

# MEETING MATERIALS

## HOWARD COUNTY RETIREMENT PLANS

September 24, 2020

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# Q2 2020 MARKET ENVIRONMENT

NEPC, LLC

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# MARKET OVERVIEW

## Macro

US Dollar



-1.7%

VIX



-23.1

US 10-Year



-3 bps

## Equity

S&P 500



20.5%

MSCI EAFE



14.9%

MSCI EM



18.1%

## Credit

US Agg.



2.9%

High Yield



10.2%

Dollar EMD



12.3%

## Real Assets

Oil



91.5%

Gold



12.9%

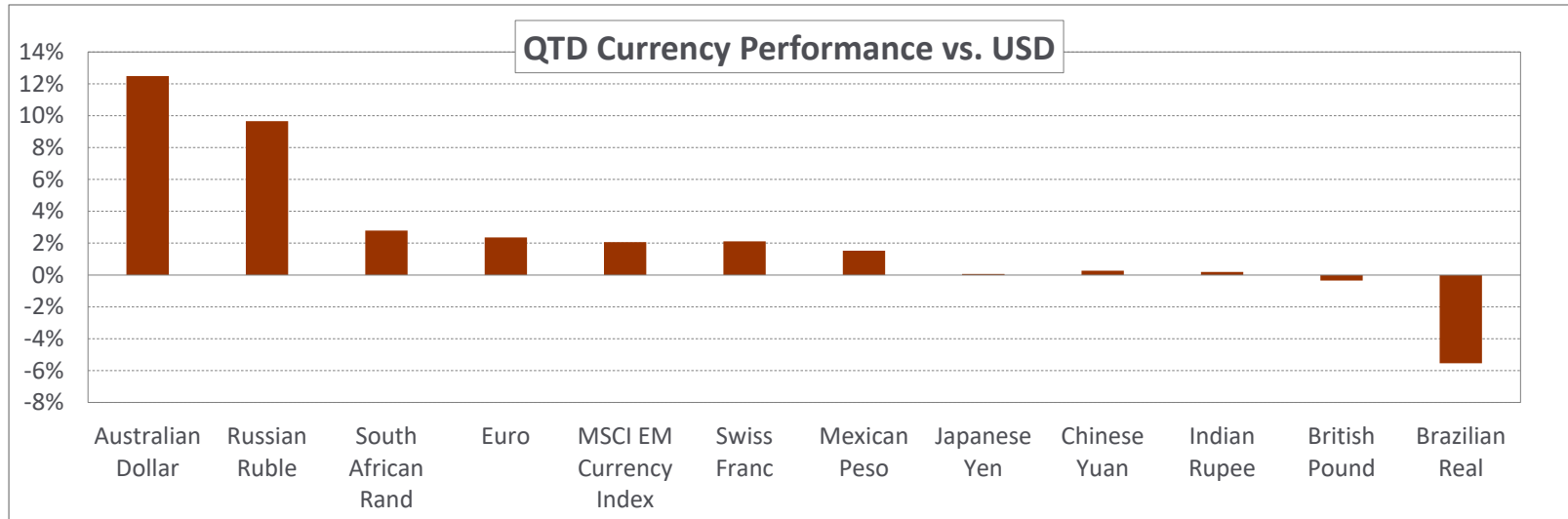
REITS



14.1%

Market segment (index representation) as follows: US Dollar (DXY Index), VIX (CBOE Volatility Index), US 10-Year (US 10-Year Treasury Yield), S&P 500 (US Equity), MSCI EAFE Index (International Developed Equity), MSCI Emerging Markets (Emerging Markets Equity), US Agg (Barclays US Aggregate Bond Index), High Yield (Barclays US High Yield Index), Dollar EMD (JPM EMBI Global Diversified Index), Crude Oil (WTI Crude Oil Spot), Gold (Gold Price Spot), and REITs (NAREIT Composite Index). Source: FactSet

# MACRO OVERVIEW

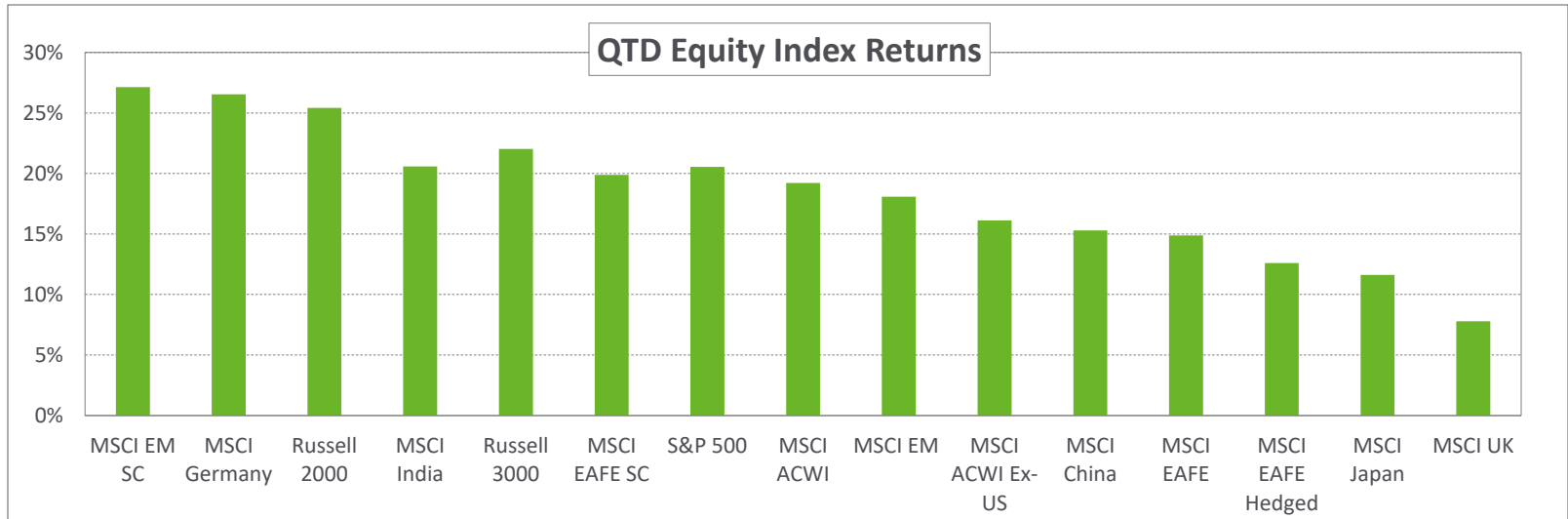


Source: FactSet

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
<b>Federal Reserve</b>	0.00% - 0.25%	0.2%	The Fed provided additional liquidity to small businesses and municipalities and expanded asset purchases from ETFs to include single name corporate bonds
<b>European Central Bank</b>	0.00%	0.1%	The ECB maintained its current benchmark rates and expanded its QE program by €600 billion to roughly €1.35 trillion
<b>Bank of Japan</b>	-0.10%	0.0%	The BoJ announced plans to purchase additional ¥60 trillion worth of longer-dated government bonds, bringing the total QE program to ¥213 trillion

Source: FactSet

# EQUITY OVERVIEW



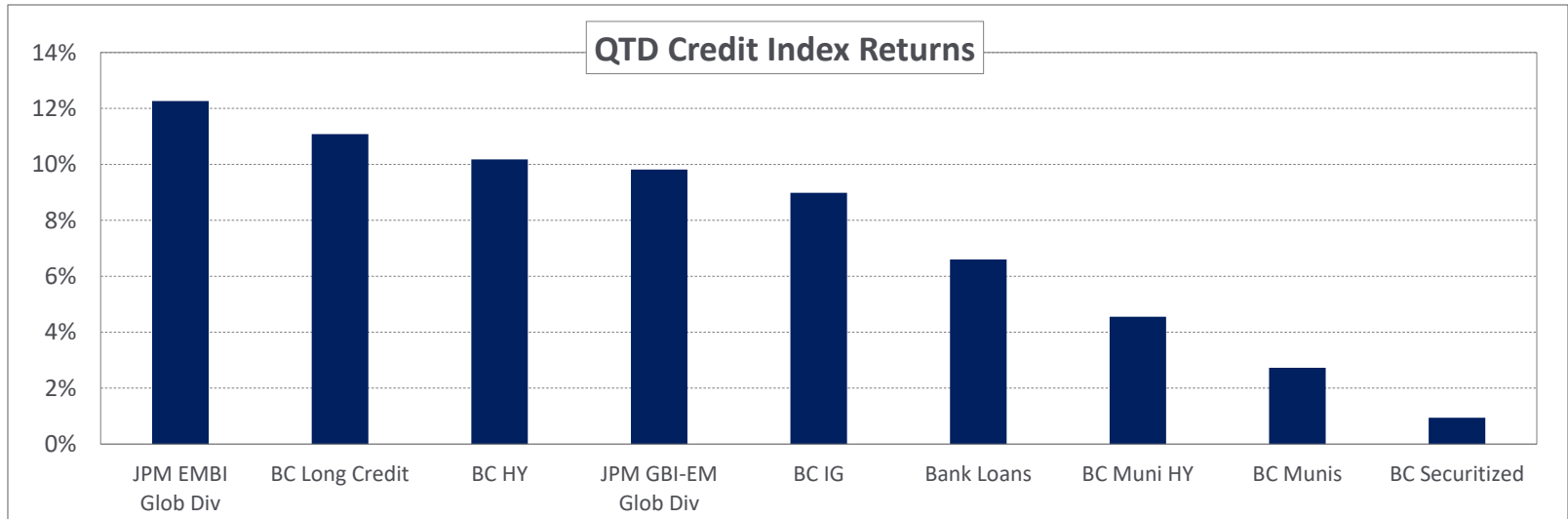
Source: S&P, MSCI, Russell, FactSet

Russell 3000 QTD Sector Returns	QTD	YTD
Technology	31.2%	15.7%
Health Care	16.9%	2.1%
Consumer Discretionary	30.9%	4.2%
Consumer Staples	9.3%	-6.9%
Energy	33.2%	-35.1%
Materials & Processing	27.0%	-8.4%
Producer Durables	18.3%	-14.5%
Financial Services	16.1%	-16.8%
Utilities	3.8%	-11.5%

Source: FactSet



# CREDIT OVERVIEW



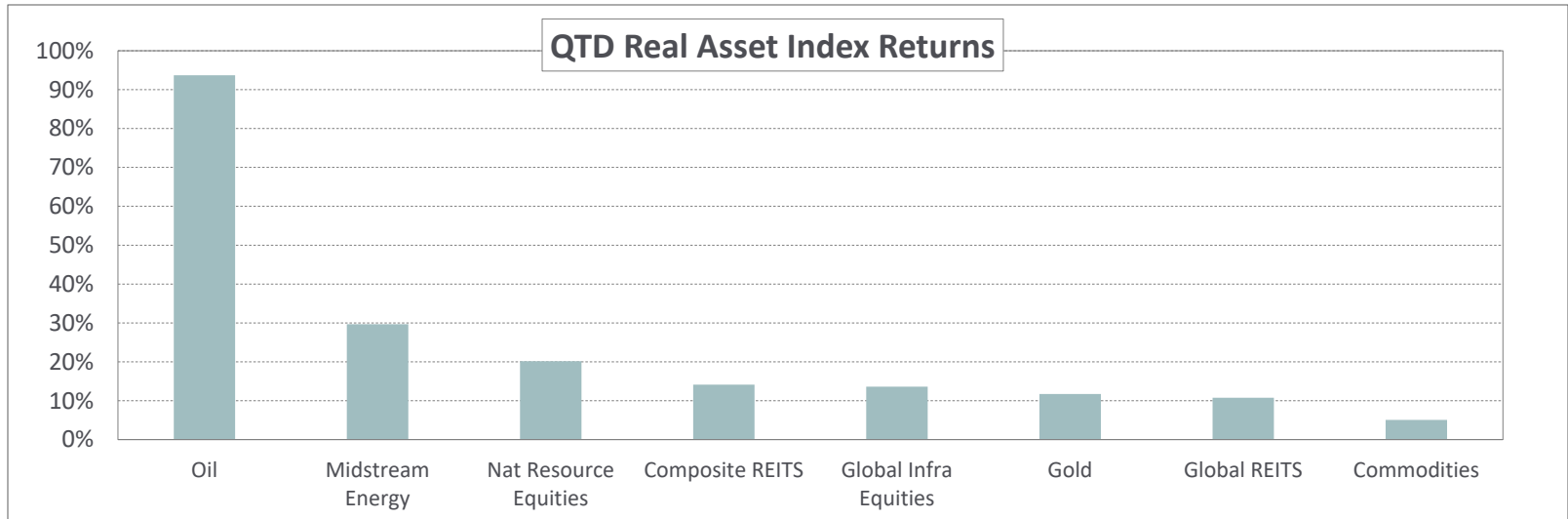
Source: S&P, MSCI, Russell, JPM, FactSet

	Previous Quarter Spread (bps)	Current Quarter Spread (bps)	Δ	Median
<b>BC IG Credit</b>	272	150	-122	138
<b>BC Long Credit</b>	279	202	-77	176
<b>BC Securitized</b>	72	75	3	49
<b>BC High Yield</b>	880	626	-254	479
<b>Muni HY</b>	476	449	-27	639
<b>JPM EMBI Glob Div</b>	626	474	-152	341
<b>Bank Loans - Libor</b>	736	582	-154	437

Source: Barclays, JPM, FactSet;  
Medians calculated since 11/30/2000

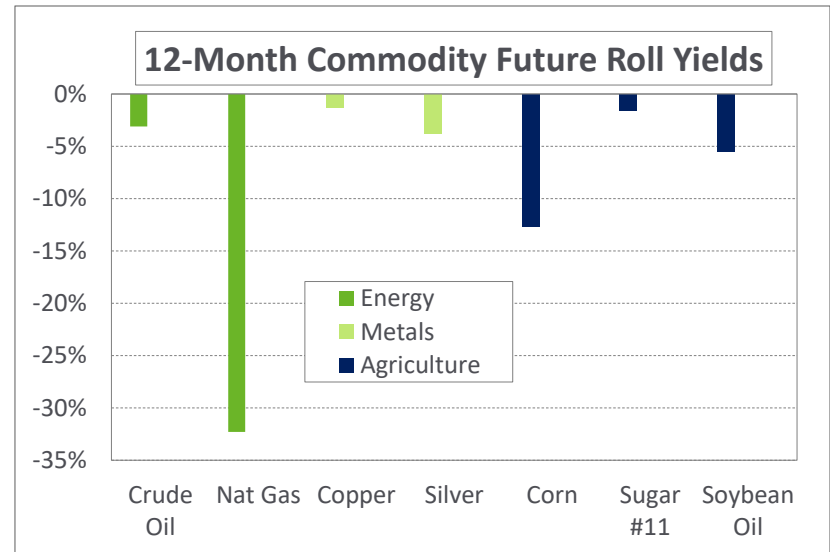


# REAL ASSETS OVERVIEW



Source: S&P, MSCI, Russell, FactSet

Real Asset Yields	Previous Quarter	Current Quarter
Midstream Energy	11.3%	8.6%
Core Real Estate*	4.5%	4.5%
Composite REITS	5.8%	4.3%
Global REITS	6.1%	5.0%
Global Infrastructure Equities	4.3%	4.7%
Natural Resource Equities	4.8%	4.7%
Commodity Index Roll Yield	-14.3%	-6.8%



Source: FactSet

Sources: Alerian, NAREIT, Barclays, NEPC, FactSet  
Core Real Estate\* yields are subject to a one quarter lag



# CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Jun	YTD
<b>S&amp;P 500</b>	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	2.0%	-3.1%
<b>Russell 1000</b>	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	2.2%	-2.8%
<b>Russell 2000</b>	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	3.5%	-13.0%
<b>Russell 2500</b>	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	2.9%	-11.1%
<b>MSCI EAFE</b>	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	3.4%	-11.3%
<b>MSCI EM</b>	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	7.4%	-9.8%
<b>MSCI ACWI</b>	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	3.2%	-6.3%
<b>Private Equity</b>	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	-	-
<b>BC TIPS</b>	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	1.1%	6.0%
<b>BC Municipal</b>	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	0.8%	2.1%
<b>BC Muni High Yield</b>	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	4.0%	-2.6%
<b>BC US Corporate HY</b>	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	1.0%	-3.8%
<b>BC US Agg Bond</b>	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	0.6%	6.1%
<b>BC Global Agg</b>	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	0.9%	3.0%
<b>BC Long Treasuries</b>	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	0.1%	21.2%
<b>BC US Long Credit</b>	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	2.5%	5.9%
<b>BC US STRIPS 20+ Yr</b>	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	0.2%	28.7%
<b>JPM GBI-EM Global Div</b>	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	0.5%	-6.9%
<b>JPM EMBI Glob Div</b>	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	3.5%	-2.8%
<b>CS Hedge Fund</b>	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	-4.5%
<b>BBG Commodity</b>	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	2.3%	-19.4%
<b>Alerian MLP</b>	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-7.9%	-35.7%
<b>FTSE NAREIT Equity REITs</b>	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	3.1%	-18.7%

Source: FactSet, Barclays, Thomson One

\*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



# RETURNS FOR KEY INDICES RANKED IN ORDER OF PERFORMANCE (AS OF 6/30/2020)

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
RUSSELL 2000 GROWTH 29.09	BC AGGREGAT E 7.84	MSCI EMERGING MARKETS 18.22	RUSSELL 2000 GROWTH 43.30	S&P 500 13.69	RUSSELL 1000 GROWTH 5.67	RUSSELL 2000 VALUE 31.74	MSCI EMERGING MARKETS 37.28	BC AGGREGAT E 0.01	RUSSELL 1000 GROWTH 36.39
RUSSELL 2000 26.85	RUSSELL 1000 GROWTH 2.64	RUSSELL 2000 VALUE 18.05	RUSSELL 2000 38.82	RUSSELL 1000 VALUE 13.45	S&P 500 1.38	RUSSELL 2000 21.31	RUSSELL 1000 GROWTH 30.21	RUSSELL 1000 GROWTH -1.51	S&P 500 31.49
RUSSELL 2000 VALUE 24.5	S&P 500 2.11	RUSSELL 1000 VALUE 17.51	RUSSELL 2000 VALUE 34.52	RUSSELL 1000 13.24	RUSSELL 1000 0.92	RUSSELL 1000 VALUE 17.34	MSCI EAFE 25.03	S&P 500 -4.38	RUSSELL 1000 31.43
MSCI EMERGING MARKETS 18.88	RUSSELL 1000 1.50	MSCI EAFE 17.32	RUSSELL 1000 GROWTH 33.48	RUSSELL 1000 GROWTH 13.05	BC AGGREGAT E 0.55	RUSSELL 1000 12.05	RUSSELL 2000 GROWTH 22.17	RUSSELL 1000 -4.78	RUSSELL 2000 GROWTH 28.48
RUSSELL 1000 GROWTH 16.71	RUSSELL 1000 VALUE 0.39	RUSSELL 1000 16.42	RUSSELL 1000 33.11	BC AGGREGAT E 5.97	MSCI EAFE -0.81	S&P 500 11.96	S&P 500 21.83	RUSSELL 1000 VALUE -8.27	RUSSELL 1000 VALUE 26.54
RUSSELL 1000 16.10	RUSSELL 2000 GROWTH -2.91	RUSSELL 2000 16.35	RUSSELL 1000 VALUE 32.53	RUSSELL 2000 GROWTH 5.60	RUSSELL 2000 GROWTH -1.38	RUSSELL 2000 GROWTH 11.32	RUSSELL 1000 21.69	RUSSELL 2000 GROWTH -9.31	RUSSELL 2000 25.52
RUSSELL 1000 VALUE 15.51	RUSSELL 2000 -4.18	S&P 500 16.00	S&P 500 32.39	RUSSELL 2000 4.89	RUSSELL 1000 VALUE -3.83	MSCI EMERGING MARKETS 11.19	RUSSELL 2000 14.65	RUSSELL 2000 -11.01	RUSSELL 2000 VALUE 22.39
S&P 500 15.06	RUSSELL 2000 VALUE -5.50	RUSSELL 1000 GROWTH 15.26	MSCI EAFE 22.78	RUSSELL 2000 VALUE 4.22	RUSSELL 2000 -4.41	RUSSELL 1000 GROWTH 7.08	RUSSELL 1000 VALUE 13.66	RUSSELL 2000 VALUE -12.86	MSCI EAFE 22.01
MSCI EAFE 7.75	MSCI EAFE -12.14	RUSSELL 2000 GROWTH 14.59	BC AGGREGAT E -2.02	MSCI EMERGING MARKETS -2.19	RUSSELL 2000 VALUE -7.46	BC AGGREGAT E 2.65	RUSSELL 2000 VALUE 7.84	MSCI EAFE -13.79	MSCI EMERGING MARKETS 18.44
BC AGGREGAT E 6.54	MSCI EMERGING MARKETS -18.42	BC AGGREGAT E 4.21	MSCI EMERGING MARKETS -2.60	MSCI EAFE -4.90	MSCI EMERGING MARKETS -14.93	MSCI EAFE 1.00	BC AGGREGAT E 3.54	MSCI EMERGING MARKETS -14.58	BC AGGREGAT E 8.72

QTD	1 Year	3 year	5 Year	10 Year
RUSSELL 2000 GROWTH 30.58	RUSSELL 1000 GROWTH 23.28	RUSSELL 1000 GROWTH 18.99	RUSSELL 1000 GROWTH 15.89	RUSSELL 1000 GROWTH 17.23
RUSSELL 1000 GROWTH 27.84	BC AGGREGAT E 8.74	S&P 500 10.73	S&P 500 10.73	S&P 500 13.99
RUSSELL 2000 25.42	S&P 500 7.50	RUSSELL 1000 10.64	RUSSELL 1000 10.47	RUSSELL 1000 13.97
RUSSELL 1000 21.82	RUSSELL 1000 7.48	RUSSELL 2000 GROWTH 7.86	RUSSELL 2000 GROWTH 6.86	RUSSELL 2000 GROWTH 12.92
S&P 500 20.54	RUSSELL 2000 GROWTH 3.48	BC AGGREGAT E 5.32	RUSSELL 1000 VALUE 4.64	RUSSELL 2000 10.50
RUSSELL 2000 VALUE 18.91	MSCI EMERGING MARKETS -3.39	RUSSELL 2000 2.01	BC AGGREGAT E 4.30	RUSSELL 1000 VALUE 10.41
MSCI EMERGING MARKETS 18.08	MSCI EAFE -5.13	MSCI EMERGING MARKETS 1.90	RUSSELL 2000 4.29	RUSSELL 2000 VALUE 7.82
MSCI EAFE 14.88	RUSSELL 2000 -6.63	RUSSELL 1000 VALUE 1.82	MSCI EMERGING MARKETS 2.86	MSCI EAFE 5.73
RUSSELL 1000 VALUE 14.29	RUSSELL 1000 VALUE -8.84	MSCI EAFE 0.81	MSCI EAFE 2.05	BC AGGREGAT E 3.82
BC AGGREGAT E 2.90	RUSSELL 2000 VALUE -17.48	RUSSELL 2000 VALUE -4.35	RUSSELL 2000 VALUE 1.26	MSCI EMERGING MARKETS 3.27



# Q2 2020 TOTAL FUND PERFORMANCE

NEPC, LLC

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# EXECUTIVE SUMMARY AS OF 6/30/2020

- **Asset Allocation**

- The assets of the Plan totaled \$1.26 billion as of June 30, 2020 and had an investment gain of \$91.1 million during the quarter.

- **Performance**

- The Plan gained 8.8% (gross) in Q2 as the markets rebounded after experiencing a sharp decline in Q1.
  - The quarterly return ranked behind the median in the 72<sup>nd</sup> percentile of the Public DB peer group
  - Active management detracted 20 basis points in the second quarter and 150 basis points fiscal year-to-date
- For the trailing one year, the fund was up 3.2%, which placed it above the IF Public DB > \$1B Gross Median return of 1.2% and ranking in the 16<sup>th</sup> percentile
- In aggregate, the US Equity Composite was up 22.7% for the quarter, which outperformed both the Russell 3000 benchmark return of 22.0% and the eV All US Equity Gross Median return of 21.9%
  - Large Cap Equity added 21.7% for the quarter, outperforming the eV US Large Cap Equity Gross Median by 160 basis points
  - The Small/Mid Cap Equity composite gained 28.1% for the quarter, ranking in the 34<sup>th</sup> percentile and outperforming both the Russell 2500 benchmark and eV US Small-Mid Cap Equity Gross Median return by 150 and 350 basis points, respectively
- The International Equity Composite was up 19.4%, which outperformed the MSCI ACWI ex USA return of 16.1% and the eV ACWI ex-US All Cap Equity Gross universe median return of 18.5%
  - International Developed Equity was ahead of the median by 140 bps, returning 18.2%
  - International Emerging Equity outperformed the median by 220 bps, returning 21.5%
- The Fixed Income Composite gained 6.1% in the second quarter, outperforming the All US Fixed Income Gross Median return of 4.4%

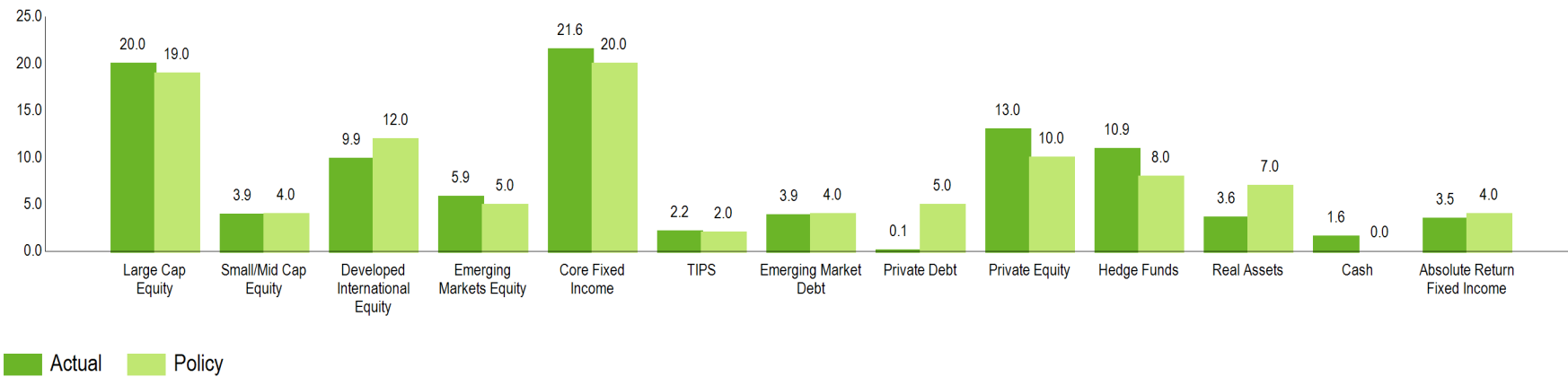
## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE SUMMARY (GROSS)

Ending June 30, 2020

	Market Value	3 Mo Rank	YTD Rank	Fiscal YTD Rank	1 Yr Rank	3 Yrs Rank	5 Yrs Rank	10 Yrs Rank	Inception	Inception Date							
<b>Total Fund Composite</b>	<b>\$1,125,644,279</b>	<b>8.8%</b>	<b>72</b>	<b>-2.4%</b>	<b>16</b>	<b>3.2%</b>	<b>16</b>	<b>3.2%</b>	<b>16</b>	<b>6.5%</b>	<b>12</b>	<b>6.7%</b>	<b>11</b>	<b>8.3%</b>	<b>32</b>	<b>7.2%</b>	<b>Apr-97</b>
<i>Policy Index</i>		8.7%	73	-2.3%	15	3.1%	17	3.1%	17	5.7%	21	5.9%	32	7.8%	51	7.1%	Apr-97
<i>Allocation Index</i>		8.6%	73	-3.5%	37	1.7%	37	1.7%	37	--	--	--	--	--	--	--	Apr-97
<i>InvMetrics Public DB &gt; \$1B Gross Median</i>		10.2%		-4.1%		1.2%		1.2%		4.9%		5.4%		7.8%		6.8%	Apr-97

Actual vs Target Allocation (%)

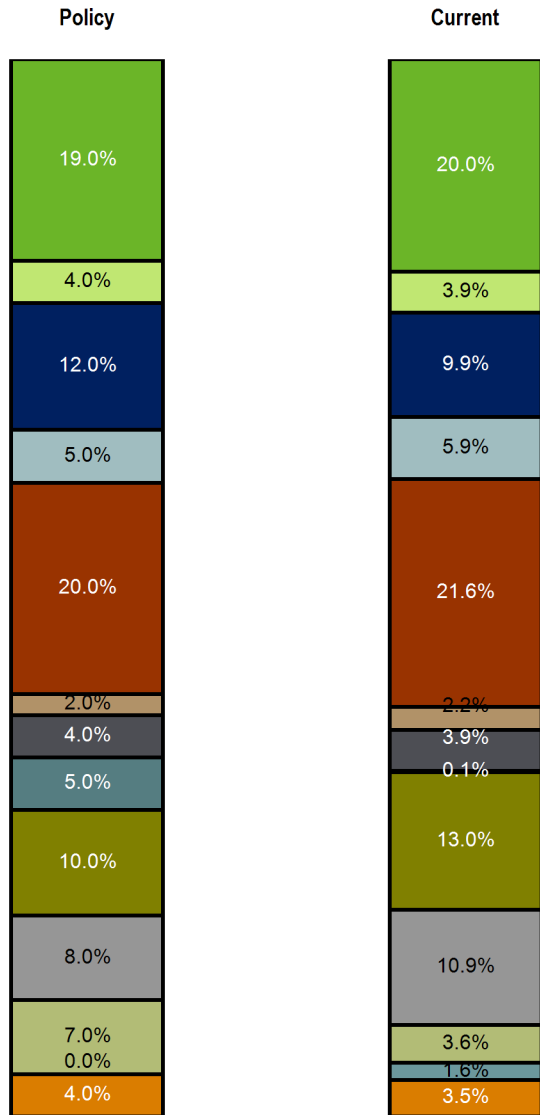


Fiscal year end 6/30.



## Howard County Retirement Plans

# ASSET ALLOCATION VS. POLICY TARGETS



Asset Allocation vs. Target				
	Current	Policy	Current	Difference*
Large Cap Equity	\$225,148,163	19.0%	20.0%	1.0%
Small/Mid Cap Equity	\$44,151,756	4.0%	3.9%	-0.1%
Developed International Equity	\$111,152,494	12.0%	9.9%	-2.1%
Emerging Markets Equity	\$66,007,976	5.0%	5.9%	0.9%
Core Fixed Income	\$242,922,912	20.0%	21.6%	1.6%
TIPS	\$24,396,409	2.0%	2.2%	0.2%
Emerging Market Debt	\$43,772,498	4.0%	3.9%	-0.1%
Private Debt	\$1,254,167	5.0%	0.1%	-4.9%
Private Equity	\$146,364,092	10.0%	13.0%	3.0%
Hedge Funds	\$122,980,531	8.0%	10.9%	2.9%
Real Assets	\$40,535,506	7.0%	3.6%	-3.4%
Cash	\$17,801,140	0.0%	1.6%	1.6%
Absolute Return Fixed Income	\$39,156,635	4.0%	3.5%	-0.5%
<b>Total</b>	<b>\$1,125,644,279</b>	<b>100.0%</b>	<b>100.0%</b>	

\*Difference between Policy and Current Allocation



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Ending June 30, 2020											
	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,125,644,279</b>	<b>100.0</b>	<b>100.0</b>	<b>8.8</b>	<b>-2.4</b>	<b>3.2</b>	<b>3.2</b>	<b>6.5</b>	<b>6.7</b>	<b>8.3</b>	<b>7.2</b>	<b>Apr-97</b>
<i>Policy Index</i>				8.7	-2.3	3.1	3.1	5.7	5.9	7.8	7.1	Apr-97
<i>Allocation Index</i>				8.6	-3.5	1.7	1.7	--	--	--	--	Apr-97
<b>Total US Equity Composite</b>	<b>269,299,919</b>	<b>23.9</b>	<b>23.0</b>	<b>22.7</b>	<b>-4.6</b>	<b>4.5</b>	<b>4.5</b>	<b>9.6</b>	<b>10.0</b>	<b>14.1</b>	<b>8.4</b>	<b>Jul-97</b>
<i>Russell 3000</i>				22.0	-3.5	6.5	6.5	10.0	10.0	13.7	7.8	Jul-97
<i>US Equity Allocation Index</i>				22.8	-3.4	6.2	6.2	9.6	9.7	13.5	--	Jul-97
<b>Total International Equity</b>	<b>177,160,470</b>	<b>15.7</b>	<b>17.0</b>	<b>19.4</b>	<b>-8.8</b>	<b>-2.4</b>	<b>-2.4</b>	<b>3.0</b>	<b>3.7</b>	<b>5.7</b>	<b>4.4</b>	<b>Jul-97</b>
<i>MSCI ACWI ex USA</i>				16.1	-11.0	-4.8	-4.8	1.1	2.3	5.0	4.2	Jul-97
<b>Total Fixed Income Composite</b>	<b>350,248,453</b>	<b>31.1</b>	<b>30.0</b>	<b>6.1</b>	<b>3.6</b>	<b>6.5</b>	<b>6.5</b>	<b>4.8</b>	<b>5.0</b>	<b>4.7</b>	<b>5.5</b>	<b>Jul-97</b>
<i>Fixed Income Policy Index</i>				2.9	6.1	8.7	8.7	5.3	4.3	3.8	5.4	Jul-97
<b>Total Real Assets Composite</b>	<b>40,535,506</b>	<b>3.6</b>	<b>7.0</b>	<b>-12.2</b>	<b>-10.8</b>	<b>-9.5</b>	<b>-9.5</b>	<b>3.8</b>	<b>6.1</b>	<b>5.7</b>	<b>6.2</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.7	2.3	5.3	5.3	6.4	7.6	10.2	8.7	Jul-03
<b>Cash Composite</b>	<b>17,801,140</b>	<b>1.6</b>		<b>0.0</b>	<b>0.2</b>	<b>0.8</b>	<b>0.8</b>	<b>1.3</b>	<b>0.9</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.4	1.3	1.3	1.7	1.1	0.6	1.3	Dec-03
<b>Hedge Fund Composite</b>	<b>122,980,531</b>	<b>10.9</b>	<b>8.0</b>	<b>5.5</b>	<b>-0.4</b>	<b>1.5</b>	<b>1.5</b>	<b>3.9</b>	<b>3.3</b>	<b>--</b>	<b>4.4</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				5.7	-1.9	-0.3	-0.3	1.9	1.5	2.6	2.2	Jan-11
<b>Private Equity Composite</b>	<b>146,364,092</b>	<b>13.0</b>	<b>10.0</b>	<b>-5.5</b>	<b>-0.5</b>	<b>7.5</b>	<b>7.5</b>	<b>14.0</b>	<b>14.0</b>	<b>13.2</b>	<b>12.5</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				-10.1	-6.7	-2.3	-2.3	8.6	9.2	12.1	9.4	Jul-08
<b>Private Debt</b>	<b>1,254,167</b>	<b>0.1</b>	<b>5.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan TR</i>				9.7	-4.6	-2.0	-2.0	2.1	2.9	4.2	--	Jun-20

Fiscal year end 6/30.

All history prior to 3/1/2019 was provided by AndCo.



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,125,644,279</b>	<b>100.0</b>	<b>100.0</b>	<b>8.8</b>	<b>72</b>	<b>-2.4</b>	<b>16</b>	<b>3.2</b>	<b>16</b>	<b>3.2</b>	<b>16</b>	<b>6.5</b>	<b>12</b>	<b>6.7</b>	<b>11</b>	<b>8.3</b>	<b>32</b>	<b>7.2</b>	<b>Apr-97</b>
Policy Index				8.7	73	-2.3	15	3.1	17	3.1	17	5.7	21	5.9	32	7.8	51	7.1	Apr-97
Allocation Index				8.6	73	-3.5	37	1.7	37	1.7	37	--	--	--	--	--	--	--	Apr-97
InvMetrics Public DB > \$1B Gross Median				10.2		-4.1		1.2		1.2		4.9		5.4		7.8		6.8	Apr-97
<b>Total Equity Composite</b>	<b>446,460,389</b>	<b>39.7</b>	<b>40.0</b>	<b>21.2</b>	<b>32</b>	<b>-6.5</b>	<b>48</b>	<b>1.5</b>	<b>48</b>	<b>1.5</b>	<b>48</b>	<b>6.7</b>	<b>42</b>	<b>7.2</b>	<b>38</b>	<b>10.6</b>	<b>37</b>	<b>6.8</b>	<b>Apr-00</b>
MSCI ACWI IMI				19.8	42	-7.1	50	1.2	50	1.2	50	5.5	51	6.1	53	9.1	67	4.3	Apr-00
eV All Global Equity Gross Median				18.9		-7.2		1.1		1.1		5.6		6.3		10.0		6.8	Apr-00
<b>Total US Equity Composite</b>	<b>269,299,919</b>	<b>23.9</b>	<b>23.0</b>	<b>22.7</b>	<b>45</b>	<b>-4.6</b>	<b>40</b>	<b>4.5</b>	<b>38</b>	<b>4.5</b>	<b>38</b>	<b>9.6</b>	<b>38</b>	<b>10.0</b>	<b>33</b>	<b>14.1</b>	<b>33</b>	<b>8.4</b>	<b>Jul-97</b>
Russell 3000				22.0	50	-3.5	36	6.5	34	6.5	34	10.0	36	10.0	33	13.7	38	7.8	Jul-97
US Equity Allocation Index				22.8	45	-3.4	36	6.2	35	6.2	35	9.6	38	9.7	36	13.5	40	--	Jul-97
eV All US Equity Gross Median				21.9		-8.3		-0.2		-0.2		6.7		7.6		12.6		9.1	Jul-97
<b>Large Cap Composite</b>	<b>225,148,163</b>	<b>20.0</b>	<b>19.0</b>	<b>21.7</b>	<b>38</b>	<b>-4.9</b>	<b>50</b>	<b>5.4</b>	<b>47</b>	<b>5.4</b>	<b>47</b>	<b>9.6</b>	<b>48</b>	<b>9.7</b>	<b>47</b>	<b>13.9</b>	<b>43</b>	<b>8.3</b>	<b>Apr-01</b>
Russell 1000				21.8	37	-2.8	41	7.5	40	7.5	40	10.6	41	10.5	39	14.0	42	7.6	Apr-01
eV US Large Cap Equity Gross Median				20.1		-5.1		4.5		4.5		9.2		9.2		13.4		8.2	Apr-01
LSV Asset Management SMA	54,244,419	4.8		16.8	45	-21.4	96	-12.8	93	-12.8	93	-0.1	85	3.5	79	10.9	53	8.4	May-00
Russell 1000 Value				14.3	73	-16.3	68	-8.8	70	-8.8	70	1.8	69	4.6	66	10.4	70	6.1	May-00
eV US Large Cap Value Equity Gross Median				16.0		-14.5		-6.4		-6.4		3.3		5.6		11.0		7.3	May-00
Westfield Capital Management SMA	88,514,061	7.9		27.0	51	8.3	57	21.0	47	21.0	47	17.9	49	14.9	43	16.5	55	16.5	Jul-10
Russell 1000 Growth				27.8	42	9.8	45	23.3	30	23.3	30	19.0	39	15.9	29	17.2	30	17.2	Jul-10
eV US Large Cap Growth Equity Gross Median				27.0		9.1		20.1		20.1		17.7		14.4		16.5		16.5	Jul-10
BlackRock Equity Index Non-Lendable Fund	82,389,684	7.3		19.3	56	-4.1	45	--	--	--	--	--	--	--	--	--	--	-1.2	Dec-19
S&P 500				20.5	47	-3.1	41	7.5	40	7.5	40	10.7	40	10.7	37	14.0	41	-0.2	Dec-19
eV US Large Cap Equity Gross Median				20.1		-5.1		4.5		4.5		9.2		9.2		13.4		-2.5	Dec-19



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Small/Mid Cap Composite</b>	<b>44,151,756</b>	<b>3.9</b>	<b>4.0</b>	<b>28.1</b>	<b>34</b>	<b>-2.8</b>	<b>30</b>	<b>2.4</b>	<b>31</b>	<b>2.4</b>	<b>31</b>	<b>9.8</b>	<b>28</b>	<b>11.1</b>	<b>19</b>	<b>14.6</b>	<b>22</b>	<b>11.9</b>	<b>Apr-93</b>
<i>Russell 2500</i>				26.6	41	-11.1	49	-4.7	50	-4.7	50	4.1	53	5.4	54	11.5	56	9.7	Apr-93
<i>eV US Small-Mid Cap Equity Gross Median</i>				24.6		-11.6		-5.1		-5.1		4.5		5.6		11.9		11.3	Apr-93
<b>William Blair SMA</b>	<b>15,706,030</b>	<b>1.4</b>		<b>26.7</b>	<b>90</b>	<b>1.2</b>	<b>67</b>	<b>7.0</b>	<b>70</b>	<b>7.0</b>	<b>70</b>	<b>13.9</b>	<b>52</b>	<b>12.5</b>	<b>40</b>	<b>16.5</b>	<b>21</b>	<b>12.0</b>	<b>Jun-06</b>
<i>Russell 2500 Growth</i>				32.9	53	2.0	62	9.2	60	9.2	60	12.1	65	9.6	66	14.4	69	9.7	Jun-06
<i>eV US Small-Mid Cap Growth Equity Gross Median</i>				33.3		6.9		12.6		12.6		14.7		11.6		15.3		10.9	Jun-06
<b>ICM Small Company - ICSCX</b>	<b>11,939,380</b>	<b>1.1</b>		<b>19.7</b>	<b>61</b>	<b>-22.0</b>	<b>54</b>	<b>-15.8</b>	<b>52</b>	<b>-15.8</b>	<b>52</b>	<b>-1.5</b>	<b>33</b>	<b>4.2</b>	<b>16</b>	<b>10.1</b>	<b>30</b>	<b>10.7</b>	<b>Apr-93</b>
<i>Russell 2000 Value</i>				18.9	71	-23.5	68	-17.5	64	-17.5	64	-4.3	69	1.3	64	7.8	88	8.6	Apr-93
<i>eV US Small Cap Value Equity Gross Median</i>				20.9		-21.7		-15.7		-15.7		-3.1		1.9		9.3		11.2	Apr-93
<b>Brown Capital Small Company Strategy SMA</b>	<b>16,506,346</b>	<b>1.5</b>		<b>36.4</b>	<b>35</b>	<b>14.3</b>	<b>16</b>	<b>16.3</b>	<b>22</b>	<b>16.3</b>	<b>22</b>	<b>19.0</b>	<b>21</b>	<b>17.8</b>	<b>8</b>	<b>--</b>	<b>--</b>	<b>18.9</b>	<b>Aug-11</b>
<i>Russell 2000 Growth</i>				30.6	67	-3.1	68	3.5	61	3.5	61	7.9	78	6.9	82	12.9	84	10.5	Aug-11
<i>eV US Small Cap Growth Equity Gross Median</i>				33.6		1.8		6.6		6.6		12.6		10.1		15.0		12.6	Aug-11
<b>Total International Equity</b>	<b>177,160,470</b>	<b>15.7</b>	<b>17.0</b>	<b>19.4</b>	<b>39</b>	<b>-8.8</b>	<b>54</b>	<b>-2.4</b>	<b>60</b>	<b>-2.4</b>	<b>60</b>	<b>3.0</b>	<b>53</b>	<b>3.7</b>	<b>58</b>	<b>5.7</b>	<b>80</b>	<b>4.4</b>	<b>Jul-97</b>
<i>MSCI ACWI ex USA</i>				16.1	74	-11.0	63	-4.8	69	-4.8	69	1.1	66	2.3	72	5.0	90	4.2	Jul-97
<i>eV ACWI ex-US All Cap Equity Gross Median</i>				18.5		-8.5		-1.0		-1.0		3.6		4.3		7.7		6.6	Jul-97
<b>International Developed Markets Composite</b>	<b>111,152,494</b>	<b>9.9</b>	<b>12.0</b>	<b>18.2</b>	<b>38</b>	<b>-9.4</b>	<b>34</b>	<b>-0.7</b>	<b>28</b>	<b>-0.7</b>	<b>28</b>	<b>2.8</b>	<b>30</b>	<b>3.1</b>	<b>47</b>	<b>6.8</b>	<b>56</b>	<b>2.8</b>	<b>Mar-08</b>
<i>MSCI EAFE</i>				14.9	75	-11.3	53	-5.1	60	-5.1	60	0.8	57	2.1	68	5.7	85	1.7	Mar-08
<i>eV All EAFE Equity Gross Median</i>				16.8		-11.2		-4.3		-4.3		1.3		3.0		7.1		3.3	Mar-08
<b>Mondrian International Equity Fund, L.P.</b>	<b>52,236,634</b>	<b>4.6</b>		<b>9.1</b>	<b>99</b>	<b>-19.5</b>	<b>94</b>	<b>-12.7</b>	<b>94</b>	<b>-12.7</b>	<b>94</b>	<b>-2.2</b>	<b>87</b>	<b>0.2</b>	<b>90</b>	<b>5.0</b>	<b>91</b>	<b>0.6</b>	<b>Dec-07</b>
<i>MSCI EAFE</i>				14.9	75	-11.3	53	-5.1	60	-5.1	60	0.8	57	2.1	68	5.7	85	0.8	Dec-07
<i>eV All EAFE Equity Gross Median</i>				16.8		-11.2		-4.3		-4.3		1.3		3.0		7.1		2.5	Dec-07
<b>Baillie Gifford EAFE Pure K - BGPX</b>	<b>58,915,860</b>	<b>5.2</b>		<b>25.7</b>	<b>4</b>	<b>-0.4</b>	<b>6</b>	<b>10.1</b>	<b>4</b>	<b>10.1</b>	<b>4</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5.7</b>	<b>May-18</b>
<i>MSCI EAFE</i>				14.9	75	-11.3	53	-5.1	60	-5.1	60	0.8	57	2.1	68	5.7	85	-3.5	May-18
<i>eV All EAFE Equity Gross Median</i>				16.8		-11.2		-4.3		-4.3		1.3		3.0		7.1		-3.3	May-18



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>International Emerging Markets Composite</b>	<b>66,007,976</b>	<b>5.9</b>	<b>5.0</b>	<b>21.5</b>	<b>37</b>	<b>-8.0</b>	<b>30</b>	<b>-5.8</b>	<b>63</b>	<b>-5.8</b>	<b>63</b>	<b>3.5</b>	<b>31</b>	<b>4.8</b>	<b>32</b>	<b>3.5</b>	<b>77</b>	<b>5.4</b>	<b>Feb-06</b>
MSCI Emerging Markets				18.1	66	-9.8	45	-3.4	46	-3.4	46	1.9	51	2.9	60	3.3	83	4.1	Feb-06
eV Emg Mkts Equity Gross Median				19.3		-10.3		-4.0		-4.0		1.9		3.5		4.7		5.7	Feb-06
<b>DFA Emerging Markets Value Portfolio Institutional - DFEVX</b>	<b>23,060,106</b>	<b>2.0</b>		<b>19.2</b>	<b>51</b>	<b>-18.7</b>	<b>92</b>	<b>-16.8</b>	<b>96</b>	<b>-16.8</b>	<b>96</b>	<b>-3.6</b>	<b>95</b>	<b>0.4</b>	<b>88</b>	<b>1.3</b>	<b>99</b>	<b>4.0</b>	<b>Feb-06</b>
MSCI Emerging Markets				18.1	66	-9.8	45	-3.4	46	-3.4	46	1.9	51	2.9	60	3.3	83	4.1	Feb-06
eV Emg Mkts Equity Gross Median				19.3		-10.3		-4.0		-4.0		1.9		3.5		4.7		5.7	Feb-06
<b>GQG Partners Emerging Markets Equity Fund</b>	<b>42,947,870</b>	<b>3.8</b>		<b>22.8</b>	<b>32</b>	<b>-1.0</b>	<b>10</b>	<b>1.5</b>	<b>25</b>	<b>1.5</b>	<b>25</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>13.2</b>	<b>Dec-18</b>
MSCI Emerging Markets				18.1	66	-9.8	45	-3.4	46	-3.4	46	1.9	51	2.9	60	3.3	83	2.5	Dec-18
eV Emg Mkts Equity Gross Median				19.3		-10.3		-4.0		-4.0		1.9		3.5		4.7		3.0	Dec-18
<b>Total Fixed Income Composite</b>	<b>350,248,453</b>	<b>31.1</b>	<b>30.0</b>	<b>6.1</b>	<b>36</b>	<b>3.6</b>	<b>48</b>	<b>6.5</b>	<b>43</b>	<b>6.5</b>	<b>43</b>	<b>4.8</b>	<b>40</b>	<b>5.0</b>	<b>25</b>	<b>4.7</b>	<b>39</b>	<b>5.5</b>	<b>Jul-97</b>
BBgBarc US Aggregate TR				2.9	70	6.1	21	8.7	24	8.7	24	5.3	31	4.3	45	3.8	60	5.3	Jul-97
eV All US Fixed Inc Gross Median				4.4		3.2		5.3		5.3		4.3		4.0		4.2		5.3	Jul-97
<b>Core Fixed Income Composite</b>	<b>267,319,321</b>	<b>23.7</b>	<b>22.0</b>	<b>4.9</b>	<b>34</b>	<b>6.0</b>	<b>60</b>	<b>8.7</b>	<b>65</b>	<b>8.7</b>	<b>65</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>10.2</b>	<b>Mar-19</b>
BBgBarc US Aggregate TR				2.9	92	6.1	56	8.7	64	8.7	64	5.3	80	4.3	88	3.8	93	10.5	Mar-19
eV US Core Fixed Inc Gross Median				4.4		6.3		9.1		9.1		5.6		4.7		4.3		10.8	Mar-19
<b>Dodge &amp; Cox SMA</b>	<b>121,019,600</b>	<b>10.8</b>		<b>6.3</b>	<b>35</b>	<b>5.6</b>	<b>27</b>	<b>8.7</b>	<b>25</b>	<b>8.7</b>	<b>25</b>	<b>5.7</b>	<b>23</b>	<b>5.2</b>	<b>22</b>	<b>5.0</b>	<b>35</b>	<b>5.0</b>	<b>May-10</b>
BBgBarc US Aggregate TR				2.9	70	6.1	21	8.7	24	8.7	24	5.3	31	4.3	45	3.8	60	4.0	May-10
eV All US Fixed Inc Gross Median				4.4		3.2		5.3		5.3		4.3		4.0		4.2		4.3	May-10
<b>PIMCO Total Return</b>	<b>121,903,312</b>	<b>10.8</b>		<b>3.6</b>	<b>60</b>	<b>6.5</b>	<b>16</b>	<b>8.8</b>	<b>23</b>	<b>8.8</b>	<b>23</b>	<b>5.4</b>	<b>29</b>	<b>4.7</b>	<b>34</b>	<b>4.4</b>	<b>48</b>	<b>4.5</b>	<b>May-10</b>
BBgBarc US Aggregate TR				2.9	70	6.1	21	8.7	24	8.7	24	5.3	31	4.3	45	3.8	60	4.0	May-10
eV All US Fixed Inc Gross Median				4.4		3.2		5.3		5.3		4.3		4.0		4.2		4.3	May-10
<b>State Street Global Advisors TIPS</b>	<b>24,396,409</b>	<b>2.2</b>		<b>4.3</b>	<b>61</b>	<b>6.0</b>	<b>38</b>	<b>8.3</b>	<b>38</b>	<b>8.3</b>	<b>38</b>	<b>5.0</b>	<b>56</b>	<b>3.7</b>	<b>59</b>	<b>3.5</b>	<b>70</b>	<b>3.7</b>	<b>Nov-09</b>
BBgBarc US TIPS TR				4.2	69	6.0	40	8.3	43	8.3	43	5.0	56	3.7	58	3.5	70	3.8	Nov-09
eV US TIPS / Inflation Fixed Inc Gross Median				4.4		5.7		8.1		8.1		5.1		3.8		3.6		3.8	Nov-09



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Emerging Markets Debt Composite</b>	<b>43,772,498</b>	<b>3.9</b>	<b>4.0</b>	<b>11.2</b>	<b>67</b>	<b>-7.6</b>	<b>89</b>	<b>-3.3</b>	<b>81</b>	<b>-3.3</b>	<b>81</b>	--	--	--	--	--	--	<b>0.6</b>	<b>Mar-19</b>
JP Morgan GBI EM Global Diversified TR USD				9.8	88	-6.9	79	-2.8	73	-2.8	73	1.1	77	2.3	85	1.6	88	1.0	Mar-19
eV All Emg Mkts Fixed Inc Gross Median				12.4		-3.8		-0.4		-0.4		2.8		4.8		5.6		3.4	Mar-19
Colchester Local Markets Debt Fund	43,772,498	3.9		11.2	67	-7.6	89	-3.3	81	-3.3	81	1.7	67	--	--	--	--	6.5	Oct-15
JP Morgan GBI EM Global Diversified TR USD				9.8	88	-6.9	79	-2.8	73	-2.8	73	1.1	77	2.3	85	1.6	88	4.9	Oct-15
eV All Emg Mkts Fixed Inc Gross Median				12.4		-3.8		-0.4		-0.4		2.8		4.8		5.6		6.0	Oct-15
<b>Absolute Return Fixed Income</b>	<b>39,156,635</b>	<b>3.5</b>	<b>4.0</b>	<b>9.0</b>	<b>20</b>	--	--	--	--	--	--	--	--	--	--	--	--	<b>-1.9</b>	<b>Mar-20</b>
3-Month Libor Total Return USD				0.1	99	0.5	78	1.5	83	1.5	83	2.0	95	1.5	97	0.9	98	0.2	Mar-20
eV All US Fixed Inc Gross Median				4.4		3.2		5.3		5.3		4.3		4.0		4.2		1.1	Mar-20
Payden Absolute Return Bond Fund PYAIX	39,156,635	3.5		9.0	20	--	--	--	--	--	--	--	--	--	--	--	--	-1.9	Mar-20
3-Month Libor Total Return USD				0.1	99	0.5	78	1.5	83	1.5	83	2.0	95	1.5	97	0.9	98	0.2	Mar-20
eV All US Fixed Inc Gross Median				4.4		3.2		5.3		5.3		4.3		4.0		4.2		1.1	Mar-20
<b>Total Real Assets Composite</b>	<b>40,535,506</b>	<b>3.6</b>	<b>7.0</b>	<b>-12.2</b>	--	<b>-10.8</b>	--	<b>-9.5</b>	--	<b>-9.5</b>	--	<b>3.8</b>	--	<b>6.1</b>	--	<b>5.7</b>	--	<b>6.2</b>	<b>Jul-03</b>
NCREIF Property Index 1 Qtr. Lag				0.7	--	2.3	--	5.3	--	5.3	--	6.4	--	7.6	--	10.2	--	8.7	Jul-03
<b>Cash Composite</b>	<b>17,801,140</b>	<b>1.6</b>		<b>0.0</b>	--	<b>0.2</b>	--	<b>0.8</b>	--	<b>0.8</b>	--	<b>1.3</b>	--	<b>0.9</b>	--	<b>0.4</b>	--	<b>1.3</b>	<b>Dec-03</b>
91 Day T-Bills				0.0	--	0.4	--	1.3	--	1.3	--	1.7	--	1.1	--	0.6	--	1.3	Dec-03



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	YTD (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
<b>Hedge Fund Composite</b>	<b>122,980,531</b>	<b>10.9</b>	<b>8.0</b>	<b>5.5</b>	--	<b>-0.4</b>	--	<b>1.5</b>	--	<b>1.5</b>	--	<b>3.9</b>	--	<b>3.3</b>	--	--	--	<b>4.4</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				5.7	--	-1.9	--	-0.3	--	-0.3	--	1.9	--	1.5	--	2.6	--	2.2	Jan-11
Magnitude International Class A Eligible	61,497,086	5.5		4.9	--	0.9	--	2.0	--	2.0	--	3.9	--	3.0	--	--	--	4.5	Jan-11
<i>HFRI FOF: Conservative Index</i>				5.7	--	-1.9	--	-0.3	--	-0.3	--	1.9	--	1.5	--	2.6	--	2.2	Jan-11
Blackstone Partners Offshore Fund LTD	61,483,445	5.5		6.2	--	-1.7	--	1.0	--	1.0	--	3.8	--	3.6	--	--	--	4.4	Jan-11
<i>HFRI FOF: Conservative Index</i>				5.7	--	-1.9	--	-0.3	--	-0.3	--	1.9	--	1.5	--	2.6	--	2.1	Mar-11
<b>Private Equity Composite</b>	<b>146,364,092</b>	<b>13.0</b>	<b>10.0</b>	<b>-5.5</b>	--	<b>-0.5</b>	--	<b>7.5</b>	--	<b>7.5</b>	--	<b>14.0</b>	--	<b>14.0</b>	--	<b>13.2</b>	--	<b>12.5</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				-10.1	--	-6.7	--	-2.3	--	-2.3	--	8.6	--	9.2	--	12.1	--	9.4	Jul-08
<b>Private Debt</b>	<b>1,254,167</b>	<b>0.1</b>	<b>5.0</b>	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan</i>				9.7	--	-4.6	--	-2.0	--	-2.0	--	2.1	--	2.9	--	4.2	--	--	Jun-20

Fiscal year ends 6/30.

Policy index consists of: 19% Russell 1000 / 4% Russell 2500 / 12% MSCI EAFE / 5% MSCI Emerging Markets / 20% BBGBarc US Aggregate TR / 2% BBGBarc US TIPS TR / 4% 3-Month Libor Total Return USD / 4% JP Morgan GBI EM Global Diversified TR USD / 5% S&P/LSTA Leveraged Loan TR / 7.0% NCREIF Property Index 1 Qtr. Lag / 8% HFRI FOF: Conservative Index / 10% Private Equity Composite.

Allocation index consists of: Weighted index of underlying managers to their respective benchmark.

Fixed Income Policy index consists of: 100% BBGBarc US Aggregate TR.

Real Estate, Real Assets and Private Equity investments are valued as of 3/31/2020 and adjusted for capital calls and distributions through 06/30/2020.

All history prior to 3/1/2019 was provided by AndCo.



## Howard County Retirement Plans

# ASSET ALLOCATION VS. POLICY TARGETS

Allocation vs. Targets and Policy As Of March 31, 2020				
	Current Balance	Current Allocation	Target	Difference
Large Cap Equity	\$172,687,744	16.7%	19.0%	-2.3%
Small/Mid Cap Equity	\$34,566,807	3.3%	4.0%	-0.7%
Developed International Equity	\$106,802,487	10.3%	12.0%	-1.7%
Emerging Markets Equity	\$54,410,683	5.3%	5.0%	0.3%
Core Fixed Income	\$241,629,251	23.4%	20.0%	3.4%
TIPS	\$23,400,121	2.3%	2.0%	0.3%
Emerging Market Debt	\$39,420,263	3.8%	4.0%	-0.2%
Private Debt	--	--	5.0%	-5.0%
Private Equity	\$156,889,767	15.2%	10.0%	5.2%
Hedge Funds	\$116,725,468	11.3%	8.0%	3.3%
Real Assets	\$43,098,927	4.2%	7.0%	-2.8%
Cash	\$8,950,753	0.9%	0.0%	0.9%
Absolute Return Fixed Income	\$35,956,454	3.5%	4.0%	-0.5%
<b>Total</b>	<b>\$1,034,538,724</b>	<b>100.0%</b>	<b>100.0%</b>	

Allocation vs. Targets and Policy As Of June 30, 2020				
	Current Balance	Current Allocation	Target	Difference
Large Cap Equity	\$225,148,163	20.0%	19.0%	1.0%
Small/Mid Cap Equity	\$44,151,756	3.9%	4.0%	-0.1%
Developed International Equity	\$111,152,494	9.9%	12.0%	-2.1%
Emerging Markets Equity	\$66,007,976	5.9%	5.0%	0.9%
Core Fixed Income	\$242,922,912	21.6%	20.0%	1.6%
TIPS	\$24,396,409	2.2%	2.0%	0.2%
Emerging Market Debt	\$43,772,498	3.9%	4.0%	-0.1%
Private Debt	\$1,254,167	0.1%	5.0%	-4.9%
Private Equity	\$146,364,092	13.0%	10.0%	3.0%
Hedge Funds	\$122,980,531	10.9%	8.0%	2.9%
Real Assets	\$40,535,506	3.6%	7.0%	-3.4%
Cash	\$17,801,140	1.6%	0.0%	1.6%
Absolute Return Fixed Income	\$39,156,635	3.5%	4.0%	-0.5%
<b>Total</b>	<b>\$1,125,644,279</b>	<b>100.0%</b>	<b>100.0%</b>	



# ANALYTICS DEFINITIONS

**Asset Allocation Effect** - Measures the ability to effectively allocate their portfolio's assets to various asset classes. The allocation effect determines whether the overweighting or underweighting of asset classes relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is overweighted in an asset class that outperforms the benchmark. Negative allocation occurs when the portfolio is overweighted in an asset class that underperforms the benchmark and underweighted in an asset class that outperforms the benchmark.

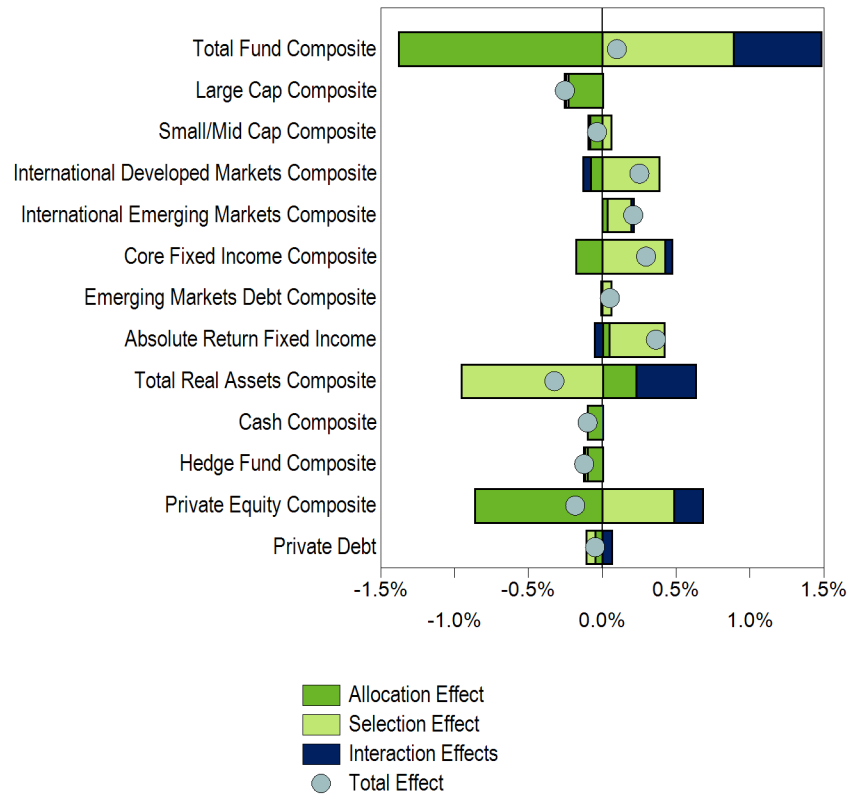
**Selection Effect** - Measures the ability to select managers within a given asset class relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by plan's allocation to the asset class. The weight of the manager in the portfolio determines the size of the effect -- the larger the manager, the larger the effect is, positive or negative.

**Interaction Effect** - The interaction effect measures the combined impact of manager selection and manager allocation decisions within an asset class. For example, if client had superior manager selection and overweighted that particular asset class, the interaction effect is positive. If client had superior manager selection, but underweighted that asset class, the interaction effect is negative. In this case, client did not take advantage of the superior manager selection by allocating more assets to that asset class.

# Howard County Retirement Plans

## TOTAL FUND ATTRIBUTION ANALYSIS (GROSS)

**Attribution Effects**  
3 Months Ending June 30, 2020



**Attribution Summary**  
3 Months Ending June 30, 2020

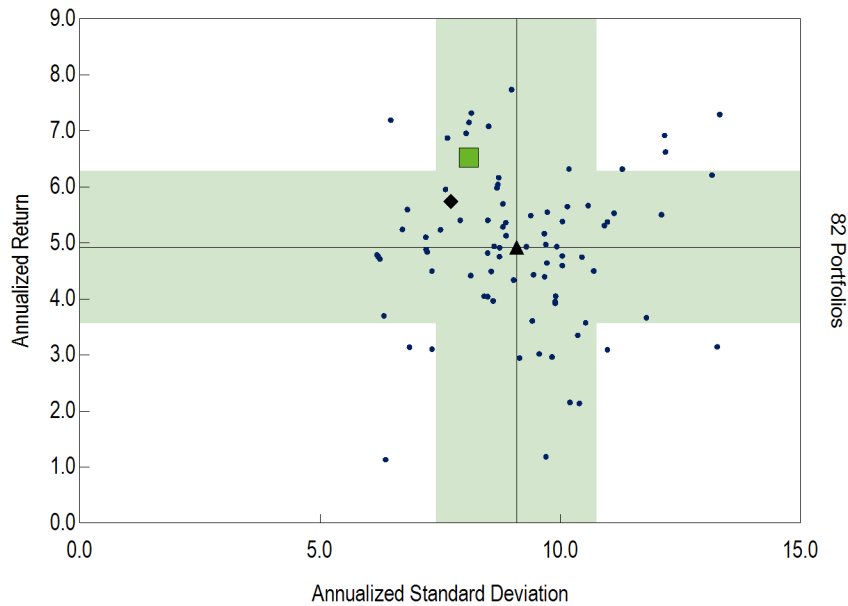
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Composite	19.0%	21.7%	21.8%	-0.1%	0.0%	-0.2%	0.0%	-0.2%
Small/Mid Cap Composite	4.0%	28.1%	26.6%	1.5%	0.1%	-0.1%	0.0%	0.0%
International Developed Markets Composite	12.0%	18.2%	14.9%	3.3%	0.4%	-0.1%	0.0%	0.2%
International Emerging Markets Composite	5.0%	21.5%	18.1%	3.4%	0.2%	0.0%	0.0%	0.2%
Core Fixed Income Composite	22.0%	4.9%	3.0%	1.9%	0.4%	-0.1%	0.0%	0.3%
Emerging Markets Debt Composite	4.0%	11.2%	9.8%	1.4%	0.1%	0.0%	0.0%	0.1%
Absolute Return Fixed Income	4.0%	9.0%	0.1%	8.9%	0.4%	0.0%	-0.1%	0.4%
Total Real Assets Composite	7.0%	-12.2%	0.7%	-12.9%	-1.0%	0.2%	0.4%	-0.3%
Cash Composite	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	-0.1%
Hedge Fund Composite	8.0%	5.5%	5.7%	-0.2%	0.0%	-0.1%	0.0%	-0.1%
Private Equity Composite	10.0%	-5.5%	-10.1%	4.6%	0.5%	-0.9%	0.2%	-0.2%
Private Debt	5.0%	0.0%	1.1%	-1.1%	-0.1%	0.0%	0.1%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>8.8%</b>	<b>8.7%</b>	<b>0.1%</b>	<b>0.9%</b>	<b>-1.4%</b>	<b>0.6%</b>	<b>0.1%</b>



# Howard County Retirement Plans

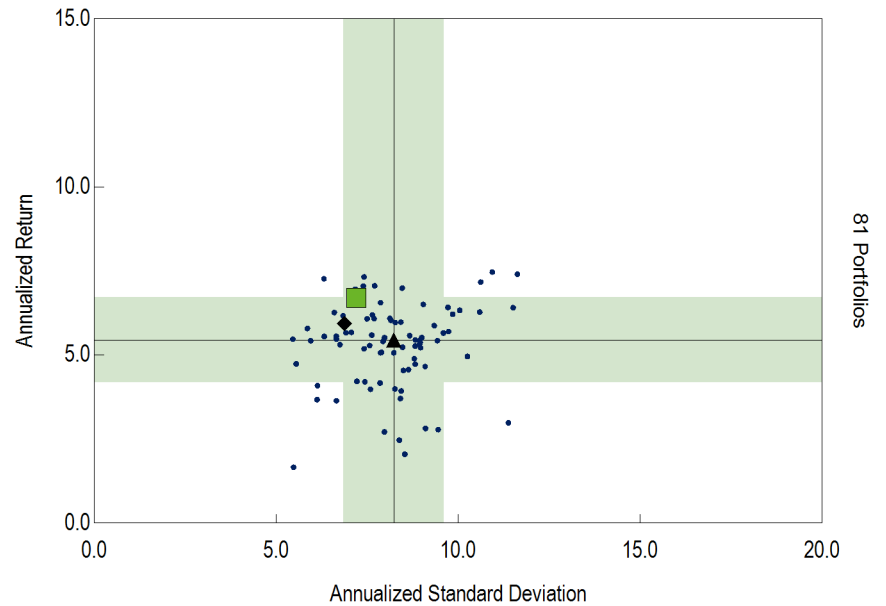
## TOTAL FUND RISK/RETURN (GROSS)

3 Years Ending June 30, 2020



- Total Fund Composite
- ◆ Policy Index
- Allocation Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

5 Years Ending June 30, 2020



- Total Fund Composite
- ◆ Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB > \$1B Gross

3 Years Ending June 30, 2020

	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio	Sortino Ratio
Total Fund Composite	6.53%	8.10%	0.60	0.90
Policy Index	5.74%	7.72%	0.53	0.80

5 Years Ending June 30, 2020

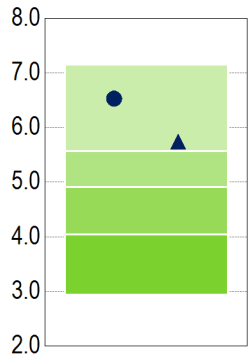
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio	Sortino Ratio
Total Fund Composite	6.70%	7.19%	0.77	1.09
Policy Index	5.93%	6.87%	0.70	0.98



# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

## Total Fund Composite vs. InvMetrics Public DB > \$1B Gross 3 Years

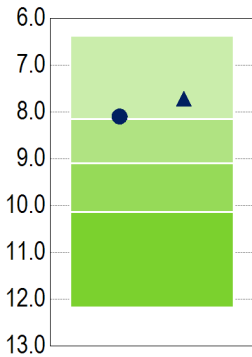
**Anlzd Return**



● Total Fund Composite	
Value	6.53
Rank	12
▲ Policy Index	
Value	5.74
Rank	21

Universe	
5th %tile	7.15
25th %tile	5.58
Median	4.92
75th %tile	4.05
95th %tile	2.95

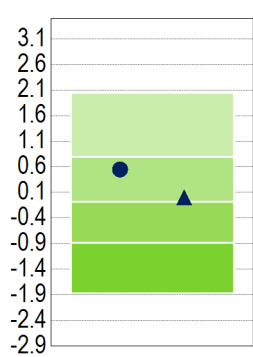
**Anlzd Standard Deviation**



● Total Fund Composite	
Value	8.10
Rank	24
▲ Policy Index	
Value	7.72
Rank	21

Universe	
5th %tile	6.37
25th %tile	8.14
Median	9.09
75th %tile	10.12
95th %tile	12.17

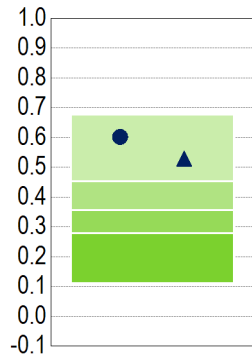
**Anlzd Alpha**



● Total Fund Composite	
Value	0.55
Rank	34
▲ Policy Index	
Value	0.00
Rank	46

Universe	
5th %tile	2.05
25th %tile	0.81
Median	-0.07
75th %tile	-0.87
95th %tile	-1.87

**Sharpe Ratio**



● Total Fund Composite	
Value	0.60
Rank	9
▲ Policy Index	
Value	0.53
Rank	12

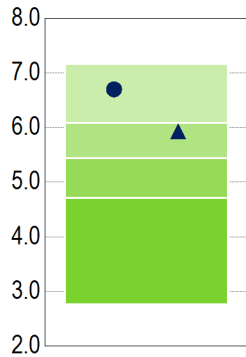
Universe	
5th %tile	0.68
25th %tile	0.46
Median	0.36
75th %tile	0.28
95th %tile	0.11



# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

## Total Fund Composite vs. InvMetrics Public DB > \$1B Gross 5 Years

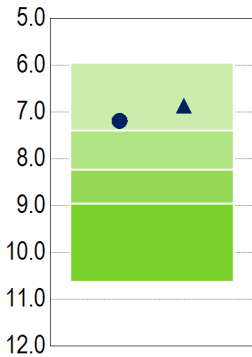
**Anlzd Return**



● Total Fund Composite	
Value	6.70
Rank	11
▲ Policy Index	
Value	5.93
Rank	32

Universe	
5th %tile	7.17
25th %tile	6.09
Median	5.45
75th %tile	4.73
95th %tile	2.78

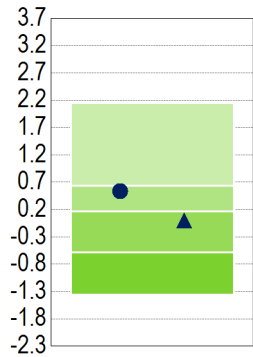
**Anlzd Standard Deviation**



● Total Fund Composite	
Value	7.19
Rank	24
▲ Policy Index	
Value	6.87
Rank	19

Universe	
5th %tile	5.94
25th %tile	7.38
Median	8.22
75th %tile	8.95
95th %tile	10.61

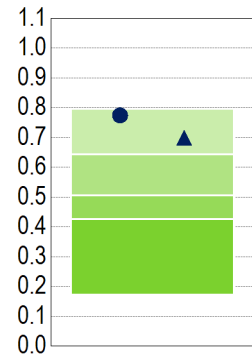
**Anlzd Alpha**



● Total Fund Composite	
Value	0.54
Rank	37
▲ Policy Index	
Value	0.00
Rank	56

Universe	
5th %tile	2.15
25th %tile	0.65
Median	0.18
75th %tile	-0.57
95th %tile	-1.34

**Sharpe Ratio**



● Total Fund Composite	
Value	0.77
Rank	9
▲ Policy Index	
Value	0.70
Rank	15

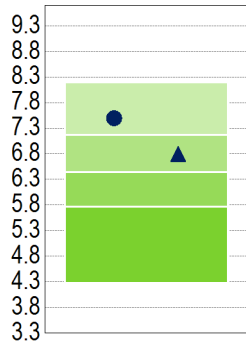
Universe	
5th %tile	0.80
25th %tile	0.64
Median	0.51
75th %tile	0.43
95th %tile	0.17



# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

## Total Fund Composite vs. InvMetrics Public DB > \$1B Gross 7 Years

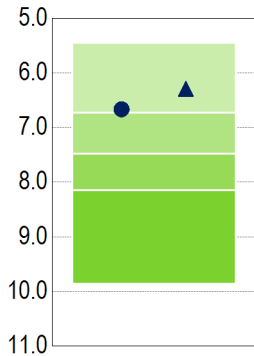
**Anlzd Return**



● Total Fund Composite	
Value	7.49
Rank	17
▲ Policy Index	
Value	6.80
Rank	35

Universe	
5th %tile	8.19
25th %tile	7.19
Median	6.45
75th %tile	5.78
95th %tile	4.29

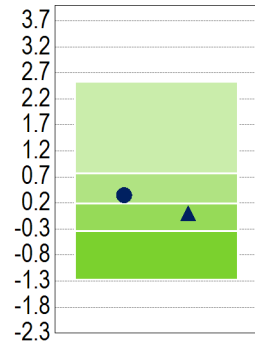
**Anlzd Standard Deviation**



● Total Fund Composite	
Value	6.67
Rank	23
▲ Policy Index	
Value	6.29
Rank	16

Universe	
5th %tile	5.45
25th %tile	6.72
Median	7.46
75th %tile	8.13
95th %tile	9.84

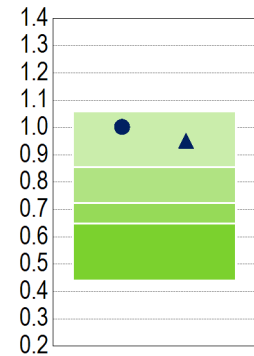
**Anlzd Alpha**



● Total Fund Composite	
Value	0.35
Rank	48
▲ Policy Index	
Value	0.00
Rank	59

Universe	
5th %tile	2.53
25th %tile	0.78
Median	0.20
75th %tile	-0.32
95th %tile	-1.27

**Sharpe Ratio**



● Total Fund Composite	
Value	1.00
Rank	10
▲ Policy Index	
Value	0.95
Rank	14

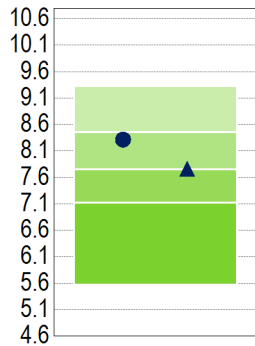
Universe	
5th %tile	1.06
25th %tile	0.86
Median	0.73
75th %tile	0.65
95th %tile	0.44



# TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

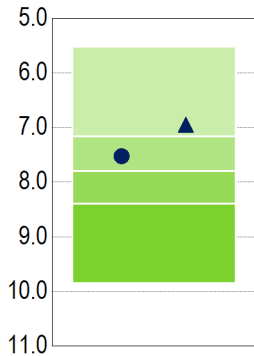
## Total Fund Composite vs. InvMetrics Public DB > \$1B Gross 10 Years

**Anlzd Return**



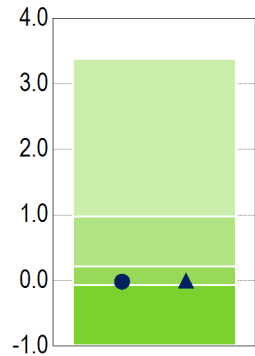
● Total Fund Composite	
Value	8.32
Rank	32
▲ Policy Index	
Value	7.76
Rank	51
Universe	
5th %tile	9.33
25th %tile	8.47
Median	7.77
75th %tile	7.13
95th %tile	5.59

**Anlzd Standard Deviation**



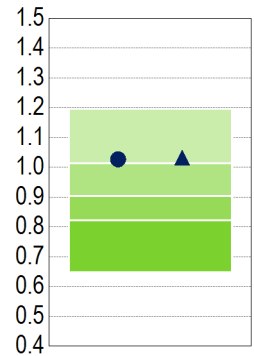
● Total Fund Composite	
Value	7.53
Rank	42
▲ Policy Index	
Value	6.95
Rank	18
Universe	
5th %tile	5.52
25th %tile	7.15
Median	7.79
75th %tile	8.39
95th %tile	9.84

**Anlzd Alpha**



● Total Fund Composite	
Value	-0.02
Rank	73
▲ Policy Index	
Value	0.00
Rank	72
Universe	
5th %tile	3.38
25th %tile	0.99
Median	0.22
75th %tile	-0.06
95th %tile	-0.98

**Sharpe Ratio**



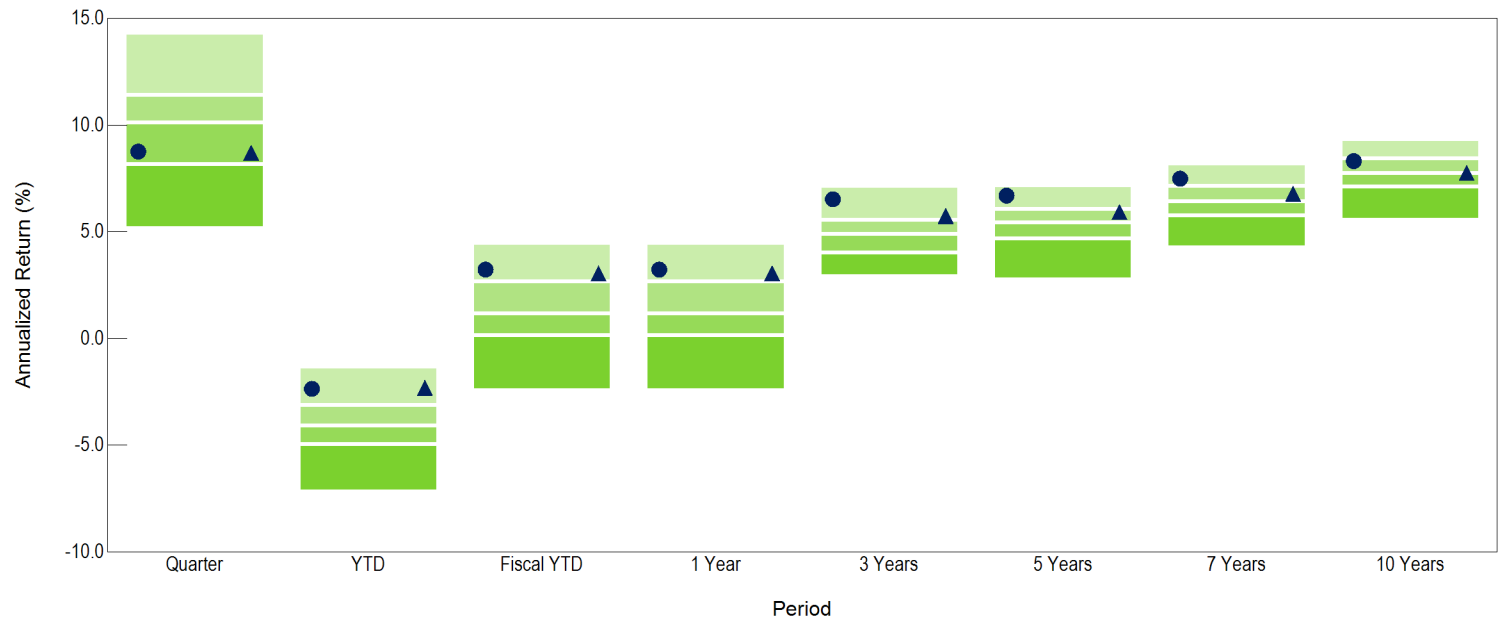
● Total Fund Composite	
Value	1.03
Rank	21
▲ Policy Index	
Value	1.03
Rank	21
Universe	
5th %tile	1.20
25th %tile	1.01
Median	0.91
75th %tile	0.82
95th %tile	0.65



## Howard County Retirement Plans

# TOTAL RETURN SUMMARY VS. PEER UNIVERSE (GROSS)

Total Fund Composite vs. InvMetrics Public DB > \$1B Gross



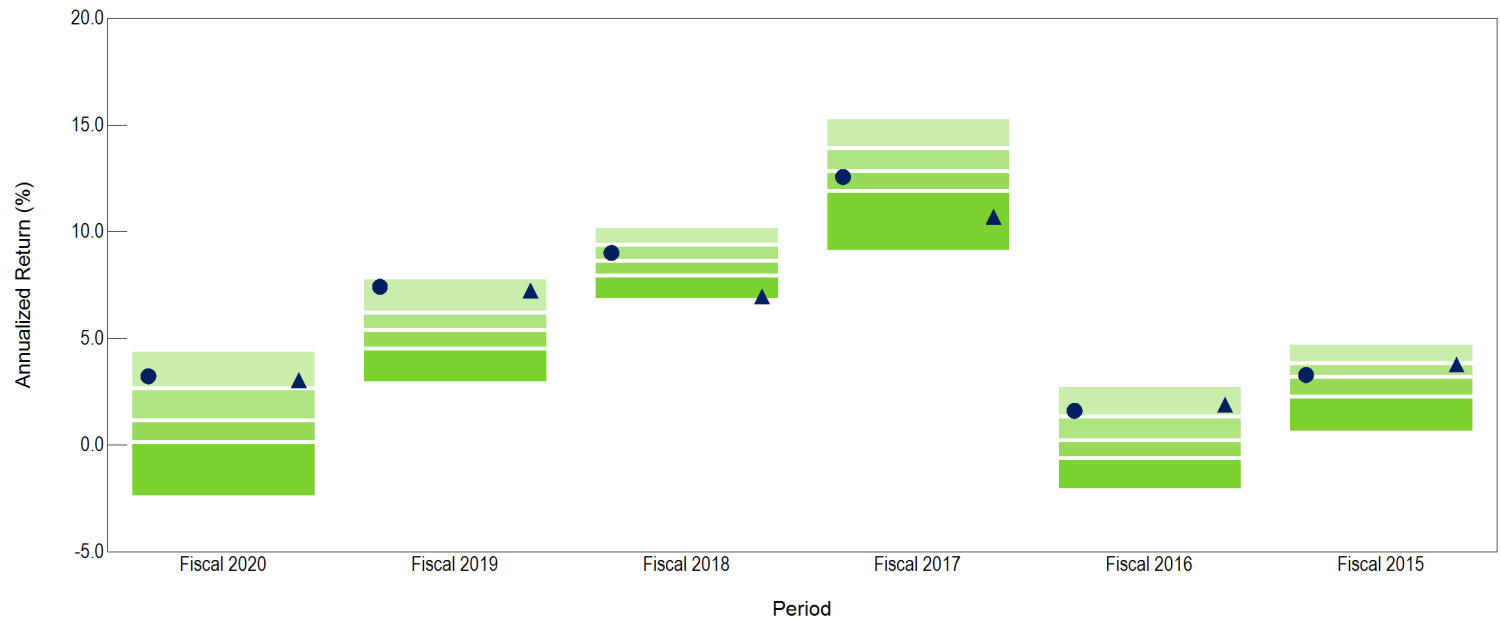
	Return (Rank)															
5th Percentile	14.3	-1.3	4.5	4.5	7.1	7.2	8.2	9.3								
25th Percentile	11.4	-3.1	2.7	2.7	5.6	6.1	7.2	8.5								
Median	10.2	-4.1	1.2	1.2	4.9	5.4	6.5	7.8								
75th Percentile	8.2	-4.9	0.2	0.2	4.0	4.7	5.8	7.1								
95th Percentile	5.2	-7.1	-2.4	-2.4	2.9	2.8	4.3	5.6								
# of Portfolios	82	82	82	82	82	81	77	74								
● Total Fund Composite	8.8	(72)	-2.4	(16)	3.2	(16)	3.2	(16)	6.5	(12)	6.7	(11)	7.5	(17)	8.3	(32)
▲ Policy Index	8.7	(73)	-2.3	(15)	3.1	(17)	3.1	(17)	5.7	(21)	5.9	(32)	6.8	(35)	7.8	(51)



## Howard County Retirement Plans

# FISCAL RETURN SUMMARY VS. PEER UNIVERSE (GROSS)

Total Fund Composite vs. InvMetrics Public DB > \$1B Gross



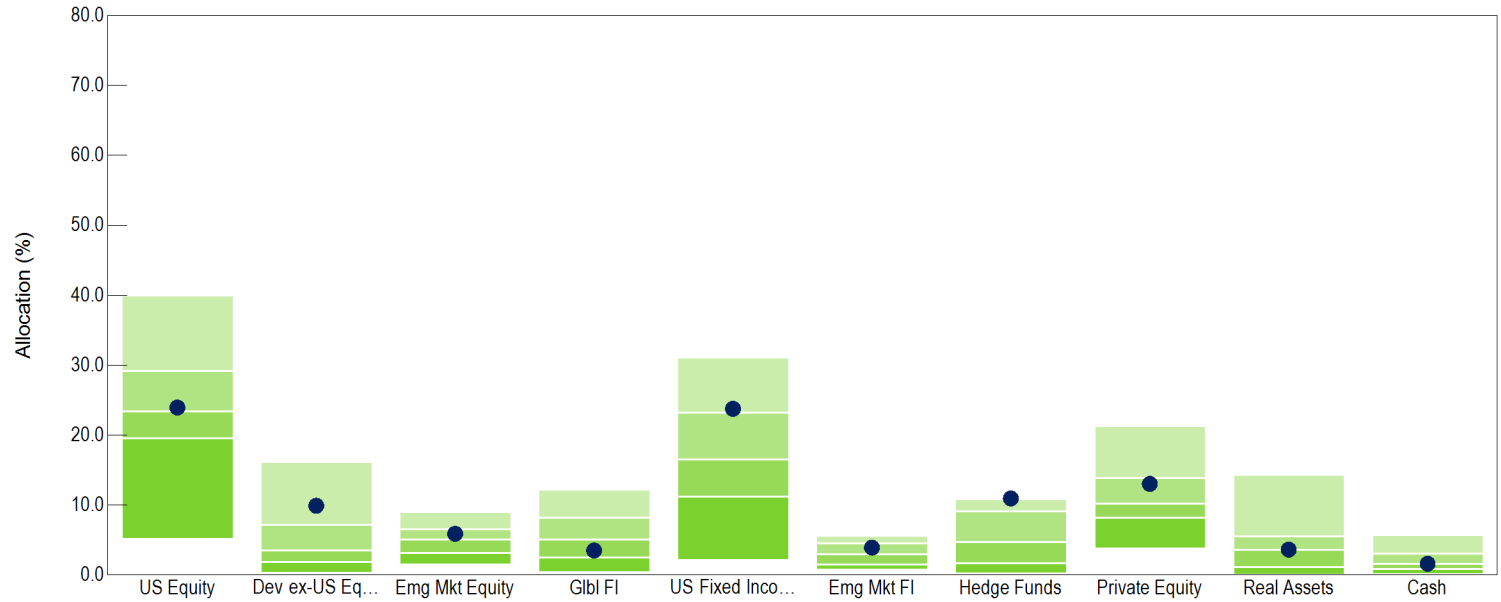
	Fiscal 2020		Fiscal 2019		Fiscal 2018		Fiscal 2017		Fiscal 2016		Fiscal 2015	
<b>Return (Rank)</b>												
5th Percentile	4.5		7.9		10.3		15.3		2.8		4.8	
25th Percentile	2.7		6.2		9.4		14.0		1.4		3.9	
Median	1.2		5.4		8.7		12.9		0.3		3.2	
75th Percentile	0.2		4.5		8.0		11.9		-0.6		2.3	
95th Percentile	-2.4		2.9		6.8		9.1		-2.1		0.6	
# of Portfolios	82		88		62		108		91		92	
● Total Fund Composite	3.2	(16)	7.4	(9)	9.0	(35)	12.6	(61)	1.6	(22)	3.3	(48)
▲ Policy Index	3.1	(17)	7.2	(14)	7.0	(91)	10.7	(91)	1.9	(15)	3.8	(30)

Fiscal year ends 6/30.



# TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB > \$1B Gross



	Allocation (Rank)																			
5th Percentile	40.0	16.2	9.0	12.2	31.1	5.6	10.8	21.3	14.3	5.7	-	-	-	-	-	-	-	-	-	-
25th Percentile	29.3	7.2	6.6	8.2	23.3	4.6	9.2	13.9	5.6	3.1	-	-	-	-	-	-	-	-	-	-
Median	23.4	3.6	5.2	5.2	16.6	3.0	4.8	10.3	3.6	1.6	-	-	-	-	-	-	-	-	-	-
75th Percentile	19.6	1.9	3.2	2.6	11.3	1.6	1.8	8.2	1.2	1.0	-	-	-	-	-	-	-	-	-	-
95th Percentile	5.2	0.4	1.6	0.5	2.2	0.8	0.3	3.8	0.1	0.2	-	-	-	-	-	-	-	-	-	-
# of Portfolios	47	27	37	21	49	27	34	44	29	56	-	-	-	-	-	-	-	-	-	-
● Total Fund Composite	23.9	(49)	9.9	(22)	5.9	(36)	3.5	(60)	23.7	(23)	3.9	(42)	10.9	(4)	13.0	(33)	3.6	(51)	1.6	(52)



## Howard County Retirement Plans

# PRIVATE MARKETS DISCLAIMER

The value, internal rate of return and all other measurements of performance for alternative investments contained in this report are calculated by the investment consultant for Howard County Master Trust and have not been reviewed by the general partner of the alternative investment fund.

Note for European Funds:

-Paid In Capital and Distributions are based on the exchange rate of the date of the cash flows.

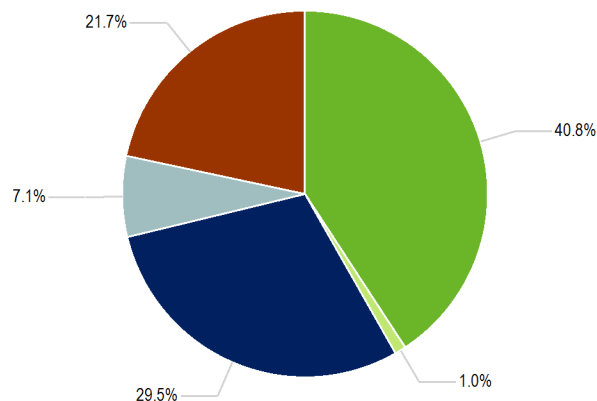
-The commitment amount is calculated by taking the unfunded commitment amount in EUR, applying the exchange rate and then adding it to the USD commitment amount.



# Howard County Retirement Plans

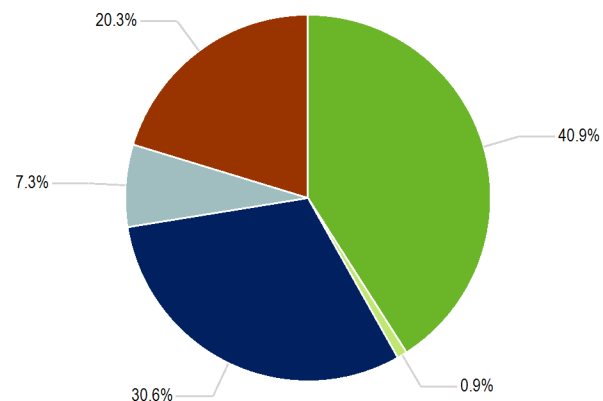
## ANALYSIS BY STRATEGY - Private Equity

Private Markets Valuation by Strategy



Buyout Distressed Fund of Funds Secondaries Venture Capital

Private Markets Fund Exposure by Strategy



Buyout Distressed Fund of Funds Secondaries Venture Capital

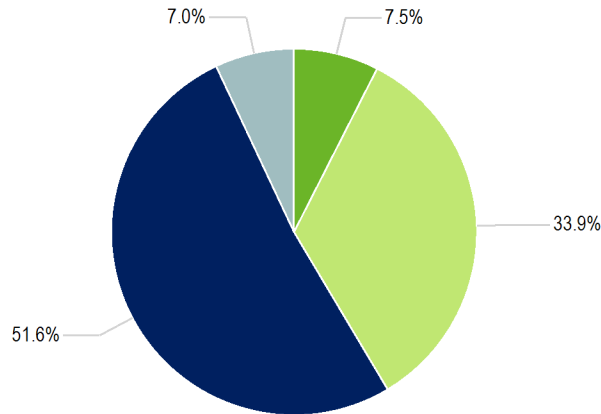
Investments	Commitments			Contributions & Distributions			Valuations				Performance		
	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI	IRR
Total Buyout	\$90,673,600	\$21,507,901	0.76	\$69,165,699	\$115,794	\$42,121,998	\$60,469,203	\$102,591,201	\$33,309,709	\$81,977,105	0.61	1.48	14.85%
Total Distressed	\$10,000,000	\$300,000	0.97	\$9,700,000	\$0	\$14,106,593	\$1,474,057	\$15,580,650	\$5,880,650	\$1,774,057	1.45	1.61	10.35%
Total Fund of Funds	\$53,250,000	\$17,619,972	0.67	\$35,630,028	-\$15,283	\$7,810,000	\$43,693,408	\$51,503,408	\$15,888,663	\$61,313,380	0.22	1.45	11.85%
Total Secondaries	\$15,500,000	\$3,958,000	0.74	\$11,542,000	-\$903	\$10,284,054	\$10,560,531	\$20,844,585	\$9,303,488	\$14,518,531	0.89	1.81	17.64%
Total Venture Capital	\$30,500,000	\$8,510,000	0.72	\$21,990,000	\$21,253	\$15,500,782	\$32,117,605	\$47,618,387	\$25,607,134	\$40,627,605	0.70	2.16	19.94%
<b>Total</b>	<b>\$199,923,600</b>	<b>\$51,895,873</b>	<b>0.74</b>	<b>\$148,027,727</b>	<b>\$120,861</b>	<b>\$89,823,426</b>	<b>\$148,314,804</b>	<b>\$238,138,231</b>	<b>\$89,989,643</b>	<b>\$200,210,678</b>	<b>0.61</b>	<b>1.61</b>	<b>14.86%</b>



## Howard County Retirement Plans

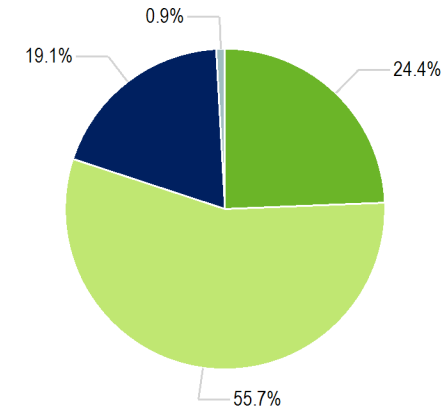
# ANALYSIS BY LIFECYCLE - Private Equity

Commitment by Lifecycle



Fundraising Investing Harvesting Liquidating

Unfunded Commitment by Lifecycle



Fundraising Investing Harvesting Liquidating

Investments	Commitments			Contributions & Distributions			Valuations			Performance		
	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Total Fundraising	\$15,000,000	\$12,650,000	0.16	\$2,350,000	\$0	\$0	\$2,252,360	\$2,252,360	-\$97,640	0.00	0.96	-5.41%
Total Investing	\$67,857,036	\$28,891,919	0.57	\$38,965,117	-\$15,283	\$2,997,061	\$44,058,417	\$47,055,478	\$8,105,644	0.08	1.21	9.52%
Total Harvesting	\$103,066,564	\$9,893,955	0.90	\$93,172,610	\$99,889	\$66,869,741	\$96,599,110	\$163,468,852	\$70,196,353	0.72	1.75	16.72%
Total Liquidating	\$14,000,000	\$460,000	0.97	\$13,540,000	\$36,255	\$19,956,625	\$5,404,917	\$25,361,542	\$11,785,287	1.47	1.87	12.42%
<b>Total</b>	<b>\$199,923,600</b>	<b>\$51,895,873</b>	<b>0.74</b>	<b>\$148,027,727</b>	<b>\$120,861</b>	<b>\$89,823,426</b>	<b>\$148,314,804</b>	<b>\$238,138,231</b>	<b>\$89,989,643</b>	<b>0.61</b>	<b>1.61</b>	<b>14.86%</b>



## Howard County Retirement Plans

# ANALYSIS BY LIFECYCLE - Private Equity

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
<b>Fundraising</b>												
NB Crossroads Fund XXII, L.P.	2019	\$5,000,000	\$2,650,000	\$2,350,000	\$0	\$0	\$2,222,348	\$2,222,348	-\$127,652	0.00	0.95	-7.06%
Vista Foundation Fund IV, L.P.	2020	\$10,000,000	\$10,000,000	\$0	\$0	\$0	\$30,012	\$30,012	\$30,012			
<b>Total Fundraising</b>		<b>\$15,000,000</b>	<b>\$12,650,000</b>	<b>\$2,350,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,252,360</b>	<b>\$2,252,360</b>	<b>-\$97,640</b>	<b>0.00</b>	<b>0.96</b>	<b>-5.41%</b>
<b>Investing</b>												
57 Stars Global Opportunity Fund 4 (US), L.P.	2015	\$7,000,000	\$2,108,972	\$4,891,028	-\$15,283	\$0	\$6,457,355	\$6,457,355	\$1,581,610	0.00	1.32	10.15%
Aberdeen U.S. Private Equity VII, L.P.	2017	\$5,000,000	\$2,200,000	\$2,800,000	\$0	\$463,232	\$3,433,530	\$3,896,762	\$1,096,762	0.17	1.39	27.92%
Greenspring Global Partners IX-B, L.P.	2019	\$7,250,000	\$4,640,000	\$2,610,000	\$0	\$0	\$2,645,680	\$2,645,680	\$35,680	0.00	1.01	1.86%
Greenspring Global Partners VIII-B, L.P.	2017	\$5,000,000	\$1,500,000	\$3,500,000	\$0	\$0	\$3,924,491	\$3,924,491	\$424,491	0.00	1.12	9.13%
Greenspring Opportunities VI, L.P.	2020	\$7,000,000	\$5,320,000	\$1,680,000	\$0	\$0	\$1,680,000	\$1,680,000	\$0	0.00	1.00	0.00%
HarbourVest Partners Co-Investment Fund IV AIV, L.P.	2018	\$574,142	\$312,689	\$261,453	\$0	\$0	\$143,066	\$143,066	-\$118,387	0.00	0.55	-27.41%
HarbourVest Partners Co-Investment Fund IV, L.P.	2017	\$9,425,858	\$1,598,095	\$7,827,763	\$0	\$1,650,450	\$7,939,491	\$9,589,941	\$1,762,178	0.21	1.23	8.94%
NB Crossroads Fund XXI, L.P.	2015	\$15,000,000	\$6,150,000	\$8,850,000	\$0	\$0	\$11,444,736	\$11,444,736	\$2,594,736	0.00	1.29	9.81%
Schroder Adveq Europe Direct II S.C.S.	2018	\$1,004,888	\$508,575	\$496,313	\$0	\$0	\$433,502	\$433,502	-\$62,811	0.00	0.87	-11.94%
Schroder Adveq Europe VI, L.P.	2015	\$6,738,837	\$1,711,710	\$5,027,127	\$0	\$883,378	\$4,952,436	\$5,835,814	\$808,687	0.18	1.16	7.61%
Schroder Adveq Europe VII S.C.S.	2018	\$3,863,311	\$2,841,878	\$1,021,433	\$0	\$0	\$1,004,131	\$1,004,131	-\$17,302	0.00	0.98	-1.69%
<b>Total Investing</b>		<b>\$67,857,036</b>	<b>\$28,891,919</b>	<b>\$38,965,117</b>	<b>-\$15,283</b>	<b>\$2,997,061</b>	<b>\$44,058,417</b>	<b>\$47,055,478</b>	<b>\$8,105,644</b>	<b>0.08</b>	<b>1.21</b>	<b>9.52%</b>
<b>Harvesting</b>												
Aberdeen U.S. Private Equity V, L.P.	2013	\$15,000,000	\$0	\$15,000,000	\$7,648	\$11,156,252	\$13,458,775	\$24,615,027	\$9,607,379	0.74	1.64	17.16%
Aberdeen U.S. Private Equity VI, L.P.	2014	\$15,000,000	\$975,000	\$14,025,000	\$0	\$5,440,306	\$13,733,218	\$19,173,524	\$5,148,524	0.39	1.37	15.24%
Crown Asia-Pacific Private Equity II PLC	2011	\$14,000,000	\$1,106,000	\$12,894,000	\$0	\$7,140,000	\$14,762,113	\$21,902,113	\$9,008,113	0.55	1.70	11.87%
Crown Asia-Pacific Private Equity III PLC	2014	\$5,000,000	\$965,000	\$4,035,000	\$0	\$670,000	\$6,161,176	\$6,831,176	\$2,796,176	0.17	1.69	21.33%
Crown Global Secondaries III PLC, L.P.	2012	\$10,000,000	\$2,850,000	\$7,150,000	\$0	\$6,180,000	\$4,298,273	\$10,478,273	\$3,328,273	0.86	1.47	12.90%
Greenspring Global Partners V-B, L.P.	2011	\$7,000,000	\$630,000	\$6,370,000	-\$16,154	\$7,532,000	\$9,484,775	\$17,016,775	\$10,662,929	1.19	2.68	21.73%
Greenspring Global Partners VI, L.P.	2014	\$7,500,000	\$900,000	\$6,600,000	\$1,152	\$2,118,750	\$13,097,479	\$15,216,229	\$8,615,077	0.32	2.31	22.92%
Greenspring Secondaries Fund I, L.P.	2014	\$2,500,000	\$100,000	\$2,400,000	-\$903	\$1,476,664	\$5,793,268	\$7,269,932	\$4,870,835	0.62	3.03	30.97%
HarbourVest 2013 Direct Fund, L.P.	2013	\$15,000,000	\$484,349	\$14,515,651	\$108,146	\$17,583,951	\$9,641,668	\$27,225,619	\$12,601,822	1.20	1.86	18.82%
Pantheon Global Secondary Fund IV, L.P.	2010	\$3,000,000	\$1,008,000	\$1,992,000	\$0	\$2,627,390	\$468,990	\$3,096,380	\$1,104,380	1.32	1.55	12.99%
Schroder Adveq Europe V, L.P.	2012	\$9,066,564	\$875,606	\$8,190,959	\$0	\$4,944,429	\$5,699,375	\$10,643,805	\$2,452,846	0.60	1.30	7.59%
<b>Total Harvesting</b>		<b>\$103,066,564</b>	<b>\$9,893,955</b>	<b>\$93,172,610</b>	<b>\$99,889</b>	<b>\$66,869,741</b>	<b>\$96,599,110</b>	<b>\$163,468,852</b>	<b>\$70,196,353</b>	<b>0.72</b>	<b>1.75</b>	<b>16.72%</b>



## Howard County Retirement Plans

# ANALYSIS BY LIFECYCLE - Private Equity

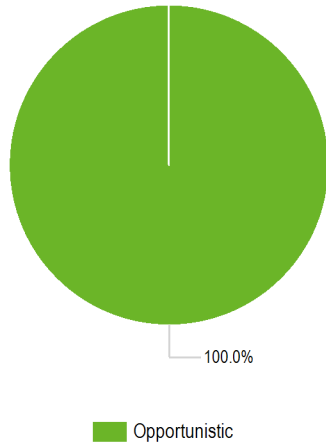
Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
<b>Liquidating</b>												
Greenspring Global Partners IV, L.P.	2008	\$4,000,000	\$160,000	\$3,840,000	\$36,255	\$5,850,032	\$3,930,860	\$9,780,892	\$5,904,637	1.51	2.52	16.90%
Siguler Guff Distressed Opportunities Fund III, L.P.	2007	\$10,000,000	\$300,000	\$9,700,000	\$0	\$14,106,593	\$1,474,057	\$15,580,650	\$5,880,650	1.45	1.61	10.35%
<b>Total Liquidating</b>		<b>\$14,000,000</b>	<b>\$460,000</b>	<b>\$13,540,000</b>	<b>\$36,255</b>	<b>\$19,956,625</b>	<b>\$5,404,917</b>	<b>\$25,361,542</b>	<b>\$11,785,287</b>	<b>1.47</b>	<b>1.87</b>	<b>12.42%</b>
<b>Total</b>		<b>\$199,923,600</b>	<b>\$51,895,873</b>	<b>\$148,027,727</b>	<b>\$120,861</b>	<b>\$89,823,426</b>	<b>\$148,314,804</b>	<b>\$238,138,231</b>	<b>\$89,989,643</b>	<b>0.61</b>	<b>1.61</b>	<b>14.86%</b>



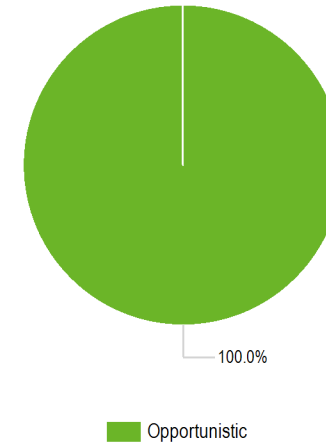
## Howard County Retirement Plans

# ANALYSIS BY STRATEGY - Real Estate

Private Markets Valuation by Strategy



Private Markets Fund Exposure by Strategy



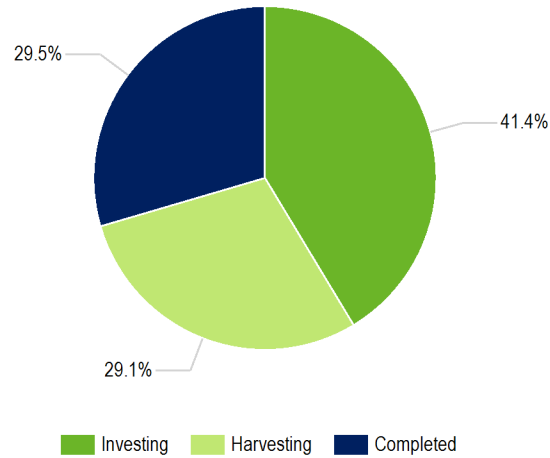
Investments	Commitments			Contributions & Distributions			Valuations				Performance		
Investment Strategy	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI	IRR
Total Opportunistic	\$49,633,569	\$14,894,325	0.70	\$34,739,244	\$151,453	\$17,775,536	\$26,260,553	\$44,036,089	\$9,145,392	\$41,154,879	0.51	1.26	6.70%
Total Value Add	\$35,000,000	\$0	1.00	\$35,000,000	\$0	\$46,234,384	\$0	\$46,234,384	\$11,234,384	\$0	1.32	1.32	4.75%
Total	\$84,633,569	\$14,894,325	0.82	\$69,739,244	\$151,453	\$64,009,920	\$26,260,553	\$90,270,473	\$20,379,776	\$41,154,879	0.92	1.29	5.34%



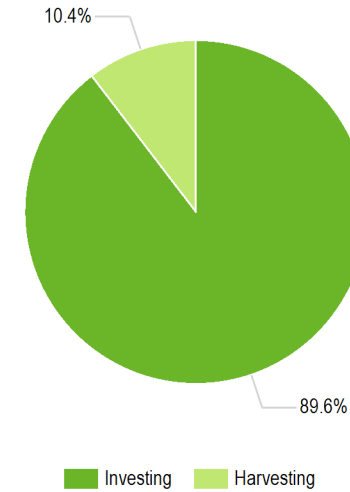
## Howard County Retirement Plans

# ANALYSIS BY LIFECYCLE - Real Estate

Commitment by Lifecycle



Unfunded Commitment by Lifecycle



Investments	Commitments			Contributions & Distributions			Valuations			Performance		
	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Total Investing	\$35,000,000	\$13,342,042	0.62	\$21,657,958	\$85,580	\$5,258,096	\$22,578,855	\$27,836,951	\$6,093,413	0.24	1.28	8.76%
Total Harvesting	\$24,633,569	\$1,552,283	0.94	\$23,081,287	\$65,873	\$22,444,574	\$3,681,698	\$26,126,272	\$2,979,113	0.97	1.13	1.90%
Total Completed	\$25,000,000	\$0	1.00	\$25,000,000	\$0	\$36,307,250	\$0	\$36,307,250	\$11,307,250	1.45	1.45	7.20%
<b>Total</b>	<b>\$84,633,569</b>	<b>\$14,894,325</b>	<b>0.82</b>	<b>\$69,739,244</b>	<b>\$151,453</b>	<b>\$64,009,920</b>	<b>\$26,260,553</b>	<b>\$90,270,473</b>	<b>\$20,379,776</b>	<b>0.92</b>	<b>1.29</b>	<b>5.34%</b>



## Howard County Retirement Plans

# ANALYSIS BY LIFECYCLE - Real Estate

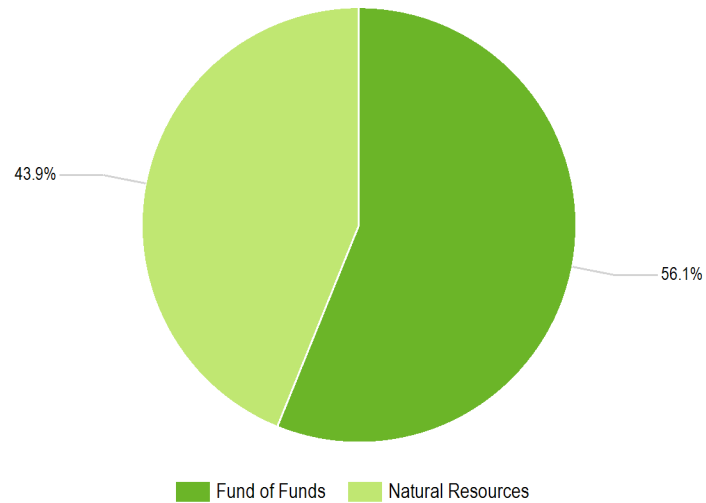
Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
<b>Investing</b>												
Partners Group Global Real Estate 2014 (USD) A, L.P. Inc.	2014	\$25,000,000	\$8,200,417	\$16,799,583	\$35,548	\$5,255,596	\$17,476,428	\$22,732,024	\$5,896,893	0.31	1.35	9.00%
Partners Group Real Estate Secondary 2017 (USD) A, L.P.	2018	\$10,000,000	\$5,141,626	\$4,858,374	\$50,032	\$2,500	\$5,102,427	\$5,104,927	\$196,521	0.00	1.04	4.53%
<b>Total Investing</b>		<b>\$35,000,000</b>	<b>\$13,342,042</b>	<b>\$21,657,958</b>	<b>\$85,580</b>	<b>\$5,258,096</b>	<b>\$22,578,855</b>	<b>\$27,836,951</b>	<b>\$6,093,413</b>	<b>0.24</b>	<b>1.28</b>	<b>8.76%</b>
<b>Harvesting</b>												
Partners Group Global Real Estate 2011, L.P.	2011	\$14,633,569	\$1,552,283	\$13,081,287	\$65,873	\$12,517,440	\$3,681,698	\$16,199,138	\$3,051,979	0.95	1.23	4.77%
TA Associates Realty Fund VIII, L.P.	2006	\$10,000,000	\$0	\$10,000,000	\$0	\$9,927,134	\$0	\$9,927,134	-\$72,866	0.99	0.99	-0.08%
<b>Total Harvesting</b>		<b>\$24,633,569</b>	<b>\$1,552,283</b>	<b>\$23,081,287</b>	<b>\$65,873</b>	<b>\$22,444,574</b>	<b>\$3,681,698</b>	<b>\$26,126,272</b>	<b>\$2,979,113</b>	<b>0.97</b>	<b>1.13</b>	<b>1.90%</b>
<b>Completed</b>												
TA Associates Realty Fund IX, L.P.	2008	\$10,000,000	\$0	\$10,000,000	\$0	\$16,015,604	\$0	\$16,015,604	\$6,015,604	1.60	1.60	10.42%
TA Associates Realty Fund VI, L.P.	2002	\$10,000,000	\$0	\$10,000,000	\$0	\$15,172,037	\$0	\$15,172,037	\$5,172,037	1.52	1.52	8.55%
TA Associates Realty Fund VII, L.P.	2005	\$5,000,000	\$0	\$5,000,000	\$0	\$5,119,609	\$0	\$5,119,609	\$119,609	1.02	1.02	0.34%
<b>Total Completed</b>		<b>\$25,000,000</b>	<b>\$0</b>	<b>\$25,000,000</b>	<b>\$0</b>	<b>\$36,307,250</b>	<b>\$0</b>	<b>\$36,307,250</b>	<b>\$11,307,250</b>	<b>1.45</b>	<b>1.45</b>	<b>7.20%</b>
<b>Total</b>		<b>\$84,633,569</b>	<b>\$14,894,325</b>	<b>\$69,739,244</b>	<b>\$151,453</b>	<b>\$64,009,920</b>	<b>\$26,260,553</b>	<b>\$90,270,473</b>	<b>\$20,379,776</b>	<b>0.92</b>	<b>1.29</b>	<b>5.34%</b>



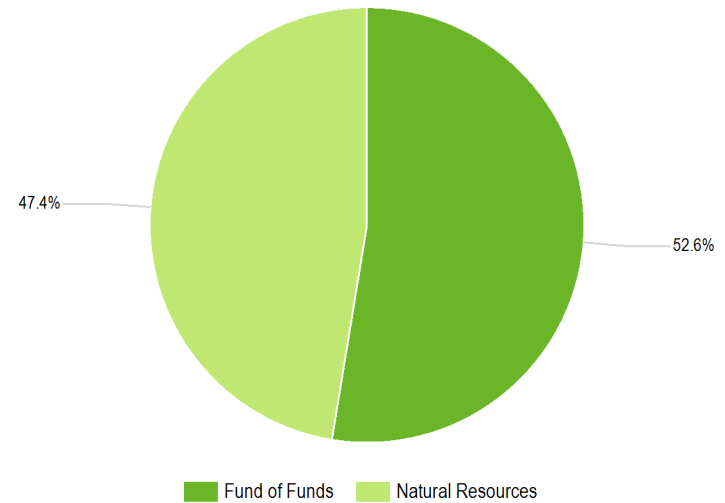
## Howard County Retirement Plans

# ANALYSIS BY STRATEGY - Real Assets

Private Markets Valuation by Strategy



Private Markets Fund Exposure by Strategy



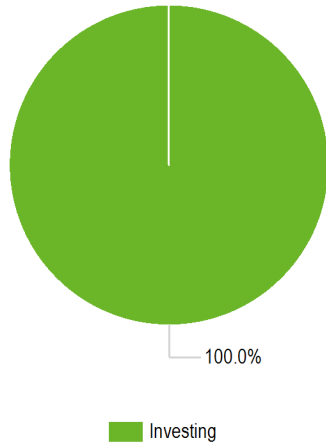
Investments	Commitments			Contributions & Distributions			Valuations				Performance		
	Investment Strategy	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI
Total Fund of Funds	\$15,000,000	\$8,107,432	0.46	\$6,892,568	-\$17,052	\$0	\$6,321,036	\$6,321,036	-\$554,480	\$14,428,468	0.00	0.92	-4.55%
Total Natural Resources	\$15,000,000	\$8,070,000	0.46	\$6,930,000	\$0	\$1,793,767	\$4,938,270	\$6,732,037	-\$197,963	\$13,008,270	0.26	0.97	-2.26%
Total	\$30,000,000	\$16,177,432	0.46	\$13,822,568	-\$17,052	\$1,793,767	\$11,259,306	\$13,053,073	-\$752,443	\$27,436,738	0.13	0.95	-3.59%



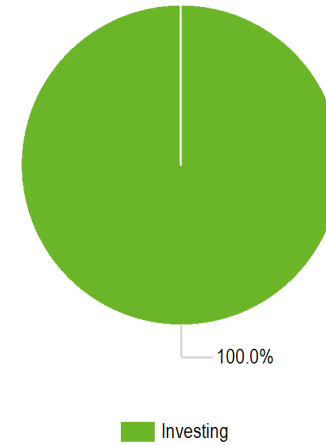
## Howard County Retirement Plans

# ANALYSIS BY LIFECYCLE - Real Assets

Commitment by Lifecycle



Unfunded Commitment by Lifecycle



Investments	Commitments			Contributions & Distributions			Valuations			Performance		
Lifecycle	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
<b>Total Investing</b>	\$30,000,000	\$16,177,432	0.46	\$13,822,568	-\$17,052	\$1,793,767	\$11,259,306	\$13,053,073	-\$752,443	0.13	0.95	-3.59%
<b>Total</b>	\$30,000,000	\$16,177,432	0.46	\$13,822,568	-\$17,052	\$1,793,767	\$11,259,306	\$13,053,073	-\$752,443	0.13	0.95	-3.59%



## Howard County Retirement Plans

# ANALYSIS BY LIFECYCLE - Real Assets

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
<b>Investing</b>												
Aether Real Assets IV, L.P.	2015	\$7,500,000	\$1,976,148	\$5,523,852	-\$906	\$0	\$4,990,344	\$4,990,344	-\$532,602	0.00	0.90	-5.00%
Aether Real Assets V, L.P.	2018	\$7,500,000	\$6,131,284	\$1,368,716	-\$16,146	\$0	\$1,330,692	\$1,330,692	-\$21,878	0.00	0.98	-1.46%
Commonfund Capital Natural Resources Partners XI, L.P.	2018	\$7,500,000	\$5,831,250	\$1,668,750	\$0	\$0	\$1,139,803	\$1,139,803	-\$528,947	0.00	0.68	-64.19%
Commonfund Capital Natural Resources Partners X, L.P.	2015	\$7,500,000	\$2,238,750	\$5,261,250	\$0	\$1,793,767	\$3,798,467	\$5,592,234	\$330,984	0.34	1.06	3.92%
<b>Total Investing</b>		<b>\$30,000,000</b>	<b>\$16,177,432</b>	<b>\$13,822,568</b>	<b>-\$17,052</b>	<b>\$1,793,767</b>	<b>\$11,259,306</b>	<b>\$13,053,073</b>	<b>-\$752,443</b>	<b>0.13</b>	<b>0.95</b>	<b>-3.59%</b>
<b>Total</b>		<b>\$30,000,000</b>	<b>\$16,177,432</b>	<b>\$13,822,568</b>	<b>-\$17,052</b>	<b>\$1,793,767</b>	<b>\$11,259,306</b>	<b>\$13,053,073</b>	<b>-\$752,443</b>	<b>0.13</b>	<b>0.95</b>	<b>-3.59%</b>



# NEPC'S DUE DILIGENCE MONITOR

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee Recommendations
Baillie Gifford EAFE Pure	Loss of Personnel: Baillie Gifford - Retirement Announcement of Charles Plowden and Team Update Changes 05/18/20	1. No Action
Dodge & Cox Core Fixed Income	Loss of Personnel: Larissa Roesch retirement 05/18/20	1. No Action
Magnitude International	Loss of Personnel: Departure of Eric Stiles, Partner 07/07/20	2. Watch (Searches Ok)
Mondrian International Equity	Loss of Personnel: Melissa Platt, Portfolio Manager and Natasha Nussbaum, Assistant Portfolio Manager left Mondrian 06/08/20	1. No Action

# NEPC'S DUE DILIGENCE MONITOR DETAIL

Investment Options	Commentary	NEPC Rating
Baillie Gifford EAFE Pure	<p>Baillie Gifford announced that Charles Plowden, portfolio manager for Global Alpha and joint senior partner will retire in April 2021 after 38 years with the firm. Andrew Telfer has been a joint senior partner with Mr. Plowden since 2012, and acts as the firm's CEO. They share the chairing of the partners quarterly meeting and set the agenda for these meetings, Mr. Plowden is also on the Strategic Leadership Group which helps set the firm's long-term agenda. Malcolm MacColl has been appointed the new joint senior partner and will take on the role effective May 2021. Like Mr. Plowden, Mr. MacColl's main job will be to invest on behalf of clients as a member of the Global Alpha team. Mr. MacColl is already a member of the firm's Management Committee, he will also become a member of their leadership group for the investment department which is called the Investment Management Group. He will share the chairing of the partners quarterly meeting. Mr. Plowden currently spends 20% of his time on joint senior partner roles. Like every partner, he spends some time on management or governance roles. It will be a little bit more for Mr. MacColl, perhaps 30% as the roles on the Management Committee and Investment Management Group are ones that Mr. Plowden does not have. The Partnership has been working on this for some time, and the one-year notice period reflects their careful approach to succession planning, ensuring an orderly transition before Mr. MacColl takes up his role.</p> <p>Global Alpha: As a result of Mr. Plowden's announcement, Helen Xiong will join the Global Alpha team at the end of May 2020, transitioning from the US Equity team and will join decision makers Malcolm MacColl and Spencer Adair. Messrs. MacColl and Adair have been on the Global Alpha team since 2005. Ms. Xiong will become a decision maker on the team in May 2021. She has been involved in Global Alpha as an analyst from 2012-2014 an as an idea generation scout.</p> <p>US Equity: With Helen Xiong stepping down from her institutional decision-making responsibilities for US Equity at the end of May 2020, Baillie Gifford has announced that Dave Bujnowski will become a decision maker on the US Equity strategy, joining three other US Equity managers on the team, Tom Slater (Team Head), Gary Robinson, and Kirsty Gibson. Baillie Gifford is a sub-advisor to the Vanguard US Growth Fund, along with Jackson Square, Jennison, Wellington, and Vanguard's Quantitative Equity Group.</p> <p>Also, James Anderson will take a further step back from the day to day portfolio management of the Long Term Global Growth strategy in order to focus more on research. He retains his responsibilities as a member of the International Growth Portfolio Construction Group. Baillie Gifford is also a sub-advisor to the Vanguard International Growth Fund, along with Schroder Investment Management North America Inc.</p>	NR
Dodge & Cox Core Fixed Income	<p>Larissa Roesch is a senior fixed income professional at Dodge &amp; Cox. She has made the decision to retire at the end of 2020 after 23 years at D&amp;C. She is not going somewhere else, but there is a "family matter of some urgency" driving the decision. Larissa was on the US Fixed Income Investment Committee, Credit Sector Committee and liability hedging strategy.</p> <p>No replacement to the committee or team. Most recently Nils Reuter (structured products) and Mike Keidel (credit) were added to the US Fixed Income Investment Committee, approximately 2 years ago. Total committee members will total 8 after Larissa's departure.</p>	1

# NEPC'S DUE DILIGENCE MONITOR DETAIL

Investment Options	Commentary	NEPC Rating
Magnitude International	<p>Magnitude Capital ("Magnitude" or the "Firm") recently informed NEPC of the departure of Partner and Investment Committee (IC) member Eric Stiles. Mr. Stiles has been with the Firm for nine years. His background is in long/short equity and equity derivatives strategies. He has 32 years of industry experience. At this time NEPC has not received all details of his departure, only that his duties were ceased effective immediately but he remains an investor and equity holder. We do not know at this time whether Mr. Stiles is pursuing another opportunity. What we do know is that Magnitude prides itself on creating an efficient organizational structure that mitigates key person risk and encourages productive team dynamics. All decisions, including risk management, are made by committee. Each member of the IC is expected to know and understand every portfolio fund with detailed knowledge of the underlying businesses and the strategies they manage. During the underwriting of Magnitude International (the "Fund") we noted the Firm's committee structure and its alleviation of individual personnel risk to a high extent. We named Founding Partner and Co-Chair of the IC, Ben Appen as our only concern when considering key man risk. Earlier this year, Magnitude made the decision to close its Magnitude Systematic strategy, a fund of "best idea" equity positions that was launched in 2018. The closing of this strategy is now timely as it allows more time to Mr. Appen who helped manage the strategy.</p> <p>Mr. Stiles had lead coverage responsibility for 12 underlying managers. With Mr. Appen having more availability, and with the other three IC members remaining, the team feels it is fully equipped to absorb Mr. Stiles' coverage. Due to the fund of funds structure, there is no immediate trading or position-level risk and, given the IC's deep knowledge of all portfolio funds, we believe the team is adequately staffed to manage the Fund. Magnitude is also hyper aware of team dynamics and maintaining its business culture. The committee members have spent time developing communication and learning "productive disagreement" in their decision-making discussions. Replacing Mr. Stiles therefore is likely to be a lengthy process.</p> <p>In addition to the Firm's committee-based approach, much of the analysis performed by the investment team is quantitative in nature and relies on proprietary models (among other sources). Mr. Stiles was involved in, but not key to, the development of some of these models. Maintaining competitive proprietary information and continuing the use of, and development of, proprietary models is not affected by the departure of Mr. Stiles.</p> <p>Overall, NEPC is always cautious when assessing senior personnel departures. For this reason, we feel a recommendation of Watch elevates our monitoring of the strategy in the coming periods to ensure the team can function adequately and perform their duties whilst not impairing our ability to invest in a strategy that we believe to be robust. We will continue to communicate any changes to this recommendation as we receive further information.</p>	1

# NEPC'S DUE DILIGENCE MONITOR DETAIL

Investment Options	Commentary	NEPC Rating
Mondrian International Equity	<p>Melissa Platt, Portfolio Manager and Natasha Nussbaum, Assistant Portfolio Manager left Mondrian and the All Countries World Ex US Equity strategy team in July and September 2019 respectively. Melissa was also a portfolio manager on the Mondrian International Equity Fund.</p> <p>Melissa Platt was a Portfolio Manager on the Mondrian All Countries World Ex US Equity strategy team with regional and market responsibilities. Portfolio managers/analysts are considered generalists in so far as the company adheres to a dividend methodology consistently applied to all markets and stocks, but also specialists from their detailed knowledge of the countries and sectors they cover. Melissa's research responsibilities were primarily focused in the consumer sectors and in southern Europe. In addition to her research role, she was a portfolio manager for the Mondrian International Equity Fund and managed a number of client relationships. Melissa's departure was planned for over the fifteen months prior to her departure. Melissa worked with senior management and the rest of the team to ensure a smooth transition of her research and client responsibilities. She left Mondrian to return to her native New Zealand. She planned to return with her family so that her children could complete their secondary education in their home country.</p> <p>Natasha Nussbaum was a junior member of the team who had recently been promoted from Research Analyst to Assistant Portfolio Manager. Natasha worked with other senior members of the team covering specific projects in Japan, European Equities, Consumer sectors and Tech/Telecom. She chose to pursue opportunities outside of the investment management industry. She transitioned her responsibilities over the standard three months' notice period.</p> <p>By the time of their respective departures, Melissa and Natasha's portfolio research coverage had been transitioned to other members of the team. In Melissa's case this involved transfer of responsibility for three stocks on the portfolio representing 4.5-5% and in Natasha's case this was one stock of about 1.8% of the portfolio.</p> <p>Developed markets equity research at Mondrian is supported by a team of 15 investment professionals. For some time, Mondrian has had a cross-matrix approach to covering country and sector investment research; this dual coverage of research responsibilities enables them to have flexibility in allocating resources to investment ideas and it also allows them to transition investment professionals within the firm without losing continuity of coverage.</p> <p>Various members of the team took on Melissa and Natasha's research responsibilities, including Zsolt Mester (southern Europe), Chris Davis (relevant Japan research), and Kawal Chawla (specific consumer staples research under the supervision of Alex Simcox). While Mondrian regularly recruits ahead of need, Kawal Chawla was hired to support the overall team therefore enabling more experienced team members to take on additional responsibilities. They also have an additional team member who joined the firm very recently and is currently working through the probationary period as a Research Analyst.</p> <p>The membership of the International Equity Strategy Committee which makes the final strategy decisions for Mondrian's international equity portfolios remained unchanged, as neither Melissa nor Natasha were members of this committee.</p> <p>BIOS:</p> <p><b>Alex D. Simcox - Senior Portfolio Manager</b> Mr. Simcox graduated from Robinson College, Cambridge with a degree in History. He worked at Ernst and Young LLP for four years, where he qualified as a Chartered Accountant, before joining the Non-US Equity Team at Mondrian in 2007. Mr. Simcox is a CFA Charterholder, and a member of the CFA Institute, the CFA Society of the UK, and the Institute of Chartered Accountants of Scotland.</p> <p><b>Christopher Davis - Portfolio Manager</b> Mr. Davis graduated from Selwyn College, Cambridge University with an MA in Modern and Medieval Languages. Prior to joining Mondrian's International Equity Team in 2014, he worked at PwC in London and Madrid, where he qualified as a Chartered Accountant and worked in the Investment Management and Deals Strategy divisions. Mr. Davis is a CFA Charterholder, and a member of the CFA Institute, the CFA Society of the UK, and the Institute of Chartered Accountants of England and Wales.</p> <p><b>Zsolt Mester - Portfolio Manager</b> Mr. Mester holds a BSc (First Class) and an MSc (with Distinction) in Financial Economics from the University of London and an MPhil in Economics from the University of Oxford. After graduation, Mr. Mester worked for three years as an equity research analyst. Mr. Mester joined Mondrian in 2014 in the International Equities team. Mr. Mester is a CFA Charterholder and a member of the CFA Institute and the CFA Society of the UK.</p> <p><b>Kawal Chawla - Assistant Portfolio Manager</b> Mr. Chawla holds a Masters in Finance from London Business School and a BSc (Hons) in Economics from the University of Birmingham. Prior to joining Mondrian's International Equity team in 2019, he worked as an equity investment analyst in Germany and has previously held various roles in the Global Banking and Markets division at HSBC in London. Mr. Chawla is a CFA level II candidate.</p>	1



# TOTAL EQUITY COMPOSITE

3 Year Risk Return



3 Year Style Analysis



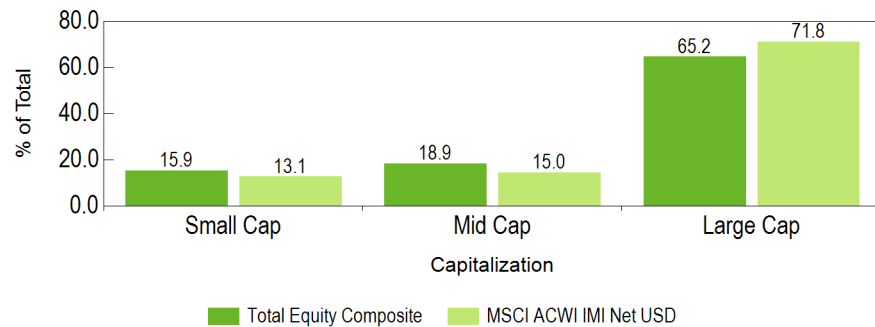
## Howard County Retirement Plans

# TOTAL EQUITY COMPOSITE

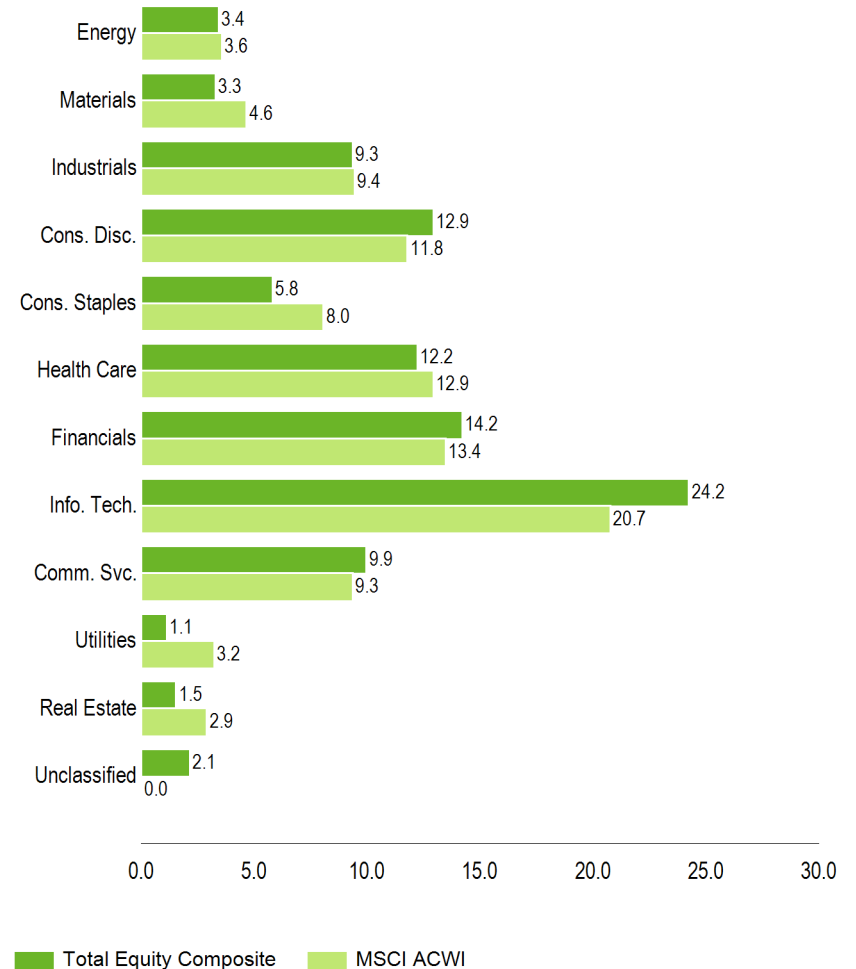
Characteristics		
	Portfolio	MSCI ACWI IMI Net USD
Number of Holdings	3,309	8,783
Weighted Avg. Market Cap. (\$B)	171.5	207.7
Median Market Cap. (\$B)	0.8	1.7
Price To Earnings	18.0	19.2
Price To Book	3.4	3.3
Price To Sales	1.7	1.8
Return on Equity (%)	14.9	16.6
Yield (%)	2.0	2.2
Beta	1.0	1.0
R-Squared	1.0	1.0

Region Weighting	Portfolio Q2-20	Index Q2-20
Americas	56.21	60.94
Europe	11.58	17.84
Asia/Pacific	31.57	19.95
Other	0.64	1.26

### Market Capitalization As of June 30, 2020



### Equity Sector Allocation



## Howard County Retirement Plans

# TOTAL EQUITY COMPOSITE

Top Ten Holdings	
AMAZON.COM INC	2.1%
APPLE INC	1.8%
MICROSOFT CORP	1.6%
CASH - USD	1.5%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	1.5%
ALPHABET INC	1.4%
FACEBOOK INC	1.2%
SAMSUNG ELECTRONICS CO LTD	1.2%
BABA-SW ORD	1.2%
RELIANCE INDUSTRIES LTD	1.0%

Top Positive Contributors		
	Relative Contribution %	Return %
ZALANDO SE	0.3%	84.7%
SPOTIFY TECHNOLOGY S.A	0.3%	112.6%
MERCADOLIBRE INC	0.3%	101.8%
SEA LTD	0.3%	142.0%
NVIDIA CORPORATION	0.2%	44.2%
ASML HOLDING NV	0.2%	38.7%
SERVICENOW INC	0.2%	41.3%
QUIDEL CORP	0.2%	128.7%
RELIANCE INDUSTRIES LTD	0.2%	54.8%
COMPAGNIE DE SAINT GOBAIN SA	0.2%	48.0%

Top Negative Contributors		
	Relative Contribution %	Return %
APPLE INC	-0.5%	43.8%
MICROSOFT CORP	-0.3%	29.4%
AMAZON.COM INC	-0.2%	41.5%
CHINA TOWER CORPORATION LTD	-0.1%	-20.5%
FUJIFILM HOLDINGS CORP	-0.1%	-15.2%
QUALCOMM INC.	-0.1%	35.9%
CHINA MOBILE LTD	-0.1%	-6.4%
JARDINE MATHESON HOLDINGS LTD	-0.1%	-16.5%
JOHNSON & JOHNSON	0.0%	8.0%
LVMH MOET HENNESSY LOUIS VUITTON SE	0.0%	18.1%

	Equity Sector Attribution										
	Total Effects	Selection Effect	Attribution Effects			Returns		Sector Weights			
			Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.3%	-0.2%	0.4%	-0.5%	22.2%	45.5%	2.8%	0.6%			
Materials	-0.1%	0.0%	-0.1%	0.0%	21.5%	21.8%	3.0%	2.1%			
Industrials	-0.9%	-0.3%	-0.5%	-0.1%	18.6%	21.5%	13.1%	6.7%			
Consumer Discretionary	-0.5%	-0.3%	-0.4%	0.1%	35.4%	36.3%	11.0%	16.3%			
Consumer Staples	-0.8%	-0.1%	-0.6%	-0.1%	8.5%	12.6%	6.3%	2.9%			
Health Care	-0.6%	-0.3%	-0.3%	0.0%	19.3%	21.5%	13.2%	9.0%			
Financials	-2.0%	-0.4%	-0.8%	-0.8%	13.9%	21.9%	14.8%	3.7%			
Information Technology	-1.9%	-2.0%	-1.0%	1.1%	29.6%	34.1%	20.9%	39.7%			
Communication Services	-0.1%	-0.5%	0.2%	0.2%	23.0%	25.7%	9.6%	14.3%			
Utilities	-0.4%	0.0%	-0.2%	-0.3%	8.1%	20.5%	2.0%	0.0%			
Real Estate	0.5%	0.0%	0.5%	0.0%	13.9%	13.4%	1.7%	4.7%			
Cash	-0.4%	0.0%	-0.4%	0.0%	0.0%	--	1.5%	0.0%			
<b>Portfolio</b>	<b>-7.5%</b>	<b>=</b>	<b>-3.9%</b>	<b>+</b>	<b>-3.2%</b>	<b>+</b>	<b>-0.4%</b>	<b>21.6%</b>	<b>29.0%</b>	<b>100.0%</b>	<b>100.0%</b>

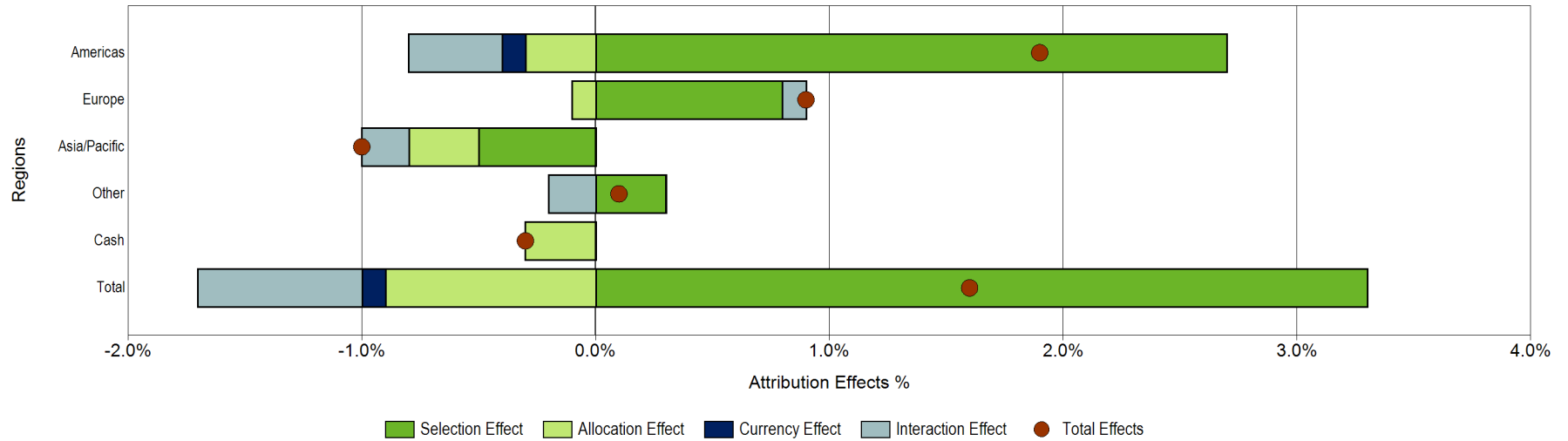
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



# Howard County Retirement Plans

## TOTAL EQUITY COMPOSITE

Total Equity Composite Performance Attribution vs. MSCI ACWI IMI Net USD



	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
<b>Totals</b>									
Americas	26.5%	22.2%	50.3%	59.7%	2.7%	-0.3%	-0.1%	-0.4%	1.9%
Europe	21.3%	16.8%	20.1%	18.5%	0.8%	-0.1%	0.0%	0.1%	0.9%
Asia/Pacific	13.6%	16.6%	27.7%	20.6%	-0.5%	-0.3%	0.0%	-0.2%	-1.0%
Other	39.9%	19.0%	0.4%	1.2%	0.3%	0.0%	0.0%	-0.2%	0.1%
Cash	0.0%	--	1.5%	0.0%	0.0%	-0.3%	0.0%	0.0%	-0.3%
<b>Total</b>	<b>21.6%</b>	<b>20.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>3.3%</b>	<b>-0.9%</b>	<b>-0.1%</b>	<b>-0.7%</b>	<b>1.6%</b>
<b>Totals</b>									
Developed	22.5%	20.1%	86.4%	88.3%	2.2%	0.0%	-0.2%	0.0%	2.0%
Emerging*	17.7%	18.9%	12.1%	11.7%	-0.2%	0.0%	0.1%	0.0%	-0.1%
Cash	0.0%	--	1.5%	0.0%	0.0%	-0.3%	0.0%	0.0%	-0.3%



## Howard County Retirement Plans

# TOTAL EQUITY COMPOSITE

Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>Americas</b>				
Brazil*	0.3%	0.6%	30.3%	23.8%
Canada	0.1%	2.8%	27.0%	23.3%
Chile*	0.1%	0.1%	21.7%	18.6%
Colombia*	0.0%	0.0%	-0.7%	10.3%
Mexico*	0.1%	0.2%	19.1%	11.8%
United States	49.6%	55.9%	26.5%	22.2%
<b>Total-Americas</b>	<b>50.3%</b>	<b>59.7%</b>	<b>26.5%</b>	<b>22.2%</b>
<b>Europe</b>				
Belgium	0.0%	0.3%	9.9%	14.1%
Czech Republic*	0.0%	0.0%	30.6%	23.4%
Denmark	0.2%	0.6%	15.1%	19.9%
Finland	0.3%	0.3%	21.4%	22.4%
France	2.0%	2.9%	22.1%	16.8%
Germany	3.0%	2.4%	38.7%	27.8%
Greece*	0.0%	0.0%	11.2%	16.6%
Hungary*	0.0%	0.0%	2.9%	14.6%
Ireland	0.4%	0.2%	20.5%	20.4%
Italy	0.7%	0.7%	12.5%	17.3%
Netherlands	1.4%	1.1%	32.7%	25.8%
Poland*	0.1%	0.1%	34.0%	23.0%
Portugal	0.5%	0.1%	-3.0%	13.5%
Russia*	0.8%	0.4%	19.1%	19.3%
Spain	0.8%	0.7%	1.3%	10.5%
Sweden	2.1%	1.0%	28.8%	23.5%
Switzerland	2.2%	3.0%	11.2%	12.3%
United Kingdom	5.6%	4.4%	16.5%	10.0%
<b>Total-Europe</b>	<b>20.1%</b>	<b>18.5%</b>	<b>21.3%</b>	<b>16.8%</b>

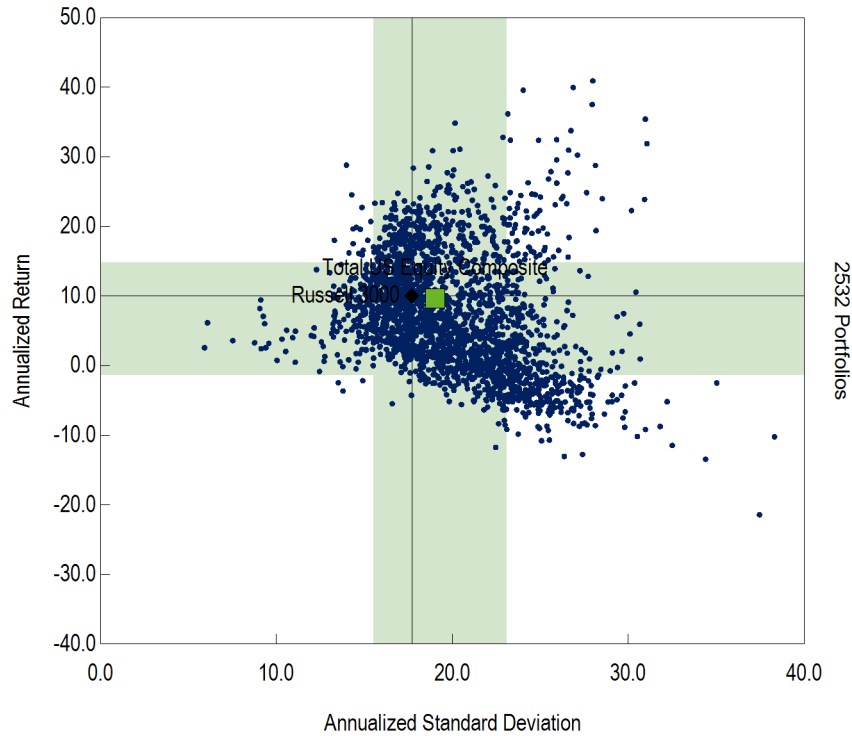
Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>AsiaPacific</b>				
Australia	0.9%	1.8%	25.1%	31.8%
China*	3.0%	4.4%	6.7%	14.7%
Hong Kong	4.7%	1.0%	8.9%	9.5%
India*	2.7%	1.0%	24.3%	22.3%
Indonesia*	0.7%	0.2%	20.5%	26.2%
Japan	9.7%	8.1%	12.5%	11.8%
Korea*	1.4%	1.5%	15.2%	20.5%
Malaysia*	0.2%	0.2%	11.9%	16.4%
New Zealand	0.4%	0.1%	44.7%	27.3%
Philippines*	0.1%	0.1%	8.7%	19.7%
Singapore	1.6%	0.4%	2.8%	12.0%
Taiwan*	2.1%	1.6%	20.2%	23.4%
Thailand*	0.3%	0.3%	17.7%	27.6%
<b>Total-AsiaPacific</b>	<b>27.7%</b>	<b>20.6%</b>	<b>13.6%</b>	<b>16.6%</b>
<b>Other</b>				
Israel	0.1%	0.2%	31.8%	15.1%
South Africa*	0.2%	0.4%	47.1%	27.6%
Turkey*	0.0%	0.1%	17.4%	23.1%
<b>Total-Other</b>	<b>0.4%</b>	<b>1.2%</b>	<b>39.9%</b>	<b>19.0%</b>
<b>Totals</b>				
Developed	86.4%	88.3%	22.5%	20.1%
Emerging*	12.1%	11.7%	17.7%	18.9%
Cash	1.5%		0.0%	

Country\* = Emerging Markets



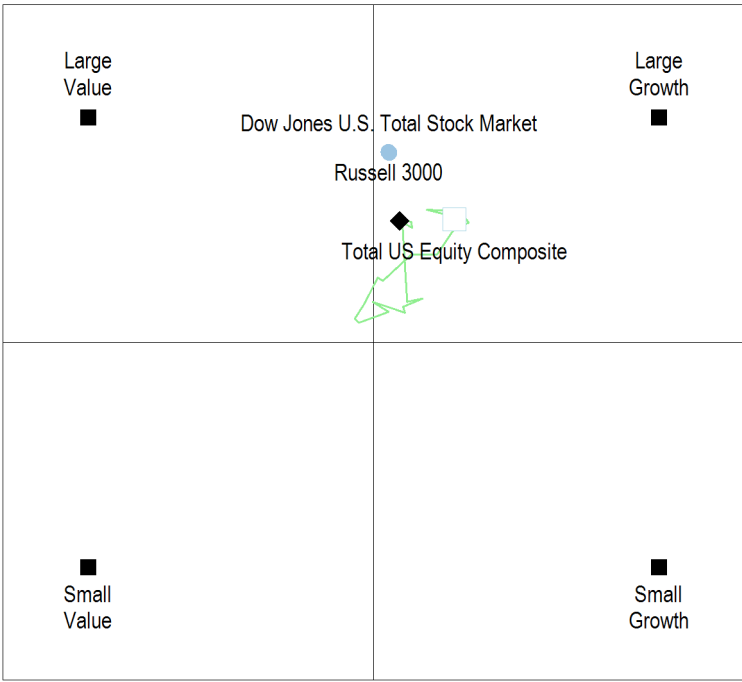
# TOTAL US EQUITY COMPOSITE

3 Year Risk Return



- Total US Equity Composite
- ◆ Russell 3000
- 68% Confidence Interval
- eV All US Equity Gross

3 Year Style Analysis



- First Rolling Period
- ◆ Last Rolling Period

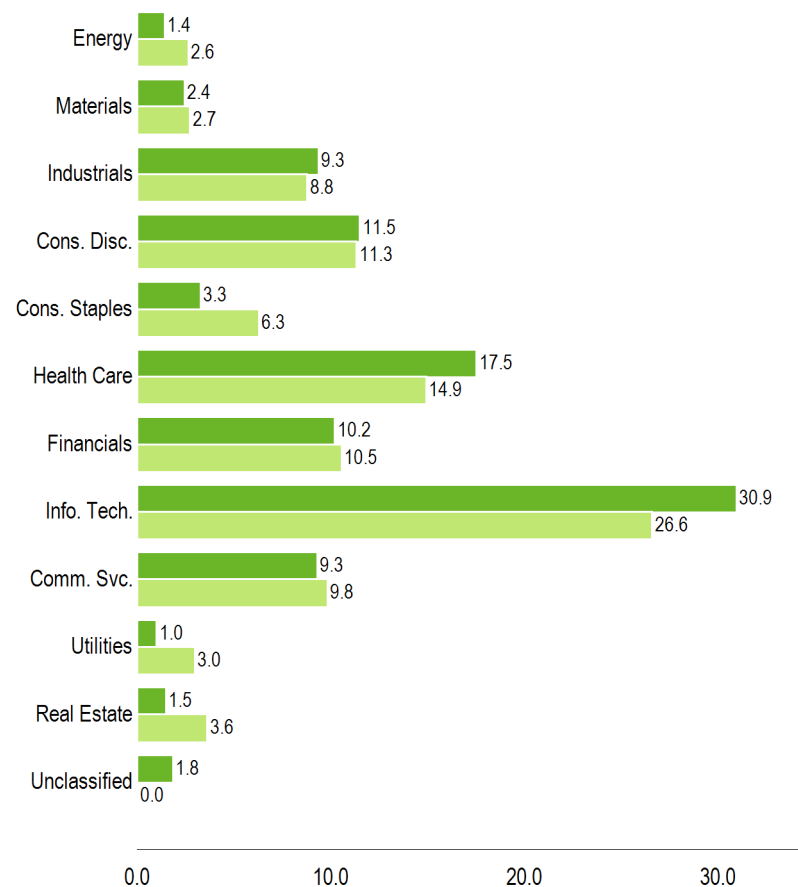


## Howard County Retirement Plans

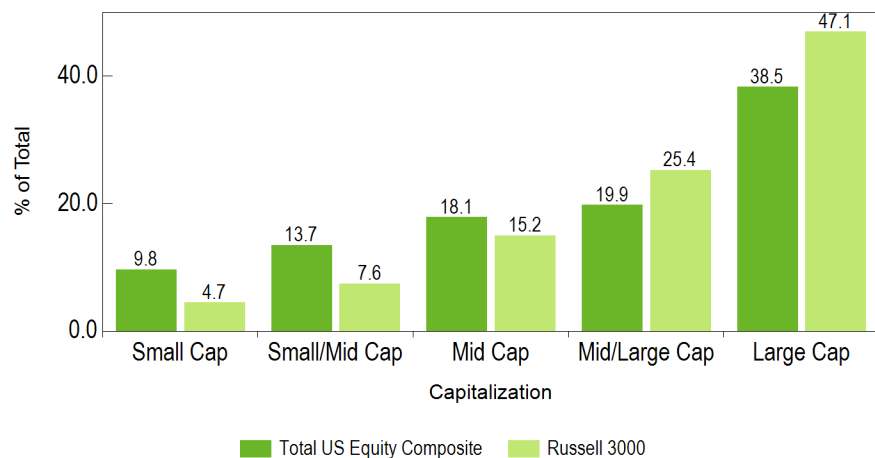
# TOTAL US EQUITY COMPOSITE

Characteristics		
	Portfolio	Russell 3000
Number of Holdings	413	3,009
Weighted Avg. Market Cap. (\$B)	249.6	309.4
Median Market Cap. (\$B)	4.9	1.4
Price To Earnings	20.5	22.4
Price To Book	3.8	4.0
Price To Sales	2.1	2.5
Return on Equity (%)	18.4	19.5
Yield (%)	1.5	1.7
Beta	1.1	1.0
R-Squared	1.0	1.0

## Equity Sector Allocation



## Market Capitalization As of June 30, 2020



■ Total US Equity Composite ■ Russell 3000



## Howard County Retirement Plans

# TOTAL US EQUITY COMPOSITE

Top Ten Holdings	
AMAZON.COM INC	4.1%
APPLE INC	3.5%
MICROSOFT CORP	3.1%
ALPHABET INC	2.8%
FACEBOOK INC	2.2%
SALESFORCE.COM INC	1.6%
VISA INC	1.6%
HUMANA INC.	1.5%
SERVICENOW INC	1.5%
CASH - USD	1.5%

Top Positive Contributors		
	Relative Contribution %	Return %
SERVICENOW INC	0.5%	41.3%
QUIDEL CORP	0.4%	128.7%
PAYPAL HOLDINGS INC	0.4%	82.0%
HUMANA INC.	0.3%	23.7%
ALPHABET INC	0.3%	22.0%
SALESFORCE.COM INC	0.3%	30.1%
ALTERYX INC	0.3%	72.6%
MANHATTAN ASSOCIATES INC	0.3%	89.1%
APPLIED MATERIALS INC.	0.3%	32.4%
S&P GLOBAL INC	0.3%	34.7%

Top Negative Contributors		
	Relative Contribution %	Return %
MICROSOFT CORP	-0.5%	29.4%
APPLE INC	-0.5%	43.8%
QUALCOMM INC.	-0.1%	35.9%
AMAZON.COM INC	-0.1%	41.5%
JOHNSON & JOHNSON	-0.1%	8.0%
ORACLE CORP	-0.1%	14.9%
COMCAST CORP	0.0%	14.0%
INOGEN INC	0.0%	-31.2%
L3HARRIS TECHNOLOGIES INC	0.0%	-5.4%
RAYTHEON TECHNOLOGIES CORP	0.0%	11.7%

	Equity Sector Attribution					Returns		Sector Weights			
	Total Effects	Selection Effect	Attribution Effects		Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark		
			Allocation Effect								
Energy	-0.2%	-0.1%	-0.1%		0.0%	28.3%	31.7%	1.4%	2.5%		
Materials	-0.2%	-0.2%	0.0%		0.0%	18.5%	26.1%	2.7%	2.6%		
Industrials	-0.1%	0.0%	-0.1%		0.0%	17.8%	18.0%	11.0%	8.9%		
Consumer Discretionary	0.1%	0.2%	-0.1%		0.0%	39.8%	37.4%	9.4%	10.1%		
Consumer Staples	0.4%	0.1%	0.4%		-0.1%	9.4%	8.3%	4.2%	7.1%		
Health Care	0.4%	0.4%	-0.1%		0.0%	19.4%	16.7%	16.9%	15.5%		
Financials	0.8%	0.8%	0.0%		0.0%	19.4%	12.7%	11.7%	11.5%		
Information Technology	0.8%	0.3%	0.4%		0.1%	33.0%	31.7%	29.0%	24.6%		
Communication Services	0.0%	0.0%	0.0%		0.0%	21.0%	21.0%	8.5%	9.9%		
Utilities	0.5%	0.2%	0.5%		-0.1%	7.1%	2.7%	1.1%	3.5%		
Real Estate	0.2%	0.1%	0.1%		0.0%	15.8%	13.5%	2.3%	3.9%		
Cash	-0.4%	0.0%	-0.4%		0.0%	0.0%	--	1.8%	0.0%		
<b>Portfolio</b>	<b>2.4%</b>	<b>=</b>	<b>1.8%</b>	<b>+</b>	<b>0.7%</b>	<b>+</b>	<b>-0.1%</b>	<b>24.3%</b>	<b>22.0%</b>	<b>100.0%</b>	<b>100.0%</b>

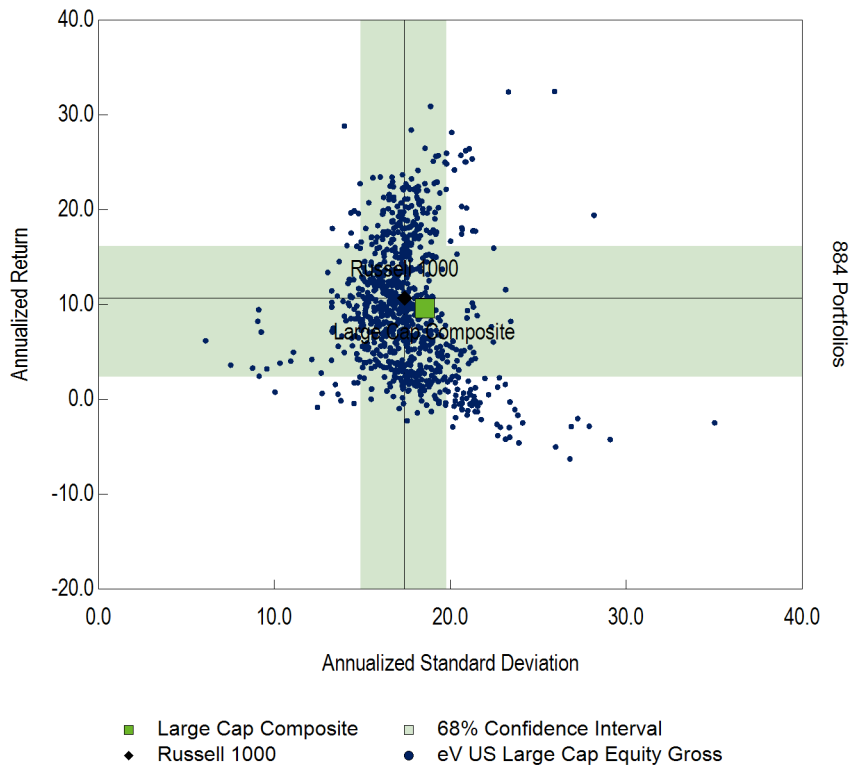
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



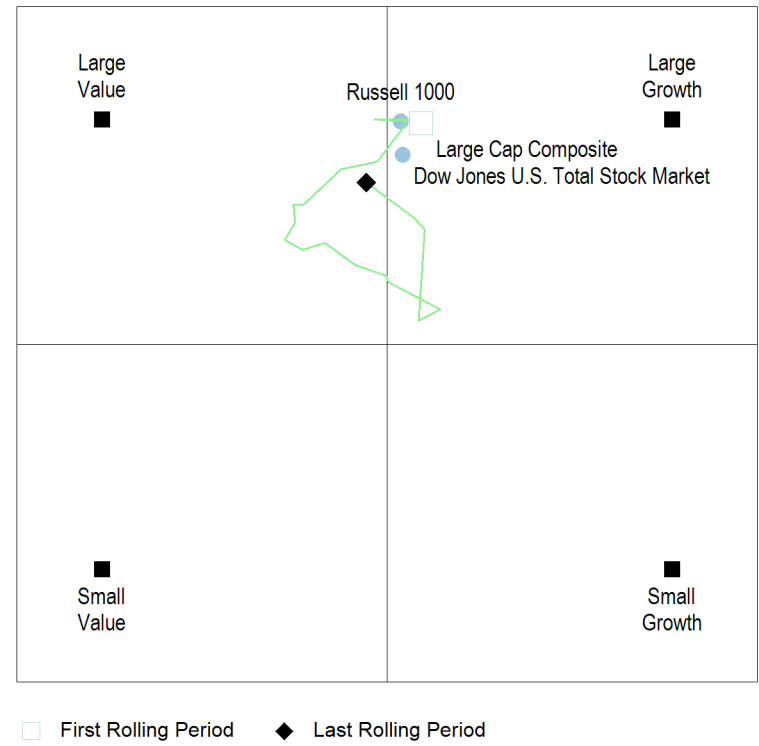
# Howard County Retirement Plans

## LARGE CAP COMPOSITE

3 Year Risk Return



3 Year Style Analysis

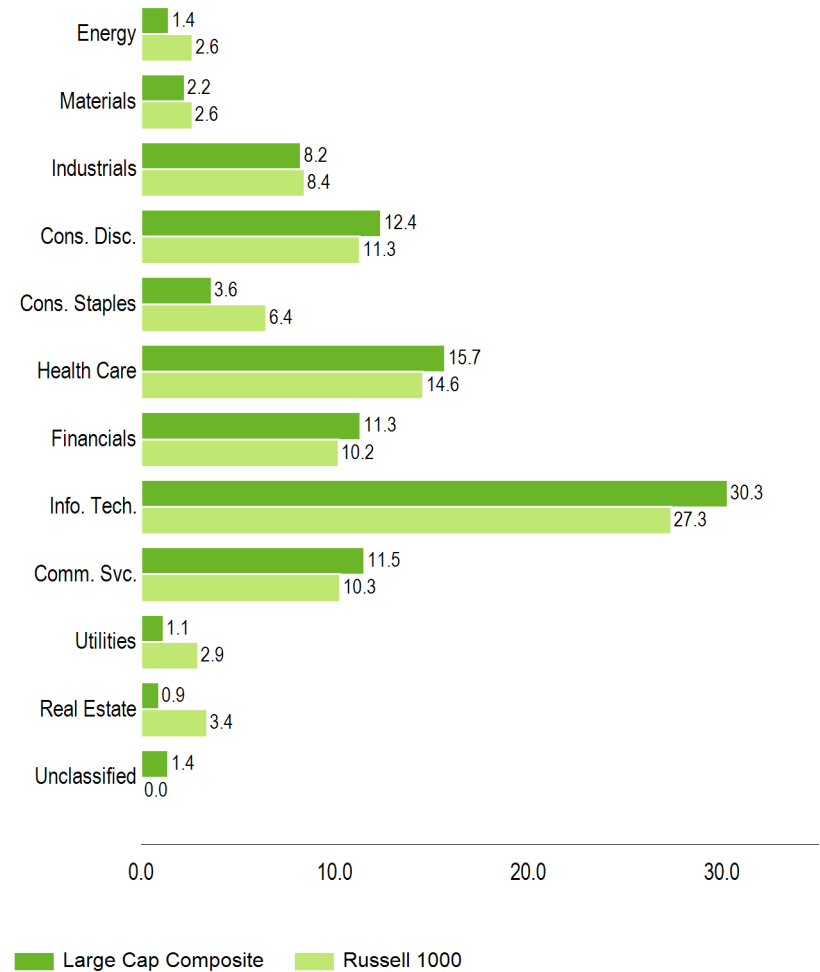


# Howard County Retirement Plans

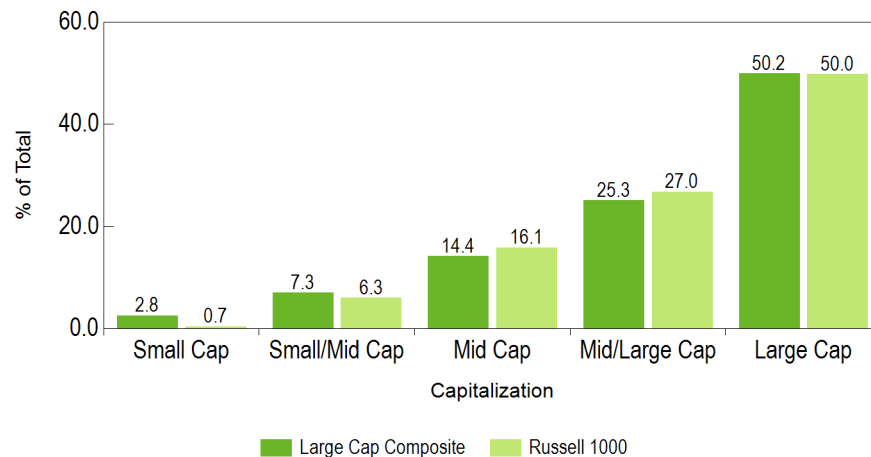
## LARGE CAP COMPOSITE

Characteristics		
	Portfolio	Russell 1000
Number of Holdings	200	1,004
Weighted Avg. Market Cap. (\$B)	323.2	328.1
Median Market Cap. (\$B)	15.3	9.5
Price To Earnings	19.1	22.9
Price To Book	3.7	4.2
Price To Sales	1.9	2.8
Return on Equity (%)	22.4	23.7
Yield (%)	1.7	1.8
Beta	1.1	1.0
R-Squared	1.0	1.0

### Equity Sector Allocation



### Market Capitalization As of June 30, 2020



# Howard County Retirement Plans

## LARGE CAP COMPOSITE

Top Ten Holdings	
AMAZON.COM INC	5.3%
APPLE INC	4.6%
MICROSOFT CORP	4.1%
ALPHABET INC	3.6%
FACEBOOK INC	2.9%
SALESFORCE.COM INC	2.1%
VISA INC	2.1%
HUMANA INC.	2.0%
SERVICENOW INC	2.0%
BRISTOL-MYERS SQUIBB CO	1.8%

Top Positive Contributors		
	Relative Contribution %	Return %
SERVICENOW INC	0.6%	41.3%
PAYPAL HOLDINGS INC	0.6%	82.0%
ALPHABET INC	0.5%	22.0%
SALESFORCE.COM INC	0.4%	30.1%
HUMANA INC.	0.4%	23.7%
APPLIED MATERIALS INC.	0.4%	32.4%
S&P GLOBAL INC	0.4%	34.7%
SPLUNK INC	0.4%	57.4%
WORKDAY INC	0.4%	43.9%
VERTEX PHARMACEUTICALS INC	0.3%	22.0%

Top Negative Contributors		
	Relative Contribution %	Return %
MICROSOFT CORP	-0.4%	29.4%
APPLE INC	-0.2%	43.8%
QUALCOMM INC.	-0.1%	35.9%
JOHNSON & JOHNSON	-0.1%	8.0%
ORACLE CORP	-0.1%	14.9%
L3HARRIS TECHNOLOGIES INC	0.0%	-5.4%
COMCAST CORP	0.0%	14.0%
RAYTHEON TECHNOLOGIES CORP	0.0%	11.7%
ALIGN TECHNOLOGY INC	0.0%	57.8%
WALGREENS BOOTS ALLIANCE INC	0.0%	-6.3%

Equity Sector Attribution											
	Total Effects	Selection Effect	Attribution Effects		Returns			Sector Weights			
			Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	0.0%	-0.1%	0.0%	32.6%	32.0%	1.4%	2.5%			
Materials	-0.1%	-0.1%	0.0%	0.0%	22.7%	25.9%	2.3%	2.6%			
Industrials	-0.2%	-0.1%	-0.1%	0.0%	15.6%	17.1%	9.7%	8.5%			
Consumer Discretionary	0.2%	0.2%	0.0%	0.0%	38.1%	36.4%	10.4%	10.2%			
Consumer Staples	0.3%	-0.1%	0.4%	0.0%	7.1%	8.0%	4.7%	7.3%			
Health Care	-0.3%	-0.3%	0.0%	0.0%	13.2%	15.2%	15.3%	15.1%			
Financials	0.8%	0.8%	-0.1%	0.1%	19.9%	12.6%	12.8%	11.2%			
Information Technology	0.5%	0.1%	0.3%	0.0%	31.8%	31.3%	28.5%	25.2%			
Communication Services	0.1%	0.1%	0.0%	0.0%	21.6%	21.1%	10.4%	10.3%			
Utilities	0.5%	0.2%	0.4%	-0.1%	9.4%	2.8%	1.2%	3.5%			
Real Estate	0.2%	0.1%	0.1%	0.0%	15.3%	13.8%	1.9%	3.7%			
Cash	-0.3%	0.0%	-0.3%	0.0%	0.0%	--	1.4%	0.0%			
<b>Portfolio</b>	<b>1.5%</b>	<b>=</b>	<b>0.9%</b>	<b>+</b>	<b>0.6%</b>	<b>+</b>	<b>-0.1%</b>	<b>23.1%</b>	<b>21.6%</b>	<b>100.0%</b>	<b>100.0%</b>

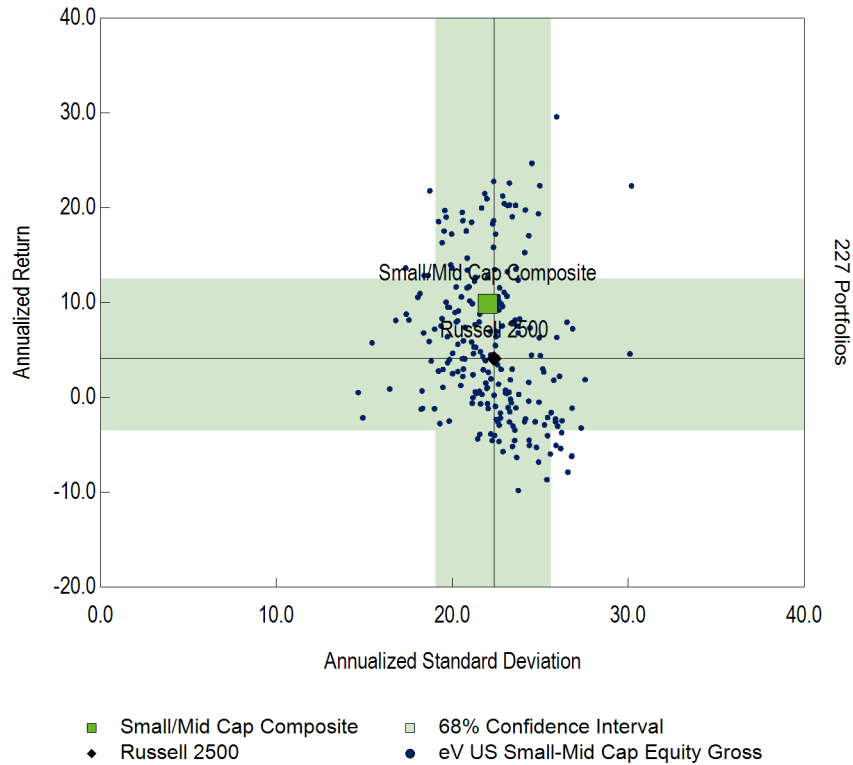
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



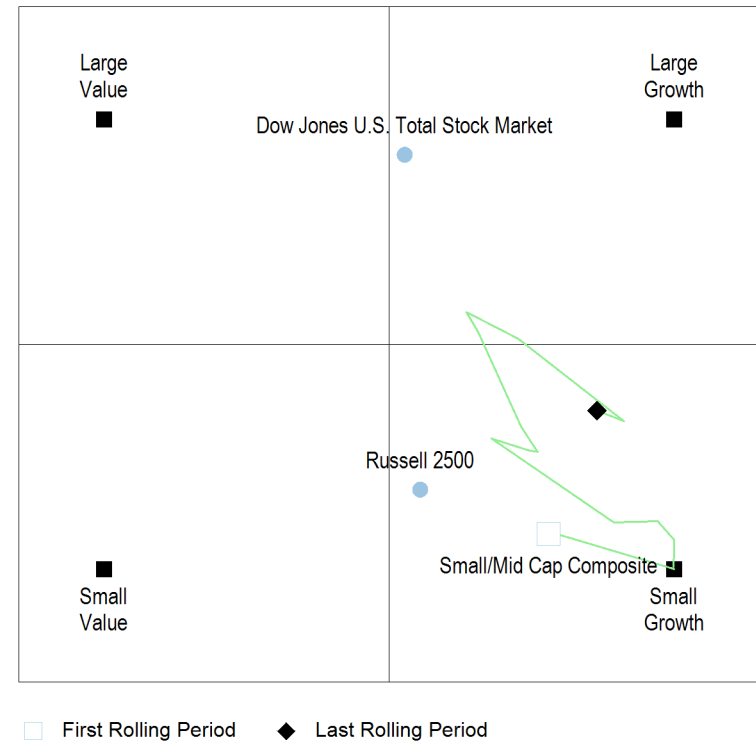
# Howard County Retirement Plans

## SMALL/MID CAP COMPOSITE

3 Year Risk Return



3 Year Style Analysis

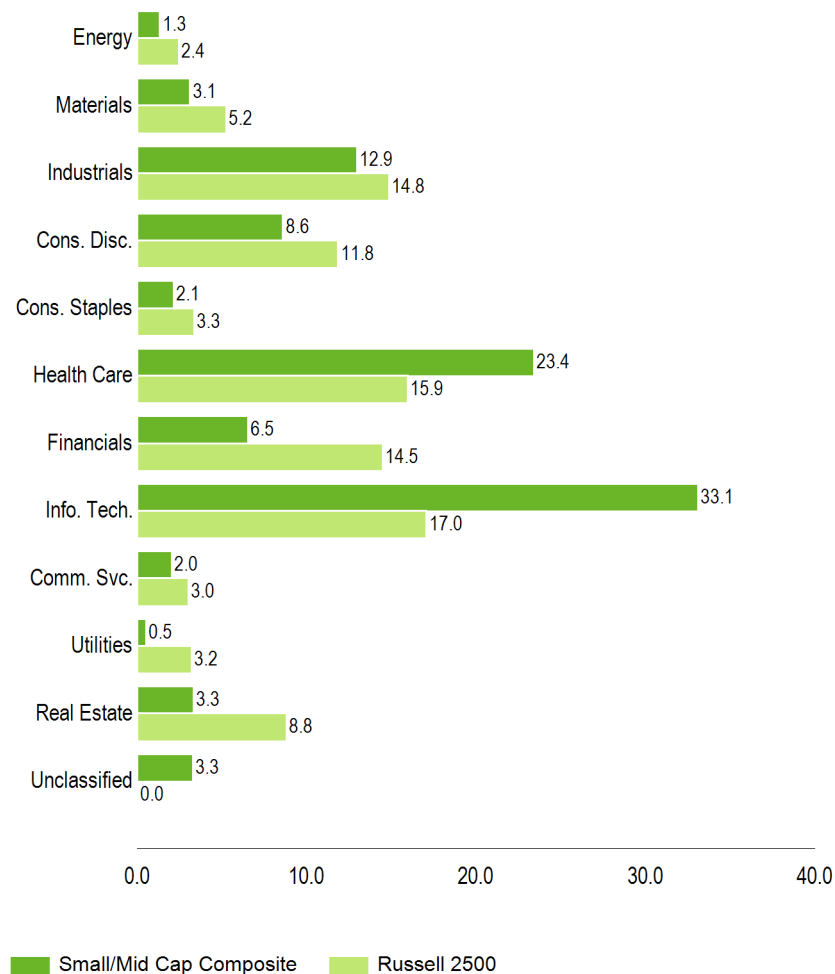


## Howard County Retirement Plans

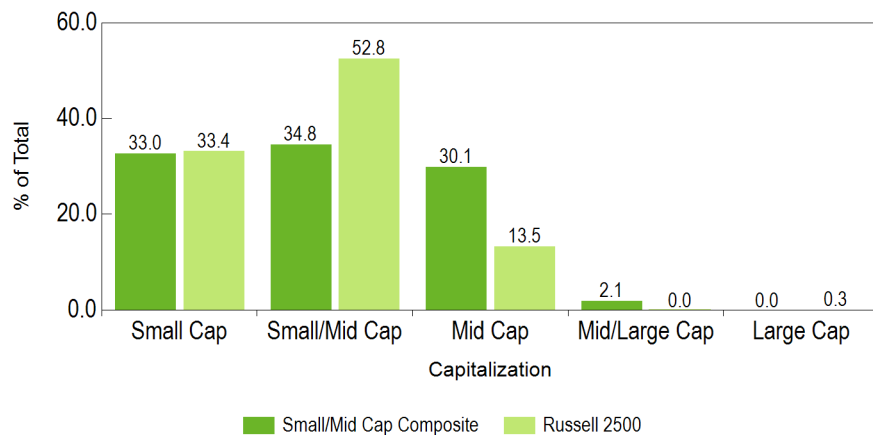
# SMALL/MID CAP COMPOSITE

Characteristics		
	Portfolio	Russell 2500
Number of Holdings	215	2,500
Weighted Avg. Market Cap. (\$B)	6.5	4.7
Median Market Cap. (\$B)	2.3	1.0
Price To Earnings	27.2	17.8
Price To Book	4.1	2.8
Price To Sales	2.5	1.6
Return on Equity (%)	7.0	1.3
Yield (%)	0.7	1.5
Beta	1.0	1.0
R-Squared	1.0	1.0

## Equity Sector Allocation



## Market Capitalization As of June 30, 2020



## Howard County Retirement Plans

# SMALL/MID CAP COMPOSITE

Top Ten Holdings	
QUIDEL CORP	2.4%
VEEVA SYSTEMS INC	2.0%
ALARM.COM HOLDINGS INC	1.9%
ALTERYX INC	1.9%
CASH - USD	1.8%
IRHYTHM TECHNOLOGIES INC	1.8%
ABIOMED INC	1.8%
PROTO LABS INC	1.7%
PAYCOM SOFTWARE INC	1.6%
COGNEX CORP	1.5%

Top Positive Contributors		
	Relative Contribution %	Return %
QUIDEL CORP	1.8%	128.7%
ALTERYX INC	1.3%	72.6%
MANHATTAN ASSOCIATES INC	1.2%	89.1%
VEEVA SYSTEMS INC	0.9%	49.9%
PAYCOM SOFTWARE INC	0.8%	53.3%
ETSY INC	0.8%	176.4%
ABIOMED INC	0.8%	66.4%
HORIZON THERAPEUTICS PUBLIC LTD CO	0.7%	87.6%
COGNEX CORP	0.7%	41.6%
IRHYTHM TECHNOLOGIES INC	0.6%	42.5%

Top Negative Contributors		
	Relative Contribution %	Return %
INOGEN INC	-0.2%	-31.2%
CARDIOVASCULAR SYSTEMS INC	-0.1%	-10.4%
CREE INC.	-0.1%	66.9%
BRINK'S CO (THE)	-0.1%	-12.2%
J2 GLOBAL INC	-0.1%	-15.6%
BALCHEM CORP	0.0%	-3.9%
ANI PHARMACEUTICALS INC	0.0%	-20.6%
EMPIRE STATE REALTY TRUST INC	0.0%	-20.7%
SPIRE INC	0.0%	-11.0%
HELEN OF TROY LTD	0.0%	30.9%

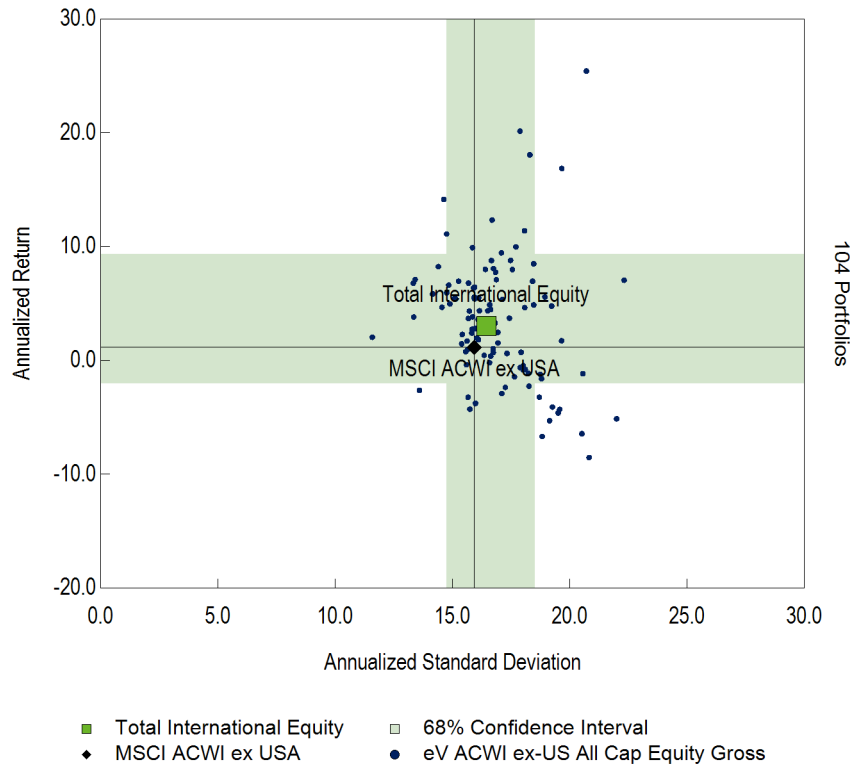
Equity Sector Attribution									
	Attribution Effects				Returns		Sector Weights		
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark	
Energy	-0.5%	-0.5%	0.0%	0.0%	12.7%	49.3%	1.3%	1.3%	
Materials	-0.6%	-0.7%	0.0%	0.1%	10.8%	24.9%	4.2%	4.9%	
Industrials	-0.1%	-0.1%	0.0%	0.0%	22.5%	23.1%	15.3%	14.6%	
Consumer Discretionary	-0.5%	0.3%	-0.7%	-0.1%	49.8%	46.4%	6.0%	9.6%	
Consumer Staples	0.1%	0.1%	0.0%	0.0%	23.5%	20.4%	2.6%	3.1%	
Health Care	0.6%	0.2%	0.4%	0.1%	33.7%	32.8%	22.4%	16.8%	
Financials	0.9%	0.2%	0.8%	-0.1%	16.6%	15.2%	8.1%	14.8%	
Information Technology	1.7%	0.3%	1.1%	0.2%	36.6%	34.6%	30.7%	17.9%	
Communication Services	-0.2%	-0.3%	0.0%	0.1%	12.5%	22.9%	2.4%	3.0%	
Utilities	0.9%	-0.3%	0.9%	0.3%	-7.0%	1.1%	0.7%	4.3%	
Real Estate	0.9%	0.3%	0.8%	-0.2%	16.8%	13.7%	3.6%	9.7%	
Cash	-0.8%	0.0%	-0.8%	0.0%	0.0%	--	2.9%	0.0%	
<b>Portfolio</b>	<b>2.3%</b>	<b>=</b>	<b>-0.5%</b>	<b>+</b>	<b>2.4%</b>	<b>+</b>	<b>0.3%</b>	<b>28.6%</b>	<b>26.3%</b>
								<b>100.0%</b>	<b>100.0%</b>

Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



# TOTAL INTERNATIONAL EQUITY

3 Year Risk Return



3 Year Style Analysis



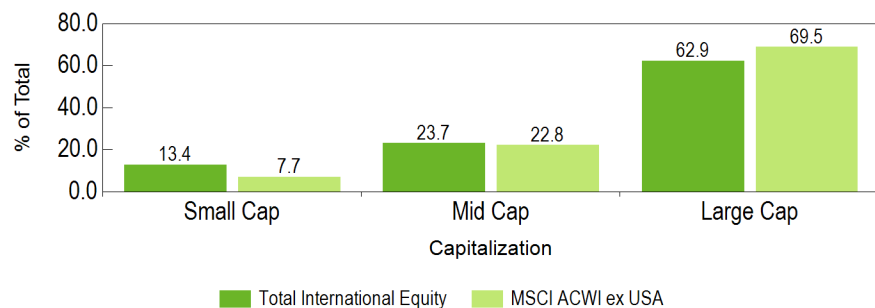
## Howard County Retirement Plans

# TOTAL INTERNATIONAL EQUITY

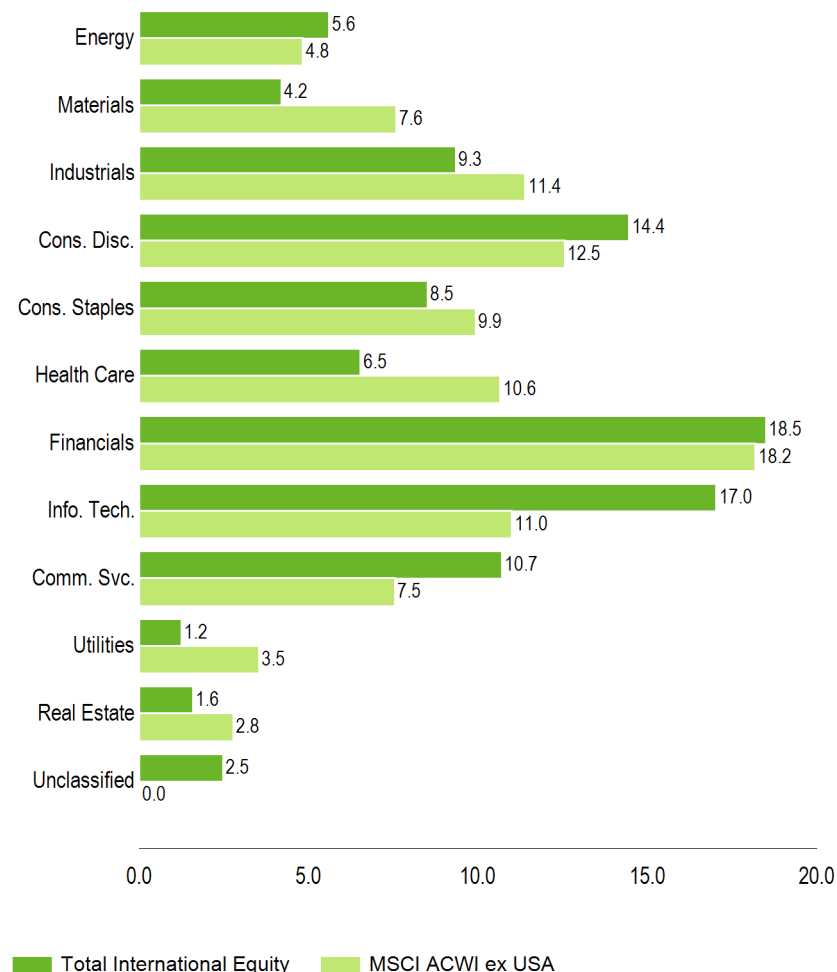
Characteristics		
	Portfolio	MSCI ACWI ex USA
Number of Holdings	2,898	2,372
Weighted Avg. Market Cap. (\$B)	83.7	79.4
Median Market Cap. (\$B)	0.5	7.4
Price To Earnings	16.3	16.4
Price To Book	3.0	2.7
Price To Sales	1.5	1.3
Return on Equity (%)	14.6	14.2
Yield (%)	2.5	2.9
Beta	1.0	1.0
R-Squared	1.0	1.0

	Portfolio Q2-20	Index Q2-20
<b>Region Weighting</b>		
Americas	10.36	9.50
Europe	23.07	41.71
Asia/Pacific	65.45	46.04
Other	1.13	2.75

**Market Capitalization  
As of June 30, 2020**



**Equity Sector Allocation**



## Howard County Retirement Plans

# TOTAL INTERNATIONAL EQUITY

Top Ten Holdings	
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.1%
SAMSUNG ELECTRONICS CO LTD	2.4%
BABA-SW ORD	2.4%
RELIANCE INDUSTRIES LTD	2.1%
ALIBABA GROUP HOLDING LTD	1.8%
ASML HOLDING NV	1.8%
PING AN INSURANCE GROUP	1.7%
HOUSING DEVELOPMENT FINANCE CORP LTD	1.7%
CHINA MOBILE LTD	1.7%
CASH - USD	1.5%

Top Positive Contributors		
	Relative Contribution %	Return %
ZALANDO SE	0.6%	84.7%
SPOTIFY TECHNOLOGY S.A	0.6%	112.6%
MERCADOLIBRE INC	0.6%	101.8%
SEA LTD	0.5%	142.0%
ASML HOLDING NV	0.4%	38.7%
NVIDIA CORPORATION	0.4%	44.2%
RELIANCE INDUSTRIES LTD	0.3%	54.8%
AVANZA BANK HOLDING AB	0.3%	69.9%
COMPAGNIE DE SAINT GOBAIN SA	0.3%	48.0%
OLYMPUS CORP	0.3%	33.7%

Top Negative Contributors		
	Relative Contribution %	Return %
CHINA TOWER CORPORATION LTD	-0.2%	-20.5%
FUJIFILM HOLDINGS CORP	-0.1%	-15.2%
LVMH MOET HENNESSY LOUIS VUITTON SE	-0.1%	18.1%
TENCENT HOLDINGS LTD	-0.1%	31.5%
CHINA MOBILE LTD	-0.1%	-6.4%
JARDINE MATHESON HOLDINGS LTD	-0.1%	-16.5%
COCA-COLA BOTTLERS JAPAN HOLDINGS INC	-0.1%	-11.9%
KYOCERA CORP	-0.1%	-8.4%
ALIBABA GROUP HOLDING LTD	-0.1%	10.9%
GUANGDONG INVESTMENT	-0.1%	-8.4%

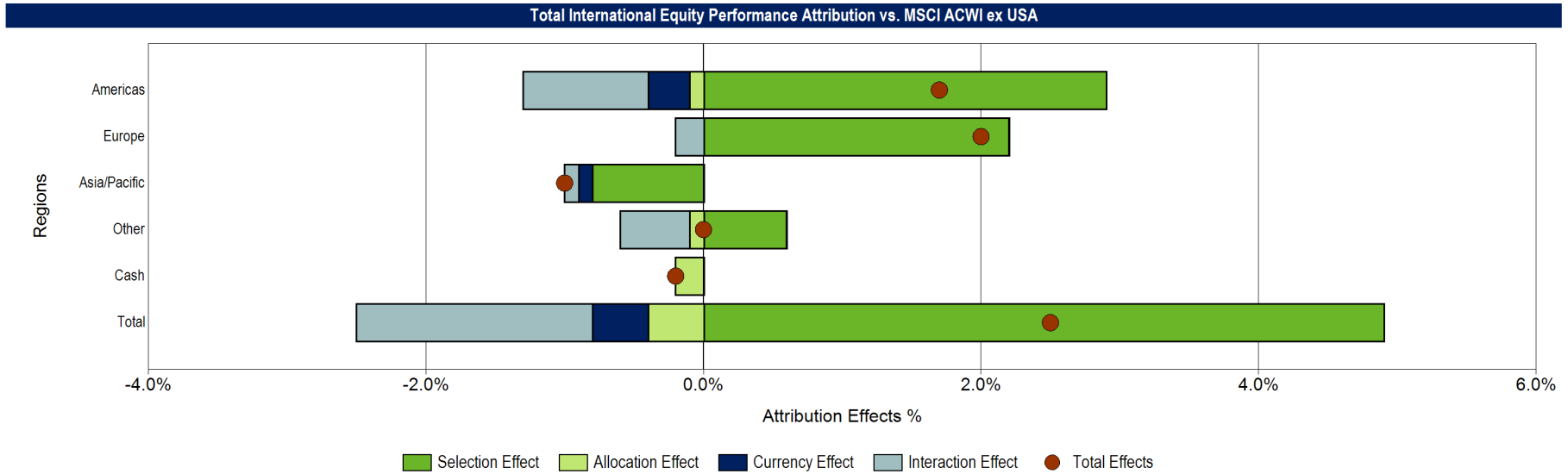
Equity Sector Attribution											
	Attribution Effects					Returns		Sector Weights			
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects		Portfolio	Benchmark	Portfolio	Benchmark		
Energy	0.4%	0.5%	0.0%	-0.2%		20.2%	11.8%	4.1%	4.9%		
Materials	-0.5%	0.0%	-0.3%	-0.2%		23.9%	26.0%	3.3%	6.9%		
Industrials	0.4%	0.1%	0.0%	0.2%		19.1%	17.6%	15.2%	11.5%		
Consumer Discretionary	1.6%	1.5%	0.0%	0.1%		32.2%	19.5%	12.6%	11.9%		
Consumer Staples	-0.1%	-0.2%	0.1%	0.0%		8.1%	10.4%	8.4%	10.5%		
Health Care	0.2%	0.3%	0.0%	0.0%		19.2%	16.6%	9.7%	10.5%		
Financials	-0.2%	-0.3%	0.1%	0.0%		10.5%	11.9%	17.8%	19.4%		
Information Technology	0.0%	-0.2%	0.2%	0.0%		22.6%	24.7%	13.2%	10.2%		
Communication Services	0.8%	0.5%	0.1%	0.2%		24.5%	18.3%	10.6%	7.5%		
Utilities	-0.1%	-0.1%	0.0%	0.0%		8.4%	12.0%	2.9%	3.8%		
Real Estate	0.1%	0.1%	0.1%	-0.1%		10.0%	8.5%	1.1%	3.0%		
Cash	-0.2%	0.0%	-0.2%	0.0%		0.0%	--	1.2%	0.0%		
<b>Portfolio</b>	<b>2.5%</b>	<b>=</b>	<b>2.3%</b>	<b>+</b>	<b>0.4%</b>	<b>+</b>	<b>-0.2%</b>	<b>18.9%</b>	<b>16.4%</b>	<b>100.0%</b>	<b>100.0%</b>

Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



# Howard County Retirement Plans

## TOTAL INTERNATIONAL EQUITY



	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
<b>Totals</b>									
Americas	50.7%	20.2%	5.9%	8.6%	2.9%	-0.1%	-0.3%	-0.9%	1.7%
Europe	21.7%	16.2%	38.2%	42.1%	2.2%	0.0%	0.0%	-0.2%	2.0%
Asia/Pacific	13.6%	15.8%	54.1%	46.6%	-0.8%	0.0%	-0.1%	-0.1%	-1.0%
Other	42.3%	19.8%	0.6%	2.7%	0.6%	-0.1%	0.0%	-0.5%	0.0%
Cash	0.0%	--	1.2%	0.0%	0.0%	-0.2%	0.0%	0.0%	-0.2%
<b>Total</b>	<b>18.9%</b>	<b>16.4%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>4.9%</b>	<b>-0.4%</b>	<b>-0.4%</b>	<b>-1.7%</b>	<b>2.5%</b>
<b>Totals</b>									
Developed	19.6%	15.8%	75.1%	72.4%	3.3%	0.0%	-0.6%	0.1%	2.8%
Emerging*	17.7%	18.0%	23.7%	27.6%	-0.3%	-0.1%	0.2%	0.0%	-0.2%
Cash	0.0%	--	1.2%	0.0%	0.0%	-0.2%	0.0%	0.0%	-0.2%



## Howard County Retirement Plans

# TOTAL INTERNATIONAL EQUITY

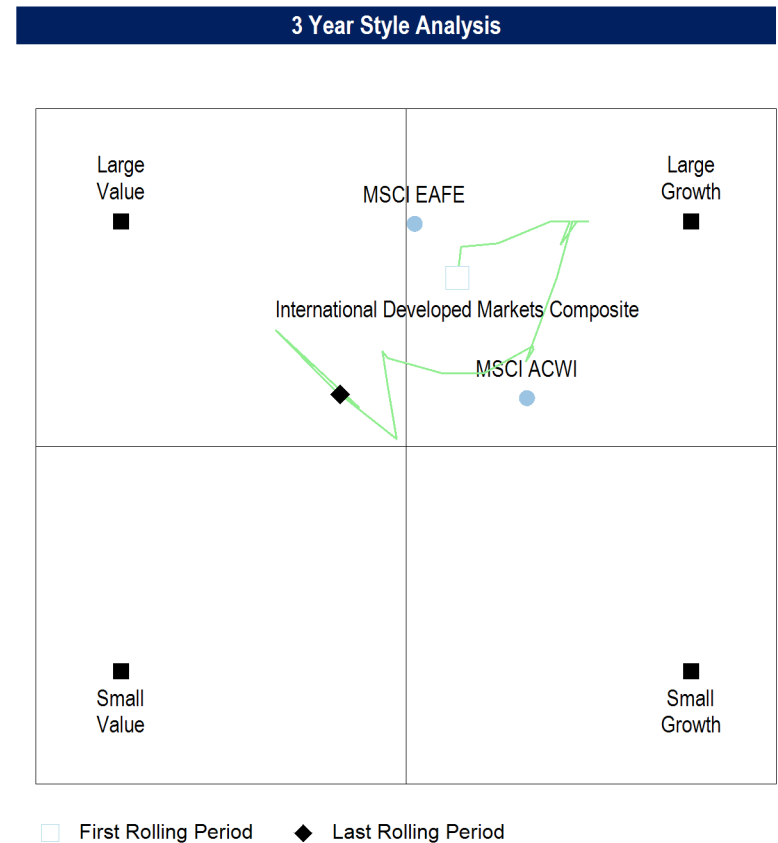
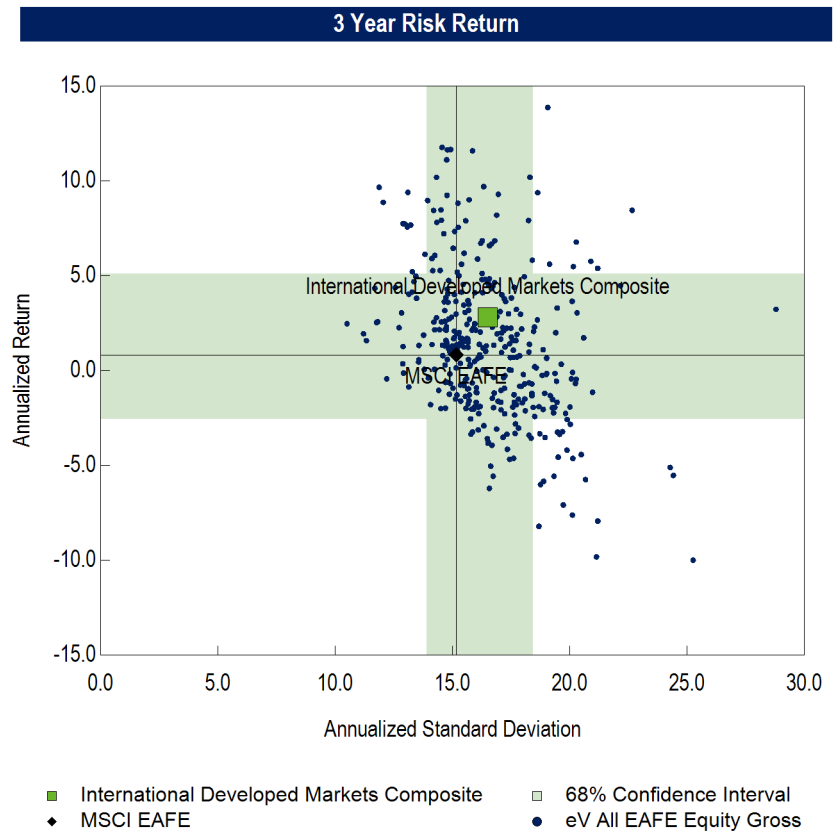
Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>Americas</b>				
Brazil*	0.7%	1.4%	30.3%	23.1%
Chile*	0.1%	0.2%	21.7%	17.2%
Colombia*	0.0%	0.1%	-0.7%	11.1%
Mexico*	0.3%	0.5%	19.1%	11.0%
United States	4.8%	0.0%	56.3%	21.6%
<b>Total-Americas</b>	<b>5.9%</b>	<b>8.6%</b>	<b>50.7%</b>	<b>20.2%</b>
<b>Europe</b>				
Belgium	0.0%	0.6%	9.9%	13.6%
Czech Republic*	0.0%	0.0%	30.6%	24.1%
Denmark	0.4%	1.5%	15.1%	19.1%
Finland	0.7%	0.7%	21.4%	21.3%
France	3.9%	7.2%	22.1%	16.5%
Germany	5.7%	5.5%	38.9%	27.9%
Greece*	0.0%	0.1%	11.2%	14.7%
Hungary*	0.0%	0.1%	2.9%	14.3%
Ireland	0.7%	0.4%	20.5%	20.9%
Italy	1.5%	1.4%	12.5%	16.9%
Netherlands	2.7%	2.8%	32.7%	25.3%
Poland*	0.1%	0.2%	34.0%	21.0%
Portugal	0.9%	0.1%	-3.0%	13.1%
Russia*	1.6%	0.9%	19.1%	19.0%
Spain	1.6%	1.7%	1.3%	10.3%
Sweden	4.2%	1.8%	28.8%	20.6%
Switzerland	3.3%	7.1%	12.9%	11.5%
United Kingdom	10.9%	9.7%	16.5%	9.1%
<b>Total-Europe</b>	<b>38.2%</b>	<b>42.1%</b>	<b>21.7%</b>	<b>16.2%</b>

Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>AsiaPacific</b>				
Australia	1.8%	3.9%	25.1%	29.0%
China*	5.8%	11.0%	6.7%	14.8%
Hong Kong	9.3%	2.5%	8.9%	9.1%
India*	5.2%	2.2%	24.3%	21.4%
Indonesia*	1.4%	0.4%	20.5%	25.0%
Japan	18.9%	17.4%	12.5%	11.5%
Korea*	2.8%	3.3%	15.2%	19.3%
Malaysia*	0.3%	0.5%	11.9%	13.9%
New Zealand	0.7%	0.2%	44.7%	27.9%
Philippines*	0.1%	0.2%	8.7%	20.1%
Singapore	3.2%	0.8%	2.8%	10.2%
Taiwan*	4.0%	3.4%	20.2%	21.4%
Thailand*	0.6%	0.6%	17.7%	24.1%
<b>Total-AsiaPacific</b>	<b>54.1%</b>	<b>46.6%</b>	<b>13.6%</b>	<b>15.8%</b>
<b>Other</b>				
South Africa*	0.5%	1.0%	47.1%	28.1%
Turkey*	0.1%	0.1%	17.4%	19.4%
<b>Total-Other</b>	<b>0.6%</b>	<b>2.7%</b>	<b>42.3%</b>	<b>19.8%</b>
<b>Totals</b>				
Developed	75.1%	72.4%	19.6%	15.8%
Emerging*	23.7%	27.6%	17.7%	18.0%
Cash	1.2%		0.0%	

Country\* = Emerging Markets



# INTERNATIONAL DEVELOPED MARKETS COMPOSITE

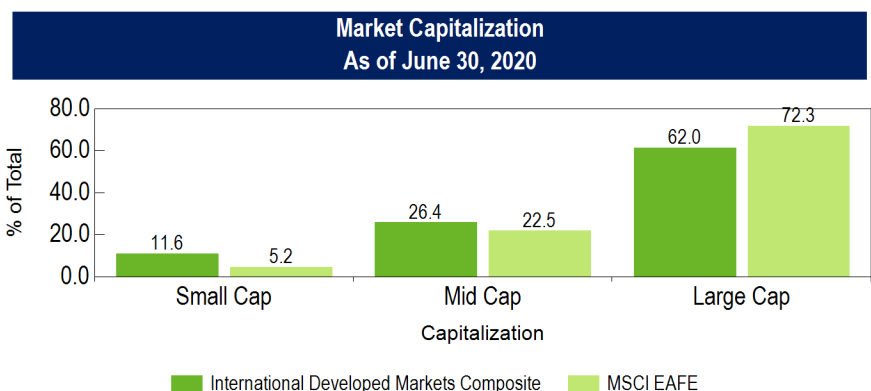


## Howard County Retirement Plans

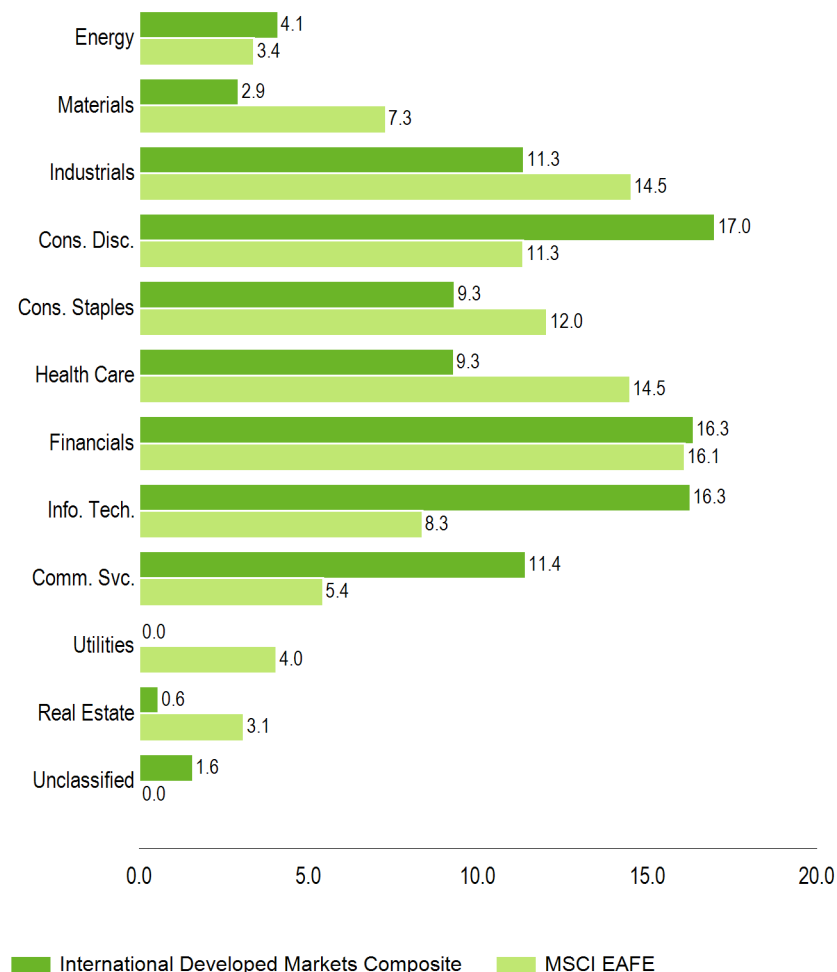
# INTERNATIONAL DEVELOPED MARKETS COMPOSITE

Characteristics		
	Portfolio	MSCI EAFE
Number of Holdings	112	902
Weighted Avg. Market Cap. (\$B)	63.2	60.7
Median Market Cap. (\$B)	16.5	9.5
Price To Earnings	18.5	17.2
Price To Book	3.5	2.7
Price To Sales	1.9	1.2
Return on Equity (%)	19.0	13.8
Yield (%)	2.3	2.9
Beta	1.1	1.0
R-Squared	1.0	1.0

Region Weighting		
	Portfolio Q2-20	Index Q2-20
Americas	7.56	0.36
Europe	32.39	62.30
Asia/Pacific	59.46	36.91
Other	0.59	0.42



## Equity Sector Allocation



## Howard County Retirement Plans

# INTERNATIONAL DEVELOPED MARKETS COMPOSITE

Top Ten Holdings	
BABA-SW ORD	3.8%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	3.4%
PING AN INSURANCE GROUP	2.7%
SAMSUNG ELECTRONICS CO LTD	2.4%
TENCENT HOLDINGS LTD	2.1%
CHINA MERCHANTS BANK CO LTD	1.8%
ASML HOLDING NV	1.8%
RELIANCE INDUSTRIES LTD	1.7%
METTLER-TOLEDO INTERNATIONAL INC	1.6%
ZALANDO SE	1.6%

Top Positive Contributors		
	Relative Contribution %	Return %
ZALANDO SE	0.9%	84.7%
SPOTIFY TECHNOLOGY S.A	0.9%	112.6%
AVANZA BANK HOLDING AB	0.5%	69.9%
COMPAGNIE DE SAINT GOBAIN SA	0.5%	48.0%
OLYMPUS CORP	0.5%	33.7%
BECHTLE AG, GAILDORF	0.5%	38.9%
SHIMANO INC	0.4%	35.0%
NIBE INDUSTRIER AB, MARKARYD	0.4%	51.4%
ASOS PLC	0.4%	185.4%
SARTORIUS SHS.PREF.	0.4%	34.0%

Top Negative Contributors		
	Relative Contribution %	Return %
FUJIFILM HOLDINGS CORP	-0.2%	-15.2%
LVMH MOET HENNESSY LOUIS VUITTON SE	-0.2%	18.1%
JARDINE MATHESON HOLDINGS LTD	-0.1%	-16.5%
COCA-COLA BOTTLERS JAPAN HOLDINGS INC	-0.1%	-11.9%
KYOCERA CORP	-0.1%	-8.4%
CHINA MOBILE LTD	-0.1%	-6.4%
THE UNILEVER GROUP	-0.1%	8.9%
WH GROUP LTD	-0.1%	-4.8%
JERONIMO MARTINS SGPS SA, LISBOA	0.0%	-3.0%
TOKIO MARINE HOLDINGS INC	0.0%	-5.0%

Equity Sector Attribution											
	Attribution Effects					Returns		Sector Weights			
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects		Portfolio	Benchmark	Portfolio	Benchmark		
Energy	0.1%	0.0%	0.1%	-0.1%		-0.4%	1.7%	2.4%	3.4%		
Materials	-0.6%	0.0%	-0.4%	-0.2%		21.7%	24.4%	1.4%	6.7%		
Industrials	1.0%	0.5%	0.2%	0.4%		22.0%	18.2%	19.8%	14.3%		
Consumer Discretionary	2.0%	1.6%	0.1%	0.4%		31.4%	17.9%	14.1%	11.2%		
Consumer Staples	-0.6%	-0.8%	0.2%	0.1%		2.7%	9.7%	9.7%	12.7%		
Health Care	0.4%	0.5%	0.0%	-0.1%		18.0%	14.6%	13.4%	14.4%		
Financials	-0.5%	-0.4%	0.0%	-0.1%		10.7%	14.2%	14.8%	16.6%		
Information Technology	-0.2%	-0.4%	0.3%	0.0%		19.2%	23.7%	10.5%	7.6%		
Communication Services	0.8%	0.4%	-0.1%	0.4%		21.1%	13.7%	10.5%	5.6%		
Utilities	0.0%	0.0%	0.0%	-0.1%		12.7%	12.9%	2.8%	4.2%		
Real Estate	0.1%	--	0.2%	--		--	9.0%	0.0%	3.3%		
Cash	-0.1%	0.0%	-0.1%	0.0%		0.0%	--	0.6%	0.0%		
<b>Portfolio</b>	<b>2.5%</b>	<b>=</b>	<b>1.3%</b>	<b>+</b>	<b>0.6%</b>	<b>+</b>	<b>0.7%</b>	<b>17.9%</b>	<b>15.4%</b>	<b>100.0%</b>	<b>100.0%</b>

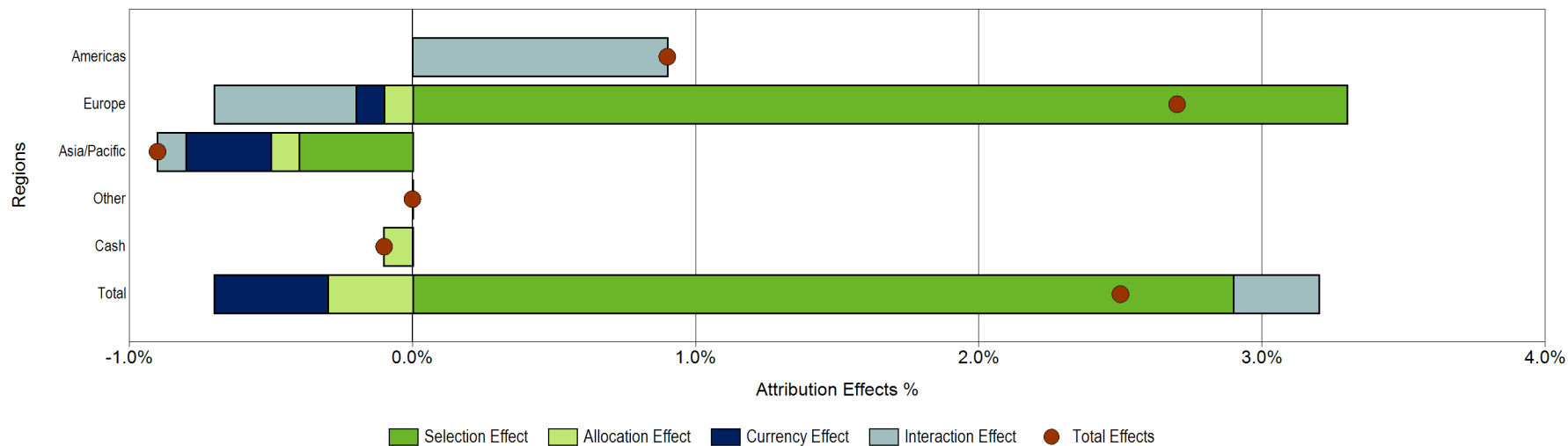
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



## Howard County Retirement Plans

# INTERNATIONAL DEVELOPED MARKETS COMPOSITE

International Developed Markets Composite Performance Attribution vs. MSCI EAFE



	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
<b>Totals</b>									
Americas	46.5%	--	2.6%	0.0%	0.0%	0.0%	0.0%	0.9%	0.9%
Europe	21.6%	16.1%	53.1%	61.8%	3.3%	-0.1%	-0.1%	-0.5%	2.7%
Asia/Pacific	12.0%	14.1%	43.7%	37.6%	-0.4%	-0.1%	-0.3%	-0.1%	-0.9%
Other	--	20.0%	0.0%	0.6%	--	0.0%	0.0%	--	0.0%
Cash	0.0%	--	0.6%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%
<b>Total</b>	<b>17.9%</b>	<b>15.4%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>2.9%</b>	<b>-0.3%</b>	<b>-0.4%</b>	<b>0.3%</b>	<b>2.5%</b>
<b>Totals</b>									
Developed	18.0%	15.4%	98.5%	100.0%	3.0%	0.0%	-0.4%	0.0%	2.6%
Emerging*	18.0%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.0%	--	0.6%	0.0%	0.0%	-0.1%	0.0%	0.0%	-0.1%



## Howard County Retirement Plans

# INTERNATIONAL DEVELOPED MARKETS COMPOSITE

Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>Americas</b>				
United States	2.6%	0.0%	46.5%	21.6%
<b>Total-Americas</b>	<b>2.6%</b>	<b>0.0%</b>	<b>46.5%</b>	<b>--</b>
<b>Europe</b>				
Denmark	0.5%	2.2%	15.1%	19.1%
Finland	1.0%	1.0%	21.4%	21.3%
France	5.9%	10.9%	22.1%	16.5%
Germany	8.6%	8.3%	38.9%	28.0%
Ireland	1.1%	0.6%	20.5%	20.9%
Italy	2.2%	2.2%	12.5%	16.9%
Netherlands	2.7%	4.2%	35.1%	25.3%
Portugal	1.3%	0.2%	-3.0%	13.1%
Spain	2.3%	2.6%	1.3%	10.3%
Sweden	6.2%	2.8%	28.8%	20.6%
Switzerland	5.0%	10.8%	12.9%	11.5%
United Kingdom	16.3%	14.6%	16.5%	9.1%
<b>Total-Europe</b>	<b>53.1%</b>	<b>61.8%</b>	<b>21.6%</b>	<b>16.1%</b>

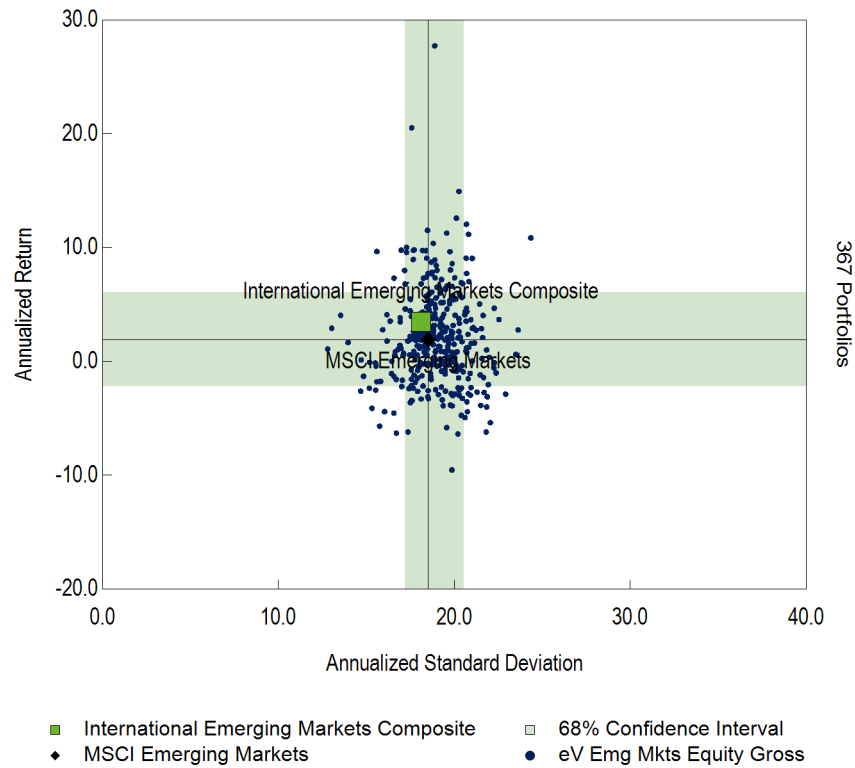
Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>AsiaPacific</b>				
Australia	2.7%	5.9%	25.1%	29.0%
Hong Kong	6.4%	3.8%	5.0%	9.1%
Japan	28.3%	26.4%	12.5%	11.5%
New Zealand	1.1%	0.3%	44.7%	27.9%
Singapore	4.3%	1.2%	1.4%	10.2%
Taiwan*	0.9%	0.0%	18.0%	21.4%
<b>Total-AsiaPacific</b>	<b>43.7%</b>	<b>37.6%</b>	<b>12.0%</b>	<b>14.1%</b>
<b>Totals</b>				
Developed	98.5%	100.0%	18.0%	15.4%
Emerging*	0.9%	0.0%	18.0%	--
Cash	0.6%		0.0%	

Country\* = Emerging Markets

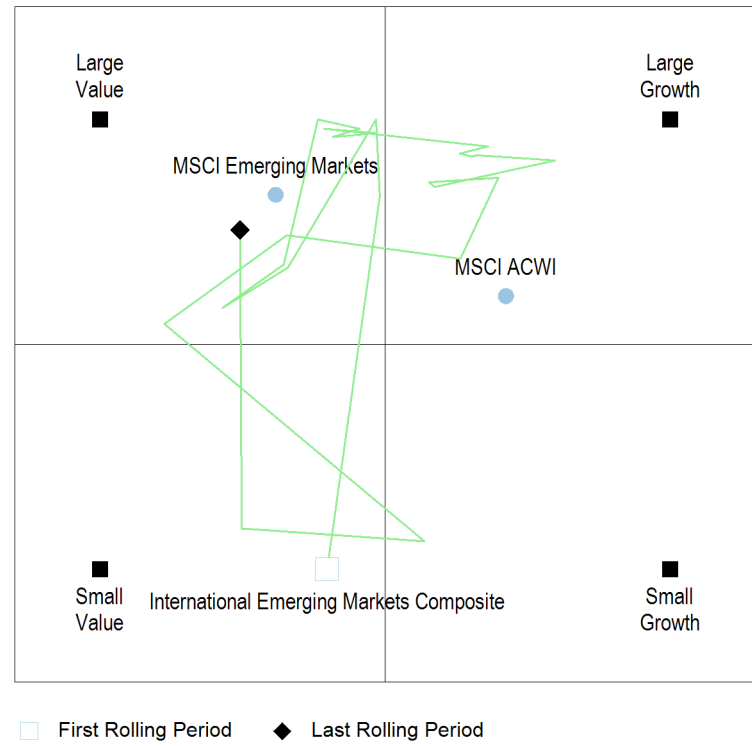


# INTERNATIONAL EMERGING MARKETS COMPOSITE

**3 Year Risk Return**



**3 Year Style Analysis**



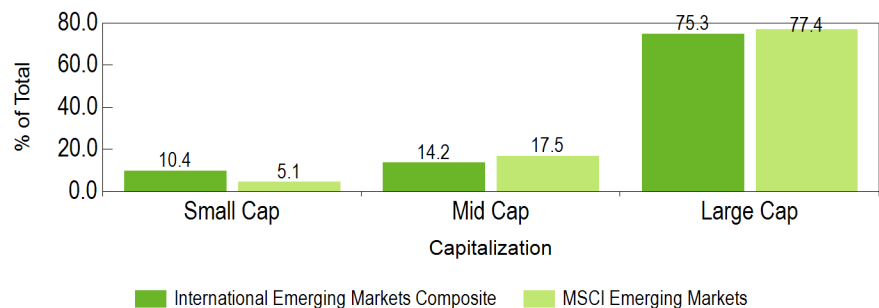
## Howard County Retirement Plans

# INTERNATIONAL EMERGING MARKETS COMPOSITE

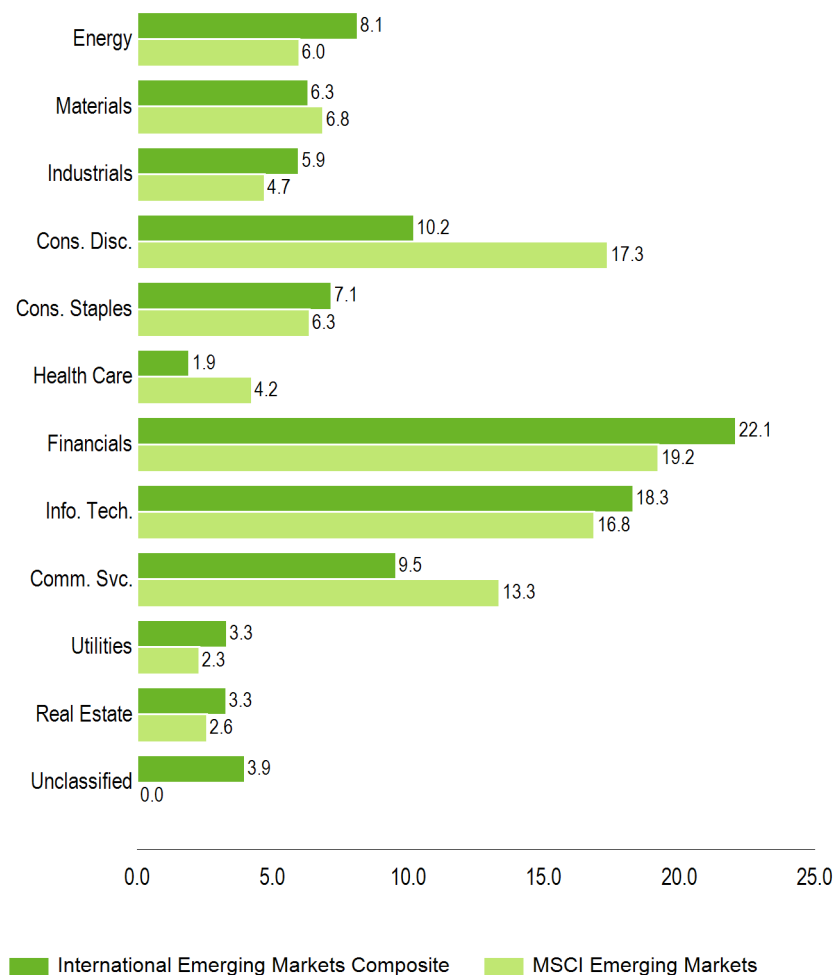
Characteristics		
	Portfolio	MSCI Emerging Markets
Number of Holdings	2,810	1,385
Weighted Avg. Market Cap. (\$B)	118.2	130.7
Median Market Cap. (\$B)	0.5	5.4
Price To Earnings	14.2	15.6
Price To Book	2.5	2.9
Price To Sales	1.2	1.5
Return on Equity (%)	12.9	15.6
Yield (%)	2.8	2.7
Beta	0.9	1.0
R-Squared	0.9	1.0

	Portfolio Q2-20	Index Q2-20
Region Weighting		
Americas	15.06	9.69
Europe	7.45	4.52
Asia/Pacific	75.48	77.15
Other	2.01	8.64

**Market Capitalization**  
As of June 30, 2020



**Equity Sector Allocation**



## Howard County Retirement Plans

# INTERNATIONAL EMERGING MARKETS COMPOSITE

Characteristics	MSCI Emerging Markets	
	Portfolio	MSCI Emerging Markets
Number of Holdings	2,810	1,385
Weighted Avg. Market Cap. (\$B)	118.2	130.7
Median Market Cap. (\$B)	0.5	5.4
Price To Earnings	14.2	15.6
Price To Book	2.5	2.9
Price To Sales	1.2	1.5
Return on Equity (%)	12.9	15.6
Yield (%)	2.8	2.7
Beta	0.9	1.0
R-Squared	0.9	1.0

Top Positive Contributors	Relative	
	Contribution %	Return %
MERCADOLIBRE INC	1.8%	101.8%
SEA LTD	1.5%	142.0%
NVIDIA CORPORATION	1.0%	44.2%
RELIANCE INDUSTRIES LTD	0.9%	54.8%
YIBIN WULIANGYE CO LTD	0.8%	51.0%
ASML HOLDING NV	0.7%	38.7%
YANDEX NV	0.4%	46.9%
PT BANK CENTRAL ASIA TBK	0.4%	19.8%
EPAM SYSTEMS INC	0.4%	35.7%
H D F C BANK LTD	0.3%	18.2%

Top Negative Contributors	Relative	
	Contribution %	Return %
TENCENT HOLDINGS LTD	-0.6%	31.5%
CHINA TOWER CORPORATION LTD	-0.5%	-20.5%
TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD	-0.4%	18.0%
ALIBABA GROUP HOLDING LTD	-0.3%	10.9%
SAMSUNG ELECTRONICS CO LTD	-0.2%	11.9%
GUANGDONG INVESTMENT	-0.2%	-8.4%
CHINA MOBILE LTD	-0.1%	-6.4%
JD.COM INC	-0.1%	48.6%
BAIDU INC	-0.1%	19.0%
SAUDI BASIC INDUSTRIES CORP	-0.1%	30.0%

	Equity Sector Attribution								Returns		Sector Weights	
	Total Effects	Selection Effect	Attribution Effects			Portfolio	Benchmark	Portfolio	Benchmark			
			Allocation Effect	Interaction Effects								
Energy	0.8%	0.6%	0.1%	0.1%	33.4%	23.6%	7.6%	6.0%				
Materials	0.1%	0.1%	0.0%	-0.1%	24.8%	24.2%	7.0%	6.6%				
Industrials	-0.9%	-0.8%	0.0%	-0.1%	-0.6%	15.5%	5.8%	5.0%				
Consumer Discretionary	1.0%	2.0%	-0.2%	-0.8%	34.4%	21.6%	9.7%	15.5%				
Consumer Staples	0.8%	0.8%	0.0%	0.0%	26.4%	13.3%	5.8%	6.5%				
Health Care	-0.3%	-0.1%	-0.2%	0.0%	33.9%	37.2%	2.1%	3.4%				
Financials	0.3%	-0.1%	-0.2%	0.6%	10.1%	8.1%	23.7%	21.9%				
Information Technology	1.2%	1.1%	0.0%	0.1%	26.5%	20.3%	18.5%	16.8%				
Communication Services	0.6%	1.0%	-0.1%	-0.3%	31.1%	24.1%	10.7%	13.0%				
Utilities	-0.4%	-0.2%	0.0%	-0.1%	1.2%	11.7%	3.3%	2.5%				
Real Estate	0.1%	0.1%	0.0%	0.0%	10.0%	6.8%	3.3%	2.9%				
Cash	-0.4%	0.0%	-0.4%	0.0%	0.0%	--	2.5%	0.0%				
<b>Portfolio</b>	<b>2.8%</b>	<b>=</b>	<b>4.6%</b>	<b>+</b>	<b>-1.2%</b>	<b>+</b>	<b>-0.6%</b>	<b>20.8%</b>	<b>18.0%</b>	<b>100.0%</b>	<b>100.0%</b>	

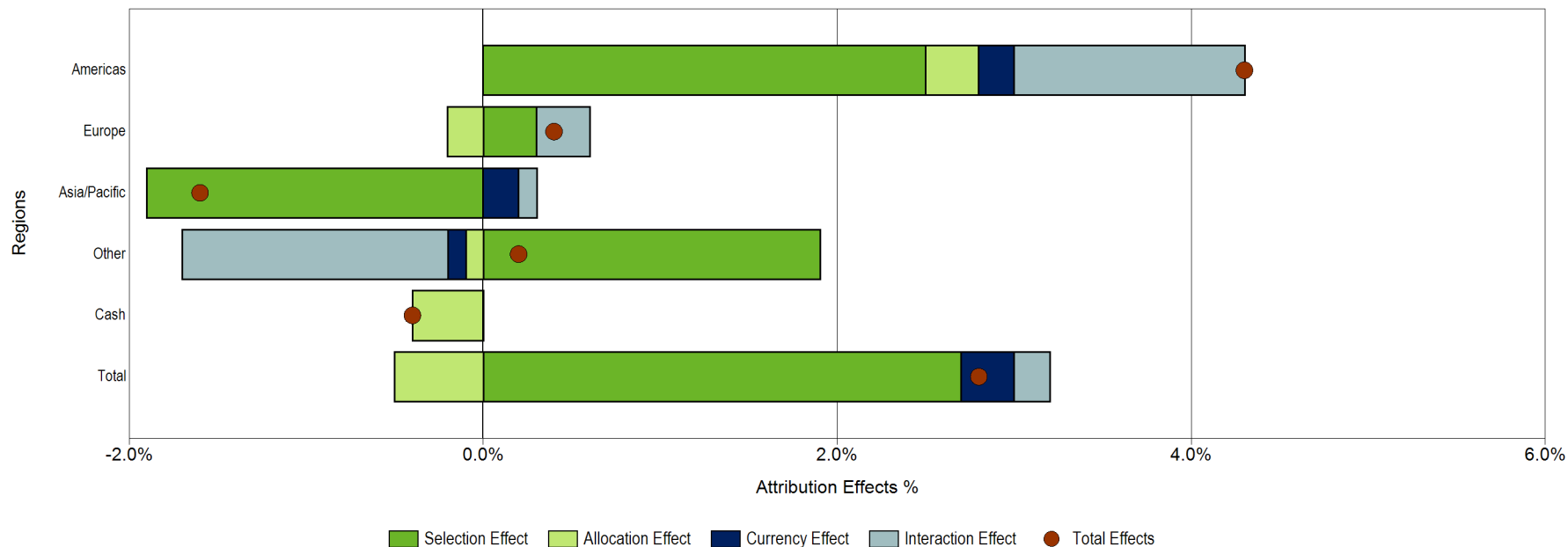
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



## Howard County Retirement Plans

# INTERNATIONAL EMERGING MARKETS COMPOSITE

International Emerging Markets Composite Performance Attribution vs. MSCI Emerging Markets



	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
<b>Totals</b>									
Americas	52.5%	19.3%	12.5%	8.2%	2.5%	0.3%	0.2%	1.3%	4.3%
Europe	22.5%	19.0%	8.3%	4.6%	0.3%	-0.2%	0.0%	0.3%	0.4%
Asia/Pacific	15.6%	17.7%	75.0%	78.9%	-1.9%	0.0%	0.2%	0.1%	-1.6%
Other	42.3%	19.7%	1.7%	8.4%	1.9%	-0.1%	-0.1%	-1.5%	0.2%
Cash	0.0%	--	2.5%	0.0%	0.0%	-0.4%	0.0%	0.0%	-0.4%
<b>Total</b>	<b>20.8%</b>	<b>18.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>2.7%</b>	<b>-0.5%</b>	<b>0.3%</b>	<b>0.2%</b>	<b>2.8%</b>
<b>Totals</b>									
Developed	30.2%	--	28.2%	0.0%	0.0%	0.0%	0.1%	3.7%	3.8%
Emerging*	17.7%	18.0%	69.3%	100.0%	-1.1%	0.0%	0.2%	0.3%	-0.6%
Cash	0.0%	--	2.5%	0.0%	0.0%	-0.4%	0.0%	0.0%	-0.4%



## Howard County Retirement Plans

# INTERNATIONAL EMERGING MARKETS COMPOSITE

Country Allocation					Country Allocation				
	Manager	Index	Manager	Index		Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)		Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
<b>Americas</b>					<b>AsiaPacific</b>				
Brazil*	2.0%	5.0%	30.3%	23.1%	China*	17.4%	40.0%	6.7%	14.8%
Chile*	0.4%	0.6%	21.7%	17.2%	Hong Kong	15.0%	0.0%	12.3%	9.2%
Colombia*	0.1%	0.2%	-0.7%	11.1%	India*	15.6%	7.8%	24.3%	21.4%
Mexico*	0.9%	1.9%	19.1%	11.0%	Indonesia*	4.1%	1.5%	20.5%	25.0%
United States	9.3%	0.0%	61.8%	21.6%	Korea*	8.5%	12.0%	15.2%	19.3%
<b>Total-Americas</b>	<b>12.5%</b>	<b>8.2%</b>	<b>52.5%</b>	<b>19.3%</b>	Malaysia*	0.9%	1.9%	11.9%	13.9%
<b>Europe</b>					Philippines*	0.4%	0.8%	8.7%	20.1%
Belgium	0.0%	0.0%	9.9%	13.6%	Singapore	1.1%	0.0%	14.3%	10.2%
Czech Republic*	0.1%	0.1%	30.6%	24.1%	Taiwan*	10.3%	12.5%	20.6%	21.4%
Greece*	0.0%	0.2%	11.2%	14.7%	Thailand*	1.9%	2.2%	17.7%	24.1%
Hungary*	0.1%	0.2%	2.9%	14.3%	<b>Total-AsiaPacific</b>	<b>75.0%</b>	<b>78.9%</b>	<b>15.6%</b>	<b>17.7%</b>
Netherlands	2.8%	0.0%	28.0%	24.8%	<b>Other</b>				
Poland*	0.3%	0.7%	34.0%	21.0%	South Africa*	1.4%	3.7%	47.1%	28.1%
Russia*	4.9%	3.2%	19.1%	19.0%	Turkey*	0.3%	0.5%	17.4%	19.4%
United Kingdom	0.1%	0.0%	13.7%	9.1%	<b>Total-Other</b>	<b>1.7%</b>	<b>8.4%</b>	<b>42.3%</b>	<b>19.7%</b>
<b>Total-Europe</b>	<b>8.3%</b>	<b>4.6%</b>	<b>22.5%</b>	<b>19.0%</b>	<b>Totals</b>				
					Developed	28.2%	0.0%	30.2%	--
					Emerging*	69.3%	100.0%	17.7%	18.0%
					Cash	2.5%		0.0%	

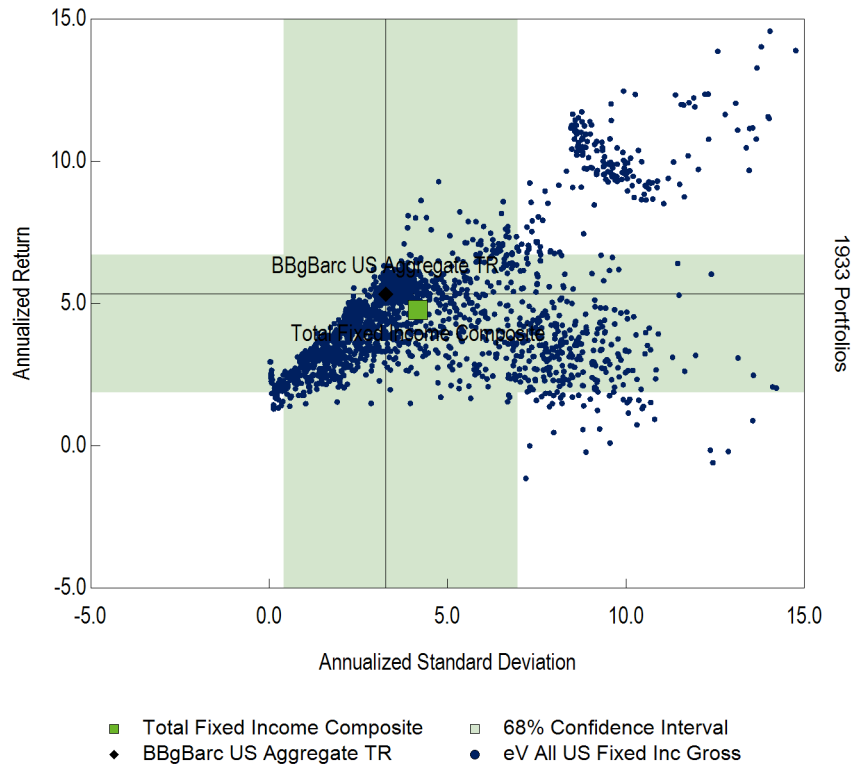
Country\* = Emerging Markets



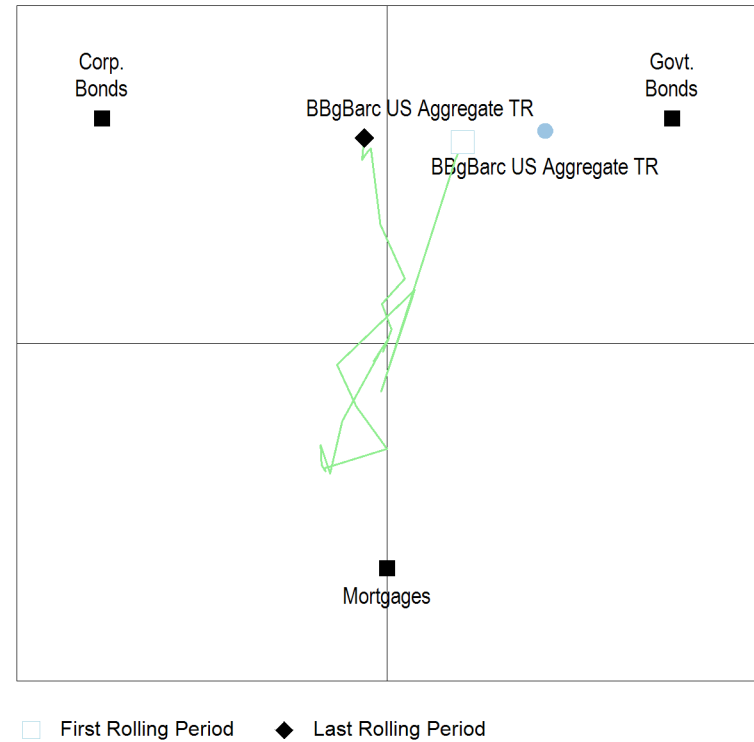
# Howard County Retirement Plans

## TOTAL FIXED INCOME COMPOSITE

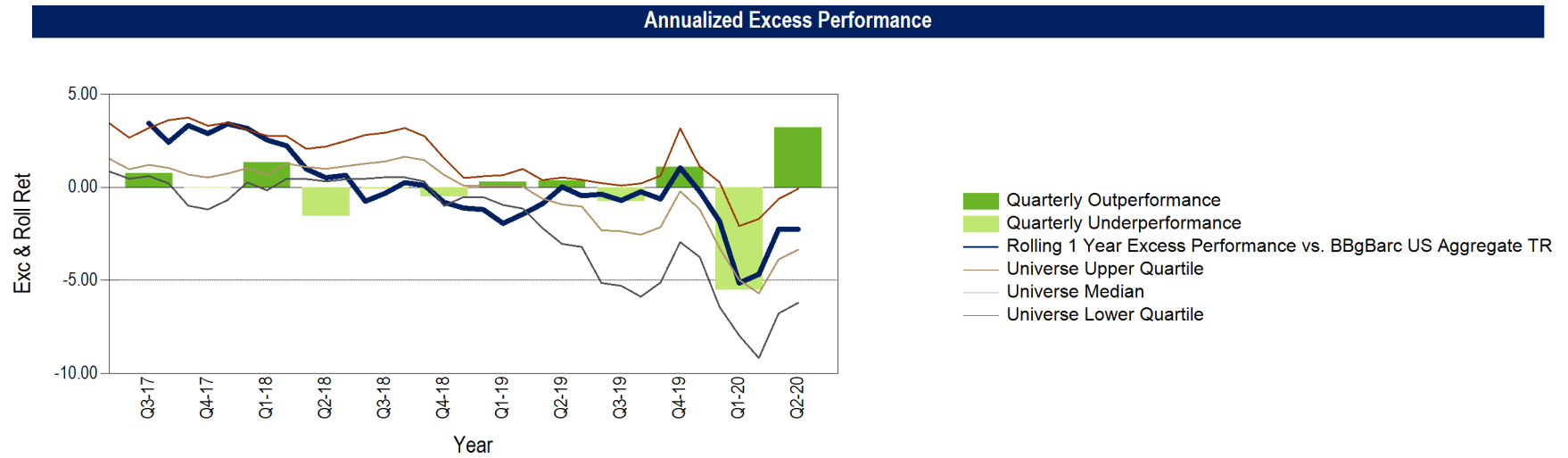
3 Year Risk Return



3 Year Style Analysis



# TOTAL FIXED INCOME COMPOSITE



# **JULY 2020 FLASH REPORT**

NEPC, LLC

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# TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Jul-20	YTD	1 YR	3 YR	5 YR	10 YR
<b>MSCI ACWI</b>	5.3%	-1.3%	7.2%	7.0%	7.4%	8.9%
<b>S&amp;P 500</b>	5.6%	2.4%	12.0%	12.0%	11.5%	13.8%
<b>Russell 1000</b>	5.9%	2.9%	12.0%	12.0%	11.3%	13.9%
<b>Russell 2000</b>	2.8%	-10.6%	-4.6%	2.7%	5.1%	10.1%
<b>Russell 2500</b>	4.0%	-7.5%	-1.9%	5.1%	6.3%	11.1%
<b>MSCI EAFE</b>	2.3%	-9.3%	-1.7%	0.6%	2.1%	5.0%
<b>MSCI EM</b>	8.9%	-1.7%	6.5%	2.8%	6.1%	3.3%
Credit						
	Jul-20	YTD	1 YR	3 YR	5 YR	10 YR
<b>BC Global Agg</b>	3.2%	6.3%	7.8%	4.3%	4.2%	2.8%
<b>BC US Agg</b>	1.5%	7.7%	10.1%	5.7%	4.5%	3.9%
<b>BC Credit</b>	3.1%	8.0%	11.9%	7.0%	6.1%	5.4%
<b>BC US HY</b>	4.7%	0.7%	4.1%	4.5%	5.9%	6.8%
<b>BC Muni</b>	1.7%	3.8%	5.4%	4.5%	4.1%	4.3%
<b>BC Muni HY</b>	2.7%	0.0%	3.1%	6.0%	6.5%	6.3%
<b>BC TIPS</b>	2.3%	8.4%	10.4%	5.7%	4.2%	3.7%
<b>BC 20+ STRIPS</b>	6.4%	37.0%	44.1%	19.2%	13.0%	11.9%
<b>BC Long Treasuries</b>	4.2%	26.3%	30.5%	13.8%	9.4%	8.2%
<b>BC Long Credit</b>	6.1%	12.4%	18.7%	10.6%	9.5%	8.2%
<b>BC Govt/Credit 1-3 Yr</b>	0.2%	3.1%	4.5%	2.8%	2.1%	1.6%
<b>JPM EMBI Glob Div</b>	3.7%	0.8%	3.0%	4.6%	6.0%	6.0%
<b>JPM GBI-EM Glob Div</b>	3.0%	-4.1%	-0.8%	1.4%	3.5%	1.4%
Real Assets						
	Jul-20	YTD	1 YR	3 YR	5 YR	10 YR
<b>BBG Commodity</b>	5.7%	-14.8%	-12.1%	-5.1%	-4.5%	-5.9%
<b>Alerian Midstream Index</b>	-1.1%	-30.3%	-29.1%	-10.1%	-7.3%	-
<b>FTSE NAREIT Equity REITs</b>	4.0%	-15.4%	-10.7%	1.0%	3.7%	8.5%

Source: S&P, MSCI, Russell, Barclays, JPM, Alerian, FTSE, FactSet



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Ending July 31, 2020										
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,157,122,599</b>	<b>100.0</b>	<b>100.0</b>	<b>2.9</b>	<b>0.5</b>	<b>6.1</b>	<b>7.0</b>	<b>7.2</b>	<b>8.1</b>	<b>7.3</b>	<b>Apr-97</b>
<i>Policy Index</i>				2.7	0.3	5.7	6.2	6.4	7.6	7.2	Apr-97
<i>Allocation Index</i>				2.8	-0.8	4.2	--	--	--	--	Apr-97
<b>Total US Equity Composite</b>	<b>282,813,615</b>	<b>24.4</b>	<b>23.0</b>	<b>5.0</b>	<b>0.2</b>	<b>8.4</b>	<b>10.7</b>	<b>10.7</b>	<b>13.9</b>	<b>8.6</b>	<b>Jul-97</b>
<i>Russell 3000</i>				5.7	2.0	10.9	11.4	10.9	13.6	8.0	Jul-97
<i>US Equity Allocation Index</i>				5.7	2.1	10.6	11.0	10.6	13.4	--	Jul-97
<b>Total International Equity</b>	<b>186,867,091</b>	<b>16.1</b>	<b>17.0</b>	<b>5.5</b>	<b>-3.8</b>	<b>4.8</b>	<b>3.6</b>	<b>5.1</b>	<b>5.3</b>	<b>4.7</b>	<b>Jul-97</b>
<i>MSCI ACWI ex USA</i>				4.5	-7.0	0.7	1.4	3.2	4.5	4.3	Jul-97
<b>Total Fixed Income Composite</b>	<b>357,187,346</b>	<b>30.9</b>	<b>30.0</b>	<b>2.0</b>	<b>5.7</b>	<b>8.3</b>	<b>5.2</b>	<b>5.3</b>	<b>4.8</b>	<b>5.6</b>	<b>Jul-97</b>
<i>Fixed Income Policy Index</i>				1.5	7.7	10.1	5.7	4.5	3.9	5.4	Jul-97
<b>Total Real Assets Composite</b>	<b>41,225,024</b>	<b>3.6</b>	<b>7.0</b>	<b>0.0</b>	<b>-10.8</b>	<b>-9.5</b>	<b>3.8</b>	<b>5.6</b>	<b>5.7</b>	<b>6.2</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	2.3	5.3	6.4	7.6	10.2	8.6	Jul-03
<b>Cash Composite</b>	<b>17,071,514</b>	<b>1.5</b>		<b>0.0</b>	<b>0.2</b>	<b>0.7</b>	<b>1.3</b>	<b>0.9</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.4	1.1	1.6	1.1	0.6	1.3	Dec-03
<b>Hedge Fund Composite</b>	<b>124,886,910</b>	<b>10.8</b>	<b>8.0</b>	<b>1.6</b>	<b>1.2</b>	<b>2.6</b>	<b>4.4</b>	<b>3.6</b>	<b>--</b>	<b>4.6</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				1.5	-0.4	0.9	2.3	1.7	2.7	2.3	Jan-11
<b>Private Equity Composite</b>	<b>145,644,953</b>	<b>12.6</b>	<b>10.0</b>	<b>0.0</b>	<b>-0.5</b>	<b>7.5</b>	<b>13.9</b>	<b>14.0</b>	<b>13.2</b>	<b>12.4</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				0.0	-6.7	-2.3	8.6	9.2	12.1	9.4	Jul-08
<b>Private Debt</b>	<b>1,426,145</b>	<b>0.1</b>	<b>5.0</b>	<b>0.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.0</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan TR</i>				2.0	-2.7	-0.9	2.5	3.3	4.2	2.0	Jun-20

Fiscal year end 6/30.

All history prior to 3/1/2019 was provided by AndCo.



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Ending July 31, 2020										
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,157,122,599</b>	<b>100.0</b>	<b>100.0</b>	<b>2.9</b>	<b>0.5</b>	<b>6.1</b>	<b>7.0</b>	<b>7.2</b>	<b>8.1</b>	<b>7.3</b>	<b>Apr-97</b>
Policy Index				2.7	0.3	5.7	6.2	6.4	7.6	7.2	Apr-97
Allocation Index				2.8	-0.8	4.2	--	--	--	--	Apr-97
<b>Total Equity Composite</b>	<b>469,680,707</b>	<b>40.6</b>	<b>40.0</b>	<b>5.2</b>	<b>-1.6</b>	<b>6.7</b>	<b>7.5</b>	<b>8.2</b>	<b>10.3</b>	<b>7.1</b>	<b>Apr-00</b>
MSCI ACWI IMI				5.2	-2.2	6.1	6.4	7.1	8.8	4.5	Apr-00
<b>Total US Equity Composite</b>	<b>282,813,615</b>	<b>24.4</b>	<b>23.0</b>	<b>5.0</b>	<b>0.2</b>	<b>8.4</b>	<b>10.7</b>	<b>10.7</b>	<b>13.9</b>	<b>8.6</b>	<b>Jul-97</b>
Russell 3000				5.7	2.0	10.9	11.4	10.9	13.6	8.0	Jul-97
US Equity Allocation Index				5.7	2.1	10.6	11.0	10.6	13.4	--	Jul-97
<b>Large Cap Composite</b>	<b>236,829,418</b>	<b>20.5</b>	<b>19.0</b>	<b>5.2</b>	<b>0.0</b>	<b>9.7</b>	<b>10.6</b>	<b>10.3</b>	<b>13.7</b>	<b>8.6</b>	<b>Apr-01</b>
Russell 1000				5.9	2.9	12.0	12.0	11.3	13.9	7.9	Apr-01
LSV Asset Management SMA	55,719,107	4.8		2.7	-19.2	-11.0	0.2	3.9	10.6	8.6	May-00
Russell 1000 Value				4.0	-12.9	-6.0	2.7	5.4	10.1	6.3	May-00
Westfield Capital Management SMA	94,073,548	8.1		6.3	15.1	27.1	19.2	15.5	16.3	17.0	Jul-10
Russell 1000 Growth				7.7	18.3	29.8	20.9	16.8	17.3	17.9	Jul-10
BlackRock Equity Index Non-Lendable Fund	87,036,762	7.5		5.6	1.3	--	--	--	--	4.4	Dec-19
S&P 500				5.6	2.4	12.0	12.0	11.5	13.8	5.5	Dec-19
<b>Small/Mid Cap Composite</b>	<b>45,984,198</b>	<b>4.0</b>	<b>4.0</b>	<b>4.2</b>	<b>1.2</b>	<b>4.3</b>	<b>11.1</b>	<b>12.1</b>	<b>14.5</b>	<b>12.1</b>	<b>Apr-93</b>
Russell 2500				4.0	-7.5	-1.9	5.1	6.3	11.1	9.9	Apr-93
William Blair SMA	16,434,148	1.4		4.6	5.9	9.0	15.3	13.1	16.5	12.3	Jun-06
Russell 2500 Growth				5.5	7.6	13.4	13.6	10.5	14.3	10.0	Jun-06
ICM Small Company - ICSCX	12,135,804	1.0		1.7	-20.7	-15.5	-1.1	5.3	9.5	10.7	Apr-93
Russell 2000 Value				2.1	-21.9	-15.9	-3.9	2.2	7.3	8.7	Apr-93
Brown Capital Small Company Strategy SMA	17,414,246	1.5		5.5	20.6	19.5	20.9	18.6	--	19.4	Aug-11
Russell 2000 Growth				3.4	0.3	6.0	8.8	7.5	12.6	10.9	Aug-11



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

				Ending July 31, 2020									
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
<b>Total International Equity</b>	<b>186,867,091</b>	<b>16.1</b>	<b>17.0</b>	<b>5.5</b>	<b>-3.8</b>	<b>4.8</b>	<b>3.6</b>	<b>5.1</b>	<b>5.3</b>	<b>4.7</b>	<b>Jul-97</b>		
MSCI ACWI ex USA				4.5	-7.0	0.7	1.4	3.2	4.5	4.3	Jul-97		
<b>International Developed Markets Composite</b>	<b>114,268,132</b>	<b>9.9</b>	<b>12.0</b>	<b>2.9</b>	<b>-6.8</b>	<b>3.6</b>	<b>2.8</b>	<b>3.2</b>	<b>6.1</b>	<b>3.0</b>	<b>Mar-08</b>		
MSCI EAFE				2.3	-9.3	-1.7	0.6	2.1	5.0	1.9	Mar-08		
Mondrian International Equity Fund, L.P.	52,906,878	4.6		1.3	-18.5	-9.7	-2.6	-0.1	4.2	0.7	Dec-07		
MSCI EAFE				2.3	-9.3	-1.7	0.6	2.1	5.0	1.0	Dec-07		
Baillie Gifford EAFE Pure K - BGPX	61,361,253	5.3		4.2	3.8	15.7	--	--	--	7.5	May-18		
MSCI EAFE				2.3	-9.3	-1.7	0.6	2.1	5.0	-2.4	May-18		
<b>International Emerging Markets Composite</b>	<b>72,598,960</b>	<b>6.3</b>	<b>5.0</b>	<b>10.1</b>	<b>1.3</b>	<b>6.2</b>	<b>5.0</b>	<b>8.6</b>	<b>3.5</b>	<b>6.1</b>	<b>Feb-06</b>		
MSCI Emerging Markets				8.9	-1.7	6.5	2.8	6.1	3.3	4.7	Feb-06		
DFA Emerging Markets Value Portfolio Institutional - DFEVX	24,276,420	2.1		5.3	-14.4	-8.4	-3.6	3.2	0.9	4.4	Feb-06		
MSCI Emerging Markets				8.9	-1.7	6.5	2.8	6.1	3.3	4.7	Feb-06		
GQG Partners Emerging Markets Equity Fund	48,322,540	4.2		12.6	11.5	15.5	--	--	--	20.8	Dec-18		
MSCI Emerging Markets				8.9	-1.7	6.5	2.8	6.1	3.3	7.8	Dec-18		
<b>Total Fixed Income Composite</b>	<b>357,187,346</b>	<b>30.9</b>	<b>30.0</b>	<b>2.0</b>	<b>5.7</b>	<b>8.3</b>	<b>5.2</b>	<b>5.3</b>	<b>4.8</b>	<b>5.6</b>	<b>Jul-97</b>		
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	5.3	Jul-97		
<b>Core Fixed Income Composite</b>	<b>272,371,550</b>	<b>23.5</b>	<b>22.0</b>	<b>1.9</b>	<b>8.1</b>	<b>10.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>11.1</b>	<b>Mar-19</b>		
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	11.0	Mar-19		
Dodge & Cox SMA	123,453,444	10.7		2.1	7.8	10.3	6.2	5.5	5.1	5.2	May-10		
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	4.1	May-10		
PIMCO Total Return	123,966,485	10.7		1.7	8.4	10.9	5.8	4.8	4.4	4.6	May-10		
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	4.1	May-10		
State Street Global Advisors TIPS	24,951,622	2.2		2.3	8.5	10.4	5.7	4.2	3.7	3.9	Nov-09		
BBgBarc US TIPS TR				2.3	8.4	10.4	5.7	4.2	3.7	4.0	Nov-09		
<b>Emerging Markets Debt Composite</b>	<b>45,331,346</b>	<b>3.9</b>	<b>4.0</b>	<b>3.6</b>	<b>-4.2</b>	<b>-0.6</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>3.1</b>	<b>Mar-19</b>		
JP Morgan GBI EM Global Diversified TR USD				3.0	-4.1	-0.8	1.4	3.5	1.4	3.1	Mar-19		
Colchester Local Markets Debt Fund	45,331,346	3.9		3.6	-4.2	-0.6	2.2	--	--	7.2	Oct-15		
JP Morgan GBI EM Global Diversified TR USD				3.0	-4.1	-0.8	1.4	3.5	1.4	5.5	Oct-15		
<b>Absolute Return Fixed Income</b>	<b>39,484,450</b>	<b>3.4</b>	<b>4.0</b>	<b>0.9</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-1.0</b>	<b>Mar-20</b>		
3-Month Libor Total Return USD				0.0	0.5	1.4	2.0	1.5	0.9	0.2	Mar-20		
Payden Absolute Return Bond Fund PYAIX	39,484,450	3.4		0.9	--	--	--	--	--	-1.0	Mar-20		
3-Month Libor Total Return USD				0.0	0.5	1.4	2.0	1.5	0.9	0.2	Mar-20		



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

				Ending July 31, 2020							
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Real Assets Composite</b>	<b>41,225,024</b>	<b>3.6</b>	<b>7.0</b>	<b>0.0</b>	<b>-10.8</b>	<b>-9.5</b>	<b>3.8</b>	<b>5.6</b>	<b>5.7</b>	<b>6.2</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	2.3	5.3	6.4	7.6	10.2	8.6	Jul-03
<b>Cash Composite</b>	<b>17,071,514</b>	<b>1.5</b>		<b>0.0</b>	<b>0.2</b>	<b>0.7</b>	<b>1.3</b>	<b>0.9</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.4	1.1	1.6	1.1	0.6	1.3	Dec-03
<b>Hedge Fund Composite</b>	<b>124,886,910</b>	<b>10.8</b>	<b>8.0</b>	<b>1.6</b>	<b>1.2</b>	<b>2.6</b>	<b>4.4</b>	<b>3.6</b>	<b>--</b>	<b>4.6</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				1.5	-0.4	0.9	2.3	1.7	2.7	2.3	Jan-11
Magnitude International Class A Eligible	62,604,033	5.4		1.8	2.7	3.5	4.6	3.4	--	4.6	Jan-11
<i>HFRI FOF: Conservative Index</i>				1.5	-0.4	0.9	2.3	1.7	2.7	2.3	Jan-11
Blackstone Partners Offshore Fund LTD	62,282,877	5.4		1.4	-0.3	1.8	4.1	3.7	--	4.5	Mar-11
<i>HFRI FOF: Conservative Index</i>				1.5	-0.4	0.9	2.3	1.7	2.7	2.2	Mar-11
<b>Private Equity Composite</b>	<b>145,644,953</b>	<b>12.6</b>	<b>10.0</b>	<b>0.0</b>	<b>-0.5</b>	<b>7.5</b>	<b>13.9</b>	<b>14.0</b>	<b>13.2</b>	<b>12.4</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				0.0	-6.7	-2.3	8.6	9.2	12.1	9.4	Jul-08
<b>Private Debt</b>	<b>1,426,145</b>	<b>0.1</b>	<b>5.0</b>	<b>0.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.0</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan</i>				2.0	-2.7	-0.9	2.5	3.3	4.2	2.0	Jun-20

Magnitude International Class A Eligible is preliminary as of 07/31/2020.  
CarVal Investors Credit Value Fund fund is carried as of 07/31/2020.



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL FOOTNOTES

Performance is preliminary for 7/31/2020.

Fiscal year ends 6/30.

Policy index consists of: 19% Russell 1000 / 4% Russell 2500 / 12% MSCI EAFE / 5% MSCI Emerging Markets / 20% BBgBarc US Aggregate TR / 2% BBgBarc US TIPS TR / 4% 3-Month Libor Total Return USD / 4% JP Morgan GBI EM Global Diversified TR USD / 5% S&P/LSTA Leveraged Loan TR / 7.0% NCREIF Property Index 1 Qtr. Lag / 8% HFRI FOF: Conservative Index / 10% Private Equity Composite.

Allocation index consists of: Weighted index of underlying managers to their respective benchmark.

Fixed Income Policy index consists of: 100% BBgBarc US Aggregate TR.

Real Estate, Real Assets and Private Equity investments are valued as of 03/31/2020 and adjusted for capital calls and distributions through 06/30/2020.

All history prior to 3/1/2019 was provided by AndCo.



# **AUGUST 2020 FLASH REPORT**

NEPC, LLC

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# TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Aug-20	YTD	1 YR	3 YR	5 YR	10 YR
<b>MSCI ACWI</b>	6.1%	4.7%	16.5%	9.0%	10.2%	9.9%
<b>S&amp;P 500</b>	7.2%	9.7%	21.9%	14.5%	14.5%	15.2%
<b>Russell 1000</b>	7.3%	10.4%	22.5%	14.6%	14.3%	15.2%
<b>Russell 2000</b>	5.6%	-5.5%	6.0%	5.0%	7.7%	11.5%
<b>Russell 2500</b>	4.5%	-3.3%	6.8%	6.9%	8.5%	12.3%
<b>MSCI EAFE</b>	5.1%	-4.6%	6.1%	2.3%	4.7%	5.9%
<b>MSCI EM</b>	2.2%	0.4%	14.5%	2.8%	8.7%	3.8%
Credit						
	Aug-20	YTD	1 YR	3 YR	5 YR	10 YR
<b>BC Global Agg</b>	-0.2%	6.1%	5.5%	3.9%	4.1%	2.6%
<b>BC US Agg</b>	-0.8%	6.9%	6.5%	5.1%	4.3%	3.7%
<b>BC Credit</b>	-1.3%	6.7%	7.1%	6.2%	5.9%	5.0%
<b>BC US HY</b>	1.0%	1.7%	4.7%	4.9%	6.5%	6.9%
<b>BC Muni</b>	-0.5%	3.3%	3.2%	4.1%	4.0%	4.0%
<b>BC Muni HY</b>	0.3%	0.3%	1.0%	5.6%	6.4%	6.0%
<b>BC TIPS</b>	1.1%	9.6%	9.0%	5.7%	4.6%	3.7%
<b>BC 20+ STRIPS</b>	-6.3%	28.4%	16.5%	14.8%	11.5%	9.8%
<b>BC Long Treasuries</b>	-4.3%	20.9%	13.0%	10.9%	8.5%	7.0%
<b>BC Long Credit</b>	-3.4%	8.5%	8.2%	8.8%	9.0%	7.4%
<b>BC Govt/Credit 1-3 Yr</b>	0.0%	3.1%	3.7%	2.8%	2.2%	1.6%
<b>JPM EMBI Glob Div</b>	0.5%	1.4%	2.7%	4.1%	6.3%	5.8%
<b>JPM GBI-EM Glob Div</b>	-0.3%	-4.4%	1.5%	0.7%	4.6%	1.3%
Real Assets						
	Aug-20	YTD	1 YR	3 YR	5 YR	10 YR
<b>BBG Commodity</b>	6.8%	-9.0%	-3.9%	-3.1%	-3.1%	-5.1%
<b>Alerian Midstream Index</b>	2.3%	-28.7%	-25.7%	-8.1%	-5.6%	-
<b>FTSE NAREIT Equity REITs</b>	0.8%	-14.8%	-12.9%	1.3%	5.2%	8.7%

Source: S&P, MSCI, Russell, Barclays, JPM, Alerian, FTSE, FactSet



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Ending August 31, 2020											
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,188,086,717</b>	<b>100.0</b>	<b>100.0</b>	<b>2.7</b>	<b>5.7</b>	<b>3.3</b>	<b>10.1</b>	<b>7.7</b>	<b>8.5</b>	<b>8.7</b>	<b>7.4</b>	<b>Apr-97</b>
<i>Policy Index</i>				2.3	5.0	2.6	8.8	6.7	7.6	8.0	7.3	Apr-97
<i>Allocation Index</i>				2.4	5.2	1.5	7.4	--	--	--	--	Apr-97
<b>Total US Equity Composite</b>	<b>303,184,628</b>	<b>25.5</b>	<b>23.0</b>	<b>7.2</b>	<b>12.6</b>	<b>7.7</b>	<b>20.1</b>	<b>13.2</b>	<b>13.7</b>	<b>15.4</b>	<b>8.9</b>	<b>Jul-97</b>
<i>Russell 3000</i>				7.2	13.3	9.4	21.4	13.9	13.9	14.9	8.3	Jul-97
<i>US Equity Allocation Index</i>				7.3	13.4	9.6	21.5	13.6	13.6	14.8	--	Jul-97
<b>Total International Equity</b>	<b>197,075,848</b>	<b>16.6</b>	<b>17.0</b>	<b>5.5</b>	<b>11.4</b>	<b>1.5</b>	<b>14.5</b>	<b>5.3</b>	<b>7.9</b>	<b>6.2</b>	<b>4.9</b>	<b>Jul-97</b>
<i>MSCI ACWI ex USA</i>				4.3	8.9	-3.1	8.3	2.6	5.8	5.3	4.5	Jul-97
<b>Total Fixed Income Composite</b>	<b>356,814,775</b>	<b>30.0</b>	<b>30.0</b>	<b>-0.1</b>	<b>1.9</b>	<b>5.6</b>	<b>6.8</b>	<b>4.8</b>	<b>5.4</b>	<b>4.7</b>	<b>5.6</b>	<b>Jul-97</b>
<i>Fixed Income Policy Index</i>				-0.8	0.7	6.9	6.5	5.1	4.3	3.7	5.4	Jul-97
<b>Total Real Assets Composite</b>	<b>41,225,684</b>	<b>3.5</b>	<b>7.0</b>	<b>0.0</b>	<b>0.0</b>	<b>-10.8</b>	<b>-9.5</b>	<b>2.6</b>	<b>5.3</b>	<b>5.7</b>	<b>6.2</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	0.0	2.3	5.3	6.4	7.6	10.2	8.6	Jul-03
<b>Cash Composite</b>	<b>17,597,111</b>	<b>1.5</b>		<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>0.5</b>	<b>1.3</b>	<b>0.9</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.0	0.4	1.0	1.6	1.1	0.6	1.3	Dec-03
<b>Hedge Fund Composite</b>	<b>125,715,547</b>	<b>10.6</b>	<b>8.0</b>	<b>0.7</b>	<b>2.3</b>	<b>1.9</b>	<b>3.3</b>	<b>4.4</b>	<b>3.7</b>	<b>--</b>	<b>4.6</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				0.9	2.5	0.4	1.9	2.4	2.1	2.7	2.4	Jan-11
<b>Private Equity Composite</b>	<b>145,218,958</b>	<b>12.2</b>	<b>10.0</b>	<b>0.0</b>	<b>0.0</b>	<b>-0.5</b>	<b>7.5</b>	<b>13.2</b>	<b>13.8</b>	<b>13.2</b>	<b>12.3</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				0.0	0.0	-6.7	-2.3	8.6	9.2	12.1	9.3	Jul-08
<b>Private Debt</b>	<b>1,254,167</b>	<b>0.1</b>	<b>5.0</b>	<b>0.0</b>	<b>0.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.0</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan TR</i>				1.5	3.5	-1.3	0.9	3.0	3.7	4.3	3.5	Jun-20

Note: Data is preliminary as of 8/31/2020.

Fiscal year end 6/30.

All history prior to 3/1/2019 was provided by AndCo.



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Ending August 31, 2020											
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fund Composite</b>	<b>1,188,086,717</b>	<b>100.0</b>	<b>100.0</b>	<b>2.7</b>	<b>5.7</b>	<b>3.3</b>	<b>10.1</b>	<b>7.7</b>	<b>8.5</b>	<b>8.7</b>	<b>7.4</b>	<b>Apr-97</b>
Policy Index				2.3	5.0	2.6	8.8	6.7	7.6	8.0	7.3	Apr-97
Allocation Index				2.4	5.2	1.5	7.4	--	--	--	--	Apr-97
<b>Total Equity Composite</b>	<b>500,260,476</b>	<b>42.1</b>	<b>40.0</b>	<b>6.5</b>	<b>12.1</b>	<b>5.0</b>	<b>17.6</b>	<b>9.7</b>	<b>11.1</b>	<b>11.6</b>	<b>7.4</b>	<b>Apr-00</b>
MSCI ACWI IMI				6.1	11.6	3.7	15.4	8.4	9.8	9.8	4.8	Apr-00
<b>Total US Equity Composite</b>	<b>303,184,628</b>	<b>25.5</b>	<b>23.0</b>	<b>7.2</b>	<b>12.6</b>	<b>7.7</b>	<b>20.1</b>	<b>13.2</b>	<b>13.7</b>	<b>15.4</b>	<b>8.9</b>	<b>Jul-97</b>
Russell 3000				7.2	13.3	9.4	21.4	13.9	13.9	14.9	8.3	Jul-97
US Equity Allocation Index				7.3	13.4	9.6	21.5	13.6	13.6	14.8	--	Jul-97
<b>Large Cap Composite</b>	<b>255,284,023</b>	<b>21.5</b>	<b>19.0</b>	<b>7.8</b>	<b>13.4</b>	<b>8.2</b>	<b>22.3</b>	<b>13.3</b>	<b>13.5</b>	<b>15.2</b>	<b>9.0</b>	<b>Apr-01</b>
Russell 1000				7.3	13.6	10.4	22.5	14.6	14.3	15.2	8.2	Apr-01
LSV Asset Management SMA	58,082,289	4.9		4.2	7.1	-15.8	-2.4	1.8	6.1	11.5	8.7	May-00
Russell 1000 Value				4.1	8.3	-9.3	0.8	4.5	7.5	11.0	6.4	May-00
Westfield Capital Management SMA	103,908,724	8.7		10.5	17.4	27.1	43.3	22.4	19.3	18.0	18.0	Jul-10
Russell 1000 Growth				10.3	18.8	30.5	44.3	24.2	20.7	19.0	18.9	Jul-10
BlackRock Equity Index Non-Lendable Fund	93,293,010	7.9		7.2	13.2	9.7	--	--	--	--	13.1	Dec-19
S&P 500				7.2	13.2	9.7	21.9	14.5	14.5	15.2	13.1	Dec-19
<b>Small/Mid Cap Composite</b>	<b>47,900,605</b>	<b>4.0</b>	<b>4.0</b>	<b>4.2</b>	<b>8.5</b>	<b>5.5</b>	<b>12.1</b>	<b>12.7</b>	<b>14.1</b>	<b>15.8</b>	<b>12.2</b>	<b>Apr-93</b>
Russell 2500				4.5	8.7	-3.3	6.8	6.9	8.5	12.3	10.0	Apr-93
William Blair SMA	17,294,948	1.5		5.2	10.1	11.5	14.4	16.7	15.4	17.9	12.6	Jun-06
Russell 2500 Growth				4.5	10.2	12.4	22.0	15.2	13.1	15.6	10.3	Jun-06
ICM Small Company - ICSCX	12,815,324	1.1		5.7	7.5	-16.2	-4.7	1.4	7.2	11.1	10.9	Apr-93
Russell 2000 Value				5.4	7.6	-17.7	-6.1	-1.4	4.4	8.7	8.9	Apr-93
Brown Capital Small Company Strategy SMA	17,790,333	1.5		2.2	7.8	23.2	25.6	21.5	20.6	--	19.5	Aug-11
Russell 2000 Growth				5.9	9.5	6.2	17.3	10.9	10.5	14.1	11.4	Aug-11



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

						Ending August 31, 2020								
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date		
<b>Total International Equity</b>	<b>197,075,848</b>	<b>16.6</b>	<b>17.0</b>	<b>5.5</b>	<b>11.4</b>	<b>1.5</b>	<b>14.5</b>	<b>5.3</b>	<b>7.9</b>	<b>6.2</b>	<b>4.9</b>	<b>Jul-97</b>		
MSCI ACWI ex USA				4.3	8.9	-3.1	8.3	2.6	5.8	5.3	4.5	Jul-97		
<b>International Developed Markets Composite</b>	<b>121,086,076</b>	<b>10.2</b>	<b>12.0</b>	<b>6.0</b>	<b>9.0</b>	<b>-1.2</b>	<b>13.9</b>	<b>5.0</b>	<b>6.0</b>	<b>7.0</b>	<b>3.5</b>	<b>Mar-08</b>		
MSCI EAFE				5.1	7.6	-4.6	6.1	2.3	4.7	5.9	2.3	Mar-08		
Mondrian International Equity Fund, L.P.	55,286,887	4.7		4.5	5.9	-14.8	-1.3	-0.8	2.3	4.9	1.0	Dec-07		
MSCI EAFE				5.1	7.6	-4.6	6.1	2.3	4.7	5.9	1.4	Dec-07		
Baillie Gifford EAFE Pure K - BGPX	65,799,189	5.5		7.3	11.8	11.3	27.7	--	--	--	10.5	May-18		
MSCI EAFE				5.1	7.6	-4.6	6.1	2.3	4.7	5.9	-0.2	May-18		
<b>International Emerging Markets Composite</b>	<b>75,989,771</b>	<b>6.4</b>	<b>5.0</b>	<b>4.7</b>	<b>15.3</b>	<b>6.0</b>	<b>14.9</b>	<b>5.7</b>	<b>11.7</b>	<b>4.2</b>	<b>6.4</b>	<b>Feb-06</b>		
MSCI Emerging Markets				2.2	11.3	0.4	14.5	2.8	8.7	3.8	4.8	Feb-06		
DFA Emerging Markets Value Portfolio Institutional - DFEVX	24,655,271	2.1		1.6	7.0	-13.0	-1.9	-3.9	5.5	1.2	4.5	Feb-06		
MSCI Emerging Markets				2.2	11.3	0.4	14.5	2.8	8.7	3.8	4.8	Feb-06		
GQG Partners Emerging Markets Equity Fund	51,334,500	4.3		6.3	19.7	18.5	25.2	--	--	--	24.0	Dec-18		
MSCI Emerging Markets				2.2	11.3	0.4	14.5	2.8	8.7	3.8	8.7	Dec-18		
<b>Total Fixed Income Composite</b>	<b>356,814,775</b>	<b>30.0</b>	<b>30.0</b>	<b>-0.1</b>	<b>1.9</b>	<b>5.6</b>	<b>6.8</b>	<b>4.8</b>	<b>5.4</b>	<b>4.7</b>	<b>5.6</b>	<b>Jul-97</b>		
BBgBarc US Aggregate TR				-0.8	0.7	6.9	6.5	5.1	4.3	3.7	5.2	Jul-97		
<b>Core Fixed Income Composite</b>	<b>272,096,210</b>	<b>22.9</b>	<b>22.0</b>	<b>-0.1</b>	<b>1.8</b>	<b>8.0</b>	<b>8.1</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>10.4</b>	<b>Mar-19</b>		
BBgBarc US Aggregate TR				-0.8	0.7	6.9	6.5	5.1	4.3	3.7	9.8	Mar-19		
Dodge & Cox SMA	123,163,232	10.4		-0.2	1.8	7.5	8.1	5.9	5.6	5.0	5.1	May-10		
BBgBarc US Aggregate TR				-0.8	0.7	6.9	6.5	5.1	4.3	3.7	4.0	May-10		
PIMCO Total Return	123,717,116	10.4		-0.2	1.5	8.2	7.9	5.3	5.0	4.2	4.6	May-10		
BBgBarc US Aggregate TR				-0.8	0.7	6.9	6.5	5.1	4.3	3.7	4.0	May-10		
State Street Global Advisors TIPS	25,215,862	2.1		1.1	3.4	9.6	8.9	5.7	4.5	3.7	4.0	Nov-09		
BBgBarc US TIPS TR				1.1	3.4	9.6	9.0	5.7	4.6	3.7	4.0	Nov-09		
<b>Emerging Markets Debt Composite</b>	<b>44,997,998</b>	<b>3.8</b>	<b>4.0</b>	<b>-0.7</b>	<b>2.9</b>	<b>-4.9</b>	<b>2.3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>2.5</b>	<b>Mar-19</b>		
JP Morgan GBI EM Global Diversified TR USD				-0.3	2.7	-4.4	1.5	0.7	4.6	1.3	2.7	Mar-19		
Colchester Local Markets Debt Fund	44,997,998	3.8		-0.7	2.9	-4.9	2.3	1.3	--	--	6.9	Oct-15		
JP Morgan GBI EM Global Diversified TR USD				-0.3	2.7	-4.4	1.5	0.7	4.6	1.3	5.3	Oct-15		
<b>Absolute Return Fixed Income</b>	<b>39,720,567</b>	<b>3.3</b>	<b>4.0</b>	<b>0.6</b>	<b>1.5</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>-0.4</b>	<b>Mar-20</b>		
3-Month Libor Total Return USD				0.0	0.0	0.5	1.2	1.9	1.5	0.9	0.3	Mar-20		
Payden Absolute Return Bond Fund PYAIX	39,720,567	3.3		0.6	1.5	--	--	--	--	--	-0.4	Mar-20		
3-Month Libor Total Return USD				0.0	0.0	0.5	1.2	1.9	1.5	0.9	0.3	Mar-20		



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Ending August 31, 2020											
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Real Assets Composite</b>	<b>41,225,684</b>	<b>3.5</b>	<b>7.0</b>	<b>0.0</b>	<b>0.0</b>	<b>-10.8</b>	<b>-9.5</b>	<b>2.6</b>	<b>5.3</b>	<b>5.7</b>	<b>6.2</b>	<b>Jul-03</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	0.0	2.3	5.3	6.4	7.6	10.2	8.6	Jul-03
<b>Cash Composite</b>	<b>17,597,111</b>	<b>1.5</b>		<b>0.0</b>	<b>0.0</b>	<b>0.2</b>	<b>0.5</b>	<b>1.3</b>	<b>0.9</b>	<b>0.4</b>	<b>1.3</b>	<b>Dec-03</b>
<i>91 Day T-Bills</i>				0.0	0.0	0.4	1.0	1.6	1.1	0.6	1.3	Dec-03
<b>Hedge Fund Composite</b>	<b>125,715,547</b>	<b>10.6</b>	<b>8.0</b>	<b>0.7</b>	<b>2.3</b>	<b>1.9</b>	<b>3.3</b>	<b>4.4</b>	<b>3.7</b>	<b>--</b>	<b>4.6</b>	<b>Jan-11</b>
<i>HFRI FOF: Conservative Index</i>				0.9	2.5	0.4	1.9	2.4	2.1	2.7	2.4	Jan-11
Magnitude International Class A Eligible	62,497,317	5.3		-0.2	1.6	2.6	3.1	4.4	3.1	--	4.6	Jan-11
<i>HFRI FOF: Conservative Index</i>				0.9	2.5	0.4	1.9	2.4	2.1	2.7	2.4	Jan-11
Blackstone Partners Offshore Fund LTD	63,218,229	5.3		1.7	3.0	1.3	3.5	4.3	4.2	--	4.7	Mar-11
<i>HFRI FOF: Conservative Index</i>				0.9	2.5	0.4	1.9	2.4	2.1	2.7	2.3	Mar-11
<b>Private Equity Composite</b>	<b>145,218,958</b>	<b>12.2</b>	<b>10.0</b>	<b>0.0</b>	<b>0.0</b>	<b>-0.5</b>	<b>7.5</b>	<b>13.2</b>	<b>13.8</b>	<b>13.2</b>	<b>12.3</b>	<b>Jul-08</b>
<i>CJA US All PE (1 Qtr Lag)</i>				0.0	0.0	-6.7	-2.3	8.6	9.2	12.1	9.3	Jul-08
<b>Private Debt</b>	<b>1,254,167</b>	<b>0.1</b>	<b>5.0</b>	<b>0.0</b>	<b>0.0</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>0.0</b>	<b>Jun-20</b>
<i>S&amp;P/LSTA Leveraged Loan</i>				1.5	3.5	-1.3	0.9	3.0	3.7	4.3	3.5	Jun-20

Magnitude International Class A Eligible is preliminary as of 8/31/2020.  
CarVal Investors Credit Value Fund fund is carried as of 08/31/2020.



## Howard County Retirement Plans

# TOTAL FUND PERFORMANCE DETAIL FOOTNOTES

Performance is preliminary for 8/31/2020.

Fiscal year ends 6/30.

Policy index consists of: 19% Russell 1000 / 4% Russell 2500 / 12% MSCI EAFE / 5% MSCI Emerging Markets / 20% BBgBarc US Aggregate TR / 2% BBgBarc US TIPS TR / 4% 3-Month Libor Total Return USD / 4% JP Morgan GBI EM Global Diversified TR USD / 5% S&P/LSTA Leveraged Loan TR / 7.0% NCREIF Property Index 1 Qtr. Lag / 8% HFRI FOF: Conservative Index / 10% Private Equity Composite.

Allocation index consists of: Weighted index of underlying managers to their respective benchmark.

Fixed Income Policy index consists of: 100% BBgBarc US Aggregate TR.

Real Estate, Real Assets and Private Equity investments are valued as of 03/31/2020 and adjusted for capital calls and distributions through 06/30/2020.

All history prior to 3/1/2019 was provided by AndCo.



# CARVAL CVF V HARD CAP AMENDMENT

NEPC, LLC

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**To:** Clients with commitments to CVI Credit Value Fund V  
**From:** NEPC Research  
**Date:** September 16, 2020  
**Subject:** CarVal Proposal to Increase Hard Cap of CVF V

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### ***Issue***

CarVal Investors ("CarVal" or the "Firm") has proposed an amendment to the Limited Partnership Agreement ("LPA") of CVI Credit Value Fund V ("CVF V" or the "Fund") that would increase the committed capital hard cap, or total allowable size, of the Fund from \$3.5 billion to \$3.75 billion. Approval from Limited Partners ("LPs") representing a two-thirds interest in the Fund is required to make this change. The Firm has asked CVF V LPs to vote on the proposal by September 30, 2020.

### ***Analysis***

We recommend that clients seek their own legal, regulatory and tax advice regarding any amendment; however, we believe that this amendment as presented by CarVal is acceptable for LPs in this fund. On September 14, 2020, NEPC's Alternative Assets Committee ("AAC") reaffirmed a 1-rating for CVF V with the proposed increased hard cap.

CVF V's original hard cap of \$3.5 billion was set by CarVal in Q4 of 2019 and was based on the opportunity set foreseeable at that time. The economic distress and financial market volatility that has developed in 2020 due to the COVID-19 pandemic has greatly increased CarVal's addressable market for investments. Over the past nine years, the Firm has deployed approximately \$1-2 billion per year (~\$1.3 billion on average) from its CVF fund series, into a largely benign market environment with limited distress. The Firm's strategy is well-suited and geared towards the current market and developing opportunities, so it is believed that CarVal will be able to deploy an increased amount of capital in a prudent and effective manner during the investment period of CVF V.

### ***Foundation for the Analysis***

In forming our analysis, NEPC performed the following activities:

1. Reviewed key business terms contained in the Fund's Letter to Investors and Proposed Amendment dated September 9, 2020; and
2. Discussed the new Fund and Proposed Amendment with CarVal on September 10, 2020.

This memo is based on information provided to NEPC by CarVal Investors. NEPC is not responsible for any inaccuracies in this memorandum based on information provided to us by a third party.

# APPENDIX

NEPC, LLC

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# 2020 SECOND QUARTER HAPPENINGS AT NEPC

## NEPC INSIGHTS

- Taking Stock: NEPC's 2020 First Quarter Pension Monitor
- Taking Stock: Operational Impact Survey in the Time of COVID-19
- Taking Stock: Oil and Gas Struggle as COVID-19 Crushes Demand
- Taking Stock: Endowments and Foundations Flash Poll
- Charting a Course Forward: NEPC's Updated 2020 Asset Allocation Letter
- Taking Stock: Does TALF Present an Investment Opportunity?
- 2020 First Quarter Market Thoughts
- Taking Stock: NEPC's April 2020 Pension Monitor
- Taking Stock: Are Bonds Still an Effective Portfolio Diversifier?
- NEPC Healthcare Flash Poll - Battling COVID-19: Impact and Actions
- Taking Stock: The Faceoff Between Value and Growth (Part 1): Sector Dynamics
- Taking Stock: What About the Denominator Effect from Private Markets?
- Taking Stock: NEPC's May 2020 Pension Monitor
- NEPC Statement on Diversity and Inclusion
- Healthcare Strategic Investing After COVID-19
- NEPC's CIO Conversations Recap: George Walker
- NEPC's CIO Conversations Recap: Recovering From The COVID-19 Crisis With J.P. Morgan's Michael Cembalest
- Taking Stock: NEPC's June 2020 Pension Monitor

**To download NEPC's recent insights and webinar replays, visit: [www.NEPC.com/insights](http://www.NEPC.com/insights)**



# 2020 SECOND QUARTER HAPPENINGS AT NEPC

## WEBINAR REPLAYS

- 10th Annual Investment Manager Webinar Replay
- NEPC's Updated Outlook and Assumptions Webinar Replay
- NEPC's CIO Conversations: Market Impacts of COVID-19 with Jeffrey Gundlach
- NEPC's CIO Conversations: Market Impacts of COVID-19 with Bob Prince
- NEPC's CIO Conversations: Market Impacts of COVID-19 with Rajiv Jain
- NEPC's CIO Conversations: Market Impacts of COVID-19 with Rick Rieder
- NEPC's CIO Conversations: Market Impacts of COVID-19 with George Walker
- NEPC's CIO Conversations: Market Impacts of COVID-19 with Michael Cembalest
- NEPC's CIO Conversations: Market Impacts of COVID-19 with Cliff Asness
- NEPC's Taft Hartley Real Estate Webinar Replay
- NEPC Perspectives on the Current Defined Benefit Environment
- NEPC's Infrastructure Webinar Replay
- Healthcare Strategic Investing Post COVID-19: Webinar Replay

To stay up-to-date on our COVID-19 content, visit: <https://info.nepc.com/covid-19>



# INVESTMENT MANAGER - DUE DILIGENCE KEY

NEPC Due Diligence Status Key	
<b>No Action</b>	Informational items have surfaced; no action is recommended.
<b>Watch</b>	Issues have surfaced to be concerned over; manager can participate in future searches, but current and prospective clients must be made aware of the issues.
<b>Hold</b>	Serious issues have surfaced to be concerned over; manager cannot be in future searches unless a client specifically requests, but current and prospective clients must be made aware of the issues.
<b>Client Review</b>	Very serious issues have surfaced with a manager; manager cannot be in future searches unless a client specifically requests. Current clients must be advised to review the manager.
<b>Terminate</b>	We have lost all confidence in the product; manager would not be recommended for searches and clients would be discouraged from using. The manager cannot be in future searches unless a client specifically requests. Current clients must be advised to replace the manager.

NEPC Due Diligence Rating Key	
<b>1</b>	A high conviction investment product. Product has a clear and economically-grounded investment thesis, and is managed by an investment team that is sufficiently resourced and incented to execute on the thesis.
<b>2</b>	NEPC has a positive view of the strategy. Strategy has a compelling and sound investment thesis. The manager is sufficiently resourced and incented to execute on the thesis. Strengths outweigh the weaknesses, but the strategy does not meet all requirements for a 1 rating.
<b>3</b>	A satisfactory investment product. The strategy lacks a compelling investment thesis, however there are no significant concerns around the manager's viability.
<b>4</b>	The strategy may have an unclear or ambiguous investment thesis or the manager may lack the ability to execute on the stated thesis. The strategy likely has strengths and weaknesses and the weaknesses may outweigh the strengths.
<b>5</b>	A strategy that lacks an investment thesis or NEPC has no confidence in the manager's ability to execute on the thesis, and/or the investment firm may not be viable. Serious issues have been identified with an investment manager or product. This rating aligns with a Terminate Due Diligence status for client-owned products.
<b>NR</b>	Due diligence has not been sufficiently completed on the product or manager.

# GLOSSARY OF INVESTMENT TERMINOLOGY

**# Of Portfolios/Observations<sup>1</sup>** - The total number of data points that make up a specified universe

**Allocation Index<sup>3</sup>** - The allocation index measures the value added (or subtracted) to each portfolio by active management. It is calculated monthly: The portfolio asset allocation to each category from the prior month-end is multiplied by a specified market index.

**Asset Allocation Effect<sup>2</sup>** - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.

**Agency Bonds (Agencies)<sup>3</sup>** - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.

**Asset Backed Securities (ABS)<sup>3</sup>** - Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.

**Attribution<sup>3</sup>** - Attribution is an analytical technique that allows us to evaluate the performance of the portfolio relative to the benchmark. A proper attribution tells us where value was added or subtracted as a result of the manager's decisions.

**Average Effective Maturity<sup>4</sup>** - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.

For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.

**Batting Average<sup>1</sup>** - A measurement representing an investment manager's ability to meet or beat an index.

*Formula: Divide the number of days (or months, quarters, etc.) in which the manager beats or matches the index by the total number of days (or months, quarters, etc.) in the period of question and multiply that factor by 100.*

**Brinson Fachler (BF) Attribution<sup>1</sup>** - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

**Brinson Hood Beebower (BHB) Attribution<sup>1</sup>** - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.

**Corporate Bond (Corp)<sup>4</sup>** - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.

**Correlation<sup>1</sup>** - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



# GLOSSARY OF INVESTMENT TERMINOLOGY

**Coupon<sup>4</sup>** – The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the “coupon rate” or “coupon percent rate.”

**Currency Effect<sup>1</sup>** – Is the effect that changes in currency exchange rates over time affect excess performance.

**Derivative Instrument<sup>2</sup>** – A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.

**Downside Deviation<sup>1</sup>** – Equals the standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.

*Formula:*

*Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.*

**Duration<sup>3</sup>** – Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond’s duration is inversely related to interest rates and directly related to time to maturity.

**Equity/Debt/Cash Ratio<sup>1</sup>** – The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. A 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).

**Foreign Bond<sup>3</sup>** – A bond that is issued in a domestic market by a foreign entity, in the domestic market’s currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm’s debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.

**Hard Hurdle<sup>5</sup>** – is a hurdle rate that once beaten allows a fund manager to charge a performance fee on only the funds above the specified hurdle rate.

**High-Water Mark<sup>4</sup>** – The highest peak in value that an investment fund/account has reached. This term is often used in the context of fund manager compensation, which is performance based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

**Hurdle Rate<sup>4</sup>** – The minimum rate of return on an investment required, in order for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.

**Interaction Effects<sup>2</sup>** – The interaction effect measures the combined impact of an investment manager’s selection and allocation decisions within a sector. For example, if an investment manager had superior selection and over weighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with the either effect.

**Median<sup>3</sup>** – The value (rate of return, market sensitivity, etc.) that exceeds one-half of the values in the population and that is exceeded by one-half of the values. The median has a percentile rank of 50.

**Modified Duration<sup>3</sup>** – The percentage change in the price of a fixed income security that results from a change in yield.

**Mortgage Backed Securities (MBS)<sup>3</sup>** – Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.

**Municipal Bond (Muni)<sup>4</sup>** – A debt security issued by a state, municipality or county to finance its capital expenditures.

**Net Investment Change<sup>1</sup>** – Is the change in an investment after accounting for all Net Cash Flows.

**Performance Fee<sup>4</sup>** – A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.

*Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net*



# GLOSSARY OF INVESTMENT TERMINOLOGY

**Policy Index<sup>3</sup>** - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in this investment policy statement.

**Price to Book (P/B)<sup>4</sup>** - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".

**Price to Earnings (P/E)<sup>3</sup>** - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

**Price to Sales (P/S)<sup>4</sup>** - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.

**Return on Equity (ROE)<sup>4</sup>** - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

**Selection (or Manager) Effect<sup>2</sup>** - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect—the larger the sector, the larger the effect is, positive or negative.

**Soft Hurdle rate<sup>5</sup>** - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

**Tiered Fee<sup>1</sup>** - A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).

**Total Effects<sup>2</sup>** - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.

**Total Return<sup>1</sup>** - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over a defined time period.

**Universe<sup>3</sup>** - The list of all assets eligible for inclusion in a portfolio.

**Upside Deviation<sup>1</sup>** - Standard Deviation of Positive Returns

**Weighted Avg. Market Cap.<sup>4</sup>** - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.

**Yield (%)<sup>3</sup>** - The current yield of a security is the current indicated annual dividend rate divided by current price.

**Yield to Maturity<sup>3</sup>** - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

Data Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



## Information Disclaimer

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
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## Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

