

# Fund Evaluation Report

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Agenda

## Agenda

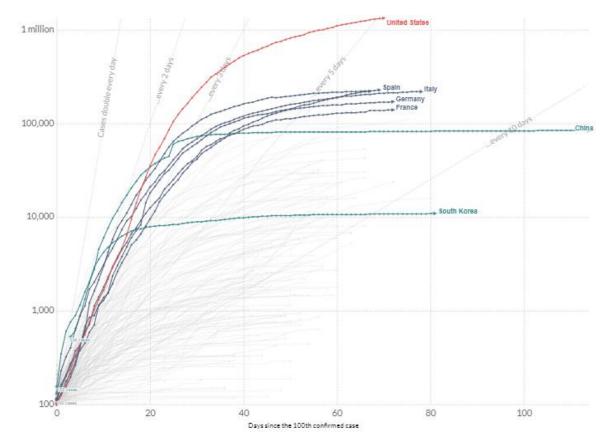
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# Economy and Market Update

Data as of May 8, 2020







#### Case Count by Select Country: Flattening the Curve<sup>1</sup>

- There are over 4.2 million cases of coronavirus globally across 187 countries with the US now the epicenter.
- With some improvements in the data, countries are starting to gradually reopen parts of their economies.

<sup>&</sup>lt;sup>1</sup> Source: European CDC via Visual Capitalist. Data is as of May 12, 2020. Most data throughout the rest of the document is through May 8, 2020.

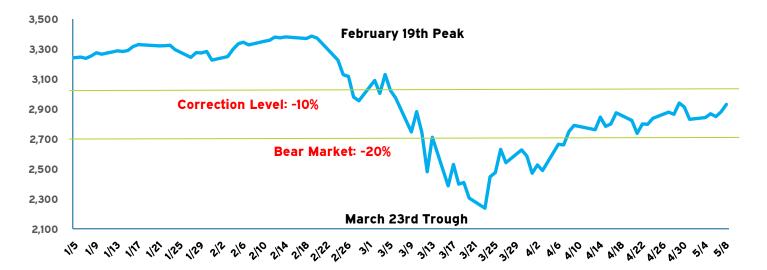
Indices	YTD	3 Year	5 Year	10 Year	20 Year
S&P 500	-8.7%	9.0%	8.9%	12.5%	5.7%
MSCI EAFE	-18.2%	-1.4%	-0.4%	4.6%	2.6%
MSCI Emerging Markets	-17.8%	-0.2%	-0.1%	2.3%	-
MSCI China	-4.5%	8.5%	2.3%	5.8%	
Bloomberg Barclays Aggregate	4.5%	5.1%	3.8%	3.9%	5.2%
Bloomberg Barclays TIPS	4.5%	4.6%	3.3%	3.5%	5.5%
Bloomberg Barclays High Yield	-8.2%	2.1%	3.5%	6.2%	7.1%
10-year US Treasury	10.3%	7.2%	4.3%	5.2%	5.5%
30-year US Treasury	19.8%	14.9%	8.4%	9.5%	7.9%

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

- Given uncertainty related to the ultimate impact of the virus on economic growth, company profitability, and societal norms, many investors have sought perceived safe haven assets like US Treasuries.
- Initially, stocks experienced large declines, but fiscal and monetary authorities across the globe have deployed emergency measures to cushion huge economic losses; the S&P 500 has recovered by over 20% percent from its March lows.
- The 2020 decline in US stocks (S&P 500) brought 20-year returns to levels just slightly above US bonds (Bloomberg Barclays Aggregate), as this period also included the popping of the dot.com bubble and the GFC.
- By contrast, 10-year returns for the S&P 500 were 12.5%, far above the bond market's 3.9% annual return, indicating how dramatically long-term returns can shift.

<sup>&</sup>lt;sup>1</sup> Source: InvestorForce and Bloomberg. Data is as of May 8, 2020.



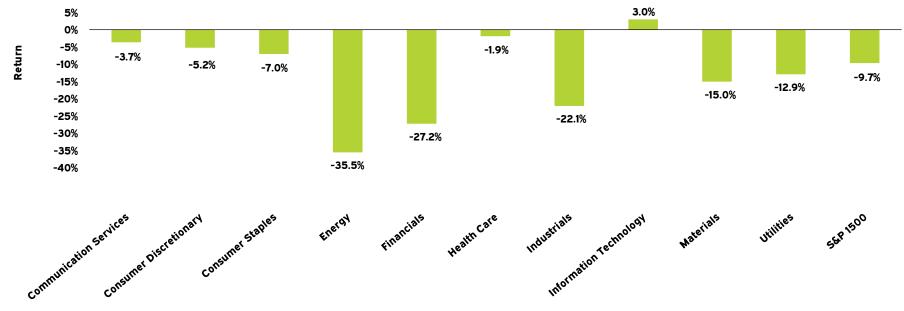


#### S&P 500 Reaches Bear Market Levels<sup>1</sup>

- Given the economic uncertainty surrounding the pandemic, US stocks declined from their recent peak into bear market (-20%) territory at the fastest pace in history.
- From the February 19 peak, the S&P 500 declined 34% in just 24 trading days.
- The index rebounded from its lows, likely due to the unprecedented monetary and fiscal stimulus announced in the US, improvements in virus data, and some economies reopening.
- It is unclear whether the US equity market has reached a bottom, or if the recent recovery is temporary, with more declines to come as the impact of COVID-19 on the economy becomes more apparent.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 8, 2020.





#### 2020 YTD Sector Returns<sup>1</sup>

- The energy sector has seen some improvements given the agreement between Saudi Arabia and Russia to cut supply and economies starting to gradually reopen, but it remains the sector with the greatest decline, triggered by the fall in oil prices.
- Financials, industrials, and materials experienced the next largest declines, while sectors like health care and consumer staples experienced smaller depreciation.
- Returns in the information technology sector recently turned positive as consumers moved to online purchases and entertainment under the stay-at-home restrictions.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 8, 2020.







- Given the recent fiscal and monetary support and corresponding improvement in investor risk sentiment, expectations of short-term volatility, as measured by the VIX index, continue to decline from record levels but remains elevated.
- At the recent height, the VIX index reached 82.7, surpassing the pinnacle of volatility during the GFC, showing the magnitude of the crisis, and of investor fear.
- Going forward there is the risk of additional spikes in volatility, as investors continue to process the impacts of COVID-19 and the effectiveness of the policy response.

<sup>&</sup>lt;sup>1</sup> Source: Chicago Board of Exchange. Data is as of May 8, 2020.



## Global Financial Crisis Comparison

	2007-2009 Global Financial Crisis	COVID-19 Crisis				
Primary Causes	<ul> <li>Excess Risk Taking Due to:</li> <li>Deregulation, un-constrained securitization, shadow banking system, fraud</li> </ul>	<ul> <li>Pandemic/Natural Disaster:</li> <li>Large scale global restrictions on businesses and individuals leading to immediate and significant deterioration in economic fundamentals</li> </ul>				
	2007-2009 Global Financial Crisis	COVID-19 Crisis				
Fiscal Measures	<ul> <li>American Recovery Reinvestment Act of 2009: \$787 billion</li> <li>Economic Stimulus Act of 2008: \$152 billion</li> </ul>	<ul> <li>PPP Act: \$659 billion</li> <li>CARES Act of 2020: \$2.3 trillion</li> <li>Families First Coronavirus Response Act: \$150 billion</li> <li>Coronavirus Preparedness &amp; Response Supplemental Appropriations Act 2020: \$8.3 billion</li> <li>National Emergency: \$50 billion</li> </ul>				
	2007-2009 Global Financial Crisis	COVID-19 Crisis				
Monetary Measures						
Lowering Fed Funds Rate	Х	Х				
Quantitative Easing	Х	Х				
Primary Dealer Repos	Х	Х				
Central Bank Swap Lines	Х	Х				
Commercial Paper Funding Facility	Х	Х				
Primary Dealers Credit Facility	Х	Х				
Money Market Lending Facility	Х	Х				
Term Auction Facility	Х					
TALF	Х	Х				
TSLF	Х					
FIMA Repo Facility		X				
Primary & Secondary Corp. Debt		X				
PPP Term Facility		X				
Municipal Liquidity Facility		X				
Main Street Loan Facility		Х				



#### Global Financial Crisis Comparison (continued)

- The US **fiscal** COVID-19 Crisis response has been materially larger than the 2007-2009 Global Financial Crisis (GFC), and stimulus is acutely focused on areas of the economy showing the greatest need, including small and mid-sized companies. For example, the Paycheck Protection Program helps small businesses keep employees working by offering forgivable loans to cover salaries.
- On the **monetary** side, markets targeted during both crises represent those most in need, but for the COVID-19 Crisis the policy response was dramatically faster, measured in weeks, not years, as in the GFC.
- Of the monetary stimulus measures, the corporate debt (Primary & Secondary Corporate Debt) programs and Main Street Loan Facility are new and garnered much attention from market participants.

#### **Economy and Market Update**

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#### Historic \$2T US Fiscal Stimulus

Destination	Amount (\$ Billion)
Individuals	\$560
Large Corporations	\$500
Small Business	\$377
State & Local Governments	\$340
Public Health	\$154
Student Loans	\$44
Safety Net	\$26

- Late in March, a historic \$2 trillion fiscal package was approved in the US, representing close to 10% of GDP and including support across the economy.
- Individuals are actively receiving cash payments of up to \$1,200 per adult and \$500 per child, and extended and higher weekly unemployment benefits (+\$600/week).
- The package also includes a \$500 billion lending program for distressed industries like airlines, and \$377 billion in loans to small businesses.
- Other parts of the package include allocations to state and local governments, support for public health, student loan relief, and a safety net.
- Recently, the next round of fiscal stimulus was approved with the majority targeted to replenish the depleted small business lending program.

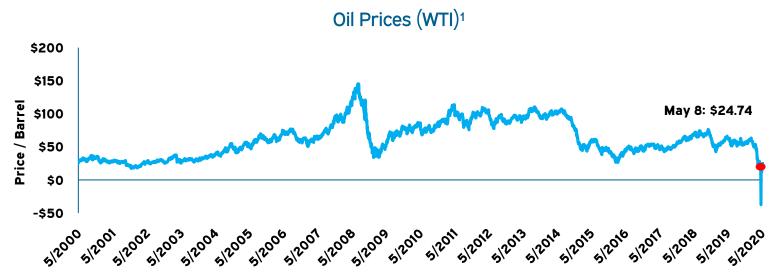


## Policy Responses

	Fiscal	Monetary
United States	\$50 billion to states for virus related support, interest waived on student loans, flexibility on tax payments and filings, expanded COVID-19 testing, paid sick leave for hourly workers, \$2 trillion package for individuals, businesses, and state/local governments. Additional \$484 billion package to replenish small business loans, provide funding to hospitals, and increase testing.	Cut policy rates to zero, unlimited QE4, offering trillions in repo market funding, restarted CPFF, PDCF, MMMF programs to support lending and financing market, expanded US dollar swap lines with foreign central banks, announced IG corporate debt buying program with subsequent amendment for certain HY securities, Main Street Lending program, Muni liquidity facility, repo facility with foreign central banks, and easing of some financial regulations for lenders.
Euro Area	Germany: Launched 750 billion euro stimulus package. France: 45 billion euro for workers, guaranteed up to 300 billion euro in corporate borrowing. Italy: 25 billion euro emergency decree, suspending mortgage payments for impacted workers. Spain: 200 billion euro and 700 million euro loan and aid package, respectively.	Targeted longer-term refinancing operations aimed at small and medium sized businesses, under more favorable pricing, and announced the 750 billion euro Pandemic Emergency Purchase Program. and then expanded the purchases to include lower-quality corporate debt
Japan	\$20 billion in small business loans, direct funding program to stop virus spread among nursing homes and those affected by school closures, discussion of additional relief in the coming months, and \$240 billion supplementary spending (pending).	Initially increased QE purchases (ETFs, corporate bonds, and CP) and then expanded to unlimited purchases and doubling of corporate debt and commercial paper, expanded collateral and liquidity requirements, and 0% interest loans to businesses hurt by virus
China	Tax cuts, low-interest business loans, extra payments to gov't benefit recipients.	Expanded repo facility, policy rate cuts, lowered reserve requirements.
Canada	\$7.1 billion in loans to businesses to help with virus damage.	Cut policy rates, expanded bond-buying and repos, lowered bank reserve requirements.
UK (BOE)	Tax cut for retailers, small business cash grants, benefits for those infected with virus, expanded access to gov't benefits for self and un-employed.	Lowered policy rates and capital requirements for UK banks, restarts QE program and subsequently increased the purchase amounts.
Australia	\$11.4 billion, subsidies for impacted industries like tourism, one-time payment to gov't benefit recipients.	Policy rate cut, started QE.

#### **Economy and Market Update**

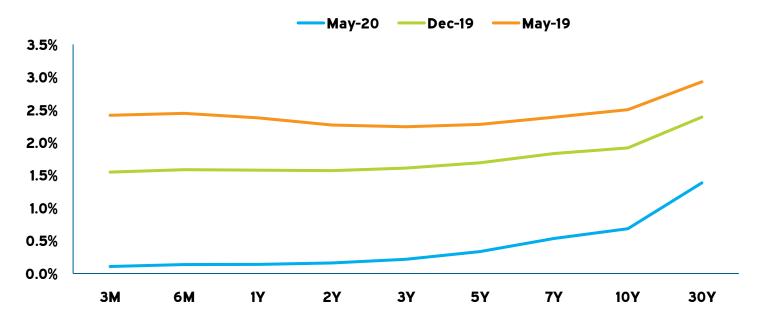




- Recently, in an unprecedented move, oil prices plunged to negative levels on concerns over storage capacity in the US. This led to producers having to pay to offload their oil for May delivery.
- Negative prices were driven by the futures market that requires physical delivery of oil at contract expirations. As the May expiration date approached, traders sold the contracts given extremely low demand and storage constraints. Prices have since moved back into positive territory, but the risk of a similar dynamic remains as the June expiration date approaches.
- Prior to this, oil markets were already under pressure as the virus lowered global growth expectations, and prices deteriorated further when Saudi Arabia initiated a price war after Russia's decision to not participate in the proposed OPEC+ supply cuts. Russia ultimately agreed to participate and this, along with optimism over economies starting to reopening, provided some support to oil recently.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Represents WTI first available futures contract. Data is as of May 8, 2020.



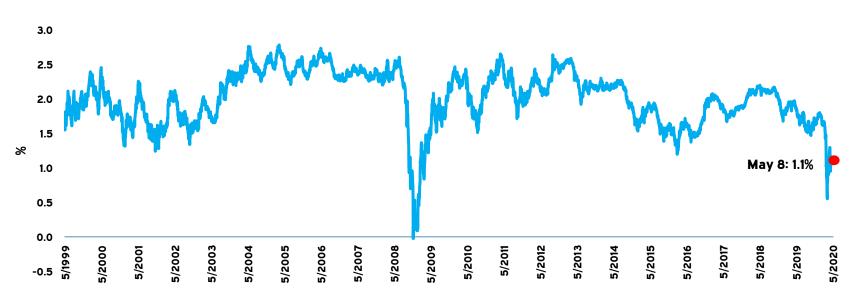


#### US Yield Curve Declines<sup>1</sup>

- The US Treasury yield curve has declined materially since last year.
- Cuts in monetary policy rates lowered yields in shorter maturities, while flight-to-quality flows, low inflation, and lower growth expectations, particularly given indications that economic growth could slow by record amounts, have driven the changes in longer-dated maturities.
- The Federal Reserve's unlimited quantitative easing purchase program has provided further downward pressure on interest rates.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 8, 2020.

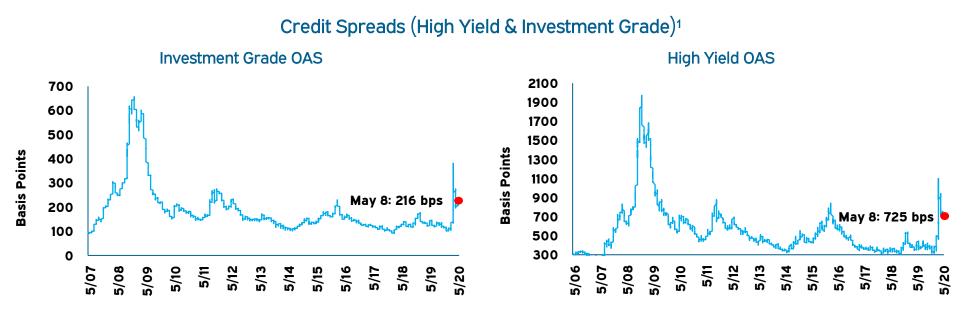




#### 10-Year Breakeven Inflation<sup>1</sup>

- Inflation breakeven rates declined sharply over the last two months, due to a combination of declines in inflation expectations and liquidity dynamics in TIPS during the height of rate volatility.
- As liquidity improved, and given the potential longer term inflationary effects of the unprecedented US fiscal and monetary responses, inflation expectation levels have come off of their recent lows, but remain well below historical averages.

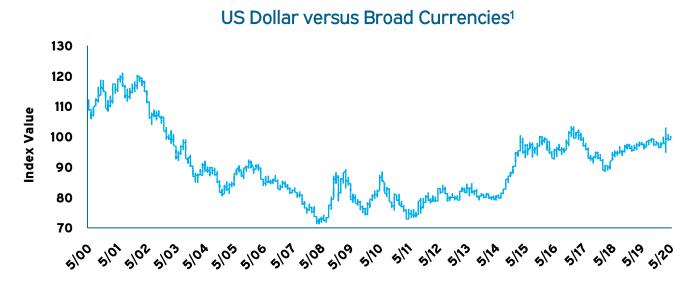
<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 8, 2020.



- Credit spreads (the spread above a comparable Treasury bond) for investment grade and high yield corporate debt expanded sharply as investors sought safety.
- Investment grade bonds held up much better than high yield bonds. The Federal Reserve's corporate debt purchase program for investment grade and certain high yield securities that were recently downgraded from investment grade, was well received by investors, leading to a decline in spreads.
- Corporate debt issuance has more than doubled since 2008, which magnifies the impact of deterioration in the corporate debt market. This is particularly true in the energy sector, which represents a large portion of the high yield bond market.

<sup>&</sup>lt;sup>1</sup> Source: Federal Reserve Bank of St. Louis Economic Research. Data is as of May 8, 2020.





- When financial markets began aggressively reacting to COVID-19 developments, the US dollar came under selling pressure as investors sought safe-haven exposure in currencies like the Japanese yen.
- As the crisis grew into a pandemic, investors' preferences shifted to holding US dollars and highly liquid, short-term securities like US Treasury bills. This global demand for US dollars led to appreciation versus most major currencies.
- A relatively strong US dollar makes US goods more expensive for overseas consumers and causes commodity prices outside the US to rise, affecting foreign countries, and particularly emerging markets.
- To help ease global demand for US dollars, the Federal Reserve, working with a number of global central banks, re-established the US dollar swap program, providing some relief to other currencies.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Represents the DXY Index. Data is as of May 8, 2020.



#### **Economic Impact**

#### Supply Chain Disruptions:

- Factories closing, increased cost of stagnant inventory, and disrupted supply agreements.
- Reduced travel, tourism, and separation policies including closed borders: Significant impact on service-based economies.

#### Labor Force Impacts:

- Huge layoffs across service and manufacturing economies.
- Increased strains as workforce productivity declines from increased societal responsibilities (e.g., home schooling of children) and lower functionality working from home.
- Illnesses from the disease will also depress the labor force.

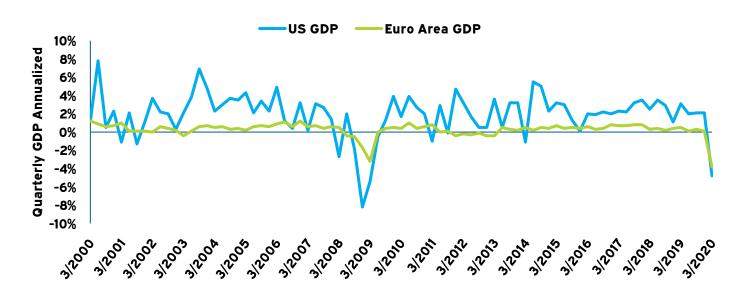
#### **Declines in Business and Consumer Sentiment:**

• Sentiment drives investment and consumption, which leads to increased recessionary pressures as sentiment slips.

#### Wealth Effect:

• As financial markets decline and wealth deteriorates, consumer spending will be impacted.





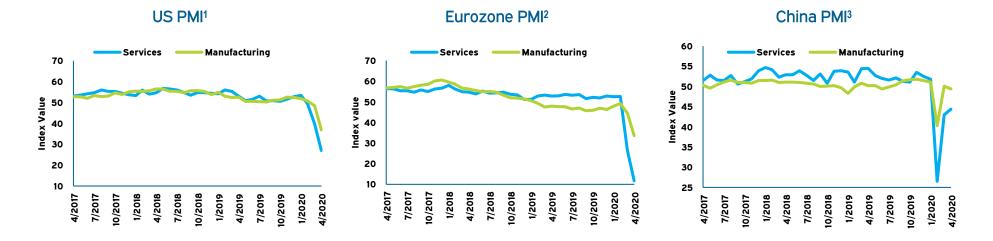
#### GDP Data Shows First Signs of Crisis<sup>1</sup>

- The global economy faces major recessionary pressures this year, but optimism remains for improvements in 2021 as economies are expected to gradually reopen.
- In the US, initial estimates for first quarter GDP came in at -4.8%, with personal consumption declining the most since 1980. Eurozone GDP also fell (-3.8%) with the major economies in France, Spain and Italy experiencing historic declines.
- Going forward, Bloomberg Economics estimates that second quarter global GDP could experience further declines and be as low as -9%.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. QI 2020 data represents first estimate of GDP for Euro Area and United States.



#### Global PMIs



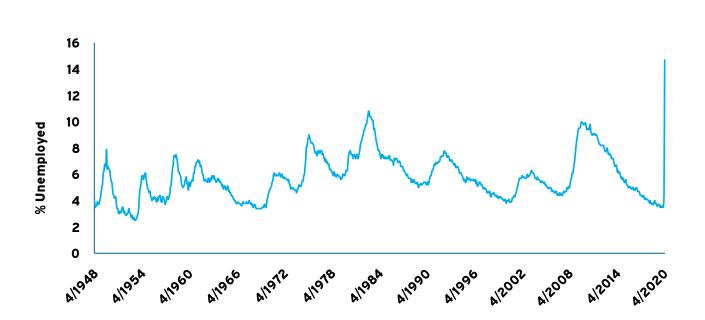
- Purchasing Managers Indices (PMI) based on surveys of private sector companies, collapsed across the world to record lows, as output, new orders, production, and employment have been materially impacted by closed economies.
- Readings below 50 represent contractions across underlying components and act as a leading indicator of economic activity, including the future paths of GDP, employment, and industrial production.
- The services sector has been particularly hard hit given the stay at home restrictions in many places.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. US Markit Services and Manufacturing PMI. Data is as of April 2020

 $<sup>^2</sup>$  Source: Bloomberg. Eurozone Markit Services and Manufacturing PMI. Data is as of April 2020

<sup>&</sup>lt;sup>3</sup> Source: Bloomberg. Caixin Manufacturing and Services PMI Data is as of April 2020.





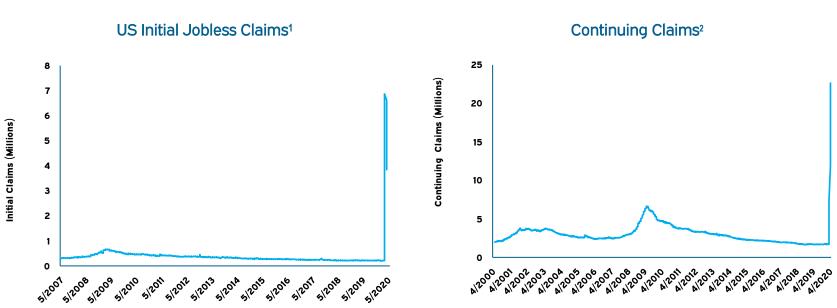
#### US Unemployment Rate<sup>1</sup>

- The April reading of unemployment came in at 14.7%, slightly below estimates of 16%, but representing the highest level since the Great Depression.
- The Bureau of Labor Statistics commented in their release that a large number of workers were likely being misclassified as "employed but absent from work" versus "unemployed on temporary layoff" and that the unemployment rate was probably close to 5% higher than reported.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of April 30, 2020.

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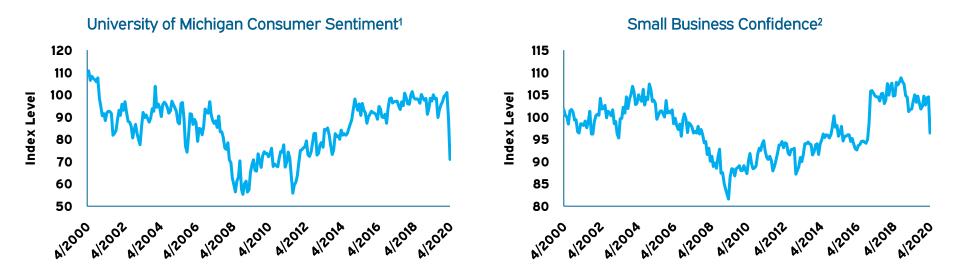
#### **US Jobless Claims**

- Over the last seven weeks, over 33 million people filed for initial unemployment. This level exceeds the 22 million jobs added since the GFC, highlighting just how unprecedented the impact of the virus is.
- Continuing jobless claims (i.e., those currently receiving benefits) also spiked to a record level of 22.6 million people.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. First reading of seasonally adjusted initial jobless claims. Data is as of April 25, 2020.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. US Continuing Jobless Claims SA. Data is as of April 24, 2020.





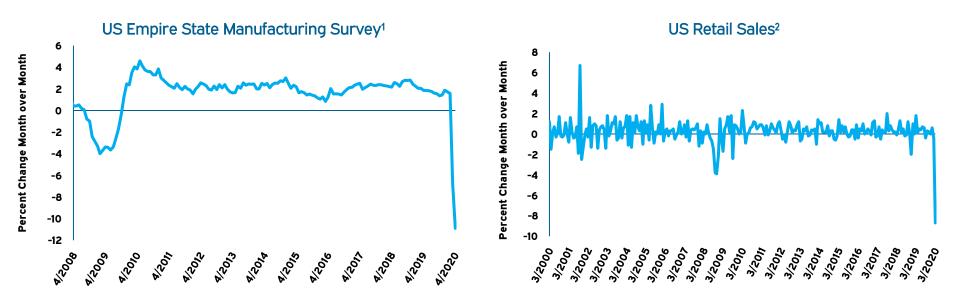
#### **Sentiment Indicators**

- A strong indicator of future economic activity are the attitudes of businesses and consumers today.
- Consumer spending comprises close to 70% of US GDP, making the attitudes of consumers an important driver of future economic growth. Additionally, small businesses comprise a majority of the economy, making sentiment in that segment important too.
- As restrictions caused many businesses to close and employees to be laid off, sentiment indicators have seen corresponding declines with potentially more to come as the impact of the virus evolves.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. University of Michigan Consumer Sentiment Index. Data is as of April 2020.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. NFIB Small Business Optimism Index. Data is as of March 31, 2020.





#### Cracks Starting to Show in Q2 US Data

- Manufacturing in New York during March declined at the fastest pace on record, falling 78.2%, the lowest on record dating back to 2001, with readings below zero indicating economic contraction.
- March US retail sales also fell by a record amount (-8.7%), more than double the prior -3.8% record, set during November 2008. Declines were led by clothing and accessories store sales which fell more than 50% from the previous month.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of April 30, 2020 and represents the US Empire State Manufacturing Survey General Business Conditions SA.

<sup>&</sup>lt;sup>2</sup> Source: Bloomberg. Data is as of March 31, 2020 and represents the adjusted Retail Sales SA Monthly % Change.



#### Government Re-Opening Recommendation<sup>1</sup>

Phase One	Phase One Phase Two			
Vulnerable individuals continue to stay at home. Avoid groups of more than 10 people if social distancing is not possible. Minimize non-essential travel. Work remotely if possible with restrictions in the office for those businesses that open.	<ul> <li>Vulnerable individuals continue to stay at home.</li> <li>Avoid groups of more than 50 people if social distancing is not possible.</li> <li>Non-essential travel resumes.</li> <li>Continue to work remotely if possible with restrictions in the office for those businesses</li> </ul>	<ul> <li>Vulnerable individuals can return to public life with social distancing.</li> <li>Workplaces can reopen without restrictions.</li> <li>Larger venues can operate under reduced social distancing protocols.</li> </ul>		
Schools remain closed, but some larger venues can open with strict protocols.	that open.			
Outpatient elective surgeries can resume.	Schools can reopen.			

- The Trump administration recently announced guidelines for re-opening the US economy.
- Guidelines recommend states document a "downward trajectory" in new cases for two weeks before beginning a three-phase process to scale back distancing measures and reopen local economies.

Inpatient elective surgeries can resume

- States should also document an additional two-week period decline in instances between each of the three phases, and be prepared to reinstate social distancing measures should cases rebound.
- Recently, some states have begun the reopening process, with others considering to start the process soon.

<sup>&</sup>lt;sup>1</sup> Source: https://www.whitehouse.gov/openingamerica/

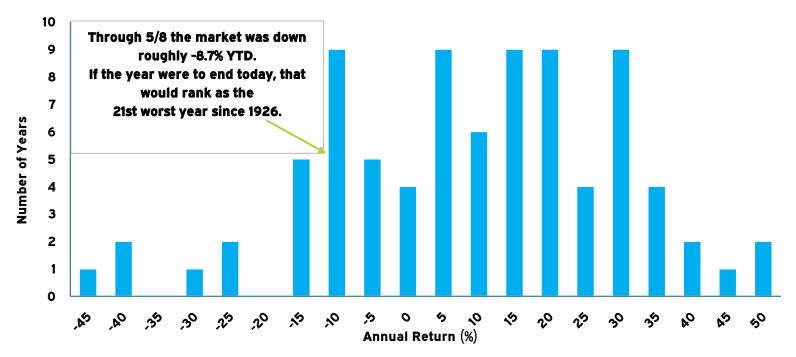


#### Looking Forward...

- There will be significant economic impact and a global recession.
  - How deep it will be and how long it will last depend on factors (below) that are unknowable at this time.
- The length of the virus and country responses will be key considerations.
  - As of now, it is not clear the end is in sight; however, impacted countries are attempting to lay the groundwork to support a recovery.
- Central banks and governments are pledging support, but will it be enough?
  - Based on initial market reactions to announced policies, the answer is no, until the virus gets better contained.
- Expect heightened market volatility given the virus and previous high valuations.
  - This has been a consistent theme over the last weeks; volatility is likely to remain elevated for some time.
- It is important to retain a long-term focus.
  - History supports the argument that maintaining a long-term focus will ultimately prove beneficial for diversified portfolios.



#### Distribution of Annual S&P 500 Returns<sup>1</sup> (1926-2020)



- The -8.7% year-to-date decline (through 5/8) in the S&P 500 would be the twenty-first largest in modern history if it ended the year at this level.
- With around eight months remaining in 2020, and trillions of dollars in fiscal and monetary stimulus deployed, we expect asset prices to experience notable volatility over the near term.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg. Data is as of May 8, 2020.



Period	Peak-to-Trough Decline of the S&P 500	Approximate Time to Recovery
Sept 1929 to June 1932	-85%	266 months
February 1937 to April 1942	-57%	48 months
May 1946 to February 1948	-25%	27 months
August 1956 to October 1957	-22%	11 months
December 1961 to June 1962	-28%	14 months
February 1966 to October 1966	-22%	7 months
November 1968 to May 1970	-36%	21 months
January 1973 to October 1974	-48%	69 months
September 1976 to March 1978	-19%	17 months
November 1980 to August 1982	-27%	3 months
August 1987 to December 1987	-32%	19 months
July 1990 to October 1990	-20%	4 months
July 1998 to August 1998	-19%	3 months
March 2000 to October 2002	-49%	56 months
October 2007 to March 2009	-57%	49 months
February 2020 to May 2020	-34%	TBD
Average	-36%	41 months
Average ex. Great Depression	-33%	25 months

#### Prior Drawdowns and Recoveries from 1926-2020<sup>1</sup>

- Markets are continuing to reprice amid the uncertain impact of the virus on markets and the global economy, which means this drawdown is still being defined in the context of history.
- That said, financial markets have experienced material declines with some frequency, and while certain declines took a meaningful time to recover, in all cases they eventually did.
- The current decline is severe, and it is still too early to tell how long a full recovery might take.

<sup>&</sup>lt;sup>1</sup> Source: Goldman Sachs. Recent peak to trough declines are through May 8, 2020.



#### **Implications for Clients**

- Be prepared to rebalance and take advantage of the age-old wisdom "buy low, sell high".
  - Before rebalancing, consider changes in liquidity needs given the potential for inflows to decline in some cases.
  - Also, consider the cost of rebalancing as investment liquidity declines.
- Diversification works. The latest decline was an example of a flight to quality leading to gains in very high quality bonds.

# Performance YTD

#### (through May 8, 2020)

S&P 500	ACWI (ex. US)	Aggregate Bond Index	Balanced Portfolio <sup>1</sup>
-8.7%	-18.1%	4.5%	-7.3%

- Meketa will continue to monitor the situation and communicate frequently.
  - The situation is fluid and the economic impact is uncertain at this stage.
- Please feel free to reach out with any questions.
  - We would be glad to assist with performance estimates, memorandums, or phone calls.

<sup>&</sup>lt;sup>1</sup> Source: InvestorForce. Balanced Portfolio represents 60% MSCI ACWI and 40% Bloomberg Barclays Global Aggregate.

# Estimated Retirement Association Performance As of April 30, 2020



#### **Estimated Retirement Association Performance**

#### Estimated Aggregate Performance<sup>1</sup>

	April <sup>2</sup> (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Total Retirement Association	6.3	-9.3	-3.3	3.0	3.6	6.3
60% MSCI ACWI/40% Barclays Global Aggregate	7.2	-7.1	-0.4	4.2	3.8	5.2
Policy Benchmark	6.4	-7.1	-0.9	4.8	4.7	7.0

#### **Benchmark Returns**

	April (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
Russell 3000	13.2	-10.4	-1.0	8.0	8.3	11.3
MSCI EAFE	6.5	-17.8	-11.3	-0.6	-0.2	3.6
MSCI Emerging Markets	9.2	-16.6	-12.0	0.6	-0.1	1.5
Barclays Aggregate	1.8	5.0	10.8	5.2	3.8	4.0
Barclays TIPS	2.8	4.5	9.5	4.2	3.1	3.5
Barclays High Yield	4.5	-8.8	-4.1	1.9	3.4	5.9
JPM GBI-EM Global Diversified (Local Currency)	3.9	-11.9	-2.7	0.1	0.4	0.7
S&P Global Natural Resources	13.8	-23.6	-20.4	-2.1	-1.5	-0.9

#### **Estimated Total Assets**

	Estimate
Total Retirement Association	\$962,986,512

<sup>2</sup> As of April 30, 2020

<sup>&</sup>lt;sup>1</sup> The April performance estimates are calculated using index returns as of April 30, 2020 for each asset class. No performance estimate was included for private equity, real estate, infrastructure, and private natural resources asset classes.

# Performance Update As of March 31, 2020



#### Total Retirement Association | As of March 31, 2020

Asset Class Net Performance Summary											
	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
Total Retirement Association	904,561,359	100.0	-10.3	-14.7	-7.4	1.3	2.5	5.9	7.2	Nov-89	
60% MSCI ACWI / 40% Barclays Global Aggregate			-9.0	-13.3	-4.9	2.6	3.0	4.7	6.2	Nov-89	
Custom Benchmark - Policy Benchmark (Net)			-8.4	-12.7	-5.1	3.0	3.6	6.5		Nov-89	
Domestic Equity Assets	197,765,133	21.9	-17.4	-24.1	-14.6	1.6			5.9	Jan-16	
Russell 3000			-13.8	-20.9	-9.1	4.0	5.8	10.1	7.1	Jan-16	
International Developed Market Equity Assets	44,076,651	4.9	-17.8	-28.6	-21.7	-5.5			-1.9	Jan-16	
MSCI EAFE			-13.3	-22.8	-14.4	-1.8	-0.6	2.7	0.6	Jan-16	
International Emerging Market Equity Assets	84,095,167	9.3	-16.3	-24.1	-18.0	-3.0			2.1	Jan-16	
MSCI Emerging Markets			-15.4	-23.6	-17.7	-1.6	-0.4	0.7	4.0	Jan-16	
Global Equity Assets	86,688,169	9.6	-13.2	-21.1	-12.3				-7.0	Feb-18	
MSCI ACWI			-13.5	-21.4	-11.3	1.5	2.8	5.9	-7.0	Feb-18	
Core Fixed Income	84,652,217	9.4	-3.9	-1.4	3.8	3.0			3.2	Jan-16	
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year			-0.9	2.4	7.8	4.3	3.1	3.5	3.9	Jan-16	
Value Added Fixed Income	94,789,745	10.5	-10.7	-11.3	-6.6	0.6			3.7	Jan-16	
Custom Benchmark (1)	1		-10.1	-10.1	-4.8	1.2			4.3	Jan-16	
Hedge Funds (2)	58,021,909	6.4	-13.8	-14.6	-7.3	-0.6	0.6	3.0	3.1	Feb-10	
HFRI Fund of Funds Composite Index			-7.6	-8.8	-5.5	0.0	0.0	1.7	1.9	Feb-10	
Real Estate (3)	107,685,100	11.9	2.1	2.3	8.7	7.1			6.2	Jan-16	
80% NCREIF ODCE / 20% Wilshire REIT			-3.4	-4.8	-0.8	4.4			5.3	Jan-16	
Private Equity (4)	68,430,836	7.6	2.2	2.2	9.4	8.1			5.0	Jan-16	
Cambridge Associates FoF Composite 1Q Lag			2.9	2.9	11.1	12.7	10.2	11.6	10.4	Jan-16	
Real Assets (5)	53,526,354	5.9	-0.6	-0.9	6.4	3.2			-0.6	Jan-16	
CPI + 3%			-0.2	0.6	4.5	4.9	4.8	4.7	4.9	Jan-16	
Cash and Cash Equivalent	24,830,078	2.7									

(1) The custom benchmark is comprised of 25% BBgBarc US High Yield/ 25% Credit Suisse Leveraged Loans/ 25% JP Morgan EMBI Global diversified/ 25% BBgBarc Multiverse TR

(2) Entrust Special Opportunities Fund III, LTD: The market value and performance is based on an estimate.

EntrustPermal Special Opportunities Evergreen Fund, LTD: The market value and performance is one quarter lagged.

(3) The market value and performance is one quarter lagged.

(4) The market value and performance is one quarter lagged.

(5) The market value and performance is one quarter lagged.



#### Total Retirement Association | As of March 31, 2020

	Trail	ing Net Pe	erforman	ice							
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Retirement Association	904,561,359	100.0		-10.3	-14.7	-7.4	1.3	2.5	5.9	7.2	Nov-89
60% MSCI ACWI / 40% Barclays Global Aggregate				-9.0	-13.3	-4.9	2.6	3.0	4.7	6.2	Nov-89
Custom Benchmark - Policy Benchmark (Net)				-8.4	-12.7	-5.1	3.0	3.6	6.5		Nov-89
InvMetrics Public DB > \$1B Net Median				-9.0	-12.6	-5.0	2.8	3.7	6.4	7.4	Nov-89
InvMetrics Public DB > \$1B Net Rank				78	76	79	87	88	71	63	Nov-89
Domestic Equity Assets	197,765,133	21.9	21.9	-17.4	-24.1	-14.6	1.6		-	5.9	Jan-16
Russell 3000				-13.8	-20.9	-9.1	4.0	5.8	10.1	7.1	Jan-16
Rhumbline Russell 1000 Value	31,341,955	3.5	15.8	-17.0	-26.6	-17.1	-2.2	1.8		5.3	Apr-13
Russell 1000 Value				-17.1	-26.7	-17.2	-2.2	1.9	7.7	5.4	Apr-13
eV US Large Cap Value Equity Net Median				-16.7	-26.4	-16.8	-1.5	2.0	7.4	5.3	Apr-13
eV US Large Cap Value Equity Net Rank				55	54	53	59	53		51	Apr-13
Rhumbline Russell 1000 Growth	37,437,773	4.1	18.9	-9.8	-14.0	1.0	11.3	10.3	12.9	14.0	Jul-09
Russell 1000 Growth				-9.8	-14.1	0.9	11.3	10.4	13.0	14.1	Jul-09
eV US Large Cap Growth Equity Net Median				-10.2	-14.0	-1.0	10.2	8.7	11.8	12.8	Jul-09
eV US Large Cap Growth Equity Net Rank				38	51	32	40	26	19	19	Jul-09
Fisher Midcap Value	34,919,720	3.9	17.7	-20.1	-27.0	-17.4	-0.9	2.5	8.0	5.3	Apr-07
Russell MidCap Value				-22.7	-31.7	-24.1	-6.0	-0.8	7.2	4.0	Apr-07
eV US Mid Cap Value Equity Net Median				-22.4	-32.2	-23.3	-6.6	-0.8	6.4	4.1	Apr-07
eV US Mid Cap Value Equity Net Rank				27	12	9	9	4	12	22	Apr-07
Boston Company Small Cap Growth	45,375,131	5.0	22.9	-15.4	-15.7	-7.5	10.3	8.2	12.0	13.0	Aug-09
Russell 2000 Growth				-19.1	-25.8	-18.6	0.1	1.7	8.9	10.2	Aug-09
eV US Small Cap Growth Equity Net Median				-18.4	-23.4	-15.8	3.6	4.1	10.0	11.5	Aug-09
eV US Small Cap Growth Equity Net Rank				22	8	15	17	15	17	20	Aug-09



#### Total Retirement Association | As of March 31, 2020

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
LMCG Small Cap Value	48,690,555	5.4	24.6	-22.6	-33.6	-26.1	-9.0	-1.5		3.4	Mar-11
Russell 2000 Value				-24.7	-35.7	-29.6	-9.5	-2.4	4.8	3.2	Mar-11
eV US Small Cap Value Equity Net Median				-24.4	-35.1	-29.1	-9.7	-2.9	5.2	3.3	Mar-11
eV US Small Cap Value Equity Net Rank				33	35	35	44	28		49	Mar-11
International Developed Market Equity Assets	44,076,651	4.9	4.9	-17.8	-28.6	-21.7	-5.5		-	-1.9	Jan-16
MSCI EAFE				-13.3	-22.8	-14.4	-1.8	-0.6	2.7	0.6	Jan-16
KBI Master Account	16,729,978	1.8	38.0	-14.9	-24.6	-19.1	-5.7	-3.5	1.1	1.7	Jul-05
MSCI EAFE				-13.3	-22.8	-14.4	-1.8	-0.6	2.7	3.0	Jul-05
eV EAFE Core Equity Net Median				-15.0	-24.0	-15.9	-2.2	-0.5	3.8	3.9	Jul-05
eV EAFE Core Equity Net Rank				49	59	79	89	98	99	99	Jul-05
HGK TS International Equity	18,215,939	2.0	41.3	-15.3	-24.3	-13.6	-0.3	1.2		3.6	Feb-11
MSCI EAFE				-13.3	-22.8	-14.4	-1.8	-0.6	2.7	1.6	Feb-11
eV EAFE All Cap Equity Net Median				-13.9	-22.6	-14.6	-1.8	-0.6	3.9	2.6	Feb-11
eV EAFE All Cap Equity Net Rank				68	66	45	30	25	-	29	Feb-11
Copper Rock International Small Cap	9,130,733	1.0	20.7	-22.7	-34.7	-28.7				-18.3	Nov-17
MSCI EAFE Small Cap				-17.2	-27.5	-18.1	-2.9	1.0	4.8	-10.9	Nov-17
eV EAFE Small Cap Equity Net Median				-17.9	-28.5	-18.9	-3.6	0.5	5.9	-12.6	Nov-17
eV EAFE Small Cap Equity Net Rank				94	93	95				95	Nov-17
International Emerging Market Equity Assets	84,095,167	9.3	9.3	-16.3	-24.1	-18.0	-3.0			2.1	Jan-16
MSCI Emerging Markets				-15.4	-23.6	-17.7	-1.6	-0.4	0.7	4.0	Jan-16
LMCG Emerging Markets	30,974,458	3.4	36.8	-15.7	-25.2	-20.8	-4.6	-3.3		-2.4	Sep-13
MSCI Emerging Markets				-15.4	-23.6	-17.7	-1.6	-0.4	0.7	0.0	Sep-13
eV Emg Mkts Equity Net Median				-17.6	-25.1	-19.1	-2.7	-0.9	1.3	-0.2	Sep-13
eV Emg Mkts Equity Net Rank				28	51	66	69	86	-	87	Sep-13



#### Total Retirement Association | As of March 31, 2020

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
ABS Emerging Markets	22,633,456	2.5	26.9	-17.7	-23.4	-17.6				-6.3	Dec-18
MSCI Emerging Markets				-15.4	-23.6	-17.7	-1.6	-0.4	0.7	-9.1	Dec-18
eV Emg Mkts Equity Net Median				-17.6	-25.1	-19.1	-2.7	-0.9	1.3	-9.6	Dec-18
eV Emg Mkts Equity Net Rank				51	32	40				24	Dec-18
Copper Rock Emerging Markets Small Cap	7,772,975	0.9	9.2	-24.1	-31.5	-27.2				-17.0	Dec-18
MSCI Emerging Markets Small Cap				-23.1	-31.4	-29.0	-9.6	-5.2	-1.3	-19.2	Dec-18
eV Emg Mkts Small Cap Equity Net Median				-21.6	-28.8	-25.5	-6.9	<i>-3</i> .7	1.7	-15.1	Dec-18
eV Emg Mkts Small Cap Equity Net Rank				89	82	65				61	Dec-18
Driehaus Emerging Markets Growth	22,714,277	2.5	27.0	-14.3	-20.9	-10.4				-8.9	Mar-19
MSCI Emerging Markets				-15.4	-23.6	-17.7	-1.6	-0.4	0.7	-15.8	Mar-19
eV Emg Mkts Equity Net Median				-17.6	-25.1	-19.1	-2.7	-0.9	1.3	-16.7	Mar-19
eV Emg Mkts Equity Net Rank				12	11	6			-	10	Mar-19
Global Equity Assets	86,688,169	9.6	9.6	-13.2	-21.1	-12.3				-7.0	Feb-18
MSCI ACWI				-13.5	-21.4	-11.3	1.5	2.8	5.9	-7.0	Feb-18
First Eagle Global Value Fund	17,156,022	1.9	19.8	-11.0	-19.1	-11.4				-6.8	Feb-18
MSCI ACWI Value NR USD				-16.9	-27.1	-20.0	-4.0	-0.5	3.5	-12.5	Feb-18
eV Global Value Equity Net Median				-17.7	-27.8	-20.5	-4.4	-1.0	4.3	-13.5	Feb-18
eV Global Value Equity Net Rank				8	8	12			- 1	15	Feb-18



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Kopernik Global All Cap Fund	15,531,921	1.7	17.9	-9.6	-18.4	-14.6				-11.0	Feb-18
MSCI ACWI Value NR USD				-16.9	-27.1	-20.0	-4.0	-0.5	3.5	-12.5	Feb-18
eV Global All Cap Value Eq Net Median				-17.7	-28.1	-19.9	-4.7	-1.6	3.9	-13.5	Feb-18
eV Global All Cap Value Eq Net Rank				3	6	20				28	Feb-18
Lee Munder Global Multi-Cap Strategy	24,082,135	2.7	27.8	-14.7	-23.7	-15.2			-	-8.0	Mar-18
MSCI ACWI				-13.5	-21.4	-11.3	1.5	2.8	5.9	-5.4	Mar-18
eV All Global Equity Net Median				-13.6	-21.3	-11.9	0.9	2.2	6.2	-5.0	Mar-18
eV All Global Equity Net Rank				61	67	66				69	Mar-18
Wellington Durable Enterprises, L.P.	29,918,091	3.3	34.5	-14.9	-21.5	-9.0				-0.1	Mar-18
MSCI ACWI Growth NR USD				-10.4	-15.7	-2.3	7.0	6.1	<i>8.2</i>	0.0	Mar-18
eV Global All Cap Growth Eq Net Median				-11.3	-16.0	-4.1	7.0	6.2	8.8	-0.5	Mar-18
eV Global All Cap Growth Eq Net Rank				88	92	85				47	Mar-18
Core Fixed Income	84,652,217	9.4	9.4	-3.9	-1.4	3.8	3.0			3.2	Jan-16
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year				-0.9	2.4	7.8	4.3	3.1	3.5	3.9	Jan-16
IR&M Core Bonds	50,949,095	5.6	60.2	-2.4	1.0	6.4	3.8	2.8	3.7	4.2	Nov-04
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year				-0.9	2.4	7.8	4.3	3.1	3.5	4.1	Nov-04
eV US Core Fixed Inc Net Median				-2.0	1.7	7.3	4.4	3.2	3.9	4.4	Nov-04
eV US Core Fixed Inc Net Rank				62	69	73	84	81	71	68	Nov-04



	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
					-	(/0)	(70)	(70)	(70)		
Lord Abbett Short Duration Credit Trust II	33,703,122	3.7	39.8	-6.2	-5.2					-3.8	Aug-19
BBgBarc US Credit 1-3 Yr TR				-1.9	-0.7	2.6	2.3	2.0	2.1	0.9	Aug-19
eV US Short Duration Fixed Inc Net Median				-1.1	0.4	3.1	2.3	1.8	1.8	1.5	Aug-19
eV US Short Duration Fixed Inc Net Rank				96	95				-	96	Aug-19
Value Added Fixed Income	94,789,745	10.5	10.5	-10.7	-11.3	-6.6	0.6			3.7	Jan-16
Custom Benchmark				-10.1	-10.1	-4.8	1.2			4.3	Jan-16
Eaton Vance High Yield	19,791,856	2.2	20.9	-10.3	-11.8	-5.8	0.8	2.6	5.7	5.9	Apr-06
ICE BofAML US High Yield TR				-11.7	-13.1	-7.4	0.6	2.7	5.5	6.1	Apr-06
eV US High Yield Fixed Inc Net Median				-10.9	-12.1	-6.6	0.6	2.3	5.2	5.7	Apr-06
eV US High Yield Fixed Inc Net Rank				38	44	35	40	30	17	35	Apr-06
THL Bank Loan Select Fund	19,241,062	2.1	20.3	-11.9	-12.5	-9.2	-0.9	1.6		3.8	Sep-10
Credit Suisse Leveraged Loans				-12.5	-13.2	-9.5	-0.7	1.2	3.3	3.2	Sep-10
Bank Loan MStar MF Median				-11.9	-13.1	-9.5	-1.3	0.8	2.8	2.7	Sep-10
Bank Loan MStar MF Rank				51	48	47	38	5	-	1	Sep-10
Franklin Templeton Emerging Market Bonds	17,979,209	2.0	19.0	-14.9	-15.4	-10.6	-0.6	2.7	3.6	5.5	May-06
JP Morgan EMBI Global Diversified				-13.8	-13.4	-6.8	0.4	2.8	4.9	6.0	<i>May-06</i>
eV Emg Mkts Fixed Inc - Corporate Debt Net Median				-14.2	-13.3	-7.0	0.5	2.4	4.1		Мау-06
eV Emg Mkts Fixed Inc - Corporate Debt Net Rank				55	72	95	84	37	91		<i>May-06</i>
Manulife Strategic Fixed Income	29,097,618	3.2	30.7	-5.7	-5.6					-3.2	Jul-19
BBgBarc Multiverse TR				-2.8	-1.1	3.5	3.4	2.7	2.6	0.2	Jul-19
Multisector Bond MStar MF Median				-9.7	-8.8	-3.6	1.3	2.1	4.2	-6.4	Jul-19
Multisector Bond MStar MF Rank				10	15				-	11	Jul-19



#### Total Retirement Association | As of March 31, 2020

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Mesirow High Yield	8,680,000	1.0	9.2	-15.2	-16.0					-13.2	Aug-19
BBgBarc US Corporate High Yield TR				-11.5	-12.7	-6.9	0.8	2.8	5.6	-9.7	Aug-19
eV US High Yield Fixed Inc Net Median				-10.9	-12.1	-6.6	0.6	2.3	5.2	-9.4	Aug-19
eV US High Yield Fixed Inc Net Rank				95	92				-	88	Aug-19
Hedge Funds	58,021,909	6.4	6.4	-13.8	-14.6	-7.3	-0.6	0.6	3.0	3.1	Feb-10
HFRI Fund of Funds Composite Index				-7.6	-8.8	-5.5	0.0	0.0	1.7	1.9	Feb-10
ABS Offshore SPC - Global Segregated Portfolio	20,703,159	2.3	35.7	-8.1	-10.0	-1.8	1.7	1.0		4.3	Aug-10
HFRI Fund of Funds Composite Index				-7.6	-8.8	-5.5	0.0	0.0	1.7	2.0	Aug-10
Entrust Special Opportunities Fund III, Ltd.	17,085,199	1.9	29.4	-28.5	-28.5	-23.9	-6.7			0.9	Oct-16
HFRI Fund of Funds Composite Index				-7.6	-8.8	-5.5	0.0	0.0	1.7	0.9	Oct-16
Old Farm Partners Master Fund, L.P.	4,701,221	0.5	8.1	-5.6	-7.1	-3.3				-4.0	Oct-18
HFRI Fund of Funds Composite Index				-7.6	-8.8	-5.5	0.0	0.0	1.7	-4.1	Oct-18
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	15,532,330	1.7	26.8	0.0	0.0	19.4				21.5	Jan-19
HFRI Fund of Funds Composite Index				-7.6	-8.8	-5.5	0.0	0.0	1.7	-0.9	Jan-19

Entrust Special Opportunities Fund III, LTD: The market value and performance is based on an estimate.

EntrustPermal Special Opportunities Evergreen Fund, LTD: The market value and performance is one quarter lagged.



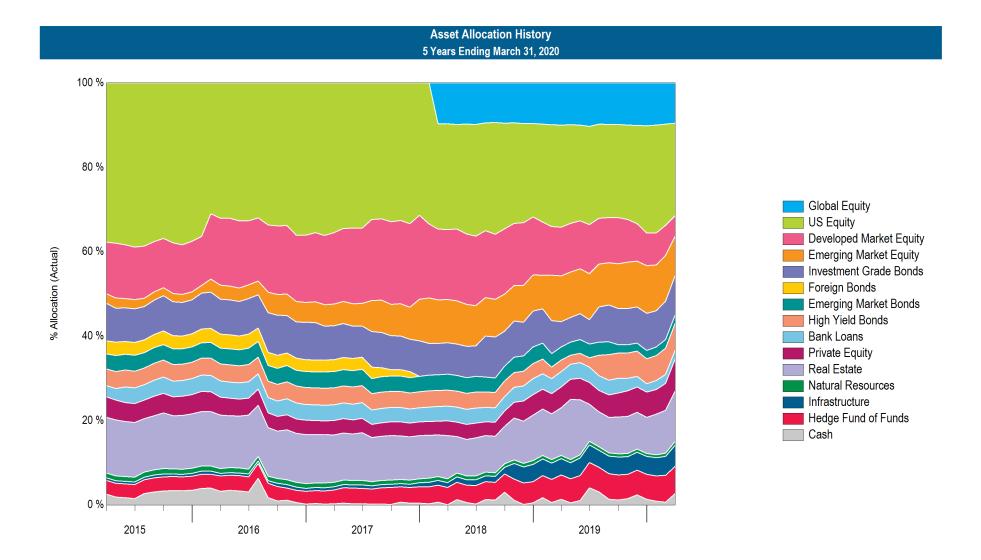
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate	107,685,100	11.9	11.9	2.1	2.3	8.7	7.1			6.2	Jan-16
80% NCREIF ODCE / 20% Wilshire REIT				-3.4	-4.8	-0.8	4.4			5.3	Jan-16
Core Real Estate	67,563,848	7.5	62.7	1.0	1.3	6.5	7.0			7.3	Jan-16
NCREIF-ODCE				1.0	1.0	4.9	6.8	8.5	11.4	7.3	Jan-16
TA Realty Core Property Fund, L.P.	39,212,896	4.3	58.0	1.3	1.3	9.3				10.7	Apr-18
NCREIF ODCE				1.0	1.0	4.9	6.8	8.5	11.4	6.2	Apr-18
JPMorgan Strategic Property	28,350,952	3.1	42.0	0.6	1.3	4.2				4.2	Apr-19
NCREIF-ODCE				1.0	1.0	4.9	6.8	8.5	11.4	4.9	Apr-19
Non-Core Real Estate	40,121,252	4.4	37.3	4.1	4.1	12.3	5.4			1.8	Jan-16
Private Equity	68,430,836	7.6	7.6	2.2	2.2	9.4	8.1			5.0	Jan-16
Cambridge Associates FoF Composite 1Q Lag				2.9	2.9	11.1	12.7	10.2	11.6	10.4	Jan-16
Private Equity	61,054,048	6.7	89.2	2.6	2.6	9.6	7.3		-	3.8	Jan-16
Venture Capital	7,376,788	0.8	10.8	-1.4	-1.4	7.5	9.7			8.3	Jan-16
Real Assets	53,526,354	5.9	5.9	-0.6	-0.9	6.4	3.2			-0.6	Jan-16
CPI + 3%				-0.2	0.6	4.5	4.9	4.8	4.7	4.9	Jan-16
IFM Global Infrastructure	22,330,075	2.5	41.7	-3.3	-3.9	7.3				8.6	Oct-18
CPI+5% (1q Lagged)				0.3	1.3	7.4			-	6.4	Oct-18
Cash and Cash Equivalent	24,830,078	2.7	2.7								
Cash	24,830,078	2.7	100.0								



Allocation vs. Target										
	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?					
Domestic Equity	\$197,765,133	22%	26%	21% - 36%	Yes					
International Developed Market Equity	\$44,076,651	5%	6%	1% - 16%	Yes					
International Emerging Market Equity	\$84,095,167	9%	10%	5% - 20%	Yes					
Global Equity	\$86,688,169	10%	10%	5% - 20%	Yes					
Core Bonds	\$84,652,217	9%	9%	4% - 14%	Yes					
Value-Added Fixed Income	\$94,789,745	10%	6%	2% - 12%	Yes					
Private Equity	\$68,430,836	8%	13%	4% - 18%	Yes					
Real Estate	\$107,685,100	12%	10%	5% - 15%	Yes					
Real Assets	\$53,526,354	6%	6%	2% - 10%	Yes					
Hedge Fund of Funds	\$58,021,909	6%	4%	2% - 8%	Yes					
Cash	\$24,830,078	3%	0%	0% - 3%	Yes					
Total	\$904,561,359	100%	100%							

	Current Balance	Current Allocation	Policy	Policy Range	Within IPS Range?
Total Equity	\$539,077,864	60%	69%	60% - 80%	Yes
Total Fixed Income	\$179,441,962	20%	15%	5% - 25%	Yes
Total Real Assets and Real Estate	\$161,211,455	18%	16%	13% - 19%	Yes
Cash	\$24,830,078	3%	0%	0% - 3%	Yes







Statistics Summary 5 Years Ending March 31, 2020								
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error		
Total Retirement Association	2.5%	8.8%	-0.2	0.9	0.2	2.8%		
60% MSCI ACWI / 40% Barclays Global Aggregate	3.0%	8.8%		1.0	0.2	0.0%		
Domestic Equity Assets								
Russell 3000	5.8%	14.2%		1.0	0.3	0.0%		
Rhumbline Russell 1000 Value	1.8%	14.8%	-0.8	1.0	0.0	O.1%		
Russell 1000 Value	1.9%	14.8%		1.0	0.1	0.0%		
Rhumbline Russell 1000 Growth	10.3%	13.9%	-1.0	1.0	0.7	0.1%		
Russell 1000 Growth	10.4%	14.0%		1.0	0.7	0.0%		
Fisher Midcap Value	2.5%	17.7%	0.7	1.0	0.1	4.6%		
Russell MidCap Value	-0.8%	16.9%		1.0	-0.1	0.0%		
Boston Company Small Cap Growth	8.2%	19.4%	1.0	1.0	0.4	6.3%		
Russell 2000 Growth	1.7%	19.1%		1.0	0.0	0.0%		
LMCG Small Cap Value	-1.5%	18.9%	0.3	0.9	-0.1	3.1%		
Russell 2000 Value	-2.4%	19.9%		1.0	-0.2	0.0%		
International Equity								
International Equity Custom Benchmark	-0.3%	14.7%		1.0	-0.1	0.0%		
International Developed Market Equity Assets								
MSCI EAFE	-0.6%	14.1%		1.0	-0.1	0.0%		
KBI Master Account	-3.5%	14.3%	-1.3	1.0	-0.3	2.3%		
MSCI EAFE	-0.6%	14.1%		1.0	-0.1	0.0%		
HGK TS International Equity	1.2%	15.9%	0.4	1.1	0.0	5.0%		
MSCI EAFE	-0.6%	14.1%		1.0	-0.1	0.0%		



	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Copper Rock International Small Cap						
MSCI EAFE Small Cap	1.0%	15.5%		1.0	0.0	0.0%
International Emerging Market Equity Assets						
MSCI Emerging Markets	-0.4%	17.6%		1.0	-0.1	0.0%
LMCG Emerging Markets	-3.3%	17.0%	-1.2	1.0	-0.3	2.5%
MSCI Emerging Markets	-0.4%	17.6%		1.0	-0.1	0.0%
ABS Emerging Markets						
MSCI Emerging Markets	-0.4%	17.6%		1.0	-0.1	0.0%
Copper Rock Emerging Markets Small Cap						
MSCI Emerging Markets Small Cap	-5.2%	18.3%		1.0	-0.3	0.0%
Driehaus Emerging Markets Growth						
MSCI Emerging Markets	-0.4%	17.6%		1.0	-0.1	0.0%
Global Equity Assets						
MSCI ACWI	2.8%	13.7%		1.0	0.1	0.0%
First Eagle Global Value Fund						
MSCI ACWI Value NR USD	-0.5%	14.5%		1.0	-0.1	0.0%
Kopernik Global All Cap Fund						
MSCI ACWI Value NR USD	-0.5%	14.5%		1.0	-0.1	0.0%
Lee Munder Global Multi-Cap Strategy						
MSCI ACWI	2.8%	13.7%		1.0	0.1	0.0%
Wellington Durable Enterprises, L.P.						
MSCI ACWI Growth NR USD	6.1%	13.6%		1.0	0.4	0.0%
Fixed Income Assets	2.5%	4.5%	-0.2	0.9	0.3	3.5%
BBgBarc US Universal TR	3.4%	3.0%		1.0	0.7	0.0%



	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Core Fixed Income						
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year	3.1%	2.8%		1.0	0.7	0.0%
IR&M Core Bonds	2.8%	3.0%	-0.3	1.0	0.6	0.7%
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year	3.1%	2.8%		1.0	0.7	0.0%
Lord Abbett Short Duration Credit Trust II						
BBgBarc US Credit 1-3 Yr TR	2.0%	1.3%		1.0	0.6	0.0%
Value Added Fixed Income						
Custom Benchmark						
Eaton Vance High Yield	2.6%	6.5%	0.0	0.8	0.2	1.6%
ICE BofAML US High Yield TR	2.7%	7.6%		1.0	0.2	0.0%
THL Bank Loan Select Fund	1.6%	6.2%	0.5	1.0	0.1	0.7%
Credit Suisse Leveraged Loans	1.2%	6.4%		1.0	0.0	0.0%
Franklin Templeton Emerging Market Bonds	2.7%	9.3%	0.0	1.0	0.2	3.9%
JP Morgan EMBI Global Diversified	2.8%	8.4%		1.0	0.2	0.0%
Manulife Strategic Fixed Income						
BBgBarc Multiverse TR	2.7%	4.6%		1.0	0.3	0.0%
Mesirow High Yield						
BBgBarc US Corporate High Yield TR	2.8%	7.5%		1.0	0.2	0.0%
Hedge Funds	0.6%	9.0%	0.1	1.5	-0.1	5.1%
HFRI Fund of Funds Composite Index	0.0%	5.1%		1.0	-0.2	0.0%
ABS Offshore SPC - Global Segregated Portfolio	1.0%	7.3%	0.3	1.3	0.0	3.3%
HFRI Fund of Funds Composite Index	0.0%	5.1%		1.0	-0.2	0.0%

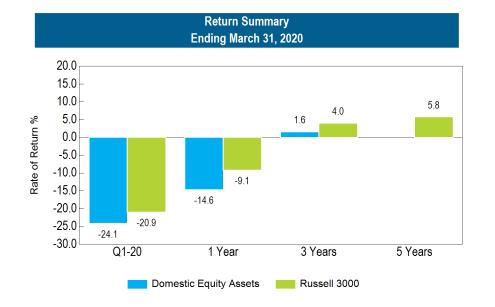


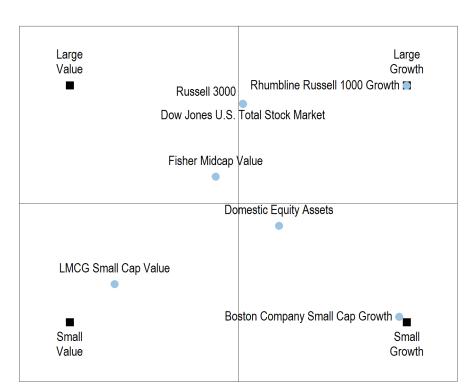
	Anlzd Return	Anlzd Standard Deviation	Information Ratio	Beta	Sharpe Ratio	Tracking Error
Entrust Special Opportunities Fund III, Ltd.	-					
HFRI Fund of Funds Composite Index	0.0%	5.1%		1.0	-0.2	0.0%
Old Farm Partners Master Fund, L.P.						
HFRI Fund of Funds Composite Index	0.0%	5.1%		1.0	-0.2	0.0%
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.						
HFRI Fund of Funds Composite Index	0.0%	5.1%		1.0	-0.2	0.0%
Real Estate						
80% NCREIF ODCE / 20% Wilshire REIT						
Core Real Estate						
NCREIF-ODCE	8.5%	3.7%		1.0	2.0	0.0%
TA Realty Core Property Fund, L.P.						
NCREIF ODCE	8.5%	3.7%		1.0	2.0	0.0%
JPMorgan Strategic Property						
NCREIF-ODCE	8.5%	3.7%		1.0	2.0	0.0%
Private Equity						
Cambridge Associates FoF Composite 1Q Lag	10.2%	5.2%		1.0	1.7	0.0%
Real Assets						
CPI + 3%	4.8%	0.6%		1.0	6.4	0.0%
IFM Global Infrastructure						
CPI+5% (1q Lagged)						



#### As of March 31, 2020

Asset Allocation on March 31, 2020									
	Actual	Actual							
Boston Company Small Cap Growth	\$45,375,131	22.9%							
Fisher Midcap Value	\$34,919,720	17.7%							
LMCG Small Cap Value	\$48,690,555	24.6%							
Rhumbline Russell 1000 Growth	\$37,437,773	18.9%							
Rhumbline Russell 1000 Value	\$31,341,955	15.8%							
Total	\$197,765,133	100.0%							





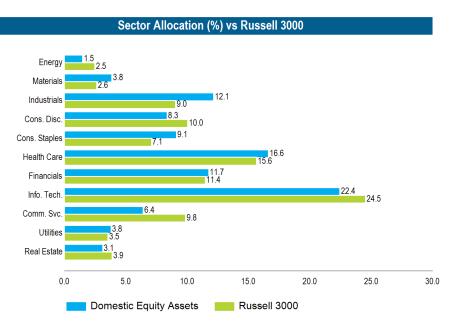
#### Domestic Equity Assets Style Map



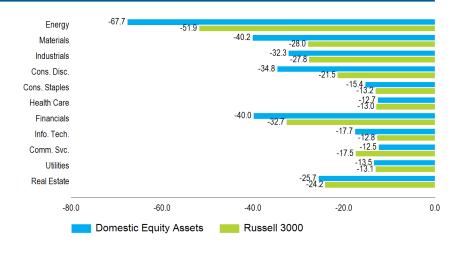
#### Domestic Equity Assets | As of March 31, 2020

Domestic Equity Assets Equity Characteristics							
	Portfolio	Index					
	Q1-20	Q1-20					
Market Value							
Market Value (\$M)	197.77						
Number Of Holdings	1143	2976					
Characteristics							
Weighted Avg. Market Cap. (\$B)	102.81	227.15					
Median Market Cap (\$B)	6.45	1.13					
P/E Ratio	15.70	16.83					
Yield	1.80	2.28					
EPS Growth - 5 Yrs.	13.57	12.92					
Price to Book	3.04	3.56					
Beta (holdings; domestic)	1.12	1.01					

Top 10 Holdings			
MICROSOFT	2.1%		
APPLE	1.9%		
AMAZON.COM	1.4%		
CACI INTERNATIONAL 'A'	1.4%		
TELADOC HEALTH	1.3%		
BANDWIDTH A	1.3%		
EVERBRIDGE	1.0%		
SHOPIFY 'A' (NYS)	1.0%		
TREEHOUSE FOODS	0.8%		
DARLING INGREDIENTS	0.8%		
Total	13.0%		



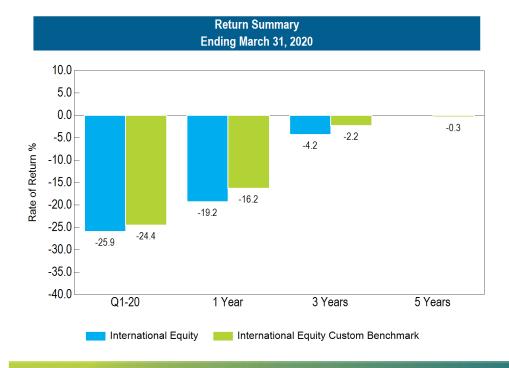
#### Sector Returns (%) vs Russell 3000

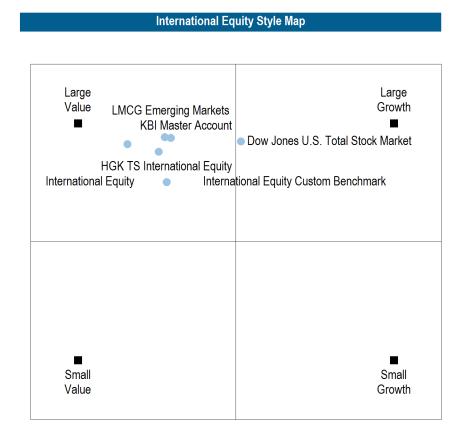


### **Plymouth County Retirement Association**

#### As of March 31, 2020

Asset Allocation on March 31, 2020					
	Actual	Actual			
ABS Emerging Markets	\$22,633,456	17.7%			
Copper Rock Emerging Markets Small Cap	\$7,772,975	6.1%			
Copper Rock International Small Cap	\$9,130,733	7.1%			
Driehaus Emerging Markets Growth	\$22,714,277	17.7%			
HGK TS International Equity	\$18,215,939	14.2%			
KBI Master Account	\$16,729,978	13.1%			
LMCG Emerging Markets	\$30,974,458	24.2%			
Total	\$128,171,818	100.0%			







#### International Equity | As of March 31, 2020

International Equity Equity Characteristics					
Portfolio Ir					
	Q1-20	Q1-20			
Market Value					
Market Value (\$M)	128.17				
Number Of Holdings	517	2404			
Characteristics					
Weighted Avg. Market Cap. (\$B)	64.01	69.23			
Median Market Cap (\$B)	7.19	5.91			
P/E Ratio	10.78	13.10			
Yield	4.33	3.75			
EPS Growth - 5 Yrs.	12.25	8.24			
Price to Book	2.51	2.47			
Beta (holdings; domestic)	1.06	1.00			

Top 10 Holdings			
TENCENT HOLDINGS	3.7%		
SAMSUNG ELECTRONICS	2.4%		
ALIBABA GROUP HOLDING ADR 1:8	1.9%		
ISHARES MSCI EMERGING MARKETS ETF	1.8%		
TAIWAN SEMICON.MNFG.	1.8%		
ROCHE HOLDING	1.3%		
TAIWAN SEMICON.SPN.ADR 1:5	1.3%		
AIA GROUP	0.9%		
JD COM ADR 1:2	0.8%		
CHINA CON.BANK 'H'	0.8%		
Total	16.7%		



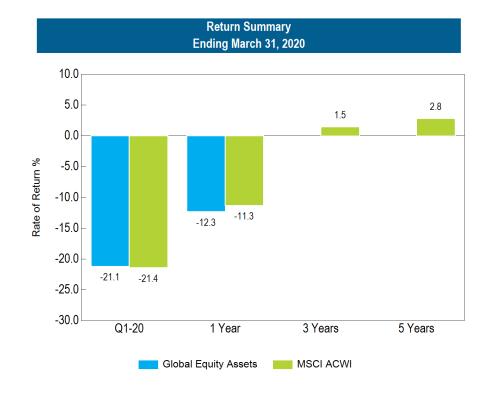
#### Sector Returns (%) vs MSCI ACWI ex USA





#### Global Equity Assets | As of March 31, 2020

Asset Allocation on March 31, 2020					
	Actual	Actual			
First Eagle Global Value Fund	\$17,156,022	19.8%			
Kopernik Global All Cap Fund	\$15,531,921	17.9%			
Lee Munder Global Multi-Cap Strategy	\$24,082,135	27.8%			
Wellington Durable Enterprises, L.P.	\$29,918,091	34.5%			
Total	\$86,688,169	100.0%			



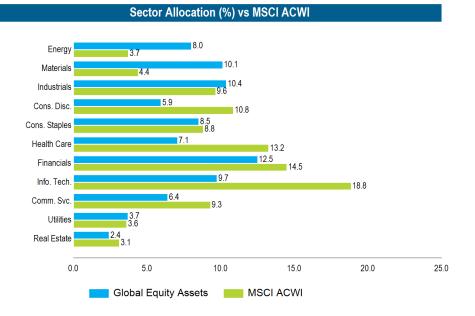


### **Plymouth County Retirement Association**

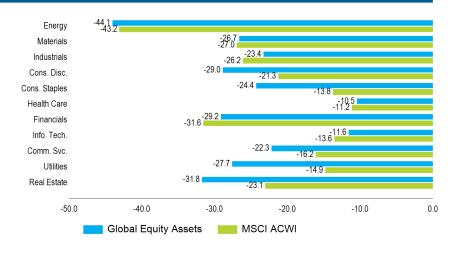
#### Global Equity Assets | As of March 31, 2020

Global Equity Assets Equity Characteristics					
Portfolio Ir					
Q1-20	Q1-20				
86.69					
317	3040				
95.12	173.13				
12.88	7.33				
11.81	15.24				
3.33	2.93				
6.98	10.81				
2.37	3.11				
1.05	0.99				
	Portfolio Q1-20 86.69 317 95.12 12.88 11.81 3.33 6.98 2.37				

Top 10 Holdings	
ISHARES CORE MSCI EMERGING MARKETS ETF	3.6%
CAMECO (NYS)	1.5%
MICROSOFT	1.4%
COMCAST A	1.4%
APPLE	1.4%
NEWCREST MINING	1.3%
KT	1.2%
CENTERRA GOLD	1.2%
ISHARES MSCI CHINA	1.1%
ALPHABET A	1.1%
Total	15.2%



#### Sector Returns (%) vs MSCI ACWI



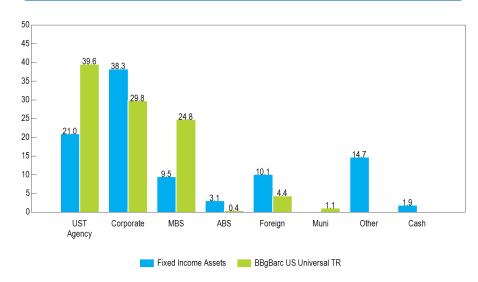
## **Plymouth County Retirement Association**

#### Fixed Income Assets | As of March 31, 2020

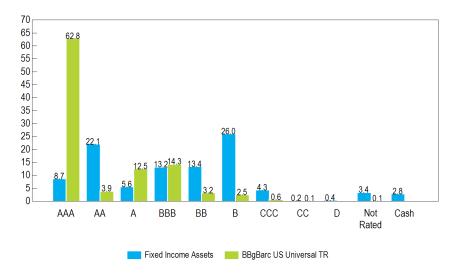
Asset Allocation on March 31, 2020					
	Actual	Actual			
Eaton Vance High Yield	\$19,791,856	11.0%			
Franklin Templeton Emerging Market Bonds	\$17,979,209	10.0%			
IR&M Core Bonds	\$50,949,095	28.4%			
Lord Abbett Short Duration Credit Trust II	\$33,703,122	18.8%			
Manulife Strategic Fixed Income	\$29,097,618	16.2%			
Mesirow High Yield	\$8,680,000	4.8%			
THL Bank Loan Select Fund	\$19,241,062	10.7%			
Total	\$179,441,962	100.0%			

Fixed Income Assets Characteristics								
vs. BBgBarc US Universal TR								
Portfolio Index Portfoli								
	Q1-20	Q4-19						
Fixed Income Characteristics								
Yield to Maturity	5.8	2.5	4.4					
Average Duration	4.1	6.2	3.8					
Average Quality	BBB	AA	BBB					
Weighted Average Maturity	6.7	12.4	6.2					

Sector Allocation



Credit Quality Allocation



# Plymouth County Retirement Association

#### Rhumbline Russell 1000 Value | As of March 31, 2020

Rhumbline Russell 1000 Value Characteristics						
	Portfolio	Index	Portfolio			
	Q1-20	Q1-20	Q4-19			
Market Value						
Market Value (\$M)	31.3		50.0			
Number Of Holdings	765	765	765			
Characteristics						
Weighted Avg. Market Cap. (\$B)	98.8	98.9	123.5			
Median Market Cap (\$B)	6.3	6.3	9.7			
P/E Ratio	12.6	12.6	18.5			
Yield	3.5	3.5	2.5			
EPS Growth - 5 Yrs.	8.6	8.6	6.7			
Price to Book	2.2	2.2	2.3			
Beta (holdings; domestic)	1.0	1.0	1.0			
Sector Distribution						
Energy	5.4	5.4	8.1			
Materials	4.2	4.2	4.2			
Industrials	9.4	9.5	9.5			
Consumer Discretionary	5.2	5.2	5.8			
Consumer Staples	10.6	10.6	8.8			
Health Care	15.5	15.5	12.8			
Financials	21.3	21.3	23.7			
Information Technology	6.8	6.8	6.2			
Communication Services	8.6	8.6	8.1			
Utilities	7.8	7.8	6.5			
Real Estate	5.1	5.1	5.0			

#### **Account Information**

Account Name	Rhumbline Russell 1000 Value
Account Structure	Commingled Fund
Investment Style	Passive
Inception Date	4/30/13
Account Type	US Equity
Benchmark	Russell 1000 Value
Universe	eV US Large Cap Value Equity Net

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception Ir (%)	nception Date
Rhumbline Russell 1000 Value Russell 1000 Value	-26.6 <i>-26.</i> 7	-17.1 - <i>17.2</i>	-2.2 -2.2	1.8 <i>1.9</i>	 7.7	5.3 <i>5.4</i>	Apr-13 <i>Apr-13</i>
eV US Large Cap Value Equity Net Median	-26.4	-16.8	-1.5	2.0	7.4	5.3	, Apr-13
eV US Large Cap Value Equity Net Rank	54	53	59	53		51	Apr-13

Top 10 Holdings	
BERKSHIRE HATHAWAY 'B'	3.4%
JOHNSON & JOHNSON	2.8%
JP MORGAN CHASE & CO.	2.7%
PROCTER & GAMBLE	2.4%
INTEL	2.2%
VERIZON COMMUNICATIONS	2.1%
AT&T	2.0%
PFIZER	1.7%
BANK OF AMERICA	1.6%
WALT DISNEY	1.6%
Total	22.7%

# Plymouth County Retirement Association

### Rhumbline Russell 1000 Growth | As of March 31, 2020

Rhumbline Rus	sell 1000 Gr	owth Character	istics
	Portfolio	Index	Portfolio
	Q1-20	Q1-20	Q4-19
Market Value			
Market Value (\$M)	37.4		50.1
Number Of Holdings	532	532	531
Characteristics			
Weighted Avg. Market Cap. (\$B)	354.9	355.2	363.1
Median Market Cap (\$B)	9.8	9.8	13.1
P/E Ratio	23.7	23.8	29.7
Yield	1.3	1.3	1.2
EPS Growth - 5 Yrs.	17.0	17.0	21.8
Price to Book	6.7	6.7	8.8
Beta (holdings; domestic)	1.0	1.0	1.C
Sector Distribution			
Energy	0.1	0.1	0.3
Materials	1.2	1.2	1.3
Industrials	8.0	8.0	9.1
Consumer Discretionary	14.1	14.1	13.7
Consumer Staples	4.6	4.6	4.6
Health Care	15.1	15.1	14.5
Financials	2.9	2.9	3.
Information Technology	39.7	39.8	38.6
Communication Services	11.6	11.7	11.5
Utilities	0.0	0.0	0.0
Real Estate	2.5	2.5	2.3

Account Information		
Account Name	Rhumbline Russell 1000 Growth	
Account Structure	Commingled Fund	
Investment Style	Passive	
Inception Date	7/31/09	
Account Type	US Equity	
Benchmark	Russell 1000 Growth	
Universe	eV US Large Cap Growth Equity Net	

Portfe	olio Peri	iormar	nce Sur	nmary			
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception II (%)	nception Date
Rhumbline Russell 1000 Growth	-14.0	1.0	11.3	10.3	12.9	14.0	Jul-09
Russell 1000 Growth	-14.1	0.9	11.3	10.4	13.0	14.1	Jul-09
eV US Large Cap Growth Equity Net Median	-14.0	-1.0	10.2	8.7	11.8	12.8	Jul-09
eV US Large Cap Growth Equity Net Rank	51	32	40	26	19	19	Jul-09

Top 10 Holding	S
MICROSOFT	9.2%
APPLE	8.1%
AMAZON.COM	6.3%
FACEBOOK CLASS A	3.1%
ALPHABET 'C'	2.7%
ALPHABET A	2.7%
VISA 'A'	2.1%
UNITEDHEALTH GROUP	1.8%
MASTERCARD	1.6%
MERCK & COMPANY	1.4%
Total	38.9%

## **Plymouth County Retirement Association**

#### Fisher Midcap Value | As of March 31, 2020

Fisher Mi	dcap Value C	haracteristics	
	Portfolio	Index	Portfolic
	Q1-20	Q1-20	Q4-19
Market Value			
Market Value (\$M)	34.9		47.7
Number Of Holdings	73	632	76
Characteristics			
Weighted Avg. Market Cap. (\$B)	15.6	12.3	19.5
Median Market Cap (\$B)	7.6	4.9	10.0
P/E Ratio	16.7	12.6	23.8
Yield	1.5	3.3	1.
EPS Growth - 5 Yrs.	11.8	9.3	14.6
Price to Book	2.6	2.0	3.
Beta (holdings; domestic)	1.2	1.1	1.2
Sector Distribution			
Energy	2.8	3.1	6.3
Materials	2.9	7.1	4.2
Industrials	17.3	12.0	15.0
Consumer Discretionary	4.7	7.5	5.8
Consumer Staples	1.7	5.6	2.2
Health Care	18.6	8.3	15.0
Financials	17.0	16.7	16.
Information Technology	27.5	8.0	27.4
Communication Services	1.2	4.0	1.9
Utilities	0.0	13.6	0.0
Real Estate	6.3	14.1	5.8

Account Information				
Account Name	Fisher Midcap Value			
Account Structure	Separate Account			
Investment Style	Active			

Inception Date	4/30/07
Account Type	US Equity
Benchmark	Russell MidCap Value
Universe	eV US Mid Cap Value Equity Net

Port	folio Per	formar	nce Sur	nmary			
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Fisher Midcap Value	-27.0	-17.4	-0.9	2.5	8.0	5.3	Apr-07
Russell MidCap Value	-31.7	-24.1	-6.0	-0.8	7.2	4.0	Apr-07
eV US Mid Cap Value Equity Net Median	-32.2	-23.3	-6.6	-0.8	6.4	4.1	Apr-07
eV US Mid Cap Value Equity Net Rank	12	9	9	4	12	22	Apr-07

Top 10 Holdings		
SYNOPSYS	3.5%	
ANSYS	3.4%	
PROLOGIS REIT	3.3%	
AUTODESK	3.3%	
CHAS.RVR.LABS.INTL.	3.2%	
ASPEN TECHNOLOGY	3.1%	
KANSAS CITY SOUTHERN	3.0%	
PERKINELMER	2.9%	
GLOBAL PAYMENTS	2.8%	
COOPER COS.	2.7%	
Total	31.4%	

## Plymouth County Retirement Association

### Boston Company Small Cap Growth | As of March 31, 2020

	Boston Compa	Boston Company Small Cap Growth Characteristics		
rowth		Portfolio	Index	Portfolio
count		Q1-20	Q1-20	Q4-19
Active	Market Value			
31/09	Market Value (\$M)	45.4		53.7
quity	Number Of Holdings	92	1167	88
rowth ty Net	Characteristics			
y Net	Weighted Avg. Market Cap. (\$B)	4.5	2.4	5.5
	Median Market Cap (\$B)	2.0	0.6	2.3
n Inception	P/E Ratio	26.8	18.6	41.5
) Date	Yield	0.3	1.0	0.3
) Aug-09	EPS Growth - 5 Yrs.	22.6	10.4	24.9
2 Aug-09	Price to Book	4.5	3.4	5.1
5 Aug-09	Beta (holdings; domestic)	1.2	1.2	1.3
) Aug-09	Sector Distribution			
	Energy	0.3	0.3	0.9
	Materials	1.4	2.7	2.5
	Industrials	11.5	17.5	12.3
4.6%	Consumer Discretionary	7.6	9.6	7.4
4.6%	Consumer Staples	6.7	3.4	8.6
3.7%	Health Care	31.3	33.9	25.5
3.6%	Financials	4.8	6.0	6.8
2.8%	Information Technology	28.5	18.2	27.0
2.7%	Communication Services	4.5	2.3	3.6
2.6%	Utilities	0.0	1.9	0.0
2.6%	Real Estate	1.5	4.4	1.2
2.6%				

Account Information		
Account Name	Boston Company Small Cap Growth	
Account Structure	Separate Accoun	
Investment Style	Active	
Inception Date	8/31/09	
Account Type	US Equity	
Benchmark	Russell 2000 Growth	
Universe	eV US Small Cap Growth Equity Ne	

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs		10 Yrs	Inception I	
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Boston Company Small Cap Growth	-15.7	-7.5	10.3	8.2	12.0	13.0	Aug-09
Russell 2000 Growth	-25.8	-18.6	0.1	1.7	8.9	10.2	Aug-09
eV US Small Cap Growth Equity Net Median	-23.4	-15.8	3.6	4.1	10.0	11.5	Aug-09
eV US Small Cap Growth Equity Net Rank	8	15	17	15	17	20	Aug-09

Top 10 Holdings	
TELADOC HEALTH	4.6%
BANDWIDTH A	4.6%
EVERBRIDGE	3.7%
SHOPIFY 'A' (NYS)	3.6%
FRESHPET	2.8%
MERCURY SYSTEMS	2.7%
RAPID7	2.6%
PALOMAR HOLDINGS	2.6%
TWILIO 'A'	2.6%
HUBSPOT	2.5%
Total	32.3%

Rank

eV US Small Cap Value Equity Net

## **Plymouth County Retirement Association**

#### LMCG Small Cap Value | As of March 31, 2020

l l l l l l l l l l l l l l l l l l l	Accoun	it Info	ormati	ion				
Account Name					LM	ICG Small Ca	ap Value	
Account Structure						Separate	Account	
Investment Style			Market Val					
Inception Date			Market Valu					
Account Type	US Equity							Number Of H
Benchmark								
Universe				eV US	Small (	Cap Value Ec	uitv Net	Characteri
							,	Weighted Av Cap. (\$B)
Portf	olio Per	forma	nce Su	mmary				Median Marl
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception Ir	nception	P/E Ratio
	(%)	(%)	(%)	(%)	(%)	(%)	Date	Yield
LMCG Small Cap Value	-33.6	-26.1	-9.0	-1.5		3.4	Mar-11	EPS Growth
Russell 2000 Value	-35.7	-29.6	-9.5	-2.4	4.8	3.2	Mar-11	Price to Boo
eV US Small Cap Value Equity Net Median	-35.1	-29.1	-9.7	-2.9	<i>5.2</i>	3.3	Mar-11	Beta (holdin

Top 10 Holdings	
TREEHOUSE FOODS	2.8%
DARLING INGREDIENTS	2.6%
MURPHY USA	2.6%
PORTLAND GEN.ELEC.	2.6%
CACI INTERNATIONAL 'A'	2.5%
MANTECH INTL.'A'	2.3%
MACOM TECH.SLTN.HDG.	2.2%
PRESTIGE CONSUMER HEALTHCARE	1.9%
VIAVI SOLUTIONS	1.9%
BWX TECHNOLOGIES	1.8%
Total	23.5%

35

44

28

49

Mar-11

35

LMCG Small Cap Value Characteristics							
	Portfolio	Index	Portfolio				
	Q1-20	Q1-20	Q4-19				
Market Value							
Market Value (\$M)	48.7		73.1				
Number Of Holdings	90	1391	91				
Characteristics							
Weighted Avg. Market Cap. (\$B)	2.4	1.6	3.3				
Median Market Cap (\$B)	1.9	0.4	2.7				
P/E Ratio	12.0	10.5	18.6				
Yield	2.5	3.2	1.6				
EPS Growth - 5 Yrs.	14.0	8.6	5.4				
Price to Book	1.8	1.6	2.1				
Beta (holdings; domestic)	1.2	1.3	1.1				
Sector Distribution							
Energy	1.0	3.4	2.2				
Materials	7.9	4.3	9.9				
Industrials	17.6	12.4	19.7				
Consumer Discretionary	6.8	7.8	7.0				
Consumer Staples	13.8	3.4	12.3				
Health Care	4.7	6.0	3.6				
Financials	18.8	29.9	20.7				
Information Technology	13.5	11.4	12.1				
Communication Services	2.8	2.2	2.4				
Utilities	7.7	7.6	5.2				
Real Estate	3.8	11.5	3.3				

Account Name

Account Structure

Investment Style Inception Date

**KBI Master Account** 

eV EAFE Core Equity Net Median

eV EAFE Core Equity Net Rank

MSCI EAFE

NOVO NORDISK 'B' SAMSUNG ELECTRONICS

**ROCHE HOLDING** 

TAIWAN SEMICON.MNFG.

ASSICURAZIONI GENERALI

CHINA CON.BANK 'H'

**UBS GROUP** 

SWISSCOM 'R' **IBERDROLA** Total

SKANDINAVISKA ENSKILDA BANKEN A

Account Type

Benchmark Universe

### **Plymouth County Retirement Association**

#### KBI Master Account | As of March 31, 2020

Index

Q1-20

---

918

55.6

8.2

13.9

3.9

6.7

2.5

1.0

4.0

6.7

14.2

11.1

12.7

14.3

16.5

7.6

5.5

4.2

3.2

20.5

10.1

9.0

3.4

4.3

Portfolio

Q4-19

22.2

218

46.3

11.5

13.6

3.9

12.9

2.1

1.0

6.3

5.9

14.9

7.6

8.2

10.7

22.3

6.2

6.7

3.6

5.0

A	count l	nform	nation					KBI Ma	ster Account Chara	cteristics
					KBI N	Aaster Acco	unt		Portfolio	Inde
					Con	nmingled Fu	und		Q1-20	Q1-2
						Act	tive	Market Value		
						7/31	/05	Market Value (\$M)	16.7	
				No	on-US St	ock Develoj	oed	Number Of Holdings	229	91
						MSCI E	AFE	·		
				e	V EAFE C	ore Equity	Net	Characteristics		
								Weighted Avg. Market Cap. (\$B)	42.4	55.
Port	tfolio Per	formar	nce Sur	nmary				Median Market Cap (\$B)	9.3	8.
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception	Inception	P/E Ratio	9.7	13.
	(%)	(%)	(%)	(%)	(%)	(%)	Date	Yield	5.4	3.
	-24.6	-19.1	-5.7	-3.5	1.1	1.7	Jul-05	EPS Growth - 5 Yrs.	9.7	6.
	-22.8	-14.4	-1.8	-0.6	2.7	3.0	Jul-05	Price to Book	2.2	2.
dian nk	-24.0 59	-15.9 79	-2.2 89	-0.5 98	3.8 99	3.9 99	Jul-05 Jul-05	Beta (holdings; domestic)	1.1	1.4
								Sector Distribution		
								Energy	5.6	4.
								Materials	6.1	6.
	Top 10	Holdin	gs					Industrials	10.6	14.
						2	.6%	Consumer Discretionary	10.0	11
							.3%	Consumer Staples	8.4	12.
						2	.2%	Health Care	9.5	14.
							00/			

ldings	
	2.6%
	2.3%
	2.2%
	1.9%
	1.6%
	1.6%
	1.5%
	1.5% 1.5%
	1.5%
	1.470

# Plymouth County Retirement Association

### HGK TS International Equity | As of March 31, 2020

HGK TS International Equity Characteristics						
	Portfolio	Index	Portfoli			
	Q1-20	Q1-20	Q4-1			
Market Value						
Market Value (\$M)	18.2		24			
Number Of Holdings	26	918	2			
Characteristics						
Weighted Avg. Market Cap. (\$B)	47.4	55.6	55			
Median Market Cap (\$B)	13.3	8.2	15			
P/E Ratio	12.4	13.9	17			
Yield	3.2	3.9	2			
EPS Growth - 5 Yrs.	13.9	6.7	13			
Price to Book	2.4	2.5	2			
Beta (holdings; domestic)	1.1	1.0				
Sector Distribution						
Energy	4.2	4.0	2			
Materials	0.0	6.7	C			
Industrials	29.9	14.2	29			
Consumer Discretionary	21.7	11.1	2			
Consumer Staples	4.7	12.7	2			
Health Care	4.7	14.3	2			
Financials	17.9	16.5	17			
Information Technology	6.8	7.6	e			
Communication Services	3.7	5.5	:			
Utilities	0.0	4.2	C			
Real Estate	4.8	3.2	2			

Accour	nt Information
Account Name	HGK TS International Equity
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	2/28/11
Account Type	Non-US Stock Developed
Benchmark	MSCI EAFE
Universe	eV EAFE All Cap Equity Net

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception I	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
HGK TS International Equity	-24.3	-13.6	-0.3	1.2		3.6	Feb-11
MSCI EAFE	-22.8	-14.4	-1.8	-0.6	<i>2</i> .7	1.6	Feb-11
eV EAFE All Cap Equity Net Median	-22.6	-14.6	-1.8	-0.6	3.9	2.6	Feb-11
eV EAFE All Cap Equity Net Rank	66	45	30	25		29	Feb-11

Top 10 Holdings	
FERROVIAL	6.1%
RYANAIR SPN.ADR 1:5	5.6%
DEUTSCHE POST	5.0%
BAE SYSTEMS	4.9%
DEUTSCHE WOHNEN BR.SHS.	4.9%
NEXT	4.8%
ROCHE HOLDING	4.8%
MOWI	4.7%
STANDARD CHARTERED	4.7%
RENESAS ELECTRONICS	4.7%
Total	50.3%

# Plymouth County Retirement Association

### Copper Rock International Small Cap | As of March 31, 2020

	Portfolio	Index	Portfolio
	Q1-20	Q1-20	Q4-19
Market Value			
Market Value (\$M)	9.1		37.4
Number Of Holdings	61	2323	87
Characteristics			
Weighted Avg. Market Cap. (\$B)	2.8	2.2	3.6
Median Market Cap (\$B)	2.5	0.8	3.3
P/E Ratio	11.4	12.5	16.6
Yield	2.4	3.2	2.
EPS Growth - 5 Yrs.	19.1	10.6	14.6
Price to Book	2.4	2.1	2.5
Beta (holdings; domestic)	1.0	1.0	1.0
Sector Distribution			
Energy	0.0	1.8	2.
Materials	5.3	8.2	8.2
Industrials	19.8	20.5	26.
Consumer Discretionary	3.5	11.1	7.4
Consumer Staples	9.6	7.4	5.8
Health Care	13.9	8.7	10.
Financials	10.1	10.5	9.
Information Technology	17.6	10.5	15.5
Communication Services	1.7	4.7	3.2
Utilities	3.8	2.8	2.0
Real Estate	11.3	13.8	6.4

Account Information			
Account Name	Copper Rock International Small Cap		
Account Structure	Commingled Fund		
Investment Style	Active		
Inception Date	11/30/17		
Account Type	Non-US Stock Developed		
Benchmark	MSCI EAFE Small Cap		
Universe	eV EAFE Small Cap Equity Net		

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Copper Rock International Small Cap	-34.7	-28.7			-	-18.3	Nov-17
MSCI EAFE Small Cap	-27.5	-18.1	-2.9	1.0	4.8	-10.9	Nov-17
eV EAFE Small Cap Equity Net Median	-28.5	-18.9	-3.6	0.5	5.9	-12.6	Nov-17
eV EAFE Small Cap Equity Net Rank	93	95				95	Nov-17

Top 10 Holdings	
ISHARES MSCI EAFE SMCP.	3.3%
GLOBANT	2.8%
ROYAL UNIBREW	2.5%
NIHON UNISYS	2.5%
NICHIREI	2.3%
DECHRA PHARMACEUTICALS	2.1%
IREN	2.0%
BUZZI UNICEM	2.0%
AZBIL	2.0%
EURONEXT	1.9%
Total	23.3%

Universe

## **Plymouth County Retirement Association**

#### LMCG Emerging Markets | As of March 31, 2020

LMCG Emerging Markets Characteristics					
	Portfolio	Index	Portfolio		
	Q1-20	Q1-20	Q4-19		
Market Value					
Market Value (\$M)	31.0		52.4		
Number Of Holdings	125	1397	123		
Characteristics					
Weighted Avg. Market Cap. (\$B)	63.1	109.8	62.		
Median Market Cap (\$B)	4.0	4.4	7.0		
P/E Ratio	8.5	12.2	11.4		
Yield	6.2	3.4	3.4		
EPS Growth - 5 Yrs.	11.9	11.2	12.3		
Price to Book	2.3	2.6	2.4		
Beta (holdings; domestic)	1.1	1.1	1.0		
Sector Distribution					
Energy	6.5	5.9	7.5		
Materials	7.4	6.6	8.3		
Industrials	7.1	4.9	7.9		
Consumer Discretionary	9.4	15.5	8.6		
Consumer Staples	4.9	6.5	5.0		
Health Care	5.1	3.4	3.8		
Financials	20.8	21.9	23.5		
Information Technology	16.7	16.8	16.3		
Communication Services	11.2	13.0	10.2		
Utilities	0.7	2.5	0.6		
Real Estate	4.3	2.9	4.2		

Account Information			
Account Name	LMCG Emerging Markets		
Account Structure	Commingled Fund		
Investment Style	Active		
Inception Date	9/30/13		
Account Type	Non-US Stock Emerging		
Benchmark	MSCI Emerging Markets		

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception Ir	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
LMCG Emerging Markets	-25.2	-20.8	-4.6	-3.3		-2.4	Sep-13
MSCI Emerging Markets	-23.6	-17.7	-1.6	-0.4	0.7	0.0	Sep-13
eV Emg Mkts Equity Net Median	-25.1	-19.1	<i>-2.</i> 7	-0.9	1.3	-0.2	Sep-13
eV Emg Mkts Equity Net Rank	51	66	69	86		87	Sep-13

eV Emg Mkts Equity Net

Top 10 Holdings	
TENCENT HOLDINGS	6.1%
ISHARES MSCI EMERGING MARKETS ETF	5.7%
TAIWAN SEMICON.MNFG.	4.4%
SAMSUNG ELECTRONICS	3.8%
IRB BRASIL RESSEGUROS ON	1.9%
CHINA CON.BANK 'H'	1.6%
CHINA OVERSEAS LAND INVESTMENT	1.3%
BANK OF CHINA 'H'	1.3%
ADVANCED INFO SER.	1.3%
JD COM ADR 1:2	1.2%
Total	28.7%

## **Plymouth County Retirement Association**

### Copper Rock Emerging Markets Small Cap | As of March 31, 2020

Account Information			
Account Name	Copper Rock Emerging Markets Small Cap		
Account Structure	Commingled Fund		
Investment Style	Active		
Inception Date	12/01/18		
Account Type	Non-US Stock Emerging		
Benchmark	MSCI Emerging Markets Small Cap		
Universe	eV Emg Mkts Small Cap Equity Net		

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception II (%)	nception Date
Copper Rock Emerging Markets Small Cap	-31.5	-27.2			-	-17.0	Dec-18
MSCI Emerging Markets Small Cap	-31.4	-29.0	-9.6	-5.2	-1.3	-19.2	Dec-18
eV Emg Mkts Small Cap Equity Net Median	-28.8	-25.5	-6.9	-3.7	1.7	-15.1	Dec-18
eV Emg Mkts Small Cap Equity Net Rank	82	65				61	Dec-18

Top 10 Holdings	
NOVO NORDISK 'B'	3.7%
SIEMENS	2.9%
ROCHE HOLDING	2.8%
ASSICURAZIONI GENERALI	2.7%
GAM MULTISTOCK - SWISS EQ C	2.7%
KBC GROUP	2.6%
IBERDROLA	2.4%
ACS ACTIV.CONSTR.Y SERV.	2.4%
ROYAL DUTCH SHELL B	2.4%
REPSOL YPF	2.2%
Total	26.9%

Copper Rock Emerging Markets Small Cap Characteristics				
	Portfolio	Index	Portfolio	
	Q1-20	Q1-20	Q4-19	
Market Value				
Market Value (\$M)	7.8		11.3	
Number Of Holdings	216	1397	216	
Characteristics				
Weighted Avg. Market Cap. (\$B)	36.9	109.8	46.1	
Median Market Cap (\$B)	9.3	4.4	11.5	
P/E Ratio	10.0	12.2	13.7	
Yield	5.2	3.4	3.9	
EPS Growth - 5 Yrs.	8.7	11.2	12.9	
Price to Book	2.0	2.6	2.1	
Beta (holdings; domestic)	1.1	1.1	1.0	
Sector Distribution				
Energy	6.4	5.9	6.4	
Materials	6.0	6.6	6.0	
Industrials	15.2	4.9	15.2	
Consumer Discretionary	7.8	15.5	7.8	
Consumer Staples	8.4	6.5	8.4	
Health Care	11.4	3.4	11.4	
Financials	22.8	21.9	22.8	
Information Technology	6.4	16.8	6.4	
Communication Services	6.9	13.0	6.9	
Utilities	3.7	2.5	3.7	
Real Estate	5.1	2.9	5.1	

# Plymouth County Retirement Association

### Driehaus Emerging Markets Growth | As of March 31, 2020

Driehaus Emerging Markets Growth Characteristics				
	Portfolio	Index	Portfoli	
	Q1-20	Q1-20	Q4-1	
Market Value				
Market Value (\$M)	22.7		28	
Number Of Holdings	93	1397	10	
Characteristics				
Weighted Avg. Market Cap. (\$B)	129.9	109.8	111.	
Median Market Cap (\$B)	16.8	4.4	16	
P/E Ratio	18.7	12.2	20	
Yield	2.0	3.4	1	
EPS Growth - 5 Yrs.	14.6	11.2	12	
Price to Book	3.5	2.6	з	
Beta (holdings; domestic)	1.0	1.1	1	
Sector Distribution				
Energy	4.1	5.9	8	
Materials	5.0	6.6	3	
Industrials	4.2	4.9	5	
Consumer Discretionary	13.9	15.5	14	
Consumer Staples	9.1	6.5	10	
Health Care	5.5	3.4	з	
Financials	19.0	21.9	28	
Information Technology	17.5	16.8	1!	
Communication Services	13.4	13.0	10	
Utilities	0.3	2.5	0	
Real Estate	0.5	2.9	1	

Account Information				
Account Name	Driehaus Emerging Markets Growth			
Account Structure	Commingled Fund			
Investment Style	Active			
Inception Date	3/01/19			
Account Type	Non-US Stock Emerging			
Benchmark	MSCI Emerging Markets			
Universe	eV Emg Mkts Equity Net			

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception Ir	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Driehaus Emerging Markets Growth	-20.9	-10.4				-8.9	Mar-19
MSCI Emerging Markets	-23.6	-17.7	-1.6	-0.4	0.7	-15.8	Mar-19
eV Emg Mkts Equity Net Median	-25.1	-19.1	<i>-2.</i> 7	-0.9	1.3	-16.7	Mar-19
eV Emg Mkts Equity Net Rank	11	б				10	Mar-19

Top 10 Holdings	
TENCENT HOLDINGS	7.9%
ALIBABA GROUP HOLDING ADR 1:8	6.7%
TAIWAN SEMICON.SPN.ADR 1:5	5.8%
SAMSUNG ELECTRONICS	3.6%
PING AN INSURANCE (GROUP) OF CHINA 'H'	2.5%
ICICI BK.ADR 1:2	2.0%
PJSC LUKOIL SPON (LON) ADR	2.0%
JD COM ADR 1:2	1.9%
HDFC BANK ADR 1:3	1.7%
NESTLE INDIA	1.7%
Total	35.8%

## **Plymouth County Retirement Association**

### First Eagle Global Value Fund | As of March 31, 2020

First Eagle Global Value Fund Characteristics					
	Portfolio	Index	Portfolic		
	Q1-20	Q1-20	Q4-19		
Market Value					
Market Value (\$M)	17.2		21.2		
Number Of Holdings	146	3040	147		
Characteristics					
Weighted Avg. Market Cap. (\$B)	78.0	173.1	84.5		
Median Market Cap (\$B)	16.5	7.3	21.8		
P/E Ratio	13.3	15.2	17.4		
Yield	3.5	2.9	2.5		
EPS Growth - 5 Yrs.	7.8	10.8	5.5		
Price to Book	2.3	3.1	2.4		
Beta (holdings; domestic)	1.0	1.0	1.0		
Sector Distribution					
Energy	3.8	3.7	5.9		
Materials	8.9	4.4	7.4		
Industrials	13.7	9.6	11.5		
Consumer Discretionary	4.9	10.8	4.9		
Consumer Staples	12.4	8.8	8.8		
Health Care	5.1	13.2	4.4		
Financials	14.7	14.5	14.6		
Information Technology	8.8	18.8	7.2		
Communication Services	6.1	9.3	6.7		
Utilities	0.4	3.6	0.3		
Real Estate	4.1	3.1	3.8		

Accoun	t Information
Account Name	First Eagle Global Value Fund
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	2/01/18
Account Type	Equity
Benchmark	MSCI ACWI Value NR USD
Universe	eV Global Value Equity Net

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception Ir (%)	nception Date
First Eagle Global Value Fund	-19.1	-11.4				-6.8	Feb-18
MSCI ACWI Value NR USD	-27.1	-20.0	-4.0	-0.5	3.5	-12.5	Feb-18
eV Global Value Equity Net Median	-27.8	-20.5	-4.4	-1.0	4.3	-13.5	Feb-18
eV Global Value Equity Net Rank	8	12				15	Feb-18

Top 10 Holdings	
ORACLE	3.4%
COMCAST A	2.7%
EXXON MOBIL	2.3%
DANONE	2.2%
BRITISH AMERICAN TOBACCO	2.1%
PHILIP MORRIS INTL.	2.0%
FANUC	2.0%
COLGATE-PALM.	1.8%
SECOM	1.8%
SOMPO HOLDINGS	1.7%
Total	22.1%

## Plymouth County Retirement Association

### Kopernik Global All Cap Fund | As of March 31, 2020

Kope <mark>rnik G</mark> le	Kopernik Global All Cap Fund Characteristics					
	Portfolio	Index	Portfolio			
	Q1-20	Q1-20	Q4-19			
Market Value						
Market Value (\$M)	15.5		19.0			
Number Of Holdings	78	3040	75			
Characteristics						
Weighted Avg. Market Cap. (\$B)	7.8	173.1	8.8			
Median Market Cap (\$B)	0.7	7.3	1.3			
P/E Ratio	7.0	15.2	11.6			
Yield	3.0	2.9	1.7			
EPS Growth - 5 Yrs.	-1.5	10.8	-2.3			
Price to Book	1.6	3.1	1.8			
Beta (holdings; domestic)	0.9	1.0	0.8			
Sector Distribution						
Energy	17.5	3.7	20.9			
Materials	22.1	4.4	24.3			
Industrials	10.8	9.6	11.4			
Consumer Discretionary	2.4	10.8	2.3			
Consumer Staples	5.9	8.8	7.6			
Health Care	0.6	13.2	0.8			
Financials	5.7	14.5	7.2			
Information Technology	1.0	18.8	1.3			
Communication Services	5.8	9.3	6.9			
Utilities	10.1	3.6	13.4			
Real Estate	1.7	3.1	2.1			

	Account Information					
Account Name	Kopernik Global All Cap Fu					
Account Structure	Commingled Fu					
Investment Style	Act					
Inception Date	2/01					
Account Type	Equ					
Benchmark	MSCI ACWI Value NR U					
Universe	eV Global All Cap Value Eg N					

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception Ir (%)	nception Date
Kopernik Global All Cap Fund	-18.4	-14.6				-11.0	Feb-18
MSCI ACWI Value NR USD	-27.1	-20.0	-4.0	-0.5	3.5	-12.5	Feb-18
eV Global All Cap Value Eq Net Median	-28.1	-19.9	-4.7	-1.6	3.9	-13.5	Feb-18
eV Global All Cap Value Eq Net Rank	6	20				28	Feb-18

Top 10 Holdings	
CAMECO (NYS)	5.8%
KT	4.8%
CENTERRA GOLD	4.6%
NEWCREST MINING	4.5%
GAZPROM ORD	3.9%
RUSGIDRO ORD	3.3%
SOUTHWESTERN ENERGY	3.0%
EDF	3.0%
WHEATON PRMTL. (NYS)	2.6%
PUBLIC JOINT STOCK POLYUS GDR	2.4%
Total	37.9%

## **Plymouth County Retirement Association**

### Lee Munder Global Multi-Cap Strategy | As of March 31, 2020

Account Information				
Account Name	Lee Munder Global Multi-Cap Strategy			
Account Structure	Separate Account			
Investment Style	Active			
Inception Date	3/01/18			
Account Type	Equity			
Benchmark	MSCI ACWI			
Universe	eV All Global Equity Net			

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception Ir	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
Lee Munder Global Multi-Cap Strategy	-23.7	-15.2				-8.0	Mar-18
MSCI ACWI	-21.4	-11.3	1.5	2.8	5.9	-5.4	Mar-18
eV All Global Equity Net Median	-21.3	-11.9	0.9	2.2	6.2	-5.0	Mar-18
eV All Global Equity Net Rank	67	66				69	Mar-18

Top 10 Holdings	
ISHARES CORE MSCI EMERGING MARKETS ETF	7.4%
APPLE	2.9%
ISHARES MSCI CHINA	2.4%
MICROSOFT	2.3%
AMAZON.COM	2.0%
ALPHABET A	1.9%
JP MORGAN CHASE & CO.	1.7%
ISHARES MSCI TAIWAN ETF	1.7%
ISHARES MSCI SOUTH KOREA ETF	1.6%
CAPITAL ONE FINL.	1.6%
Total	25.5%

Lee Munder Global Multi-Cap Strategy Characteristics							
	Portfolio	Index	Portfolic				
	Q1-20	Q1-20	Q4-19				
Market Value							
Market Value (\$M)	24.1		31.5				
Number Of Holdings	106	3040	106				
Characteristics							
Weighted Avg. Market Cap. (\$B)	146.5	173.1	170.0				
Median Market Cap (\$B)	33.1	7.3	50.				
P/E Ratio	12.7	15.2	17.				
Yield	3.4	2.9	2.4				
EPS Growth - 5 Yrs.	9.9	10.8	10.				
Price to Book	2.6	3.1	3				
Beta (holdings; domestic)	1.1	1.0	1				
Sector Distribution							
Energy	4.5	3.7	4.				
Materials	3.1	4.4	3				
Industrials	7.9	9.6	7.				
Consumer Discretionary	8.9	10.8	8.				
Consumer Staples	7.6	8.8	7.				
Health Care	12.6	13.2	12.				
Financials	15.5	14.5	15.				
Information Technology	16.1	18.8	16				
Communication Services	7.0	9.3	7.				
Utilities	1.7	3.6	1.				
Real Estate	1.8	3.1	1.				

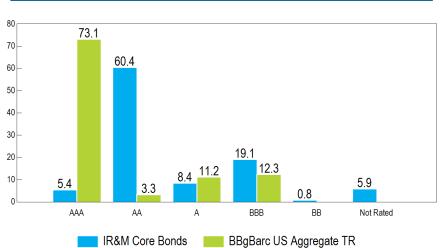
## **Plymouth County Retirement Association**

#### IR&M Core Bonds | As of March 31, 2020

	Account Information
Account Name	IR&M Core Bonds
Account Structure	Separate Account
Investment Style	Active
Inception Date	11/30/04
Account Type	US Fixed Income Investment Grade
Benchmark	75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year
Universe	eV US Core Fixed Inc Net

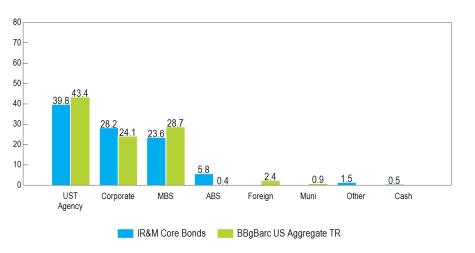
Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
IR&M Core Bonds	1.0	6.4	3.8	2.8	3.7	4.2	Nov-04
75% Bbg Barclays Aggregate/25% Bbg Barclays US TIPs 1-10 year	2.4	7.8	4.3	3.1	3.5	4.1	Nov-04
eV US Core Fixed Inc Net Median	1.7	7.3	4.4	3.2	3.9	4.4	Nov-04
eV US Core Fixed Inc Net Rank	69	73	84	81	71	68	Nov-04

IR&M Core Bonds Characteristics vs. BBgBarc US Aggregate TR						
	Portfolio	Index	Portfolio			
Q1-20 Q1-20 Q4						
Fixed Income Characteristics						
Yield to Maturity	2.2	1.7	1.9			
Average Duration	5.5	6.4	5.5			
Average Quality	AA	AA	AA			
Weighted Average Maturity	7.4	13.3	7.2			



#### Credit Quality Allocation





MEKETA INVESTMENT GROUP

### **Plymouth County Retirement Association**

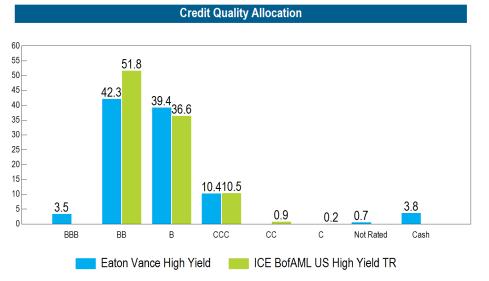
#### Eaton Vance High Yield | As of March 31, 2020

#### **Account Information**

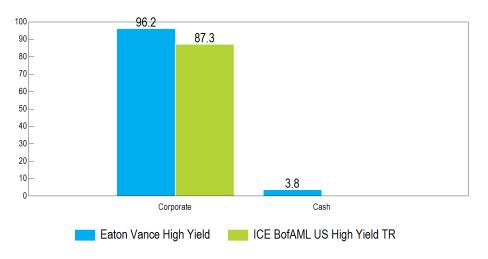
Account Name	Eaton Vance High Yield
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	4/30/06
Account Type	US Fixed Income High Yield
Benchmark	ICE BofAML US High Yield TR
Universe	eV US High Yield Fixed Inc Net

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception Ir (%)	nception Date
Eaton Vance High Yield	-11.8	-5.8	0.8	2.6	5.7	5.9	Apr-06
ICE BofAML US High Yield TR	-13.1	-7.4	0.6	2.7	5.5	6.1	Apr-06
eV US High Yield Fixed Inc Net Median	-12.1	-6.6	0.6	2.3	<i>5.2</i>	5.7	Apr-06
eV US High Yield Fixed Inc Net Rank	44	35	40	30	17	35	Apr-06

Eaton Vance High Yield Characteristics vs. ICE BofAML US High Yield TR						
	Portfolio	Index	Portfolio			
	Q1-20 Q1-20					
Fixed Income Characteristics						
Yield to Maturity	7.9	9.9	5.3			
Average Duration	3.9	4.5	2.5			
Average Quality	В	В	BB			
Weighted Average Maturity	6.0	6.2	5.8			



#### **Sector Allocation**



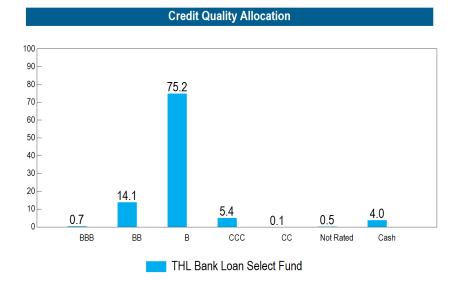
## **Plymouth County Retirement Association**

#### THL Bank Loan Select Fund | As of March 31, 2020

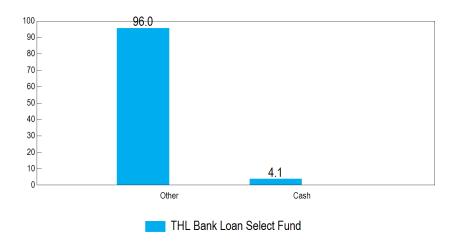
	Account Information
Account Name	THL Bank Loan Select Fund
Account Structure	Commingled Fund
Investment Style	Active
Inception Date	9/30/10
Account Type	US Fixed Income High Yield
Benchmark	Credit Suisse Leveraged Loans
Universe	Bank Loan MStar MF

Portfolio Performance Summary							
	QTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	Inception Ir	nception
	(%)	(%)	(%)	(%)	(%)	(%)	Date
THL Bank Loan Select Fund	-12.5	-9.2	-0.9	1.6		3.8	Sep-10
Credit Suisse Leveraged Loans	-13.2	-9.5	-0.7	1.2	3.3	3.2	Sep-10
Bank Loan MStar MF Median	-13.1	-9.5	-1.3	0.8	2.8	2.7	Sep-10
Bank Loan MStar MF Rank	48	47	38	5		1	Sep-10

THL Bank Loan Select Fund Characteristics						
Portfolio Portfoli						
	Q1-20	Q4-19				
Fixed Income Characteristics						
Yield to Maturity	9.3	6.6				
Average Duration	0.2	0.1				
Average Quality	В	В				
Weighted Average Maturity	5.8	4.9				



Sector Allocation



### **Plymouth County Retirement Association**

#### Franklin Templeton Emerging Market Bonds | As of March 31, 2020

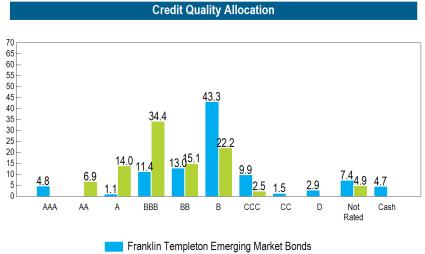
Account Information				
Account Name	Franklin Templeton Emerging Market Bonds			
Account Structure	Commingled Fund			
Investment Style	Active			
Inception Date	5/31/06			
Account Type	Non-US Fixed Income			
Benchmark	JP Morgan EMBI Global Diversified			
Universe	eV Emg Mkts Fixed Inc - Corporate Debt Net			

Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Franklin Templeton Emerging Market Bonds	-15.4	-10.6	-0.6	2.7	3.6	5.5	May-06
JP Morgan EMBI Global Diversified	-13.4	-6.8	0.4	2.8	4.9	6.0	May-06
eV Emg Mkts Fixed Inc - Corporate Debt Net Median	-13.3	-7.0	0.5	2.4	4.1		May-06
eV Emg Mkts Fixed Inc - Corporate Debt Net Rank	72	95	84	37	91		May-06

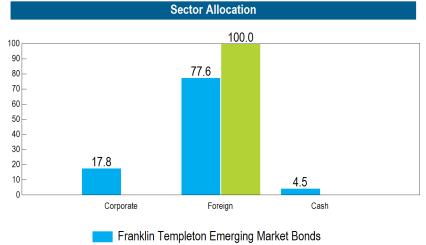
#### Franklin Templeton Emerging Market Bonds Characteristics

vs. JP Morgan EMBI Global Diversified

	Portfolio	Index	Portfolio
	Q1-20	Q1-20	Q4-19
Fixed Income Characteristics			
Yield to Maturity	12.2	7.5	8.6
Average Duration	3.3	7.1	3.5
Average Quality	BB	BBB	BB
Weighted Average Maturity	5.0	12.1	5.0



JP Morgan EMBI Global Diversified



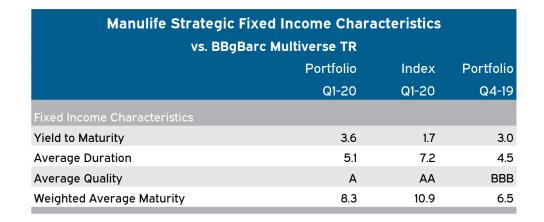
JP Morgan EMBI Global Diversified

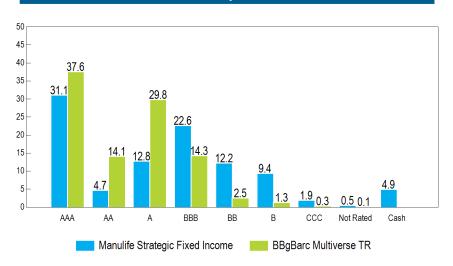
### **Plymouth County Retirement Association**

#### Manulife Strategic Fixed Income | As of March 31, 2020

Account Information					
Account Name	Manulife Strategic Fixed Income				
Account Structure	Commingled Fund				
Investment Style	Active				
Inception Date	7/17/19				
Account Type	US Fixed Income High Yield				
Benchmark	BBgBarc Multiverse TR				
Universe	Multisector Bond MStar MF				

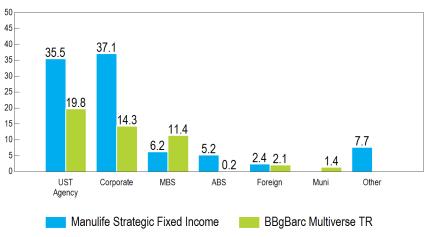
Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Manulife Strategic Fixed Income	-5.6					-3.2	Jul-19
BBgBarc Multiverse TR	-1.1	3.5	3.4	2.7	2.6	0.2	Jul-19
Multisector Bond MStar MF Median	-8.8	-3.6	1.3	2.1	4.2	-6.4	Jul-19
Multisector Bond MStar MF Rank	15					11	Jul-19





Credit Quality Allocation

Sector Allocation



# **Plymouth County Retirement Association**

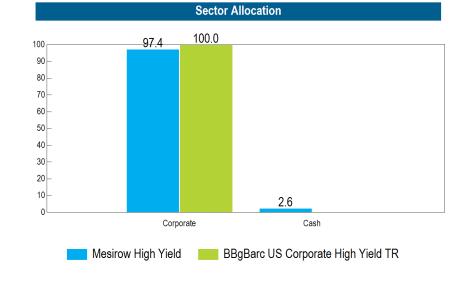
#### Mesirow High Yield | As of March 31, 2020

Yield
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Portfolio Performance Summary							
	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Mesirow High Yield	-16.0					-13.2	Aug-19
BBgBarc US Corporate High Yield TR	-12.7	-6.9	0.8	2.8	5.6	-9.7	Aug-19
eV US High Yield Fixed Inc Net Median	-12.1	-6.6	0.6	2.3	5.2	-9.4	Aug-19
eV US High Yield Fixed Inc Net Rank	92					88	Aug-19

Mesirow High Yield Characteristics					
vs. BBgBarc US Corporate High Yield TR					
	Portfolio	Index	Portfolio		
	Q1-20	Q1-20	Q4-19		
Fixed Income Characteristics					
Yield to Maturity	7.7	10.3	7.7		
Average Duration	2.8	4.5	2.8		
Average Quality	В	В	В		
Weighted Average Maturity	5.3	6.2	5.3		

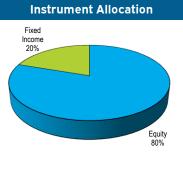
**Credit Quality Allocation** 70 65 59.7 60 55 52.3 50 45 40 34.8 35 30 -25 -20 -15 -10 -5 -0 -24.4 10.6<mark>11.9</mark> 2.3 0.3 2.6 0.3 0.7 02 0.1 BBB BB В CCC СС С Not Rated Cash BBgBarc US Corporate High Yield TR Mesirow High Yield



# **Plymouth County Retirement Association**

#### EnTrustPermal Special Opportunities Evergreen Fund, Ltd. | March 31, 2020

Acco	unt Information		
Mandate:	Hedge Fund, Fund of Funds		
Market Value:	\$15.5 M		
Portfolio	Team		
Manager:			
Location:	New York, NY		
Inception Date:	1/1/2019		
Account Type:	Limited Partnership		
# of Investments:	Not Provided		
Fee Schedule:	1.25% management fee; 10% performance fee		
Liquidity Constraints:	Distributions from monetized investments will be recycled into the Fund, unless otherwise noted by the investor. Investors who opt out of the Fund (in part or in whole) following expiration of the 3 year Commitment Period, and any applicable successive renewals, will receive their pro rata distributions of underlying investments in the Fund, net of fees and expenses, as they are realized by the Investment Manager		



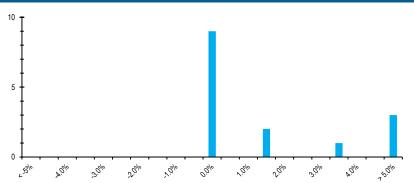
Portfolio Performance Summary					
	1Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 1/2019 (%)
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	0.0	19.4	NA	NA	21.5
HFRI Fund of Funds Composite Index	-8.4	-5.1	0.1	0.1	-0.6

	Top 5 Funds (%)	
Third Point - Nestle	11	
Voce - Argo	9	
Engaged - Hain	8	
Tosca - IWG	7	
HG Vora - Thryv	7	



Geographic Exposure Allocation (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
North America	62	63	64	58
Developed Europe	25	25	23	33
Developed Asia	12	11	9	2
Emerging Markets	2	2	3	7
Exposure Report (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
Exposure Report (%) Total Gross Exposure	3/31/2020 78	<b>12/31/2019</b> 96	<b>9/30/2019</b> 94	<b>6/30/2019</b> 97
Total Gross Exposure	78	96	94	97
Total Gross Exposure Gross Long Exposure	78 74	96 92	94 89	97



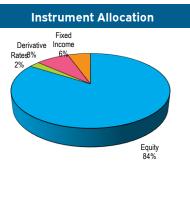


MEKETA INVESTMENT GROUP

# **Plymouth County Retirement Association**

#### Old Farm Partners Master Fund, L.P. | March 31, 2020

Account Information				
Mandate:	Hedge Fund, Fund of			
	Funds			
Market Value:	\$4.7 M			
Portfolio Manager:	Team			
Location:	New York, NY			
Inception Date:	10/1/2018			
Account Type:	Limited Partnership			
# of Investments:	32			
Fee Schedule:	0.5% management fee;			
	5% performance fee			
Liquidity Constraints:	Quarterly with 65 days'			
	notice			

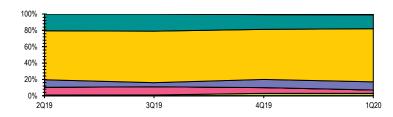


Portfolio Performance Summary					
	1Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 10/2018 (%)
Old Farm Partners Master Fund, L.P.	-7.1	-3.3	NA	NA	-4.0
HFRI Fund of Funds Composite Index	-8.4	-5.1	0.1	0.1	-3.8

	Top 5 Funds (%)	
Divisar	7	
Sio	7	
Prospect Crake	б	
Crake	б	
Light Street	6	

#### **Historical Strategy Allocations**





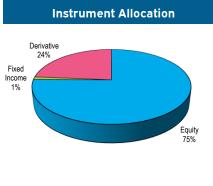
Geographic Exposure Allocation (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
North America	69	65	72	69
Developed Europe	17	20	18	19
Emerging Markets	10	12	7	9
Developed Asia	4	3	3	3
Exposure Report (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
Exposure Report (%) Total Gross Exposure	<b>3/31/2020</b> 110	<b>12/31/2019</b> 125	<b>9/30/2019</b> 127	<b>6/30/2019</b> 133
Total Gross Exposure	110	125	127	133



# **Plymouth County Retirement Association**

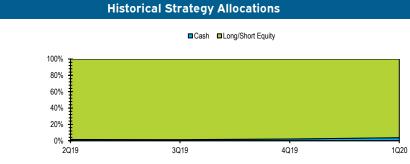
#### ABS Offshore SPC - Global Segregated Portfolio | March 31, 2020

Account Information					
Mandate:	Hedge Fund, Fund of				
	Funds				
Market Value:	\$20.7 M				
Portfolio Manager:	Team				
Location:	Greenwich, CT				
Inception Date:	8/31/2010				
Account Type:	Limited Partnership				
# of Investments:	25				
Fee Schedule:	1.00% management fee;				
	5.0% performance fee				
Liquidity Constraints:	Quarterly with 45 days' notice				



Portfolio Performance Summary					
	1Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 8/2010 (%)
ABS Offshore SPC - Global Segregated Portfolio	-10.0	-1.8	1.7	1.0	4.4
HFRI Fund of Funds Composite Index	-8.4	-5.1	0.1	0.1	2.0

	Top 5 Funds (%)	
TPG Public Equity Partners B, Ltd	8	
SoMa Equity	7	
Toronado Offshore Ltd.	6	
Pleiad Asia Offshore Feeder Fund	6	
Seligman Tech Spectrum Fund	5	



Geographic Exposure Allocation (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
North America	59	61	61	62
Developed Europe	20	21	23	22
Emerging Markets	13	11	10	10
Developed Asia	8	7	6	6
Exposure Report (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
Exposure Report (%) Total Gross Exposure	<b>3/31/2020</b> 128	<b>12/31/2019</b> 158	<b>9/30/2019</b> 150	<b>6/30/2019</b> 159
Exposure Report (%) Total Gross Exposure Gross Long Exposure				
Total Gross Exposure	128	158	150	159

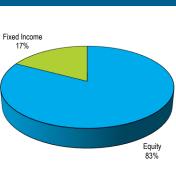


# **Plymouth County Retirement Association**

Event Driven Fixed Income

#### EnTrust Special Opportunities Fund III, Ltd. | March 31, 2020As of March 31, 2020

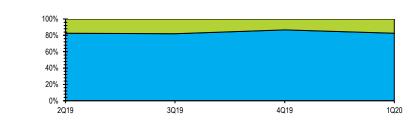
Account Information					
Mandate:	Hedge Fund, Fund of				
	Funds				
Market Value:	\$17.1 M				
Portfolio Manager:	Team				
Location:	New York, NY				
Inception Date:	10/1/2016				
Account Type:	Limited Partnership				
# of Investments:	27				
Fee Schedule:	1.25% management fee;				
	10% performance fee; 7.5%				
	hurdle				
Liquidity Constraints:	3 Year Lockup (4 years				
	max) then quarterly with				
	95 days' notice				



Portfolio Performance Summary					
	1Q20 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 10/2016 (%)
EnTrust Special Opportunities Fund III, Ltd.	-28.5	23.9	-6.7	NA	0.9
HFRI Fund of Funds Composite Index	-8.4	-5.1	0.1	0.1	1.0

	Top 5 Funds (%)	
Third Point - Nestlé	10	
Third Point - Sony	7	
Hudson Executive - Cardtronics	6	
Trian - P&G	5	
EnTrust Global - Quibi	5	

# Instrument Allocation **Historical Strategy Allocations**



Geographic Exposure Allocation (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
North America	56	60	63	58
Developed Europe	29	28	26	31
Developed Asia	10	7	6	3
Emerging Markets	5	5	5	8
Exposure Report (%)	3/31/2020	12/31/2019	9/30/2019	6/30/2019
Tabal One as Even a suma	00	10.0	10.0	07

Total Gross Exposure	98	100	100	97
Gross Long Exposure	94	97	98	97
Gross Short Exposure	4	-3	-2	<1
Net Exposure	90	94	96	96





Annual Investment Expense Analysis				
	As Of March 31, 2020	0		
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Domestic Equity Assets		\$197,765,133		
Rhumbline Russell 1000 Value	0.05% of First 25.0 Mil, 0.04% of Next 25.0 Mil, 0.03% Thereafter	\$31,341,955	\$15,037	0.05%
Rhumbline Russell 1000 Growth	0.05% of First 25.0 Mil, 0.04% of Next 25.0 Mil, 0.03% Thereafter	\$37,437,773	\$17,475	0.05%
Fisher Midcap Value	0.80% of First 25.0 Mil, 0.75% of Next 25.0 Mil, 0.67% Thereafter	\$34,919,720	\$274,398	0.79%
Boston Company Small Cap Growth	0.45% of Assets	\$45,375,131	\$204,188	0.45%
LMCG Small Cap Value	0.90% of Assets	\$48,690,555	\$438,215	0.90%
International Developed Market Equity Assets		\$44,076,651		
KBI Master Account	0.65% of Assets	\$16,729,978	\$108,745	0.65%
HGK TS International Equity	1.00% of Assets	\$18,215,939	\$182,159	1.00%
Copper Rock International Small Cap	0.85% of Assets	\$9,130,733	\$77,611	0.85%
International Emerging Market Equity Assets		\$84,095,167		
LMCG Emerging Markets	0.64% of Assets	\$30,974,458	\$198,237	0.64%
ABS Emerging Markets	0.35% Management Fee and 10% Performance/Incentive Fee.	\$22,633,456		
Copper Rock Emerging Markets Small Cap	0.85% of Assets	\$7,772,975	\$66,070	0.85%
Driehaus Emerging Markets Growth	0.55% of Assets	\$22,714,277	\$124,929	0.55%



Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Global Equity Assets		\$86,688,169		
First Eagle Global Value Fund	0.75% of Assets	\$17,156,022	\$128,670	0.75%
Kopernik Global All Cap Fund	0.80% of First 50.0 Mil, 0.75% of Next 150.0 Mil, 0.70% of Next 250.0 Mil, 0.65% of Next 350.0 Mil	\$15,531,921	\$124,255	0.80%
Lee Munder Global Multi-Cap Strategy	0.45% of Assets	\$24,082,135	\$108,370	0.45%
Wellington Durable Enterprises, L.P.	0.60% of Assets	\$29,918,091	\$179,509	0.60%
Core Fixed Income		\$84,652,217		
IR&M Core Bonds	0.25% of First 50.0 Mil, 0.20% of Next 50.0 Mil, 0.15% Thereafter	\$50,949,095	\$126,898	0.25%
Lord Abbett Short Duration Credit Trust II	0.19% of Assets	\$33,703,122	\$64,036	0.19%
Value Added Fixed Income		\$94,789,745		
Eaton Vance High Yield	0.42% of Assets	\$19,791,856	\$83,126	0.42%
THL Bank Loan Select Fund	0.40% of Assets	\$19,241,062	\$76,964	0.40%
Franklin Templeton Emerging Market Bonds	0.99% of Assets	\$17,979,209	\$177,994	0.99%
Manulife Strategic Fixed Income	0.40% of Assets	\$29,097,618	\$116,390	0.40%
Mesirow High Yield	0.40% of Assets	\$8,680,000	\$34,720	0.40%



#### Total Retirement Association | As of March 31, 2020

Note: The value is based on December 31, 2019 FMV.

Private Equity	Commitment	Total Contributions	Total Distributions	Adjusted Value
Ascend Ventures II, L.P.	2,500,000	2,324,355	925,962	56,191
Ascent Venture Partners IV, L.P.	2,500,000	2,502,219	388,970	39,655
Ascent Venture Partners V, L.P.	5,000,000	5,154,731	3,432,862	4,396,415
Audax Mezzanine Fund IV, L.P.	10,000,000	5,818,076	2,846,964	3,145,436
Charles River Partnership XI, L.P.	1,839,000	1,820,323	2,532,884	145,168
Charlesbank Technology Opportunities Fund, L.P.	12,000,000	0	0	0
DN Partners II, L.P.	5,000,000	2,375,841	0	1,616,217
Euro Choice V, L.P.	5,041,890	5,688,459	2,588,015	4,575,786
FS Equity Partners VIII, L.P.	12,000,000	138,315	0	988,332
Globespan Capital Partners V, L.P.	5,000,000	4,852,500	8,008,564	2,935,888
HarbourVest Partners Co-Investment Fund V, L.P.	12,000,000	1,800,000	0	1,010,563
Ironsides Direct Investment Fund V, L.P.	12,000,000	12,604,233	824,306	12,321,911
Landmark Equity Partners XIV, L.P.	6,000,000	6,300,542	6,721,003	1,001,281
Leeds Equity Partners IV, L.P.	5,185,562	5,089,327	6,224,435	10,391
Leeds Equity Partners V, L.P.	2,500,000	3,570,815	3,981,623	2,471,347
Lexington Capital Partners VII, L.P.	10,000,000	10,556,021	13,254,638	2,465,158
LLR Equity Partners V, L.P.	12,000,000	7,440,000	1,084,578	6,155,025
Mesirow Financial Capital Partners IX, L.P.	4,000,000	3,840,731	1,897,056	223,973
Ridgemont Equity Partners III, L.P.	12,000,000	1,400,121	0	0
Rimco Production Company, Inc	2,000,000	2,000,000	7,651,066	1
Searchlight Capital III, L.P.	12,000,000	0	0	0
Siguler Guff Distressed Opportunities Fund III, L.P.	6,000,000	5,820,000	8,233,471	998,772
Summit Partners Growth Equity Fund IX, L.P.	10,000,000	8,968,000	2,762,801	9,075,534
TRG Growth Partnership II, L.P.	7,500,000	7,450,399	7,463,445	1,141,155
Trilantic Capital Partners VI (North America), L.P.	12,000,000	2,907,564	92,040	2,761,509
Wellspring Capital Partners VI, L.P.	12,000,000	4,106,244	0	3,047,559
Total Plymouth County - PE	198,066,452	114,528,816	80,914,682	60,583,266



#### Total Retirement Association | As of March 31, 2020

Note: The value is based on December 31, 2019 FMV.

Real Assets	Commitment	Total Contributions	Total Distributions	Adjusted Value
Basalt Infrastructure Partners II	10,000,000	6,500,879	49,561	6,861,968
BTG Pactual Global Timberland Resources Fund, LLC	4,328,717	5,043,536	229,998	2,923,821
Global Infrastructure Partners III, L.P.	10,000,000	8,325,631	908,856	8,498,551
Global Infrastructure Partners IV, L.P.	10,000,000	43,750	0	-2,723
IFM Global Infrastructure (U.S.), L.P.	35,000,000	20,000,000	119,615	22,330,075
JPMorgan Global Maritime Investment	10,000,000	9,186,014	938,504	6,191,285
Domain Timbervest Partners III, L.P.	5,000,000	5,000,000	1,426,771	4,964,163
Total Plymouth County - RA	84,328,717	54,099,809	3,673,306	51,767,140

Real Estate	Commitment	Total Contributions	Total Distributions	Adjusted Value
1921 Realty, Inc.	5,000,000	5,378,194	0	756,654
AEW Partners Real Estate Fund VIII, L.P.	25,000,000	14,575,503	3,410,486	12,692,931
Berkshire Value Fund V, L.P.	9,000,000	0	0	0
Carlyle Realty Partners VIII, L.P.	18,000,000	2,757,163	2,657	3,112,184
DSF Capital Partners IV, L.P.	5,000,000	5,000,000	5,997,885	7,413
DSF Multi-Family Real Estate Fund III, L.P.	15,000,000	15,499,746	1,229,341	16,367,900
JPMorgan Strategic Property	27,000,000	27,000,000	0	28,350,952
New Boston Institutional Fund VII, L.P.	5,000,000	3,012,998	3,961,438	184,301
Real Estate International Partnership Fund I, L.P.	15,000,000	12,674,617	10,772,161	2,178,911
Rockpoint Real Estate Fund VI, L.P.	9,000,000	0	0	0
TA Realty Core Property Fund, L.P.	25,000,000	25,000,000	322,844	28,706,398
Total Plymouth County - RE	158,000,000	110,898,222	25,696,812	92,357,644

Note: The values for IFM Global Infrastructure and JPMorgan Strategic Property are as of March 31, 2020.



Cash Flow Summary									
	Quarter Ending M	arch 31, 2020							
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value				
1921 Realty, Inc	\$756,654	\$0	\$0	\$0	\$756,654				
ABS Emerging Markets	\$29,555,459	\$0	\$0	\$0	\$22,633,456				
ABS Offshore SPC - Global Segregated Portfolio	\$23,003,236	\$0	-\$55,186	-\$55,186	\$20,703,159				
AEW Partners Real Estate VIII	\$13,098,256	\$2,439,619	\$0	\$2,439,619	\$16,224,143				
Ascend Ventures II	\$56,191	\$0	\$0	\$0	\$56,191				
Ascent Ventures IV	\$39,655	\$0	\$0	\$0	\$39,281				
Ascent Ventures V	\$4,446,415	\$0	\$0	\$0	\$4,425,266				
Audax Mezzanine Debt IV	\$3,408,142	\$41,665	-\$86,160	-\$44,495	\$3,436,219				
Basalt Infrastructure Partners II	\$8,243,140	\$0	\$0	\$0	\$8,577,473				
Boston Company Small Cap Growth	\$53,739,763	\$0	-\$58,212	-\$58,212	\$45,375,131				
BTG Pactual Global Timberland Resources	\$2,923,821	\$0	\$0	\$0	\$2,836,417				
Carlyle Realty Partners VIII	\$3,788,957	\$1,091,511	-\$241,950	\$849,561	\$5,039,977				
Cash	\$14,349,817	\$17,861,328	-\$7,381,067	\$10,480,261	\$24,830,078				
Copper Rock Emerging Markets Small Cap	\$11,348,489	\$0	-\$20,590	-\$20,590	\$7,772,975				
Copper Rock International Small Cap	\$37,362,266	\$0	-\$20,054,344	-\$20,054,344	\$9,130,733				
DN Partners II, LP	\$1,616,217	\$0	\$0	\$0	\$1,611,160				
Driehaus Emerging Markets Growth	\$28,698,980	\$0	-\$35,208	-\$35,208	\$22,714,277				
DSF Capital Partners IV	\$98	\$0	\$0	\$0	\$0				
DSF Multi-Family Real Estate Fund III	\$16,157,462	\$0	-\$215,699	-\$215,699	\$16,488,019				
Eaton Vance High Yield	\$22,432,066	\$0	-\$22,488	-\$22,488	\$19,791,856				
Entrust Special Opportunities Fund III, Ltd.	\$24,755,440	\$914,634	\$0	\$914,634	\$17,085,199				
EnTrustPermal Special Opportunities Evergreen Fund, Ltd.	\$10,951,154	\$4,581,176	\$0	\$4,581,176	\$15,532,330				



	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
Euro Choice V Programme	\$4,333,763	\$0	-\$221,126	-\$221,126	\$4,265,745
First Eagle Global Value Fund	\$21,199,077	\$0	-\$35,682	-\$35,682	\$17,156,022
Fisher Midcap Value	\$47,711,864	\$0	-\$81,869	-\$81,869	\$34,919,720
Franklin Templeton Emerging Market Bonds	\$21,244,622	\$0	-\$49,886	-\$49,886	\$17,979,209
FS Equity Partners VIII, L.P.	\$1,126,647	\$1,538,277	\$0	\$1,538,277	\$2,609,544
Global Infrastructure Partners III	\$8,333,344	\$83,799	\$0	\$83,799	\$8,288,241
Global Infrastructure Partners IV, L.P.	\$87,500	\$47,756	\$0	\$47,756	\$135,256
Globespan Capital V	\$2,935,888	\$0	\$0	\$0	\$2,856,050
HarbourVest Partners Co-Investment V	\$1,610,563	\$1,200,000	\$0	\$1,200,000	\$2,841,844
HGK TS International Equity	\$24,067,228	\$0	-\$73,911	-\$73,911	\$18,215,939
IFM Global Infrastructure	\$23,245,365	\$0	\$0	\$0	\$22,330,075
IR&M Core Bonds	\$59,341,593	\$0	-\$9,033,695	-\$9,033,695	\$50,949,095
Ironsides Direct Investment Fund V, L.P.	\$12,968,873	\$0	-\$1,630,205	-\$1,630,205	\$11,477,951
JP Morgan Global Maritime Investment	\$6,191,285	\$0	\$0	\$0	\$6,191,285
JPMorgan Strategic Property	\$27,981,550	\$0	-\$139,015	-\$139,015	\$28,350,952
KBI Master Account	\$22,198,072	\$0	-\$31,402	-\$31,402	\$16,729,978
Kopernik Global All Cap Fund	\$19,031,959	\$0	-\$33,913	-\$33,913	\$15,531,921
Landmark Equity Partners XIV	\$962,041	\$0	-\$2,301	-\$2,301	\$960,624
Lee Munder Global Multi-Cap Strategy	\$31,533,429	\$0	-\$31,105	-\$31,105	\$24,082,135
Leeds Equity Partners IV	\$10,391	\$0	\$0	\$0	\$10,555
Leeds Equity Partners V	\$2,471,347	\$0	\$0	\$0	\$2,551,576
Lexington Capital Partners VII	\$2,333,102	\$0	-\$174,962	-\$174,962	\$2,127,346
LLR Equity Partners V, LP.	\$6,703,450	\$0	\$0	\$0	\$7,412,905
LMCG Emerging Markets	\$52,407,174	\$0	-\$10,067,557	-\$10,067,557	\$30,974,458
LMCG Small Cap Value	\$73,133,356	\$0	-\$135,950	-\$135,950	\$48,690,555



	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Ending Market Value
Lord Abbett Short Duration Credit Trust II	\$35,562,130	\$0	-\$16,696	-\$16,696	\$33,703,122
Manulife Strategic Fixed Income	\$30,832,559	\$0	-\$57,407	-\$57,407	\$29,097,618
Mesirow Financial Capital Partners IX, LP	\$223,973	\$0	\$0	\$0	\$222,777
Mesirow Financial International Real Estate Fund I	\$1,835,684	\$0	-\$300,000	-\$300,000	\$1,534,826
Mesirow High Yield	\$10,330,000	\$0	-\$9,783	-\$9,783	\$8,680,000
New Boston Institutional Fund, LP VII	\$50,066	\$0	\$0	\$0	\$26,254
Old Farm Partners Master Fund, L.P.	\$5,060,669	\$0	\$0	\$0	\$4,701,221
Rhumbline Russell 1000 Growth	\$50,076,414	\$0	-\$6,505,898	-\$6,505,898	\$37,437,773
Rhumbline Russell 1000 Value	\$50,018,215	\$0	-\$6,507,377	-\$6,507,377	\$31,341,955
Ridgemont Equity Partners III, L.P.	\$1,400,121	\$1,066,699	\$0	\$1,066,699	\$2,280,418
RIMCO Royalty Partners, LP	\$1	-\$20,047	\$0	-\$20,047	\$1
Rockpoint Real Estate Fund VI, L.P.	\$82,621	\$30,832	\$0	\$30,832	\$51,379
Siguler Guff Distressed Opportunities Fund III, LP	\$975,597	\$0	-\$64,994	-\$64,994	\$930,572
Summit Partners Growth Equity Fund IX	\$9,097,279	\$1,110,000	\$0	\$1,110,000	\$10,963,496
TA Realty Core Property Fund, L.P.	\$28,706,398	\$10,000,000	\$0	\$10,000,000	\$39,212,896
THL Bank Loan Select Fund	\$22,001,948	\$0	-\$21,066	-\$21,066	\$19,241,062
Timbervest Partners III, LP	\$4,839,163	\$0	\$0	\$0	\$5,167,607
TRG Growth Partnership II	\$1,085,771	\$0	\$0	\$0	\$1,088,035
Trilantic Capital Partners VI, L.P.	\$2,669,904	\$0	\$0	\$0	\$2,574,020
Wellington Durable Enterprises, L.P.	\$38,110,590	\$0	-\$51,623	-\$51,623	\$29,918,091
Wellspring Capital Partners VI	\$3,751,486	\$0	\$0	\$0	\$3,689,260
Total	\$1,080,605,750	\$41,987,249	-\$63,448,327	-\$21,461,078	\$904,561,359



# Plymouth County Retirement Association Fourth Quarter 2019 Private Markets Program



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- 1. Private Equity Program
- 2. Real Assets Program
- **3**. Real Estate Program



Introduction | As of December 31, 2019

The purpose of this document is to offer a review of the Retirement Association's aggregate private market investments.

As of December 31, 2019, the Retirement Association had committed \$528.7 million to 55 partnerships. The reported fair market value of the program, in aggregate, was \$214.7 million at the end of the quarter, representing a 5.2% increase in fair market value compared to the prior quarter.

Private Equity	/ Program
No. of Funds	30
Committed	\$215.3 million
Contributed	\$132.1 million
Distributed	\$96.3 million
Fair Market Value	\$65.9 million
TVPI	1.23x
Since Inception IRR	5.0%
1-Quarter IRR	3.7%
1-Year IRR	16.0%

Real Assets Program							
No of Funds	7						
Committed	\$85.4 million						
Contributed	\$55.5 million						
Distributed	\$4.4 million						
Fair Market Value	\$54.4 million						
TVPI	1.06x						
Since Inception IRR	1.9%						
1-Quarter IRR	4.4%						
1-Year IRR	9.7%						

Real Estate Program								
No of Funds	18							
Committed	\$228.0 million							
Contributed	\$189.4 million							
Distributed	\$162.0 million							
Fair Market Value	\$94.4 million							
TVPI	1.35x							
Since Inception IRR	5.4%							
1-Quarter IRR	2.9%							
1-Year IRR	2.6%							



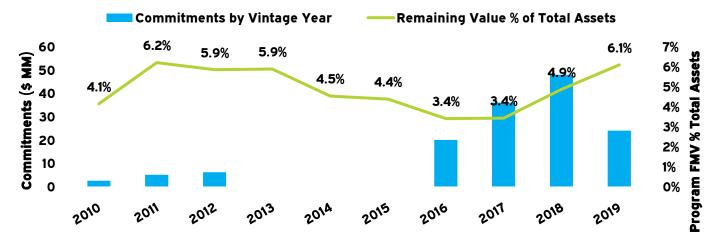
# **Private Equity Program**

### Plymouth County Retirement Association Private Equity Program

#### **Recent Activity** | As of December 31, 2019

#### Introduction

As of December 31, 2019, the Retirement Association had committed \$215.3 million to 30 partnerships (25 active). The fair market value of those partnerships, in aggregate, was \$65.9 million, representing 6.1% of the Retirement Association's total assets. The Retirement Association maintains a 13% target allocation to Private Equity, and continued commitments will help the plan reach its allocation target. The fair market value of the Private Equity program at the end of the quarter represents a 9.1% increase in the fair market value over the prior quarter. Nineteen of the Retirement Association's funds are fully liquidated or actively harvesting.

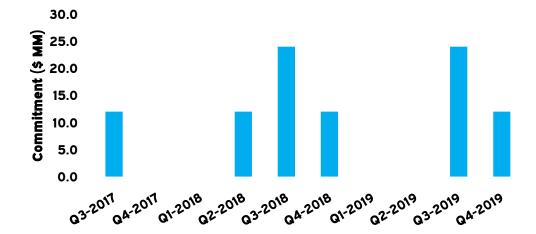


#### **Program Status Performance Since Inception** No. of Investments 30 Program Benchmark Committed (\$ MM) DPI 215.3 0.73x 1.11x Contributed (\$ MM) 132.1 **TVPI** 1.68x 1.23x Distributed (\$ MM) 96.3 IRR 5.0% 12.1% Fair Market Value (\$ MM) 65.9

### Plymouth County Retirement Association Private Equity Program

Recent Activity | As of December 31, 2019

#### Commitments



**Recent Quarterly Commitments** 

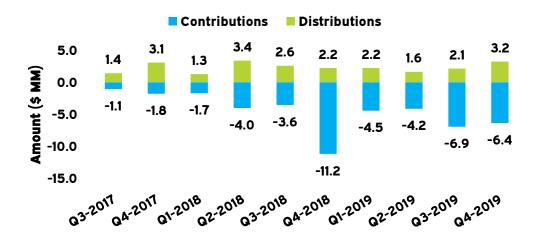
#### **Commitments This Quarter**

Fund	Strategy	Region	Amount (MM)
Searchlight III	Growth Equity	Global: Developed	12.00

### Plymouth County Retirement Association Private Equity Program

Recent Activity | As of December 31, 2019

#### **Cash Flows**



#### **Recent Quarterly Cash Flows**

Largest Contributions This Quarter

Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)	Fund	Vintage	Strategy	Region	Amount (\$MM)
Ridgemont III	2018	Buyout	North America	1.40	Audax Mezz IV	2016	Private Debt	North America	0.94
Audax Mezz IV	2016	Private Debt	North America	1.20	LLR V	2017	Buyout	North America	0.65
LLR V	2017	Buyout	North America	1.20	Chales River XI	2000	Venture Capital	North America	0.54



**Recent Activity** | As of December 31, 2019

### Significant Events

- Ridgemont Equity Partners III called \$1.4 million from the Retirement Association to facilitate execution of the Fund's first five investments. Following the capital call, the Retirement Association has contributed 12% of its capital commitment to the Fund.
- Audax Mezzanine Fund IV called \$1.2 million from the Retirement Association primarily to fund new investments. The Fund also distributed \$0.9 million resulting from the realizations of four investments: *Ned Stevens, King Juice, HMT*, and *Mode Transportation*. The distributed amount also includes interest payments earned from the Fund's active investments. A portion of the Retirement Association's distributions were used to offset capital calls made by the Fund, thus resulting in a net distribution of \$0.7 million for the Retirement Association.
- LLR Equity Partners V called \$1.2 million from the Retirement Association to reduce the amount of outstanding debt on the Fund's line of credit, which had been used to fund new investments. Following the capital call, the Retirement Association has contributed 62% of its capital commitment to the Fund. During the quarter, the Fund also distributed \$0.7 million, resulting from the sale of *eLocal*, a tech-enabled customer generation platform, to *HomeServe PLC* (LON: HSV). The exit generated a 3.3x gross multiple of invested capital and a 65.9% gross IRR. As of the end of the quarter, the Fund has generated a 1.14x TVPI.
- Landmark Partners announced that one of its Partners, Ian Charles, is leaving the firm to pursue a new investment opportunity.
- The Retirement Association's Private Equity program reported a \$3.2 million net cash outflow during the fourth quarter of 2019, representing a 34.4% increase in net cash outflow compared to the prior quarter. Over the entirety of 2019, the Retirement Association's Private Equity program contributed \$22.0 million and received \$9.1 million, representing a net cash outflow of \$12.9 million. The Retirement Association's 2019 distributions decreased 4.2% relative to 2018 Private Equity distributions.

#### Performance Analysis | As of December 31, 2019

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Buyout	12	112.7	45.3	69.5	14.1	35.3	104.8	0.31	1.09	2.8
Fund of Funds	3	17.6	17.0	1.5	18.9	5.5	7.0	1.11	1.43	8.1
Growth Equity	3	29.5	16.4	13.1	10.2	10.9	24.0	0.62	1.29	7.6
Other	2	4.6	4.7	0.0	7.8	0.0	0.0	1.64	1.64	7.4
Private Debt	1	10.0	5.8	4.2	2.8	3.5	7.7	0.49	1.09	8.0
Secondary	2	16.0	16.9	0.0	20.0	3.3	3.3	1.19	1.38	11.1
Special Situations	1	3.0	4.9	0.0	5.1	0.0	0.0	1.04	1.04	1.3
Venture Capital	б	21.8	21.1	1.0	17.4	7.5	8.5	0.83	1.18	2.2
Total	30	215.3	132.1	89.3	96.3	65.9	155.2	0.73	1.23	5.0

#### By Strategy

#### By Vintage

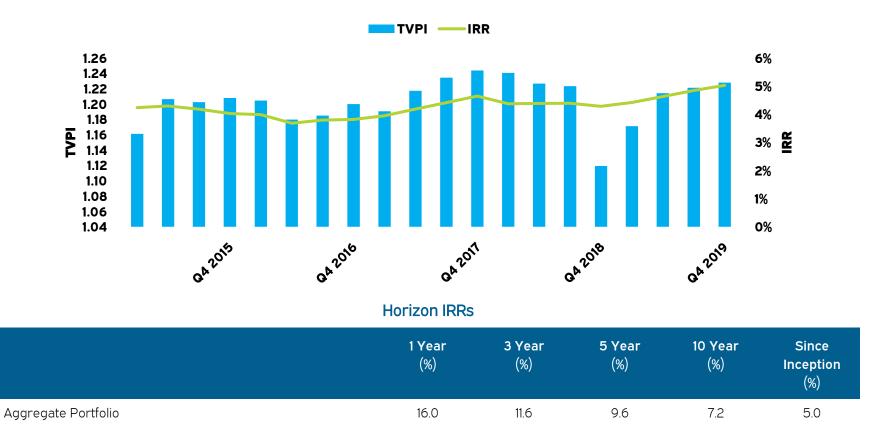
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
1998	1	2.6	2.7	0.0	0.1	0.0	0.0	0.04	0.04	-25.5
1999	1	5.0	4.4	0.6	2.2	0.0	0.6	0.49	0.49	-14.9
2000	1	1.8	1.8	0.0	2.5	0.1	0.2	1.39	1.47	6.1
2001	1	2.0	2.0	0.0	7.7	0.0	0.0	3.83	3.83	29.1
2004	3	13.2	13.1	0.5	14.7	0.0	0.6	1.12	1.12	2.0

#### Performance Analysis | As of December 31, 2019

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
2005	3	9.5	11.0	0.3	7.9	0.3	0.6	0.72	0.74	-5.3
2006	1	5.0	4.9	0.1	8.0	2.9	3.0	1.65	2.24	12.9
2007	2	12.5	9.8	2.7	7.5	2.7	5.4	0.76	1.03	0.6
2008	2	12.0	12.1	0.2	15.0	2.0	2.1	1.23	1.40	8.8
2009	1	10.0	10.6	0.0	13.3	2.3	2.3	1.26	1.47	14.0
2010	1	2.5	3.6	0.0	4.0	2.6	2.6	1.12	1.83	15.7
2011	1	5.0	5.2	0.1	3.4	4.4	4.5	0.67	1.52	8.5
2012	1	6.1	5.7	0.9	2.6	4.5	5.4	0.45	1.24	6.3
2016	2	20.0	14.8	5.2	5.6	13.3	18.5	0.38	1.28	23.5
2017	3	36.0	14.5	21.9	1.2	13.7	35.6	0.08	1.03	NM
2018	4	48.0	15.9	32.7	0.8	17.0	49.7	0.05	1.12	NM
2019	2	24.0	0.0	24.0	0.0	0.1	24.1	0.00	NM	NM
Total	30	215.3	132.1	89.3	96.3	65.9	155.2	0.73	1.23	5.0



#### Performance Analysis | As of December 31, 2019



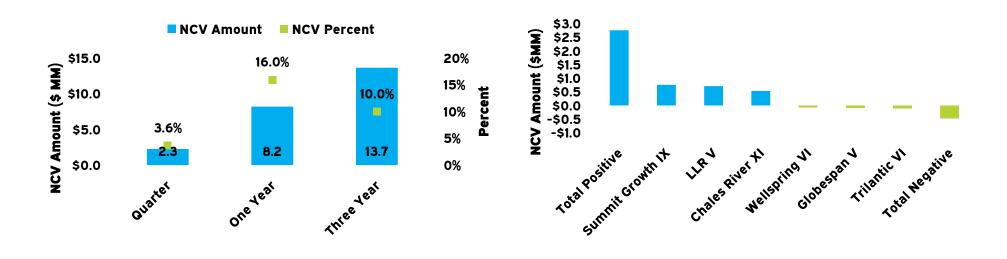
Since Inception Performance Over Time



Performance Analysis | As of December 31, 2019

Periodic NCV

**1 Quarter Drivers Of NCV** 



#### Performance Analysis | As of December 31, 2019

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Senior Tour Players	1998	Other	2.6	2.7	0.0	0.1	0.0	0.04	1.41	-25.5	7.3
Charles River X	1999	Venture Capital	5.0	4.4	0.6	2.2	0.0	0.49	0.93	-14.9	-1.3
Chales River XI	2000	Venture Capital	1.8	1.8	0.0	2.5	0.1	1.47	1.22	6.1	3.3
Rimco	2001	Other	2.0	2.0	0.0	7.7	0.0	3.83	1.52	29.1	8.6
Leeds IV	2004	Buyout	5.2	5.1	0.1	6.2	0.0	1.23	1.55	3.2	9.1
Euro Choice II	2004	Fund of Funds	5.5	5.5	0.4	8.0	0.0	1.46	1.55	7.0	9.1
Ascent Venture IV	2004	Venture Capital	2.5	2.5	0.0	0.4	0.0	0.17	1.55	-29.5	9.1
Mesirow IX	2005	Buyout	4.0	3.8	0.2	1.9	0.2	0.55	1.54	-7.0	8.1
Levine Leichtman DV	2005	Special Situations	3.0	4.9	0.0	5.1	0.0	1.04	1.54	1.3	8.1
Ascend Ventures II	2005	Venture Capital	2.5	2.3	0.2	0.9	0.1	0.42	1.54	-8.8	8.1
Globespan V	2006	Venture Capital	5.0	4.9	0.1	8.0	2.9	2.24	1.56	12.9	7.6
DN Partners II	2007	Buyout	5.0	2.4	2.6	0.0	1.6	0.68	1.67	-4.2	10.2
TRG II	2007	Growth Equity	7.5	7.5	0.1	7.5	1.1	1.15	1.67	2.9	10.2
Siguler Guff III	2008	Fund of Funds	6.0	5.8	0.2	8.2	1.0	1.59	1.69	10.2	11.4
Landmark XIV	2008	Secondary	6.0	6.3	0.0	6.7	1.0	1.22	1.69	6.4	11.4
Lexington VII	2009	Secondary	10.0	10.6	0.0	13.3	2.3	1.47	1.91	14.0	14.0
Leeds V	2010	Buyout	2.5	3.6	0.0	4.0	2.6	1.83	2.08	15.7	16.4

#### Fund Performance: Sorted By Vintage And Strategy

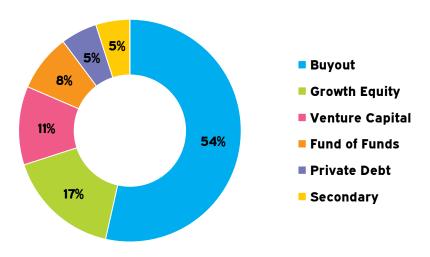
#### Performance Analysis | As of December 31, 2019

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPl (X)	IRR (%)	Peer IRR (%)
Ascent Venture V	2011	Venture Capital	5.0	5.2	0.1	3.4	4.4	1.52	2.00	8.5	16.6
Euro Choice V	2012	Fund of Funds	6.1	5.7	0.9	2.6	4.5	1.24	1.83	6.3	15.7
Summit Growth IX	2016	Growth Equity	10.0	9.0	1.0	2.8	9.9	1.41	1.29	33.1	16.7
Audax Mezz IV	2016	Private Debt	10.0	5.8	4.2	2.8	3.5	1.09	1.29	8.0	16.7
LLR V	2017	Buyout	12.0	7.4	5.0	1.1	7.4	1.14	1.20	NM	NM
Trilantic VI	2017	Buyout	12.0	2.9	9.1	0.1	2.6	0.92	1.20	NM	NM
Wellspring VI	2017	Buyout	12.0	4.1	7.9	0.0	3.7	0.90	1.20	NM	NM
FS Equity VIII	2018	Buyout	12.0	0.1	11.9	0.0	1.1	7.75	1.01	NM	NM
HV Co-Invest V	2018	Buyout	12.0	1.8	10.2	0.0	1.6	0.91	1.01	NM	NM
Ironsides Direct V	2018	Buyout	12.0	12.6	0.0	0.8	13.1	1.11	1.01	NM	NM
Ridgemont III	2018	Buyout	12.0	1.4	10.6	0.0	1.2	0.87	1.01	NM	NM
Charlesbank Tech	2019	Buyout	12.0	0.0	12.0	0.0	0.2	NM	NM	NM	NM
Searchlight III	2019	Growth Equity	12.0	0.0	12.0	0.0	NM	NM	NM	NM	NM
Total			215.3	132.1	89.3	96.3	65.9	1.23	1.68	5.0	12.1

# Plymouth County Retirement Association Private Equity Program

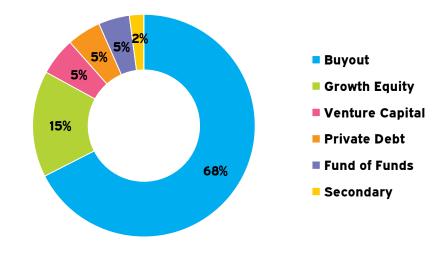
Fund Diversification | As of December 31, 2019

### By Strategy<sup>1</sup>



#### Percent of FMV



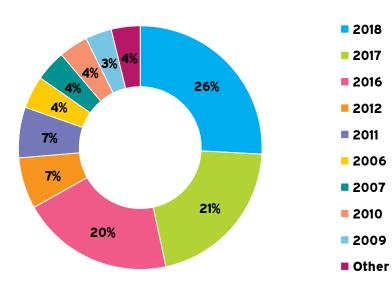


<sup>&</sup>lt;sup>1</sup> Throughout this section, totals may not sum due to rounding



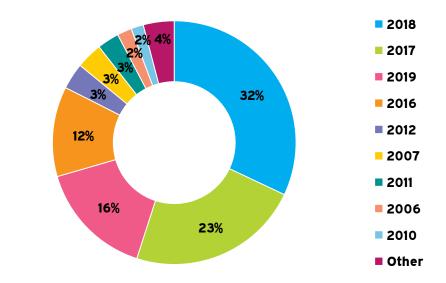
Fund Diversification | As of December 31, 2019

#### By Vintage



Percent of FMV

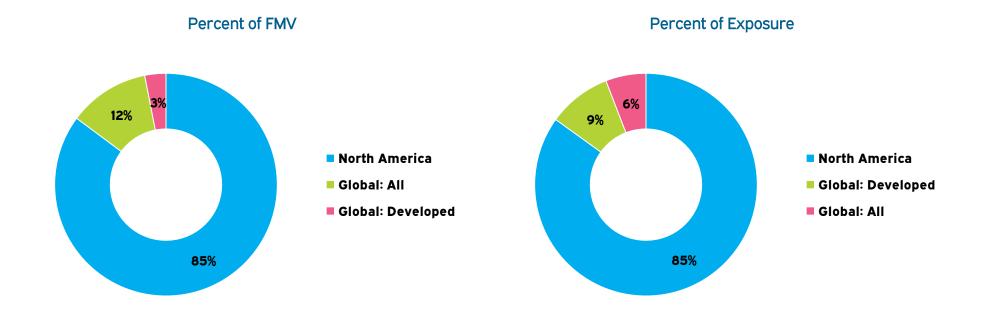
Percent of Exposure



# Plymouth County Retirement Association Private Equity Program

Fund Diversification | As of December 31, 2019

### By Geographic Focus





Plymouth County Retirement Association Real Assets Program

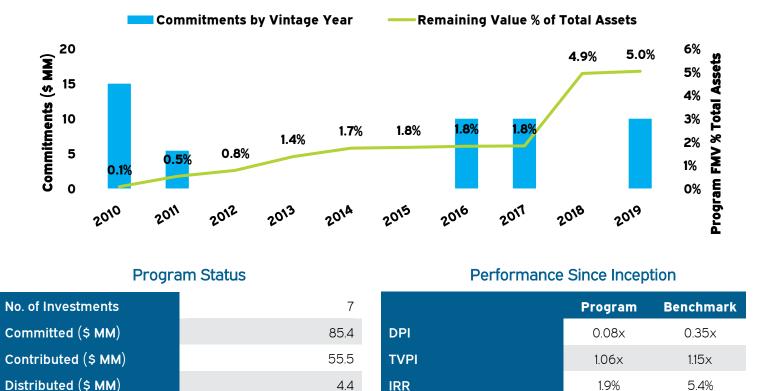
**Real Assets Program** 

### **Plymouth County Retirement Association Real Assets Program**

Overview | As of December 31, 2019

#### Introduction

As of December 31, 2019, the Retirement Association had committed \$85.4 million to seven partnerships. No new commitments weremade during the fourth quarter of 2019. The fair market value of the program was \$54.4 million, a 5.6% increase versus the fair marketvalue as of end of the third quarter of 2019. Distribution activity recorded during the fourth quarter was the highest for 2019, withapproximately \$0.7 million distributed to the Retirement Association. The fair market value of the Retirement Association's Real Assetsprogram continues to represent 5.0% of total assets, 100 basis points shy of the program's 6.0% target.



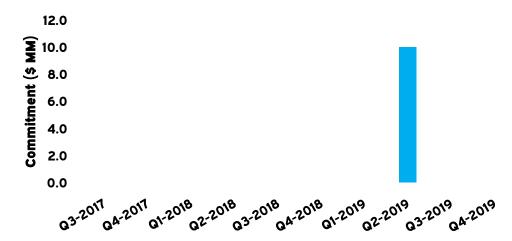
54.4

Fair Market Value (\$ MM)

### Plymouth County Retirement Association Real Assets Program

Recent Activity | As of December 31, 2019

#### Commitments



#### **Recent Quarterly Commitments**

#### **Commitments This Quarter**

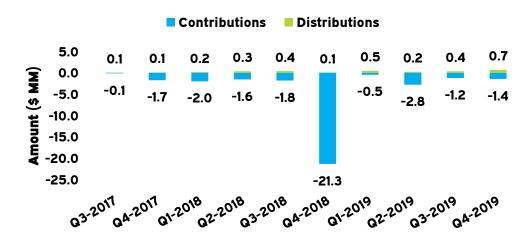
Fund	Strategy	Region	Amount (MM)
NL I I			

None to report.

### Plymouth County Retirement Association Real Assets Program

Recent Activity | As of December 31, 2019

#### **Cash Flows**



#### **Recent Quarterly Cash Flows**

Largest Contributions This Quarter

#### Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)	Fund	Vintage	Strategy	Region	Amount (\$MM)
Basalt IS II	2017	Core	Global: Developed	1.38	GIP III	2016	Value-Added	Global: Developed	0.39
GIP IV	2019	Value-Added	Global: Developed	0.04	IFM IS	2009	Core	Global: Developed	0.18
GIP III	2016	Value-Added	Global: Developed	0.01	Timbervest III	2010	Natural Resources	North America	0.13

#### Significant Events



#### Recent Activity | As of December 31, 2019

- Global Infrastructure Partners IV held its final close in December 2019, with aggregate Limited Partner commitments of \$22.0 billion. Limited Partners who have invested in previous GIP funds accounted for 71% of GIP IV's commitments.
- Basalt Infrastructure Partners II called \$1.4 million to fund two new investments. The first investment, *Project Tarpon,* is a collection of "last mile" natural gas transportation assets in the United States. *Project Tarpon* represents the Fund's first gas distribution asset, providing sector and geographic diversification for the Fund. The second investment, *Project Helios,* owns and operates commercial, industrial, and small-scale utility solar assets across the United States. Following the capital call, the Retirement Association has contributed 78.3% of its capital commitment to the Fund.
- Global Infrastructure Partners III distributed \$0.4 million to the Retirement Association, pertaining to dividend proceeds from six investments, as well as the return of excess contributions related to one investment. As of quarter end, the Fund has generated a 1.1x TVPI and 7.5% IRR.
- The Retirement Association's Real Assets program reported a \$0.7 million net cash outflow during the fourth quarter of 2019, representing a 12.5% decrease in net cash outflow compared to the prior quarter. Over the entirety of 2019, the Retirement Association's Real Assets program contributed \$4.8 million and received \$1.8 million, representing a net cash outflow of \$3.0 million for 2019. The Retirement Association's 2019 distributions increased 80% relative to 2018 Real Assets distributions.

# Plymouth County Retirement Association Real Assets Program

#### Performance Analysis | As of December 31, 2019

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Core	2	45.0	27.9	17.1	0.4	31.8	48.9	0.01	1.15	13.3
Natural Resources	2	10.4	10.0	0.4	1.8	8.3	8.7	0.18	1.01	0.1
Opportunistic	1	10.0	9.2	1.1	0.9	6.1	7.2	0.10	0.76	-5.6
Value-Added	2	20.0	8.4	11.8	1.3	8.2	20.0	0.15	1.13	6.9
Total	7	85.4	55.5	30.4	4.4	54.4	84.8	0.08	1.06	1.9

#### By Strategy

#### By Vintage

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Open-end	1	35.0	20.0	15.0	0.3	23.2	38.2	0.02	1.18	NM
2010	2	15.0	14.2	1.1	2.5	11.2	12.4	0.18	0.97	-0.б
2011	1	5.4	5.0	0.4	0.2	3.2	3.5	0.05	0.68	-5.9
2016	1	10.0	8.3	1.9	1.3	8.2	10.1	0.16	1.14	7.5
2017	1	10.0	7.9	2.1	0.0	8.6	10.7	0.01	1.09	NM
2019	1	10.0	0.1	9.9	0.0	NM	9.9	0.00	NM	NM
Total	7	85.4	55.5	30.4	4.4	54.4	84.8	0.08	1.06	1.9



### Plymouth County Retirement Association Real Assets Program

#### Performance Analysis | As of December 31, 2019



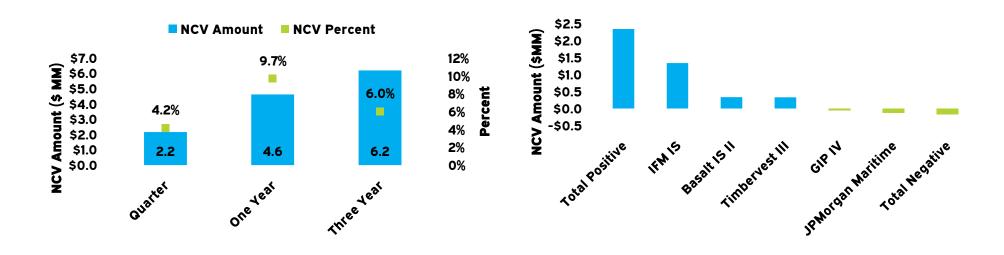


### **Plymouth County Retirement Association Real Assets Program**

Performance Analysis | As of December 31, 2019

Periodic NCV

**1 Quarter Drivers Of NCV** 



## Plymouth County Retirement Association Real Assets Program

#### Time Weighted Performance | As of December 31, 2019

	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
IFM Global Infrastructure	6.1	14.6	NA	NA	NA	14.1	10/01/2018
Real Assets	6.1	14.6	NA	NA	NA	14.1	10/01/2018
CPI+3%	1.4	5.3	5.1	4.8	4.8	5.1	
CPI+5% (1q Lagged)	1.5	6.8	NA	NA	NA	6.6	

## Plymouth County Retirement Association Real Assets Program

#### Performance Analysis | As of December 31, 2019

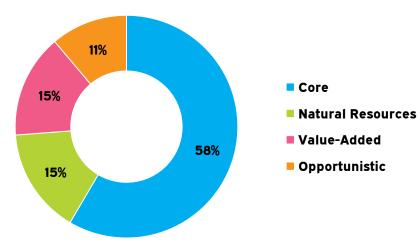
By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
IFM IS	Open- end	Core	35.0	20.0	15.0	0.3	23.2	1.18	NM	NM	NM
Timbervest III	2010	Natural Resources	5.0	5.0	0.0	1.6	5.2	1.34	1.22	4.4	3.5
JPMorgan Maritime	2010	Opportunistic	10.0	9.2	1.1	0.9	6.1	0.76	1.22	-5.6	3.5
BTG Global Timber	2011	Natural Resources	5.4	5.0	0.4	0.2	3.2	0.68	1.00	-5.9	0.0
GIP III	2016	Value-Added	10.0	8.3	1.9	1.3	8.2	1.14	1.11	7.5	5.9
Basalt IS II	2017	Core	10.0	7.9	2.1	0.0	8.6	1.09	1.10	NM	NM
GIP IV	2019	Value-Added	10.0	0.1	9.9	0.0	NM	NM	NM	NM	NM
Total			85.4	55.5	30.4	4.4	54.4	1.06	1.15	1.9	5.4

#### Fund Performance: Sorted By Vintage And Strategy

## Plymouth County Retirement Association Real Assets Program

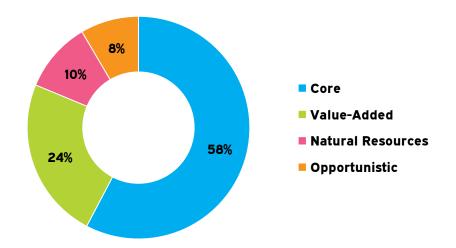
Fund Diversification | As of December 31, 2019

#### By Strategy<sup>1</sup>



#### Percent of FMV

Percent of Exposure



<sup>&</sup>lt;sup>1</sup> Throughout this section, totals may not sum due to rounding

## Plymouth County Retirement Association Real Assets Program

Fund Diversification | As of December 31, 2019

#### By Vintage Percent of FMV Percent of Exposure **4%** 6% 12% 15% Open-end 2010 43% 12% 45% 2017 16% 2016 13% 2011 21% 15%

Open-end

2010

2017

2016

2019

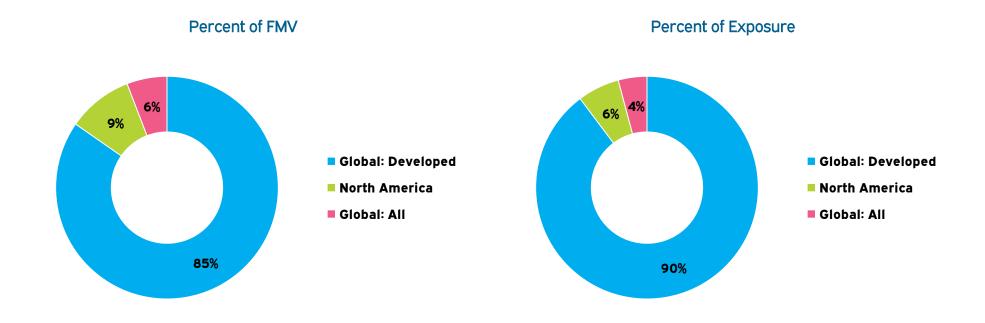
2011



## Plymouth County Retirement Association Real Assets Program

Fund Diversification | As of December 31, 2019

### By Geographic Focus





Plymouth County Retirement Association Real Estate Program

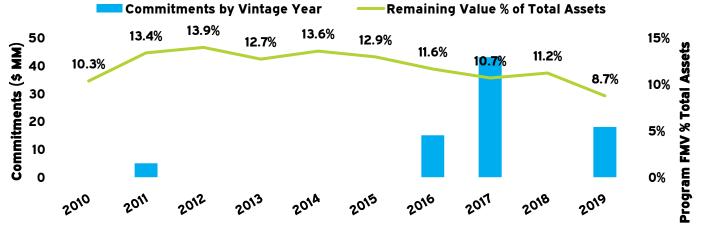
**Real Estate Program** 

### Plymouth County Retirement Association Real Estate Program

Overview | As of December 31, 2019

#### Introduction

As of December 31, 2019, the Retirement Association had committed \$228.0 million to eighteen partnerships, ten of which are active. Asof quarter end, the fair market value of those ten active partnerships, in aggregate, was \$94.4 million – a 2.5% increase over the priorquarter. The Retirement Association's Real Estate exposure remains just shy of its 10% asset allocation target, and down 0.2% from theprior quarter. The fourth quarter generated a \$0.2 million net cash inflow for the Retirement Association's Real Estate portfolio.



#### Program Status

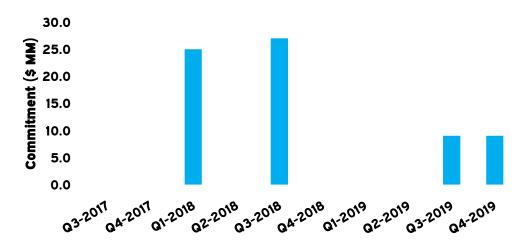
#### Performance Since Inception

No. of Investments	18		Program	Benchmark
Committed (\$ MM)	228.0	DPI	0.86x	0.89x
Contributed (\$ MM)	189.4	Τνρι	1.35x	1.24x
Distributed (\$ MM)	162.0	IRR	5.4%	5.6%
Fair Market Value (\$ MM)	94.4			

### Plymouth County Retirement Association Real Estate Program

Recent Activity | As of December 31, 2019

#### Commitments



#### **Recent Quarterly Commitments**

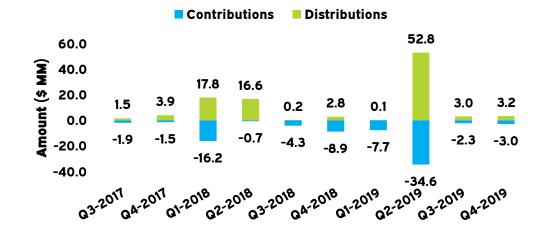
#### **Commitments This Quarter**

Fund	Strategy	Region	Amount (MM)
Berkshire Value V	Value-Added	North America	9.00

### Plymouth County Retirement Association Real Estate Program

Recent Activity | As of December 31, 2019

#### **Cash Flows**



#### **Recent Quarterly Cash Flows**

Largest Contributions This Quarter

#### Largest Distributions This Quarter

Fund	Vintage	Strategy	Region	Amount (\$MM)	Fund	Vintage	Strategy	Region	Amount (\$MM)
AEW Partners VIII	2017	Opportunistic	North America	1.83	AEW Partners VIII	2017	Opportunistic	North America	1.42
Carlyle Realty VIII	2017	Opportunistic	North America	0.72	Invesco RE	2005	Core	North America	0.80
TA Realty Core	2018	Core	North America	0.34	Mesirow RE Intl	2007	Fund of Funds	North America	0.38



**Recent Activity** | As of December 31, 2019

#### Significant Events

- The Retirement Association executed one Real Estate investment during the quarter, commiting \$9.0 million to Berkshire Value Fund V. This investment represents a commitment to a North American-focused, value-added manager. As of the date of this report, the Fund had not yet called any of the Retirement Association's commitment.
- AEW Partners VIII called \$1.8 million to fund a new investment in 25 Industrial Way, a 100% occupied, 120,000 square foot Class B industrial building in Wilmington, Massachusetts. The capital call also funded various development costs for existing portfolio properties. During the quarter, the Fund also distributed \$1.4 million, resulting from the sale of *Mellody Farm Apartments*, a 260 unit multifamily development in Vernon Hills, Illinois. The sale generated a 23% IRR and 1.7x multiple of invested capital. As of the end of the fourth quarter, the Fund has called 57% of capital commitments, and has generated a 1.13x TVPI.
- Invesco Equity Real Estate Securities Trust distributed \$0.8 million to the Retirement Association. The distribution represents the final liquidation of the Retirement Association's assets in that fund. From inception to final liquidation, the Retirement Association's investment generated a 1.87x multiple of invested capital and 8.3% IRR.
- Real Estate Fund Intelligence (REFI) recognized the DSF Group as the Value-Add Fund Manager of the Year at its 2019 annual awards gala.
- The Retirement Association's Real Estate program reported a \$200 thousand net cash inflow during the fouth quarter of 2019, representing a 16.7% decrease in net cash inflow compared to the prior quarter. Over the entirety of 2019, the Retirement Association's Real Estate program contributed \$47.6 million and received \$59.1 million, representing a net cash inflow of \$11.5 million for 2019. The Retirement Association's 2019 distributions increased 41.2% relative to 2018 Real Estate distributions.

## Plymouth County Retirement Association Real Estate Program

#### Performance Analysis | As of December 31, 2019

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Core	5	94.0	98.5	0.0	96.8	57.1	57.1	0.98	1.56	6.7
Fund of Funds	1	15.0	12.7	2.3	11.1	1.8	4.2	0.88	1.02	0.4
Opportunistic	3	48.0	25.3	24.3	4.9	18.7	43.0	0.19	0.93	-2.2
Real Estate	1	9.0	0.1	8.9	0.0	0.0	8.9	0.00	0.25	NM
Value-Added	8	62.0	52.9	12.8	49.2	16.7	29.6	0.93	1.25	4.8
Total	18	228.0	189.4	48.4	162.0	94.4	142.8	0.86	1.35	5.4

#### By Strategy

#### By Vintage

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Open-end	5	94.0	98.5	0.0	96.8	57.1	57.1	0.98	1.56	NM
2001	1	4.0	4.6	0.0	5.7	0.0	0.0	1.23	1.23	2.4
2003	1	10.0	9.0	1.9	11.7	0.0	1.9	1.31	1.31	5.1
2004	1	4.0	4.6	0.0	2.4	0.0	0.0	0.54	0.54	-8.0
2007	3	30.0	26.9	4.3	33.1	1.9	6.2	1.23	1.30	5.3
2008	1	5.0	5.4	0.0	0.0	0.8	0.8	0.00	0.14	-15.7
2011	1	5.0	5.0	0.0	6.0	0.0	0.0	1.20	1.20	4.7
2016	1	15.0	15.5	0.0	1.4	16.7	16.7	0.09	1.17	9.3

#### Performance Analysis | As of December 31, 2019

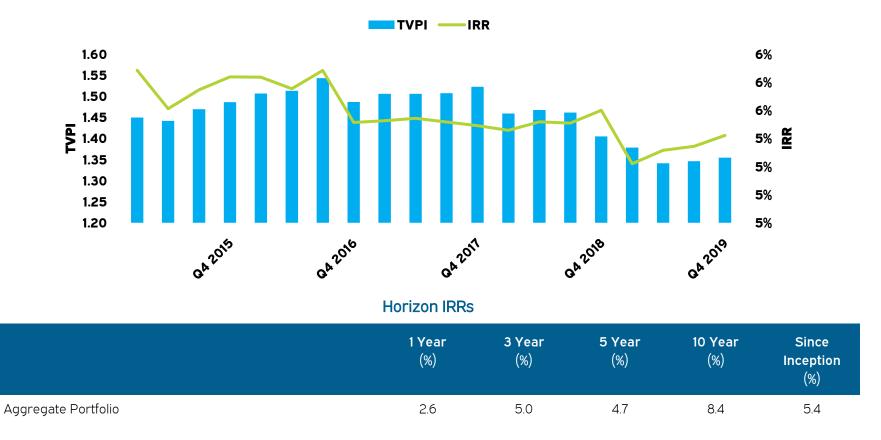
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	Exposure (\$ MM)	DPI (X)	тvрі (X)	IRR (%)
2017	2	43.0	19.9	24.3	4.9	18.0	42.3	0.25	1.15	NM
2019	2	18.0	0.1	17.9	0.0	0.0	17.9	0.00	0.25	NM
Total	18	228.0	189.4	48.4	162.0	94.4	142.8	0.86	1.35	5.4



### Plymouth County Retirement Association Real Estate Program

Performance Analysis | As of December 31, 2019



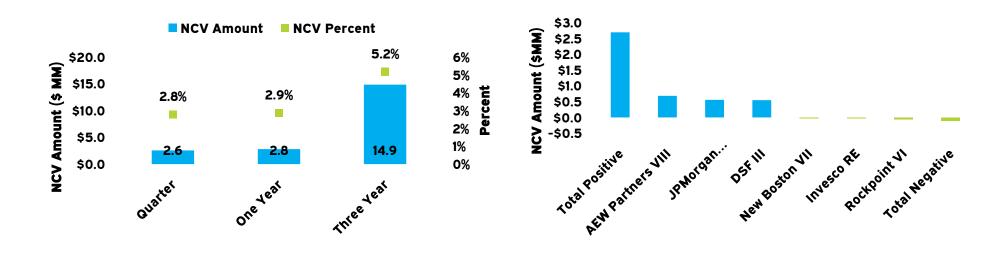


### Plymouth County Retirement Association Real Estate Program

Performance Analysis | As of December 31, 2019

Periodic NCV

**1 Quarter Drivers Of NCV** 



## Plymouth County Retirement Association Real Estate Program

#### Time Weighted Performance | As of December 31, 2019

	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Since Inception (%)	Inception Date
Multi Employer Property Trust	0.0	0.0	2.4	5.4	8.2	5.8	12/30/1999
Invesco Equity Real Estate Securities Trust	-3.5	11.1	6.5	5.3	8.9	9.4	11/20/2002
PRISA I	0.0	-13.8	-0.4	4.1	8.9	5.4	6/30/2004
TA Realty Core Property Fund, L.P.	1.8	9.8	NA	NA	NA	38.1	3/21/2018
JPMorgan Strategic Property	2.0	NA	NA	NA	NA	3.4	4/01/2019
Real Estate	1.8	-0.2	4.2	5.7	9.2	6.5	12/30/1999
NCREIF ODCE (lagged one qtr., net)	1.1	4.6	6.3	8.4	9.8	7.4	
NCREIF ODCE Equal Weighted (Net)	1.3	5.2	6.5	8.3	10.5	7.1	
NCREIF ODCE	1.5	5.3	7.1	9.0	11.4	8.1	
80% NCREIF ODCE / 20% Wilshire REIT	0.8	8.5	6.6	NA	NA	NA	
Wilshire REIT	-1.1	25.8	7.6	6.9	11.9	10.9	

## Plymouth County Retirement Association Real Estate Program

#### Performance Analysis | As of December 31, 2019

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
Invesco RE	Open- end	Core	22.0	23.9	0.0	44.8	0.0	1.87	NM	8.3	NM
JPMorgan Strategic	Open- end	Core	27.0	27.0	0.0	0.0	27.9	1.03	NM	NM	NM
MEPT	Open- end	Core	5.0	5.0	0.0	15.9	0.0	3.18	NM	6.5	NM
PRISA I	Open- end	Core	15.0	17.2	0.0	35.5	0.0	2.06	NM	5.3	NM
TA Realty Core	Open- end	Core	25.0	25.3	0.0	0.7	29.2	1.18	NM	NM	NM
Intercontinental III	2001	Value-Added	4.0	4.6	0.0	5.7	0.0	1.23	1.65	2.4	18.8
Hunt Redevelopment	2003	Value-Added	10.0	9.0	1.9	11.7	0.0	1.31	1.43	5.1	14.0
Intercontinental IV	2004	Value-Added	4.0	4.6	0.0	2.4	0.0	0.54	1.22	-8.0	9.0
Mesirow RE Intl	2007	Fund of Funds	15.0	12.7	2.3	11.1	1.8	1.02	1.19	0.4	3.3
Berkshire Multi II	2007	Value-Added	10.0	11.3	0.0	17.9	0.0	1.59	1.19	11.0	3.3
New Boston VII	2007	Value-Added	5.0	3.0	2.0	4.0	0.0	1.33	1.19	5.6	3.3
1921 Realty	2008	Opportunistic	5.0	5.4	0.0	0.0	0.8	0.14	1.32	-15.7	5.6
DSF IV	2011	Value-Added	5.0	5.0	0.0	6.0	0.0	1.20	1.56	4.7	15.6

#### Fund Performance: Sorted By Vintage And Strategy

## Plymouth County Retirement Association Real Estate Program

#### Performance Analysis | As of December 31, 2019

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Fair Market Value (\$ MM)	TVPI (X)	Peer TVPI (X)	IRR (%)	Peer IRR (%)
DSF III	2016	Value-Added	15.0	15.5	0.0	1.4	16.7	1.17	1.21	9.3	11.5
AEW Partners VIII	2017	Opportunistic	25.0	16.4	9.8	4.8	13.8	1.13	1.13	NM	NM
Carlyle Realty VIII	2017	Opportunistic	18.0	3.5	14.5	0.0	4.2	1.22	1.13	NM	NM
Rockpoint VI	2019	Real Estate	9.0	0.1	8.9	0.0	0.0	0.25	0.83	NM	NM
Berkshire Value V	2019	Value-Added	9.0	0.0	9.0	0.0	0.0	NM	NM	NM	NM
Total			228.0	189.4	48.4	162.0	94.4	1.35	1.24	5.4	5.6

## Plymouth County Retirement Association Real Estate Program

Fund Diversification | As of December 31, 2019

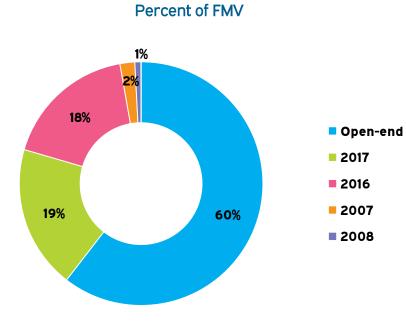
#### By Strategy<sup>1</sup> Percent of FMV Percent of Exposure 3% 2% 6% 18% Core Core 21% Opportunistic 40% Opportunistic Value-Added Value-Added 20% Real Estate 60% Fund of Funds Fund of Funds 30%

<sup>&</sup>lt;sup>1</sup> Throughout this section, totals may not sum due to rounding

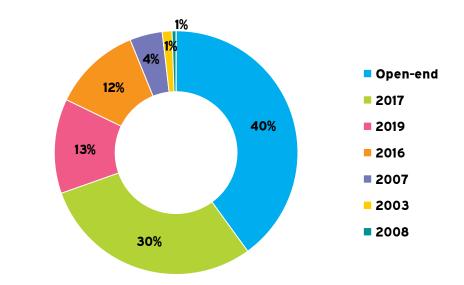
## Plymouth County Retirement Association Real Estate Program

Fund Diversification | As of December 31, 2019

#### By Vintage



Percent of Exposure

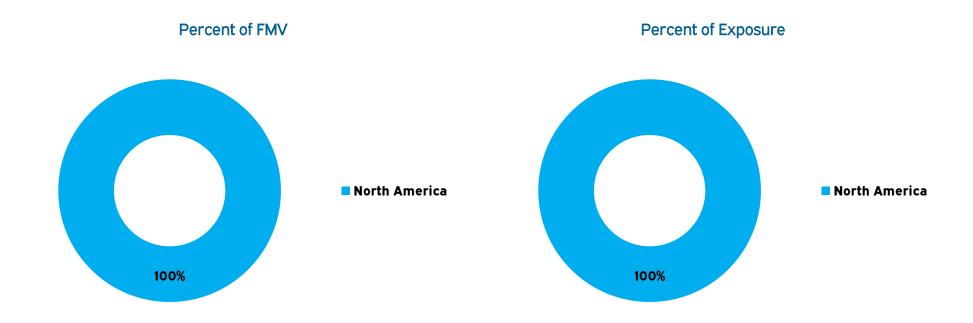




## Plymouth County Retirement Association Real Estate Program

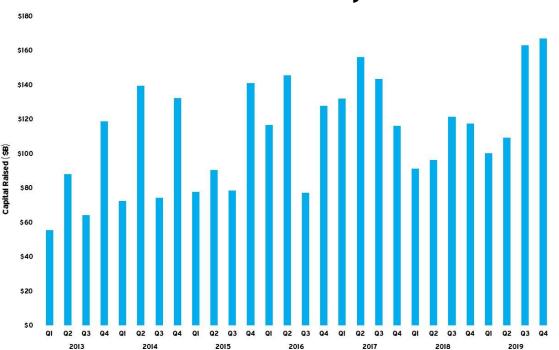
Fund Diversification | As of December 31, 2019

By Geographic Focus





Market & Industry Analysis



## Private Equity Global Fundraising

Fundraising activity for private equity funds in the fourth quarter of 2019 was the highest it has been in the past several years, at \$167 billion raised. Appetite for the asset class remained strong despite escalating US-China trade tensions. While 2019 exhibited the most number of funds in market in a given year, the trend of capital concentration continued, with the 20 largest funds capturing almost half of all committed capital. This suggests that funds are growing significantly in size with an element of flight to quality, making the fundraising market very competitive. As a result, funds are in market with faster fundraising, most often becoming oversubscribed. While some investors were concerned about tougher conditions in 2020, most investors were still bullish overall, intending to commit the same or more than the prior year to private equity funds.

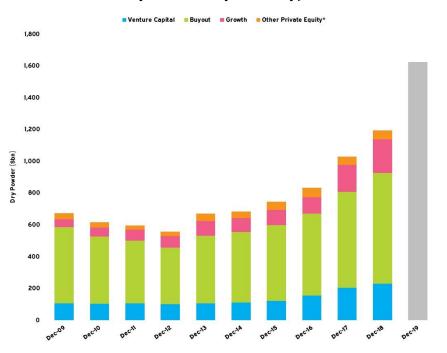
<sup>&</sup>lt;sup>1</sup> Pregin



#### **Market & Industry Analysis**



#### Dry Powder by Fund Type<sup>2,3</sup>



Private Equity purchase price multiples in 2019 slightly increased compared to that of 2018 and remained near all-time highs. Notably, equity contribution (relative to total purchase price) increased, causing purchase prices to be almost evenly split between equity and debt. Elevated prices were supported by the record level of dry powder, which significantly increased over the prior year. Dry powder levels will increase as long as more capital is being raised than is being deployed, and investors expected to continue to see high purchase prices as a result of the high levels of capital competing for deals. Capital concentration, along with larger sized funds, should be expected to contribute to increasing levels of dry powder as well, with larger funds taking longer to deploy all capital. TMT (25%), Services & Leasing (19%), and Healthcare (13%) were the three largest sectors targeted for LBOs, collectively making up nearly 47% of all LBO deals.<sup>4</sup>

<sup>1</sup> S&P

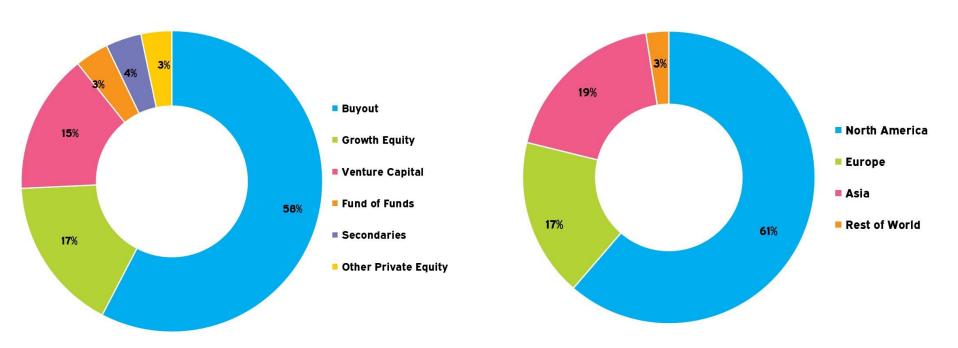
<sup>&</sup>lt;sup>2</sup> Preqin

<sup>&</sup>lt;sup>3</sup> A 2019 breakdown by type was not available. As a result, the gray bar represents total value for 2019.

<sup>4</sup> S&P



Market & Industry Analysis



#### Capital Raised by Strategy

Capital Raised by Geography<sup>2</sup>

Buyout funds continued to be the most popular private equity strategy with 58% of all private equity capital raised dedicated to Buyout funds in all of 2019, increasing from 40% in 2018. Venture Capital funding slightly decreased year-over-year, dropping from 17% in 2018 to 15% in 2019. Growth Equity also experienced a slight increase of 2% over the last year. Fund of Funds and Secondaries each stayed consistent at 4% year over year. Other Private Equity vehicles such as co-investments and direct Secondaries decreased dramatically compared to that of 2018. However, this is primarily due to 2018 experiencing an irregular amount of Other Private Equity. The percent allocated in 2019 is in line with historical averages. North American focused vehicles continued to be a majority of all funds raised in all of 2019, representing 61% of the capital raised, which is consistent with the prior quarter.

<sup>&</sup>lt;sup>1</sup> Preqin

<sup>&</sup>lt;sup>2</sup> Preqin

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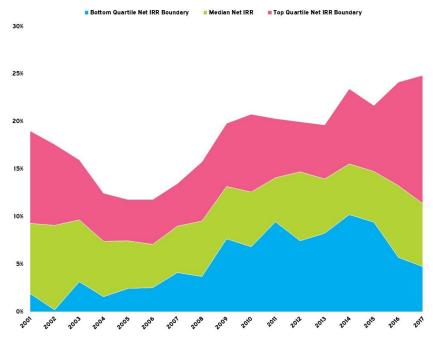
### **Plymouth County Retirement Association Private Markets Program**

#### Market & Industry Analysis

#### Buyout Venture Horizon Private Fund Equity Capital of **Funds** 1 Year to Sept-19 161 143 20.6 119 3 Years to Sept-19 19.1 20.5 20.8 14.0 5 Years to Sept-19 17.7 19.0 19.4 12.8 10 Years to Sept-19 20.7 19.0 20.6 14.6

Private Equity Performance by Horizon<sup>1</sup>

#### Private Equity Performance by Vintage Year<sup>2</sup>



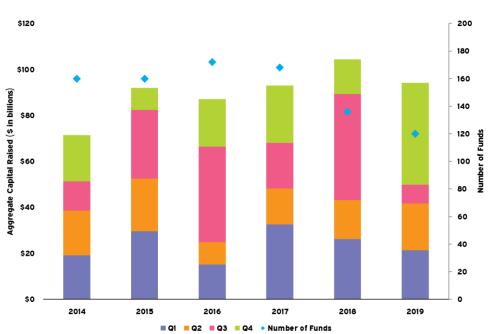
Recent aggregate private equity returns remained strong, with all Private Equity generating a 16.1% IRR over the past year. In general, performance has been strong in each vintage year since the Global Financial Crisis. Buyout and Venture funds have both performed well over the four time horizons on an absolute basis, with Venture funds outperforming Buyout funds over each horizon. The spread between first and third quartile performance in private equity has grown consistently since the Global Financial Crisis; 2007 vintage funds reported a 10% spread while 2016 vintage funds reported a 16% spread.

<sup>&</sup>lt;sup>1</sup> Cambridge Associates Global Top Quartile Pooled Returns as of 9/30/2019.

<sup>&</sup>lt;sup>2</sup> Cambridge Associates Global Top Quartile Pooled Returns as of 9/30/2019.

## **Plymouth County Retirement Association Private Markets Program**

#### **Market and Industry Analysis**



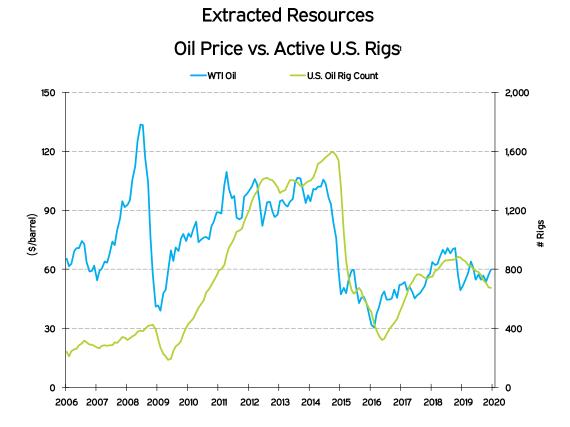
## Global Quarterly Unlisted Natural Resource Fundraising<sup>1</sup>

Capital raised during the fourth quarter of 2019 was substantially greater than prior quarters, representing an increase of approximately 130% relative to the total amount raised during the fourth quarter of 2018. There was also a significant increase in the number of vehicles raised during the quarter with 41 funds reaching final close. The average size of vehicles raised during the quarter was \$1.1 billion, exceeding the 2019 quarterly average of \$800 million. As of December 31, 2019, Preqin reported a total of 277 unlisted natural resources funds with a combined fundraising target of approximately \$139 billion. The majority of natural resources managers fundraising during the fourth quarter were focused on North America, accounting for approximately 45% of cumulative targeted capitalization in the market.

<sup>&</sup>lt;sup>1</sup> Source: Preqin Private Capital Fundraising Update, Q4 2019.

### **Plymouth County Retirement Association Private Markets Program**

Market and Industry Analysis



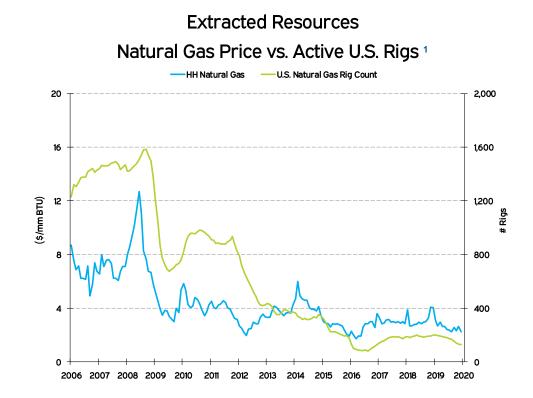
China and the U.S. agree, in principal, for the framework of a trade pact raising the prospect of increased global activity by the two largest economies. Further, the U.S. launches airstrikes in Iraq that kills an Iranian General. West Texas Intermediate ("WTI") and Brent oil prices increased by 5% to \$60 and 7% to \$67 per barrel, respectively, during the fourth quarter. During the fourth quarter, the U.S. produced over 12.2 million barrels of oil equivalent per day. The U.S. oil rig count fell by 53 over the quarter, bringing total rigs to 673. U.S. gasoline prices for regular blend decreased by 2% to \$2.74 during the fourth quarter, representing a 6% increase from one year prior.

<sup>&</sup>lt;sup>1</sup> Source: EIA and Baker Hughes.

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### **Plymouth County Retirement Association Private Markets Program**

Market and Industry Analysis



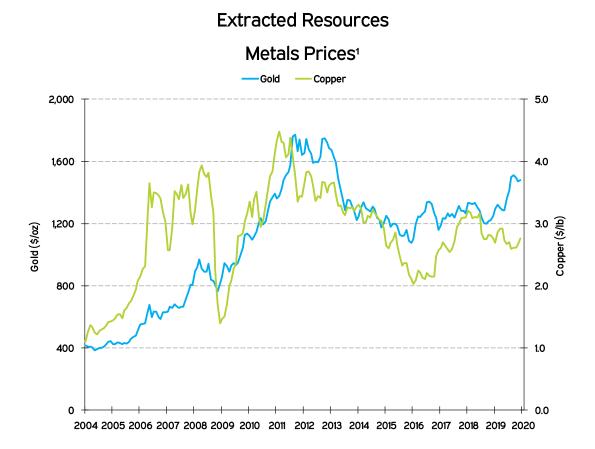
Henry Hub natural gas spot prices ended the quarter at approximately \$2.22/MM BTU, representing a 13% decrease relative to the prior quarter. A meaningful basis differential continues to exist between Henry Hub, the primary U.S. benchmark, and other natural gas markets. Continued build out of midstream infrastructure is expected to narrow the spread over time. Despite a reduction in rig count of 27 to 128 over the quarter, U.S. natural gas production continued to grow with daily production reaching more than 103 billion cubic feet from operational improvements and increasing associated gas production from oil wells.

During the quarter, UPS announced plans to purchase 6,000 natural gas trucks in two years. Additionally, India announced \$60 billion of gas infrastructure investment to include pipelines and LNG import terminals.

<sup>&</sup>lt;sup>1</sup> Source: EIA and Baker Hughes.

### **Plymouth County Retirement Association Private Markets Program**

Market and Industry Analysis



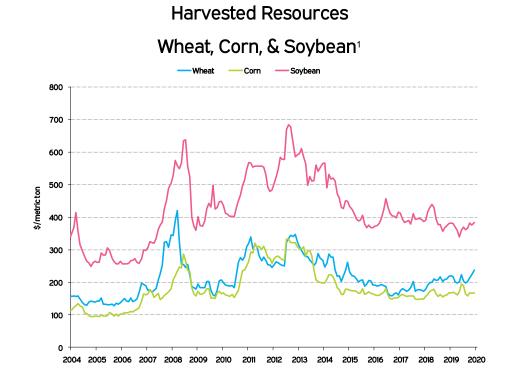
Significant geopolitical volatility extended through the fourth quarter in connection with ongoing global trade wars, prospects of a trade war truce, declining bond yields, and economic uncertainty impacted global demand for certain base, industrial, and other metals. Copper prices increased by 6% to \$2.76 per ounce while gold prices fell by 2% to \$1,479 per ounce during the fourth quarter. Relative to one year prior, copper prices have remained unchanged while gold prices experienced an increase of 18%.

<sup>&</sup>lt;sup>1</sup> Source: World Bank

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### **Plymouth County Retirement Association Private Markets Program**

**Market and Industry Analysis** 



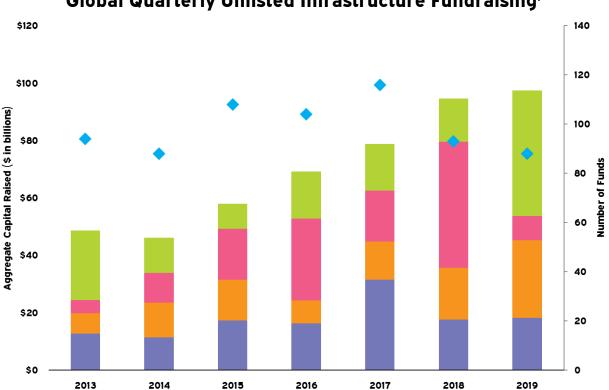
While ongoing global trade disputes have been a primary source of volatility within U.S. agricultural markets, progress has been made which may increase product demand. A potential trade agreement between the U.S. and China may lead to \$50 billion of agriculture exports from the U.S. over time. Further, the U.S. also reached a trade agreement with Japan which lowers or eliminates tariffs on U.S. agricultural products. Weather had a material impact to global food production: excessive rainfall across the U.S. Midwest and Southeast regions led to reduced or delayed crop plantings; additionally, massive wildfires across Australia disrupted food supply chains across the region. During the quarter, wheat and corn prices increased by 18% and 6%, respectively, while soybean prices increased by 5%. During the fourth quarter, the NCREIF Farmland index experienced a 2.3% increase primarily driven by income gains of 2.2%. The NCREIF Timberland index remained unchanged over the quarter as income gains of 0.6% were offset by depreciation.

<sup>&</sup>lt;sup>1</sup> Source: World Bank

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**Market and Industry Analysis** 



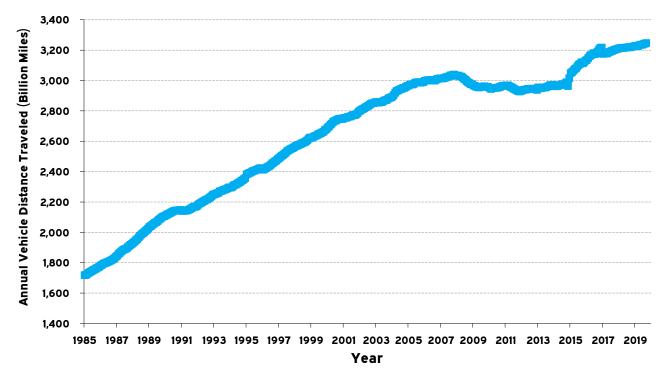
## Global Quarterly Unlisted Infrastructure Fundraising

Capital raised in the fourth quarter of 2019 was the largest quarter fundraise since third quarter 2018 and brought the 2019 total to nearly \$100 billion. In the fourth quarter, the average fund size was over \$2.5 billion above the 2019 average of \$1.0 billion. As of December 31, 2019, a total of 253 unlisted infrastructure funds were in market, according to Preqin, with a combined fundraising target of approximately \$200 billion.

<sup>&</sup>lt;sup>1</sup> Source: Pregin 2020 Global Infrastructure Report.



Market and Industry Analysis



#### Moving 12-month Total on All U.S. Roadsı

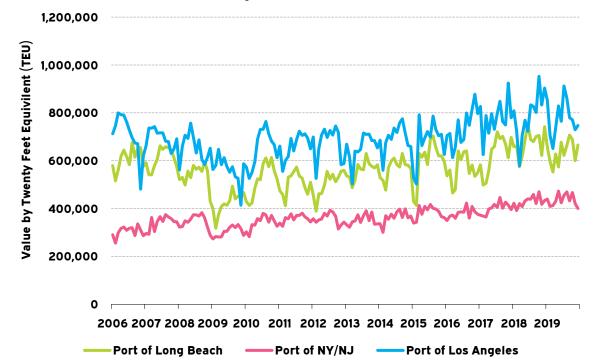
Through November 2018, the fourth quarter was on pace for travel on U.S. roads totaling approximately 820 billion miles. This represented an increase of 1.1% over the same period in 2019.

Up to this point in 2019, the average U.S. price of a gallon of gas went up to a monthly average of \$2.69 per gallon, with a peak of \$2.95. This compared to \$2.82 and \$2.99 seen in 2018. According to INRIX, Boston, Washington, D.C., and Chicago rank as the top three cities in the U.S. in which drivers spend the most hours in traffic.

<sup>&</sup>lt;sup>1</sup> Source: U.S. Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.

### **Plymouth County Retirement Association Private Markets Program**

Market and Industry Analysis



## U.S. Port Activity – Container Trade in TEUs<sup>1</sup>

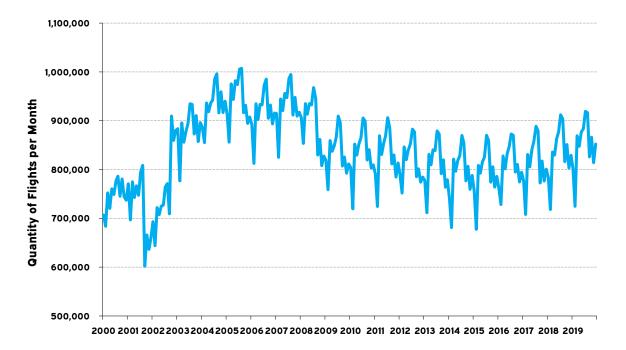
The chart represents the top three U.S. ports by container volume, as measured by twenty-foot equivalent units (TEU). Activity at the three ports provides a high-level representation of the volume of imports received into the U.S. more broadly.

During the fourth quarter of 2019, volumes at the three ports decreased by 591,412 units relative to the same period in 2018. On a year-overyear basis, the combined port volumes decreased by 501,578 TEU, or 2.2%, over the prior 12 month period. The Port of Long Beach recorded a decrease of 5.7% (458,992 TEU), the Port of NY/NJ reported an increase of 1.5% (78,525 TEU) and the Port of Los Angeles recorded a decrease of 1.3% (121,111 TEU) from the prior 12 months.

<sup>&</sup>lt;sup>1</sup> Source: <u>www.polb.com</u>, <u>www.panynj.gov</u>, and www.portoflosangeles.org



Market and Industry Analysis



### Total U.S. Domestic and International Flights

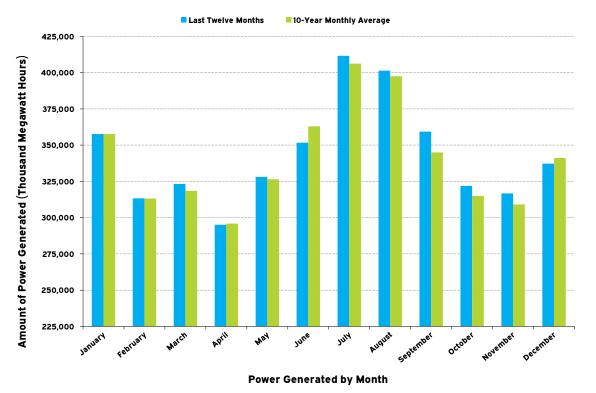
The chart above represents all U.S. domestic and international flights, excluding foreign point-to-point flights by month. Air traffic is cyclical with peaks in the summer months and declines in the winter months.

There were nearly 50,000 more flights during the fourth quarter of 2019, representing a 2.0% increase compared to the same period in 2018. Air traffic activity also increased by 1.8% for the 12 months ending December 31, 2019 over the previous period. In addition to the number of flights during the fourth quarter increasing year-over-year, the total number of passengers travelling on U.S. and international airlines increased by 3.9% from 2018 to 2019, which indicates higher capacity factors among airlines compared to the prior period.

<sup>&</sup>lt;sup>1</sup> Source: Bureau of Transportation Statistics: Flights, All U.S., and Foreign Carriers.



Market and Industry Analysis



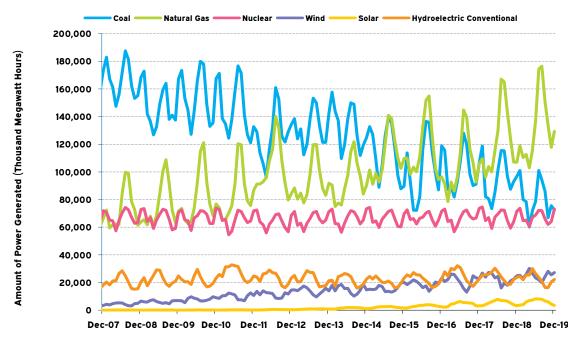
#### Total U.S. Power Generation

The graph above represents the total net generation for the past 12 months compared to the 10-year average for each month. Over the past year, power generation exceeded the 10-year average in 10 out of the 12 months. Net energy generation in the U.S. decreased by 1.0% during the fourth quarter, compared to the same period in 2018. For the 12 months ended December 31, 2019, net energy generation decreased by 1.4% over the previous 12 months.

<sup>&</sup>lt;sup>1</sup> Source: U.S. Energy Information Administration: Electric Power Monthly, December 2019.

### **Plymouth County Retirement Association Private Markets Program**

Market and Industry Analysis



#### U.S. Power Generation by Source

#### Months of Power Generated

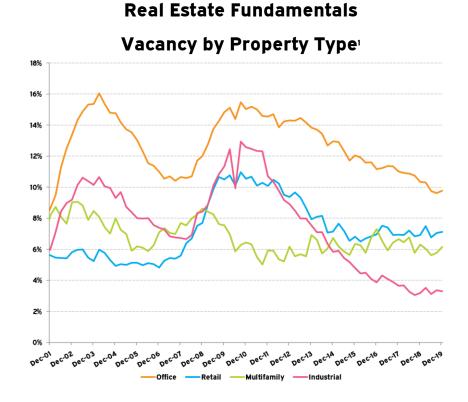
When comparing individual generation sources in the U.S., natural gas, nuclear, wind, and solar increased 12.6%, 2.2%, 18.3%, and 13.2% respectively in the fourth quarter of 2019 as compared to the same period in the previous year. Generation from coal and hydroelectric conventional dropped by 22.5% and 8.8% respectively, during the same period. Wind and utility scale solar continue to make up a small portion of total net energy generation in the U.S., accounting for only 8.3% and 1.4% of energy generation in the fourth quarter, while coal, natural gas, and nuclear accounted for 22.0%, 39.0%, and 20.4%, respectively. However, the growth of wind and solar as sources of energy generation continues to increase at a faster rate than coal and natural gas, especially over the last couple of years.

<sup>&</sup>lt;sup>1</sup> Source: U.S. Energy Information Administration: Electric Power Monthly, December 2019.

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#### **Plymouth County Retirement Association Private Markets Program**

Market & Industry Analysis



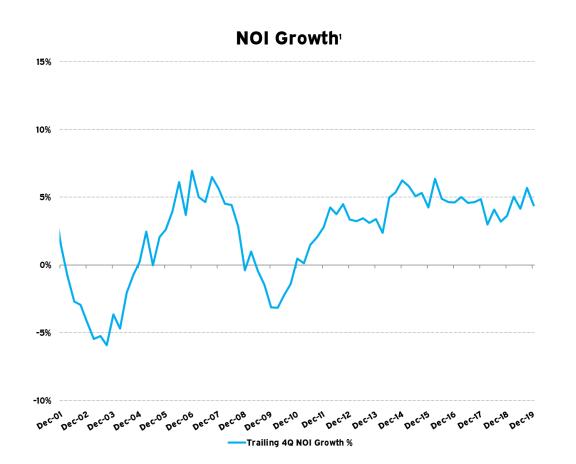
In the fourth quarter of 2019, vacancy rates increased slightly for all property types except industrial. Multifamily vacancies have fluctuated around 6.0% since 2009. Retail vacancies have flattened over the last three years, while office vacancies continued on a downward trend. Industrial vacancies appear to have bottomed out just above 3.0%, at all-time lows for the sector. Compared to one year ago, vacancy rates in multifamily decreased 16 basis points, office decreased 58 basis points, industrial increased 11 basis points, and retail increased 19 basis points. Overall, the vacancy rate across all properties decreased 12 basis points from Q4 2018.

<sup>&</sup>lt;sup>1</sup> Source: NCREIF

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Market & Industry Analysis



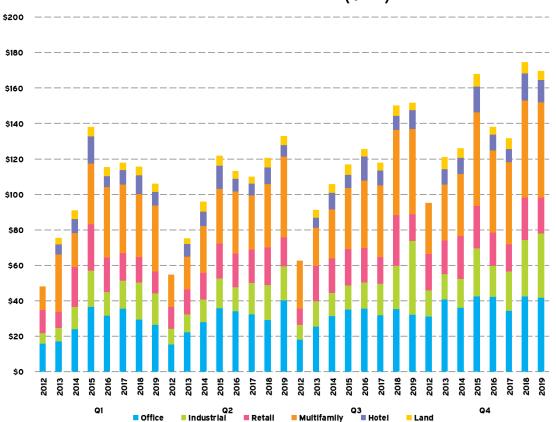
The trailing twelve-month rate of NOI decreased to 4.4% in the fourth quarter of 2019. Continued growth of the U.S. economy coupled with only moderate new construction has allowed property owners to increase rents and lease vacant space. The strongest NOI growth continues to be within the industrial sector, trending at 7.1% for the trailing year ending Q4 2019. Office NOI growth is trending at 6.1%, while apartment is trending at 5.4%. Retail NOI growth for 2019 was -0.8%.

<sup>&</sup>lt;sup>1</sup> Source: NCREIF

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**Market & Industry Analysis** 



## Transaction Volume (\$bn)<sup>,</sup>

Private real estate transaction volume for properties valued over \$2.5 million was up for Q4 2019 to \$169 billion. Compared to a year ago, industrial (+14%) saw an increase to transaction volume, while hotel (-18%), retail (-16%), office (-2%), and multifamily (-2%) saw decreases. Multifamily and office properties made up the largest percentages of total transaction volume during the quarter, at 32% and 25%, respectively.

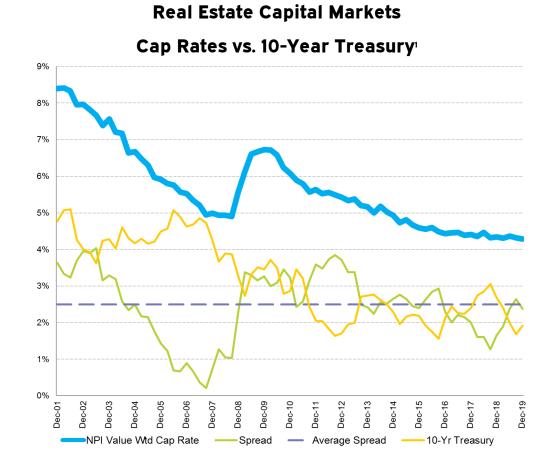
<sup>&</sup>lt;sup>1</sup> Source: PREA

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# MEKETA

#### Plymouth County Retirement Association Private Markets Program

Market & Industry Analysis



The NPI Value Weighted Cap Rate continued to hover around 4.3%. The 10-year Treasury yield peaked above 3.0% in Q3 2018 and had been on a downward trend until year end when the 10-year Treasury yield increased slightly to 1.9%. The spread between cap rates and treasury yields decreased to 237 basis points, which is 13 basis points below the long-term average spread.

<sup>&</sup>lt;sup>1</sup> Source: NCREIF and U.S. Department of the Treasury

Market & Industry Analysis

#### Trailing Period Returns<sup>1</sup>

As of December 31, 2019	1 Year	3 Years	5 Years	10 Years
NFI-ODCE (EW, net)	5.2%	6.5%	8.3%	10.5%
NFI-ODCE (VW, net)	4.4	6.1	8.0	10.4
NCREIF Property Index	6.4	6.7	8.3	10.2
NAREIT Equity REIT Index	28.7	10.2	8.4	12.6

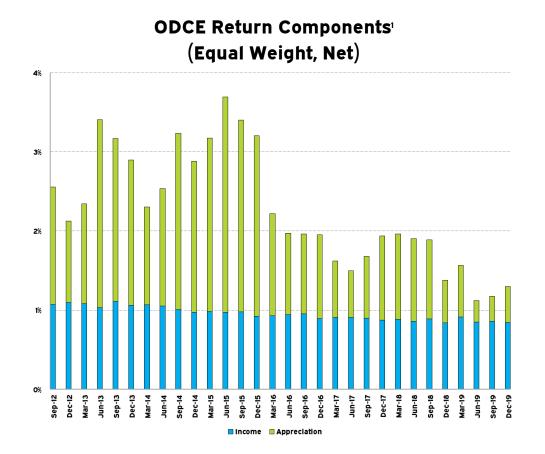
Private real estate indices have continued to post positive returns, driven by strong property-level fundamentals and a low interest rate environment. Recent public real estate performance has been very strong but volatile, with a 28.7% return in 2019.

<sup>&</sup>lt;sup>1</sup> Source: NCREIF

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Market & Industry Analysis



The NFI-ODCE Equal Weight return for Q4 2019 was up slightly from the previous two quarters to 1.3%, about 12 basis points higher than the previous quarter. The income component of the quarterly return continues to remain consistent around 0.9%. Appreciation has improved slightly from the previous two quarters, adding 46 basis points to the benchmark's Q4 2019 return.

<sup>&</sup>lt;sup>1</sup> Source: NCREIF

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#### Endnotes | As of December 31, 2019

Below are details on specific terminology and calculation methodologies used throughout this report:

Committed	The original commitment amount made to a given fund. Some funds may be denominated in non-USD currencies, and such commitment amounts represent the sum of fund contributions translated to USD at their daily conversion rates plus the unfunded balance translated at the rate as of the date of this report.
Contributed	The amount of capital called by a fund manager against the commitment amount. Contributions may be used for new or follow-on investments, fees, and expenses, as outlined in each fund's limited partnership agreement. Some capital distributions from funds may reduce contributed capital balances. Some funds may be denominated in non-USD currencies, and such aggregate contributions represent the sum of each fund contribution translated to USD at its daily conversion rate.
Distributed	The amount of capital returned from a fund manager for returns of invested capital, profits, interest, and other investment related income. Some distributions may be subject to re-investment, as outlined in each fund's limited partnership agreement. Some funds may be denominated in non-USD currencies, and such aggregate distributions represent the sum of each fund distribution translated to USD at its daily conversion rate.
DPI	Acronym for "Distributed-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculation equals Distributed divided by Contributed. DPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa. Program-level DPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
Exposure	Represents the sum of the investor's Unfunded and Remaining Value.
IRR	Acronym for "Internal Rate of Return", which is a performance measurement for Private Market investments. IRRs are calculated by Meketa based on daily cash flows and Remaining Values as of the date of this report. IRRs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa. Program-level IRRs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
NCV	Acronym for "Net Change in Value", which is a performance measurement for Private Market investments. The performance calculation equals the appreciation or depreciation over a time period neutralized for the impact of cash flows that occurred during the time period.

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## Plymouth County Retirement Association Private Markets Program

#### Endnotes | As of December 31, 2019

NM	Acronym for "Not Meaningful", which indicates that a performance calculation is based on data over too short a timeframe to yet be meaningful or not yet possible due to inadequate data. Meketa begins reporting IRR calculations for investments once they have reached more than two years since first capital call. NM is also used within this report in uncommon cases where the manager has reported a negative Remaining Value for an investment.					
Peer Benchmark	The performance for a set of comparable private market funds. The peer benchmarks used in this report are provided by Thomson ONE, based on data from Cambridge Associates as of the date of this report. Program-level peer benchmark performance represents the pooled return for a set of funds of corresponding vintages and strategies across all regions globally. Fund-level peer benchmark performance represents the median return for a set of funds of the same vintage and the program's set of corresponding strategies across all regions globally. Peer benchmarks that include less than five funds display performance as "NM". Meketa utilizes the following Thomson ONE strategies for peer benchmarks:					
	Infrastructure: Infrastructure					
	Natural Resources: Private Equity Energy, Upstream Energy & Royalties, and Timber					
	Private Debt: Subordinated Capital, Credit Opportunities, and Control-Oriented Distressed					
	Private Equity: Venture Capital, Growth Equity, Buyout, Subordinated Capital, Credit Opportunities, and Control- Oriented Distressed					
	Real Assets (excluding Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, and Timber					
	Real Assets (including Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, Timber, and Real Estate					
	Real Estate: Real Estate					
Public Market Equivalent ("PME")	A calculation methodology that seeks to compare the performance of a portfolio of private market investments with public market indices. The figures presented in this report are based on the PME+ framework, which represents a net IRR value based on the actual timing and size of the private market program's daily cash flows and the daily appreciation or depreciation of an equivalent public market index. Meketa utilizes the following indices for private market program PME+ calculations: Infrastructure: Dow Jones Brookfield Global Infrastructure Index Natural Resources: S&P Global Natural Resources Index					
	Private Debt: Barclays Capital U.S. Corporate High Yield Bond Index					



#### Endnotes | As of December 31, 2019

	Private Equity: MSCI ACWI Investable Market Index
	Real Assets (excluding Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index and S&P Global Natural Resources Index
	Real Assets (including Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index, S&P Global Natural Resources Index, and Dow Jones U.S. Select Real Estate Securities Index
	Real Estate: Dow Jones U.S. Select Real Estate Securities Index
Fair Market Value	The investor's value as reported by a fund manager on the investor's capital account statement. All investor values in this report are as of the date of this report, unless otherwise noted. Some funds may be denominated in non-USD currencies, and such fair market values represent the fund's local currency value translated to USD at the rate as of the date of this report.
Τνρι	Acronym for "Total Value-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculations represents Distributed plus Remaining Value, then divided by Contributed. TVPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa. Program-level TVPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
Unfunded	The remaining balance of capital that a fund manager has yet to call against a commitment amount. Meketa updates unfunded balances for funds to reflect all information provided by fund managers provided in their cash flow notices. Some funds may be denominated in non-USD currencies, and such unfunded balances represent the fund's local currency unfunded balance translated to USD at the rate as of the date of this report.

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If we manage your assets on a discretionary basis, please contact us if there are any changes in your financial situation or investment objectives, or if you want to impose any reasonable restrictions on our management of your account or reasonably modify existing restrictions.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material.

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In some cases Meketa Investment Group assists the client in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers' use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the client.

Because there is no readily accessible market for private markets assets (companies and partnerships), the values placed on private markets assets are calculated by General Partners using conservative and industry standard pricing procedures. Annually, an independent auditor reviews the pricing procedures employed by the General Partner of each partnership.

The values of companies and partnerships are audited at year-end, and are not audited at other quarter-end periods. While financial information may be audited, there is some discretion as to the method employed to price private companies and, therefore, private markets partnerships. At all times, Meketa Investment Group expects General Partners to utilize conservative and industry standard pricing procedures, and requires the General Partners to disclose those procedures in their reports. However, because of the inherent uncertainty of valuation, these estimated values may differ from the values that would be used if a ready market for the investments existed, and the differences could be significant.

## Appendices



**Emerging Markets Debt Manager Search** 

## **Plymouth County Retirement Association**

## Emerging Markets Debt Manager Search



Background

#### Background

- In February 2020, Meketa Investment Group issued an emerging market debt RFP on behalf of the Plymouth Country Retirement Association.
- Meketa Investment Group received 24 responses from emerging market debt managers.
- At the April 29, 2020 meeting, the Board voted to interview Aberdeen Standard, Eaton Vance, and Wellington as finalists for the mandate.
- We review and analyze these managers on the following pages.



#### Manager Candidates

## Manager Overviews As of March 31, 2020

	Aberdeen Standard	Eaton Vance	Wellington
Firm Location	Philadelphia, PA	Boston, MA	Boston, MA
Firm Inception	1983	1924	1928
Ownership Structure	Publicly Listed	Publicly Listed	Employee Owned
Strategy Name	Emerging Markets Debt Plus	Emerging Markets Debt Opportunities	Blended Opportunistic Emerging Markets Debt
Strategy Inception	August 1999	April 2013	February 2009
Assets Under Management (Firm)	\$644.5 billion	\$139.1 billion	\$1.003 trillion
Assets Under Management (Strategy)	\$4.2 billion	\$296 million	\$4.7 billion



#### Manager Candidates

#### Aberdeen Standard Investments Inc.

Rating Criteria	Rating	Rationale
Overall	Highly Advantageous	
Organization	Advantageous	<ul> <li>Aberdeen Standard Investments Inc., located in Philadelphia, Pennsylvania, is an asset management subsidiary of Aberdeen PLC. Aberdeen PLC is a wholly owned subsidiary of SLA, a publicly traded company.</li> <li>The firm manages \$645 billion in assets under management across a mix of strategies as of March 2020. The emerging markets debt plus strategy was incepted in 1999 and has approximately \$4.2 billion in assets.</li> </ul>
Team	Highly Advantageous	<ul> <li>The strategy is managed by the Emerging Markets Debt team, and is led by Brett Diment.</li> <li>The team is organized by specialization, either sovereign or corporate, and they are primarily based in London and Singapore. Most team members have a dual role of portfolio manager and research analysts.</li> </ul>
Investment Philosophy	Highly Advantageous	<ul> <li>Aberdeen's Emerging Markets Debt Plus strategy is centered on a bottom up approach. Fundamental research is a core aspect of the investment philosophy and they are benchmark aware.</li> <li>The team has a bias towards being overweight frontier countries. They believe that frontier countries have the potential</li> </ul>
		to provide attractive opportunities given that they are less well researched.
Investment Process	Highly Advantageous	<ul> <li>The team begins their investment process by conducting fundamental research on their investment universe, which consist of more than 80 countries. At this time the team puts together a country note, which contains country specific macroeconomic information as well as forward looking credit profile. They also make use of a proprietary local currency scorecard and ESGP framework. The goal of this first stage in the investment process is to understand all associated risks related to a specific country.</li> </ul>
		• The second step in the process is relative value analysis where the team produces return forecasts for each asset type within their respective countries of coverage. Then the team compares across countries for the best relative value opportunities. Portfolio construction then takes place with a view to duration, correlation between assets, beta exposures, volatility and tracking error. All team members are involved in the decision making process but Brett Diment has ultimate decision making authority.
Performance	Advantageous	<ul> <li>Aberdeen underperformed the 50% JPM EMBI Global Diversified / 50% JPM GBI-EM Global Diversified index over the one-, three-, and five-year trailing periods, with excess returns of -4.5%, -1.7% and -0.1% respectively. However, they outperformed the ten-year trailing period by 1.3%.</li> </ul>
Fees	Advantageous	<ul> <li>Commingled Fund: stated fee of 0.45%,</li> <li>Separate account stated fee of 0.45%</li> <li>Mutual Fund (Ticker: AKFIX) effective fee of 0.66%</li> </ul>



#### Manager Candidates

## Eaton Vance Management

Rating Criteria	Rating	Rationale
Overall	Highly Advantageous	
Organization	Advantageous	<ul> <li>Eaton Vance Management is based in Boston, Massachusetts and is a wholly owned subsidiary of Eaton Vance, a publicly traded company. Voting shares are held in a trust and voting trustees are officers of Eaton Vance or its affiliates. Non-voting shares are publicly traded on the New York Stock Exchange (NYSE:EV)</li> <li>The firm traces its beginning to 1924 and has \$139.1 billion in assets under management as of March 31, 2020. The Emerging Markets Debt Opportunities was launched in 2013 and has \$296 million in assets. The Global Income Team has been managing EMD assets since 1996 and manages \$5.3 billion in total across various EMD strategies.</li> <li>On January 1, 2020, Eaton Vance Corp. completed a strategic initiative in which it rebranded EVM's rules-based, systematic investment-grade fixed income strategies as Parametric. As such, approximately \$43.55 billion across 82 accounts move from EVM to Parametric.</li> </ul>
Team	Highly Advantageous	<ul> <li>Portfolio managers Michael Cirami, Eric Stein and John Baur have been managing the strategy since inception.</li> <li>Analysts are country specialists, and there are more than one team member covering each country.</li> </ul>
Investment Philosophy	Advantageous	<ul> <li>The team relies on, short term factors, intermediate-term fundamentals and long-term structural trends to form views about specific countries. They see themselves as "country pickers" and believe that countries that have improving economic freedom are some of the best places to invest.</li> <li>Benchmark agnostic, benchmark weights do not play a role in determining position sizing or portfolio construction. It is usually more concentrated than the benchmark and comprises only the best ideas.</li> </ul>
Investment Process	Highly Advantageous	<ul> <li>Country analysis and access to markets are the first steps in the investment process. Eaton Vance has worked over the years to build traditional and non-traditional liquidity sources to properly access markets. When conducting country analysis the team's primary goal is to determine a country's direction of change over the intermediate to long term (1-5 years). Once the team has conducted the fundamental work on each country, they evaluate securities through a risk and return framework. Then the team submits investment positions for potential inclusion in the portfolio.</li> <li>When constructing the portfolio the team uses a tier system that allows countries with strong or improving country fundamentals, high return potential and ample liquidity to have a higher weight within the portfolio. Michael Cirami is the coordinating portfolio for the strategy and has final decision making authority.</li> </ul>
Performance	Highly Advantageous	<ul> <li>Eaton Vance outperformed the 50% JPM EMBI Global Diversified / 50% JPM GBI-EM Global Diversified index over the one-, three-, and five-year trailing periods, with excess returns of 3.6%, 2.4% and 1.8% respectively.</li> </ul>
Fees	Highly Advantageous	Commingled Fund: Stated fee of 0.30% with other operating expenses capped at 0.15%



#### Manager Candidates

## Wellington Management

Rating Criteria	Rating	Rationale
Overall	Highly Advantageous	
Organization	Highly Advantageous	<ul> <li>Wellington Trust Company was established in 1928 and headquarters are located in Boston, Massachusetts. Wellington Management Group LLP, is owned by 165 partners, all active in the business of the firm.</li> <li>Total firm asset are \$1.0 trillion as of March 2020, of which \$4.7 billion are in the Blended Opportunistic Emerging Markets Debt strategy, incepted in 2009.</li> <li>Wellington has a long track record of investing in emerging markets debt (EMD) since 1990 within multiple strategies and began managing dedicated EMD portfolios on an advisory basis in 1998.</li> </ul>
Team	Highly Advantageous	<ul> <li>Lead portfolio manager Jim Valone has been managing the strategy since inception. Kevin Murphy and Evan Ouellette act as backup portfolio managers. Mr. Murphy focuses on macroeconomic and country/sector decisions, while Mr. Ouellette focuses on portfolio construction and security selection.</li> <li>The team has 5 additional portfolio managers who support actively in broad strategy discussions and are supported by a team of 27 dedicated Emerging Markets professionals.</li> </ul>
Investment Philosophy	Highly Advantageous	<ul> <li>The team believes that emerging markets must be approached from a global perspective, recognizing that global market conditions will impact the attractiveness of emerging markets. They take both a quantitative and fundamental approach to assessing rates and currencies in a large universe of emerging markets countries.</li> </ul>
Investment Process	Highly Advantageous	<ul> <li>The investment process begins with an assessment of global economic, liquidity, and market conditions. The portfolio managers have final responsibility for setting the total portfolio risk level. Country research assesses both the ability and willingness of emerging countries to service their external debt, and summarizes this in a country score to quantify the team's sovereign credit outlook and rank countries according to credit strength from high to low.</li> <li>Portfolios are constructed with the goal of generating attractive total returns while minimizing systemic risk. Mr. Valone has final decision making power and all decisions are made under his guidance and approval.</li> </ul>
Performance	Advantageous	• Wellington outperformed the 50% JPM EMBI Global Diversified / 50% JPM GBI-EM Global Diversified index over the one-, three-, five-, and ten-year trailing periods, with excess returns of 0.5%, 0.3%, 0.5% and 0.6% respectively.
Fees	Advantageous	<ul> <li>Commingled Fund: Effective fee of 0.55% with other operating expenses capped at 0.20% (currently ~0.045%)</li> <li>Separate Account effective fee of 0.75%</li> </ul>



#### Historical Performance, Portfolio Characteristics, and Management Fees

## Manager Portfolio Characteristics (As of 3/31/2020)

		-		
	Aberdeen	Wellington	Eaton Vance	Benchmark <sup>1</sup>
Portfolio Profile:				
Number of Issues	186	423	169	1026
Number of Countries	50	57	60	74
Average Effective Duration	6.6	6.3	2.3	6.2
Yield to Maturity (%)	8.0	6.5	9.2	6.0
Average Credit Quality	BB	Baa2	BB	BBB-
Credit Quality Breakdown: (%)				
AAA	8	2	0	0
АА	7	8	1.2	6
Α	б	10	4	20
BBB	25	27	13	42
BB & below	55	37	82	33
Cash and Other	-	16	-	-
Region Exposure:				
Africa <sup>2</sup>	20	11	9	12
Asia	14	7	10	24
Europe	16	27	41	24
Latin America	26	27	19	32
Middle East	17	15	3	9
Other	8	13	18	0
Sector Exposure:				
Sovereign (Local Currency)	9	29	35	50
Sovereign (Hard Currency)	52	43	27	40
Quasi-Sovereign	20	11	-	10
Corporate	11	5	19	-
Cash and Equivalents	8	15	18	-
Other	-	-3	-	-

<sup>&</sup>lt;sup>1</sup> Benchmark: 50% JPMorgan Emerging Market Bond Global Diversified Index / 50% JPMorgan Government Bond Index-Emerging Markets Global Diversified.

#### Historical Performance, Portfolio Characteristics, and Management Fees

#### Managers Historical Risk-Adjusted Returns (Net of fees) April 2013 to April 2020<sup>1</sup>

	Aberdeen	Wellington	Eaton Vance	Benchmark <sup>2</sup>	
Common Period Performance:					
Common Period Performance (%)	1.7	1.2	2.6	0.6	
Best 3 Months (%)	9.7	10.7	8.8	10.3	
Worst 3 Months (%)	-15.9	-14.7	-14.1	-14.3	
Risk Measures:					
Standard Deviation (%)	9.6	9.8	8.0	9.5	
Tracking Error (%)	3.3	1.1	4.1	NA	
Beta	0.93	1.01	0.75	1.00	
Correlation to Benchmark	0.94	0.99	0.91	NA	
Downside Deviation (%)	7.6	6.3	6.9	6.2	
Upside Capture (%)	85	102	72	NA	
Downside Capture (%)	80	98	60	NA	
Risk-Adjusted Performance:					
Jensen's Alpha (%)	1.0	0.5	2.0	NA	
Sharpe Ratio	0.09	0.04	0.23	-0.02	
Information Ratio	0.31	0.49	0.49	NA	

<sup>&</sup>lt;sup>1</sup> Common period is from April 2013 given the inception date of Eaton Vance Emerging Markets Debt Opportunities Composite in April 2013.

<sup>&</sup>lt;sup>2</sup> Benchmark: 50% JPMorgan Emerging Market Bond Global Diversified Index / 50% JPMorgan Government Bond Index-Emerging Markets Global Diversified



#### Historical Performance, Portfolio Characteristics, and Management Fees

## Trailing and Calendar Year Performance (net of fees) As of April 30, 2020

	Aberdeen	Wellington	Eaton Vance	Benchmark <sup>1</sup>
Trailing Period Returns (%):				
YTD	-14.3	-11.9	-11.6	-11.6
1 Year	-8.3	-3.3	-0.2	-3.8
3 Years	-1.3	0.8	2.8	0.4
5 Years	1.7	2.3	3.5	1.8
7 Years	1.4	0.8	2.5	0.2
10 Years	4.3	3.5	NA	3.0
Calendar Year Returns (%):				
2019	15.0	16.4	18.6	14.3
2018	-7.4	-6.1	-4.1	-5.2
2017	12.8	13.7	13.3	12.8
2016	13.4	11.7	11.1	10.2
2015	-3.4	-7.4	-3.6	-7.1
2014	3.4	1.3	0.5	0.7
2013	-4.6	-6.2	NA	-7.1
2012	20.5	21.1	NA	17.2
2011	6.2	1.6	NA	2.8
2010	15.7	15.6	NA	14.0
2009	49.6	NA	NA	26.0

<sup>&</sup>lt;sup>1</sup> Benchmark: 50% JPMorgan Emerging Market Bond Global Diversified Index / 50% JPMorgan Government Bond Index-Emerging Markets Global Diversified.



#### Historical Performance, Portfolio Characteristics, and Management Fees

#### Rolling One-Year Period Excess Returns vs. Benchmark February 2003 to April 2020



As of 04/30/2020	Total Periods	Periods Outperformed	Percentage (%)	Average Excess Return (%)	Median Excess Return (%)	Max (%)	Min (%)	Range (%)
Aberdeen	196	140	71	1.9	2.0	23.6	-16.9	40.5
Wellington	119	88	74	0.9	0.7	5.9	-2.0	8.0
Eaton Vance	74	53	72	1.7	1.9	6.4	-3.8	10.2

<sup>&</sup>lt;sup>1</sup> Benchmark: 50% JPMorgan Emerging Market Bond Global Diversified Index / 50% JPMorgan Government Bond Index-Emerging Markets Global Diversified



#### Historical Performance, Portfolio Characteristics, and Management Fees

## Monthly Excess Return Correlation Longest Common Period1 as of April 30, 2020

	Aberdeen	Wellington	Eaton Vance
Aberdeen		0.37	0.61
Wellington	0.37		0.22
Eaton Vance	0.61	0.22	

<sup>&</sup>lt;sup>1</sup> Common period is from April 2013 given the inception date of Eaton Vance Emerging Markets Debt Opportunities Composite in April 2013.



#### Historical Performance, Portfolio Characteristics, and Management Fees

#### Management Fees

Manager	Proposed Vehicle	Stated Fee (%)'	Other Expenses	Minimum Investment
Aberdeen Standard Investments Inc.	Commingled Fund Mutual Fund (AKFIX)	0.45 0.66	-	\$5 million \$1 million
Wellington Trust Company	Commingled Fund	0.55	0.045% capped at 0.20%	\$1 million
Eaton Vance Management	Commingled Fund	0.30	capped at 0.15%	\$5 million

<sup>&</sup>lt;sup>1</sup> Assumes a mandate size of \$20 million. In certain cases operating expenses for commingled fund/collective investment trust vehicles were included in the stated fee. Otherwise the other operating expenses are listed separately and not included in the "Stated Fee".



Glossary

## Glossary



#### Glossary

**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.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**Tracking Error**: This statistic measures the standard deviation of excess returns relative to a benchmark. Tracking error is calculated by multiplying the standard deviation of the monthly excess returns of a portfolio relative to a benchmark by the square root of twelve in order to annualize. The higher the tracking error, the greater the volatility of excess returns relative to a benchmark.

Return on Assets: A commonly used measurement showing how effective management is in using its assets to generate earnings. This ratio is calculated as net income divided by total assets.

**Return on Equity**: A commonly used measure of the profitability of the business in relation to equity. This ratio shows how well a company uses investments to generate earnings growth. ROE is calculated by dividing net income by shareholder's equity.

Return on Invested Capital: This performance ratio determines the amount of return a company is making above its average cost for debt and equity. ROIC will measure how much cash a company gets back for each dollar it invests in its business.

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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.



**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.

#### SI: Since Inception

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

**Standard Deviation:** A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**Style:** The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.



**Yield to Maturity:** The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

5% (discount)=1% pro rata, plus=6.26% (yield to maturity)5 (yrs. to maturity)5.26% (current yield)=6.26% (yield to maturity)

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

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

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

Sources: <u>Investment Terminology</u>, International Foundation of Employee Benefit Plans, 1999. The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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

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

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