

Meeting Materials April 27, 2021

Fund Evaluation Report



Agenda

## Agenda

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  - Disclaimer, Glossary, and Notes

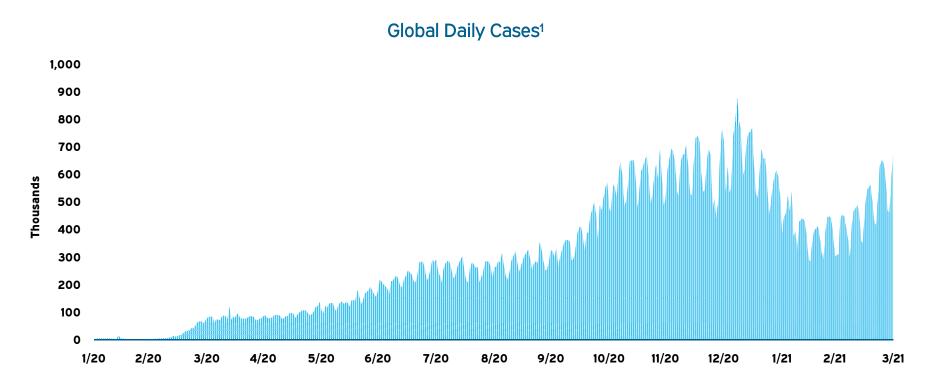
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# **Economic and Market Update**

Data as of March 31, 2021







- After peaking in early January at ~858,000, the number of global daily cases steadily declined to ~303,000 at the end of February, before increasing again in March, driven by new variants.
- Looking ahead, the rollout of multiple vaccines continues to gather momentum, with roughly 800 million total doses administered as of mid-April.<sup>2</sup>
- In the US, the Biden administration set a goal of the vaccine being available to the general population by April 19.

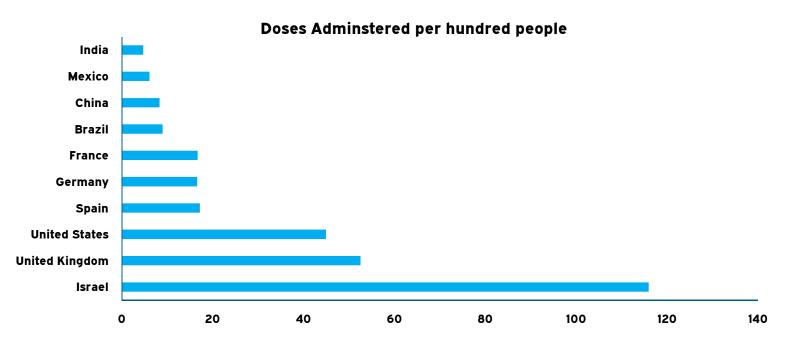
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<sup>&</sup>lt;sup>1</sup> Source: Our World in Data. Data is as of March 31, 2021.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. https://www.bloomberg.com/graphics/covid-vaccine-tracker-global-distribution/?sref=sA9cMIUe



#### Vaccinations by Country<sup>1</sup>



- Vaccine distribution has ramped up in many countries, including the Pfizer-BioNTech, Moderna, and Johnson & Johnson vaccines in the US. Outside the US, vaccines have also been developed by China, Russia, India, and the UK.
- Some countries have done better with the vaccine rollout, with Israel being at the forefront. The United Kingdom's and the United States' vaccination rates have exceeded many other countries. Early immunization efforts focused on the most vulnerable populations with eligibility expanding recently.

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<sup>&</sup>lt;sup>1</sup> Source: Our World in Data. Data is as of March 31, 2021. Vaccination totals include first and second doses.



#### Market Returns<sup>1</sup>

Indices	March	YTD	1 Year	3 Year	5 Year	10 Year
S&P 500	4.4%	6.2%	56.4%	16.8%	16.3%	13.9%
MSCI EAFE	2.3%	3.5%	44.6%	6.0%	8.9%	5.5%
MSCI Emerging Markets	-1.5%	2.3%	58.4%	6.5%	12.1%	3.7%
MSCI China	-6.3%	-0.4%	43.6%	8.2%	16.1%	7.3%
Bloomberg Barclays Aggregate	-1.3%	-3.4%	0.7%	4.7%	3.1%	3.4%
Bloomberg Barclays TIPS	-0.2%	-1.5%	7.5%	5.7%	3.9%	3.4%
Bloomberg Barclays High Yield	0.2%	0.9%	23.7%	6.8%	8.1%	6.5%
10-year US Treasury	-3.1%	-7.0%	-8.1%	4.7%	1.7%	3.7%
30-year US Treasury	-6.1%	-15.8%	-20.6%	5.6%	2.7%	6.5%

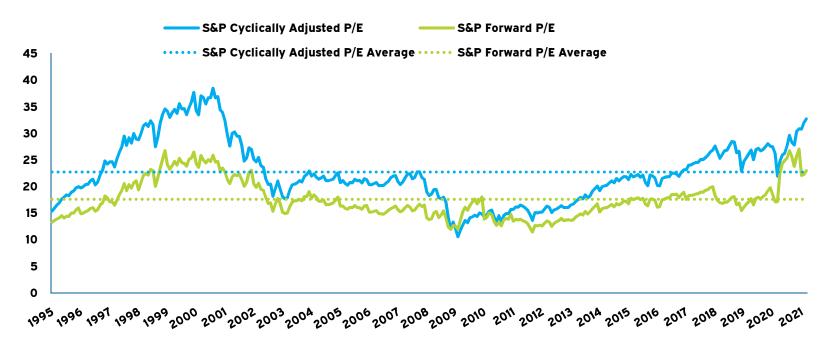
- Over the last year, global risk assets produced significant returns, largely driven by record fiscal and monetary policy stimulus and positive developments with the COVID-19 vaccine. One-year returns are also being heavily influenced by the roll-off the significant declines in March 2020.
- In March, rising inflation and US economic growth expectations continued to drive longer-dated Treasury yields higher, leading to negative returns across most maturities.
- Equity markets across developed economies showed a notable level of resilience to the tighter financial conditions. Emerging markets were impacted by rising COVID-19 cases and re-shuttering of some economies, as well as rising inflation risks prompting some central banks to consider tightening measures.

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<sup>&</sup>lt;sup>1</sup> Source: Investment Metrics and Bloomberg. Data is as of March 31, 2021.



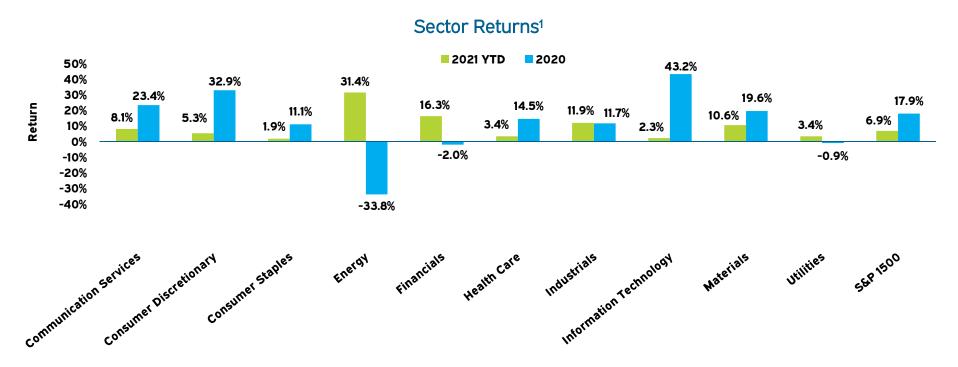
#### S&P Equity Valuations<sup>1</sup>



- With positive developments regarding COVID-19 vaccines, valuations based on backward-looking earnings rose to levels not seen since 2001.
- By contrast, valuations based on forward-looking earnings recently declined due to continued improvements in earnings expectations. Despite the decline in forward P/E ratios, they remain well above long-term averages.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2021.





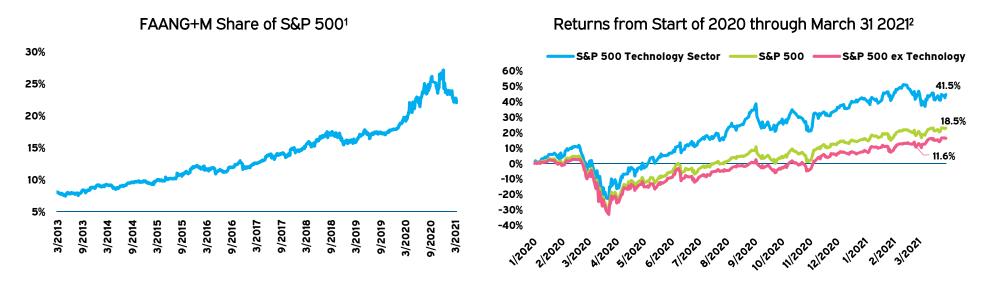
- Cyclical sectors like energy and financials have led the way in 2021, as investors rotate out of the stay-at-home focused companies in the technology sector.
- The recent rotation into value stocks has largely been driven by expectations for the economy to reopen, potentially higher taxes, and rising interest rates. Growth stocks typically produce more of their cash flows further into the future and increased interest rates lead to a larger discounts, reducing present value.
- Energy has been a particular standout this year, supported by record low active rig counts, Saudi Arabia's reductions in output, and expectations of rising demand later in 2021.
- Higher interest rates have benefited lending institutions within the financial sector.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2021



#### Growth stocks led the way for most of 2020, but have recently lagged



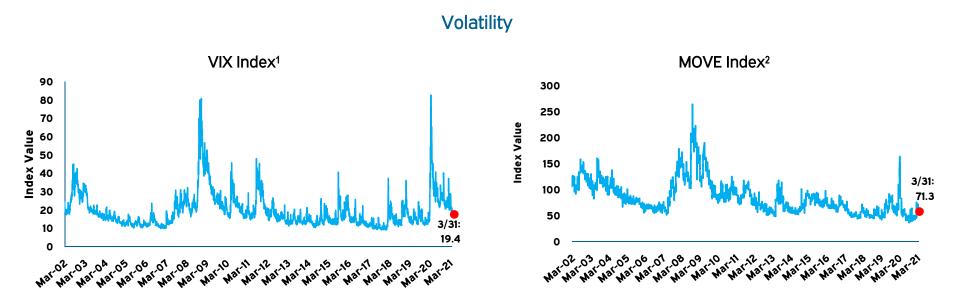
- During much of 2020, market gains were driven by a few technology companies that benefited from the stay-at-home environment related to the virus.
- The outsized relative returns of these companies last year caused them to comprise an increasingly large portion of the S&P 500, making their performance going forward impactful to overall market results.
- Recently, their proportion of the index declined as value stocks outpaced growth stocks by over 10% in 2021.

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<sup>&</sup>lt;sup>1</sup> FAANG+M = Facebook, Amazon, Apple, Netflix, Google (Alphabet), and Microsoft. The percentage represents the aggregate market capitalization of the 6 companies compared to the total market capitalization of the S&P 500 as of March 31, 2021.

<sup>&</sup>lt;sup>2</sup> Each data point represents the price change relative to the 12/31/2019 starting value.





- Equity market volatility, as measured by the VIX, declined over the month to levels last experienced just prior to the spike of market volatility in March 2020.
- Counter to the experience in equity markets, volatility levels within fixed income, as represented by the MOVE index, increased in March due to building expectations for higher growth and inflation. Uncertainty regarding the future path of interest rates could keep fixed income volatility elevated.

<sup>&</sup>lt;sup>1</sup> Source: Chicago Board of Exchange. Data is as of March 31, 2021.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. Data is as of March 31, 2021.



#### Key Elements of the Latest Round of US Fiscal Stimulus

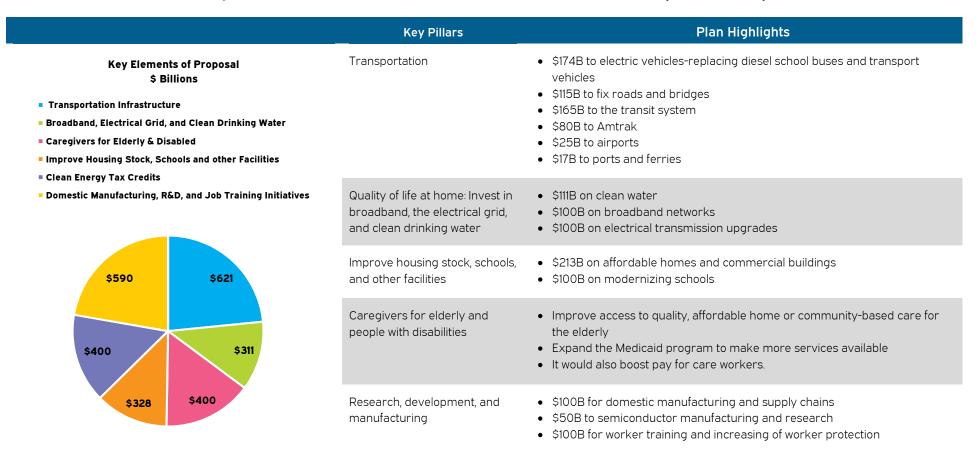
	Joint Proposal
Status	Signed by President Biden on March 11, 2021
Direct Payments	Up to \$1,400 per eligible recipient
Enhanced Unemployment	\$300 per week through September
State & Local Aid	\$360 billion
Vaccines, testing and tracing	\$123 billion
School aid/Education Grants	\$176 billion
Health Insurance Support	\$105 billion
Transportation	\$56 billion
Food / Agriculture aid	\$16 billion
Rental Assistance	\$1 billion
Small Business Assistance	\$59 billion
Total	\$1.9 trillion

- Fiscal stimulus totaling ~\$900 billion, representing the second largest package in history at the time, was finalized in late December 2021.
- President Biden signed an additional \$1.9 trillion stimulus package in March that includes another round of direct payments to individuals, \$300 extra per week in unemployment benefits, and aid to state and local governments.
- Concerns have increased significantly that the historic infusion into the economy could lead to excessive inflation and put pressure on borrowing costs.

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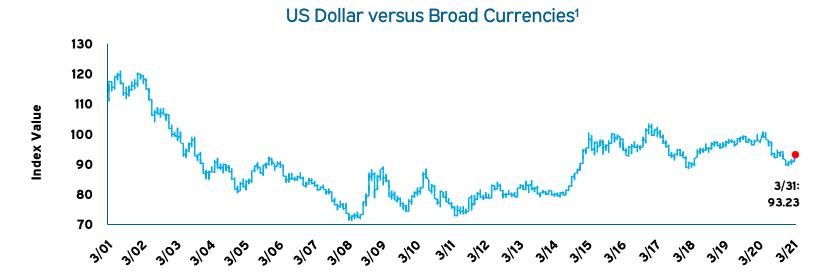
### Key Elements of the ~\$2.65 Trillion American Jobs Plan (2021 – 2031)



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 $<sup>{\</sup>small 1} \ \ Dollar \ amounts \ are \ estimates. \ \ Source: \ \underline{https://www.crfb.org/blogs/whats-president-bidens-american-jobs-plan}.$ 



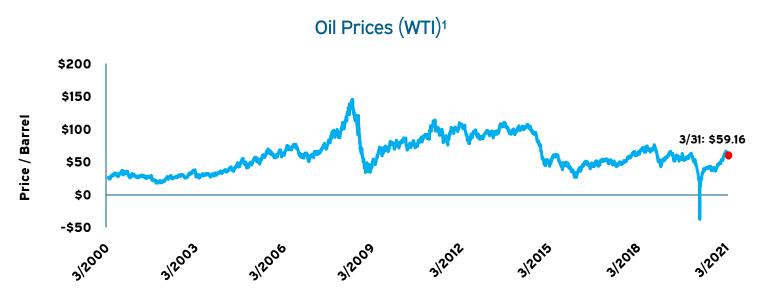


- The US dollar has benefited from higher US growth estimates and rising interest rates. Growth and interest rate differentials have put pressure on emerging market asset prices.
- A stronger US dollar may deepen the US trade deficit and offer a competitive advantage to exporters in Asia and Europe.
- Going forward, the dollar's safe-haven quality and the higher interest rates in the US could continue to provide support.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Represents the DXY Index. Data is as of March 31, 2021.





- Global oil prices rallied from April 2020 lows, and have recovered to pre-crisis levels.
- In 2020 the collapse in global oil demand led to the shuttering of active drilling in North America and international markets and production capacity has been slow to come back online.
- In a surprise decision, OPEC+ recently announced they would not be increasing production despite signs that the global economy could absorb the additional supply.
- Low production capacity and tight supply may help balance oil markets and drawdown reserves offering support for oil prices as global demand recovers.
- Once reserves are used, and if production remains tight, oil prices could continue to rise, contributing to inflationary pressures, and weighing on the global economic recovery.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Represents WTI first available futures contract. Data is as of March 31, 2021.





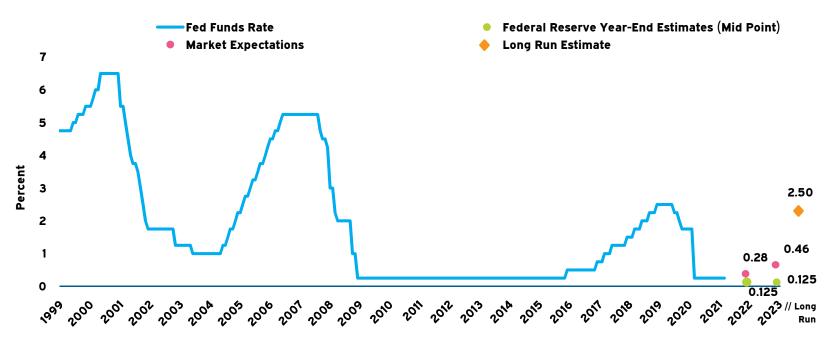


- The US Treasury yield curve declined materially during 2020, driven by safe-haven demand, Federal Reserve polices (policy rate cuts and the quantitative easing program), and weak US economic fundamentals.
- Thus far in 2021, the curve has steepened on inflation fears related to gradual signs of economic improvement, vaccine developments, and expectations for increased Treasury issuance to support fiscal policy measures.
- Higher yields relative to other countries, and the Fed potentially extending the duration of QE purchases to mitigate tightening financial conditions, could counterbalance steepening trends, but the risk remains that the yield curve could continue to steepen if growth and inflationary pressures build.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2021.



#### Dot Plot Continues to Indicate Rate Hikes are Some Time Away<sup>1</sup>



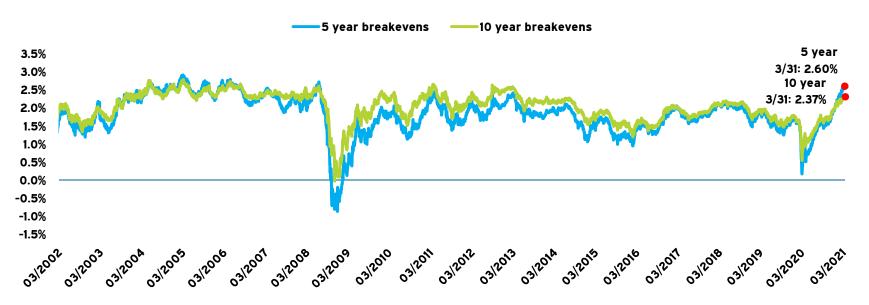
- The FOMC continues to indicate they do not anticipate increasing policy rates for the next few years, as delivered through the FOMC's meeting statements and the supporting Summary of Economic Projections report (aka the "Dot Plot").
- Policy expectations as measured by current asset prices, including fed funds futures, are suggesting more
  aggressive policy actions, with 1-2 policy rate increases by the end of 2023.

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 $<sup>^{</sup>m 1}$  Source: Bloomberg. Data is as of the March 17, 2021 FOMC meeting. Market Expectations reflect Fed Fund Futures



#### 10-Year Breakeven Inflation<sup>1</sup>

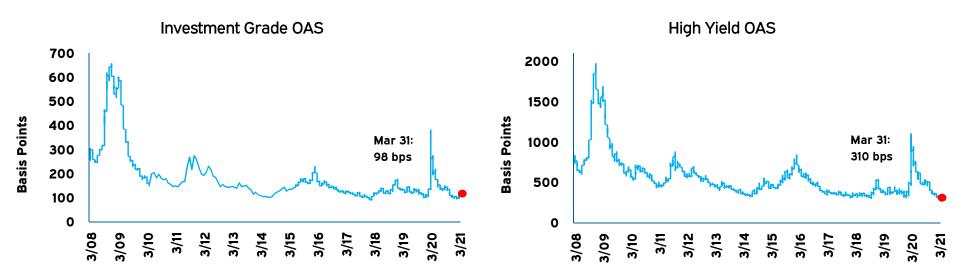


- Inflation breakeven rates declined sharply in early 2020, due to a combination of lower growth and inflation expectations, as well as liquidity dynamics in TIPS during the height of market volatility. Breakeven rates increased as deflationary concerns moderated.
- Inflation expectations have risen abruptly in recent months to slightly above long-term averages, with the vaccine roll-out and expected additional fiscal stimulus as key drivers.
- Looking forward, the track of economic growth and the inflationary effects of the unprecedented US fiscal response will be key issues. Additionally, changes to Fed policy focused on an average inflation target may play a role in the inflation market dynamics going forward.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2021.



## Credit Spreads (High Yield & Investment Grade)<sup>1</sup>



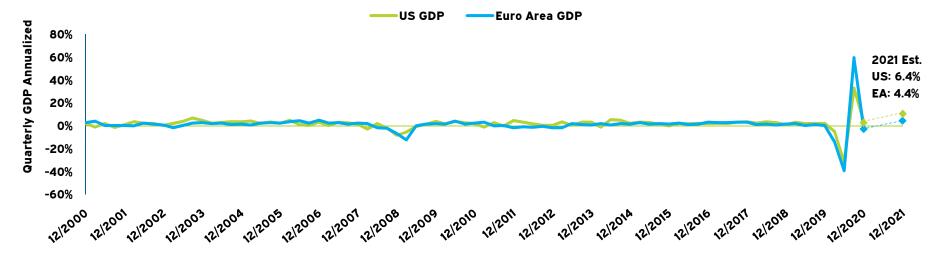
- Credit spreads (the spread above a comparable maturity Treasury) for investment grade and high yield corporate debt widened sharply at the start of the pandemic as investors sought safety.
- Policy support, the search for yield in the low rate environment, and recent increases in Treasury rates
  have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

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



### GDP Data Shows Projected Improvements in 20211



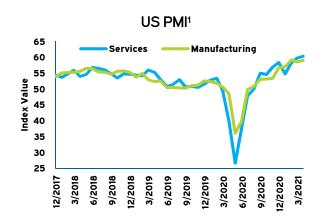
- The global economy faced major recessionary pressures last year, but significant optimism remains for improvements in 2021 as economies are gradually reopening. The IMF is forecasting US 2021 growth at 6.4% and 2022 growth at 3.5%. The IMF has projected 4.4% euro area growth for 2021 and 3.8% in 2022
- Historic declines in US and European growth during the second quarter were followed by record increases in the third quarter of 2020, due to pent-up demand from the lockdown measures earlier in the year.
- Fourth quarter 2020 US GDP growth was 4.1% (QoQ annualized). Full year US GDP growth declined 2.4%, better than the IMF's forecasted decline of 3.4%.
- In the euro area, increased virus cases and a return to restrictions weighed on fourth quarter growth (-2.8% QoQ annualized). For the year, the euro area economy declined 4.9%, worse than the US, but also ahead of forecasts of a 7.2% decline.

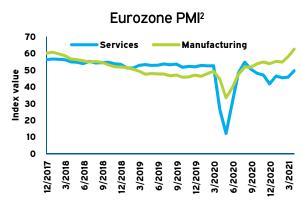
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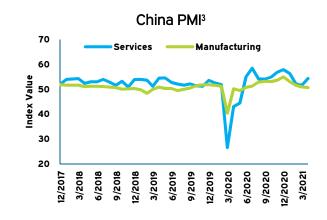
<sup>&</sup>lt;sup>1</sup> Source: Bloomberg, and IMF; Euro Area figures annualized by Meketa. Projections via April 2021 IMF World Economic Outlook and represent annual numbers.



#### **Global PMIs**







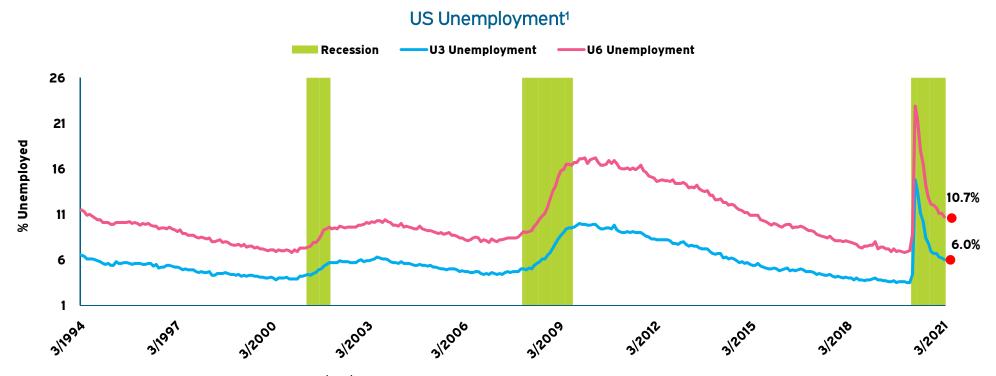
- Purchasing Managers Indices (PMI), based on surveys of private sector companies, initially collapsed across the world to record lows, as closed economies depressed output, new orders, production, and employment.
- Readings below 50 represent contractions across underlying components and are a leading indicator of economic activity, including the future paths of GDP, employment, and industrial production.
- After a period of underperformance, US services and manufacturing are accelerating. In Europe, manufacturing continues to improve, led by Germany, with services lagging given on-going restrictions. After a notable return to full economic activity in the second half of 2020, the Chinese economy has stabilized in positive territory.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI. Data is as of March 2021.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. Eurozone Markit Services and Manufacturing PMI. Data is as of March 2021.

<sup>&</sup>lt;sup>3</sup> Source: Bloomberg. Caixin Services and Manufacturing PMI. Data is as of March 2021.



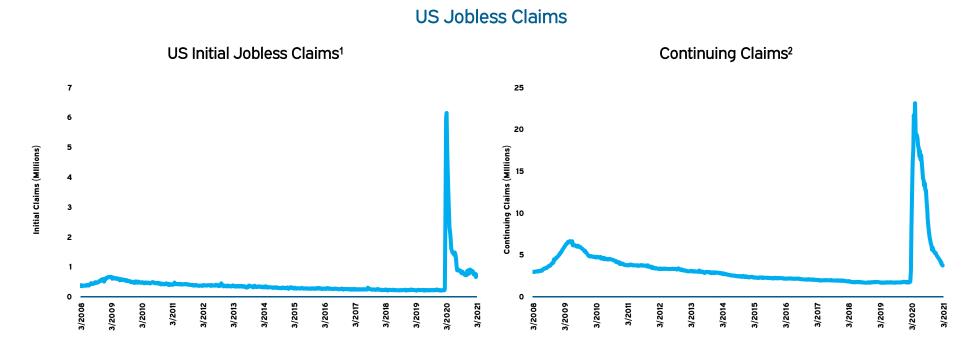


- In March, the unemployment rate (U3) continued its steep decline from the April 2020 peak of 14.7%, falling to 6.0%.
- The broader measure of unemployment (U6) that includes discouraged and underemployed workers is much higher at 10.7%, showing further evidence of the slack in the labor market.
- Despite recent improvements, unemployment levels remain above pre-virus readings and are likely higher than reported, as the total labor force participation rate remains below pre-COVID levels.
- A counterforce to the recent inflation concerns remains the slack in the labor market and corresponding weak wage pressures.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2021. Bars represent recessions as observed by the National Bureau of Economic Research.





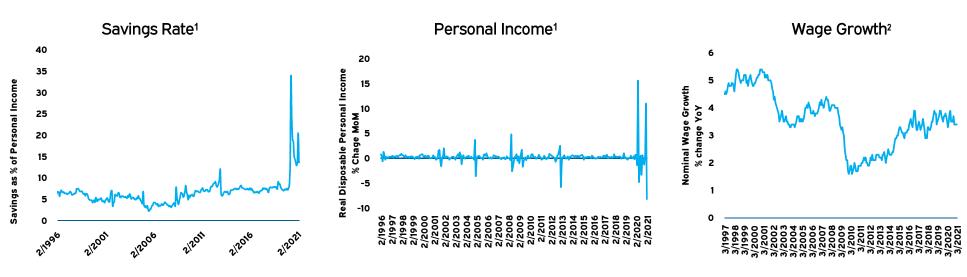
- Since the start of the crisis, ~78 million people filed for initial unemployment. This level is approaching four times the 22 million jobs added since the GFC, highlighting the unprecedented impact of the virus.
- Despite the stabilization in initial jobless claims to below one million per week, levels remain near the worst reading during the Global Financial Crisis.
- Continuing jobless claims (i.e., those currently receiving benefits) have also declined from record levels but remain elevated at 3.7 million.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. First reading of seasonally adjusted initial jobless claims. Data is as of March 26, 2021.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. US Continuing Jobless Claims SA. Data is as of March 26, 2021.



### Savings, Wages and Spending



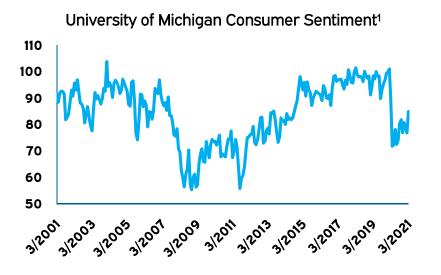
- Fiscal programs including stimulus checks, enhanced unemployment benefits, and loans to small businesses through the Paycheck Protection Program (PPP) have largely supported income levels through the shutdown.
- While estimates of personal income have been extremely volatile since 2020, wage growth has remained relatively stable.
- Despite the income support, the savings rate increased due to the decline in consumer spending, driven by the initial lock-down of the economy, and by uncertainties about the future of the job market and stimulus programs.
- More recently, the savings rate declined from its peak as spending increased with the economy slowly reopening.
   Going forward, questions remain about how consumers will use the recently approved stimulus programs with concerns over the potential inflationary impacts.

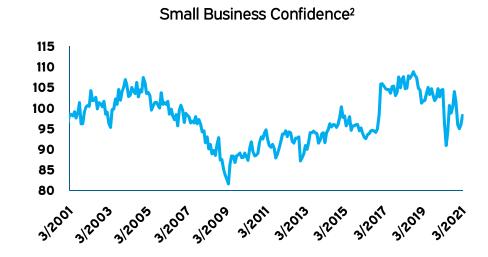
<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Latest data is as of February 2021.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. Represents Atlanta FED wage growth tracker. Latest data is as of March 2021.



#### Sentiment Indicators





- The attitudes of businesses and consumers are useful indicators of future economic activity.
- Consumer spending comprises close to 70% of US GDP, making the attitudes of consumers an important driver of economic growth. Additionally, small businesses generate around half of US GDP, making sentiment in that segment important.
- Sentiment indicators showed improvements as the economy re-opened, particularly for small businesses.
   Increasing cases, including from new variants, and the initial slow vaccine rollout have recently weighed on short-term sentiment. This trend could change based on improvements in vaccine distribution and the recent fiscal stimulus.

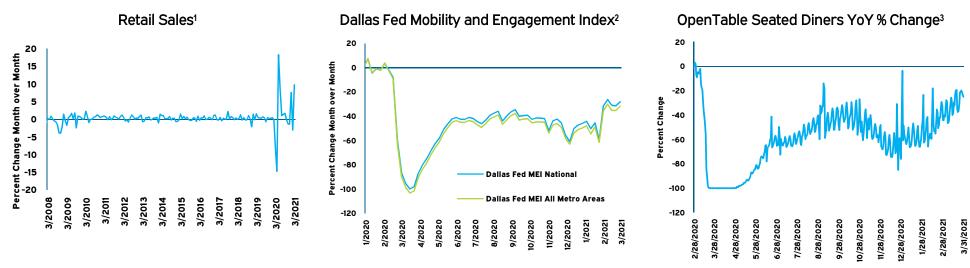
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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. University of Michigan Consumer Sentiment Index. Data is as of March 31, 2021.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. NFIB Small Business Optimism Index. Data is as of March 31, 2021.



#### US Consumers are beginning to venture out again



- There have been improvements in high frequency data, but overall levels remain well below historical averages, and have slowed in some instances given the recent spike in cases.
- Generally, people have become more active as restrictions eased and stores reopened. Retail sales recovered from a
  record decline with five consecutive months of growth, and notably beat estimates for March as consumers spent
  recently received stimulus checks.
- Restaurants saw initial improvements before declining with the fall spike in cases and rising again after the holidays. In-store dining has been cited as a key contributor to increases in infections.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of March 31, 2021 and represents the US Retail Sales SA MoM%.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. Data is as of March 26, 2021 and represents the deviation from normal mobility behaviors induced by COVID-19 (formerly the "Social Distancing Index"). The index represents a weighted average of various lengths of time that a mobile device, like a cell phone, leaves its "home" or place of residence, and/or how long a device stays at home. A decline in this index represents a mobile device at home for a longer period than average.

<sup>&</sup>lt;sup>3</sup> Source: Bloomberg. This data shows year-over-year seated diners at restaurants on the OpenTable network across all channels: online reservations, phone reservations, and walk-ins. Only states or cities with 50+ restaurants in the sample are included. All such restaurants on the OpenTable network in either period are included. Data is as of March 31, 2021. Index start date 2/19/20.

# **Executive Summary**



**Executive Summary** 

#### **Executive Summary**

- The System returned 4.1% during Q1 2021 ending with a market value of approximately \$215.4 million. This represents an increase of \$41 million since the end of Q1 2020.
- The System's total return for the past 12 months is 34.4%, outperforming the benchmarks and the median of the peer group by 1.5%
- There were several standouts among the individual managers, led by Frontier's 103%, and DFA Emerging Markets' 67% during the past 12 months.
- The long term performance for the System has been very strong. For the past 10 and 20 years, it has placed in the top third to quartile in its peer group.
- We are in the process of adding the newest asset class approved by the board, Infrastructure.
- The System continues to spend little on investment management fees, with approximately 0.27% annually.

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# First Quarter 2021 Investment Review





# **Retirement System Summary**

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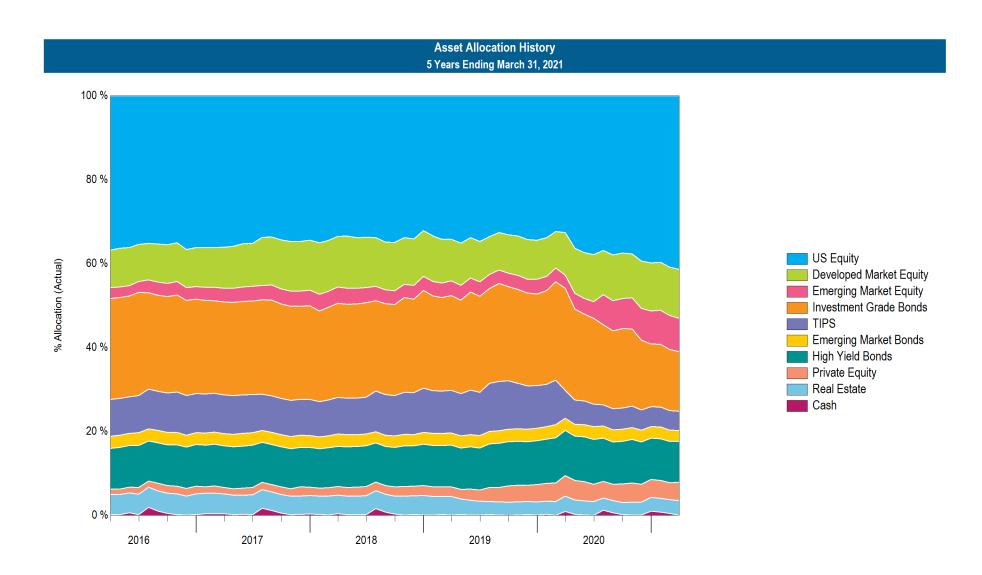
## Total Retirement System | As of March 31, 2021

	Current Balance	Current Allocation	New Policy Step 1	New Policy Step 2	New Policy Range
US Equity	\$89,118,485	41%	34%	38%	28% - 42%
Developed Market Equity	\$25,086,944	12%	10%	12%	5% - 15%
Emerging Market Equity	\$17,041,571	8%	8%	10%	1% - 12%
Investment Grade Bonds	\$30,646,387	14%	18%	12%	10% - 25%
TIPS	\$9,848,691	5%	2%	0%	0% - 10%
Emerging Market Bonds	\$5,655,846	3%	3%	2%	1% - 5%
High Yield Bonds	\$20,958,518	10%	7%	5%	5% - 12%
Private Equity	\$9,386,470	4%	5%	5%	3% - 7%
Real Estate	\$7,554,979	4%	7%	7%	2% - 10%
Infrastructure			2%	5%	0% - 5%
Private Debt			4%	4%	0% - 5%
Cash	\$97,437	0%	0%	0%	0% - 5%
Total	\$215,395,330	100%	100%	100%	

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Total Retirement System | As of March 31, 2021





## Total Retirement System | As of March 31, 2021

	Market Value	% of	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Total Retirement System (net)	215,395,330	100.0	2.8	34.4	9.9	9.6	7.9	7.0	8.0	Jul-88
55% MSCI World & 45% Barclays Aggregate			1.2	27.8	9.5	8.9	7.2	6.2	7.2	Jul-88
65% MSCI World / 35% Barclays Aggregate			2.0	33.3	10.3	9.9	7.8	6.4	7.4	Jul-88
InvMetrics Public DB \$50mm-\$250mm Net Median			2.9	32.9	9.6	9.7	7.6	6.4	7.8	Jul-88
Domestic Equity Assets (net)	89,118,485	41.4	6.3	62.6	13.2	14.1	12.2	7.8	9.1	Oct-06
Russell 3000			6.3	62.5	17.1	16.6	13.8	8.9	10.2	Oct-06
International Developed Markets Equity Assets (net)	25,086,944	11.6	3.5	44.5	6.3	9.0	4.5		3.6	Oct-06
MSCI EAFE			3.5	44.6	6.0	8.8	5.5	5.5	3.9	Oct-06
International Emerging Markets Equity Assets (net)	17,041,571	7.9	2.5	64.4	7.5	13.0			8.8	Jan-15
MSCI Emerging Markets			2.3	58.4	6.5	12.1	3.7	10.0	7.7	Jan-15
Investment Grade Bonds Assets (net)	30,646,387	14.2	-3.4	8.0	4.6	3.1	3.4	4.5	6.0	Jul-88
BBgBarc US Aggregate TR			-3.4	0.7	4.7	3.1	3.4	4.5	6.1	Jul-88
High Yield Bond Assets (net)	20,958,518	9.7	0.5	20.4	6.4	6.9	5.9		6.7	Sep-03
BBgBarc US High Yield TR			0.8	23.7	6.8	8.1	6.5	7.5	7.7	Sep-03
TIPS Assets (net)	9,848,691	4.6	-1.5	7.5	5.6	3.8	3.4		4.0	Oct-05
BBgBarc US TIPS TR			-1.5	7.5	5.7	3.9	3.4	5.1	4.1	Oct-05
Emerging Market Debt Assets (net)	5,655,846	2.6	-4.6	19.6	3.5	5.6			5.0	Jan-15
JP Morgan EMBI Global Diversified			-4.5	16.0	4.0	5.1	5.6	8.1	5.0	Jan-15
Open-Ended Real Estate (net)	5,784,940	2.7	2.2	3.1	5.9	6.8	10.1	6.8	7.9	Oct-95
NCREIF ODCE			2.1	2.3	4.9	6.2	9.7	7.5	8.7	Oct-95
Total Closed End Real Estate (net)	1,770,039	0.8	-4.6	-8.0	-18.5	-7.5			1.7	Jan-13
Private Equity Assets (net)	9,386,470	4.4	6.7	24.4	18.0	9.8	8.0		7.0	Oct-06
Cash (net)	97,437	0.0								

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## Total Retirement System | As of March 31, 2021

		Trailing P	erformar	nce							
	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Total Retirement System	215,395,330	100.0		2.8	34.4	9.9	9.6	7.9	7.0	8.0	Jul-88
55% MSCI World & 45% Barclays Aggregate				1.2	27.8	9.5	8.9	7.2	6.2	7.2	Jul-88
65% MSCI World / 35% Barclays Aggregate				2.0	<i>33.3</i>	10.3	9.9	7.8	6.4	7.4	Jul-88
InvMetrics Public DB \$50mm-\$250mm Net Median				2.9	32.9	9.6	9.7	7.6	6.4	7.8	Jul-88
Domestic Equity Assets	89,118,485	41.4	41.4	6.3	62.6	13.2	14.1	12.2	7.8	9.1	Oct-06
Russell 3000				6.3	62.5	17.1	16.6	13.8	8.9	10.2	Oct-06
RhumbLine S&P 500 Index	35,665,717	16.6	40.0	6.1	56.1	16.7	16.2	13.9	8.5	7.5	Mar-99
S&P 500				6.2	56.4	16.8	16.3	13.9	8.5	7.4	Mar-99
eV US Passive S&P 500 Equity Net Median				6.1	56.1	16.7	16.2	13.8	8.3	7.4	Mar-99
Frontier Capital Appreciation	24,660,151	11.4	27.7	10.2	103.2	14.1	15.3			13.8	Feb-13
Russell 2500 Growth				2.5	87.5	20.0	19.9	14.2	10.8	16.1	Feb-13
eV US Small-Mid Cap Growth Equity Net Median				2.6	82.9	21.1	19.9	13.9	11.1	15.7	Feb-13
RhumbLine HEDI	28,792,618	13.4	32.3	3.4						17.1	Nov-20
Russell 1000 HEDI Moderate GR USD				3.5	49.0	17.5	16.3	15.3	10.6	17.2	Nov-20
eV US Large Cap Core Equity Gross Median				6.5	55.9	15.9	15.8	13.7	9.3	22.4	Nov-20

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## Total Retirement System | As of March 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
International Developed Markets Equity Assets	25,086,944	11.6	11.6	3.5	44.5	6.3	9.0	4.5		3.6	Oct-06
MSCI EAFE				3.5	44.6	6.0	8.8	5.5	5.5	3.9	Oct-06
RhumbLine MSCI EAFE Index	25,086,944	11.6	100.0	3.5	44.5	6.3	9.0			4.9	Aug-14
MSCI EAFE				3.5	44.6	6.0	8.8	5.5	5.5	4.7	Aug-14
eV EAFE All Cap Equity Net Median				3.9	48.2	6.4	9.2	6.7	6.9	5.8	Aug-14
International Emerging Markets Equity Assets	17,041,571	7.9	7.9	2.5	64.4	7.5	13.0	-		8.8	Jan-15
MSCI Emerging Markets				2.3	58.4	6.5	12.1	3.7	10.0	7.7	Jan-15
DFA Emerging Markets	9,282,885	4.3	54.5	5.3	67.3	5.1	11.0			7.2	Jan-15
MSCI Emerging Markets				2.3	58.4	6.5	12.1	3.7	10.0	7.7	Jan-15
eV Emg Mkts All Cap Equity Net Median				2.7	63.3	7.3	13.3	4.7	10.6	8.4	Jan-15
Driehaus Emerging Market Equity	7,758,686	3.6	45.5	-0.6	61.1	9.5	14.8			10.2	Jan-15
MSCI Emerging Markets				2.3	58.4	6.5	12.1	3.7	10.0	7.7	Jan-15
eV Emg Mkts All Cap Equity Net Median				2.7	63.3	7.3	13.3	4.7	10.6	8.4	Jan-15
Investment Grade Bonds Assets	30,646,387	14.2	14.2	-3.4	0.8	4.6	3.1	3.4	4.5	6.0	Jul-88
BBgBarc US Aggregate TR				-3.4	0.7	4.7	3.1	3.4	4.5	6.1	Jul-88
SSgA U.S. Aggregate Bond Index	30,646,387	14.2	100.0	-3.4	0.8	4.6	3.1	3.4		4.6	May-01
BBgBarc US Aggregate TR				-3.4	0.7	4.7	3.1	3.4	4.5	4.5	May-01
eV US Core Fixed Inc Net Median				-3.2	3.1	4.9	3.5	3.7	4.7	4.8	May-01

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## Total Retirement System | As of March 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
High Yield Bond Assets	20,958,518	9.7	9.7	0.5	20.4	6.4	6.9	5.9		6.7	Sep-03
BBgBarc US High Yield TR				0.8	23.7	6.8	8.1	6.5	7.5	7.7	Sep-03
Shenkman Capital	20,958,518	9.7	100.0	0.5	20.4	6.4	6.9	5.9		6.7	Apr-06
BBgBarc US High Yield TR				0.8	23.7	6.8	8.1	6.5	7.5	7.4	Apr-06
eV US High Yield Fixed Inc Net Median				0.9	21.7	6.1	7.2	6.0	7.1	6.8	Apr-06
TIPS Assets	9,848,691	4.6	4.6	-1.5	7.5	5.6	3.8	3.4		4.0	Oct-05
BBgBarc US TIPS TR				-1.5	7.5	5.7	3.9	3.4	5.1	4.1	Oct-05
SSgA TIPS Index-NL	9,848,691	4.6	100.0	-1.5	7.5	5.6	3.8	3.4		4.0	Oct-05
BBgBarc US TIPS TR				-1.5	7.5	5.7	3.9	3.4	5.1	4.1	Oct-05
eV US TIPS / Inflation Fixed Inc Net Median				-1.2	8.9	5.7	4.1	3.4	5.2	4.1	Oct-05
Emerging Market Debt Assets	5,655,846	2.6	2.6	-4.6	19.6	3.5	5.6			5.0	Jan-15
JP Morgan EMBI Global Diversified				-4.5	16.0	4.0	5.1	5.6	8.1	5.0	Jan-15
Payden Emerging Market Bond	5,655,846	2.6	100.0	-4.6	19.6	3.5	5.6			5.0	Jan-15
JP Morgan EMBI Global Diversified				-4.5	16.0	4.0	5.1	5.6	8.1	5.0	Jan-15
Open-Ended Real Estate	5,784,940	2.7	2.7	2.2	3.1	5.9	6.8	10.1	6.8	7.9	Oct-95
NCREIF ODCE				2.1	2.3	4.9	6.2	9.7	7.5	8.7	Oct-95
Clarion Partners	5,784,940	2.7	100.0	2.2	3.1	5.9	6.8	10.1		7.1	Oct-02
NCREIF ODCE				2.1	2.3	4.9	6.2	9.7	7.5	7.7	Oct-02

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#### Total Retirement System | As of March 31, 2021

	Market Value (\$)	% of Portfolio	% of Sector	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	20 Yrs (%)	Inception (%)	Inception Date
Total Closed End Real Estate	1,770,039	0.8	0.8	-4.6	-8.0	-18.5	-7.5		-	1.7	Jan-13
Rockwood Capital Real Estate Partners Fund XI, L.P.	1,770,039	0.8	100.0	-4.6	-4.6					-3.5	Dec-19
Private Equity Assets	9,386,470	4.4	4.4	6.7	24.4	18.0	9.8	8.0	-	7.0	Oct-06
North American Strategic Partners 2006	366,535	0.2	3.9								
Ironsides Partnership Fund IV	2,046,735	1.0	21.8								
Ironsides Direct Investment Fund IV	2,118,593	1.0	22.6								
Ironsides Partnership Fund V, L.P.	400,405	0.2	4.3								
Ironsides Direct Investment Fund V, L.P.	2,670,308	1.2	28.4								
HarbourVest 2019 Global Fund	1,783,894	0.8	19.0								
Cash	97,437	0.0	0.0								

Private Equity market values are as of December 31, 2020 and adjusted for subsequent flows.

Ironsides Partnership IV, Ironsides Partnership V and HarbourVest are all lagged from September 30, 2020 due to 12/31/2020 data being currently unavailable.

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#### Total Retirement System | As of March 31, 2021

	Calendar Y	ear Perf	ormanc	e						
	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)
Total Retirement System	14.2	17.5	-4.5	13.0	8.7	-0.2	6.3	14.0	10.9	2.4
55% MSCI World & 45% Barclays Aggregate	12.9	19.1	-4.6	13.6	5.5	0.0	5.5	13.0	10.7	0.7
65% MSCI World / 35% Barclays Aggregate	13.7	21.0	-5.5	15.5	5.9	-0.2	5.4	15.9	11.9	-0.7
Domestic Equity Assets	13.4	27.6	-6.9	20.1	14.6	-1.6	13.1	33.1	15.3	0.0
Russell 3000	20.9	31.0	-5.2	21.1	12.7	0.5	12.6	33.6	16.4	1.0
RhumbLine S&P 500 Index	18.3	31.4	-4.4	21.8	11.9	1.4	13.6	32.2	16.0	2.1
S&P 500	18.4	31.5	-4.4	21.8	12.0	1.4	13.7	32.4	16.0	2.1
Frontier Capital Appreciation	18.1	28.9	-13.9	19.1	20.5	-6.5	12.4			
Russell 2500 Growth	40.5	32.7	-7.5	24.5	9.7	-0.2	7.1	40.6	16.1	-1.6
RhumbLine HEDI										
Russell 1000 HEDI Moderate GR USD	18.5	32.7	-0.9	23.4	11.4	4.8	15.4	30.9	13.9	9.0
International Developed Markets Equity Assets	7.9	22.3	-13.5	24.9	1.4	-0.8	-8.7	21.2	15.0	-14.1
MSCI EAFE	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1
RhumbLine MSCI EAFE Index	7.9	22.3	-13.5	24.9	1.4	-0.8				
MSCI EAFE	7.8	22.0	-13.8	25.0	1.0	-0.8	-4.9	22.8	17.3	-12.1

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#### Total Retirement System | As of March 31, 2021

	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011
International Emerging Markets Equity Assets	21.1	20.7	-15.4	39.7	9.4	-12.7				
MSCI Emerging Markets	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6	18.2	-18.4
DFA Emerging Markets	13.9	16.0	-15.2	36.6	12.4	-14.9				
MSCI Emerging Markets	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6	18.2	-18.4
Driehaus Emerging Market Equity	28.0	25.3	-15.6	43.0	6.5	-10.6				
MSCI Emerging Markets	18.3	18.4	-14.6	37.3	11.2	-14.9	-2.2	-2.6	18.2	-18.4
Investment Grade Bonds Assets	7.5	8.7	0.0	3.6	2.6	0.6	6.0	-2.0	4.3	7.8
BBgBarc US Aggregate TR	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8
SSgA U.S. Aggregate Bond Index	7.5	8.7	0.0	3.6	2.6	0.6	6.0	-2.0	4.3	7.8
BBgBarc US Aggregate TR	7.5	8.7	0.0	3.5	2.6	0.5	6.0	-2.0	4.2	7.8
High Yield Bond Assets	6.3	14.0	-1.8	6.5	12.6	-2.3	2.9	6.4	12.4	6.0
BBgBarc US High Yield TR	7.1	14.3	-2.1	7.5	17.1	-4.5	2.5	7.4	15.8	5.0
Shenkman Capital	6.3	14.0	-1.8	6.5	12.6	-2.3	2.9	6.4	12.4	6.0
BBgBarc US High Yield TR	7.1	14.3	-2.1	7.5	17.1	-4.5	2.5	7.4	15.8	5.0
TIPS Assets	10.9	8.4	-1.4	3.0	4.7	-1.4	3.6	-8.6	6.9	13.5
BBgBarc US TIPS TR	11.0	8.4	-1.3	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6
SSgA TIPS Index-NL	10.9	8.4	-1.4	3.0	4.7	-1.4	3.6	-8.6	6.9	13.5
BBgBarc US TIPS TR	11.0	8.4	-1.3	3.0	4.7	-1.4	3.6	-8.6	7.0	13.6
Emerging Market Debt Assets	6.2	16.5	-7.0	12.0	11.5	-0.8				
JP Morgan EMBI Global Diversified	5.3	15.0	-4.3	10.3	10.2	1.2	7.4	-5.3	17.4	7.3
Payden Emerging Market Bond	6.2	16.5	-7.0	12.0	11.5	-0.8				
JP Morgan EMBI Global Diversified	5.3	15.0	-4.3	10.3	10.2	1.2	7.4	-5.3	17.4	7.3

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#### Total Retirement System | As of March 31, 2021

	2020 (%)	2019 (%)	2018 (%)	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)
Open-Ended Real Estate	2.2	7.3	8.6	7.9	9.1	15.7	13.2	12.8	10.9	18.7
NCREIF ODCE	1.2	5.3	8.3	7.6	8.8	15.0	12.5	13.9	10.9	16.0
Clarion Partners	2.2	7.3	8.6	7.9	9.1	15.7	13.2	12.8	10.9	18.7
NCREIF ODCE	1.2	5.3	8.3	7.6	8.8	15.0	12.5	13.9	10.9	16.0
Total Closed End Real Estate	-5.3	-38.2	-1.8	15.1	9.5	23.8	13.3	18.8		
Rockwood Capital Real Estate Partners Fund XI, L.P.	0.0									
Private Equity Assets	23.2	17.7	10.2	-5.3	-2.8	8.6	5.5	9.1	12.2	3.6

North American Strategic Partners 2006

Ironsides Partnership Fund IV

Ironsides Direct Investment Fund IV

Ironsides Partnership Fund V, L.P.

Ironsides Direct Investment Fund V, L.P.

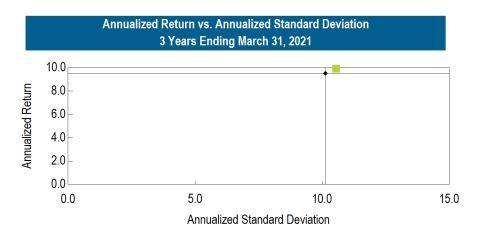
HarbourVest 2019 Global Fund

Cash

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#### Total Retirement System | As of March 31, 2021



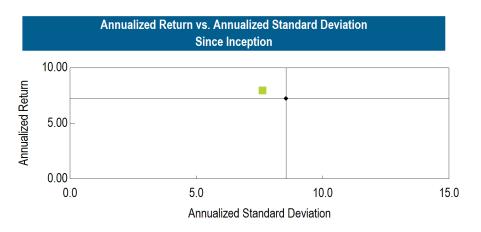
- Total Retirement System
- 55% MSCI World & 45% Barclays Aggregate



- Total Retirement System
- ◆ 55% MSCI World & 45% Barclays Aggregate



- Total Retirement System
- 55% MSCI World & 45% Barclays Aggregate

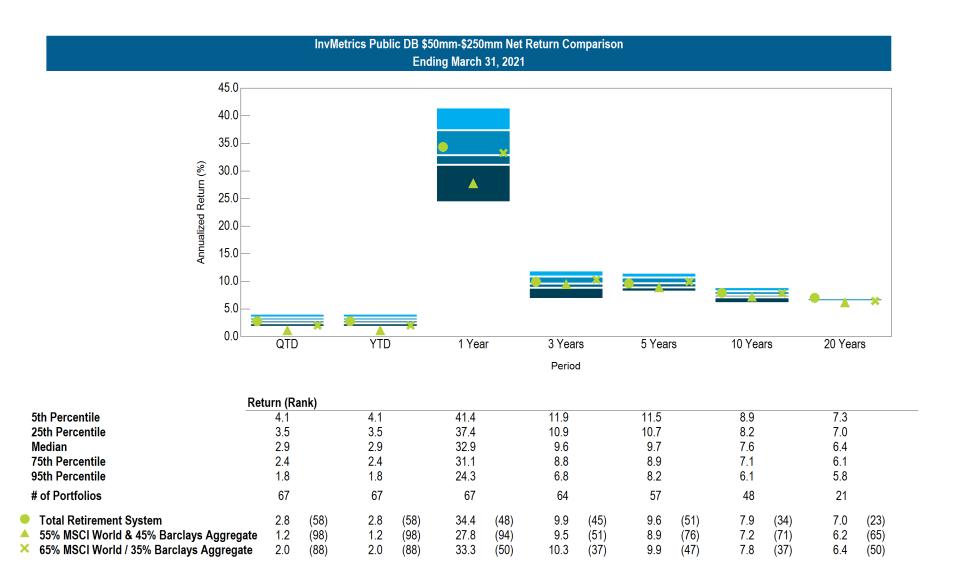


- Total Retirement System
- ◆ 55% MSCI World & 45% Barclays Aggregate

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#### Total Retirement System | As of March 31, 2021



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Total Retirement System | As of March 31, 2021

Statistics Summary									
5 Years Ending March 31, 2021									
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error			
Total Retirement System	9.6%	8.5%	0.4	1.0	1.0	1.7%			
55% MSCI World & 45% Barclays Aggregate	8.9%	8.2%		1.0	1.0	0.0%			
Equity Assets	12.9%	15.3%	-1.2	1.0	0.8	3.1%			
Russell 3000	16.6%	15.6%		1.0	1.0	0.0%			
Domestic Equity Assets	14.1%	16.3%	-1.0	1.0	0.8	2.7%			
Russell 3000	16.6%	15.6%		1.0	1.0	0.0%			
RhumbLine S&P 500 Index	16.2%	14.9%	-1.2	1.0	1.0	0.0%			
S&P 500	16.3%	14.9%		1.0	1.0	0.0%			
Frontier Capital Appreciation	15.3%	23.0%	-0.6	1.1	0.6	7.1%			
Russell 2500 Growth	19.9%	19.5%		1.0	1.0	0.0%			
RhumbLine HEDI									
Russell 1000 HEDI Moderate GR USD	16.3%	13.8%		1.0	1.1	0.0%			
International Developed Markets Equity Assets	9.0%	14.6%	0.8	1.0	0.5	0.2%			
MSCI EAFE	8.8%	14.7%		1.0	0.5	0.0%			
RhumbLine MSCI EAFE Index	9.0%	14.6%	0.8	1.0	0.5	0.2%			
MSCI EAFE	8.8%	14.7%		1.0	0.5	0.0%			
International Emerging Markets Equity Assets	13.0%	16.3%	0.4	1.0	0.7	2.5%			
MSCI Emerging Markets	12.1%	16.4%		1.0	0.7	0.0%			

RhumbLine HEDI funded on 10/5/2020. Statistics will be reflected after first full calendar year.

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#### Total Retirement System | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
DFA Emerging Markets	11.0%	17.6%	-0.3	1.0	0.6	3.8%
MSCI Emerging Markets	12.1%	16.4%		1.0	0.7	0.0%
Driehaus Emerging Market Equity	14.8%	15.6%	0.7	0.9	0.9	4.0%
MSCI Emerging Markets	12.1%	16.4%		1.0	0.7	0.0%
Investment Grade Bonds Assets	3.1%	3.3%	-0.1	1.0	0.6	0.1%
BBgBarc US Aggregate TR	3.1%	3.3%		1.0	0.6	0.0%
SSgA U.S. Aggregate Bond Index	3.1%	3.3%	-0.1	1.0	0.6	0.1%
BBgBarc US Aggregate TR	3.1%	3.3%		1.0	0.6	0.0%
High Yield Bond Assets	6.9%	6.7%	-1.1	0.9	0.9	1.1%
BBgBarc US High Yield TR	8.1%	7.6%		1.0	0.9	0.0%
Shenkman Capital	6.9%	6.7%	-1.1	0.9	0.9	1.1%
BBgBarc US High Yield TR	8.1%	7.6%		1.0	0.9	0.0%
TIPS Assets	3.8%	3.6%	-1.2	1.0	0.7	0.1%
BBgBarc US TIPS TR	3.9%	3.6%		1.0	0.8	0.0%
SSgA TIPS Index-NL	3.8%	3.6%	-1.2	1.0	0.7	0.1%
BBgBarc US TIPS TR	3.9%	3.6%		1.0	0.8	0.0%
Emerging Market Debt Assets	5.6%	10.4%	0.3	1.1	0.4	2.1%
JP Morgan EMBI Global Diversified	5.1%	9.1%		1.0	0.4	0.0%
Payden Emerging Market Bond	5.6%	10.4%	0.3	1.1	0.4	2.1%
JP Morgan EMBI Global Diversified	5.1%	9.1%		1.0	0.4	0.0%

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#### Total Retirement System | As of March 31, 2021

	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Open-Ended Real Estate	6.8%	3.3%	0.7	1.1	1.7	0.8%
NCREIF ODCE	6.2%	3.0%		1.0	1.7	0.0%
Clarion Partners	6.8%	3.3%	0.7	1.1	1.7	0.8%
NCREIF ODCE	6.2%	3.0%		1.0	1.7	0.0%
Total Closed End Real Estate	-7.5%	21.7%	-0.6	0.4	-0.4	21.7%
NCREIF ODCE	6.2%	3.0%		1.0	1.7	0.0%
Rockwood Capital Real Estate Partners Fund XI, L.P.						
NCREIF-ODCE						
Comerica Short Term Fund	0.4%	0.2%	-2.0	-0.1	-3.1	0.3%
91 Day T-Bills	1.1%	0.2%		1.0	0.0	0.0%

Rockwood Capital XI statistics will be reflected after first full calendar year.

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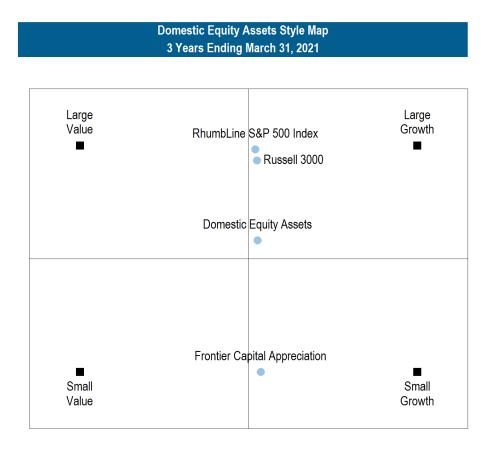
## **Retirement System Detail**

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Domestic Equity Assets | As of March 31, 2021

Asset Allocation on March 31, 2021							
	Actual	Actual					
Frontier Capital Appreciation	\$24,660,151	27.7%					
RhumbLine HEDI	\$28,792,618	32.3%					
RhumbLine S&P 500 Index	\$35,665,717	40.0%					
Total	\$89,118,485	100.0%					

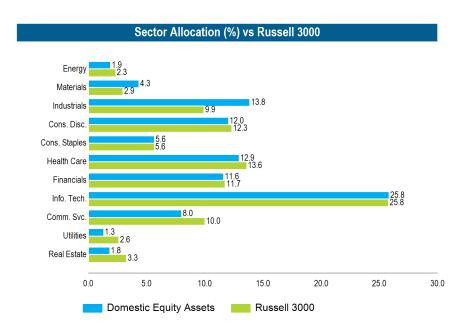


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#### Domestic Equity Assets | As of March 31, 2021

	Domestic Equity Assets	Characteristics	
	Portfolio	Index	Portfolio
	Q1-21	Q1-21	Q4-20
Market Value			
Market Value (\$M)	89.1		84.5
Number Of Holdings	678	3035	684
Characteristics			
Weighted Avg. Market Cap. (\$B)	329.4	385.9	345.7
Median Market Cap (\$B)	24.0	2.3	22.1
P/E Ratio	28.3	29.5	29.4
Yield	1.2	1.4	1.2
EPS Growth - 5 Yrs.	14.6	14.2	13.7
Price to Book	4.3	4.3	4.3



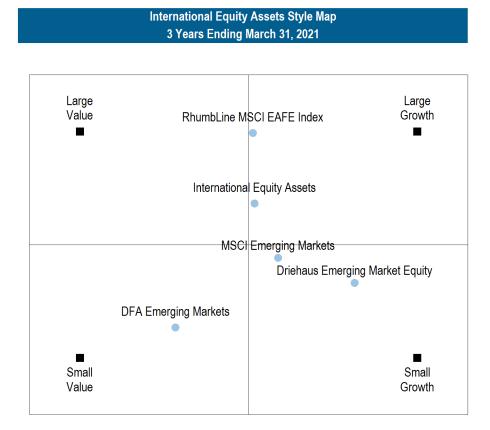
Top 10 Holdings	
APPLE INC	4.1%
MICROSOFT CORP	3.8%
AMAZON.COM INC	2.7%
FACEBOOK INC	1.5%
ALPHABET INC	1.4%
ALPHABET INC	1.4%
JOHNSON & JOHNSON	1.0%
BERKSHIRE HATHAWAY INC	0.9%
VISA INC	0.8%
MASTERCARD INC	0.8%
Total	18.4%

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## City of Marlborough Contributory Retirement System International Equity Assets | As of March 31, 2021

Asset Allocation on March 31, 2021								
	Actual	Actual						
DFA Emerging Markets	\$9,282,885	22.0%						
Driehaus Emerging Market Equity	\$7,758,686	18.4%						
RhumbLine MSCI EAFE Index	\$25,086,944	59.5%						
Total	\$42,128,515	100.0%						

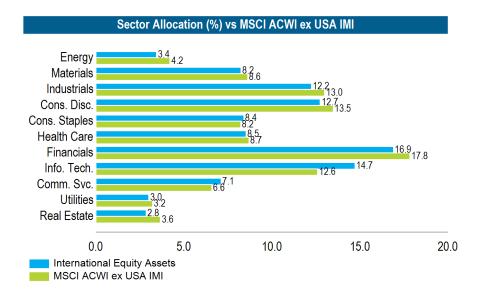


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#### International Equity Assets | As of March 31, 2021

International Equity Characteristics									
	Portfolio	Index	Portfolio						
	Q1-21	Q1-21	Q4-20						
Market Value									
Market Value (\$M)	42.1		40.8						
Number Of Holdings	6421	6554	6367						
Characteristics									
Weighted Avg. Market Cap. (\$B)	107.2	88.8	103.3						
Median Market Cap (\$B)	1.0	1.9	1.0						
P/E Ratio	21.9	21.3	21.7						
Yield	2.1	2.2	2.1						
EPS Growth - 5 Yrs.	7.5	5.8	7.0						
Price to Book	2.9	2.6	3.0						



Top 10 Holdings	
TENCENT HOLDINGS LTD	2.3%
SAMSUNG ELECTRONICS CO LTD	2.0%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.5%
ASML HOLDING NV	1.3%
NESTLE SA, CHAM UND VEVEY	1.2%
ALIBABA GROUP HOLDING LTD	0.9%
ROCHE HOLDING AG	0.8%
NORTHERN INSTITUTIONAL U.S. GOVERNMENT SELECT PORTFOLIO	0.8%
AIA GROUP LTD	0.7%
NOVARTIS AG	0.7%
Total	12.1%

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#### International Equity Assets | As of March 31, 2021

Country Allocation Report						
	As of 3/31/2021					
Region	% of Total	% of Bench	% Diff			
North America ex U.S.	0.2%	6.7%	-6.5%			
United States	1.8%	0.0%	1.8%			
Europe Ex U.K.	31.0%	29.8%	1.2%			
United Kingdom	7.2%	9.4%	-2.2%			
Pacific Basin Ex Japan	9.4%	7.7%	1.8%			
Japan	14.9%	16.1%	-1.1%			
Emerging Markets	34.5%	29.5%	5.0%			
Other	0.9%	0.8%	0.1%			
Total	100.0%	100.0%	0.0%			

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#### International Equity Assets | As of March 31, 2021

International Equity Country Allocation						
vs MSCI ACWI ex USA IMI						
Country	% of	% of				
Courti y	Total	Bench	% Diff			
ARGENTINA	0.1%	0.0%	0.1%			
AUSTRALIA	4.2%	4.6%	-0.4%			
AUSTRIA	0.1%	0.2%	-0.1%			
BAHRAIN	0.0%	0.0%	0.0%			
BANGLADESH	0.0%	0.0%	0.0%			
BELGIUM	0.5%	0.6%	-0.1%			
BRAZIL	1.7%	1.4%	0.3%			
CANADA	0.2%	6.7%	-6.5%			
CHILE	0.2%	0.2%	0.0%			
CHINA	10.7%	10.5%	0.2%			
COLOMBIA	0.0%	0.1%	0.0%			
CROATIA	0.0%	0.0%	0.0%			
CZECH REPUBLIC	0.0%	0.0%	0.0%			
DENMARK	1.4%	1.4%	0.0%			
EGYPT	0.1%	0.0%	0.1%			
ESTONIA	0.0%	0.0%	0.0%			
FINLAND	0.7%	0.7%	0.0%			
FRANCE	6.4%	6.3%	0.1%			
GERMANY	5.9%	5.6%	0.3%			
GREECE	0.0%	O.1%	0.0%			
HONG KONG	4.3%	2.0%	2.3%			
HUNGARY	0.2%	O.1%	0.2%			
INDIA	5.3%	3.1%	2.2%			
INDONESIA	0.6%	0.4%	0.2%			

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#### International Equity Assets | As of March 31, 2021

Country	% of	% of	-0. D:
	Total	Bench	% Diff
IRELAND	0.6%	0.4%	0.2%
ISRAEL	0.3%	0.6%	-0.2%
ITALY	1.3%	1.6%	-0.4%
JAPAN	14.9%	16.1%	-1.1%
JORDAN	0.0%	0.0%	0.0%
KAZAKHSTAN	0.0%	0.0%	0.0%
KENYA	0.0%	0.0%	0.0%
KOREA	5.3%	4.1%	1.2%
KUWAIT	0.0%	0.2%	-0.2%
LEBANON	0.0%	0.0%	0.0%
LITHUANIA	0.0%	0.0%	0.0%
LUXEMBOURG	0.2%	0.0%	0.2%
MALAYSIA	0.6%	0.5%	0.1%
MAURITIUS	0.0%	0.0%	0.0%
MEXICO	0.8%	0.5%	0.3%
MOROCCO	0.0%	0.0%	0.0%
NETHERLANDS	4.0%	2.5%	1.5%
NEW ZEALAND	0.2%	0.2%	0.0%
NIGERIA	0.0%	0.0%	0.0%
NORWAY	0.4%	0.6%	-0.2%
OMAN	0.0%	0.0%	0.0%
OTHER	0.4%	0.0%	0.4%
PAKISTAN	0.0%	0.0%	0.0%
PERU	0.0%	0.1%	-O.1%
PHILIPPINES	0.2%	0.2%	0.0%
POLAND	0.2%	0.2%	-O.1%
PORTUGAL	0.1%	0.1%	0.0%

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#### International Equity Assets | As of March 31, 2021

Country	% of	% of	
'	Total	Bench	% Diff
QATAR	O.1%	0.2%	-0.2%
ROMANIA	0.0%	0.0%	0.0%
RUSSIA	0.7%	0.8%	-0.1%
SAUDI ARABIA	0.5%	0.8%	-0.3%
SERBIA	0.0%	0.0%	0.0%
SINGAPORE	0.8%	0.8%	0.0%
SLOVENIA	0.0%	0.0%	0.0%
SOUTH AFRICA	1.1%	1.1%	0.0%
SPAIN	1.4%	1.5%	-0.1%
SRI LANKA	0.0%	0.0%	0.0%
SWEDEN	2.0%	2.6%	-0.6%
SWITZERLAND	5.9%	5.4%	0.4%
TAIWAN	5.8%	4.4%	1.4%
THAILAND	0.5%	0.6%	-0.1%
TUNISIA	0.0%	0.0%	0.0%
TURKEY	0.1%	0.1%	0.0%
UNITED ARAB EMIRATES	O.1%	0.2%	-0.1%
UNITED KINGDOM	7.2%	9.4%	-2.2%
UNITED STATES	1.8%	0.0%	1.8%
VIETNAM	0.0%	0.0%	0.0%
Total	100.0%	100.0%	0.0%

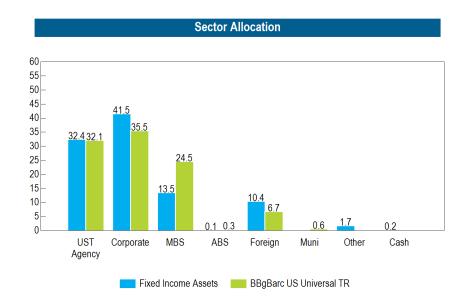
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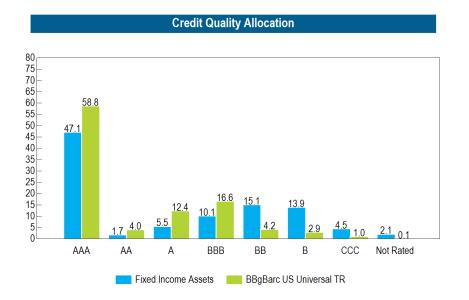


#### Fixed Income Assets | As of March 31, 2021

Asset Allocation on March 31, 2021							
Actual Ac							
Payden Emerging Market Bond	\$5,655,846	8.4%					
Shenkman Capital	\$20,958,518	31.2%					
SSgA TIPS Index-NL	\$9,848,691	14.7%					
SSgA U.S. Aggregate Bond Index	\$30,646,387	45.7%					
Total	\$67,109,443	100.0%					

Fixed Income Characteristics vs. BBgBarc US Universal TR								
Portfolio Index Portfo								
	Q1-21	Q1-21	Q4-20					
Fixed Income Characteristics								
Yield to Maturity	2.6	1.9	2.4					
Average Duration	5.8	6.2	5.8					
Average Quality	А	AA	А					
Weighted Average Maturity	7.8	8.3	8.3					







## **Retirement System Portfolio Reviews**

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#### RhumbLine S&P 500 Index | As of March 31, 2021

Account Information					
Account Name	RhumbLine S&P 500 Index				
Account Structure	Commingled Fund				
Investment Style	Passive				
Inception Date	3/01/99				
Account Type	US Equity				
Benchmark	S&P 500				
Universe	eV US Passive S&P 500 Equity Net				

Portfolio Performance Summary								
	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
RhumbLine S&P 500 Index S&P 500	6.1	6.1	56.1	16.7	16.2	13.9	7.5	Mar-99
	<i>6.2</i>	<i>6.2</i>	<i>56.4</i>	<i>16.8</i>	<i>16.3</i>	<i>13.9</i>	7.4	<i>Mar-99</i>

Top 10 Holdings	
APPLE INC	5.7%
MICROSOFT CORP	5.3%
AMAZON.COM INC	3.9%
FACEBOOK INC	2.1%
ALPHABET INC	1.8%
ALPHABET INC	1.8%
TESLA INC	1.5%
BERKSHIRE HATHAWAY INC	1.4%
JPMORGAN CHASE & CO	1.4%
JOHNSON & JOHNSON	1.3%
Total	26.2%

RhumbLine S&I	P 500 Index	Equity Characte	ristics
	vs S&P 5		
	Portfolio	Index	Portfolio
	Q1-21	Q1-21	Q4-20
Market Value			
Market Value (\$M)	35.7		34.3
Number Of Holdings	507	505	506
Characteristics			
Weighted Avg. Market Cap. (\$B)	460.2	467.6	483.3
Median Market Cap (\$B)	29.5	29.5	26.9
P/E Ratio	30.0	30.1	29.6
Yield	1.5	1.4	1.5
EPS Growth - 5 Yrs.	13.9	14.0	13.3
Price to Book	4.5	4.5	4.6
Sector Distribution			
Energy	2.8	2.7	2.3
Materials	2.7	2.6	2.6
Industrials	8.9	8.7	8.4
Consumer Discretionary	12.4	13.1	12.7
Consumer Staples	6.1	6.7	6.5
Health Care	13.0	12.6	13.5
Financials	11.3	11.5	10.5
Information Technology	26.6	26.1	27.6
Communication Services	10.9	11.0	10.8
Utilities	2.7	2.5	2.8
Real Estate	2.5	2.4	2.4

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#### RhumbLine HEDI | As of March 31, 2021

Account Information					
Account Name	RhumbLine HEDI				
Account Structure	Separate Account				
Investment Style	Passive				
Inception Date	11/01/20				
Account Type	US Equity				
Benchmark	Russell 1000 HEDI Moderate GR USD				
Universe	eV US Large Cap Core Equity Gross				

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
RhumbLine HEDI	3.4	3.4					17.1	Nov-20
Russell 1000 HEDI Moderate GR USD	3.5	3.5	49.0	17.5	16.3	15.3	17.2	Nov-20

Top 10 Holdings				
APPLE INC	5.5%			
MICROSOFT CORP	5.3%			
AMAZON.COM INC	3.6%			
FACEBOOK INC	2.2%			
ALPHABET INC	2.1%			
ALPHABET INC	2.0%			
JOHNSON & JOHNSON	1.4%			
VISA INC	1.3%			
MASTERCARD INC	1.3%			
HOME DEPOT INC. (THE)	1.2%			
Total	25.8%			

Rhumbline HEDI Characteristics	
	Portfolio
	Q1-21
Market Value	
Market Value (\$M)	28.8
Number Of Holdings	224
Characteristics	
Weighted Avg. Market Cap. (\$B)	432.8
Median Market Cap (\$B)	34.7
P/E Ratio	30.3
Yield	1.4
EPS Growth - 5 Yrs.	13.4
Price to Book	5.6
Sector Distribution	
Energy	1.0
Materials	3.1
Industrials	12.9
Consumer Discretionary	10.8
Consumer Staples	8.8
Health Care	13.1
Financials	10.8
Information Technology	27.0
Communication Services	10.6
Utilities	0.7
Real Estate	1.1



#### Frontier Capital Appreciation | As of March 31, 2021

Account Information					
Account Name	Frontier Capital Appreciation				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	2/01/13				
Account Type	US Equity				
Benchmark	Russell 2500 Growth				
Universe	eV US Small-Mid Cap Growth Equity Net				

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Frontier Capital Appreciation	10.2	10.2	103.2	14.1	15.3		13.8	Feb-13
Russell 2500 Growth	2.5	2.5	87.5	20.0	19.9	14.2	16.1	Feb-13

Top 10 Holdings				
BUILDERS FIRSTSOURCE INC	2.2%			
DANA INC	2.0%			
CREE INC.	2.0%			
TUTOR PERINI CORP	2.0%			
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC	1.8%			
CAESARS ENTERTAINMENT INC	1.6%			
CONTROLADORA VUELA COMPANIA DE AVIACION SA DE CV	1.6%			
KBR INC	1.6%			
INSULET CORP	1.6%			
NUANCE COMMUNICATIONS INC	1.5%			
Total	17.9%			

Frontier Capi	tal Appreciatio	on Characteris	tics
	Portfolio	Index	Portfolio
	Q1-21	Q1-21	Q4-20
Market Value			
Market Value (\$M)	24.7		22.4
Number Of Holdings	147	1311	148
Characteristics			
Weighted Avg. Market Cap. (\$B)	7.3	7.6	6.8
Median Market Cap (\$B)	3.9	1.8	3.8
P/E Ratio	20.6	36.3	26.6
Yield	0.5	0.4	0.6
EPS Growth - 5 Yrs.	21.6	18.6	15.7
Price to Book	3.1	6.4	3.1
Sector Distribution			
Energy	1.6	0.1	1.7
Materials	8.1	3.1	10.0
Industrials	22.1	13.5	19.6
Consumer Discretionary	12.8	13.1	11.7
Consumer Staples	1.2	2.9	1.4
Health Care	12.7	28.4	11.6
Financials	12.9	3.9	11.4
Information Technology	23.3	29.0	26.4
Communication Services	0.6	2.4	2.1
Utilities	0.0	1.0	0.0
Real Estate	1.7	2.6	1.6

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#### RhumbLine MSCI EAFE Index | As of March 31, 2021

Account Information				
Account Name	RhumbLine MSCI EAFE Index			
Account Structure	Commingled Fund			
Investment Style	Passive			
Inception Date	8/01/14			
Account Type	Non-US Stock Developed			
Benchmark	MSCI EAFE			
Universe	eV EAFE All Cap Equity Net			

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
RhumbLine MSCI EAFE Index  MSCI EAFE	3.5 <i>3.</i> 5	3.5 <i>3.5</i>	44.5 <i>44.</i> 6	6.3 <i>6.0</i>	9.0 <i>8.8</i>	 5.5	4.9 4.7	Aug-14

Top 10 Holdings	
NESTLE SA, CHAM UND VEVEY	2.0%
ASML HOLDING NV	1.6%
ROCHE HOLDING AG	1.4%
NOVARTIS AG	1.2%
LVMH MOET HENNESSY LOUIS VUITTON SE	1.1%
TOYOTA MOTOR CORP	1.0%
UNILEVER PLC	0.9%
AIA GROUP LTD	0.9%
SOFTBANK GROUP CORP	0.8%
SONY GROUP CORPORATION	0.8%
Total	11.5%

Rhumbline M	SCI EAFE Ind	ex Characteris	tics
	Portfolio	Index	Portfolio
	Q1-21	Q1-21	Q4-20
Market Value			
Market Value (\$M)	25.1		24.2
Number Of Holdings	877	875	876
Characteristics			
Weighted Avg. Market Cap. (\$B)	72.9	73.0	71.1
Median Market Cap (\$B)	12.8	12.9	12.3
P/E Ratio	23.3	23.3	22.3
Yield	2.3	2.3	2.3
EPS Growth - 5 Yrs.	3.1	2.8	3.0
Price to Book	2.7	2.6	2.7
Sector Distribution			
Energy	3.3	3.3	3.1
Materials	7.8	8.0	7.8
Industrials	15.3	15.5	15.0
Consumer Discretionary	12.6	12.6	12.5
Consumer Staples	10.1	10.3	10.3
Health Care	11.8	12.0	12.8
Financials	17.0	17.4	16.2
Information Technology	8.8	9.0	8.8
Communication Services	5.1	5.2	5.2
Utilities	3.6	3.7	3.8
Real Estate	3.0	3.0	3.0

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#### DFA Emerging Markets | As of March 31, 2021

Account Information				
Account Name	DFA Emerging Markets			
Account Structure	Mutual Fund			
Investment Style	Active			
Inception Date	1/01/15			
Account Type	Non-US Stock Emerging			
Benchmark	MSCI Emerging Markets			
Universe	eV Emg Mkts All Cap Equity Net			

Portfolio Performance Summary								
	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
DFA Emerging Markets	5.3	5.3	67.3	5.1	11.0		7.2	Jan-15
MSCI Emerging Markets	<i>2.3</i>	<i>2.3</i>	<i>58.4</i>	<i>6.5</i>	<i>12.1</i>	3.7	7.7	<i>Jan-15</i>

Top 10 Holdings				
TENCENT HOLDINGS LTD	4.4%			
SAMSUNG ELECTRONICS CO LTD	4.3%			
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.0%			
ALIBABA GROUP HOLDING LTD	2.0%			
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.5%			
PING AN INSURANCE GROUP	1.2%			
CHINA CONSTRUCTION BANK CORP	1.0%			
VALE SA	1.0%			
RELIANCE INDUSTRIES LTD	0.9%			
SK HYNIX INC	0.7%			
Total	20.0%			

DFA Emerging Markets Characteristics							
,	Portfolio	Index	Portfolio				
	Q1-21	Q1-21	Q4-20				
Market Value							
Market Value (\$M)	9.3		8.8				
Number Of Holdings	5518	1381	5465				
Characteristics							
Weighted Avg. Market Cap. (\$B)	118.3	176.6	115.0				
Median Market Cap (\$B)	0.6	7.1	0.6				
P/E Ratio	15.9	19.2	15.9				
Yield	2.3	2.0	2.3				
EPS Growth - 5 Yrs.	12.3	10.9	10.1				
Price to Book	2.6	3.0	2.6				
Sector Distribution							
Energy	4.4	4.8	5.0				
Materials	11.3	8.1	10.7				
Industrials	8.2	4.1	7.7				
Consumer Discretionary	13.1	17.6	13.1				
Consumer Staples	6.1	5.5	6.3				
Health Care	3.8	4.5	3.9				
Financials	15.8	18.4	15.5				
Information Technology	20.8	21.3	21.5				
Communication Services	8.9	11.4	9.3				
Utilities	2.9	2.0	2.9				
Real Estate	4.2	2.2	3.9				

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#### Driehaus Emerging Market Equity | As of March 31, 2021

	Account Information
Account Name	Driehaus Emerging Market Equity
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	1/01/15
Account Type	Non-US Stock Emerging
Benchmark	MSCI Emerging Markets
Universe	eV Emg Mkts All Cap Equity Net

Portfolio Performance Summary								
	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Driehaus Emerging Market Equity	-0.6	-0.6	61.1	9.5	14.8		10.2	Jan-15
MSCI Emerging Markets	<i>2.3</i>	<i>2.3</i>	<i>58.4</i>	<i>6.5</i>	<i>12.1</i>	3.7	7.7	<i>Jan-15</i>

Top 10 Holdings	
TENCENT HOLDINGS LTD	7.4%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	6.2%
SAMSUNG ELECTRONICS CO LTD	5.7%
NORTHERN INSTITUTIONAL U.S. GOVERNMENT SELECT PORTFOLIO	4.2%
ALIBABA GROUP HOLDING LTD	2.6%
H D F C BANK LTD	2.0%
ASML HOLDING NV	1.8%
KWEICHOW MOUTAI CO LTD	1.7%
RELIANCE INDUSTRIES LTD	1.7%
VISA INC	1.6%
Total	34.8%

Driehaus Emerg	jing Market I	<b>Equity Characte</b>	ristics
	Portfolio	Index	Portfolio
	Q1-21	Q1-21	Q4-20
Market Value			
Market Value (\$M)	7.8		7.8
Number Of Holdings	91	1381	95
Characteristics			
Weighted Avg. Market Cap. (\$B)	205.8	176.6	194.1
Median Market Cap (\$B)	30.8	7.1	31.6
P/E Ratio	32.8	19.2	34.8
Yield	1.1	2.0	0.9
EPS Growth - 5 Yrs.	12.8	10.9	14.2
Price to Book	4.5	3.0	5.0
Sector Distribution			
Energy	2.7	4.8	1.5
Materials	5.8	8.1	3.6
Industrials	7.2	4.1	5.7
Consumer Discretionary	12.8	17.6	15.1
Consumer Staples	5.6	5.5	8.0
Health Care	3.6	4.5	4.4
Financials	17.8	18.4	17.5
Information Technology	26.5	21.3	26.0
Communication Services	11.3	11.4	10.2
Utilities	1.1	2.0	0.5
Real Estate	0.6	2.2	1.5

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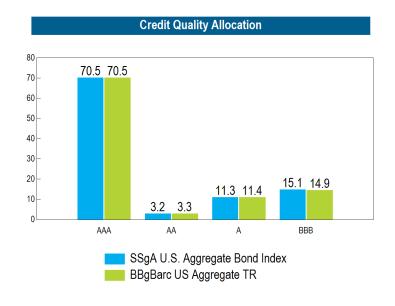


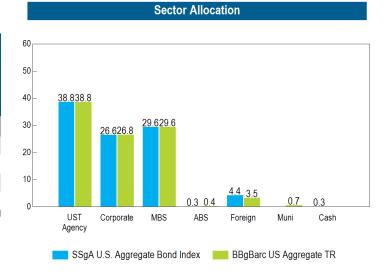
#### SSgA U.S. Aggregate Bond Index | As of March 31, 2021

	Account Information
Account Name	SSgA U.S. Aggregate Bond Index
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	5/01/01
Account Type	US Fixed Income Investment Grade
Benchmark	BBgBarc US Aggregate TR
Universe	eV US Core Fixed Inc Net

Portfolio Performance Summary								
	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
SSgA U.S. Aggregate Bond Index	-3.4	-3.4	0.8	4.6	3.1	3.4	4.6	May-01
BBgBarc US Aggregate TR	<i>-3.4</i>	-3.4	<i>0.7</i>	<i>4.7</i>	<i>3.1</i>	<i>3.4</i>	4.5	<i>May-01</i>

SSgA U.S. Aggregate Bond Index Characteristics							
vs. BBgl	Barc US Aggregate TR						
	Portfolio	Index	Portfolio				
	Q1-21	Q1-21	Q4-20				
Fixed Income Characteristics							
Yield to Maturity	1.6	1.5	1.1				
Average Duration	6.4	6.4	6.7				
Average Quality	AA	AA	AA				
Weighted Average Maturity	8.1	8.4	8.7				





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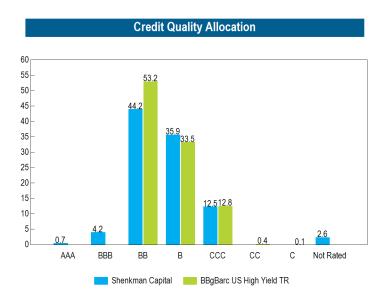


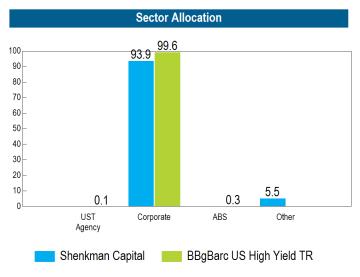
#### Shenkman Capital | As of March 31, 2021

Account Information					
Account Name	Shenkman Capital				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	4/01/06				
Account Type	US Fixed Income High Yield				
Benchmark	BBgBarc US High Yield TR				
Universe	eV US High Yield Fixed Inc Net				

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Shenkman Capital	0.5	0.5	20.4	6.4	6.9	5.9	6.7	Apr-06
BBgBarc US High Yield TR	0.8	0.8	23.7	6.8	8.1	6.5	7.4	Apr-06

Shenkman Capital Characteristics vs. BBgBarc US High Yield TR							
	Portfolio	Index	Portfolio				
	Q1-21	Q1-21	Q4-20				
Fixed Income Characteristics							
Yield to Maturity	3.7	4.8	4.6				
Average Duration	3.4	5.1	3.2				
Average Quality	BB	В	BB				
Weighted Average Maturity	6.0	6.5	6.5				







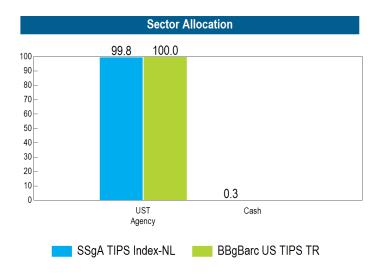
#### SSgA TIPS Index-NL | As of March 31, 2021

	Account Information
Account Name	SSgA TIPS Index-NL
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	10/01/05
Account Type	US Inflation Protected Fixed
Benchmark	BBgBarc US TIPS TR
Universe	eV US TIPS / Inflation Fixed Inc Net

Portfolio Performance Summary								
	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
SSgA TIPS Index-NL	-1.5	-1.5	7.5	5.6	3.8	3.4	4.0	Oct-05
BBgBarc US TIPS TR	-1.5	<i>-1.5</i>	<i>7.5</i>	<i>5.7</i>	<i>3.9</i>	<i>3.4</i>	<i>4.1</i>	<i>Oct-05</i>

	Credit Quality Allocation								
100		100.0	100.0						
90 –									
80 –									
70 –									
60 –									
50 –									
40 –									
30 –									
20 –									
10 –									
0		,	AAA						
-	SSgA TIPS	Index-NL	BBgBarc	US TIPS TR					

SSgA TIPS Index-NL Characteristics								
vs. BBgBarc US TIPS TR								
	Portfolio	Index	Portfolio					
	Q1-21	Q1-21	Q4-20					
Fixed Income Characteristics								
Yield to Maturity	1.1	1.1	0.6					
Average Duration	8.2	7.4	7.3					
Average Quality	AAA	AAA	AAA					
Weighted Average Maturity	8.0	7.9	8.1					





#### Payden Emerging Market Bond | As of March 31, 2021

Payden Emerging Market Bond Characteristics

Account Information						
Account Name	Payden Emerging Market Bond					
Account Structure	Mutual Fund					
Investment Style	Active					
Inception Date	1/01/15					
Account Type	International Emerging Market Debt					
Benchmark	JP Morgan EMBI Global Diversified					
Universe						

vs. JP Morgan EMBI Global Diversified								
Portfolio	Index	Portfolio						
Q1-21	Q1-21	Q4-20						
7.1	4.4	5.0						
7.7	7.7	8.1						
BB	BB	BB						
12.5	12.4	12.7						
	Q1-21 7.1 7.7 BB	7.1 4.4 7.7 7.7 BB BB						

Portfolio Performance Summary								
	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Payden Emerging Market Bond  JP Morgan EMBI Global Diversified	-4.6 -4.5	-4.6 <i>-4.5</i>	19.6 <i>16.0</i>	3.5 <i>4.0</i>	5.6 <i>5.1</i>	 5.6	5.0 5.0	Jan-15 <i>Jan-15</i>

Fixed Income Sectors as of February 28, 2021	
GOVERNMENT	61.8%
MUNICIPAL	0.0%
CORPORATE	20.0%
SECURITIZED	0.0%
CASH & EQUIVALENTS	1.7%
DERIVATIVE	16.5%

Fund Characteristics as of February 28, 2021	
Versus JP Morgan EMBI Global Diversified	
Sharpe Ratio (3 Year)	0.2
Average Duration	7.7
Average Coupon	6.2%
Average Effective Maturity	12.5
R-Squared (3 Year)	1.0
Alpha (3 Year)	-0.1%
Beta (3 Year)	1.1

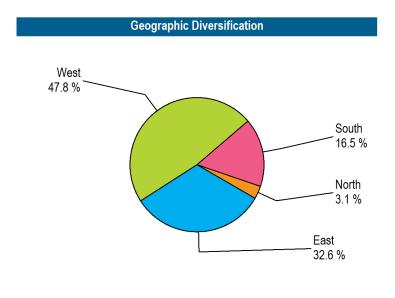
	Credit Quality as of March 31, 2021
AAA	0.0%
AA	3.0%
А	5.0%
BBB	24.0%
BB	21.0%
В	35.0%
Below B	9.0%
Not Rated	3.0%

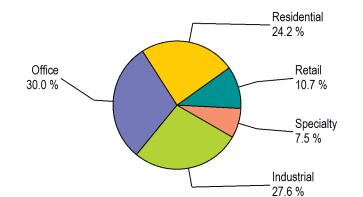


#### Clarion Partners | As of March 31, 2021

Account Information						
Account Name	Clarion Partners					
Account Structure	Commingled Fund					
Investment Style	Active					
Inception Date	10/01/02					
Account Type	Real Estate					
Benchmark	NCREIF ODCE					
Universe						

Portfolio Performance Summary								
	QTD	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Clarion Partners NCREIF ODCE	2.2	2.2	3.1	5.9	6.8	10.1	7.1	Oct-02
	2.1	<i>2.</i> 1	<i>2.3</i>	<i>4.9</i>	<i>6.2</i>	<i>9.7</i>	7.7	<i>Oct-02</i>





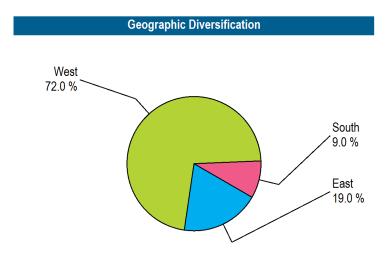
**Property Type Allocation** 



#### Rockwood Capital Real Estate Partners Fund XI, L.P. | As of March 31, 2021

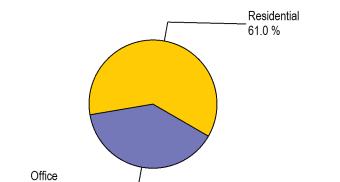
39.0 %

Account Information						
Account Name	Rockwood Capital Real Estate Partners Fund XI, L.P.					
Account Structure	Other					
Investment Style	Passive					
Inception Date	12/01/19					
Account Type	Real Estate					
Benchmark	NCREIF-ODCE					
Universe						



**Property Type Allocation** 

Portfolio Performance Summary								
	QTD	YTD					Inception	
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Rockwood Capital Real Estate Partners Fund XI, L.P.	-4.6	-4.6	-4.6				-3.5	Dec-19



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#### Private Equity Assets | As of March 31, 2021

Non-Marketable Securities Overview As of March 31, 2021							
Account	Vintage Year	Commitment	Cumulative Takedown	Cumulative Distributions	Value (RV)	IRR (%)	
North American Strategic Partners 2006	2006	\$4,539,998	\$4,411,659	\$2,448,408	\$366,535	6.4	
Ironsides Partnership Fund IV	2015	\$2,500,000	\$1,343,006	\$381,408	\$2,046,735	26.5	
Ironsides Direct Investment Fund IV	2015	\$2,500,000	\$2,419,534	\$2,246,746	\$2,118,593	18.6	
Ironsides Partnership Fund V, L.P.	2020	\$2,000,000	\$396,460	\$0	\$400,405		
Ironsides Direct Investment Fund V, L.P.	2019	\$2,000,000	\$2,289,730	\$107,139	\$2,670,308		
HarbourVest 2019 Global Fund	2019	\$4,000,000	\$1,560,000	\$67,548	\$1,783,894		
Total Account		\$17,539,998	\$12,420,389	\$354,434	\$9,386,470		

IRRs for investments less than 2 years are not shown.

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#### Total Retirement System | As of March 31, 2021

Annual Investment Expense Analysis As Of March 31, 2021						
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee		
Equity Assets		\$131,247,000				
Domestic Equity Assets		\$89,118,485				
RhumbLine S&P 500 Index	0.07% of First 25.0 Mil, 0.05% of Next 25.0 Mil, 0.04% Thereafter	\$35,665,717	\$22,833	0.06%		
Frontier Capital Appreciation	0.79% of Assets	\$24,660,151	\$194,815	0.79%		
RhumbLine HEDI	0.05% of Assets	\$28,792,618	\$14,396	0.05%		
International Equity Assets		\$42,128,515				
International Developed Markets Equity Assets		\$25,086,944				
RhumbLine MSCI EAFE Index	0.08% of First 25.0 Mil, 0.07% of Next 25.0 Mil, 0.05% Thereafter	\$25,086,944	\$20,061	0.08%		
International Emerging Markets Equity Assets		\$17,041,571				
DFA Emerging Markets	0.52% of Assets	\$9,282,885	\$48,271	0.52%		
Driehaus Emerging Market Equity	0.90% of Assets	\$7,758,686	\$69,828	0.90%		
Fixed Income Assets		\$67,109,443				
Investment Grade Bonds Assets		\$30,646,387				
SSgA U.S. Aggregate Bond Index	0.04% of Assets	\$30,646,387	\$12,259	0.04%		
High Yield Bond Assets		\$20,958,518				
Shenkman Capital	0.45% of Assets	\$20,958,518	\$94,313	0.45%		
TIPS Assets		\$9,848,691				
SSgA TIPS Index-NL	0.04% of Assets	\$9,848,691	\$3,939	0.04%		
Emerging Market Debt Assets		\$5,655,846				
Payden Emerging Market Bond	0.69% of Assets	\$5,655,846	\$39,025	0.69%		

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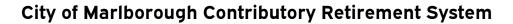


#### Total Retirement System | As of March 31, 2021

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate Assets		\$7,554,979		
Open-Ended Real Estate		\$5,784,940		
Clarion Partners	1.10% of Assets	\$5,784,940	\$63,634	1.10%
Total Closed End Real Estate		\$1,770,039		
Rockwood Capital Real Estate Partners Fund XI, L.P.		\$1,770,039		
Private Equity Assets		\$9,386,470		
North American Strategic Partners 2006	0.8% on drawn and undrawn capital less investments sold or written off   5% carried interest, 8% preferred return	\$366,535		
Ironsides Partnership Fund IV	0% Management fee, 8% Preferred Return, 5% Carried Interest	\$2,046,735		
Ironsides Direct Investment Fund IV	0.5% Management fee, 8% Preferred Return, 15% Carried Interest	\$2,118,593		
Ironsides Partnership Fund V, L.P.		\$400,405		
Ironsides Direct Investment Fund V, L.P.	0.5% Management fee, 8% preferred return, 15% carried interest	\$2,670,308		
HarbourVest 2019 Global Fund	0.69% average annual management fee; 8.0% preferred return on secondary and direct investments and with corresponding carried interest of 12.5% on secondary and direct investments	\$1,783,894		
Cash		\$97,437		
Comerica Short Term Fund		\$97,437		
Total		\$215,395,330	\$583,375	0.27%

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## **Current Issues**





# Core Infrastructure Search Summary

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**Core Infrastructure Search Summary** 

### Background

- To reach and maintain a 5% target to infrastructure, the Fund should consider a commitment to an openend core infrastructure fund, in the initial amount of up to \$10 million to \$12 million.
- To evaluate the full universe of open end core infrastructure managers, Meketa issued a confidential RFP on the Fund's behalf for core infrastructure managers in March 2021. Responses were due back on March 19, 2021.
- Meketa Investment Group received five responses from core infrastructure managers. These responses are reviewed on the following pages.

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# **Core Infrastructure Respondent Reviews**



#### **Core Infrastructure Respondent Reviews**

# Manager Respondents Composite Rating Overview

### (Managers are listed by score)

Manager: Fund	Score	Rationale
IFM Investors ("IFM"): Global Infrastructure Fund ("GIF")	Highly Advantageous	IFM is a leading core infrastructure manager with a long history and robust track record. GIF's NAV as of December 31, 2020 is \$33.1 billion, representing and 17 active investments. The Fund has displayed consistent historical performance, generating returns that fall in line with, and for some periods above, underwriting targets.
Brookfield Asset Management: Brookfield Super-Core Infrastructure Partners ("BSIP")	Advantageous	Brookfield is a longstanding institutional platform with a deep team of professionals and significant internal resources. BSIP's NAV as of December 31, 2020 is \$1.7 billion, representing four investments completed to date. The Fund began its investment activities in 2018 and has raised \$4.3 billion from 77 investors.
CBRE Caledon: CBRE Caledon Global Infrastructure Fund ("CGIF")	Advantageous	CBRE Caledon is an established asset management firm with an experienced senior team; however, the Firm has a limited track record to support the proposed strategy as CGIF was only launched in 2019. CGIF's NAV as of September 30, 2020 is \$440 million, representing seven investments, and has early positive gains but performance remains not meaningful.
First Sentier Investors ("FSI"): Global Diversified Infrastructure Fund ("GDIF")	Advantageous	FSI is an established infrastructure manager with a robust track record. GDIF's NAV as of March 31, 2021 is \$3.8 billion, representing 15 investments completed to date. The Fund has generated 8.4% net return since 2015 with a 4% cash yield.
KKR: KKR Diversified Core Infrastructure Fund ("DCIF")	Advantageous	Kohlberg Kravis Roberts ("KKR") is a longstanding institutional platform with over four decades of history within private markets and nearly 15 years investing in infrastructure. The infrastructure team manages three close-end non-core infrastructure funds and launched their open-ended core infrastructure product in 2020. The Fund closed on its initial \$1 billion in December 2020 and has closed on its first two deals.

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#### **Core Infrastructure Respondent Reviews**

# IFM Global Infrastructure Fund ("GIF")

Rating Criteria	Score	Rationale
Overall	Highly Advantageous	• IFM is a leading core infrastructure manager with a long history and robust track record. GIF's NAV as of December 31, 2020 is \$33.1 billion, representing and 17 active investments. The Fund has displayed consistent historical performance, generating returns that fall in line with, and for some periods above, underwriting targets.
Organization	Highly Advantageous	<ul> <li>IFM is a privately-owned, global asset management firm founded in 2004 with AUM of approximately \$116.8 billion across infrastructure, debt, listed equity, and private equity strategies.</li> <li>The Firm is based out of 10 international offices in Australia, Europe, North America, and Asia.</li> <li>GIF has deployed \$27.8 billion of capital since inception.</li> </ul>
Team	Advantageous	<ul> <li>The infrastructure team comprises more than 100 investment and asset management professionals, with significant prior experience and strong continuity at the Firm.</li> <li>The GIF investment team has 30 in North America, 26 in Europe, six in Asia, and 24 in Australia.</li> <li>The investment team has experienced meaningful turnover with seven senior-level departures occurring in recent years.</li> </ul>
Investment Philosophy & Process	Advantageous	<ul> <li>GIF pursues global investments in core infrastructure assets that display monopoly-like characteristics, strong market positions, reliable regulatory environments, and high barriers to entry, limited demand-elasticity, exposure to inflation and economic growth, and long lives.</li> <li>The investment team pursues large scale opportunities across several sectors including Transportation, Power, Utilities, and Telecommunications, among others.</li> <li>Existing investments have ranged between \$350 million and \$7 billion in size.</li> <li>The Fund will target net returns of 8% to 12% IRR over the long-term.</li> </ul>
Performance	Highly Advantageous	<ul> <li>Since inception in 2004, GIF has a gross IRR of 11.1%, cash yield of 6.1% and net TWR of 8.9% as of December 31, 2020.</li> <li>GIF has displayed consistent historical performance, generating returns that fall in line with underwriting targets.</li> </ul>
Fees <sup>1</sup>	Highly Advantageous	Terms: 0.77% annual management fee based on net asset value; 8.0% preferred return; 10.0% carried interest.
Current Queue Estimate		• 12-18 months

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<sup>&</sup>lt;sup>1</sup> Discounts available for large investors.



#### **Core Infrastructure Respondent Reviews**

# Brookfield Super-Core Infrastructure Partners ("BSIP")

Rating Criteria	Score	Rationale
Overall	Advantageous	<ul> <li>Brookfield is a longstanding institutional platform with a deep team of professionals and significant internal resources. BSIP's NAV as of December 31, 2020 is \$1.7 billion, representing four investments completed to date. The Fund began its investment activities in 2018 and has raised \$4.3 billion from 77 investors.</li> </ul>
Organization	Advantageous	<ul> <li>Brookfield is a publicly-traded asset management firm with AUM of approximately \$580 billion as of December 31, 2020. The Firm currently manages \$150 billion in infrastructure, \$211 billion in real estate, \$73 billion in private equity, and \$148 billion in credit.</li> <li>Brookfield has approximately 1,000 investment professionals and 150,000 operating employers in more than 30 countries.</li> </ul>
Team	Highly Advantageous	<ul> <li>Brookfield's infrastructure platform is led by a group of 16 Managing Partners with significant prior experience and an established history working together at the Firm.</li> <li>The investment team receives ongoing support and additional resources provided across the greater Brookfield organization, including professionals with operating and engineering skills and experience.</li> <li>The infrastructure platform has experienced limited turnover with only one senior-level departure occurring in recent years.</li> </ul>
Investment Philosophy & Process	Advantageous	<ul> <li>BSIP executes a core strategy focused on acquiring essential infrastructure assets with contracted or regulated revenues, sustainable cash flows, and high barriers to entry with relatively inelastic demand throughout North America, Western Europe, and Australia.</li> <li>The investment team considers opportunities across several sectors including Energy, Power, Transportation, and Utilities.</li> <li>Existing investments have ranged between \$250 million and \$750 million in individual size.</li> <li>The Fund will target net returns of 8% IRR and cash yield of 5% to 6%.</li> </ul>
Performance	Advantageous	• The Firm formed BSIP in 2018 and has deployed approximately \$1.6 billion to date with a gross IRR of 8.7% and yield of 4.8%.
Fees <sup>1</sup>	Highly Advantageous	Terms: 0.75% annual management fee on net asset value; 5% of distributable yield from operations
Current Queue Estimate		• 12 months

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 $<sup>^{1}\,\</sup>text{Incentive fee calculation contingent upon 5\% gross yield from operations; discounts available for large investors.}$ 



#### **Core Infrastructure Respondent Reviews**

# CBRE Caledon Global Infrastructure Fund ("CGIF")

Rating Criteria	Score	Rationale
Overall	Advantageous	CBRE Caledon is an established asset management firm with an experienced senior team; however, the Firm has a limited track record to support the proposed strategy as CGIF was only launched in 2019. CGIF's NAV as of September 30, 2020 is \$440 million, representing seven investments, and has early positive gains but performance remains not meaningful.
Organization	Advantageous	<ul> <li>CBRE Caledon was founded in 2006 and is a Toronto-based asset investment firm with current AUM of \$7.8 billion as of September 30, 2020.</li> <li>The Firm manages several strategies across private equity and infrastructure through a number of comingled funds and separately managed accounts.</li> <li>The infrastructure platform established its open-end core vehicle, CGIF, in 2019, as a continuation of the same strategy that the CBRE Caledon team has executed for Separate Accounts since 2010.</li> </ul>
Team	Advantageous	<ul> <li>The infrastructure team numbers 23 investment professionals and is led by nine Partners with significant prior experience and a long history working together at the Firm.</li> <li>The investment team has experienced very little turnover at the senior level.</li> </ul>
Investment Philosophy & Process	Advantageous	<ul> <li>CGIF executes a core strategy, pursuing investments in middle-market infrastructure assets that display regulated, long-term contracted revenue streams.</li> <li>The Fund seeks to construct a globally diversified portfolio of investments in developed countries where the investment team observes a compelling opportunity set.</li> <li>The investment team focuses primarily on mature brownfield investments while selectively considering greenfield opportunities.</li> <li>The Fund will target net returns of 8% to 12% IRR and cash yields of 4%-6%.</li> </ul>
Performance	Not Advantageous (New fund, small NAV)	• CGIF began investing in 2019 with an inception to date net return of 15.0% and cash yield of 1.9%, however, the Fund is just one year old so returns are not yet meaningful.
Fees <sup>1</sup>	Advantageous	Terms: 0.85% annual management fee on net asset value; 7% preferred return; 10% carried interest.
Current Queue Estimate		6-12 months

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<sup>&</sup>lt;sup>1</sup> Discounts available for large investors.



#### **Core Infrastructure Respondent Reviews**

# FSI Global Diversified Infrastructure Fund ("GDIF")

Rating Criteria	Score	Rationale			
Overall	Advantageous	• FSI is an established infrastructure manager with a robust track record. GDIF's NAV as of March 31, 2021 is \$3.8 billion, representing 15 investments completed to date. The Fund has generated 8.4% net return since 2015 with a 4% cash yield.			
Organization	Highly Advantageous	<ul> <li>First Sentier Investors ("FSI") was founded in 1988 and is a global asset management firm with AUM of approximately \$176.6 billion. The Firm currently manages several strategies across equities, fixed income, direct and listed infrastructure, and multi-asset mandates.</li> <li>FSI currently employs 17 independent investment teams across eight international office locations.</li> <li>The infrastructure platform was established in 1994 and manages current AUM of approximately \$19.4 billion.</li> </ul>			
Team	Advantageous	<ul> <li>The infrastructure platform comprises a dedicated team of 65 professionals, including 46 investment team members, based out of London, Sydney, Melbourne, and New York.</li> <li>The infrastructure team is led by a group of eight Partners and six Directors who have diverse experience and backgrounds executing global infrastructure investments.</li> <li>The team experiences two to three departures per year including director level per year, but has continued to increase their team through new additions.</li> </ul>			
Investment Philosophy & Process	Advantageous	<ul> <li>The Fund will make lower middle-market growth investments in global OECD countries where senior investment professionals can apply their industry expertise to develop a competitive advantage in local markets.</li> <li>The Fund will consider opportunities throughout the Transportation, Utilities, and Energy sectors with a primary focus on mature assets displaying the potential for sustainable income generation.</li> <li>Existing investments have ranged between \$50 million and \$550 million in size.</li> <li>Over the long-term, GDIF will target a net IRR of 9% in addition to cash yield of 4% to 6%.</li> </ul>			
Performance	Advantageous	Since its inception in 2015, GDIF has generated a net TWR of 8.4% and cash yield of 4% annually.			
Fees	Advantageous	• Terms: 0.9% annual management fee based on net asset value 5.0% preferred return (in local currency); 20.0% carried interest (capped at 1.5% of net asset value).			
Current Queue Estimate		Begin drawing within 3-6 months			

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<sup>&</sup>lt;sup>1</sup> Discounts available for large investors.



#### **Core Infrastructure Respondent Reviews**

# KKR Diversified Core Infrastructure Fund ("DCIF")

Rating Criteria	Score	Rationale				
Overall	Advantageous	• Kohlberg Kravis Roberts ("KKR") is a longstanding institutional platform with over four decades of history within private markets and nearly 15 years investing in infrastructure. The infrastructure team manages three close-end non-core infrastructure funds and launched their open-ended core infrastructure product in 2020. The Fund closed on its initial \$1 billion in December 2020 and has closed on its first two deals.				
Organization	Advantageous	<ul> <li>KKR was established in 1976 as a private equity firm focused on specialized buyouts and today has over \$250 billion of AUM as of December 31, 2020.</li> </ul>				
		<ul> <li>The Firm currently manages \$20 billion in infrastructure and natural resources, \$113 billion in private equity, \$15 billion in real estate, and \$78 billion in credit.</li> </ul>				
		• KKR has approximately 1,600 employees that support the Firm's offerings in alternative asset management and capital markets and insurance solutions.				
Team	Highly Advantageous	• The infrastructure team has 50 dedicated investment professionals across seven offices. The team has been investing three closed-end non-core vehicles and will now be investing the core vehicle as well.				
		• The team is organized around a regional coverage model with each region led by a Director: North America, Europe, and Asia-Pacific.				
Investment Philosophy & Process	Advantageous	<ul> <li>DCIF focuses on critical core infrastructure through a "buy simplicity and hold simplicity" long term approach.</li> <li>DCIF expects to build a global diversified portfolio targeting existing assets and businesses located in developed countries.</li> <li>Investments are expected to have a range between \$250 million and \$750 million in individual size.</li> <li>The Fund will target net returns of 7% to 9% IRR and cash yield of 4% to 6%.</li> </ul>				
Performance	Not Advantageous	<ul> <li>DCIF held its initial close on \$1 billion in December 2020 and 92% of this is invested or committed to the first two deals.</li> <li>Performance of the two investments to date is not yet meaningful.</li> </ul>				
Fees	Highly Advantageous	<ul> <li>Founding Investor Terms: 0.6% annual management fee based on NAV and no incentive fee for the first six years.</li> <li>Non-Founding Investor Terms: 0.85% annual management fee based on NAV and incentive fee of 5% of cash yield.</li> </ul>				
Current Queue Estimate		6-12 months				

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<sup>&</sup>lt;sup>1</sup> Discounts available for large investors. DCIF expects to hold a second close on March 31 with an additional \$1 billion in commitments and rolling closes through June 30. Investors committing \$10 million or more who close by or on June 30, 2021 will Founding Investors.



### Core Infrastructure Respondent Reviews

# Fee Comparison

	IFM	Brookfield	CBRE	First Sentier	KKR
Score	Highly Advantageous	Highly Advantageous	Advantageous	Advantageous	Highly Advantageous
Management Fee	0.77% of NAV	0.75% of NAV	0.85%	0.90%	0.85% (0.60% if Founding Investor)
Preferred Return	8%	NA	7%	5%	0%
Carried Interest	10%	5% of distributed yield	10%	20%	5% of cash yield (0% for the first six years as Founding Investor)

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#### **Core Infrastructure Respondent Reviews**

# Performance Comparison

	IFM	Brookfield	CBRE	First Sentier	KKR <sup>2</sup>
Vintage	2004	2018	2019	2015	2020
Gross TWR	11.0%	8.7%	16.7%	NA	NM
Net TWR	8.9%	7.8%	15.0%	8.4%	NM
As of Date	12/31/20	12/31/20	09/30/20	12/31/20	12/31/20

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<sup>&</sup>lt;sup>1</sup> First Sentier also has a Australian only open end fund with an inception date of 2003 and net IRR of 8.4%, and two close end European infrastructure funds with inceptions of 2009 (10.8% net IRR) and 2017 (7.1% net IRR).

<sup>&</sup>lt;sup>2</sup> KKR Infrastructure team managers three non-core close end funds: 2011 vintage net IRR of 15.5%, 2014 vintage net IRR of 17.0%, and 2018 vintage net IRR of 3.3%.



**Core Infrastructure Respondent Reviews** 

#### **Review Summary**

- Based upon our review and evaluation of each infrastructure respondent, Meketa Investment Group has ranked:
  - One core manager as highly advantageous and four as advantageous.

# **Appendices**



# Meketa Investment Group Corporate Update

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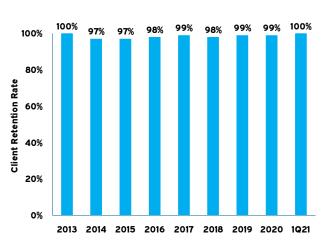
- Staff of 215, including 142 investment professionals and 43 CFA Charterholders
- 220 clients, with over 350 funds throughout the United States
- Significant investment in staff and resources
- Offices in Boston, Chicago, Miami, New York, Portland (OR), San Diego, and London
- We advise on \$1.6 trillion in client assets
  - Over \$125 billion in assets committed to alternative investments.
    - Private Equity
- Infrastructure
- Natural Resources

- Real Estate
- Hedge Funds
- Commodities

#### Client to Consultant Ratio<sup>1</sup>



#### Client Retention Rate<sup>2</sup>



Meketa Investment Group is proud to work for over 5 million American families everyday.

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<sup>&</sup>lt;sup>1</sup> On March 15, 2019, 31 employees joined the firm as part of the merger of Meketa Investment Group and Pension Consulting Alliance.

<sup>&</sup>lt;sup>2</sup> Client Retention Rate is one minus the number of clients lost divided by the number of clients at prior year-end.



#### Asset Classes Followed Intensively by Meketa Investment Group

# Domestic Equities

- Passive
- Enhanced Index
- Large Cap
- Midcap
- Small Cap
- Microcap
- 130/30

# International Equities

- Large Cap
   Developed
- Small Cap Developed
- Emerging Markets
- Frontier Markets

#### Private Equity

- Buyouts
- Venture Capital
- Private Debt
- Special Situations
- Secondaries
- Fund of Funds

#### Real Assets

- Public REITs
- Core Real Estate
- Value Added
   Real Estate
- Opportunistic Real Estate
- Infrastructure
- Timber
- Natural Resources
- Commodities

# Fixed Income

- Short-Term
- Core
- Core Plus
- TIPS
- High Yield
- Bank Loans
- Distressed
- Global
- Emerging Markets

#### Hedge Funds

- Long/Short Equity
- Event Driven
- Relative Value
- Fixed Income Arbitrage
- Multi Strategy
- Market Neutral
- Global Macro
- Fund of Funds
- Portable Alpha

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

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

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

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. 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.

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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.

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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%.

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

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

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

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

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

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

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

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

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