

MEETING MATERIALS

HOWARD COUNTY RETIREMENT PLANS

May 28, 2020

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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APRIL 2020 FLASH REPORT

NEPC, LLC

CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Apr	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	12.8%	-9.3%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	13.2%	-9.7%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	13.7%	-21.1%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	14.6%	-19.5%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	6.5%	-17.8%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	9.2%	-16.6%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	10.7%	-12.9%
Private Equity	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	10.4%	-	10.4%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	2.8%	4.5%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	-1.3%	-1.9%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	-3.4%	-10.0%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	4.5%	-8.8%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	1.8%	5.0%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	2.0%	1.6%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	2.0%	23.4%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	6.7%	1.7%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	2.1%	32.7%
JPM GBI-EM Global Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	3.9%	-11.9%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	2.2%	-11.4%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	-9.0%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-1.5%	-24.5%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	49.6%	-35.9%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	8.3%	-21.3%

Source: FactSet, Barclays, Thomson One

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



TRAILING ANNUAL INDEX PERFORMANCE

Equity						
	Apr-20	YTD	1 YR	3 YR	5 YR	10 YR
MSCI ACWI	10.7%	-12.9%	-5.0%	4.5%	4.4%	6.9%
S&P 500	12.8%	-9.3%	0.9%	9.0%	9.1%	11.7%
Russell 1000	13.2%	-9.7%	0.1%	8.7%	8.7%	11.6%
Russell 2000	13.7%	-21.1%	-16.4%	-0.8%	2.9%	7.7%
Russell 2500	14.6%	-19.5%	-14.2%	1.1%	3.6%	8.7%
MSCI EAFE	6.5%	-17.8%	-11.3%	-0.6%	-0.2%	3.5%
MSCI EM	9.2%	-16.6%	-12.0%	0.6%	-0.1%	1.4%
Credit						
	Apr-20	YTD	1 YR	3 YR	5 YR	10 YR
BC Global Agg	2.0%	1.6%	6.6%	3.8%	2.8%	2.7%
BC US Agg	1.8%	5.0%	10.8%	5.2%	3.8%	4.0%
BC Credit	4.6%	1.3%	9.4%	5.4%	4.3%	5.0%
BC US HY	4.5%	-8.8%	-4.1%	1.9%	3.4%	5.9%
BC Muni	-1.3%	-1.9%	2.2%	3.3%	3.0%	3.9%
BC Muni HY	-3.4%	-10.0%	-4.6%	3.0%	3.6%	5.4%
BC TIPS	2.8%	4.5%	9.5%	4.2%	3.1%	3.5%
BC 20+ STRIPS	2.1%	32.7%	55.4%	19.1%	11.4%	13.2%
BC Long Treasuries	2.0%	23.4%	37.8%	13.6%	8.4%	8.9%
BC Long Credit	6.7%	1.7%	15.6%	8.3%	6.5%	7.6%
BC Govt/Credit 1-3 Yr	0.6%	2.3%	4.9%	2.7%	2.0%	1.7%
JPM EMBI Glob Div	2.2%	-11.4%	-5.0%	0.7%	2.9%	5.1%
JPM GBI-EM Glob Div	3.9%	-11.9%	-2.7%	0.1%	0.4%	0.7%
Real Assets						
	Apr-20	YTD	1 YR	3 YR	5 YR	10 YR
BBG Commodity	-1.5%	-24.5%	-23.2%	-8.6%	-9.1%	-7.1%
Alerian Midstream Index	28.5%	-33.0%	-34.5%	-18.5%	-13.6%	-
FTSE NAREIT Equity REITs	8.3%	-21.3%	-14.5%	-0.6%	2.4%	7.5%

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



Howard County Retirement Plans

TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Ending April 30, 2020										
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Composite	1,085,505,966	100.0	100.0	5.1	-0.4	1.1	6.0	5.8	7.2	7.1	Apr-97
<i>Policy Index</i>				5.2	-0.3	1.4	5.2	5.0	6.7	7.0	Apr-97
<i>Allocation Index</i>				4.6	-0.8	0.7	--	--	--	--	Apr-97
Total US Equity Composite	235,256,444	21.7	23.0	13.6	-3.2	-3.5	7.8	8.4	11.7	8.1	Jul-97
<i>Russell 3000</i>				13.2	-1.1	-1.0	8.0	8.3	11.3	7.5	Jul-97
<i>US Equity Allocation Index</i>				13.4	-2.0	-2.0	7.4	8.0	11.1	--	Jul-97
Total International Equity	174,188,073	16.0	17.0	8.1	-11.6	-11.4	0.6	0.8	3.4	4.0	Jul-97
<i>MSCI ACWI ex USA</i>				7.6	-11.8	-11.5	-0.3	-0.2	2.9	3.8	Jul-97
Total Fixed Income Composite	339,086,127	31.2	30.0	2.6	3.0	6.2	4.0	4.0	4.5	5.4	Jul-97
<i>Fixed Income Policy Index</i>				1.8	7.6	10.8	5.2	3.8	4.0	5.4	Jul-97
Total Real Assets Composite	45,962,969	4.2	7.0	0.0	3.6	6.1	9.5	8.5	7.3	7.2	Jul-03
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	4.5	6.4	6.7	8.2	10.2	8.7	Jul-03
Cash Composite	16,799,003	1.5		0.0	0.8	1.1	1.4	0.8	0.4	1.3	Dec-03
<i>91 Day T-Bills</i>				0.0	1.3	1.7	1.7	1.1	0.6	1.3	Dec-03
Hedge Fund Composite	119,417,518	11.0	8.0	2.3	-1.6	-0.2	3.1	2.9	--	4.2	Jan-11
<i>HFRI FOF: Conservative Index</i>				1.0	-5.1	-4.6	0.3	0.5	1.8	1.7	Jan-11
Private Equity Composite	154,795,833	14.3	10.0	0.0	12.4	15.7	17.3	16.0	13.6	13.1	Jul-08
<i>Cambridge Associates US All PE (1 Qtr Lag)</i>				0.0	9.0	14.3	14.1	12.1	13.8	10.6	Jul-08
Private Debt	--	--	5.0	--	--	--	--	--	--	--	
<i>S&P/LSTA Leveraged Loan TR</i>				4.5	-6.6	-6.6	0.5	1.8	3.4	--	

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 April 30, 2020										
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Composite	1,085,655,966	100.0	100.0	5.1	-0.4	1.1	6.0	5.8	7.2	7.1	Apr-97
Policy Index				5.2	-0.3	1.4	5.2	5.0	6.7	7.0	Apr-97
Allocation Index				4.6	-0.8	0.7	--	--	--	--	Apr-97
Total US Equity Composite	235,256,444	21.7	23.0	13.6	-3.2	-3.5	7.8	8.4	11.7	8.1	Jul-97
Russell 3000				13.2	-1.1	-1.0	8.0	8.3	11.3	7.5	Jul-97
US Equity Allocation Index				13.4	-2.0	-2.0	7.4	8.0	11.1	--	Jul-97
Large Cap Composite	195,749,700	18.0	19.0	13.4	-1.7	-2.3	8.0	8.1	11.6	8.0	Apr-01
Russell 1000				13.2	-0.1	0.1	8.7	8.7	11.6	7.2	Apr-01
LSV Asset Management SMA	52,327,196	4.8		12.5	-16.0	-17.5	-0.8	2.8	9.0	8.3	May-00
Russell 1000 Value				11.2	-11.3	-11.0	1.4	3.9	8.5	6.0	May-00
Westfield Capital Management SMA	79,782,744	7.3		14.4	9.0	8.9	15.5	12.6	--	15.5	Jul-10
Russell 1000 Growth				14.8	10.7	10.8	15.7	13.3	14.4	16.3	Jul-10
BlackRock Equity Index Non-Lendable Fund	63,639,760	5.9		13.0	--	--	--	--	--	-6.0	Dec-19
S&P 500				12.8	0.6	0.9	9.0	9.1	11.7	-6.6	Dec-19
Small/Mid Cap Composite	39,506,744	3.6	4.0	14.3	-8.7	-8.2	6.9	9.2	11.8	11.5	Apr-93
Russell 2500				14.6	-13.7	-14.2	1.1	3.6	8.7	9.4	Apr-93
William Blair SMA	14,128,101	1.3		13.8	-4.0	-2.2	11.2	10.8	14.0	11.3	Jun-06
Russell 2500 Growth				16.0	-4.6	-4.0	8.0	7.2	11.4	8.7	Jun-06
ICM Small Company - ICSCX	11,286,404	1.0		13.0	-20.5	-21.7	-3.1	3.6	7.5	10.5	Apr-93
Russell 2000 Value				12.3	-22.0	-23.8	-6.1	0.3	5.3	8.4	Apr-93
Brown Capital Small Company Strategy SMA	14,092,239	1.3		16.0	-1.2	0.4	15.2	14.7	--	17.1	Aug-11
Russell 2000 Growth				14.9	-9.0	-9.2	4.2	5.2	10.0	9.1	Aug-11



Howard County Retirement Plans

TOTAL FUND PERFORMANCE DETAIL (GROSS)

						Ending April 30, 2020					
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total International Equity	174,188,073	16.0	17.0	8.1	-11.6	-11.4	0.6	0.8	3.4	4.0	Jul-97
MSCI ACWI ex USA				7.6	-11.8	-11.5	-0.3	-0.2	2.9	3.8	Jul-97
International Developed Markets Composite	113,792,281	10.5	12.0	6.6	-10.4	-11.2	0.4	0.6	4.4	2.0	Mar-08
MSCI EAFE				6.5	-12.1	-11.3	-0.6	-0.2	3.5	1.1	Mar-08
Mondrian International Equity Fund, L.P.	49,966,960	4.6		4.1	-16.7	-18.0	-2.9	-1.5	3.3	0.2	Dec-07
MSCI EAFE				6.5	-12.1	-11.3	-0.6	-0.2	3.5	0.2	Dec-07
Baillie Gifford EAFE Pure K - BGPKX	63,825,322	5.9		8.6	-4.8	-5.0	--	--	--	-1.2	May-18
MSCI EAFE				6.5	-12.1	-11.3	-0.6	-0.2	3.5	-7.4	May-18
International Emerging Markets Composite	60,395,792	5.6	5.0	11.1	-13.9	-11.7	1.1	1.3	1.4	4.8	Feb-06
MSCI Emerging Markets				9.2	-10.7	-12.0	0.6	-0.1	1.4	3.6	Feb-06
DFA Emerging Markets Value Portfolio Institutional - DFEVX	21,661,327	2.0		11.9	-21.9	-22.2	-4.9	-2.3	-0.4	3.6	Feb-06
MSCI Emerging Markets				9.2	-10.7	-12.0	0.6	-0.1	1.4	3.6	Feb-06
GQG Partners Emerging Markets Equity Fund	38,734,465	3.6		10.6	-8.6	-4.5	--	--	--	6.7	Dec-18
MSCI Emerging Markets				9.2	-10.7	-12.0	0.6	-0.1	1.4	-2.7	Dec-18
Total Fixed Income Composite	339,086,127	31.2	30.0	2.6	3.0	6.2	4.0	4.0	4.5	5.4	Jul-97
BBgBarc US Aggregate TR				1.8	7.6	10.8	5.2	3.8	4.0	5.2	Jul-97
Core Fixed Income Composite	261,276,706	24.1	22.0	2.5	6.2	9.0	--	--	--	9.5	Mar-19
BBgBarc US Aggregate TR				1.8	7.6	10.8	5.2	3.8	4.0	11.0	Mar-19
Dodge & Cox SMA	117,591,685	10.8		3.3	5.6	8.1	5.0	4.3	4.8	4.8	May-10
BBgBarc US Aggregate TR				1.8	7.6	10.8	5.2	3.8	4.0	4.0	May-10
PIMCO Total Return	119,634,099	11.0		1.6	6.7	9.9	5.1	4.0	4.4	4.4	May-10
BBgBarc US Aggregate TR				1.8	7.6	10.8	5.2	3.8	4.0	4.0	May-10
State Street Global Advisors TIPS	24,050,923	2.2		2.8	6.7	9.4	4.2	3.1	3.5	3.7	Nov-09
BBgBarc US TIPS TR				2.8	6.8	9.5	4.2	3.1	3.5	3.7	Nov-09
Emerging Markets Debt Composite	40,887,949	3.8	4.0	3.8	-9.8	-4.6	--	--	--	-5.2	Mar-19
JP Morgan GBI EM Global Diversified TR USD				3.9	-8.0	-2.7	0.1	0.4	0.7	-3.6	Mar-19
Colchester Local Markets Debt Fund	40,887,949	3.8		3.8	-9.8	-4.6	0.2	--	--	5.2	Oct-15
JP Morgan GBI EM Global Diversified TR USD				3.9	-8.0	-2.7	0.1	0.4	0.7	3.8	Oct-15
Absolute Return Fixed Income	36,921,472	3.4	4.0	2.7	--	--	--	--	--	-7.5	Mar-20
3-Month Libor Total Return USD				0.0	1.5	1.9	2.0	1.5	0.9	0.2	Mar-20
Payden Absolute Return Bond Fund PYAIX	36,921,472	3.4		2.7	--	--	--	--	--	-7.5	Mar-20
3-Month Libor Total Return USD				0.0	1.5	1.9	2.0	1.5	0.9	0.2	Mar-20



Howard County Retirement Plans

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Ending April 30, 2020										
	Market Value (\$)	% of Portfolio	Policy %	1 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Real Assets Composite	45,962,969	4.2	7.0	0.0	3.6	6.1	9.5	8.5	7.3	7.2	Jul-03
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	4.5	6.4	6.7	8.2	10.2	8.7	Jul-03
Cash Composite	16,799,003	1.5		0.0	0.8	1.1	1.4	0.8	0.4	1.3	Dec-03
<i>91 Day T-Bills</i>				0.0	1.3	1.7	1.7	1.1	0.6	1.3	Dec-03
Hedge Fund Composite	119,417,518	11.0	8.0	2.3	-1.6	-0.2	3.1	2.9	--	4.2	Jan-11
<i>HFRI FOF: Conservative Index</i>				1.0	-5.1	-4.6	0.3	0.5	1.8	1.7	Jan-11
Magnitude International Class A Eligible	60,047,891	5.5		2.3	-0.4	1.1	3.4	2.7	--	4.3	Jan-11
<i>HFRI FOF: Conservative Index</i>				1.0	-5.1	-4.6	0.3	0.5	1.8	1.7	Jan-11
Blackstone Partners Offshore Fund LTD	59,369,627	5.5		2.2	-2.8	-1.4	2.6	3.0	--	4.1	Mar-11
<i>HFRI FOF: Conservative Index</i>				1.0	-5.1	-4.6	0.3	0.5	1.8	1.6	Mar-11
Private Equity Composite	154,945,833	14.3	10.0	0.0	12.4	15.7	17.3	16.0	13.6	13.1	Jul-08
<i>Cambridge Associates US All PE (1 Qtr Lag)</i>				0.0	9.0	14.3	14.1	12.1	13.8	10.6	Jul-08
Private Debt	--	--	5.0	--	--	--	--	--	--	--	--
<i>S&P/LSTA Leveraged Loan</i>				4.5	-6.6	-6.6	0.5	1.8	3.4	--	--

Magnitude International Class A Eligible is preliminary as of 04/30/2020.



Howard County Retirement Plans

TOTAL FUND PERFORMANCE DETAIL FOOTNOTES

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 12/31/2019 and adjusted for capital calls and distributions through 04/30/2020.

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



Q1 2020 MARKET ENVIRONMENT

NEPC, LLC

PERFORMANCE OVERVIEW

Q1 Market Summary

Macro			Equity			Credit			Real Assets		
US Dollar	VIX	US 10-Yr	S&P 500	MSCI EAFE	MSCI EM	US Agg.	High Yield	Dollar EMD	Oil	Gold	REITS
											
2.8%	39.8	-124 bps	-19.6%	-22.8%	-23.6%	3.1%	-12.7%	-13.4%	-67.1%	4.0%	-25.5%

Global risk assets declined during the quarter as markets digested the potential economic impact of COVID-19

Equities experienced the sharpest declines, with most major indices entering bear market territory in March

Widespread stimulative fiscal and monetary policies have been implemented to help support economic growth

Energy prices collapsed as tensions intensified between Saudi Arabia and Russia, leading to supply gluts and a sharp decline in prices

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 PERFORMANCE OVERVIEW

Q1 Macro Market Summary

The US announced a \$2.2 trillion dollar stimulus package, representing roughly 10% of total GDP

Government bond yields declined with the US 10-Year Treasury yields falling 124 bps, ending Q1 at historical lows

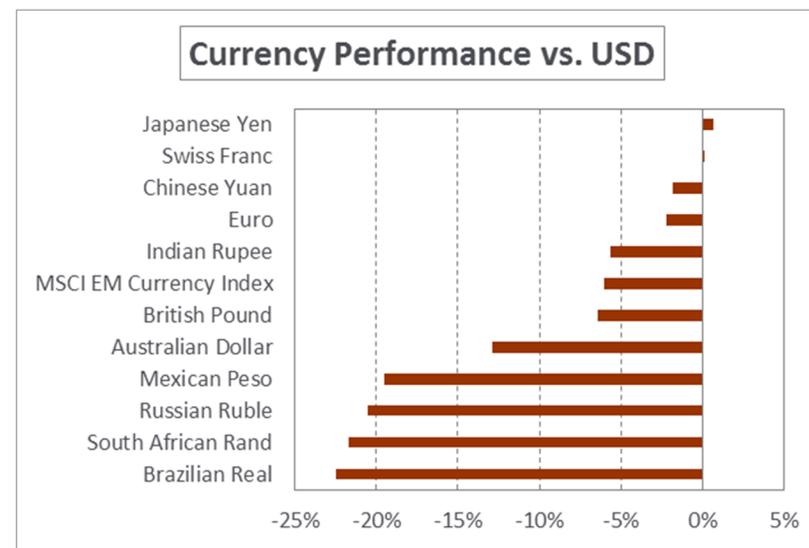
Safe-haven currencies broadly rallied, reflecting a flight-to-quality across markets

Central Banks	Current Rate	CPI YOY	Notes from the Quarter
Federal Reserve	0.00% - 0.25%	2.3%	The Fed cut interest rates by a total of 150 basis points in two emergency meetings in March and announced unlimited QE
European Central Bank	0.00%	1.2%	The ECB maintained its current benchmark interest rates and announced an €750 billion QE program
Bank of Japan	-0.10%	0.5%	The BoJ continued its ultra-easy QE and introduced an unscheduled policy to purchase an additional ¥1 trillion worth of government bond

Source: FactSet

	Yield 12/31/19	Yield 03/31/20	\Delta
US 10-Year	1.92%	0.68%	-1.24%
US 30-Year	2.39%	1.32%	-1.07%
US Real 10-Year	0.15%	-0.17%	-0.32%
German 10-Year	-0.19%	-0.49%	-0.30%
Japan 10-Year	-0.02%	0.02%	0.04%
China 10-Year	3.20%	2.61%	-0.59%
EM Local Debt	5.22%	5.36%	0.14%

Source: FactSet



Source: FactSet



EQUITY PERFORMANCE OVERVIEW

Q1 Equity Market Summary

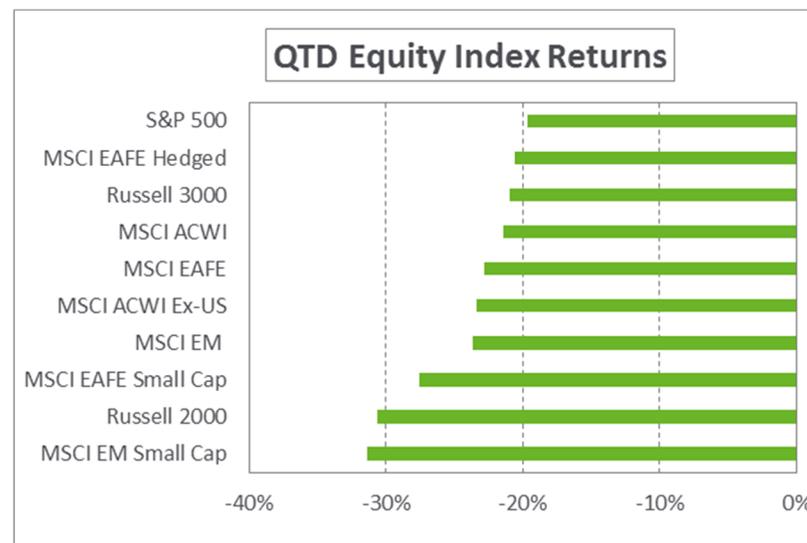
Global equities entered bear markets, falling over 20% from the peaks, amid COVID-19 concerns

Small cap equities underperformed given their sensitivity and vulnerability to an economic slowdown

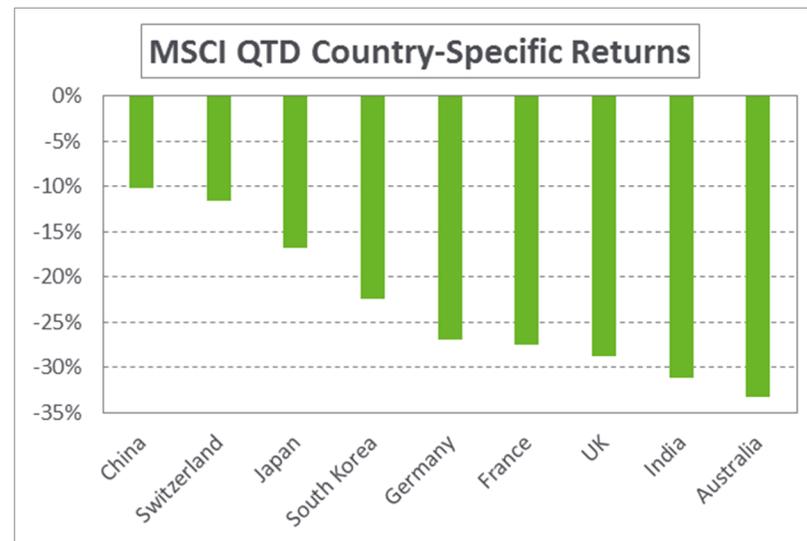
Chinese equities performed relatively well as COVID-19 cases declined and manufacturing data rebounded

Russell 3000 QTD Sector Returns	
Technology	-12.1%
Health Care	-12.9%
Consumer Discretionary	-20.5%
Consumer Staples	-15.1%
Energy	-51.6%
Materials & Processing	-28.3%
Producer Durables	-27.8%
Financial Services	-28.6%
Utilities	-15.1%

Source: FactSet



Source: FactSet



Source: FactSet



CREDIT PERFORMANCE OVERVIEW

Q1 Credit Market Summary

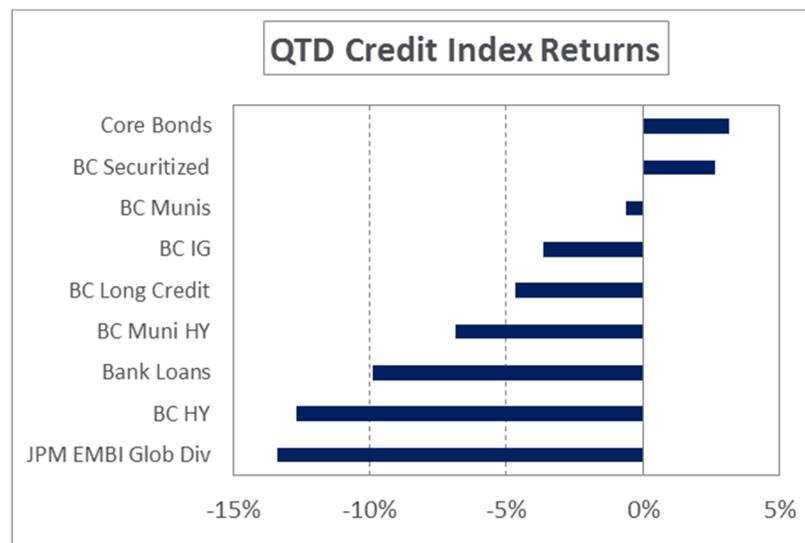
Credit spreads increased, ending the quarter well above long-term medians

US corporate high yield bonds fell 12.7% after spreads widened by 544 bps

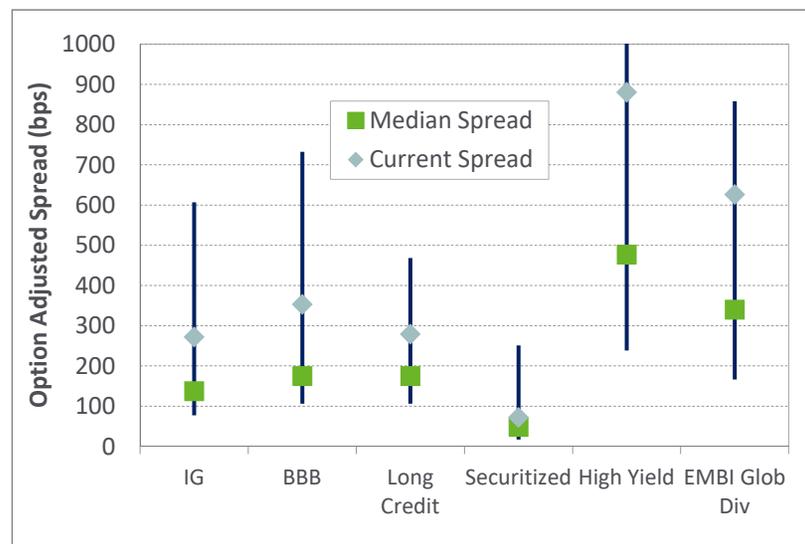
Long credit returns decreased 4.7%, reflecting spread widening, which offset the decline in rates

Credit Spread (Basis Points)	12/31/2019	3/31/2020	Δ
BC IG Credit	93	272	179
BC Long Credit	139	279	140
BC Securitized	42	72	30
BC High Yield	336	880	544
Muni HY	226	473	247
JPM EMBI	291	626	335
Bank Loans - Libor	372	734	362

Source: FactSet



Source: FactSet



Source: FactSet; Ranges calculated since 11/30/2000



REAL ASSETS PERFORMANCE OVERVIEW

Q1 Real Assets Market Summary

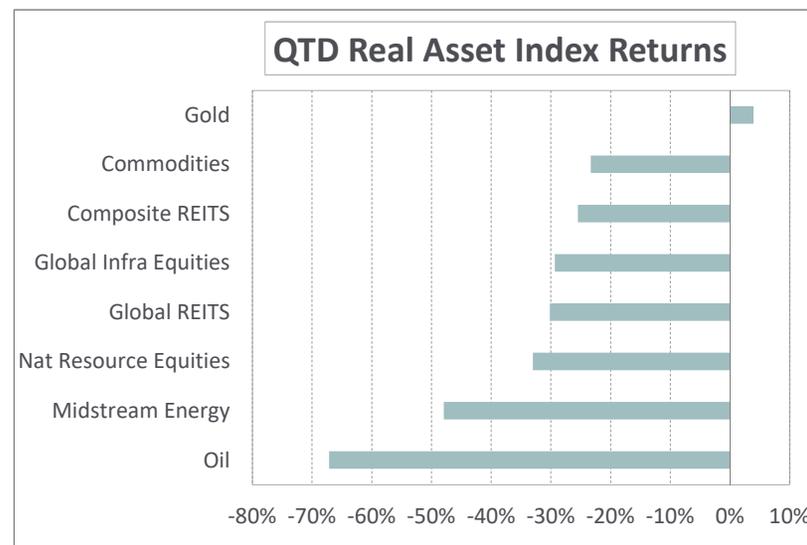
Spot WTI crude oil fell 67.1% as the Russia-Saudi Arabia price war and demand uncertainties from COVID-19 impacted both supply and demand

Commodities declined reflecting waning demand, with the exception of gold, which increased 4.0%, reflecting a flight-to-quality

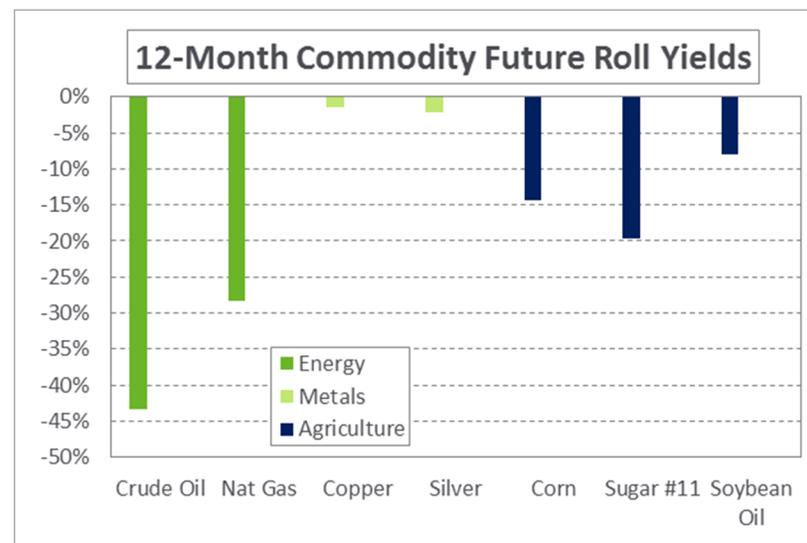
Real Asset Yields	12/31/2019	3/31/2020
Midstream Energy	6.4%	12.0%
Core Real Estate*	4.5%	4.5%
Composite REITs	4.1%	5.4%
Global REITs	4.2%	5.7%
Global Infrastructure Equities	4.0%	4.3%
Natural Resource Equities	3.9%	4.8%
US 10-Year Breakeven Inflation	1.77%	0.85%
Commodity Index Roll Yield	-1.7%	-14.3%
10-Year TIPS Real Yield	0.2%	-0.2%

Source: FactSet

Core Real Estate* yields are subject to a one quarter lag



Source: FactSet



Source: FactSet



CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Mar	YTD
S&P 500	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	-12.4%	-19.6%
Russell 1000	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	-13.2%	-20.2%
Russell 2000	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	-21.7%	-30.6%
Russell 2500	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	-21.7%	-29.7%
MSCI EAFE	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	-13.3%	-22.8%
MSCI EM	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	-15.4%	-23.6%
MSCI ACWI	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	-13.5%	-21.4%
Private Equity*	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	11.0%	-	11.0%
BC TIPS	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	-1.8%	1.7%
BC Municipal	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	-3.6%	-0.6%
BC Muni High Yield	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	-11.0%	-6.9%
BC US Corporate HY	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	-11.5%	-12.7%
BC US Agg Bond	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	-0.6%	3.1%
BC Global Agg	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	-2.2%	-0.3%
BC Long Treasuries	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	6.1%	20.9%
BC US Long Credit	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	-10.2%	-4.7%
BC US STRIPS 20+ Yr	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	8.6%	30.0%
JPM GBI-EM Global Div	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	-11.1%	-15.2%
JPM EMBI Glob Div	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	-13.8%	-13.4%
CS Hedge Fund	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	-1.8%
BBG Commodity	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	-12.8%	-23.3%
Alerian MLP	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-47.2%	-57.2%
FTSE NAREIT Equity REITs	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	-21.9%	-27.3%

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 3/31/2020)

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	QTD	1 Year	3 Year	5 Year	10 Year
Russell 2000 Growth 29.09%	BC Aggregate 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 Aggregate 0.01%	Russell 1000 Growth 36.39%	BC Aggregate 3.15%	BC Aggregate 8.93%	Russell 1000 Growth 11.32%	Russell 1000 Growth 10.36%	Russell 1000 Growth 12.97%
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 1000 Growth (14.10%)	Russell 1000 Growth 0.91%	S&P 500 5.10%	S&P 500 6.73%	S&P 500 10.53%
Russell 2000 Value 24.50%	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%	S&P 500 (19.60%)	S&P 500 (6.98%)	BC Aggregate 4.82%	Russell 1000 6.22%	Russell 1000 10.39%
MSCI Emerging Markets 18.88%	Russell 1000 1.50%	MSCI EAFE 17.32%	Russell 1000 Growth 33.48%	Russell 1000 Growth 13.05%	BC Aggregate 0.55%	Russell 1000 12.05%	Russell 2000 Growth 22.17%	Russell 1000 (4.78%)	Russell 2000 Growth 28.48%	Russell 1000 (20.22%)	Russell 1000 (8.03%)	Russell 1000 4.64%	BC Aggregate 3.36%	Russell 2000 Growth 8.89%
Russell 1000 Growth 16.71%	Russell 1000 Value 0.39%	Russell 1000 16.42%	Russell 1000 33.11%	BC Aggregate 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%	MSCI EAFE (22.83%)	MSCI EAFE (14.38%)	Russell 2000 Growth 0.10%	Russell 1000 Value 1.90%	Russell 1000 Value 7.67%
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%	MSCI Emerging Markets (23.60%)	Russell 1000 Value (17.17%)	MSCI Emerging Markets (1.62%)	Russell 2000 Growth 1.70%	Russell 2000 6.90%
Russell 1000 Value 15.51%	Russell 2000 (4.18%)	S&P 500 16.00%	S&P 500 32.39%	Russell 2000 4.90%	Russell 1000 Value (3.83%)	MSCI Emerging Markets 11.19%	Russell 2000 14.65%	Russell 2000 (11.01%)	Russell 2000 Value 22.39%	Russell 2000 Growth (25.77%)	MSCI Emerging Markets (17.69%)	MSCI EAFE (1.82%)	Russell 2000 (0.25%)	Russell 2000 Value 4.79%
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%	Russell 1000 Value (26.73%)	Russell 2000 Growth (18.58%)	Russell 1000 Value (2.18%)	MSCI Emerging Markets (0.37%)	BC Aggregate 3.88%
MSCI EAFE 7.75%	MSCI EAFE (12.14%)	Russell 2000 Growth 14.59%	BC Aggregate (2.02%)	MSCI Emerging Markets (2.19%)	Russell 2000 Value (7.47%)	BC Aggregate 2.65%	Russell 2000 Value 7.84%	MSCI EAFE (13.79%)	MSCI Emerging Markets 18.44%	Russell 2000 (30.61%)	Russell 2000 (23.99%)	Russell 2000 (4.64%)	MSCI EAFE (0.62%)	MSCI EAFE 2.72%
BC Aggregate 6.54%	MSCI Emerging Markets (18.42%)	BC Aggregate 4.21%	MSCI Emerging Markets (2.60%)	MSCI EAFE (4.90%)	MSCI Emerging Markets (14.92%)	MSCI EAFE 1.00%	BC Aggregate 3.54%	MSCI Emerging Markets (14.58%)	BC Aggregate 8.72%	Russell 2000 Value (35.66%)	Russell 2000 Value (29.64%)	Russell 2000 Value (9.51%)	Russell 2000 Value (2.42%)	MSCI Emerging Markets 0.68%



Q1 2020 TOTAL FUND PERFORMANCE

NEPC, LLC

EXECUTIVE SUMMARY AS OF 3/31/2020

- **Asset Allocation**

- The assets of the Plan totaled \$1.03 billion as of March 31, 2020 and had an investment loss of \$116.9 million during the quarter.

- **Performance**

- The Plan lost -10.3% (gross) in Q1 as the markets experienced a sharp decline amid the accelerating coronavirus pandemic
 - The quarterly return ranked ahead of the median in the 20th percentile of the Public DB peer group
 - Active management detracted 40 basis points in the first quarter and 10 basis points fiscal year-to-date
- For the trailing one year, the fund was down -1.9%, which placed it above the IF Public DB > \$1B Gross Median return of -4.9% and ranking in the 16th percentile
- In aggregate, the US Equity Composite was down -22.2% for the quarter, which underperformed both the Russell 3000 benchmark return of -20.9% and the eV All US Equity Gross Median return of -24.1%
 - Large Cap Equity detracted -21.8% for the quarter, underperforming the eV US Large Cap Equity Gross Median by 140 basis points
 - The Small/Mid Cap Equity composite lost -24.2% for the quarter, ranking in the 31st percentile and outperforming both the Russell 2500 benchmark and eV US Small-Mid Cap Equity Gross Median return by 550 and 400 basis points, respectively
- The International Equity Composite was down -23.7%, which slightly underperformed the MSCI ACWI ex USA return of -23.4% and the eV ACWI ex-US All Cap Equity Gross universe median return of -22.0%
 - International Developed Equity was ahead of the median by 70 bps, returning -23.3%
 - International Emerging Equity outperformed the median by 50 bps, returning -24.3%
- The Fixed Income Composite lost -2.4% in the first quarter, underperforming the All US Fixed Income Gross Median return of -0.2%



Howard County Retirement Plans

TOTAL FUND PERFORMANCE SUMMARY (GROSS)

Ending March 31, 2020

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank	Inception	Inception Date
Total Fund Composite	\$1,032,983,722	-10.3%	20	-5.2%	17	-1.9%	16	4.8%	9	5.0%	8	6.8%	28	6.9%	Apr-97
<i>Policy Index</i>		-10.1%	20	-5.2%	17	-2.2%	19	4.0%	16	4.3%	26	6.3%	48	6.8%	Apr-97
<i>Allocation Index</i>		-9.9%	18	-5.1%	17	--	--	--	--	--	--	--	--	--	Apr-97
<i>InvMetrics Public DB > \$1B Gross Median</i>		-12.6%		-7.9%		-4.9%		2.6%		3.4%		6.2%		6.5%	Apr-97

Actual vs Target Allocation (%)

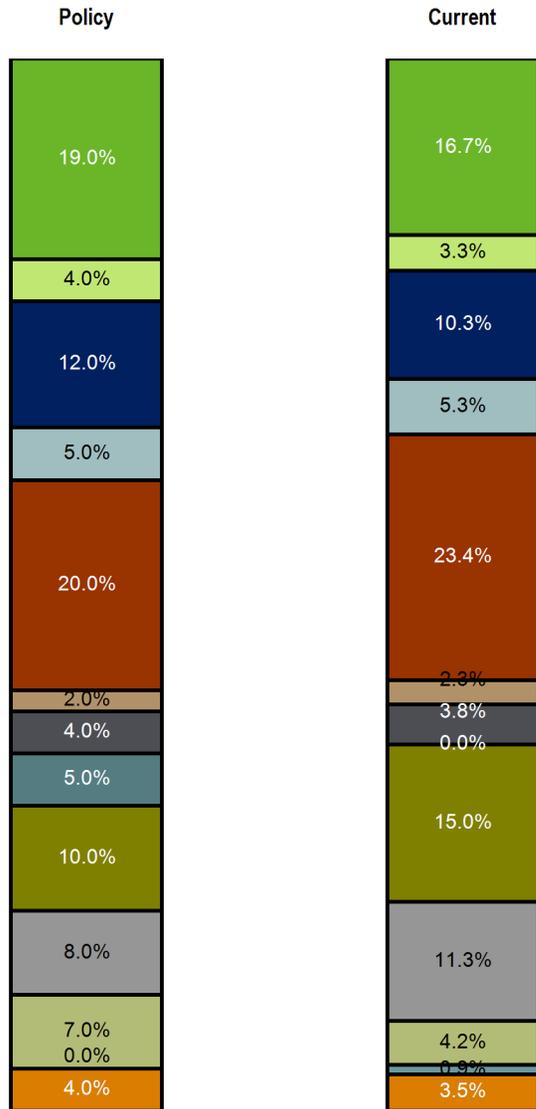


Fiscal year end 6/30.



Howard County Retirement Plans

ASSET ALLOCATION VS. POLICY TARGETS



Asset Allocation vs. Target				
	Current	Policy	Current	Difference*
Large Cap Equity	\$172,687,744	19.0%	16.7%	-2.3%
Small/Mid Cap Equity	\$34,566,807	4.0%	3.3%	-0.7%
Developed International Equity	\$106,802,487	12.0%	10.3%	-1.7%
Emerging Markets Equity	\$54,410,683	5.0%	5.3%	0.3%
Core Fixed Income	\$241,629,251	20.0%	23.4%	3.4%
TIPS	\$23,400,121	2.0%	2.3%	0.3%
Emerging Market Debt	\$39,420,263	4.0%	3.8%	-0.2%
Private Debt	\$0	5.0%	0.0%	-5.0%
Private Equity	\$155,081,520	10.0%	15.0%	5.0%
Hedge Funds	\$116,757,817	8.0%	11.3%	3.3%
Real Assets	\$43,319,822	7.0%	4.2%	-2.8%
Cash	\$8,950,753	0.0%	0.9%	0.9%
Absolute Return Fixed Income	\$35,956,454	4.0%	3.5%	-0.5%
Total	\$1,032,983,722	100.0%	100.0%	

*Difference between Policy and Current Allocation



Howard County Retirement Plans

TOTAL FUND PERFORMANCE SUMMARY (GROSS)

	Ending March 31, 2020										
	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund Composite	1,032,983,722	100.0	100.0	-10.3	-5.2	-1.9	4.8	5.0	6.8	6.9	Apr-97
<i>Policy Index</i>				-10.1	-5.2	-2.2	4.0	4.3	6.3	6.8	Apr-97
<i>Allocation Index</i>				-9.9	-5.1	--	--	--	--	--	Apr-97
Total US Equity Composite	207,254,551	20.1	23.0	-22.2	-14.7	-11.1	3.7	5.7	10.6	7.5	Jul-97
<i>Russell 3000</i>				-20.9	-12.7	-9.1	4.0	5.8	10.1	6.9	Jul-97
<i>US Equity Allocation Index</i>				-21.3	-13.6	-10.2	3.4	5.3	10.1	--	Jul-97
Total International Equity	161,213,170	15.6	17.0	-23.7	-18.3	-14.8	-1.3	0.3	2.5	3.7	Jul-97
<i>MSCI ACWI ex USA</i>				-23.4	-18.0	-15.6	-2.0	-0.6	2.1	3.5	Jul-97
Total Fixed Income Composite	340,406,089	33.0	30.0	-2.4	0.4	3.8	3.4	3.4	4.4	5.3	Jul-97
<i>Fixed Income Policy Index</i>				3.1	5.7	8.9	4.8	3.4	3.9	5.3	Jul-97
Total Real Assets Composite	43,319,822	4.2	7.0	2.1	3.6	6.1	9.5	8.8	7.3	7.2	Jul-03
<i>NCREIF Property Index 1 Qtr. Lag</i>				1.6	4.5	6.4	6.7	8.2	10.2	8.7	Jul-03
Cash Composite	8,950,753	0.9		0.2	0.8	1.3	1.4	0.8	0.4	1.3	Dec-03
<i>91 Day T-Bills</i>				0.4	1.3	1.9	1.7	1.1	0.6	1.3	Dec-03
Hedge Fund Composite	116,757,817	11.3	8.0	-5.6	-3.8	-1.6	2.6	2.5	--	4.0	Jan-11
<i>HFRI FOF: Conservative Index</i>				-7.1	-5.6	-4.2	0.2	0.5	1.9	1.7	Jan-11
Private Equity Composite	155,081,520	15.0	10.0	4.1	12.4	15.7	19.0	16.7	13.6	13.2	Jul-08
<i>Cambridge Associates Global All PE (Qtr Lag)</i>				4.7	9.1	14.2	14.0	11.6	12.8	9.5	Jul-08
Private Debt	--	--	5.0	--	--	--	--	--	--	--	
<i>S&P/LSTA Leveraged Loan TR</i>				-13.0	-10.7	-9.2	-0.8	1.1	3.1	--	

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	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fund Composite	1,032,983,722	100.0	100.0	-10.3	20	-5.2	17	-1.9	16	4.8	9	5.0	8	6.8	28	6.9	Apr-97
Policy Index				-10.1	20	-5.2	17	-2.2	19	4.0	16	4.3	26	6.3	48	6.8	Apr-97
Allocation Index				-9.9	18	-5.1	17	--	--	--	--	--	--	--	--	--	Apr-97
InvMetrics Public DB > \$1B Gross Median				-12.6		-7.9		-4.9		2.6		3.4		6.2		6.5	Apr-97
Total US Equity Composite	207,254,551	20.1	23.0	-22.2	42	-14.7	39	-11.1	40	3.7	37	5.7	33	10.6	31	7.5	Jul-97
Russell 3000				-20.9	36	-12.7	31	-9.1	33	4.0	36	5.8	32	10.1	40	6.9	Jul-97
US Equity Allocation Index				-21.3	39	-13.6	35	-10.2	37	3.4	40	5.3	36	10.1	41	--	Jul-97
eV All US Equity Gross Median				-24.1		-17.7		-14.4		1.0		3.5		9.3		8.3	Jul-97
Large Cap Composite	172,687,744	16.7	19.0	-21.8	59	-13.3	56	-10.0	57	3.9	49	5.5	50	10.4	42	7.3	Apr-01
Russell 1000				-20.2	49	-11.8	47	-8.0	46	4.6	44	6.2	42	10.4	43	6.6	Apr-01
eV US Large Cap Equity Gross Median				-20.4		-12.4		-8.8		3.7		5.5		10.1		7.1	Apr-01
LSV Asset Management SMA	46,518,029	4.5		-32.7	93	-25.3	89	-23.7	91	-4.5	86	0.5	79	7.9	56	7.7	May-00
Russell 1000 Value				-26.7	58	-20.2	60	-17.2	60	-2.2	65	1.9	63	7.7	63	5.4	May-00
eV US Large Cap Value Equity Gross Median				-26.0		-19.1		-16.1		-1.1		2.5		8.1		6.6	May-00
Westfield Capital Management SMA	69,762,844	6.8		-14.7	56	-4.7	38	0.2	41	11.4	42	9.5	43	--	--	14.1	Jul-10
Russell 1000 Growth				-14.1	48	-3.6	25	0.9	34	11.3	42	10.4	34	13.0	34	14.8	Jul-10
eV US Large Cap Growth Equity Gross Median				-14.4		-5.8		-0.9		10.6		9.2		12.4		14.2	Jul-10
BlackRock Equity Index Non-Lendable Fund	56,406,871	5.5		-19.2	42	--	--	--	--	--	--	--	--	--	--	-16.8	Dec-19
S&P 500				-19.6	45	-10.8	40	-7.0	42	5.1	40	6.7	36	10.5	40	-17.2	Dec-19
eV US Large Cap Equity Gross Median				-20.4		-12.4		-8.8		3.7		5.5		10.1		-18.2	Dec-19
Small/Mid Cap Composite	34,566,807	3.3	4.0	-24.2	31	-20.1	37	-15.6	35	2.8	29	6.1	17	10.7	22	11.0	Apr-93
Russell 2500				-29.7	56	-24.7	58	-22.5	60	-3.1	56	0.5	57	7.7	56	8.9	Apr-93
eV US Small-Mid Cap Equity Gross Median				-28.2		-23.2		-19.7		-1.8		1.1		8.3		10.5	Apr-93
William Blair SMA	12,418,131	1.2		-20.1	45	-15.6	43	-10.2	43	7.6	36	7.7	17	12.8	20	10.3	Jun-06
Russell 2500 Growth				-23.2	69	-17.8	64	-14.4	68	3.4	68	3.6	70	10.1	72	7.6	Jun-06
eV US Small-Mid Cap Growth Equity Gross Median				-20.5		-16.5		-11.1		6.6		5.3		11.1		8.6	Jun-06
ICM Small Company - ICSCX	9,996,377	1.0		-34.9	50	-29.7	49	-27.5	42	-6.6	30	0.7	15	6.8	32	10.0	Apr-93
Russell 2000 Value				-35.7	58	-30.6	55	-29.6	61	-9.5	60	-2.4	62	4.8	84	8.0	Apr-93
eV US Small Cap Value Equity Gross Median				-35.0		-29.8		-28.6		-8.6		-2.0		6.4		10.3	Apr-93
Brown Capital Small Company Strategy SMA	12,152,299	1.2		-16.2	8	-14.8	18	-7.8	14	10.1	19	11.2	7	--	--	15.3	Aug-11
Russell 2000 Growth				-25.8	69	-20.8	60	-18.6	66	0.1	78	1.7	80	8.9	83	7.5	Aug-11
eV US Small Cap Growth Equity Gross Median				-23.6		-19.9		-15.7		3.8		4.2		10.7		9.3	Aug-11



Howard County Retirement Plans

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total International Equity	161,213,170	15.6	17.0	-23.7	61	-18.3	68	-14.8	61	-1.3	64	0.3	64	2.5	84	3.7	Jul-97
MSCI ACWI ex USA				-23.4	60	-18.0	66	-15.6	65	-2.0	70	-0.6	76	2.1	91	3.5	Jul-97
eV ACWI ex-US All Cap Equity Gross Median				-22.0		-15.5		-12.2		0.0		1.1		4.8		5.8	Jul-97
International Developed Markets Composite	106,802,487	10.3	12.0	-23.3	45	-16.0	31	-12.6	30	-0.9	36	0.0	52	3.5	64	1.4	Mar-08
MSCI EAFE				-22.8	39	-17.4	44	-14.4	43	-1.8	54	-0.6	66	2.7	84	0.6	Mar-08
eV All EAFE Equity Gross Median				-24.0		-17.8		-15.2		-1.7		0.0		4.1		2.0	Mar-08
Mondrian International Equity Fund, L.P.	48,021,973	4.6		-26.2	72	-20.0	69	-18.8	75	-3.6	72	-1.6	82	2.7	83	-0.1	Dec-07
MSCI EAFE				-22.8	39	-17.4	44	-14.4	43	-1.8	54	-0.6	66	2.7	84	-0.3	Dec-07
eV All EAFE Equity Gross Median				-24.0		-17.8		-15.2		-1.7		0.0		4.1		1.2	Dec-07
Baillie Gifford EAFE Pure K - BGPKX	58,780,514	5.7		-20.8	22	-12.4	13	-6.7	9	--	--	--	--	--	--	-5.5	May-18
MSCI EAFE				-22.8	39	-17.4	44	-14.4	43	-1.8	54	-0.6	66	2.7	84	-10.6	May-18
eV All EAFE Equity Gross Median				-24.0		-17.8		-15.2		-1.7		0.0		4.1		-11.5	May-18
International Emerging Markets Composite	54,410,683	5.3	5.0	-24.3	44	-22.5	71	-19.0	55	-2.1	51	1.1	34	0.5	87	4.1	Feb-06
MSCI Emerging Markets				-23.6	35	-18.2	39	-17.7	44	-1.6	44	-0.4	56	0.7	83	3.0	Feb-06
eV Emg Mkts Equity Gross Median				-24.8		-19.6		-18.5		-2.0		0.1		2.1		4.2	Feb-06
DFA Emerging Markets Value Portfolio Institutional - DFEVX	19,371,273	1.9		-31.8	95	-30.2	97	-29.9	98	-8.1	95	-2.7	88	-1.4	99	2.8	Feb-06
MSCI Emerging Markets				-23.6	35	-18.2	39	-17.7	44	-1.6	44	-0.4	56	0.7	83	3.0	Feb-06
eV Emg Mkts Equity Gross Median				-24.8		-19.6		-18.5		-2.0		0.1		2.1		4.2	Feb-06
GQG Partners Emerging Markets Equity Fund	35,039,410	3.4		-19.4	6	-17.4	33	-11.3	9	--	--	--	--	--	--	-0.7	Dec-18
MSCI Emerging Markets				-23.6	35	-18.2	39	-17.7	44	-1.6	44	-0.4	56	0.7	83	-9.1	Dec-18
eV Emg Mkts Equity Gross Median				-24.8		-19.6		-18.5		-2.0		0.1		2.1		-9.4	Dec-18



Howard County Retirement Plans

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Fixed Income Composite	340,406,089	33.0	30.0	-2.4	65	0.4	67	3.8	51	3.4	51	3.4	30	4.4	41	5.3	Jul-97
BBgBarc US Aggregate TR				3.1	10	5.7	10	8.9	12	4.8	18	3.4	33	3.9	55	5.2	Jul-97
eV All US Fixed Inc Gross Median				-0.2		1.6		3.8		3.4		2.9		4.1		5.2	Jul-97
Core Fixed Income Composite	265,029,372	25.7	22.0	1.1	70	3.6	73	6.7	76	--	--	--	--	--	--	7.8	Mar-19
BBgBarc US Aggregate TR				3.1	20	5.7	20	8.9	20	4.8	39	3.4	66	3.9	88	10.1	Mar-19
eV US Core Fixed Inc Gross Median				1.9		4.4		7.7		4.7		3.5		4.2		9.0	Mar-19
Dodge & Cox SMA	118,820,156	11.5		-0.7	55	2.2	41	5.2	39	4.1	33	3.6	22	--	--	4.5	May-10
BBgBarc US Aggregate TR				3.1	10	5.7	10	8.9	12	4.8	18	3.4	33	3.9	55	3.8	May-10
eV All US Fixed Inc Gross Median				-0.2		1.6		3.8		3.4		2.9		4.1		4.0	May-10
PIMCO Total Return	122,809,095	11.9		2.8	11	5.0	13	8.3	15	4.8	18	3.5	27	--	--	4.2	May-10
BBgBarc US Aggregate TR				3.1	10	5.7	10	8.9	12	4.8	18	3.4	33	3.9	55	3.8	May-10
eV All US Fixed Inc Gross Median				-0.2		1.6		3.8		3.4		2.9		4.1		4.0	May-10
State Street Global Advisors TIPS	23,400,121	2.3		1.7	32	3.8	38	6.8	35	3.4	50	2.6	54	3.5	61	3.4	Nov-09
BBgBarc US TIPS TR				1.7	30	3.9	34	6.9	32	3.5	49	2.7	53	3.5	56	3.4	Nov-09
eV US TIPS / Inflation Fixed Inc Gross Median				0.8		3.1		5.9		3.4		2.7		3.5		3.5	Nov-09
Emerging Markets Debt Composite	39,420,263	3.8	4.0	-16.9	79	-13.1	69	-7.9	55	--	--	--	--	--	--	-8.7	Mar-19
JP Morgan GBI EM Global Diversified TR USD				-15.2	50	-11.5	44	-6.5	35	-0.8	57	0.3	81	0.4	87	-7.2	Mar-19
eV All Emg Mkts Fixed Inc Gross Median				-15.3		-12.0		-7.7		-0.5		2.2		4.1		-7.1	Mar-19
Colchester Local Markets Debt Fund	39,420,263	3.8		-16.9	79	-13.1	69	-7.9	55	-0.6	52	--	--	--	--	4.4	Oct-15
JP Morgan GBI EM Global Diversified TR USD				-15.2	50	-11.5	44	-6.5	35	-0.8	57	0.3	81	0.4	87	3.0	Oct-15
eV All Emg Mkts Fixed Inc Gross Median				-15.3		-12.0		-7.7		-0.5		2.2		4.1		3.4	Oct-15
Absolute Return Fixed Income	35,956,454	3.5	4.0	--	--	--	--	--	--	--	--	--	--	--	--	-10.0	Mar-20
3-Month Libor Total Return USD				0.4	39	1.4	54	2.1	69	2.1	75	1.5	92	0.9	98	0.1	Mar-20
eV All US Fixed Inc Gross Median				-0.2		1.6		3.8		3.4		2.9		4.1		-2.8	Mar-20
Payden Absolute Return Bond Fund PYAIX	35,956,454	3.5		--	--	--	--	--	--	--	--	--	--	--	--	-10.0	Mar-20
3-Month Libor Total Return USD				0.4	39	1.4	54	2.1	69	2.1	75	1.5	92	0.9	98	0.1	Mar-20
eV All US Fixed Inc Gross Median				-0.2		1.6		3.8		3.4		2.9		4.1		-2.8	Mar-20

Payden Absolute Return Bond Fund funded 02/2020. 3-month performance is shown with first full quarter of performance.



Howard County Retirement Plans

TOTAL FUND PERFORMANCE DETAIL (GROSS)

	Market Value (\$)	% of Portfolio	Policy %	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank	Inception (%)	Inception Date
Total Real Assets Composite	43,319,822	4.2	7.0	2.1	1	3.6	1	6.1	1	9.5	1	8.8	1	7.3	86	7.2	Jul-03
<i>NCREIF Property Index 1 Qtr. Lag</i>				1.6	1	4.5	1	6.4	1	6.7	1	8.2	1	10.2	10	8.7	Jul-03
<i>eV US REIT Gross Median</i>				-23.3		-17.1		-15.6		-0.5		1.4		8.7		9.2	Jul-03
Cash Composite	8,950,753	0.9	0.0	0.2	--	0.8	--	1.3	--	1.4	--	0.8	--	0.4	--	1.3	Dec-03
<i>91 Day T-Bills</i>				0.4	--	1.3	--	1.9	--	1.7	--	1.1	--	0.6	--	1.3	Dec-03
Hedge Fund Composite	116,757,817	11.3	8.0	-5.6	--	-3.8	--	-1.6	--	2.6	--	2.5	--	--	--	4.0	Jan-11
<i>HFRI FOF: Conservative Index</i>				-7.1	--	-5.6	--	-4.2	--	0.2	--	0.5	--	1.9	--	1.7	Jan-11
<i>Magnitude International Class A Eligible</i>	58,680,633	5.7		-3.7	--	-2.7	--	-0.4	--	3.0	--	2.4	--	--	--	4.1	Jan-11
<i>HFRI FOF: Conservative Index</i>				-7.1	--	-5.6	--	-4.2	--	0.2	--	0.5	--	1.9	--	1.7	Jan-11
<i>Blackstone Partners Offshore Fund LTD</i>	58,077,184	5.6		-7.4	--	-4.9	--	-2.8	--	2.1	--	2.5	--	--	--	3.8	Mar-11
<i>HFRI FOF: Conservative Index</i>				-7.1	--	-5.6	--	-4.2	--	0.2	--	0.5	--	1.9	--	1.5	Mar-11
Private Equity Composite	155,081,520	15.0	10.0	4.1	--	12.4	--	15.7	--	19.0	--	16.7	--	13.6	--	13.2	Jul-08
<i>Cambridge Associates Global All PE (Qtr Lag)</i>				4.7	--	9.1	--	14.2	--	14.0	--	11.6	--	12.8	--	9.5	Jul-08
Private Debt	--	--	5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
<i>S&P/LSTA Leveraged Loan TR</i>				-13.0	--	-10.7	--	-9.2	--	-0.8	--	1.1	--	3.1	--	--	--

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 12/31/2019 and adjusted for capital calls and distributions through 03/31/2020.

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 December 31, 2019				
	Current Balance	Current Allocation	Target	Difference
Large Cap Equity	\$221,216,580	19.2%	15.0%	4.2%
Small/Mid Cap Equity	\$64,095,402	5.6%	5.0%	0.6%
Developed International Equity	\$139,626,616	12.1%	13.0%	-0.9%
Emerging Markets Equity	\$71,998,048	6.2%	7.0%	-0.8%
Core Fixed Income	\$259,800,039	22.5%	25.0%	-2.5%
TIPS	\$23,013,779	2.0%	--	2.0%
Emerging Market Debt	\$47,539,108	4.1%	5.0%	-0.9%
Private Equity	\$150,656,993	13.1%	10.0%	3.1%
Hedge Funds	\$123,852,467	10.7%	12.5%	-1.8%
Real Assets	\$41,493,548	3.6%	7.5%	-3.9%
Cash	\$10,367,085	0.9%	0.0%	0.9%
Total	\$1,153,659,667	100.0%	100.0%	

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	\$0	0.0%	5.0%	-5.0%
Private Equity	\$155,081,520	15.0%	10.0%	5.0%
Hedge Funds	\$116,757,817	11.3%	8.0%	3.3%
Real Assets	\$43,319,822	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%
Total	\$1,032,983,722	100.0%	100.0%	



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.

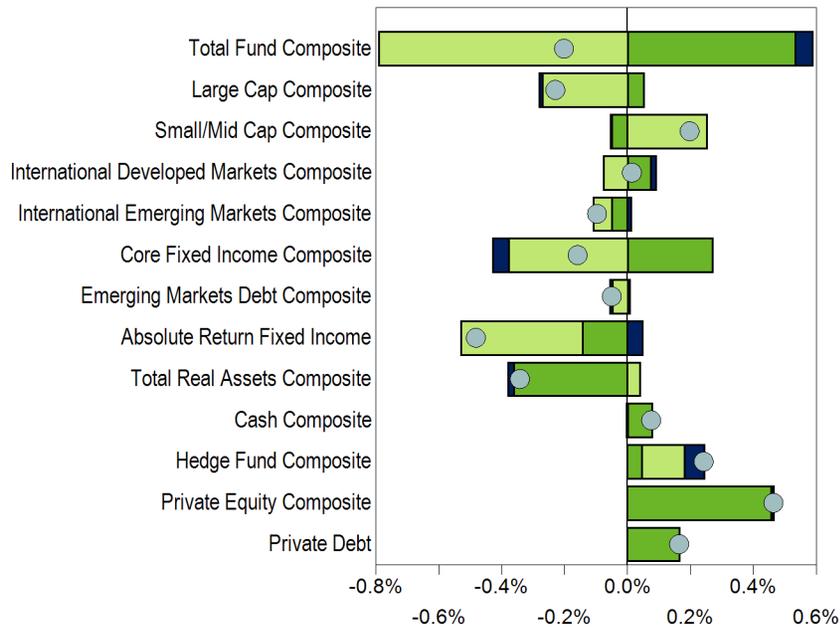
Interaction Effect - The interaction effect measures the combined impact of manager selection and manager allocation decisions within an asset class. For example, if client had superior manager selection and overweighted that particular asset class, the interaction effect is positive. If client had superior 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 March 31, 2020



■ Allocation Effect
■ Selection Effect
■ Interaction Effects
● Total Effect

Attribution Summary
3 Months Ending March 31, 2020

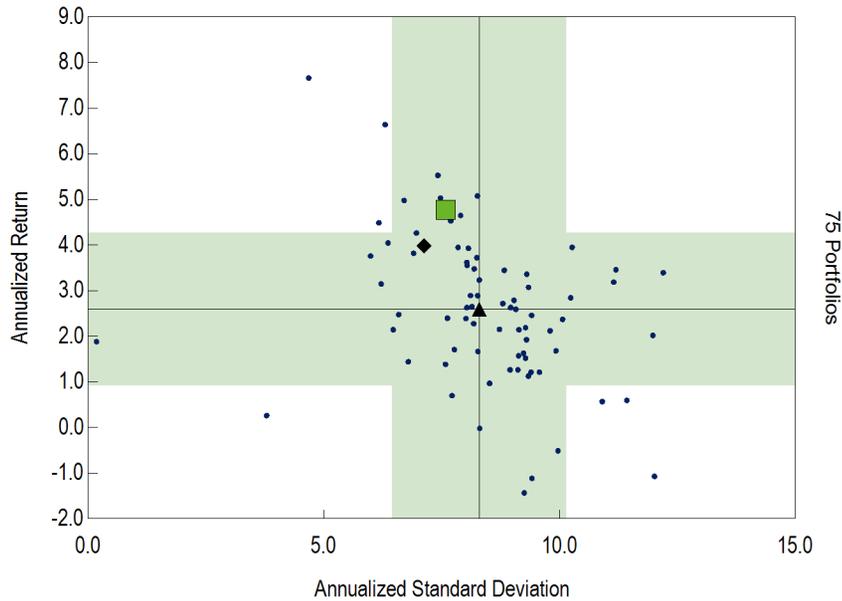
	Policy Weight	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Interaction Effects	Total Effects
Large Cap Composite	19.0%	-21.8%	-20.3%	-1.4%	-0.3%	0.0%	0.0%	-0.2%
Small/Mid Cap Composite	4.0%	-24.2%	-29.7%	5.6%	0.3%	0.0%	0.0%	0.2%
International Developed Markets Composite	12.0%	-23.3%	-22.8%	-0.5%	-0.1%	0.1%	0.0%	0.0%
International Emerging Markets Composite	5.0%	-24.3%	-23.6%	-0.7%	-0.1%	-0.1%	0.0%	-0.1%
Core Fixed Income Composite	22.0%	1.1%	3.0%	-1.9%	-0.4%	0.2%	0.0%	-0.2%
Emerging Markets Debt Composite	4.0%	-16.9%	-15.8%	-1.2%	0.0%	0.0%	0.0%	-0.1%
Absolute Return Fixed Income	4.0%	-10.1%	0.2%	-10.4%	-0.4%	-0.1%	0.0%	-0.4%
Total Real Assets Composite	7.0%	2.1%	1.6%	0.6%	0.0%	-0.4%	0.0%	-0.3%
Cash Composite	0.0%	0.2%	0.4%	-0.2%	0.0%	0.1%	0.0%	0.1%
Hedge Fund Composite	8.0%	-5.6%	-7.5%	1.9%	0.1%	0.0%	0.1%	0.2%
Private Equity Composite	10.0%	4.1%	4.0%	0.1%	0.0%	0.4%	0.0%	0.5%
Private Debt	5.0%	--	--	--	--	0.2%	--	--
Total	100.0%	-10.3%	-10.1%	-0.2%	-0.8%	0.5%	0.1%	-0.2%



Howard County Retirement Plans

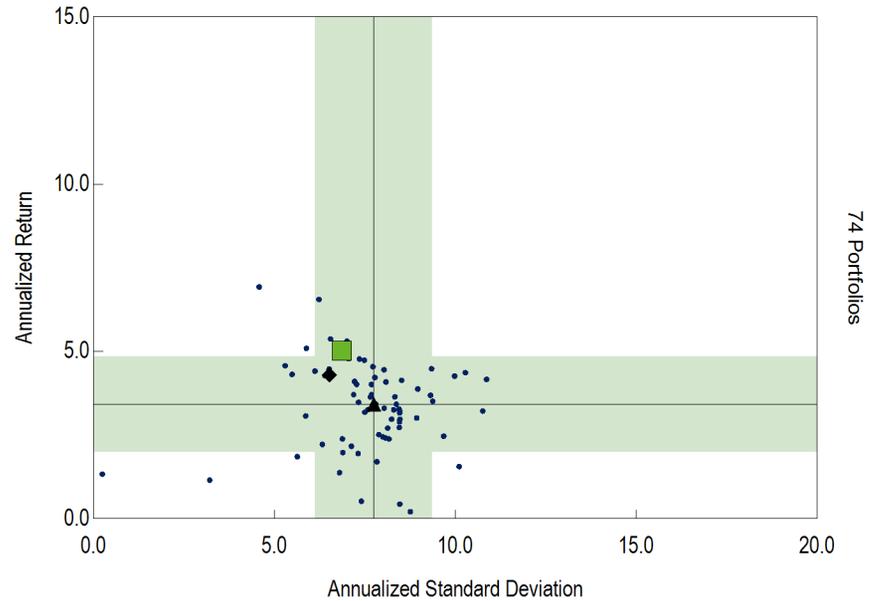
TOTAL FUND RISK/RETURN (GROSS)

3 Years Ending March 31, 2020



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

5 Years Ending March 31, 2020



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

3 Years Ending March 31, 2020

	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio	Sortino Ratio
Total Fund Composite	4.76%	7.58%	0.40	0.65
Policy Index	3.99%	7.13%	0.32	0.55

5 Years Ending March 31, 2020

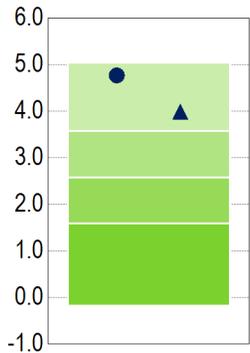
	Anlzd Ret	Anlzd Std Dev	Sharpe Ratio	Sortino Ratio
Total Fund Composite	5.02%	6.87%	0.57	0.82
Policy Index	4.30%	6.51%	0.49	0.72



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

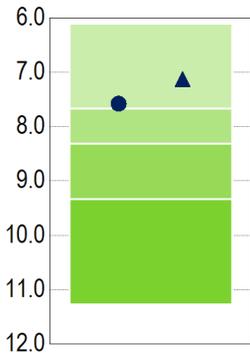
Anlzd Return



● Total Fund Composite	
Value	4.76
Rank	9
▲ Policy Index	
Value	3.99
Rank	16

Universe	
5th %tile	5.04
25th %tile	3.59
Median	2.59
75th %tile	1.60
95th %tile	-0.17

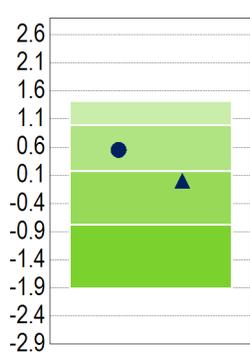
Anlzd Standard Deviation



● Total Fund Composite	
Value	7.58
Rank	23
▲ Policy Index	
Value	7.13
Rank	19

Universe	
5th %tile	6.11
25th %tile	7.66
Median	8.30
75th %tile	9.32
95th %tile	11.26

Anlzd Alpha



● Total Fund Composite	
Value	0.55
Rank	37
▲ Policy Index	
Value	0.00
Rank	59

Universe	
5th %tile	1.42
25th %tile	1.01
Median	0.19
75th %tile	-0.77
95th %tile	-1.90

Sharpe Ratio



● Total Fund Composite	
Value	0.40
Rank	11
▲ Policy Index	
Value	0.32
Rank	19

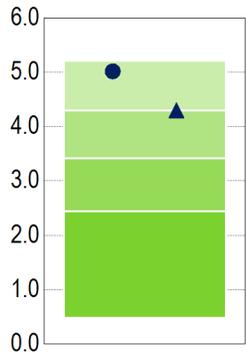
Universe	
5th %tile	0.49
25th %tile	0.23
Median	0.11
75th %tile	-0.01
95th %tile	-0.23



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

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

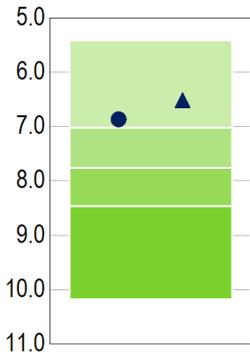
Anlzd Return



● Total Fund Composite	
Value	5.02
Rank	8
▲ Policy Index	
Value	4.30
Rank	26

Universe	
5th %tile	5.21
25th %tile	4.30
Median	3.42
75th %tile	2.45
95th %tile	0.49

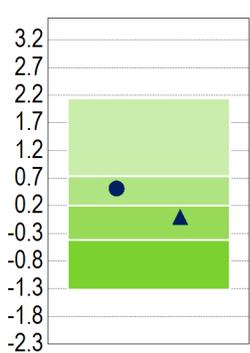
Anlzd Standard Deviation



● Total Fund Composite	
Value	6.87
Rank	21
▲ Policy Index	
Value	6.51
Rank	17

Universe	
5th %tile	5.42
25th %tile	7.01
Median	7.74
75th %tile	8.45
95th %tile	10.16

Anlzd Alpha



● Total Fund Composite	
Value	0.51
Rank	39
▲ Policy Index	
Value	0.00
Rank	61

Universe	
5th %tile	2.14
25th %tile	0.75
Median	0.22
75th %tile	-0.41
95th %tile	-1.31

Sharpe Ratio



● Total Fund Composite	
Value	0.57
Rank	12
▲ Policy Index	
Value	0.49
Rank	22

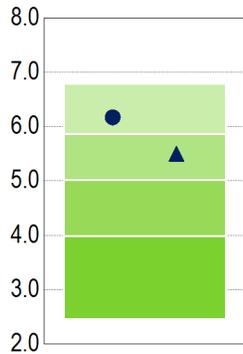
Universe	
5th %tile	0.66
25th %tile	0.41
Median	0.28
75th %tile	0.18
95th %tile	-0.08



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

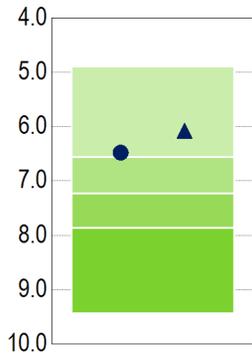
Total Fund Composite vs. InvMetrics Public DB > \$1B Gross 7 Years

Anlzd Return



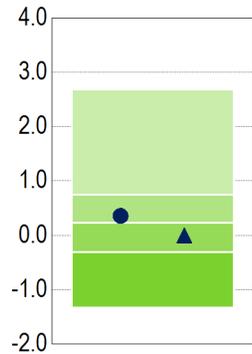
● Total Fund Composite	
Value	6.17
Rank	17
▲ Policy Index	
Value	5.50
Rank	35
Universe	
5th %tile	6.79
25th %tile	5.87
Median	5.03
75th %tile	4.00
95th %tile	2.47

Anlzd Standard Deviation



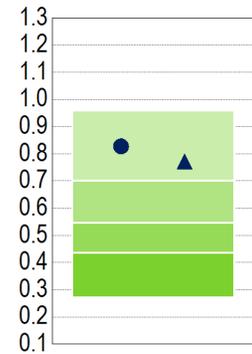
● Total Fund Composite	
Value	6.48
Rank	22
▲ Policy Index	
Value	6.08
Rank	14
Universe	
5th %tile	4.89
25th %tile	6.55
Median	7.22
75th %tile	7.85
95th %tile	9.42

Anlzd Alpha



● Total Fund Composite	
Value	0.36
Rank	41
▲ Policy Index	
Value	0.00
Rank	62
Universe	
5th %tile	2.69
25th %tile	0.76
Median	0.25
75th %tile	-0.30
95th %tile	-1.32

Sharpe Ratio



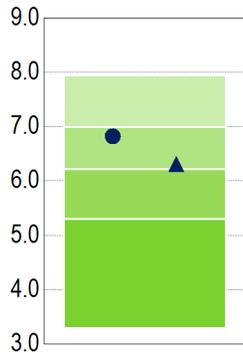
● Total Fund Composite	
Value	0.83
Rank	12
▲ Policy Index	
Value	0.77
Rank	18
Universe	
5th %tile	0.96
25th %tile	0.70
Median	0.55
75th %tile	0.44
95th %tile	0.27



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

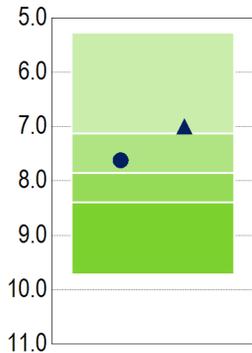
Total Fund Composite vs. InvMetrics Public DB > \$1B Gross 10 Years

Anlzd Return



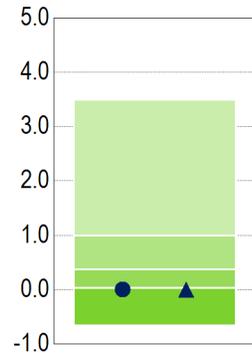
● Total Fund Composite	
Value	6.82
Rank	28
▲ Policy Index	
Value	6.31
Rank	48
Universe	
5th %tile	7.94
25th %tile	7.00
Median	6.23
75th %tile	5.31
95th %tile	3.31

Anlzd Standard Deviation



● Total Fund Composite	
Value	7.62
Rank	41
▲ Policy Index	
Value	7.00
Rank	18
Universe	
5th %tile	5.28
25th %tile	7.12
Median	7.85
75th %tile	8.38
95th %tile	9.70

Anlzd Alpha



● Total Fund Composite	
Value	0.01
Rank	77
▲ Policy Index	
Value	0.00
Rank	77
Universe	
5th %tile	3.50
25th %tile	1.00
Median	0.38
75th %tile	0.05
95th %tile	-0.65

Sharpe Ratio



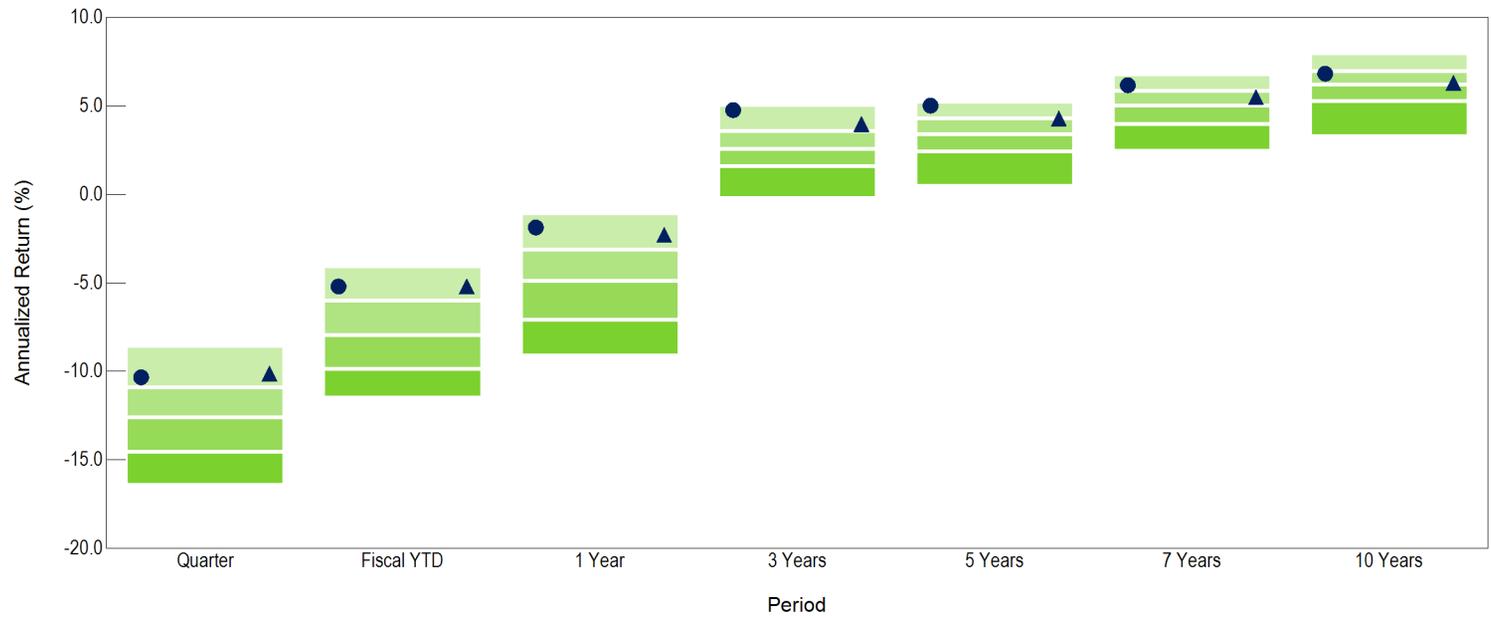
● Total Fund Composite	
Value	0.82
Rank	22
▲ Policy Index	
Value	0.82
Rank	22
Universe	
5th %tile	1.03
25th %tile	0.80
Median	0.69
75th %tile	0.63
95th %tile	0.46



Howard County Retirement Plans

TOTAL RETURN SUMMARY VS. PEER UNIVERSE (GROSS)

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



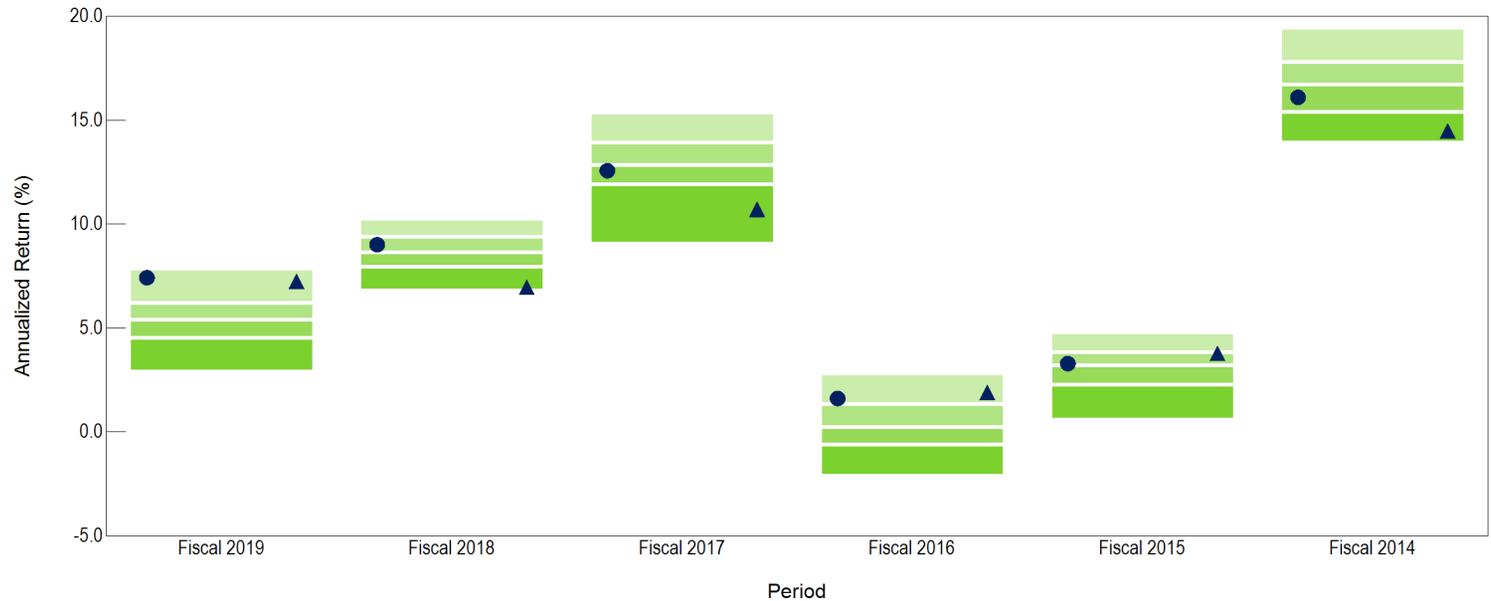
	Return (Rank)											
5th Percentile	-8.6	(20)	-4.1	(17)	-1.1	(16)	5.0	(9)	5.2	(8)	6.8	(17)
25th Percentile	-10.9	(20)	-6.0	(17)	-3.1	(19)	3.6	(16)	4.3	(26)	5.9	(35)
Median	-12.6	(20)	-7.9	(17)	-4.9	(19)	2.6	(16)	3.4	(26)	5.0	(35)
75th Percentile	-14.5	(20)	-9.8	(17)	-7.1	(19)	1.6	(16)	2.4	(26)	4.0	(35)
95th Percentile	-16.4	(20)	-11.5	(17)	-9.1	(19)	-0.2	(16)	0.5	(26)	2.5	(35)
# of Portfolios	75		75		75		75		74		72	
● Total Fund Composite	-10.3	(20)	-5.2	(17)	-1.9	(16)	4.8	(9)	5.0	(8)	6.2	(17)
▲ Policy Index	-10.1	(20)	-5.2	(17)	-2.3	(19)	4.0	(16)	4.3	(26)	5.5	(35)



Howard County Retirement Plans

FISCAL RETURN SUMMARY VS. PEER UNIVERSE (GROSS)

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



	Return (Rank)											
5th Percentile	7.9		10.3		15.3		2.8		4.8		19.4	
25th Percentile	6.2		9.4		14.0		1.4		3.9		17.8	
Median	5.4		8.7		12.9		0.3		3.2		16.7	
75th Percentile	4.5		8.0		11.9		-0.6		2.3		15.4	
95th Percentile	2.9		6.8		9.1		-2.1		0.6		13.9	
# of Portfolios	88		62		108		91		92		65	
● Total Fund Composite	7.4	(9)	9.0	(35)	12.6	(61)	1.6	(22)	3.3	(48)	16.1	(62)
▲ Policy Index	7.2	(14)	7.0	(91)	10.7	(91)	1.9	(15)	3.8	(30)	14.5	(86)

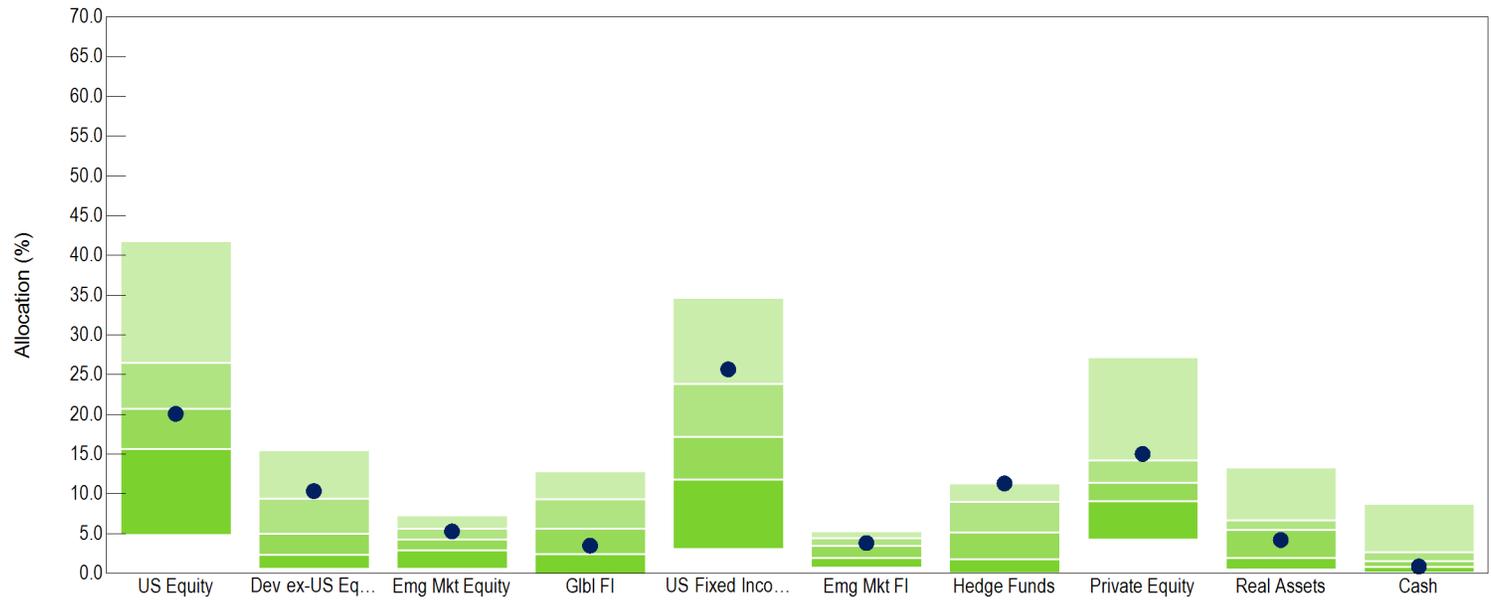
Fiscal year ends 6/30.



Howard County Retirement Plans

TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

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



Allocation (Rank)

5th Percentile	41.8	15.5	7.3	12.8	34.7	5.3	11.4	27.2	13.4	8.7	-										
25th Percentile	26.5	9.5	5.7	9.4	23.9	4.5	9.1	14.3	6.8	2.8	-										
Median	20.8	5.1	4.3	5.7	17.3	3.6	5.2	11.5	5.5	1.6	-										
75th Percentile	15.7	2.4	3.0	2.5	11.9	2.0	1.8	9.2	2.0	0.9	-										
95th Percentile	4.9	0.6	0.6	0.0	3.1	0.8	0.1	4.4	0.5	0.2	-										
# of Portfolios	48	27	39	22	50	24	36	46	27	57	-										
● Total Fund Composite	20.1	(53)	10.3	(24)	5.3	(30)	3.5	(57)	25.7	(23)	3.8	(45)	11.3	(6)	15.0	(23)	4.2	(54)	0.9	(72)	-



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.

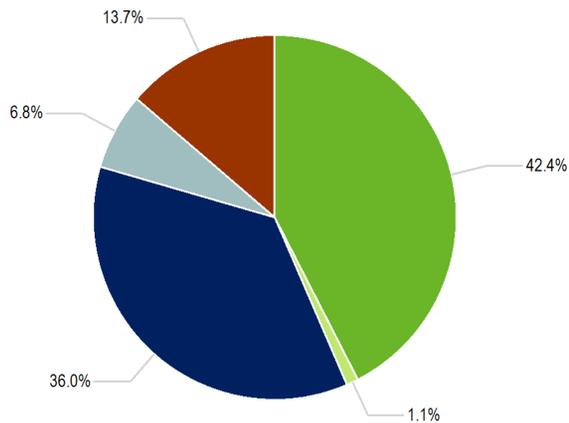
-The commitment amount is calculated by taking the unfunded commitment amount in EUR, applying the exchange rate and then adding it to the USD commitment amount.



Howard County Retirement Plans

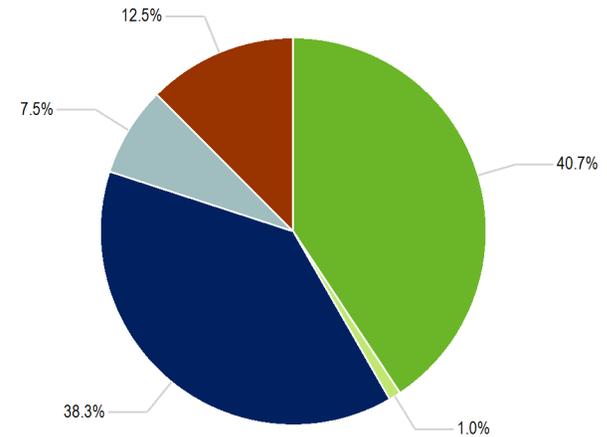
ANALYSIS BY STRATEGY - PRIVATE EQUITY

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

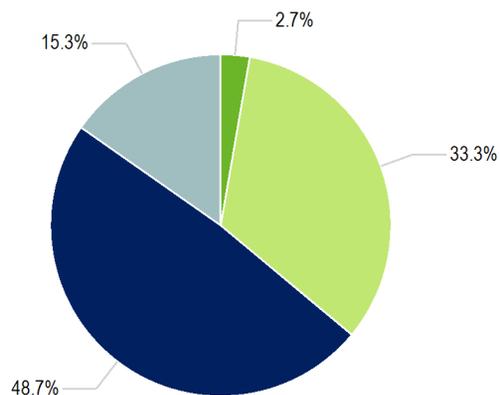
Investments	Commitments			Contributions & Distributions			Valuations				Performance		
	Investment Strategy	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI
Total Buyout	\$80,819,280	\$12,642,871	0.84	\$68,176,409	\$115,794	\$39,622,958	\$66,529,333	\$106,152,291	\$37,860,089	\$79,172,204	0.58	1.55	17.19%
Total Distressed	\$10,000,000	\$300,000	0.97	\$9,700,000	\$0	\$13,998,269	\$1,659,277	\$15,657,546	\$5,957,546	\$1,959,277	1.44	1.61	10.46%
Total Fund of Funds	\$60,250,000	\$18,165,537	0.70	\$42,084,463	-\$31,437	\$14,015,000	\$56,405,351	\$70,420,351	\$28,367,325	\$74,570,888	0.33	1.67	16.27%
Total Secondaries	\$15,500,000	\$3,958,000	0.74	\$11,542,000	-\$903	\$10,131,554	\$10,640,138	\$20,771,692	\$9,230,595	\$14,598,138	0.88	1.80	18.08%
Total Venture Capital	\$16,500,000	\$2,810,000	0.83	\$13,690,000	\$37,407	\$7,548,782	\$21,519,363	\$29,068,145	\$15,340,738	\$24,329,363	0.55	2.12	19.87%
Total	\$183,069,280	\$37,876,408	0.79	\$145,192,872	\$120,861	\$85,316,563	\$156,753,462	\$242,070,025	\$96,756,293	\$194,629,870	0.59	1.67	16.19%



Howard County Retirement Plans

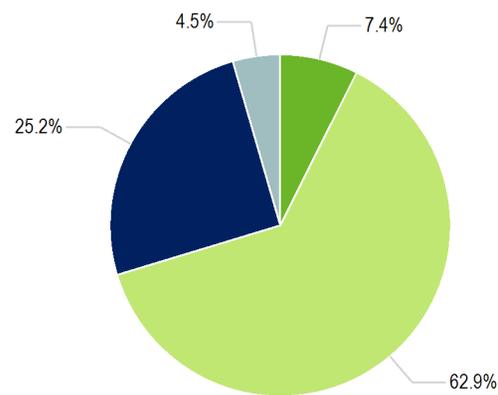
ANALYSIS BY LIFECYCLE - PRIVATE EQUITY

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	\$5,000,000	\$2,800,000	0.44	\$2,200,000	\$0	\$0	\$2,416,081	\$2,416,081	\$216,081	0.00	1.10	13.30%
Total Investing	\$60,982,566	\$23,837,304	0.61	\$37,145,262	-\$15,283	\$2,997,061	\$45,781,496	\$48,778,557	\$11,648,578	0.08	1.31	14.89%
Total Harvesting	\$89,086,714	\$9,533,104	0.89	\$79,553,610	\$99,889	\$56,213,201	\$87,570,503	\$143,783,705	\$64,130,206	0.71	1.81	19.22%
Total Liquidating	\$28,000,000	\$1,706,000	0.94	\$26,294,000	\$36,255	\$26,106,301	\$20,985,382	\$47,091,683	\$20,761,428	0.99	1.79	12.42%
Total	\$183,069,280	\$37,876,408	0.79	\$145,192,872	\$120,861	\$85,316,563	\$156,753,462	\$242,070,025	\$96,756,293	0.59	1.67	16.19%



Howard County Retirement Plans

ANALYSIS BY LIFECYCLE - PRIVATE EQUITY

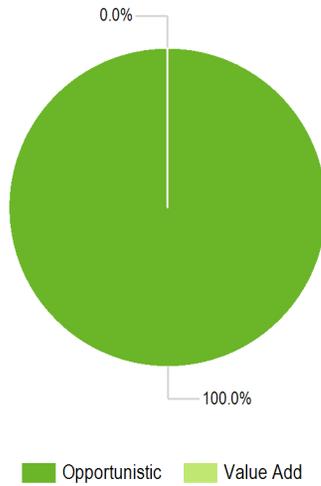
Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Fundraising												
NB Crossroads Fund XXII, L.P.	2019	\$5,000,000	\$2,800,000	\$2,200,000	\$0	\$0	\$2,416,081	\$2,416,081	\$216,081	0.00	1.10	13.30%
Total Fundraising		\$5,000,000	\$2,800,000	\$2,200,000	\$0	\$0	\$2,416,081	\$2,416,081	\$216,081	0.00	1.10	13.30%
Investing												
57 Stars Global Opportunity Fund 4 (US), L.P.	2015	\$7,000,000	\$1,534,537	\$5,465,463	-\$15,283	\$0	\$7,635,696	\$7,635,696	\$2,185,516	0.00	1.40	15.01%
Aberdeen U.S. Private Equity VII, L.P.	2017	\$5,000,000	\$2,400,000	\$2,600,000	\$0	\$463,232	\$2,975,302	\$3,438,534	\$838,534	0.18	1.32	26.16%
Greenspring Global Partners IX-B, L.P.	2019	\$7,250,000	\$4,640,000	\$2,610,000	\$0	\$0	\$2,683,652	\$2,683,652	\$73,652	0.00	1.03	5.19%
Greenspring Global Partners VIII-B, L.P.	2017	\$5,000,000	\$1,750,000	\$3,250,000	\$0	\$0	\$3,796,195	\$3,796,195	\$546,195	0.00	1.17	14.35%
HarbourVest Partners Co-Investment Fund IV AIV, L.P.	2018	\$574,142	\$312,689	\$261,453	\$0	\$0	\$239,748	\$239,748	-\$21,705	0.00	0.92	-5.17%
HarbourVest Partners Co-Investment Fund IV, L.P.	2017	\$9,425,858	\$1,598,095	\$7,827,763	\$0	\$1,650,450	\$9,257,395	\$10,907,845	\$3,080,082	0.21	1.39	16.31%
NB Crossroads Fund XXI, L.P.	2015	\$15,000,000	\$6,150,000	\$8,850,000	\$0	\$0	\$12,779,108	\$12,779,108	\$3,929,108	0.00	1.44	15.65%
Schroder Adveq Europe Direct II S.C.S.	2018	\$1,013,697	\$459,664	\$554,033	\$0	\$0	\$532,395	\$532,395	-\$21,638	0.00	0.96	-5.50%
Schroder Adveq Europe VI, L.P.	2015	\$6,786,768	\$1,986,825	\$4,799,943	\$0	\$883,378	\$4,881,353	\$5,764,731	\$964,788	0.18	1.20	9.92%
Schroder Adveq Europe VII S.C.S.	2018	\$3,932,100	\$3,005,494	\$926,607	\$0	\$0	\$1,000,653	\$1,000,653	\$74,046	0.00	1.08	9.42%
Total Investing		\$60,982,566	\$23,837,304	\$37,145,262	-\$15,283	\$2,997,061	\$45,781,496	\$48,778,557	\$11,648,578	0.08	1.31	14.89%
Harvesting												
Aberdeen U.S. Private Equity V, L.P.	2013	\$15,000,000	\$0	\$15,000,000	\$7,648	\$9,834,840	\$14,611,563	\$24,446,403	\$9,438,755	0.66	1.63	17.66%
Aberdeen U.S. Private Equity VI, L.P.	2014	\$15,000,000	\$1,500,000	\$13,500,000	\$0	\$5,016,415	\$14,220,762	\$19,237,177	\$5,737,177	0.37	1.42	18.12%
Crown Asia-Pacific Private Equity III PLC	2014	\$5,000,000	\$1,165,000	\$3,835,000	\$0	\$575,000	\$5,935,876	\$6,510,876	\$2,675,876	0.15	1.70	22.47%
Crown Global Secondaries III PLC, L.P.	2012	\$10,000,000	\$2,850,000	\$7,150,000	\$0	\$6,180,000	\$4,102,376	\$10,282,376	\$3,132,376	0.86	1.44	12.70%
Greenspring Global Partners V-B, L.P.	2011	\$7,000,000	\$630,000	\$6,370,000	-\$16,154	\$6,762,000	\$10,161,913	\$16,923,913	\$10,570,067	1.06	2.66	22.18%
Greenspring Global Partners VI, L.P.	2014	\$7,500,000	\$900,000	\$6,600,000	\$1,152	\$2,118,750	\$13,190,088	\$15,308,838	\$8,707,686	0.32	2.32	24.38%
Greenspring Secondaries Fund I, L.P.	2014	\$2,500,000	\$100,000	\$2,400,000	-\$903	\$1,324,164	\$5,999,369	\$7,323,533	\$4,924,436	0.55	3.05	32.81%
HarbourVest 2013 Direct Fund, L.P.	2013	\$15,000,000	\$484,349	\$14,515,651	\$108,146	\$16,830,214	\$12,253,873	\$29,084,087	\$14,460,290	1.15	1.99	21.14%
Pantheon Global Secondary Fund IV, L.P.	2010	\$3,000,000	\$1,008,000	\$1,992,000	\$0	\$2,627,390	\$538,393	\$3,165,783	\$1,173,783	1.32	1.59	13.54%
Schroder Adveq Europe V, L.P.	2012	\$9,086,714	\$895,755	\$8,190,959	\$0	\$4,944,429	\$6,556,290	\$11,500,719	\$3,309,760	0.60	1.40	10.05%
Total Harvesting		\$89,086,714	\$9,533,104	\$79,553,610	\$99,889	\$56,213,201	\$87,570,503	\$143,783,705	\$64,130,206	0.71	1.81	19.22%
Liquidating												
Crown Asia-Pacific Private Equity II PLC	2011	\$14,000,000	\$1,246,000	\$12,754,000	\$0	\$6,678,000	\$14,793,025	\$21,471,025	\$8,717,025	0.52	1.68	11.99%
Greenspring Global Partners IV, L.P.	2008	\$4,000,000	\$160,000	\$3,840,000	\$36,255	\$5,430,032	\$4,533,080	\$9,963,112	\$6,086,857	1.40	2.57	17.39%
Siguler Guff Distressed Opportunities Fund III, L.P.	2007	\$10,000,000	\$300,000	\$9,700,000	\$0	\$13,998,269	\$1,659,277	\$15,657,546	\$5,957,546	1.44	1.61	10.46%
Total Liquidating		\$28,000,000	\$1,706,000	\$26,294,000	\$36,255	\$26,106,301	\$20,985,382	\$47,091,683	\$20,761,428	0.99	1.79	12.42%
Total		\$183,069,280	\$37,876,408	\$145,192,872	\$120,861	\$85,316,563	\$156,753,462	\$242,070,025	\$96,756,293	0.59	1.67	16.19%



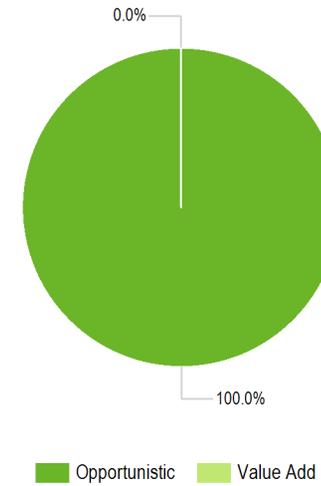
Howard County Retirement Plans

ANALYSIS BY STRATEGY - REAL ESTATE

Private Markets Valuation by Strategy



Private Markets Fund Exposure by Strategy



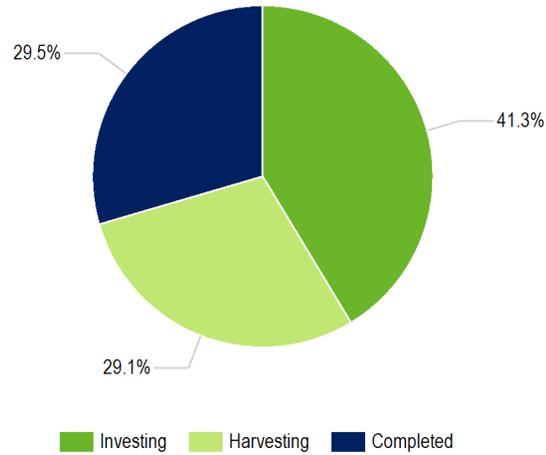
Investments	Commitments			Contributions & Distributions			Valuations				Performance		
	Investment Strategy	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI
Total Opportunistic	\$49,669,291	\$15,178,877	0.69	\$34,490,414	\$151,453	\$17,426,156	\$29,399,541	\$46,825,697	\$12,183,831	\$44,578,418	0.50	1.35	8.81%
Total Value Add	\$35,000,000	\$0	1.00	\$35,000,000	\$0	\$46,230,008	\$6,153	\$46,236,161	\$11,236,161	\$6,153	1.32	1.32	4.75%
Total	\$84,669,291	\$15,178,877	0.82	\$69,490,414	\$151,453	\$63,656,164	\$29,405,694	\$93,061,858	\$23,419,992	\$44,584,571	0.91	1.34	5.95%



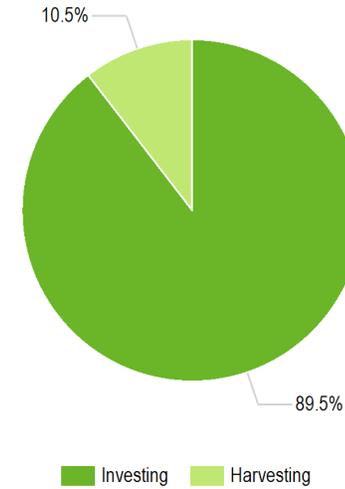
Howard County Retirement Plans

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	\$13,590,873	0.61	\$21,409,127	\$85,580	\$5,258,096	\$24,785,206	\$30,043,302	\$8,548,595	0.24	1.40	12.50%
Total Harvesting	\$24,669,291	\$1,588,004	0.94	\$23,081,287	\$65,873	\$22,090,818	\$4,620,488	\$26,711,306	\$3,564,147	0.95	1.15	2.24%
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%
Total	\$84,669,291	\$15,178,877	0.82	\$69,490,414	\$151,453	\$63,656,164	\$29,405,694	\$93,061,858	\$23,419,992	0.91	1.34	5.95%



Howard County Retirement Plans

ANALYSIS BY LIFECYCLE - REAL ESTATE

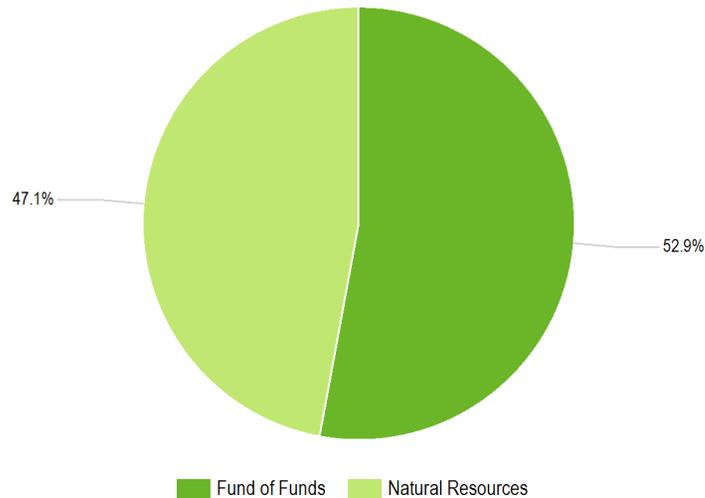
Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Investing												
Partners Group Global Real Estate 2014 (USD) A, L.P. Inc.	2014	\$25,000,000	\$8,200,417	\$16,799,583	\$35,548	\$5,255,596	\$19,506,239	\$24,761,835	\$7,926,704	0.31	1.47	12.21%
Partners Group Real Estate Secondary 2017 (USD) A, L.P.	2018	\$10,000,000	\$5,390,456	\$4,609,544	\$50,032	\$2,500	\$5,278,967	\$5,281,467	\$621,891	0.00	1.13	19.81%
Total Investing		\$35,000,000	\$13,590,873	\$21,409,127	\$85,580	\$5,258,096	\$24,785,206	\$30,043,302	\$8,548,595	0.24	1.40	12.50%
Harvesting												
Partners Group Global Real Estate 2011, L.P.	2011	\$14,669,291	\$1,588,004	\$13,081,287	\$65,873	\$12,168,060	\$4,614,335	\$16,782,395	\$3,635,236	0.93	1.28	5.58%
TA Associates Realty Fund VIII, L.P.	2006	\$10,000,000	\$0	\$10,000,000	\$0	\$9,922,758	\$6,153	\$9,928,911	-\$71,089	0.99	0.99	-0.08%
Total Harvesting		\$24,669,291	\$1,588,004	\$23,081,287	\$65,873	\$22,090,818	\$4,620,488	\$26,711,306	\$3,564,147	0.95	1.15	2.24%
Completed												
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%
Total Completed		\$25,000,000	\$0	\$25,000,000	\$0	\$36,307,250	\$0	\$36,307,250	\$11,307,250	1.45	1.45	7.20%
Total		\$84,669,291	\$15,178,877	\$69,490,414	\$151,453	\$63,656,164	\$29,405,694	\$93,061,858	\$23,419,992	0.91	1.34	5.95%



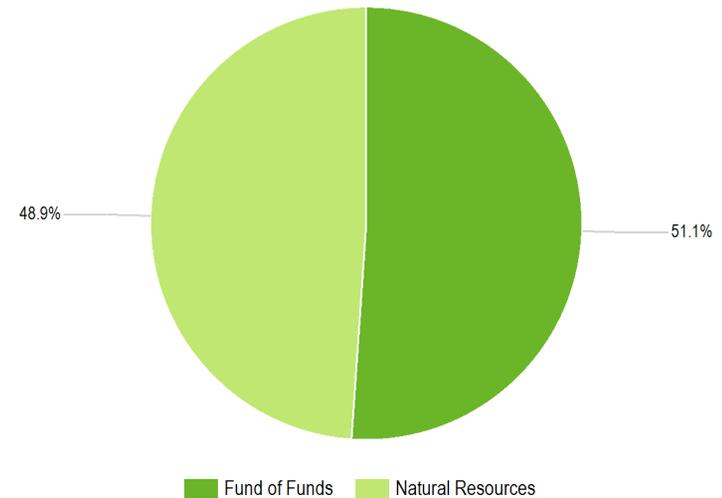
Howard County Retirement Plans

ANALYSIS BY STRATEGY - REAL ASSETS

Private Markets Valuation by Strategy



Private Markets Fund Exposure by Strategy



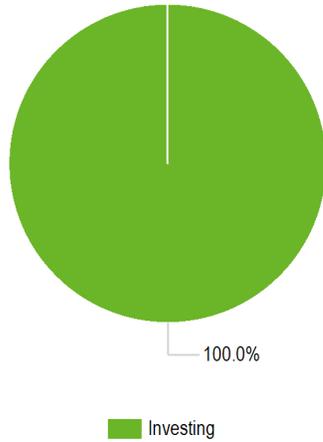
Investments	Commitments			Contributions & Distributions			Valuations				Performance		
	Investment Strategy	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI
Total Fund of Funds	\$15,000,000	\$8,772,811	0.42	\$6,227,189	-\$17,052	\$0	\$6,867,660	\$6,867,660	\$657,523	\$15,640,471	0.00	1.11	5.79%
Total Natural Resources	\$15,000,000	\$8,857,500	0.41	\$6,142,500	\$0	\$1,381,267	\$6,113,298	\$7,494,565	\$1,352,065	\$14,970,798	0.22	1.22	15.81%
Total	\$30,000,000	\$17,630,311	0.41	\$12,369,689	-\$17,052	\$1,381,267	\$12,980,958	\$14,362,225	\$2,009,588	\$30,611,269	0.11	1.16	10.09%



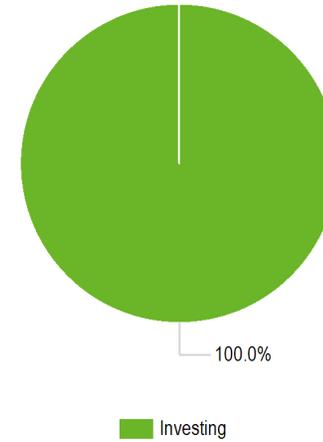
Howard County Retirement Plans

ANALYSIS BY LIFECYCLE - REAL ASSETS

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	\$30,000,000	\$17,630,311	0.41	\$12,369,689	-\$17,052	\$1,381,267	\$12,980,958	\$14,362,225	\$2,009,588	0.11	1.16	10.09%
Total	\$30,000,000	\$17,630,311	0.41	\$12,369,689	-\$17,052	\$1,381,267	\$12,980,958	\$14,362,225	\$2,009,588	0.11	1.16	10.09%



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
Investing												
Aether Real Assets IV, L.P.	2015	\$7,500,000	\$2,278,098	\$5,221,902	-\$906	\$0	\$5,802,128	\$5,802,128	\$581,132	0.00	1.11	5.73%
Aether Real Assets V, L.P.	2018	\$7,500,000	\$6,494,713	\$1,005,287	-\$16,146	\$0	\$1,065,533	\$1,065,533	\$76,392	0.00	1.08	6.39%
Commonfund Capital Natural Resources Partners XI, L.P.	2018	\$7,500,000	\$6,206,250	\$1,293,750	\$0	\$0	\$1,128,300	\$1,128,300	-\$165,450	0.00	0.87	-38.85%
Commonfund Capital Natural Resources Partners X, L.P.	2015	\$7,500,000	\$2,651,250	\$4,848,750	\$0	\$1,381,267	\$4,984,998	\$6,366,265	\$1,517,515	0.28	1.31	18.27%
Total Investing		\$30,000,000	\$17,630,311	\$12,369,689	-\$17,052	\$1,381,267	\$12,980,958	\$14,362,225	\$2,009,588	0.11	1.16	10.09%
Total		\$30,000,000	\$17,630,311	\$12,369,689	-\$17,052	\$1,381,267	\$12,980,958	\$14,362,225	\$2,009,588	0.11	1.16	10.09%



NEPC'S DUE DILIGENCE MONITOR

Investment Options	Manager Changes/ Announcements (Recent Quarter)	NEPC Due Diligence Committee
BlackRock US Equity Index (S&P 500)	Change of Firm Ownership: BlackRock Ownership Change 05/18/20	1. No Action
Westfield Large Cap Growth Equity	Loss of Personnel: Westfield Capital Management Personnel Loss 05/18/20	1. No Action



NEPC'S DUE DILIGENCE MONITOR DETAIL

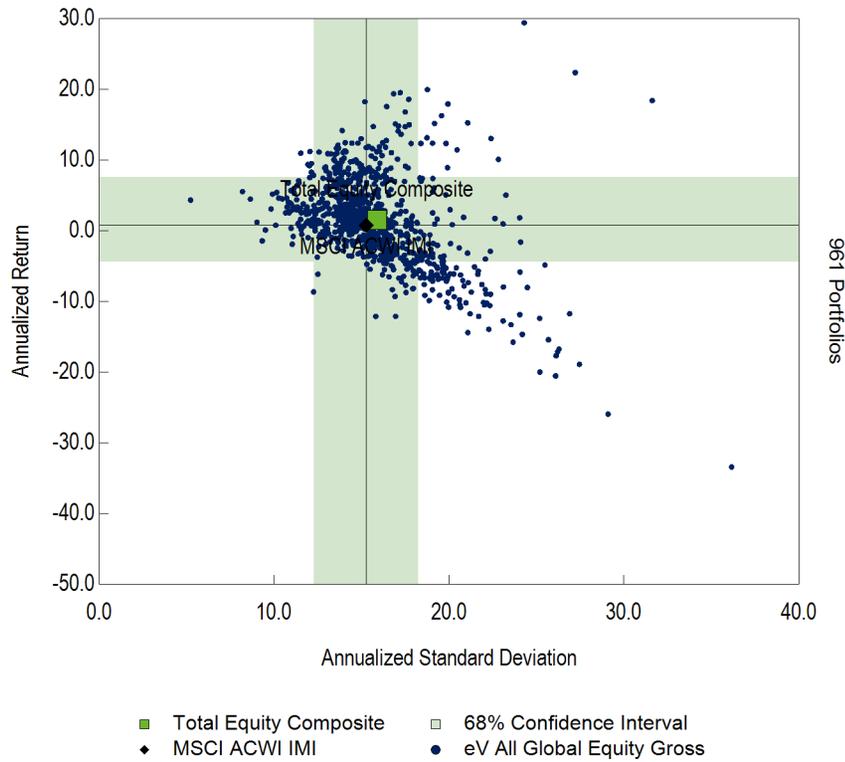
Investment Options	Commentary	NEPC Rating
BlackRock US Equity Index (S&P 500)	<p>PNC Financial Services Group announced earlier this week that they will be selling their investment in BlackRock, of which they are a 22.4% owner. They will be donating 500,000 shares to the PNC Foundation and selling the rest of their 34.8 million shares. The shares will be sold in a public secondary offer in which any Series B convertible shares will convert to common stock shares after sale. Underwriters will have a 30-day option to buy additional shares. Upon completion of the secondary offering, BlackRock plans to repurchase \$1.1 billion of its stock. BlackRock has a targeted level of share repurchases for 2020; once they complete these repurchases of approximately \$1.5 billion of its shares, they will have met their targeted level for the year.</p>	1
Westfield Large Cap Growth Equity	<p>Two members of Westfield Capital Management (Westfield), Ham Thompson and Rosie Zhang, will be leaving the firm. Westfield's portfolios are managed using an investment committee for all of the growth portfolios currently managed by Westfield. Mr. Thompson and Ms. Zhang were both members of the 17-member investment committee.</p> <p>Coverage responsibility at Westfield is split into four major group: consumer & financials; information technology; industrials, materials, & energy; and healthcare. Within each major group, analysts are responsible for covering specific industries within that group. Ham Thompson was a Senior Investment Committee member in charge of overseeing the research agenda for the industrials, materials, & energy group. He also had coverage responsibilities in the energy and industrials industries. Rosie Zhang was a member of the consumer & financials group and covered gaming and restaurant stocks. Mr. Thompson and Ms. Zhang were asked to leave the firm mainly from poor investment selection within their coverage responsibilities. It also did not help that the areas of coverage for both analysts were in secular decline. The recent disruption in the markets caused Westfield's management to condense the investment research groups to focus research efforts on the best areas of growth to fit their investment style going forward.</p> <p>In terms of changes after the departure, Westfield provided the following:</p> <p>Sam Ensslin, who has covered industrial stocks since joining the Firm, will broaden his coverage to other economically sensitive sectors, like Energy and Materials, and report to Deputy CIO Rich Lee. Ted Richardson will leverage his knowledge of consumer-driven businesses like housing and building products to work more closely with Ethan Meyers, our Director of Research, on the Consumer team. Kevin Shin will assume formal coverage of Media and Entertainment businesses in addition to his existing coverage of Telecommunications and REITs. We are also adding resources to our Portfolio Strategy and Risk Management efforts, with William Gilchrist assuming a new role as Portfolio Analyst in that group. Gilly will add analytical capacity to our risk management, investment process management, and sustainable investing efforts.</p> <p>While it is usually unfortunate to see members of an investment team depart, we feel Westfield's reasoning for Mr. Thompson and Ms. Zhang are understandable. The growth environment continues to change, and Westfield wants to make sure research resources are being appropriately allocated. We will continue to watch these changes as they unfold but believe that this will be a long term positive for the portfolios. Because of this, we recommend "no action" for the growth strategies managed by Westfield.</p>	3



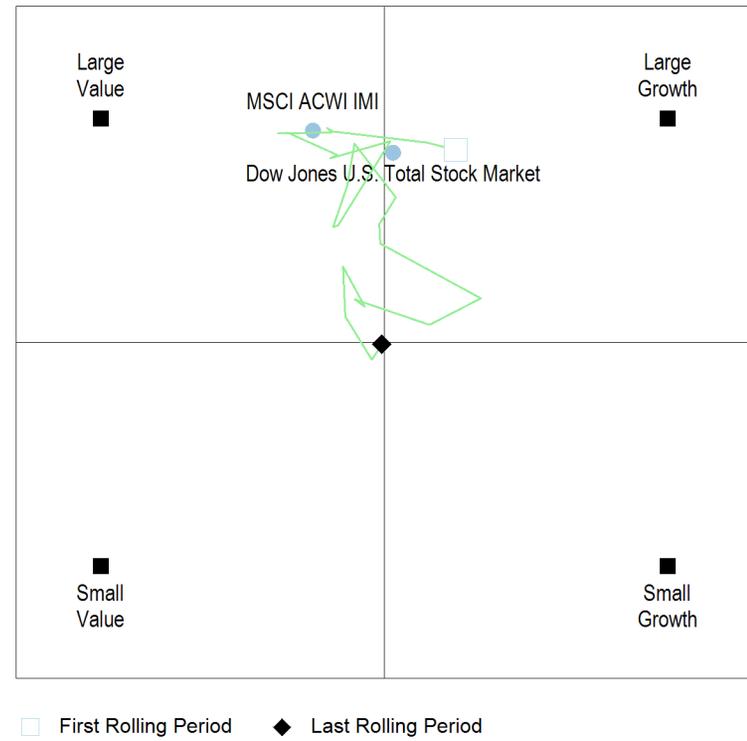
Howard County Retirement Plans

TOTAL EQUITY COMPOSITE

3 Year Risk Return



3 Year Style Analysis



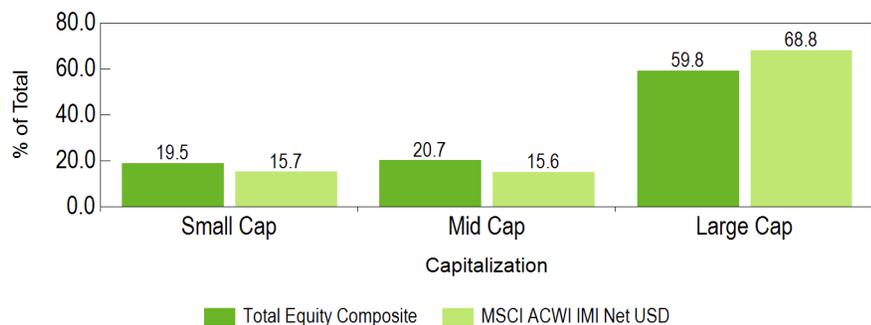
Howard County Retirement Plans

TOTAL EQUITY COMPOSITE

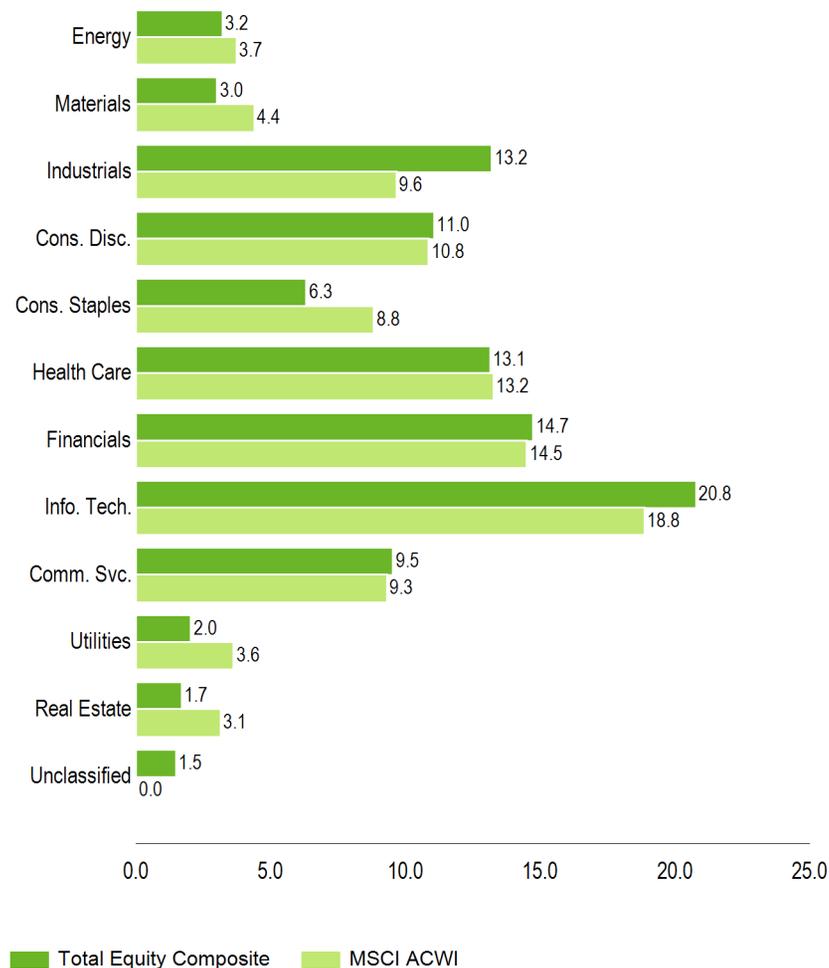
Characteristics		
	Portfolio	MSCI ACWI IMI Net USD
Number of Holdings	2,953	8,961
Weighted Avg. Market Cap. (\$B)	112.0	154.5
Median Market Cap. (\$B)	0.4	1.3
Price To Earnings	14.2	14.9
Price To Book	3.0	3.0
Price To Sales	1.5	1.7
Return on Equity (%)	15.5	18.2
Yield (%)	2.7	2.9
Beta	1.0	1.0
R-Squared	1.0	1.0

	Portfolio Q1-20	Index Q1-20
Region Weighting		
Americas	51.55	59.85
Europe	20.42	18.45
Asia/Pacific	27.58	20.45
Other	0.45	1.25

Market Capitalization As of March 31, 2020



Equity Sector Allocation



Howard County Retirement Plans

TOTAL EQUITY COMPOSITE

Top Ten Holdings	
APPLE	1.5%
AMAZON.COM	1.5%
CASH - USD	1.5%
MICROSOFT	1.4%
ALPHABET A	1.4%
CHINA MOBILE	0.9%
FACEBOOK CLASS A	0.9%
NVIDIA	0.9%
ASML HOLDING	0.9%
UNITED OVERSEAS BANK	0.8%

Top Positive Contributors		
	Relative Contribution	Return %
	%	
APPLE	0.2%	-13.2%
WELLS FARGO & CO	0.1%	-46.1%
WALT DISNEY	0.1%	-33.2%
SAMSUNG ELECTRONICS	0.1%	-18.7%
BANK OF AMERICA	0.1%	-39.3%
JP MORGAN CHASE & CO.	0.1%	-35.0%
AT&T	0.1%	-24.4%
COMCAST A	0.1%	-22.7%
CHEVRON	0.1%	-39.2%
QUIDEL	0.1%	30.4%

Top Negative Contributors		
	Relative Contribution	Return %
	%	
MARATHON PETROLEUM	-0.3%	-60.4%
UNITED OVERSEAS BANK	-0.2%	-30.5%
WOOD GROUP (JOHN)	-0.2%	-63.4%
LLOYDS BANKING GROUP	-0.2%	-52.1%
HOUSING DEVELOPMENT FINANCE CORPORATION	-0.2%	-36.1%
CONTINENTAL	-0.2%	-45.6%
HARGREAVES LANSDOWN	-0.2%	-32.5%
HDFC BANK ADR 1:3	-0.2%	-39.3%
SAINT GOBAIN	-0.2%	-40.6%
WPP	-0.1%	-51.6%

Equity Sector Attribution											
	Total Effects	Selection Effect	Attribution Effects			Returns		Sector Weights			
			Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.9%	0.2%	-1.5%	0.5%	-45.1%	-59.3%	4.7%	1.3%			
Materials	-0.6%	-0.2%	-0.1%	-0.2%	-32.8%	-20.6%	3.8%	2.2%			
Industrials	-0.9%	0.0%	-0.7%	-0.2%	-25.5%	-24.5%	14.4%	7.7%			
Consumer Discretionary	-2.0%	-2.8%	-0.1%	0.9%	-30.0%	-11.7%	10.5%	15.9%			
Consumer Staples	-0.2%	-0.1%	0.1%	-0.2%	-14.9%	-9.5%	5.6%	2.8%			
Health Care	0.0%	0.0%	0.0%	-0.1%	-13.1%	-12.4%	11.4%	8.7%			
Financials	-3.3%	-0.5%	-0.6%	-2.2%	-32.2%	-17.5%	18.6%	3.9%			
Information Technology	-1.5%	-1.9%	-0.6%	1.0%	-15.9%	-10.7%	17.3%	38.4%			
Communication Services	-0.5%	-0.7%	0.0%	0.2%	-19.1%	-13.4%	7.8%	14.2%			
Utilities	0.0%	0.0%	-0.3%	0.3%	-13.9%	-30.9%	1.9%	0.0%			
Real Estate	-0.2%	-0.5%	0.0%	0.3%	-26.6%	-14.6%	2.1%	4.7%			
Cash	0.2%	0.0%	0.2%	0.0%	0.4%	--	1.8%	0.0%			
Portfolio	-9.9%	=	-6.5%	+	-3.6%	+	0.2%	-23.6%	-13.7%	100.0%	100.0%

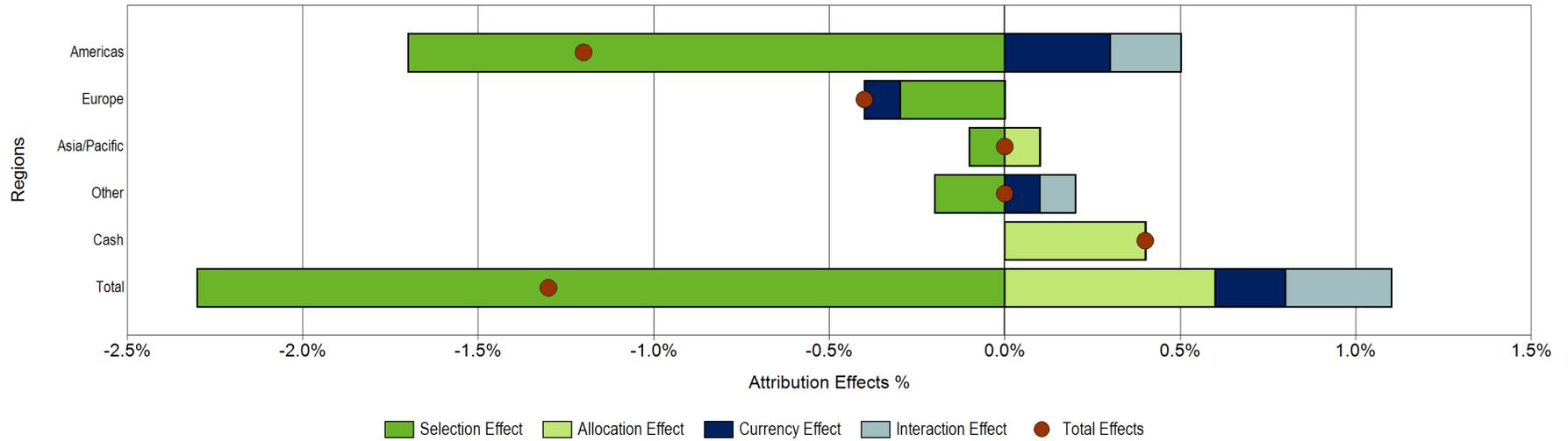
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



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
Totals									
Americas	-24.4%	-22.0%	52.3%	59.6%	-1.7%	0.0%	0.3%	0.2%	-1.2%
Europe	-27.1%	-25.2%	19.9%	19.1%	-0.3%	0.0%	-0.1%	0.0%	-0.4%
Asia/Pacific	-20.5%	-20.1%	25.6%	19.9%	-0.1%	0.1%	0.0%	0.0%	0.0%
Other	-42.9%	-30.3%	0.5%	1.4%	-0.2%	0.0%	0.1%	0.1%	0.0%
Cash	0.4%	--	1.8%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%
Total	-23.6%	-22.3%	100.0%	100.0%	-2.3%	0.6%	0.2%	0.3%	-1.3%
Totals									
Developed	-23.3%	-22.0%	85.1%	88.1%	-1.4%	0.0%	0.2%	0.0%	-1.1%
Emerging*	-28.5%	-24.6%	13.1%	11.9%	-0.5%	0.0%	0.0%	-0.1%	-0.6%
Cash	0.4%	--	1.8%	0.0%	0.0%	0.4%	0.0%	0.0%	0.4%



Howard County Retirement Plans

TOTAL EQUITY COMPOSITE

Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
Americas				
Brazil*	1.2%	0.9%	-50.7%	-50.6%
Canada	0.5%	3.0%	-22.2%	-28.7%
Chile*	0.1%	0.1%	-39.9%	-34.4%
Colombia*	0.0%	0.0%	-50.4%	-49.7%
Mexico*	0.2%	0.3%	-40.6%	-36.1%
United States	50.2%	55.2%	-23.7%	-21.0%
Total-Americas	52.3%	59.6%	-24.4%	-22.0%
Europe				
Czech Republic*	0.0%	0.0%	-27.4%	-37.5%
Denmark	0.3%	0.6%	-36.4%	-9.3%
Finland	0.3%	0.3%	-10.6%	-20.5%
France	1.5%	3.1%	-29.8%	-27.5%
Germany	3.2%	2.5%	-27.9%	-27.0%
Greece*	0.0%	0.0%	-58.3%	-42.8%
Hungary*	0.0%	0.0%	-36.4%	-38.7%
Ireland	0.3%	0.2%	-12.6%	-27.4%
Italy	0.7%	0.8%	-23.4%	-29.2%
Netherlands	0.7%	1.1%	-9.6%	-21.6%
Poland*	0.1%	0.1%	-41.6%	-36.0%
Portugal	0.3%	0.1%	9.6%	-19.2%
Russia*	0.9%	0.4%	-27.9%	-36.4%
Spain	0.9%	0.8%	-34.1%	-29.8%
Sweden	1.9%	1.0%	-16.1%	-22.6%
Switzerland	2.1%	2.6%	-17.4%	-11.7%
United Kingdom	6.7%	4.9%	-35.9%	-29.6%
Total-Europe	19.9%	19.1%	-27.1%	-25.2%

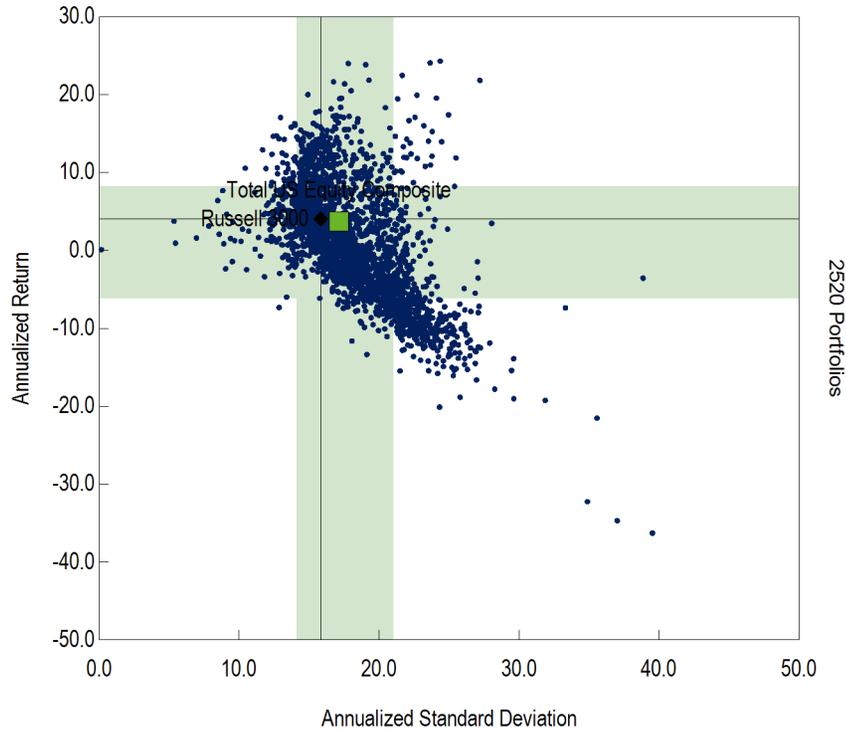
Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
Australia	1.1%	2.1%	-36.9%	-33.7%
China*	2.9%	3.7%	-10.4%	-10.6%
Hong Kong	4.1%	1.0%	-16.7%	-17.6%
India*	3.1%	1.1%	-32.8%	-31.8%
Indonesia*	0.8%	0.2%	-36.0%	-41.1%
Japan	8.3%	7.7%	-13.9%	-17.4%
Korea*	1.1%	1.5%	-32.9%	-22.6%
Malaysia*	0.2%	0.2%	-32.4%	-21.3%
New Zealand	0.2%	0.1%	-44.6%	-22.8%
Philippines*	0.1%	0.1%	-37.8%	-32.8%
Singapore	1.8%	0.4%	-23.4%	-28.2%
Taiwan*	1.6%	1.5%	-19.7%	-19.5%
Thailand*	0.4%	0.3%	-24.1%	-35.0%
Total-AsiaPacific	25.6%	19.9%	-20.5%	-20.1%
Other				
Israel	0.1%	0.2%	-7.5%	-20.5%
South Africa*	0.4%	0.6%	-51.8%	-40.8%
Turkey*	0.1%	0.1%	-32.9%	-29.6%
Total-Other	0.5%	1.4%	-42.9%	-30.3%
Totals				
Developed	85.1%	88.1%	-23.3%	-22.0%
Emerging*	13.1%	11.9%	-28.5%	-24.6%
Cash	1.8%		0.4%	

Country* = Emerging Markets



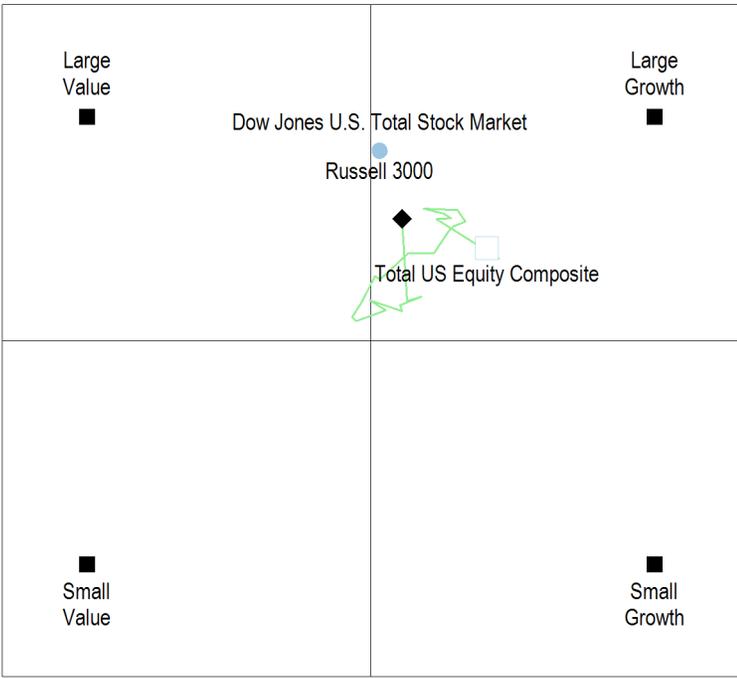
TOTAL US EQUITY COMPOSITE

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

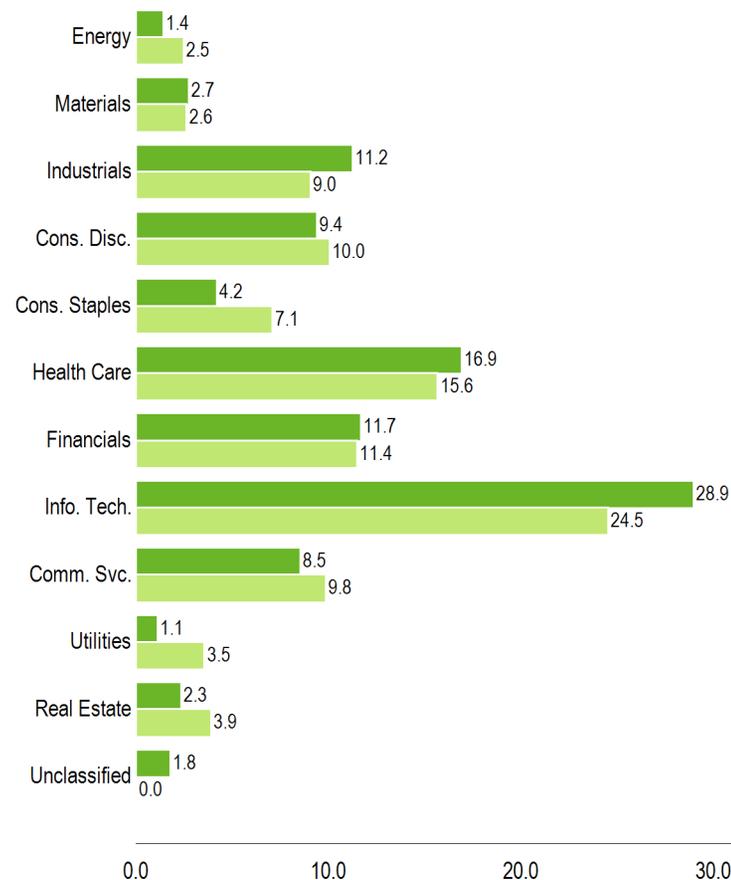


Howard County Retirement Plans

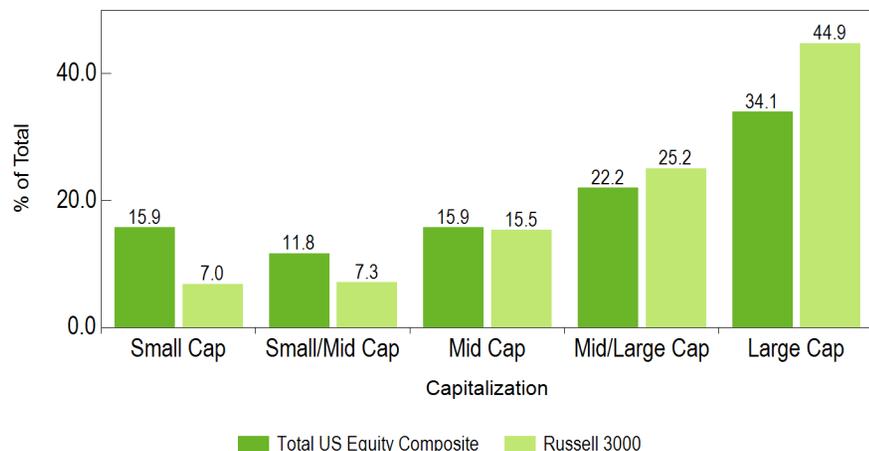
TOTAL US EQUITY COMPOSITE

Characteristics		Portfolio	Russell 3000
Number of Holdings		403	2,976
Weighted Avg. Market Cap. (\$B)		173.9	227.2
Median Market Cap. (\$B)		4.0	1.1
Price To Earnings		15.5	16.8
Price To Book		3.4	3.6
Price To Sales		2.0	2.5
Return on Equity (%)		21.1	21.9
Yield (%)		2.1	2.3
Beta		1.1	1.0
R-Squared		1.0	1.0

Equity Sector Allocation



Market Capitalization As of March 31, 2020



■ Total US Equity Composite ■ Russell 3000



Howard County Retirement Plans

TOTAL US EQUITY COMPOSITE

Top Ten Holdings	
APPLE	3.0%
AMAZON.COM	3.0%
MICROSOFT	3.0%
ALPHABET A	2.8%
FACEBOOK CLASS A	1.9%
CASH - USD	1.8%
VISA 'A'	1.6%
HUMANA	1.5%
BRISTOL MYERS SQUIBB	1.5%
SALESFORCE.COM	1.5%

Top Positive Contributors		
	Relative Contribution %	Return %
APPLE	0.3%	-13.2%
WELLS FARGO & CO	0.2%	-46.1%
WALT DISNEY	0.1%	-33.2%
COMCAST A	0.1%	-22.7%
AT&T	0.1%	-24.4%
QUIDEL	0.1%	30.4%
CHEVRON	0.1%	-39.2%
JOHNSON & JOHNSON	0.1%	-9.5%
STARBUCKS	0.1%	-24.9%
JP MORGAN CHASE & CO.	0.1%	-35.0%

Top Negative Contributors		
	Relative Contribution %	Return %
MARATHON PETROLEUM	-0.5%	-60.4%
CITIGROUP	-0.3%	-46.9%
TRANSNIGM GROUP	-0.3%	-42.8%
BOSTON SCIENTIFIC	-0.2%	-27.8%
APPLIED MATS.	-0.2%	-24.7%
EOG RES.	-0.2%	-57.0%
BROOKFIELD ASSET MAN.'A' (NYS)	-0.2%	-23.2%
UNITED AIRLINES HOLDINGS	-0.2%	-64.2%
KNOLL	-0.2%	-58.6%
CATERPILLAR	-0.2%	-20.9%

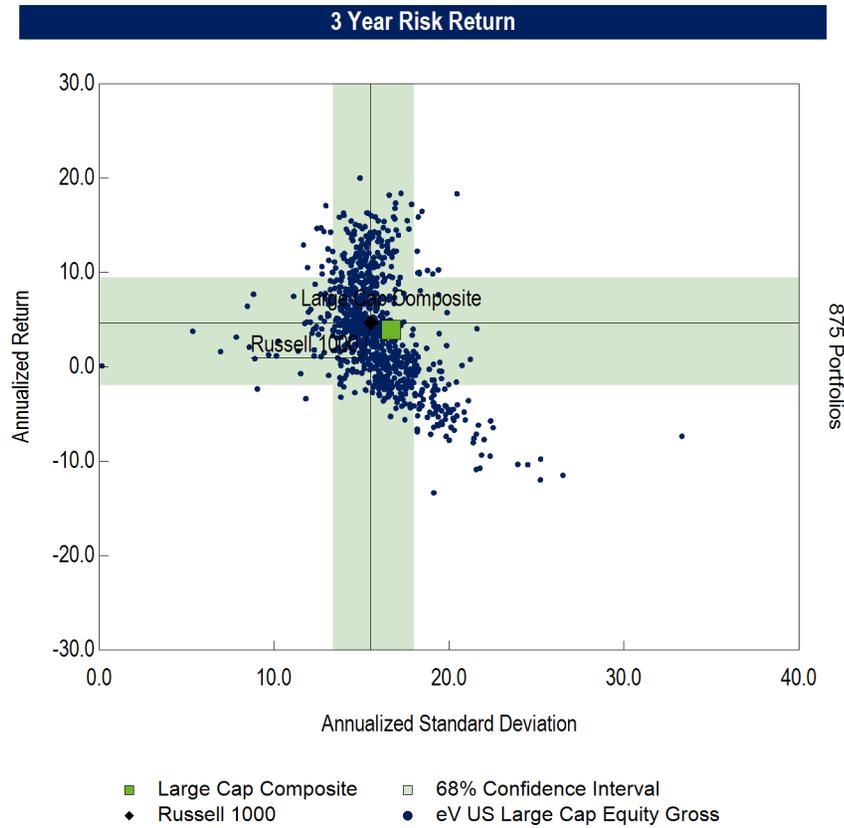
	Equity Sector Attribution								Returns		Sector Weights	
	Total Effects	Selection Effect	Attribution Effects		Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
			Allocation Effect									
Energy	0.1%	-0.1%	0.2%		0.0%	-53.8%	-51.9%	3.5%	4.1%			
Materials	-0.3%	-0.2%	0.0%		0.0%	-35.0%	-28.0%	3.4%	2.9%			
Industrials	-0.2%	0.0%	-0.2%		0.0%	-27.9%	-27.7%	13.1%	9.9%			
Consumer Discretionary	-0.7%	-0.8%	0.0%		0.1%	-29.5%	-21.5%	8.6%	10.1%			
Consumer Staples	-0.5%	-0.4%	-0.2%		0.1%	-16.7%	-11.2%	3.9%	6.5%			
Health Care	0.1%	0.1%	0.0%		0.0%	-12.5%	-13.0%	14.1%	14.1%			
Financials	-0.6%	-0.4%	-0.2%		0.0%	-35.7%	-32.7%	14.9%	13.5%			
Information Technology	-0.8%	-0.8%	0.1%		-0.1%	-16.6%	-12.8%	24.1%	22.5%			
Communication Services	0.1%	0.2%	0.0%		0.0%	-15.5%	-17.5%	8.0%	9.4%			
Utilities	-0.2%	-0.1%	-0.2%		0.1%	-16.5%	-13.2%	1.2%	3.2%			
Real Estate	-0.1%	-0.2%	0.0%		0.1%	-30.2%	-24.4%	2.8%	4.0%			
Cash	0.5%	0.0%	0.5%		0.0%	0.4%	--	2.4%	0.0%			
Portfolio	-2.6%	=	-2.8%	+	0.0%	+	0.2%	-23.3%	-20.7%	100.0%	100.0%	

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

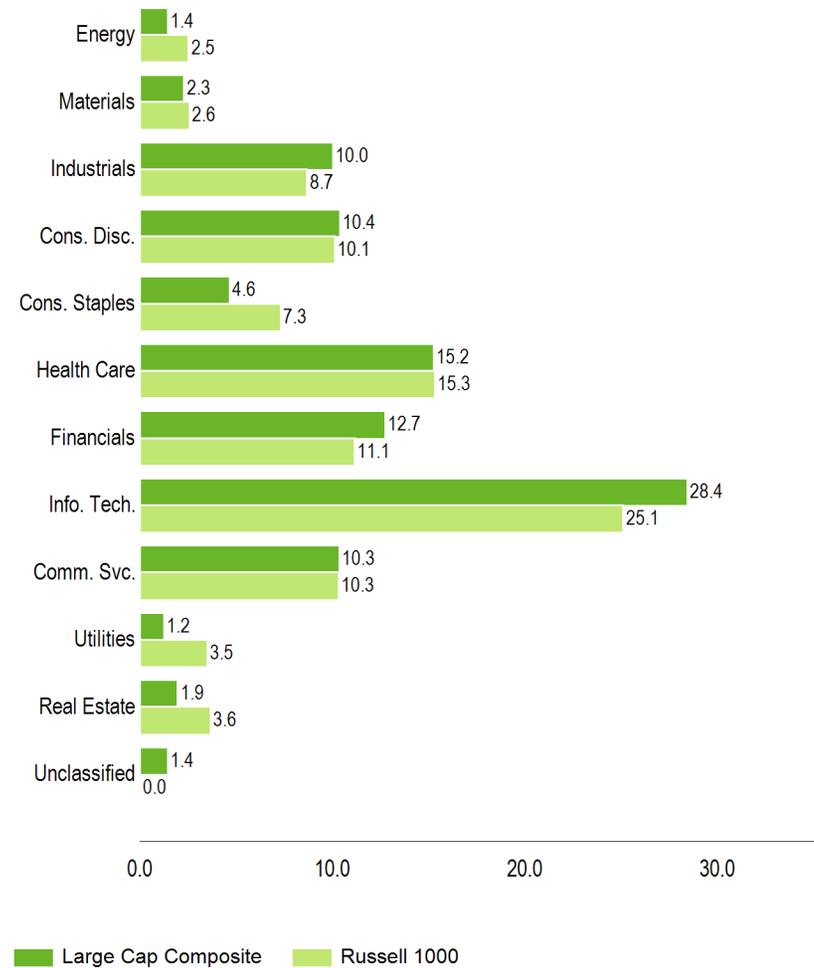


Howard County Retirement Plans

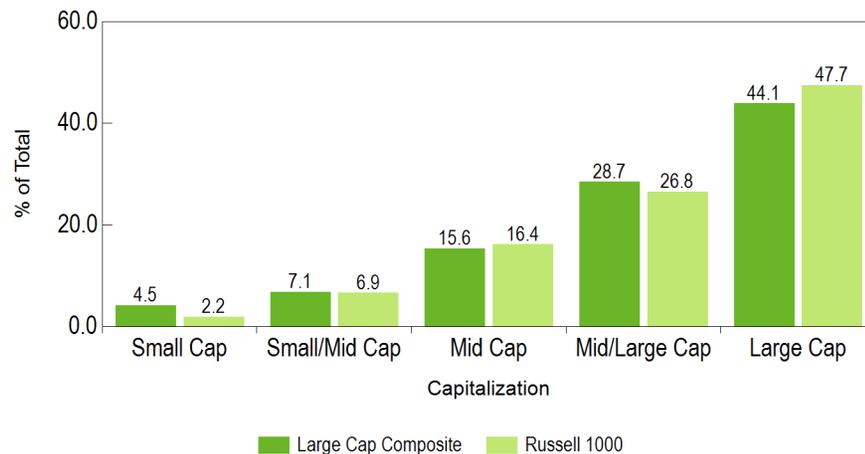
LARGE CAP COMPOSITE

Characteristics		
	Portfolio	Russell 1000
Number of Holdings	194	997
Weighted Avg. Market Cap. (\$B)	223.5	241.0
Median Market Cap. (\$B)	14.9	7.4
Price To Earnings	14.3	17.1
Price To Book	3.4	3.7
Price To Sales	1.9	2.7
Return on Equity (%)	24.3	25.1
Yield (%)	2.4	2.3
Beta	1.1	1.0
R-Squared	1.0	1.0

Equity Sector Allocation



Market Capitalization As of March 31, 2020



Howard County Retirement Plans

LARGE CAP COMPOSITE

Top Ten Holdings	
APPLE	3.9%
AMAZON.COM	3.9%
MICROSOFT	3.9%
ALPHABET A	3.6%
FACEBOOK CLASS A	2.4%
VISA 'A'	2.1%
HUMANA	2.0%
BRISTOL MYERS SQUIBB	2.0%
SALESFORCE.COM	2.0%
INTEL	2.0%

Top Positive Contributors		
	Relative Contribution %	Return %
WELLS FARGO & CO	0.2%	-46.1%
APPLE	0.2%	-13.2%
VERTEX PHARMS.	0.1%	8.7%
WALT DISNEY	0.1%	-33.2%
COMCAST A	0.1%	-22.7%
STARBUCKS	0.1%	-24.9%
JOHNSON & JOHNSON	0.1%	-9.5%
NIKE 'B'	0.1%	-18.1%
AT&T	0.1%	-24.4%
T-MOBILE US	0.1%	7.0%

Top Negative Contributors		
	Relative Contribution %	Return %
MARATHON PETROLEUM	-0.8%	-60.4%
CITIGROUP	-0.5%	-46.9%
TRANSDIGM GROUP	-0.4%	-42.8%
BOSTON SCIENTIFIC	-0.4%	-27.8%
EOG RES.	-0.3%	-57.0%
APPLIED MATS.	-0.3%	-24.7%
UNITED AIRLINES HOLDINGS	-0.3%	-64.2%
BROOKFIELD ASSET MAN.'A' (NYS)	-0.3%	-23.2%
ALPHABET A	-0.2%	-13.2%
CATERPILLAR	-0.2%	-20.9%

Equity Sector Attribution											
	Total Effects	Selection Effect	Attribution Effects		Returns		Sector Weights				
			Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.2%	-0.1%	-0.1%	0.0%	-53.5%	-51.3%	4.4%	4.1%			
Materials	-0.3%	-0.3%	0.0%	0.0%	-38.6%	-27.0%	2.7%	2.8%			
Industrials	-0.5%	-0.2%	-0.2%	-0.1%	-29.2%	-27.1%	12.3%	9.5%			
Consumer Discretionary	-0.4%	-0.5%	0.0%	0.1%	-24.8%	-19.8%	8.7%	10.0%			
Consumer Staples	-0.5%	-0.4%	-0.2%	0.1%	-17.1%	-10.8%	4.5%	6.7%			
Health Care	-0.2%	0.0%	-0.1%	0.0%	-12.8%	-12.5%	12.0%	13.8%			
Financials	-0.9%	-0.4%	-0.4%	-0.1%	-35.3%	-32.6%	16.7%	13.2%			
Information Technology	-0.3%	-0.2%	0.0%	0.0%	-13.3%	-12.2%	22.9%	23.1%			
Communication Services	0.2%	0.2%	0.0%	0.0%	-15.2%	-17.2%	10.4%	9.9%			
Utilities	-0.2%	-0.2%	-0.1%	0.1%	-19.7%	-13.2%	1.2%	3.2%			
Real Estate	-0.1%	-0.3%	0.0%	0.1%	-30.5%	-22.5%	2.0%	3.7%			
Cash	0.4%	0.0%	0.4%	0.0%	0.4%	--	2.1%	0.0%			
Portfolio	-2.9%	=	-2.5%	+	-0.7%	+	0.3%	-22.8%	-19.9%	100.0%	100.0%

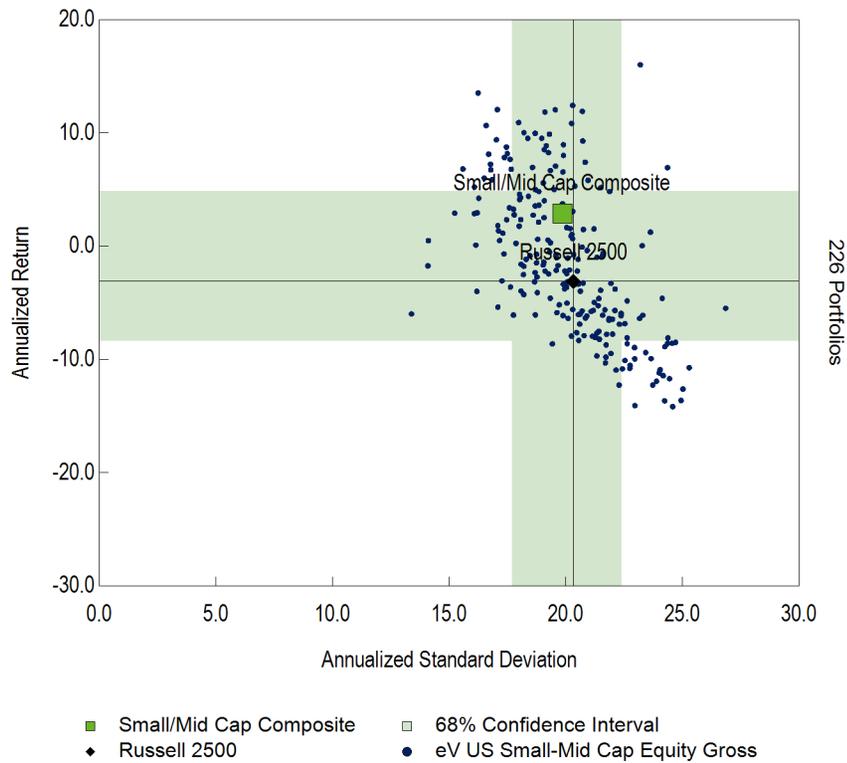
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



Howard County Retirement Plans

SMALL/MID CAP COMPOSITE

3 Year Risk Return



3 Year Style Analysis

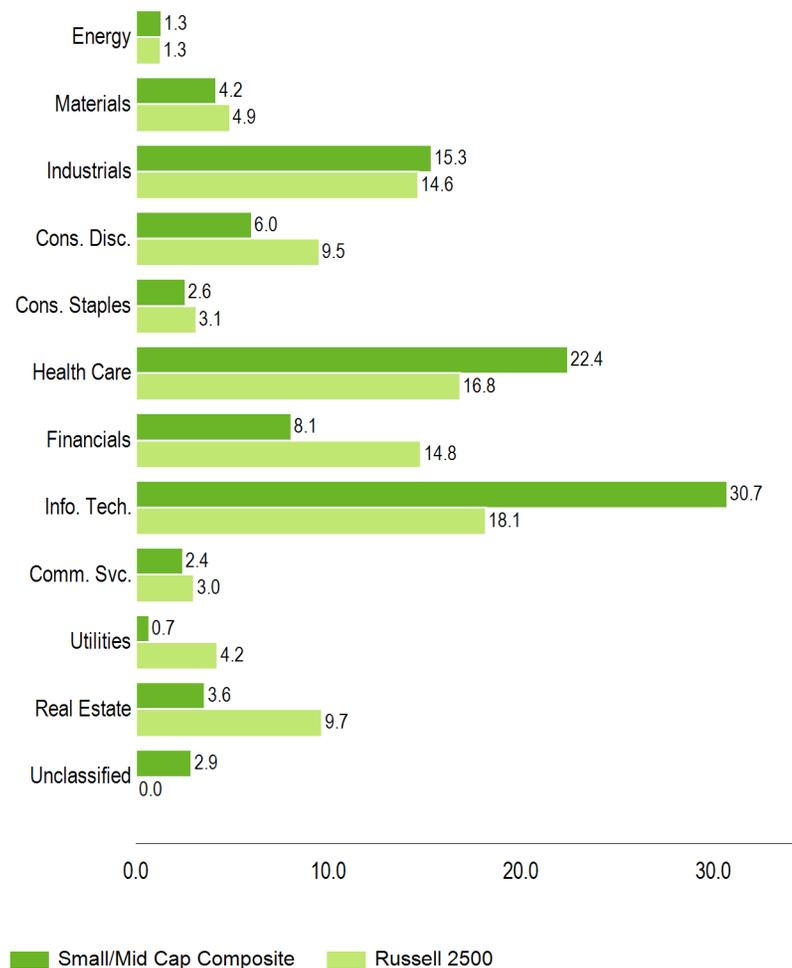


Howard County Retirement Plans

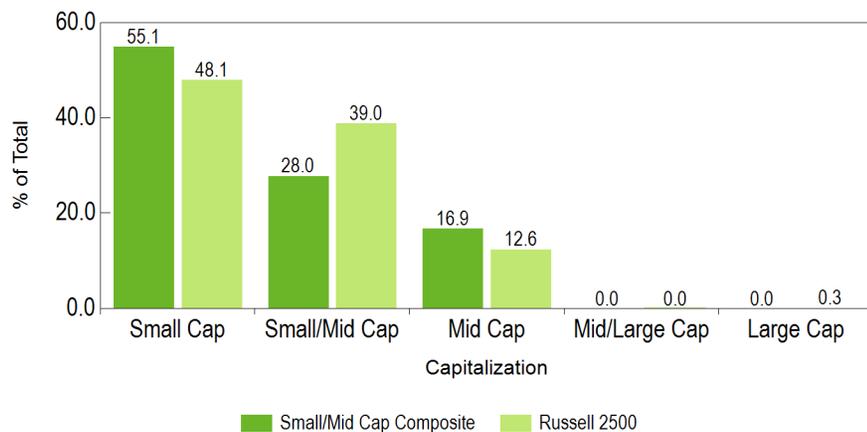
SMALL/MID CAP COMPOSITE

Characteristics		
	Portfolio	Russell 2500
Number of Holdings	211	2,484
Weighted Avg. Market Cap. (\$B)	4.7	4.7
Median Market Cap. (\$B)	1.8	0.7
Price To Earnings	20.8	13.9
Price To Book	3.4	2.7
Price To Sales	2.4	1.8
Return on Equity (%)	10.7	6.6
Yield (%)	1.0	2.2
Beta	0.9	1.0
R-Squared	0.9	1.0

Equity Sector Allocation



Market Capitalization As of March 31, 2020



Howard County Retirement Plans

SMALL/MID CAP COMPOSITE

Top Ten Holdings	
CASH - USD	2.9%
TYLER TECHNOLOGIES	2.0%
ALTERYX 'A'	1.9%
PAYCOM SOFTWARE	1.9%
VEEVA SYSTEMS CL.A	1.8%
COGNEX	1.6%
QUIDEL	1.5%
IRHYTHM TECHNOLOGIES	1.5%
NEOGEN	1.5%
MANHATTAN ASSOCS.	1.5%

Top Positive Contributors		
	Relative Contribution %	Return %
QUIDEL	0.3%	30.4%
IRHYTHM TECHNOLOGIES	0.2%	19.5%
VEEVA SYSTEMS CL.A	0.1%	11.2%
VIRTU FINANCIAL CL.A	0.1%	31.9%
BJAS WHOLESALE CLUB HOLDINGS	0.1%	12.0%
QTS REALTY TRUST CL.A	0.0%	8.0%
ZYNGA 'A'	0.0%	11.9%
CABLE ONE	0.0%	10.6%
AMEDISYS	0.0%	10.0%
HEALTHEQUITY	0.0%	-31.7%

Top Negative Contributors		
	Relative Contribution %	Return %
PROS HOLDINGS	-0.5%	-48.2%
MANHATTAN ASSOCS.	-0.5%	-37.5%
GLAUKOS	-0.4%	-43.3%
COGNEX	-0.4%	-24.6%
CANTEL MED.	-0.3%	-49.3%
EURONET WWD.	-0.3%	-45.6%
SABRE	-0.3%	-72.6%
ORION ENGINEERED CARBONS	-0.3%	-60.7%
GUIDEWIRE SOFTWARE	-0.3%	-27.7%
PAYCOM SOFTWARE	-0.3%	-23.7%

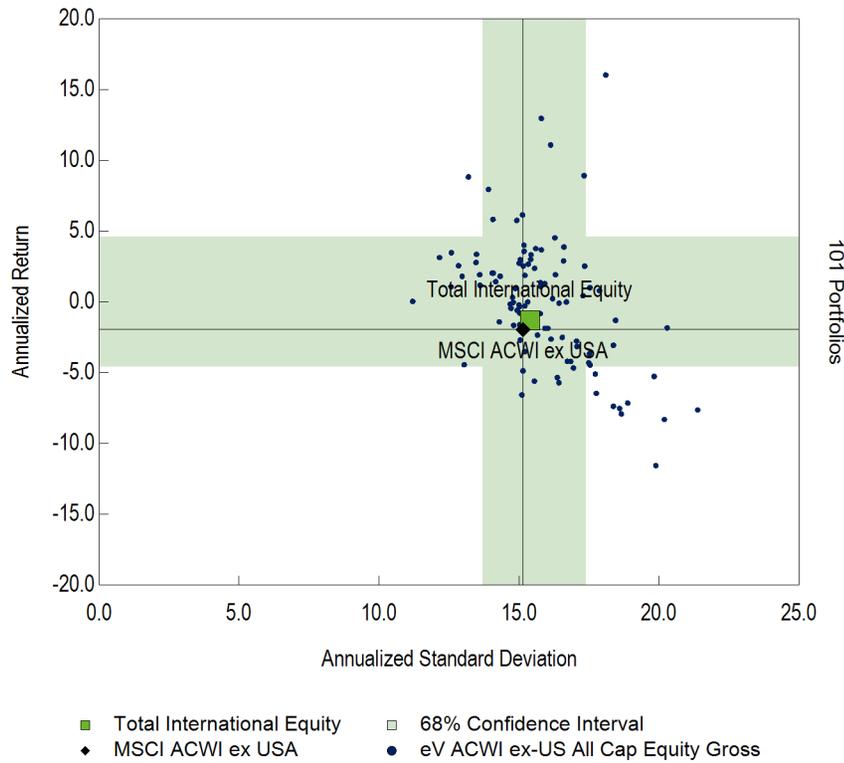
	Equity Sector Attribution										
	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	0.6%	0.3%	0.4%	-0.1%	-55.7%	-66.6%	1.6%	2.7%			
Materials	0.2%	0.1%	0.0%	0.0%	-30.1%	-33.0%	4.8%	5.1%			
Industrials	1.0%	1.0%	0.0%	0.0%	-25.4%	-32.1%	15.0%	15.1%			
Consumer Discretionary	0.3%	0.0%	0.3%	0.0%	-40.9%	-41.0%	8.5%	11.4%			
Consumer Staples	0.2%	0.3%	0.0%	-0.1%	-14.8%	-25.5%	2.3%	2.9%			
Health Care	1.4%	0.5%	0.8%	0.2%	-12.1%	-15.6%	19.1%	13.7%			
Financials	0.1%	-0.3%	0.3%	0.1%	-36.9%	-35.3%	10.7%	16.2%			
Information Technology	0.3%	-0.4%	0.9%	-0.2%	-23.2%	-20.9%	26.9%	16.1%			
Communication Services	0.3%	0.3%	0.0%	-0.1%	-18.1%	-29.4%	2.3%	3.0%			
Utilities	-0.2%	0.4%	-0.3%	-0.3%	-7.5%	-17.7%	1.0%	3.6%			
Real Estate	0.3%	0.3%	0.1%	-0.1%	-30.0%	-32.5%	4.8%	10.2%			
Cash	0.9%	0.0%	0.9%	0.0%	0.4%	--	2.9%	0.0%			
Portfolio	5.4%	=	2.5%	+	3.4%	+	-0.6%	-24.4%	-29.8%	100.0%	100.0%

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



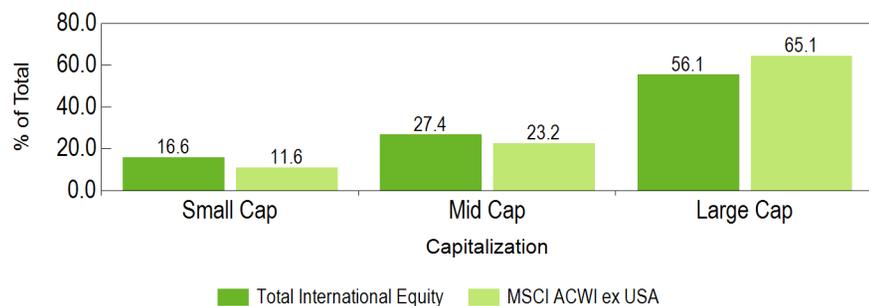
Howard County Retirement Plans

TOTAL INTERNATIONAL EQUITY

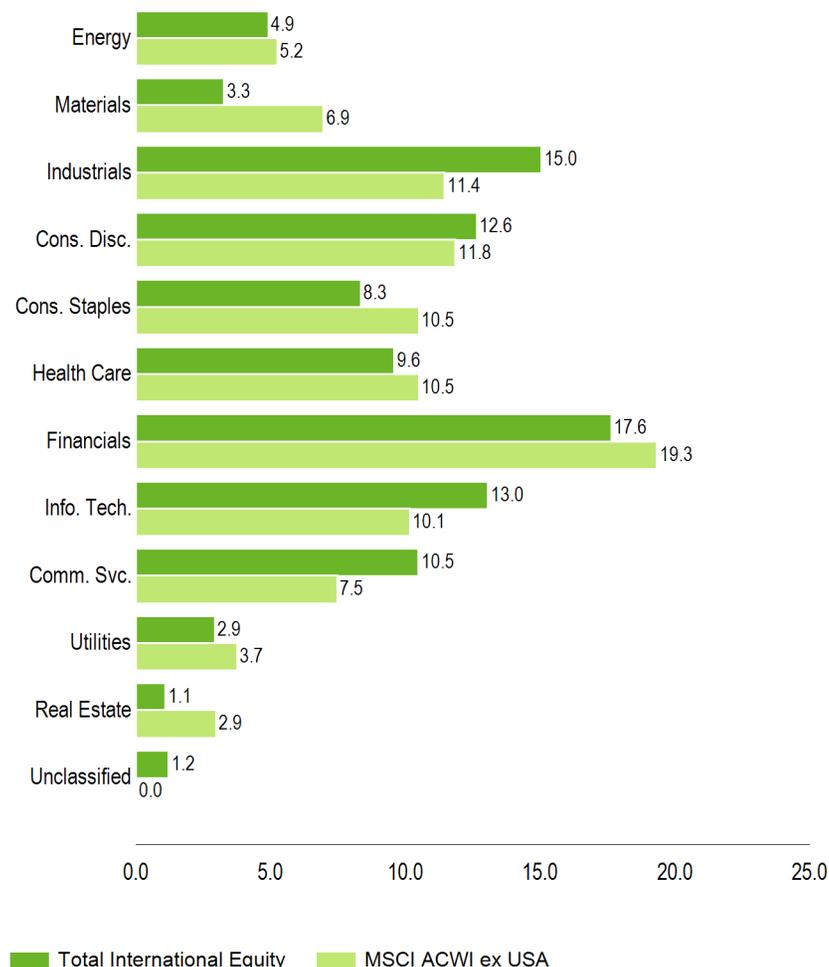
Characteristics		
	Portfolio	MSCI ACWI ex USA
Number of Holdings	2,552	2,404
Weighted Avg. Market Cap. (\$B)	53.1	69.2
Median Market Cap. (\$B)	0.3	5.9
Price To Earnings	13.4	13.1
Price To Book	2.7	2.5
Price To Sales	1.2	1.3
Return on Equity (%)	13.3	15.5
Yield (%)	3.3	3.8
Beta	1.0	1.0
R-Squared	1.0	1.0

	Portfolio Q1-20	Index Q1-20
Region Weighting		
Americas	7.04	9.19
Europe	38.63	42.03
Asia/Pacific	53.62	46.13
Other	0.71	2.65

Market Capitalization As of March 31, 2020



Equity Sector Allocation



Howard County Retirement Plans

TOTAL INTERNATIONAL EQUITY

Top Ten Holdings	
CHINA MOBILE	1.8%
ASML HOLDING	1.7%
UNITED OVERSEAS BANK	1.6%
TAIWAN SEMICON.MNFG.	1.5%
AIA GROUP	1.4%
ALIBABA GROUP HOLDING ADR 1:8	1.4%
TENCENT HOLDINGS	1.3%
METTLER TOLEDO INTL.	1.2%
CASH - USD	1.2%
FUJIFILM HOLDINGS	1.1%

Top Positive Contributors		
	Relative Contribution %	Return %
SAMSUNG ELECTRONICS	0.2%	-18.7%
TAIWAN SEMICON.MNFG.	0.1%	-17.1%
ICICI BANK	0.1%	-43.3%
JERONIMO MARTINS	0.1%	9.6%
UNILEVER	0.1%	-13.9%
PUBLIC JOINT STOCK POLYUS GDR	0.0%	20.3%
SARTORIUS SHS.PREF.	0.0%	10.9%
NVIDIA	0.0%	12.1%
FUJIFILM HOLDINGS	0.0%	5.6%
FIRSTRAND	0.0%	-49.8%

Top Negative Contributors		
	Relative Contribution %	Return %
UNITED OVERSEAS BANK	-0.5%	-30.5%
WOOD GROUP (JOHN)	-0.4%	-63.4%
CONTINENTAL	-0.4%	-45.6%
LLOYDS BANKING GROUP	-0.4%	-52.1%
HOUSING DEVELOPMENT FINANCE CORPORATION	-0.4%	-36.1%
HARGREAVES LANSDOWN	-0.3%	-32.5%
HDFC BANK ADR 1:3	-0.3%	-39.3%
SAINT GOBAIN	-0.3%	-40.6%
WPP	-0.3%	-51.6%
G4S	-0.3%	-60.4%

Equity Sector Attribution											
	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	-0.2%	0.0%	0.1%	-39.6%	-37.9%	6.0%	6.1%			
Materials	0.1%	-0.3%	0.1%	0.3%	-31.1%	-27.5%	4.3%	7.4%			
Industrials	0.2%	0.3%	-0.1%	0.0%	-23.5%	-26.2%	15.7%	12.0%			
Consumer Discretionary	-0.8%	-0.8%	0.0%	0.1%	-30.3%	-24.2%	12.5%	11.9%			
Consumer Staples	-0.1%	-0.1%	-0.2%	0.2%	-14.0%	-14.7%	7.4%	9.5%			
Health Care	-0.5%	-0.4%	0.0%	0.0%	-14.0%	-8.9%	8.6%	8.9%			
Financials	0.2%	0.2%	-0.1%	0.0%	-29.9%	-31.1%	22.5%	21.6%			
Information Technology	0.4%	0.2%	0.0%	0.1%	-14.0%	-17.7%	10.2%	9.4%			
Communication Services	-0.6%	-0.6%	0.1%	-0.1%	-23.0%	-14.1%	7.7%	6.7%			
Utilities	0.0%	0.1%	-0.1%	0.0%	-12.7%	-15.8%	2.6%	3.4%			
Real Estate	0.2%	0.2%	0.1%	-0.1%	-18.8%	-26.3%	1.4%	3.1%			
Cash	0.2%	0.0%	0.2%	0.0%	0.4%	--	1.1%	0.0%			
Portfolio	-0.7%	=	-1.4%	+	0.0%	+	0.7%	-23.9%	-23.2%	100.0%	100.0%

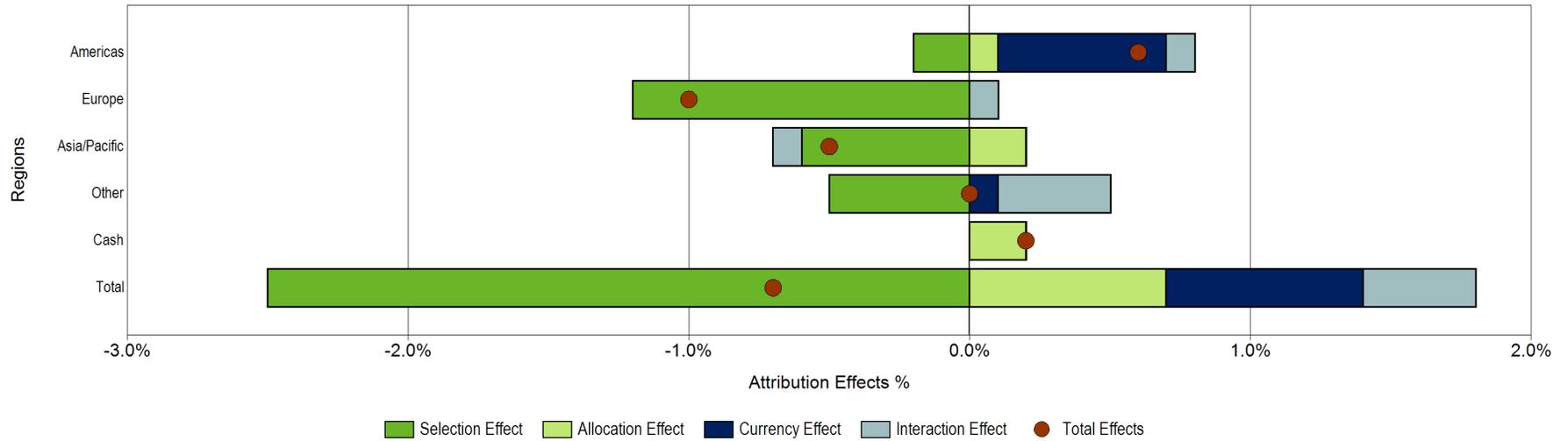
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Howard County Retirement Plans

TOTAL INTERNATIONAL EQUITY

Total International Equity Performance Attribution vs. MSCI ACWI ex USA



	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Totals									
Americas	-30.9%	-33.1%	6.3%	9.9%	-0.2%	0.1%	0.6%	0.1%	0.6%
Europe	-27.5%	-24.5%	39.6%	42.8%	-1.2%	0.0%	0.0%	0.1%	-1.0%
Asia/Pacific	-20.5%	-19.4%	52.1%	44.3%	-0.6%	0.2%	0.0%	-0.1%	-0.5%
Other	-49.7%	-30.0%	0.9%	3.0%	-0.5%	0.0%	0.1%	0.4%	0.0%
Cash	0.4%	--	1.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%
Total	-23.9%	-23.2%	100.0%	100.0%	-2.5%	0.7%	0.7%	0.4%	-0.7%
Totals									
Developed	-22.6%	-23.0%	72.1%	72.5%	-0.3%	0.0%	0.6%	0.0%	0.3%
Emerging*	-28.5%	-23.8%	26.8%	27.5%	-1.4%	0.0%	0.1%	0.0%	-1.2%
Cash	0.4%	--	1.1%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%



Howard County Retirement Plans

TOTAL INTERNATIONAL EQUITY

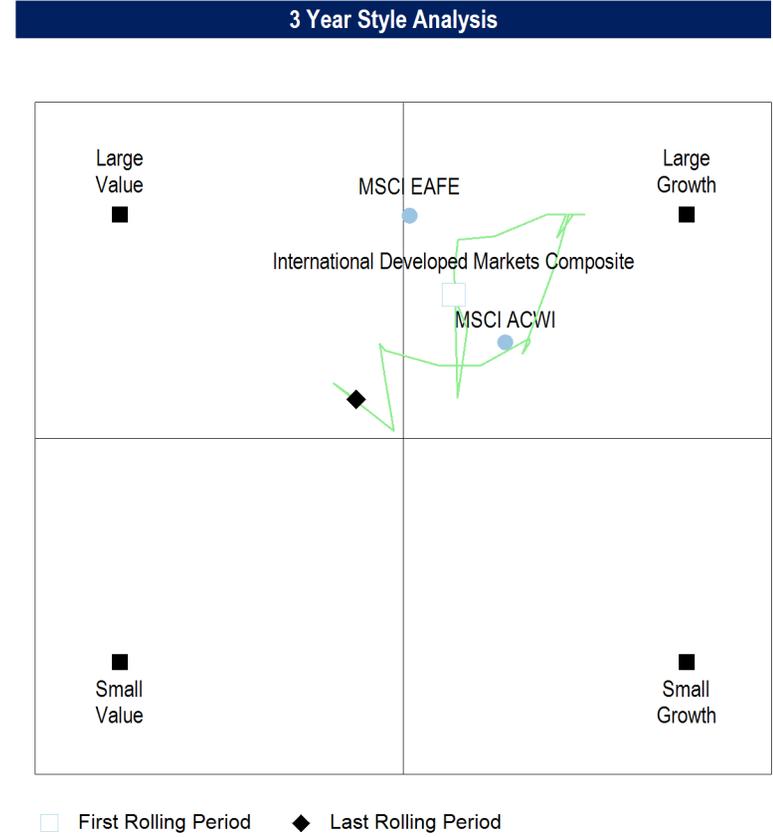
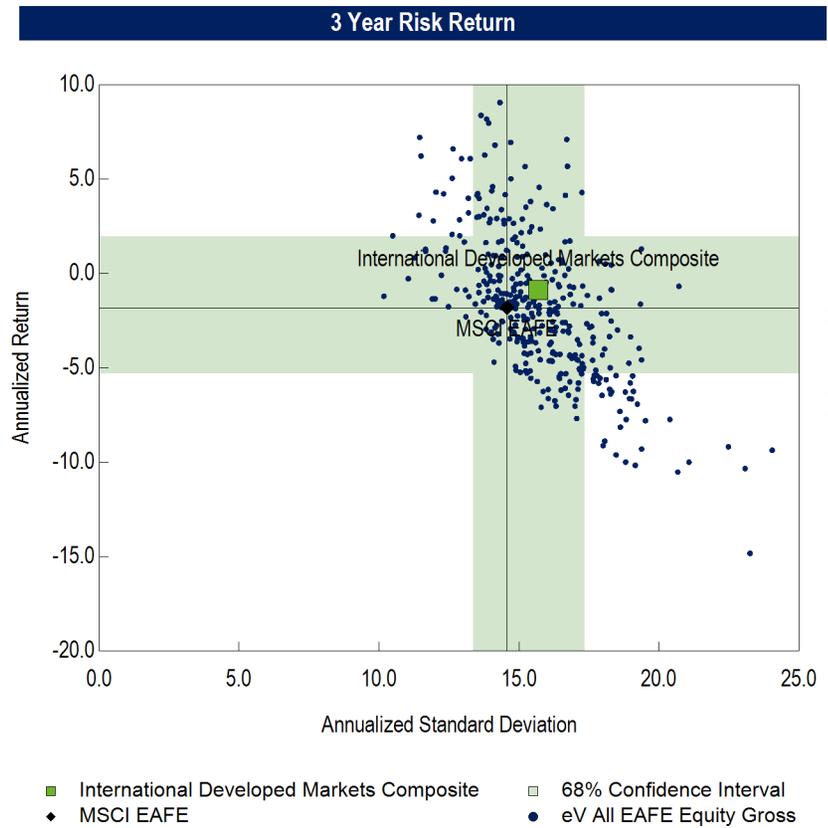
Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
Americas				
Brazil*	2.5%	2.1%	-50.7%	-50.0%
Chile*	0.2%	0.2%	-39.9%	-33.9%
Colombia*	0.0%	0.1%	-50.4%	-49.6%
Mexico*	0.4%	0.6%	-40.6%	-35.5%
United States	3.2%	0.0%	-13.7%	-19.8%
Total-Americas	6.3%	9.9%	-30.9%	-33.1%
Europe				
Czech Republic*	0.0%	0.0%	-27.4%	-38.5%
Denmark	0.6%	1.2%	-36.4%	-7.8%
Finland	0.6%	0.6%	-10.6%	-18.9%
France	3.0%	7.5%	-29.8%	-27.0%
Germany	6.5%	5.7%	-28.2%	-27.0%
Greece*	0.0%	0.1%	-58.3%	-45.1%
Hungary*	0.0%	0.1%	-36.4%	-39.0%
Ireland	0.6%	0.4%	-12.6%	-27.1%
Italy	1.5%	1.6%	-23.4%	-29.1%
Netherlands	1.5%	2.6%	-9.6%	-20.5%
Poland*	0.1%	0.2%	-41.6%	-36.5%
Portugal	0.6%	0.1%	9.6%	-13.1%
Russia*	1.8%	1.1%	-27.9%	-36.5%
Spain	1.8%	1.9%	-34.1%	-29.8%
Sweden	3.8%	1.8%	-16.1%	-21.3%
Switzerland	3.4%	6.2%	-19.1%	-11.1%
United Kingdom	13.6%	10.5%	-35.9%	-28.4%
Total-Europe	39.6%	42.8%	-27.5%	-24.5%

Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
Australia	2.2%	4.5%	-36.9%	-33.2%
China*	5.8%	9.2%	-10.4%	-10.5%
Hong Kong	8.3%	2.3%	-16.7%	-17.3%
India*	6.4%	2.4%	-32.8%	-31.2%
Indonesia*	1.7%	0.5%	-36.0%	-39.5%
Japan	16.8%	16.3%	-13.9%	-16.8%
Korea*	2.3%	3.3%	-32.9%	-22.6%
Malaysia*	0.4%	0.5%	-32.4%	-19.1%
New Zealand	0.5%	0.2%	-44.6%	-16.4%
Philippines*	0.2%	0.3%	-37.8%	-32.0%
Singapore	3.6%	0.9%	-23.4%	-28.2%
Taiwan*	3.2%	3.3%	-19.7%	-19.0%
Thailand*	0.9%	0.7%	-24.1%	-34.0%
Total-AsiaPacific	52.1%	44.3%	-20.5%	-19.4%
Other				
South Africa*	0.8%	1.3%	-51.8%	-39.6%
Turkey*	0.1%	0.1%	-32.9%	-30.0%
Total-Other	0.9%	3.0%	-49.7%	-30.0%
Totals				
Developed	72.1%	72.5%	-22.6%	-23.0%
Emerging*	26.8%	27.5%	-28.5%	-23.8%
Cash	1.1%		0.4%	

Country* = Emerging Markets



INTERNATIONAL DEVELOPED MARKETS COMPOSITE



Howard County Retirement Plans

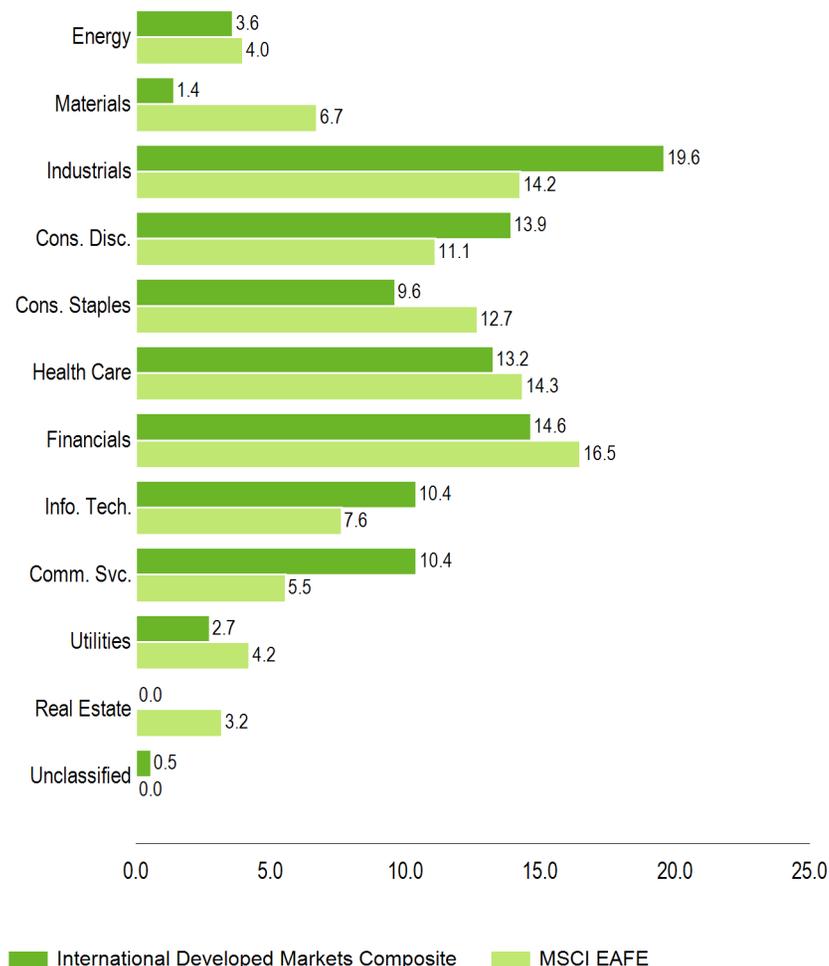
INTERNATIONAL DEVELOPED MARKETS COMPOSITE

Characteristics		
	Portfolio	MSCI EAFE
Number of Holdings	113	918
Weighted Avg. Market Cap. (\$B)	34.6	55.6
Median Market Cap. (\$B)	15.4	8.2
Price To Earnings	15.2	13.9
Price To Book	2.7	2.5
Price To Sales	1.2	1.2
Return on Equity (%)	16.6	14.5
Yield (%)	3.3	3.9
Beta	1.1	1.0
R-Squared	1.0	1.0

	Portfolio Q1-20	Index Q1-20
Region Weighting		
Americas	3.13	0.52
Europe	53.70	61.71
Asia/Pacific	43.18	37.35
Other	--	0.42



Equity Sector Allocation



Howard County Retirement Plans

INTERNATIONAL DEVELOPED MARKETS COMPOSITE

Top Ten Holdings	
UNITED OVERSEAS BANK	2.4%
AIA GROUP	1.9%
METTLER TOLEDO INTL.	1.8%
ASML HOLDING	1.7%
FUJIFILM HOLDINGS	1.6%
SSE	1.6%
OLYMPUS	1.5%
SMC	1.5%
SANOFI	1.5%
KYOCERA	1.4%

Top Positive Contributors		
	Relative Contribution %	Return %
JERONIMO MARTINS	0.1%	9.6%
SARTORIUS SHS.PREF.	0.1%	10.9%
FUJIFILM HOLDINGS	0.1%	5.6%
CK HUTCHISON HOLDINGS	0.1%	-29.2%
NOVARTIS 'R'	0.0%	-9.9%
SYSTEMEX	0.0%	6.5%
PROSUS ORD	0.0%	-7.2%
PIGEON	0.0%	3.9%
TOYOTA INDS.	0.0%	-16.4%
WH GROUP	0.0%	-9.5%

Top Negative Contributors		
	Relative Contribution %	Return %
UNITED OVERSEAS BANK	-0.7%	-30.5%
WOOD GROUP (JOHN)	-0.6%	-63.4%
LLOYDS BANKING GROUP	-0.5%	-52.1%
HARGREAVES LANSDOWN	-0.5%	-32.5%
CONTINENTAL	-0.5%	-45.6%
SAINT GOBAIN	-0.5%	-40.6%
WPP	-0.4%	-51.6%
G4S	-0.4%	-60.4%
CK HUTCHISON (HSC) HOLDINGS	-0.4%	-29.2%
ASOS	-0.4%	-66.8%

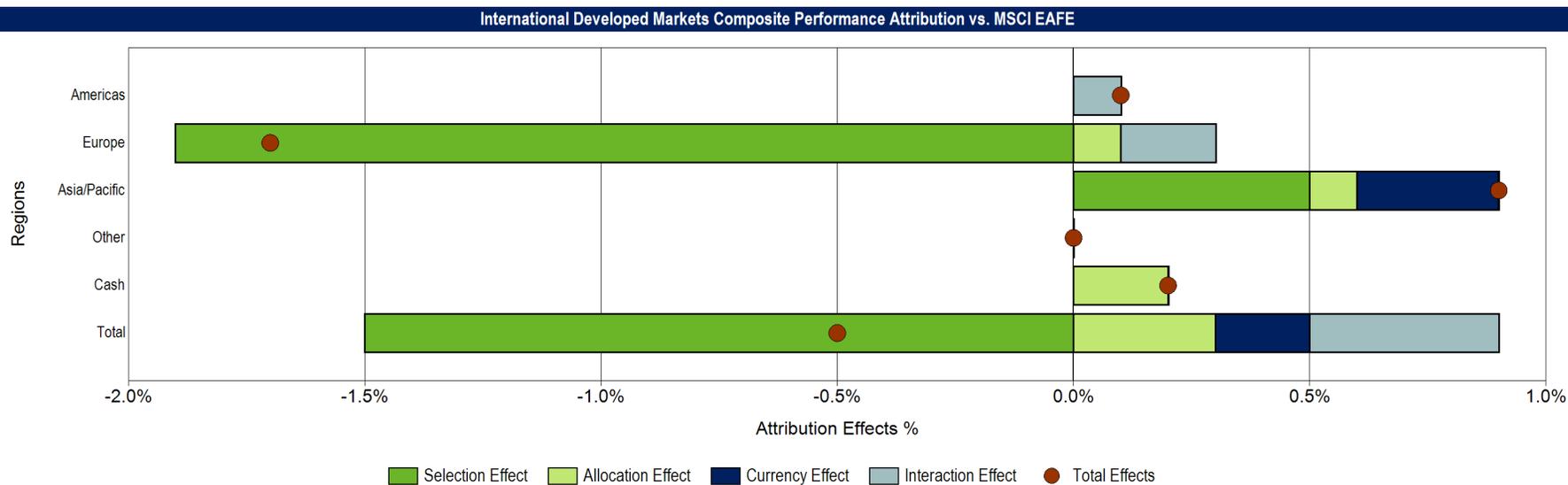
Equity Sector Attribution											
	Attribution Effects				Returns		Sector Weights				
	Total Effects	Selection Effect	Allocation Effect	Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark			
Energy	-0.1%	-0.3%	0.1%	0.1%	-42.1%	-35.0%	3.1%	4.2%			
Materials	0.2%	-0.6%	0.2%	0.6%	-35.3%	-26.9%	1.9%	7.2%			
Industrials	0.3%	0.5%	-0.2%	0.0%	-23.4%	-26.4%	20.4%	15.1%			
Consumer Discretionary	-1.1%	-0.7%	-0.2%	-0.2%	-32.8%	-26.9%	15.1%	11.7%			
Consumer Staples	-0.1%	0.1%	-0.3%	0.1%	-11.7%	-13.5%	8.1%	11.4%			
Health Care	-0.7%	-0.7%	0.0%	0.0%	-14.2%	-8.5%	12.0%	12.3%			
Financials	0.6%	0.3%	0.2%	0.1%	-29.6%	-31.8%	16.4%	18.7%			
Information Technology	0.6%	0.4%	0.1%	0.1%	-12.4%	-17.8%	9.3%	7.2%			
Communication Services	-0.5%	-0.3%	0.2%	-0.4%	-24.5%	-18.0%	9.8%	5.3%			
Utilities	0.0%	0.1%	-0.1%	-0.1%	-11.8%	-13.1%	2.9%	3.8%			
Real Estate	0.2%	--	0.1%	--	--	-25.6%	0.0%	3.3%			
Cash	0.2%	0.0%	0.2%	0.0%	0.4%	--	1.0%	0.0%			
Portfolio	-0.5%	=	-1.2%	+	0.2%	+	0.5%	-23.1%	-22.6%	100.0%	100.0%

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



	Returns and Weights				Attribution Effects				
	Manager Return	Index Return	Manager Weight	Index Weight	Selection Effect	Allocation Effect	Currency Effect	Interaction Effect	Total Effects
Totals									
Americas	-14.9%	--	2.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Europe	-27.5%	-24.0%	56.2%	62.7%	-1.9%	0.1%	0.0%	0.2%	-1.7%
Asia/Pacific	-18.2%	-20.3%	40.5%	36.7%	0.5%	0.1%	0.3%	0.0%	0.9%
Other	--	-18.0%	0.0%	0.6%	--	0.0%	0.0%	--	0.0%
Cash	0.4%	--	1.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%
Total	-23.1%	-22.6%	100.0%	100.0%	-1.5%	0.3%	0.2%	0.4%	-0.5%
Totals									
Developed	-23.4%	-22.6%	98.1%	100.0%	-1.0%	0.0%	0.3%	0.0%	-0.7%
Emerging*	-17.1%	--	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Cash	0.4%	--	1.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.2%



Howard County Retirement Plans

INTERNATIONAL DEVELOPED MARKETS COMPOSITE

Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
Americas				
United States	2.4%	0.0%	-14.9%	-19.8%
Total-Americas	2.4%	0.0%	-14.9%	--
Europe				
Denmark	0.9%	1.9%	-36.4%	-7.8%
Finland	0.9%	1.0%	-10.6%	-18.9%
France	4.6%	11.4%	-29.8%	-27.0%
Germany	9.9%	8.7%	-28.2%	-27.2%
Ireland	1.0%	0.6%	-12.6%	-27.1%
Italy	2.2%	2.4%	-23.4%	-29.1%
Netherlands	1.8%	4.0%	-9.5%	-20.5%
Portugal	1.0%	0.2%	9.6%	-13.1%
Spain	2.7%	2.9%	-34.1%	-29.8%
Sweden	5.8%	2.7%	-16.1%	-21.3%
Switzerland	5.2%	9.4%	-19.1%	-11.1%
United Kingdom	20.2%	15.9%	-36.0%	-28.4%
Total-Europe	56.2%	62.7%	-27.5%	-24.0%

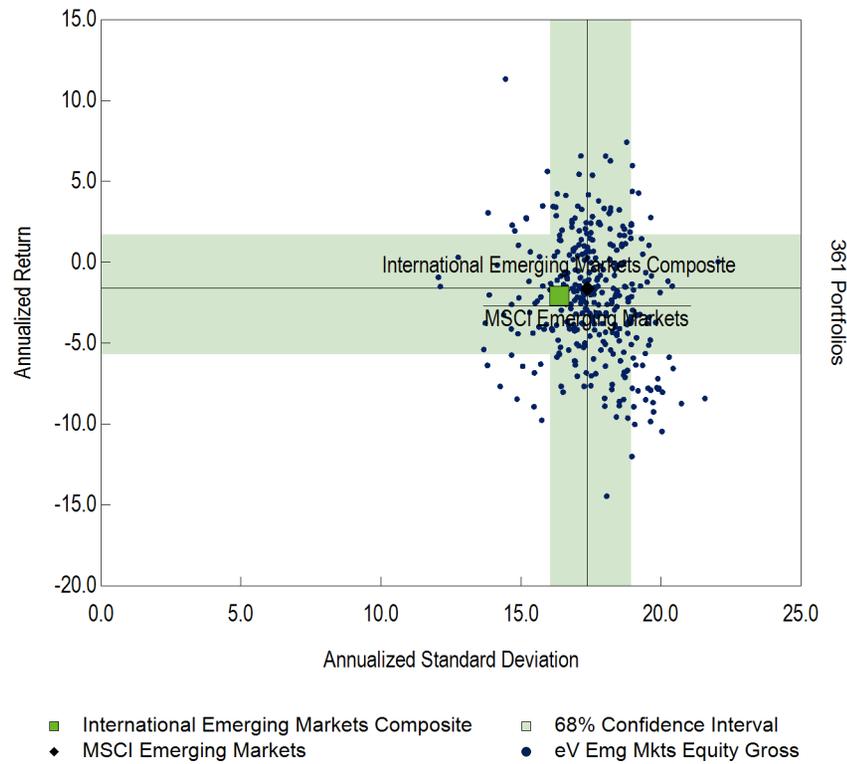
Country Allocation				
	Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
AsiaPacific				
Australia	3.3%	6.9%	-36.9%	-33.2%
Hong Kong	5.7%	3.5%	-17.2%	-17.3%
Japan	25.6%	24.7%	-13.9%	-16.8%
New Zealand	0.7%	0.3%	-44.6%	-16.4%
Singapore	4.4%	1.3%	-26.1%	-28.2%
Taiwan*	0.9%	0.0%	-17.1%	-19.0%
Total-AsiaPacific	40.5%	36.7%	-18.2%	-20.3%
Totals				
Developed	98.1%	100.0%	-23.4%	-22.6%
Emerging*	0.9%	0.0%	-17.1%	--
Cash	1.0%		0.4%	

Country* = Emerging Markets

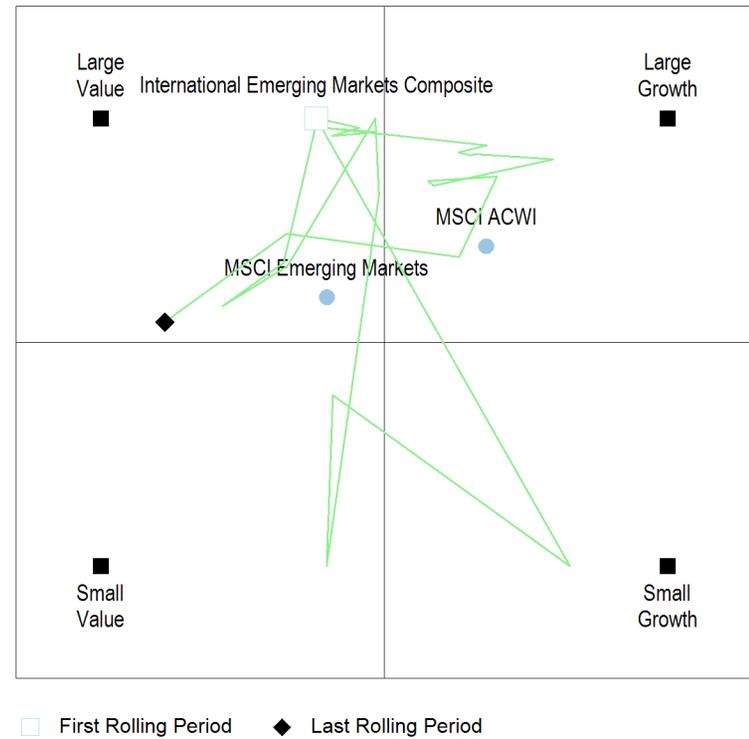


INTERNATIONAL EMERGING MARKETS COMPOSITE

3 Year Risk Return



3 Year Style Analysis



Howard County Retirement Plans

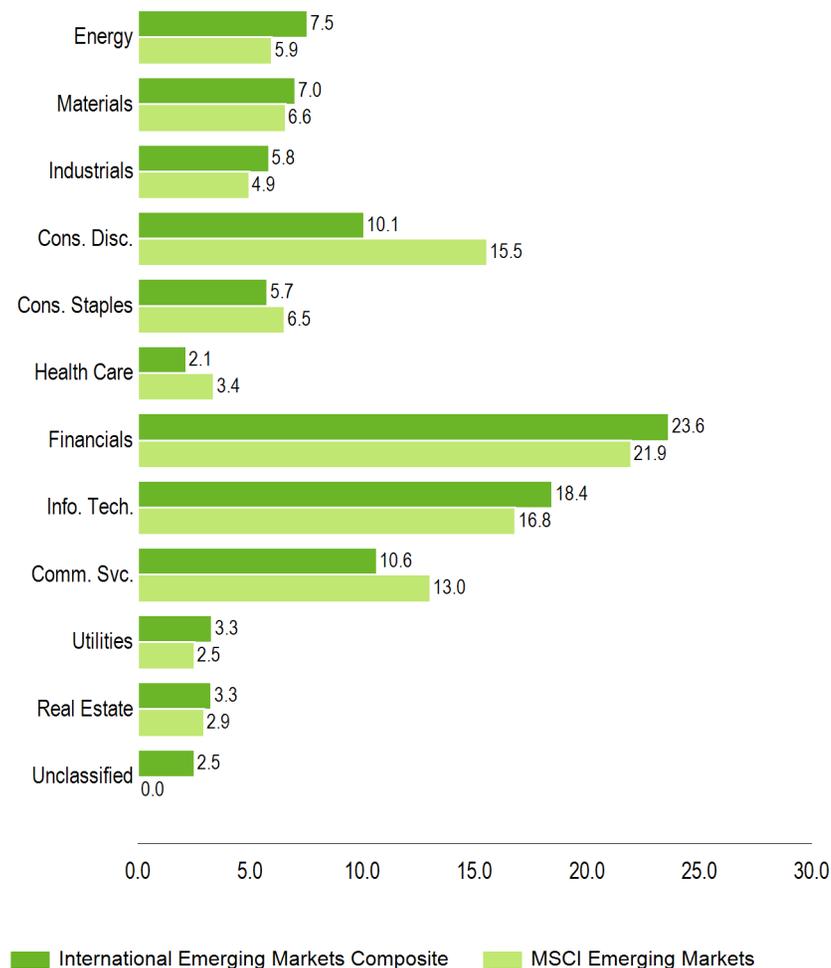
INTERNATIONAL EMERGING MARKETS COMPOSITE

Characteristics		
	Portfolio	MSCI Emerging Markets
Number of Holdings	2,444	1,397
Weighted Avg. Market Cap. (\$B)	91.4	109.8
Median Market Cap. (\$B)	0.3	4.4
Price To Earnings	11.5	12.2
Price To Book	2.5	2.6
Price To Sales	1.2	1.5
Return on Equity (%)	13.5	17.6
Yield (%)	3.3	3.4
Beta	0.9	1.0
R-Squared	0.9	1.0

	Portfolio Q1-20	Index Q1-20
Region Weighting		
Americas	14.93	9.16
Europe	8.24	4.68
Asia/Pacific	74.69	77.58
Other	2.14	8.58



Equity Sector Allocation



Howard County Retirement Plans

INTERNATIONAL EMERGING MARKETS COMPOSITE

Characteristics	MSCI Emerging Markets	
	Portfolio	MSCI Emerging Markets
Number of Holdings	2,444	1,397
Weighted Avg. Market Cap. (\$B)	91.4	109.8
Median Market Cap. (\$B)	0.3	4.4
Price To Earnings	11.5	12.2
Price To Book	2.5	2.6
Price To Sales	1.2	1.5
Return on Equity (%)	13.5	17.6
Yield (%)	3.3	3.4
Beta	0.9	1.0
R-Squared	0.9	1.0

Top Positive Contributors	Relative	
	Contribution %	Return %
SAMSUNG ELECTRONICS	0.7%	-18.7%
TAIWAN SEMICON.MNFG.	0.6%	-17.1%
ICICI BANK	0.2%	-43.3%
ALIBABA GROUP HOLDING ADR 1:8	0.2%	-8.3%
PUBLIC JOINT STOCK POLYUS GDR	0.1%	20.3%
NVIDIA	0.1%	12.1%
FIRSTRAND	0.1%	-49.8%
BAIDU 'A' ADR 10:1	0.1%	-20.3%
PETROLEO BRASILEIRO ON	0.1%	-65.7%
BANCO BRADESCO ON	0.1%	-57.0%

Top Negative Contributors	Relative	
	Contribution %	Return %
HOUSING DEVELOPMENT FINANCE CORPORATION	-1.0%	-36.1%
HDFC BANK ADR 1:3	-1.0%	-39.3%
BANCO BRADESCO PN	-0.7%	-55.3%
BANK CENTRAL ASIA	-0.7%	-29.7%
RELIANCE INDUSTRIES	-0.7%	-30.6%
VALE ON ADR 1:1	-0.5%	-37.2%
CNOOC (SZS)	-0.5%	-36.9%
BANK RAKYAT INDONESIA	-0.4%	-39.2%
AIA GROUP	-0.4%	-13.8%
KOTAK MAHINDRA BANK	-0.3%	-27.4%

	Equity Sector Attribution								Returns		Sector Weights	
	Total Effects	Selection Effect	Attribution Effects			Interaction Effects	Portfolio	Benchmark	Portfolio	Benchmark		
			Allocation Effect									
Energy	-0.7%	-0.1%	-0.5%		0.0%	-38.3%	-39.6%	11.4%	7.5%			
Materials	-0.1%	-0.2%	-0.1%		0.2%	-29.4%	-30.5%	8.9%	7.4%			
Industrials	0.2%	0.2%	-0.1%		0.0%	-23.9%	-28.4%	6.7%	5.3%			
Consumer Discretionary	-0.3%	-0.7%	-0.3%		0.7%	-20.6%	-18.0%	7.6%	14.3%			
Consumer Staples	0.0%	-0.3%	0.0%		0.3%	-20.0%	-19.7%	5.9%	6.1%			
Health Care	-0.1%	0.0%	-0.1%		0.0%	-10.9%	-8.6%	2.1%	2.7%			
Financials	-0.8%	0.3%	-0.7%		-0.3%	-30.1%	-31.2%	34.3%	24.5%			
Information Technology	0.2%	0.1%	-0.1%		0.2%	-16.6%	-18.3%	11.8%	15.5%			
Communication Services	-0.9%	-0.6%	-0.9%		0.6%	-14.7%	-9.7%	3.5%	11.0%			
Utilities	0.3%	0.2%	0.0%		0.1%	-14.9%	-26.1%	2.2%	2.6%			
Real Estate	0.3%	0.2%	-0.1%		0.1%	-18.8%	-26.9%	4.0%	3.0%			
Cash	0.3%	0.0%	0.3%		0.0%	0.4%	--	1.4%	0.0%			
Portfolio	-1.7%	=	-1.0%	+	-2.6%	+	1.9%	-25.5%	-23.8%	100.0%	100.0%	

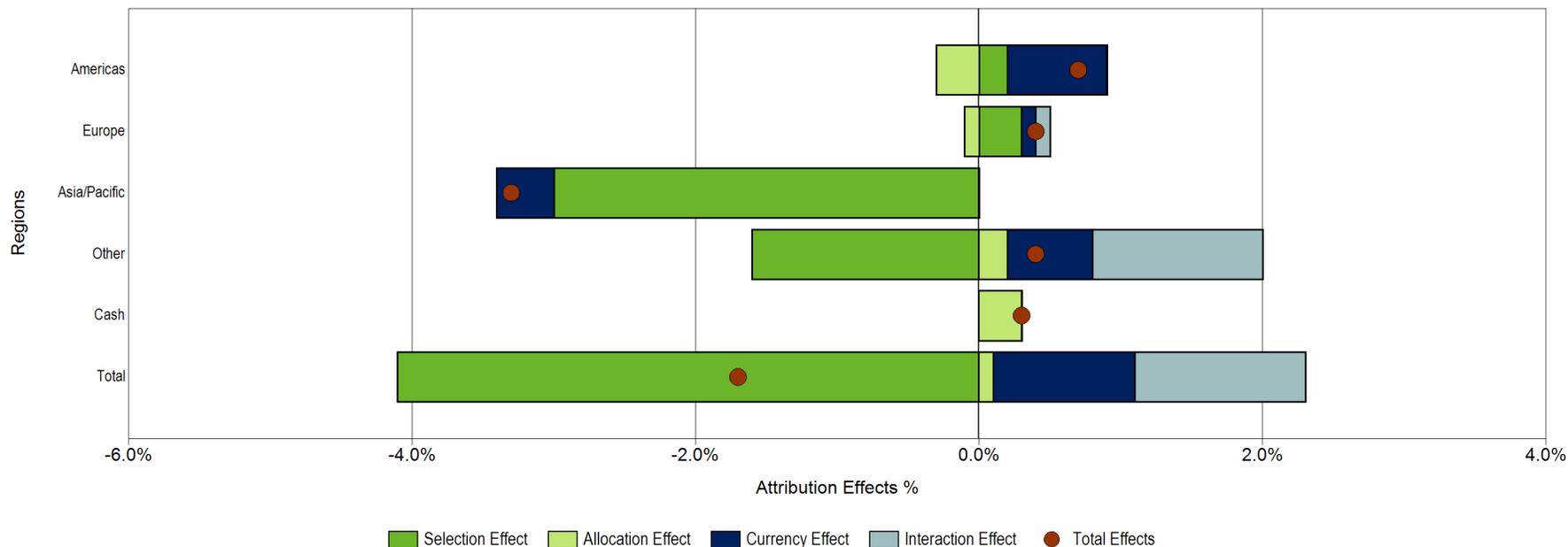
Attribution on manager pages is holdings based, using buy-and-hold assumptions from the beginning of the period portfolio. Results may differ from the flash report.



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
Totals									
Americas	-36.2%	-45.4%	13.8%	11.4%	0.2%	-0.3%	0.7%	0.0%	0.7%
Europe	-27.7%	-37.2%	7.4%	5.5%	0.3%	-0.1%	0.1%	0.1%	0.4%
Asia/Pacific	-22.8%	-18.4%	74.6%	73.4%	-3.0%	0.0%	-0.4%	0.0%	-3.3%
Other	-49.7%	-31.7%	2.7%	9.6%	-1.6%	0.2%	0.6%	1.2%	0.4%
Cash	0.4%	--	1.4%	0.0%	0.0%	0.3%	0.0%	0.0%	0.3%
Total	-25.5%	-23.8%	100.0%	100.0%	-4.1%	0.1%	1.0%	1.2%	-1.7%
Totals									
Developed	-15.5%	--	21.8%	0.0%	0.0%	0.0%	-0.1%	1.0%	0.9%
Emerging*	-28.8%	-23.8%	76.8%	100.0%	-5.1%	0.0%	1.2%	1.2%	-2.8%
Cash	0.4%	--	1.4%	0.0%	0.0%	0.3%	0.0%	0.0%	0.3%



Howard County Retirement Plans

INTERNATIONAL EMERGING MARKETS COMPOSITE

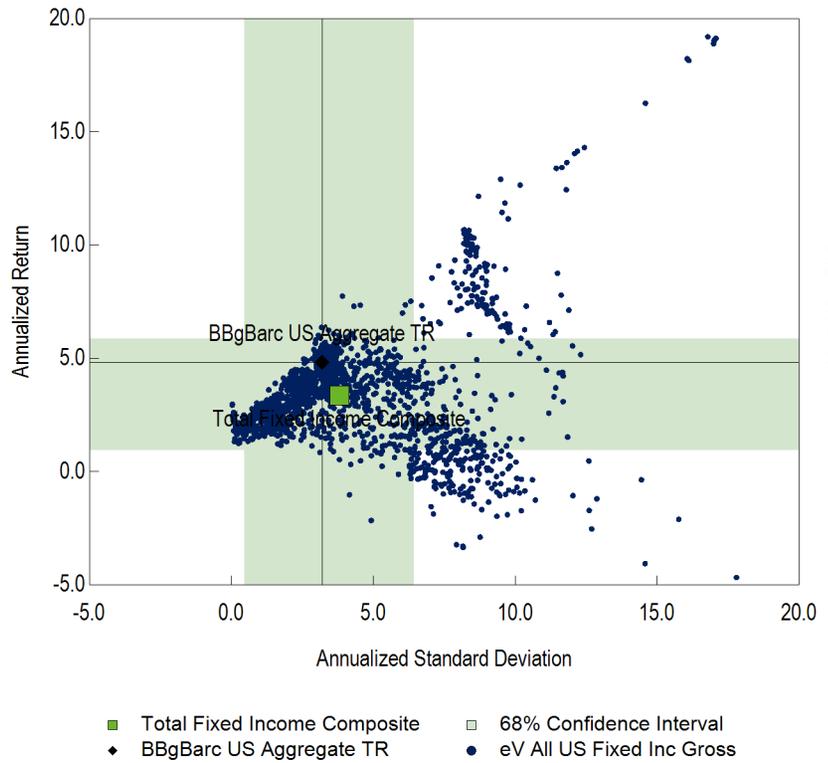
Country Allocation					Country Allocation				
	Manager	Index	Manager	Index		Manager	Index	Manager	Index
	Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)		Allocation (USD)	Allocation (USD)	Return (USD)	Return (USD)
Americas					AsiaPacific				
Brazil*	7.3%	7.5%	-50.7%	-50.0%	China*	17.0%	33.6%	-10.4%	-10.5%
Chile*	0.5%	0.8%	-39.9%	-33.9%	Hong Kong	13.2%	0.0%	-16.3%	-17.3%
Colombia*	0.1%	0.4%	-50.4%	-49.6%	India*	18.8%	8.7%	-32.8%	-31.2%
Mexico*	1.1%	2.3%	-40.6%	-35.5%	Indonesia*	5.0%	2.0%	-36.0%	-39.5%
United States	4.8%	0.0%	-12.6%	-19.8%	Korea*	6.6%	11.9%	-32.9%	-22.6%
Total-Americas	13.8%	11.4%	-36.2%	-45.4%	Malaysia*	1.1%	1.8%	-32.4%	-19.1%
Europe					Philippines*	0.5%	1.0%	-37.8%	-32.0%
Czech Republic*	0.1%	0.1%	-27.4%	-38.5%	Singapore	2.2%	0.0%	-13.0%	-28.2%
Greece*	0.1%	0.3%	-58.3%	-45.1%	Taiwan*	7.6%	11.8%	-20.3%	-19.0%
Hungary*	0.1%	0.3%	-36.4%	-39.0%	Thailand*	2.6%	2.6%	-24.1%	-34.0%
Netherlands	0.8%	0.0%	-10.1%	-20.6%	Total-AsiaPacific	74.6%	73.4%	-22.8%	-18.4%
Poland*	0.4%	0.9%	-41.6%	-36.5%	Other				
Russia*	5.2%	3.9%	-27.9%	-36.5%	South Africa*	2.4%	4.8%	-51.8%	-39.6%
United Kingdom	0.7%	0.0%	-33.6%	-28.4%	Turkey*	0.3%	0.5%	-32.9%	-30.0%
Total-Europe	7.4%	5.5%	-27.7%	-37.2%	Total-Other	2.7%	9.6%	-49.7%	-31.7%
Totals					Developed	21.8%	0.0%	-15.5%	--
					Emerging*	76.8%	100.0%	-28.8%	-23.8%
					Cash	1.4%		0.4%	

Country* = Emerging Markets

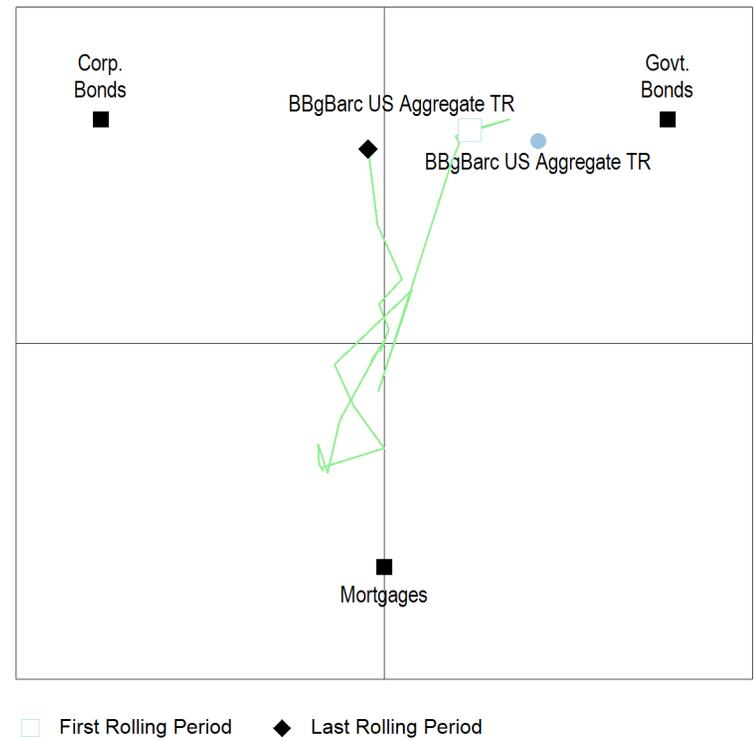


TOTAL FIXED INCOME COMPOSITE

3 Year Risk Return

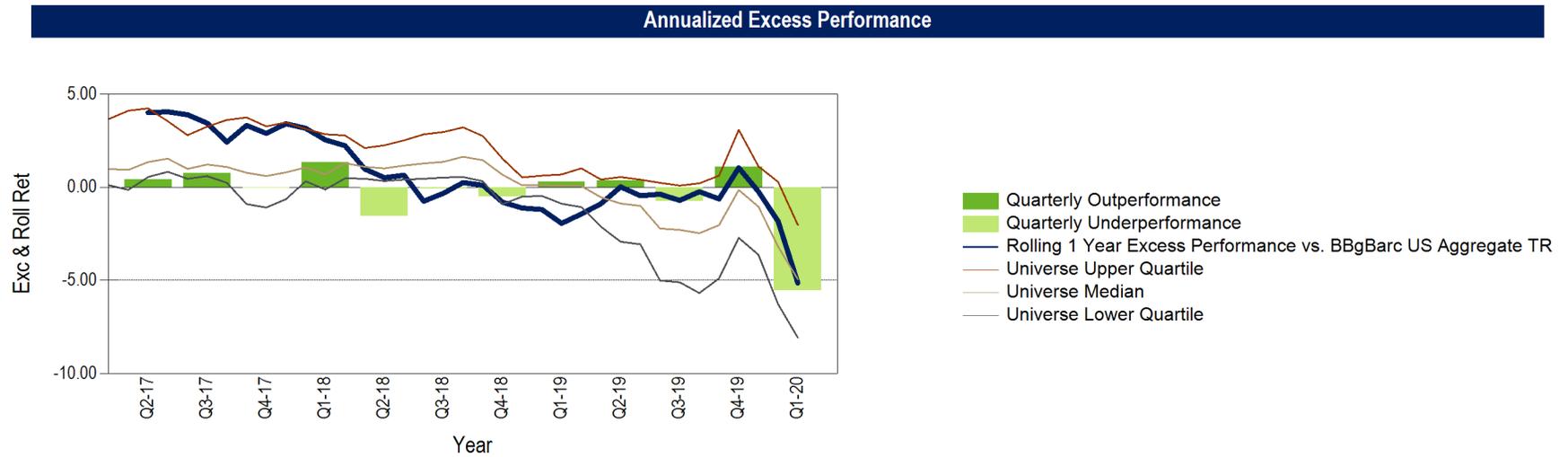


3 Year Style Analysis



Howard County Retirement Plans

TOTAL FIXED INCOME COMPOSITE



APPENDIX

NEPC, LLC

2020 FIRST QUARTER HAPPENINGS AT NEPC

From everyone at NEPC, we hope your families and loved ones are safe and healthy during these difficult times. Please know that we remain vigilant in our oversight of your investments as the world focuses on the challenges ahead.

At NEPC, our goal is twofold: to help steer your investment programs through this market turmoil and identify opportunities that may arise from the tumult. Please see below the investment views published by NEPC related to the COVID-19 outbreak. To stay up-to-date on our COVID-19 content, please view <https://info.nepc.com/covid-19>.

COVID-19 CONTENT

- Taking Stock: China in the Time of Coronavirus (COVID-19)
- Taking Stock: The Implications of COVID-19 and the February 2020 Market Correction
- Taking Stock: Acting Amid Uncertainty
- Taking Stock: Corporate Pension Plans in the Time of COVID-19
- Taking Stock: The Ides of Fed Intervention
- Taking Stock: Pension Investor Flash Poll
- Negative Interest Rates: Here to Stay
- COVID-19: Business & Market Perspectives Webinar Replay
- COVID-19 and NEPC's Market Perspectives Webinar Replay



2020 FIRST QUARTER HAPPENINGS AT NEPC

NEPC INSIGHTS

- Taking Stock: NEPC's Fourth Quarter Pension Monitor
- Taking Stock: Will the SECURE Act Finally Make Lifetime Income More Than Just a Buzzword?
- Taking Stock: Late Cycle Dynamics, an NEPC Key Market Theme
- Taking Stock: Permanent Interventions, an NEPC Key Market Theme
- Taking Stock: China Transitions, an NEPC Key Market Theme
- Taking Stock: Globalization Backlash, an NEPC Key Market Theme
- NEPC's Asset Allocation Letter: 2020: Taking a Leap of Faith Into a New Decade
- 2019 Fourth Quarter Market Thoughts
- The Three Pillars of a Successful Investment Plan for Endowments and Foundations
- NEPC's 2019 Defined Contribution Plan & Fee Survey
- NEPC's 2019 Defined Contribution Plan & Fee Survey - Recording
- Private Wealth: Getting the Most Out of Your Custodian
- Taking Stock: NEPC's February 2020 Pension Monitor

WEBINAR REPLAYS

- Webinar Replay: 8th Defined Benefit Plan Trends Survey
- NEPC 2020 Market Outlook Webinar
- Webinar Replay: SECURE Act Webinar with Morgan Lewis
- Fireside Chat with Mellody Hobson: "Is the Investment Industry Ready to be Color Brave™?"



To download NEPC's recent insights and webinar replays, visit: www.NEPC.com/insights

INVESTMENT MANAGER - DUE DILIGENCE KEY

NEPC Due Diligence Status Key	
No Action	Informational items have surfaced; no action is recommended.
Watch	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.
Hold	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.
Client Review	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.
Terminate	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	
1	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.
2	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.
3	A satisfactory investment product. The strategy lacks a compelling investment thesis, however there are no significant concerns around the manager's viability.
4	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.
5	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.
NR	Due diligence has not been sufficiently completed on the product or manager.



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Batting Average¹ - 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.

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Correlation¹ - 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: ¹InvestorForce, ²Interaction Effect Performance Attribution, ³NEPC, LLC, ⁴Investopedia, ⁵Hedgeco.net



GLOSSARY OF INVESTMENT TERMINOLOGY

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Derivative Instrument² – 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 Deviation¹ – 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.

Duration³ – 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 Ratio¹ – 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 Bond³ – 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 Hurdle⁵ – 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 Mark⁴ – 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 Rate⁴ – 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 Effects² – 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.

Median³ – 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.

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GLOSSARY OF INVESTMENT TERMINOLOGY

Policy Index³ - 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)⁴ - 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)³ - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).

Price to Sales (P/S)⁴ - 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)⁴ - 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) Effect² - 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 rate⁵ - is a hurdle rate that once beaten allows a fund manager to charge a performance fee based on the entire annualized return.

Tiered Fee¹ - 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 Effects² - 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 Return¹ - 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.

Universe³ - The list of all assets eligible for inclusion in a portfolio.

Upside Deviation¹ - Standard Deviation of Positive Returns

Weighted Avg. Market Cap.⁴ - 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 (%)³ - The current yield of a security is the current indicated annual dividend rate divided by current price.

Yield to Maturity³ - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

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GLOSSARY OF INVESTMENT TERMINOLOGY

Alpha - Measures the relationship between the fund performance and the performance of another fund or benchmark index and equals the excess return while the other fund or benchmark index is zero.

Alpha Jensen - The average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. Also known as the abnormal return or the risk adjusted excess return.

Annualized Excess Return over Benchmark - Annualized fund return minus the annualized benchmark return for the calculated return.

Annualized Return - A statistical technique whereby returns covering periods greater than one year are converted to cover a 12 month time span.

Beta - Measures the volatility or systematic risk and is equal to the change in the fund's performance in relation to the change in the assigned index's performance.

Information Ratio - A measure of the risk adjusted return of a financial security, asset, or portfolio.

Formula:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Benchmark}) / \text{Annualized Standard Deviation}(\text{Period Portfolio Return} - \text{Period Benchmark Return})$. To annualize standard deviation, multiply the deviation by the square root of the number of periods per year where monthly returns per year equals 12 and quarterly returns is four periods per year.

R-Squared - Represents the percentage of a fund's movements that can be explained by movements in an index. R-Squared values range from 0 to 100. An R-Squared of 100 denotes that all movements of a fund are completely explained by movements in the index.

Sharpe Ratio - A measure of the excess return or risk premium per unit of risk in an investment asset or trading strategy.

Sortino Ratio - A method to differentiate between good and bad volatility in the Sharpe Ratio. The differentiation of up and down volatility allows the calculation to provide a risk adjusted measure of a security or fund's performance without upward price change penalties.

Formula:
 $\text{Calculation Average } (X-Y) / \text{Downside Deviation } (X-Y) * 2$
Where X=Return Series X Y = Return Series Y which is the risk free return (91 day T-bills)

Standard Deviation - The standard deviation is a statistical term that describes the distribution of results. It is a commonly used measure of volatility of returns of a portfolio, asset class, or security. The higher the standard deviation the more volatile the returns are.

Formula:
 $(\text{Annualized Return of Portfolio} - \text{Annualized Return of Risk Free}) / \text{Annualized Standard Deviation (Portfolio Returns)}$

Tracking Error - Tracking error, also known as residual risk, is a measure of the degree to which a portfolio tracks its benchmark. It is also a measure of consistency of excess returns. Tracking error is computed as the annualized standard deviation of the difference between a portfolio's return and that of its benchmark.

Formula:
 $\text{Tracking Error} = \text{Standard Deviation } (X-Y) * \sqrt{\text{\# of periods per year}}$
Where X = periods portfolio return and Y = the period's benchmark return
For monthly returns, the periods per year = 12
For quarterly returns, the periods per year = 4

Treynor Ratio - A risk-adjusted measure of return based on systematic risk. Similar to the Sharpe ratio with the difference being the Treynor ratio uses beta as the measurement of volatility.

Formula:
 $(\text{Portfolio Average Return} - \text{Average Return of Risk-Free Rate}) / \text{Portfolio Beta}$

Up/Down Capture Ratio - A measure of what percentage of a market's returns is "captured" by a portfolio. For example, if the market declines 10% over some period, and the manager declines only 9%, then his or her capture ratio is 90%. In down markets, it is advantageous for a manager to have as low a capture ratio as possible. For up markets, the higher the capture ratio the better. Looking at capture ratios can provide insight into how a manager achieves excess returns. A value manager might typically have a lower capture ratio in both up and down markets, achieving excess returns by protecting on the downside, whereas a growth manager might fall more than the overall market in down markets, but achieve above-market returns in a rising market.

$\text{Upside Capture} = \text{Total Return}(\text{Fund Returns}) / \text{Total Returns}(\text{BM Return})$ when Period Benchmark Return is $> = 0$

$\text{Downside Capture} = \text{Total Return}(\text{Fund Returns}) / \text{Total Returns}(\text{BM Return})$ when Benchmark < 0

Data Source: InvestorForce



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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.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

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.

