3.1	1.6	45.8	13.7			13.7	Jul-19
Marlin Heritage Europe II, L.P.(Net)	4,735,750	0.4	3.5	2.7	2.7	9.2	-9.1				-6.4	Oct-20
Pantheon II(Net)	3,750,938	0.4	2.8	-5.6	-5.6	-3.0	9.5	22.1	19.8	16.3	14.8	Dec-11
TCV XI(Net)	3,694,395	0.3	2.7	-7.1	-7.1	12.9	11.8				4.2	Feb-21
Khosla Ventures VII(Net)	3,295,537	0.3	2.5	-3.1	-3.1	10.7	13.7				5.4	Jan-21
GTCR Fund XIII/A & B(Net)	2,518,811	0.2	1.9									
Summit Partners Venture Capital Fund V-A(Net)	2,407,137	0.2	1.8									
Spark Capital VI(Net)	2,184,166	0.2	1.6	2.6	2.6	5.7	6.4			-	-4.3	Mar-20
Accel-KKR Capital Partners VI(Net)	2,112,161	0.2	1.6									
Invesco VI(Net)	1,769,282	0.2	1.3	0.0	0.0	0.0	93.3	67.7	44.2		28.0	Jun-13
Genstar Capital Partners X(Net)	1,744,910	0.2	1.3									

### Total Fund | As of June 30, 2022

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 (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Nautic Partners X(Net)	1,313,599	0.1	1.0									
Khosla Ventures Seed E(Net)	954,492	0.1	0.7							- 1		
Spark Capital Growth Fund IV(Net)	868,884	0.1	0.6							- 1		
Spark Capital VII(Net)	588,668	0.1	0.4									
TCV Velocity Fund I(Net)	477,146	0.0	0.4							- 1		
Accel-KKR Growth Capital Partners $IV(Net)$	235,504	0.0	0.2							- 1		
Pantheon Secondary(Net)	113,427	0.0	0.1	-1.6	-1.6	-2.3	-20.2	-11.6	-3.3	-1.7	0.8	Jun-07
Pantheon I(Net)	69,662	0.0	0.1	-5.8	-5.8	-14.1	-24.5	-18.0	-8.7	-1.4	-0.7	Dec-05
Raven Asset Fund II(Net)	19,715	0.0	0.0	0.0	0.0	194.0	442.7	62.6	39.2		19.8	Aug-14
Summit Partners Growth Equity Fund XI-A(Net)	-23,726	0.0	0.0							- 1		
GTCR Strategic Growth Fund I/A&B LP(Net)	-35,203	0.0	0.0									
Direct Lending(Net)	20,574,246	1.9	1.9	0.7	0.7	2.5	2.0				11.6	Jul-20
S&P LSTA Leverage Loan Index + 2%				-1.9	-3.9	-3.5	-0.8	4.2	5.0	5.8	6.2	Jul-20
Silver Point Specialty Credit Fund II, L.P.(Net)	6,521,140	0.6	31.7	0.7	0.7	2.9	2.4			-	11.8	Jul-20
Ares Senior Direct Lending Fund II(Net)	5,153,106	0.5	25.0							- 1		
Varagon Capital Direct Lending Fund(Net)	4,900,000	0.5	23.8									
AG Direct Lending Fund IV Annex(Net)	4,000,000	0.4	19.4									

# MEKETA

# Merced County Employees' Retirement Association

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hedge Fund(Net)	105,029,591	9.9	9.9	-1.4	-2.4	-0.9	-0.5	4.8	4.9		4.3	Jun-14
Custom Blended Hedge Fund Benchmark				-1.4	-4.1	-6.7	-5.7	3.9	3.7		3.2	Jun-14
Silver Point Capital(Net)	17,389,884	1.6	16.6	-2.7	-3.9	0.2	4.8	12.0			8.5	Nov-17
Wellington-Archipelago(Net)	14,199,595	1.3	13.5	-1.3	-3.1	-2.7	1.3	4.8			4.9	Aug-17
Taconic Opportunity Fund(Net)	13,644,980	1.3	13.0	-4.7	-4.7	-2.8	-1.2	3.0			3.7	Dec-18
Laurion Capital(Net)	12,984,478	1.2	12.4	1.9	-0.1	-7.8	-16.2	12.2			11.7	Aug-18
Sculptor (OZ) Domestic II(Net)	12,133,519	1.1	11.6	-3.2	-9.6	-12.2	-13.4	3.2	4.9		5.1	Jun-14
Caxton Global Investments(Net)	11,275,995	1.1	10.7	-0.2	2.8	12.3	16.5				10.8	May-21
Marshall Wace Global Opportunities(Net)	9,816,198	0.9	9.3	-0.8	-1.9	1.1	2.2				4.1	May-20
Graham Absolute Return(Net)	9,264,649	0.9	8.8	1.4	4.6	14.7	12.8	5.2			4.8	Aug-17
Marshall Wace Eureka(Net)	4,320,294	0.4	4.1	0.4	0.5	0.6	5.2	8.2			6.7	Nov-17
Real Assets(Net)	57,366,572	5.4	5.4	-0.6	-0.6	8.8	15.9	11.5	10.4	9.2		Mar-99
Custom Blended Real Assets Benchmark				-11.7	-11.5	-0.8	5.8	3.7	6.8			Mar-99
CPI + 5% (Seasonally Adjusted)				1.7	3.9	8.0	14.4	10.2	9.1	7.7		Mar-99
SSgA(Net)	19,817,449	1.9	34.5	-9.2	-9.2	1.6	8.3	8.7	7.2		6.9	Apr-17
Real Asset NL Custom Blended Index				-9.1	-10.0	-0.6	6.9	8.7	7.3		7.0	Apr-17
Private Infrastructure(Net)	24,352,954	2.3	42.5	2.8	2.8	5.5	8.6	13.5	13.4		9.8	Dec-14
S&P Global Infrastructure TR USD				-7.7	-7.4	-0.5	5.6	3.5	4.8	7.2	5.0	Dec-14
KKR Global II(Net)	5,834,233	0.6	24.0	3.4	3.4	2.2	8.3	27.9	20.7	-	17.2	Dec-14
North Haven Infrastructure II(Net)	5,400,120	0.5	22.2	3.0	3.0	9.5	18.4	8.4	12.7		7.9	May-15
ISQ Global Infrastructure Fund $II(Net)$	5,206,064	0.5	21.4	1.6	1.6	6.0	14.8	13.9			2.7	Jul-18
KKR Global Infrastructure Investors III(Net)	3,832,391	0.4	15.7	6.0	6.0	8.5	-10.2	-1.9		-	-6.2	Jan-19



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Ardian Infrastructure Fund V(Net)	2,384,751	0.2	9.8	-1.8	-1.8	-0.4	8.5				-17.3	Oct-19
KKR Global Infrastructure Investors $IV(Net)$	1,372,531	0.1	5.6									
ISQ Global Infrastructure Fund III(Net)	322,864	0.0	1.3									
Private Natural Resources(Net)	13,196,169	1.2	23.0	8.0	8.0	26.4	42.5	13.6	12.4		15.8	Sep-15
S&P Global Natural Resources Index TR USD				-15.7	-15.6	-1.4	2.9	8.6	8.9	4.6	11.5	Sep-15
EnCap XI(Net)	3,905,621	0.4	29.6	14.1	14.1	19.7	49.9	-1.2			-14.3	Jul-17
Tailwater Energy Fund IV, LP(Net)	3,891,571	0.4	29.5	4.3	4.3	20.4	39.2				-0.5	Oct-19
BlackRock Global Energy and Power Infrastructure Fund III LP(Net)	2,684,094	0.3	20.3	2.2	2.2	5.1	6.6			-	15.0	Jul-19
EnCap IV(Net)	1,194,675	0.1	9.1	6.9	6.9	130.5	198.2	47.9			29.7	Feb-18
GSO Energy Opportunities(Net)	708,308	0.1	5.4	9.0	9.0	15.6	30.5	10.6	10.6		14.0	Nov-15
Taurus Mining(Net)	378,580	0.0	2.9	29.8	29.8	143.5	174.6	34.2	24.4		25.0	Sep-15
Taurus Mining Annex(Net)	224,834	0.0	1.7	34.0	34.0	607.5	1,202.7	157.1	90.9		89.5	Jan-17
Carnelian Energy Capital IV(Net)	208,486	0.0	1.6									
Cash(Net)	6,373,936	0.6	0.6	0.0	0.1	0.1	0.1	0.5				
Cash(Net)	5,411,454	0.5	84.9	0.0	0.1	0.1	0.1	0.7	1.0	0.8		Sep-03
Treasury Cash(Net)	962,482	0.1	15.1									

### Total Fund | As of June 30, 2022

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



Annual Investment Expense Analysis				
As Of June 30, 2022				
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Total Fund w/o Alternatives		\$645,040,824		
US Equity		\$236,059,671		
BNY Mellon Newton Dynamic US Equity	0.30% of Assets	\$109,825,137	\$329,475	0.30%
BNY Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$102,037,171	\$40,407	0.04%
Champlain Small Cap	1.00% of Assets	\$24,197,364	\$241,974	1.00%
International Equity		\$184,743,512		
Developed International Equity		\$122,782,545		
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	\$12,956,923	\$128,274	0.99%
Driehaus International Small Cap Growth	0.90% of Assets	\$12,531,247	\$112,781	0.90%
GQG International Equity	0.50% of Assets	\$51,388,558	\$256,943	0.50%
First Eagle International Value Fund	0.79% of Assets	\$45,905,817	\$362,656	0.79%
Emerging Markets Equity		\$61,960,967		
Artisan Developing World TR	1.05% of Assets	\$40,143,094	\$421,502	1.05%
RWC	0.87% of Assets	\$21,817,874	\$189,816	0.87%
US Fixed Income		\$166,361,404		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$79,219,401	\$208,439	0.26%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$10,216,368	\$5,108	0.05%
Vanguard Total Bond Market Index Fund	0.04% of Assets	\$76,925,635	\$26,924	0.04%
Opportunistic Credit		\$57,876,237		
PIMCO Income Fund	0.50% of Assets	\$17,094,537	\$85,473	0.50%
GoldenTree Multi-Sector Credit	0.70% of Assets	\$22,534,754	\$157,743	0.70%
Sculptor Credit Opportunities Domestic Partners, LP	Performance-based 1.00 and 20.00	\$18,246,945	\$182,469	1.00%



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate		\$87,698,618		
Vanguard REIT Index	0.10% of Assets	\$22,302,394	\$22,302	0.10%
Private Real Estate		\$65,396,224		
Greenfield Gap VII		\$2,793,134		
Patron Capital V		\$7,662,700		
UBS Trumbull Property		\$28,103,422		
Carlyle Realty VIII		\$2,827,297		
Taconic CRE Dislocation Fund II		\$3,592,288		
Carmel Partners Investment Fund VII		\$1,937,916		
AG Realty Value Fund X, L.P.		\$4,344,467		
Rockpoint Real Estate Fund VI, L.P.		\$4,033,013		
Cerberus Real Estate Debt Fund, L.P.		\$4,983,999		
Taconic CRE Dislocation Onshore Fund III		\$2,816,890		
Starwood Distressed Opportunity Fund XII Global		\$1,791,318		
Carlyle Realty Partners IX		-\$32,943		
Carmel Partners Investment Fund VIII		\$542,722		
Invesco VI		\$1,769,282		
Ocean Avenue II		\$9,974,311		
Pantheon I		\$69,662		
Pantheon II		\$3,750,938		
Pantheon Secondary		\$113,427		
Raven Asset Fund II		\$19,715		
Davidson Kempner Long-Term Distressed Opportunities Fun IV	d	\$5,930,026		
GTCR Fund XII		\$5,574,267		
Carrick Capital Partners III		\$5,651,955		
Cressey & Company Fund VI		\$5,298,640		



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
τον χ		\$9,622,770		
Accel-KKR Growth Capital Partners III		\$4,944,988		
Genstar Capital Partners IX		\$9,221,689		
Cortec Group Fund VII		\$9,145,542		
Spark Capital Growth Fund III		\$9,134,458		
Spark Capital VI		\$2,184,166		
Summit Partners Growth Equity Fund X-A		\$7,543,906		
Taconic Market Dislocation Fund III L.P.		\$6,704,861		
Marlin Heritage Europe II, L.P.		\$4,735,750		
Khosla Ventures VII		\$3,295,537		
Accel-KKR Capital Partners VI		\$2,112,161		
Khosla Ventures Seed E		\$954,492		
ΤΟΥ ΧΙ		\$3,694,395		
Thoma Bravo Discover Fund III		\$7,244,818		
Summit Partners Venture Capital Fund V-A		\$2,407,137		
GTCR Fund XIII/A & B		\$2,518,811		
Genstar Capital Partners X		\$1,744,910		
Nautic Partners X		\$1,313,599		
Spark Capital Growth Fund IV		\$868,884		
Spark Capital VII		\$588,668		
TCV Velocity Fund I		\$477,146		
Accel-KKR Growth Capital Partners IV		\$235,504		
Summit Partners Growth Equity Fund XI-A		-\$23,726		
GTCR Strategic Growth Fund I/A&B LP		-\$35,203		



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Direct Lending		\$20,574,246		
Silver Point Specialty Credit Fund II, L.P.		\$6,521,140		
Ares Senior Direct Lending Fund II		\$5,153,106		
Varagon Capital Direct Lending Fund		\$4,900,000		
AG Direct Lending Fund IV Annex		\$4,000,000		
Hedge Fund		\$105,029,591		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	\$12,133,519	\$182,003	1.50%
Graham Absolute Return	Performance-based 1.75 and 20.00	\$9,264,649	\$187,516	2.02%
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$14,199,595	\$141,996	1.00%
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$4,320,294	\$89,603	2.07%
Silver Point Capital	Performance-based 1.50 and 20.00	\$17,389,884	\$260,848	1.50%
Laurion Capital	Performance-based 2.00 and 20.00	\$12,984,478	\$309,550	2.38%
Taconic Opportunity Fund	Performance-based 1.40 and 20.00	\$13,644,980	\$191,030	1.40%
Marshall Wace Global Opportunities	Performance-based 2.00 and 20.00	\$9,816,198	\$196,324	2.00%
Caxton Global Investments	Performance-based 1.95 and 22.50	\$11,275,995	\$219,882	1.95%
Real Assets		\$57,366,572		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$19,817,449	\$59,452	0.30%
Private Infrastructure		\$24,352,954		
KKR Global II		\$5,834,233		
North Haven Infrastructure II		\$5,400,120		
ISQ Global Infrastructure Fund II		\$5,206,064		
KKR Global Infrastructure Investors III		\$3,832,391		
Ardian Infrastructure Fund V		\$2,384,751		
ISQ Global Infrastructure Fund III		\$322,864		
KKR Global Infrastructure Investors IV		\$1,372,531		



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Private Natural Resources		\$13,196,169		
EnCap XI		\$3,905,621		
EnCap IV		\$1,194,675		
GSO Energy Opportunities		\$708,308		
Taurus Mining		\$378,580		
Taurus Mining Annex		\$224,834		
BlackRock Global Energy and Power Infrastr	ucture Fund III LP	\$2,684,094		
Tailwater Energy Fund IV, LP		\$3,891,571		
Carnelian Energy Capital IV		\$208,486		
Cash		\$6,373,936		
Cash		\$5,411,454		
Treasury Cash		\$962,482		

Disclaimer, Glossary, and Notes



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

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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, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT, 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%.

5% (discount)=1% pro rata, plus=5 (yrs. to maturity)5.26% (current yield)=

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: <u>Investment Terminology</u>, 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.



July 28, 2022

Stagflation



**Defining Stagflation** 

### What is stagflation?

- $\rightarrow$  Stagflation is generally considered to be a period of low or negative economic growth combined with high inflation.
  - The term is a combination of stagnant growth and inflation.
- $\rightarrow$  Stagflation is characterized by:
  - Rising unemployment
  - High inflation in prices and wages
  - Growth slowing below potential
- $\rightarrow$  During periods of stagflation, inflation expectations continue to rise even as economic growth stalls and unemployment rises.
- $\rightarrow$  Stagflation is a rare economic condition in advanced economies.
  - Supply shocks are a likely cause.



Impact of Stagflation

What impact does stagflation have on investors?

ightarrow Stocks and bonds both performed poorly during stagflationary periods.

Jan 1973 - Sep 1974 Jan 1981 - Sep 1981 30% 20% 19.0% 10% 6.1% 7.7% 0% -0.3% -11.1% -10% US Stocks US Treasuries Cumulative Inflation -20% -30% -42.6% -40% -50%

#### Cumulative Performance during Stagflation

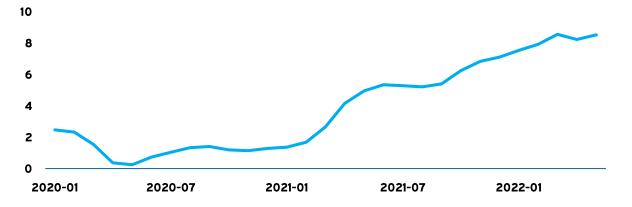
Source: Meketa analysis of Bloomberg data. S&P 500 index used for US stocks and Bloomberg US Treasury index used for US Treasuries.



**US Economy Today** 

#### Why are we talking about inflation today?

- $\rightarrow$  Inflation has continued to rise, recently hitting 8.5%.
  - It no longer looks like it will be "transitory."
  - Supply shocks are again present.
- $\rightarrow$  The last time the US experienced such high inflation was in 1981.
  - The high interest rates used to fight inflation helped tip the economy into recession.
- $\rightarrow$  The market is worried about a repeat of this event.
  - The Fed could inadvertently tilt the economy into a recession and reignite stagflation with a "policy mistake."



## Inflation (CPI-U YoY) 2020 - 2022

Source: FRED data as of July 2022. In November 2022, the Federal Reserve ceased referring to inflation as transitory.

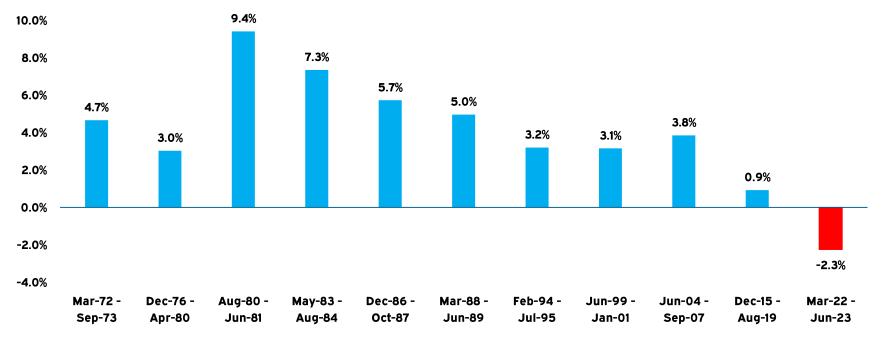


**US Economy Today** 

#### When will the Fed be able to stop hiking interest rates?

 $\rightarrow$  In June 2022, the Fed surprised markets by hiking rates 75 basis points to 1.25%.

- Fed communicated further hikes this year.
- $\rightarrow$  Markets are still processing how much higher rates will go to tame inflation.
  - Since the 1980s, the peak inflation adjusted Fed Funds Rate has been positive.



#### Peak Real Fed Funds Rate in Tightening Cycle 1973 - 2022

Source: FRED and Bloomberg as of July 7th 2022. Bloomberg Fed Fund Futures indicate that market participants expect monetary cycle to peak in June 2023.



Stagflation in the 1970s and 1980s

#### Stagflation history

- ightarrow Stagflation was coined as a political term in the UK during the 1960s.
- $\rightarrow$  Stagflation in the US occurred for the first time in 1973 1974 during the first oil crisis when the price of oil quadrupled.
- $\rightarrow$  Stagflation occurred again in 1979 1982 during the Iranian Revolution when the price of oil tripled.
- ightarrow During both periods, the US experienced high inflation and recessions.



#### Historical Growth and Inflation



US Economy Today v. Past Stagflation Episodes

#### How concerned should we be?

 $\rightarrow$  The good news is that most economic factors do not align with stagflationary conditions.

- The US economy is growing well above its expected long-run potential.
- Unemployment is falling and is close to pre-pandemic lows.
- The federal funds rate is near record lows.

Stagflation Criteria	1973-74	1979-82	July 2022
Inflation (CPI)	11.O%	13.5%	8.5%
GDP Annual Growth (YoY)	-0.5%	-0.3%	1.7%
Peak Fed Funds Rate	12.9%	19.1%	1.5% - 1.75%
Unemployment	6.1%	10.8%	3.6%
Hourly Wage Growth	8.9%	9.1%	-3.0%

The table is illustrative and historical data showing peaks and averages may differ from monthly and annual data from the period. Sources include Bureau of Labor Statistics, FRED, Bureau of Economic Analysis, and Federal Reserve Fred. The Federal Reserve's long-run GDP assumption for the US is less than 2% while its forecast for 2022 GDP is 1.7%. Data as of July 2, 2022.



#### Asset Class Performance in High Inflation Periods

#### What asset class might hedge inflation?

 $\rightarrow$  Some asset classes performed quite well during periods of high inflation.

• However, the strongest returns often occurred during periods when inflation was accompanied by high economic growth.

Asset Class	Very Brief, Extreme Inflation Spike (1-2 Months)	Brief, Extreme Inflation Spike (4-8 months)	Extended, Extreme Inflation Spike (12+ Months)
Cash	0.8	0.7	0.9
Long-term Gov't Bonds	-6.0	-6.2	-5.4
Short-term TIPS	0.1	0.2	0.0
TIPS	1.0	0.8	1.4
US Equity	-11.4	-10.1	-15.2
Global Equities	-12.7	-11.7	-15.9
Core Private Real Estate	-0.4	-0.3	-0.8
Public Natural Resources	-7.7	-6.9	-10.2
Commodities	10.8	11.7	7.4
Gold (Metal)	40.2	35.6	55.3

#### Asset Class Annualized Return Estimates

Source: Meketa sensitivity analysis based on asset class performance for the period 1973-2022. Asset class returns reflect annualized, nominal returns. Low growth is defined as the bottom quartile of quarter-over-quarter GDP growth (less than 0.3%), Moderate Inflation is the median of month over month inflation (0.28%), High Inflation is the 75<sup>th</sup> percentile of month over month inflation (0.45%). Some asset class performance has been backfilled with representative returns. For detailed information about the modeling methodology, please refer to Meketa's "The Inflation Variable: Evaluating Potential Outcomes



Summary

#### What can an investor do?

- $\rightarrow$  The current conditions of high inflation and forthcoming policy reversal is cause for concern.
  - However, current indicators suggest that stagflationary dynamics may emerge.
- ightarrow Portfolio construction should take into account various economic outcomes.
  - Consider multiple environments, not just the one that is most likely to occur.
  - Be prepared for the (hopefully low) possibility of stagflation.
  - Discussions on asset allocation and risks are recommended.
- $\rightarrow$  Stagflation would likely be damaging to almost all institutional portfolios with few exceptions.
  - Being well diversified may mitigate but not eliminate losses.



## Appendix



#### Asset Class Performance When Growth is Low and Inflation is High

#### If stagflation returns and growth weakens, what asset classes might prove resilient?

 $\rightarrow$  Some asset classes are likely to perform better than traditional bonds and equities.

- But none are likely to produce strong gains.
- Bonds and equities could become highly correlated.

Asset Class	Low Growth and Moderate Inflation	Low Growth and High Inflation
Cash	0.4	0.7
Long-term Gov't Bonds	-5.7	-7.8
Short-term TIPS	-1.5	-1.5
TIPS	-3.2	-3.4
US Equity	-11.4	-14.1
Global Equities	-16.2	-20.4
Private Equity	0.1	-0.4
Core Real Estate	0.8	0.7
Public Natural Resources	-13.5	-15.7
Commodities	-3.3	-1.6
Gold	0.9	3.0

#### Asset Class Annualized Return Estimates

Source: Meketa sensitivity analysis based on asset class performance for the period 1973-2022. Asset class returns reflect annualized, nominal returns. Low growth is defined as the bottom quartile of quarter-over-quarter GDP growth (less than 0.3%), Moderate Inflation is the median of month over month inflation (0.28%), High Inflation is the 75th percentile of month over month inflation (0.45%). The benchmarks used for each asset class are: Cash - Bloomberg Barclays US Treasury Bill Index, Long-term Gov't Bonds - Bloomberg Barclays US Treasury: Long Index, Short-term TIPS - Bloomberg Barclays US Treasury Tips 1-5 Years Index, TIPS – Bloomberg Barclays Global Inflation-Linked: US Tips, US Equity – Russell 3000, Global Equity – MSCI ACWI, Core Private Real Estate - NCREIF ODCE Equal Weighted, Public Natural Resources - S&P Global Natural Resources Net TR Index, Commodities – Bloomberg Commodity Index, Gold – LBMA Gold Price PM USD.



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