

BOARD OF TRUSTEES
Cobb County Government Employees' Pension Plan Trust
Other Post-Employment Benefits (OPEB) Trust
Meeting of June 5, 2018
3rd Fl. BOC Meeting Room 8:00 A.M.

Present: Roger Tutterow, Chair
Sheriff Neil Warren, Vice Chair
Virgil Moon, Trustee
Tony Hagler, Trustee/Secretary
Bill Volckmann, Trustee

A scheduled meeting of the Board of Trustees of the Cobb County Employees Retirement Plan was called to order by Roger Tutterow at 8:00 a.m. in the 3rd Floor Board of Commissioners Board Room, 100 Cherokee Street, Marietta, Georgia. The following items of business were discussed:

I. Invitation for Public Comment

No Comments

II. Approval of Minutes

A motion was made by Neil Warren and seconded by Virgil Moon to approve the minutes of the April 3, 2018 meeting.

Vote: 5-0, in favor

III. Ratify approval of Invoice Payments

A motion was made by Neil Warren and seconded by Virgil Moon to approve four invoices totaling \$48,519.68 for the OPEB Plan, and ten invoices totaling \$490,533.35 for the Employees Retirement Plan.

Vote: 5-0, in favor

IV. Manager Reports

- A. Richmond Capital – Howard K. Bos
- B. Westfield Capitol – Justin Moscardelli

V. Actuary Report - Cavanaugh MacDonald - Bennett, Garrett & Walls

- a. Pension
- b. OPEB

VI. Trust Reports — SunTrust – Allen

VII. Advisor Report – UBS Consulting – Dodd, Price & Wright

- a. Pension
- b. Defined Contribution
- c. OPEB

Following a recommendation from UBS Institutional Consulting Group, a motion was made by Virgil Moon and seconded by Neil Warren to move all funds from Vanguard Intermediate Bond Index Fund to the following for both the Pension Trust and the OPEB Trust.

Richmond Capital Management	50%
Blackrock Strategic Income Opps Fund	25%
Delaware Diversified Income Fund	25%

Vote: 5-0, in favor

VIII. New Business

- a. ICMA-RC Renewal Proposal

A motion was made by Virgil Moon and seconded by Neil Warren to approve the ICMA-RC Renewal Proposal

Vote: 5-0, in favor

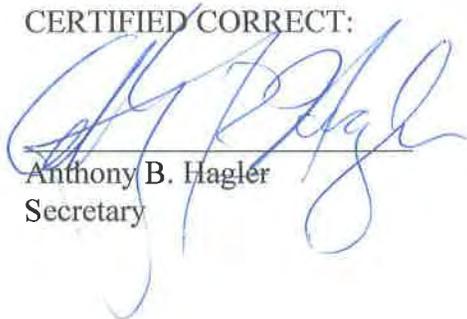
IX. Adjourned at 10:05 a.m.

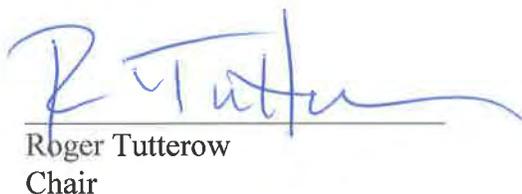
A motion was made by Virgil Moon and seconded by Neil Warren to adjourn.

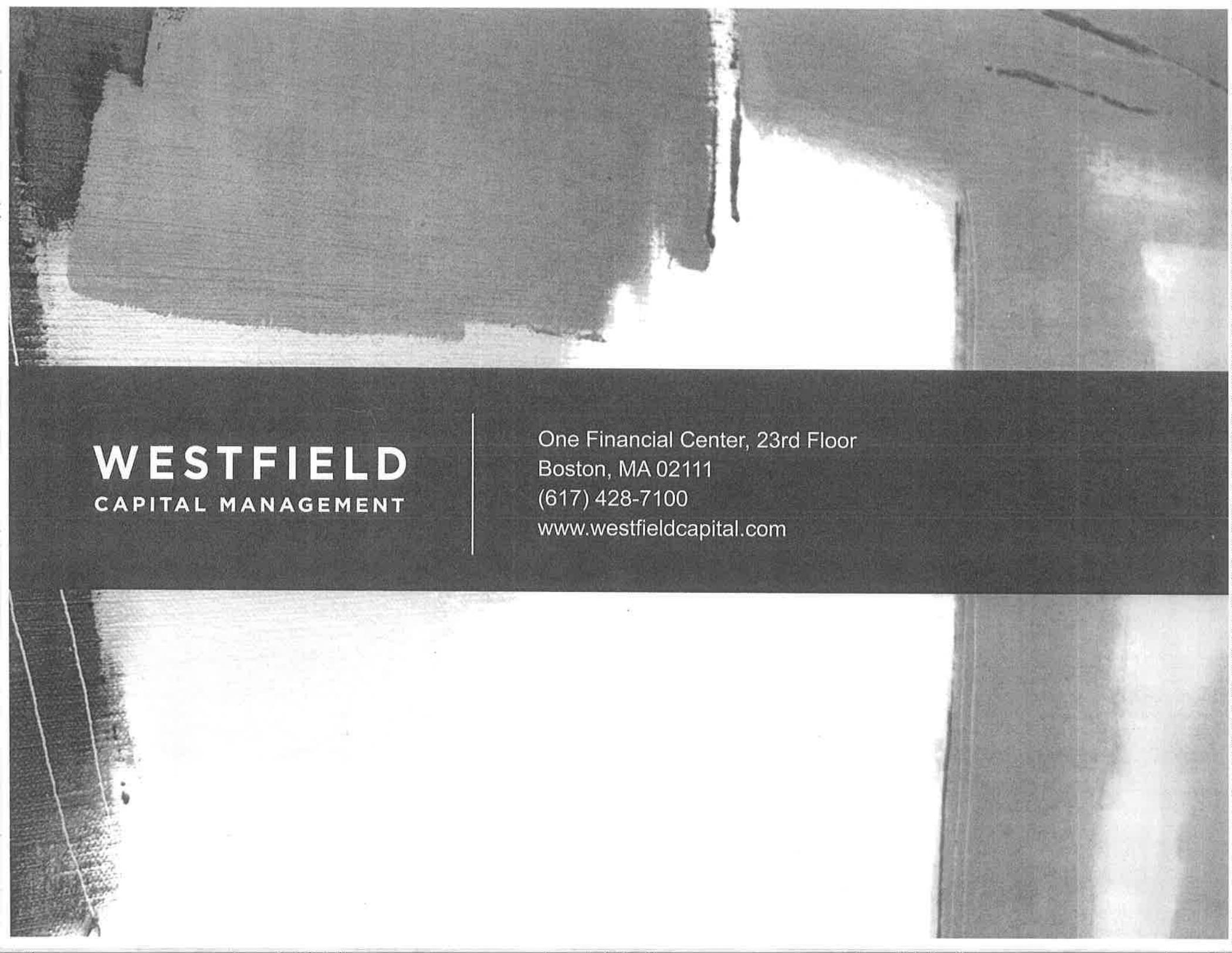
Vote: 5-0, in favor

The next scheduled meeting will be on August 7, 2018 at 8:00 a.m. in the 3rd Floor Board of Commissioners Board Room, 100 Cherokee Street, Bldg. A., Marietta, Georgia.

CERTIFIED CORRECT:


Anthony B. Hagler
Secretary


Roger Tutterow
Chair



WESTFIELD
CAPITAL MANAGEMENT

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Boston, MA 02111
(617) 428-7100
www.westfieldcapital.com



Cobb County
GOVERNMENT

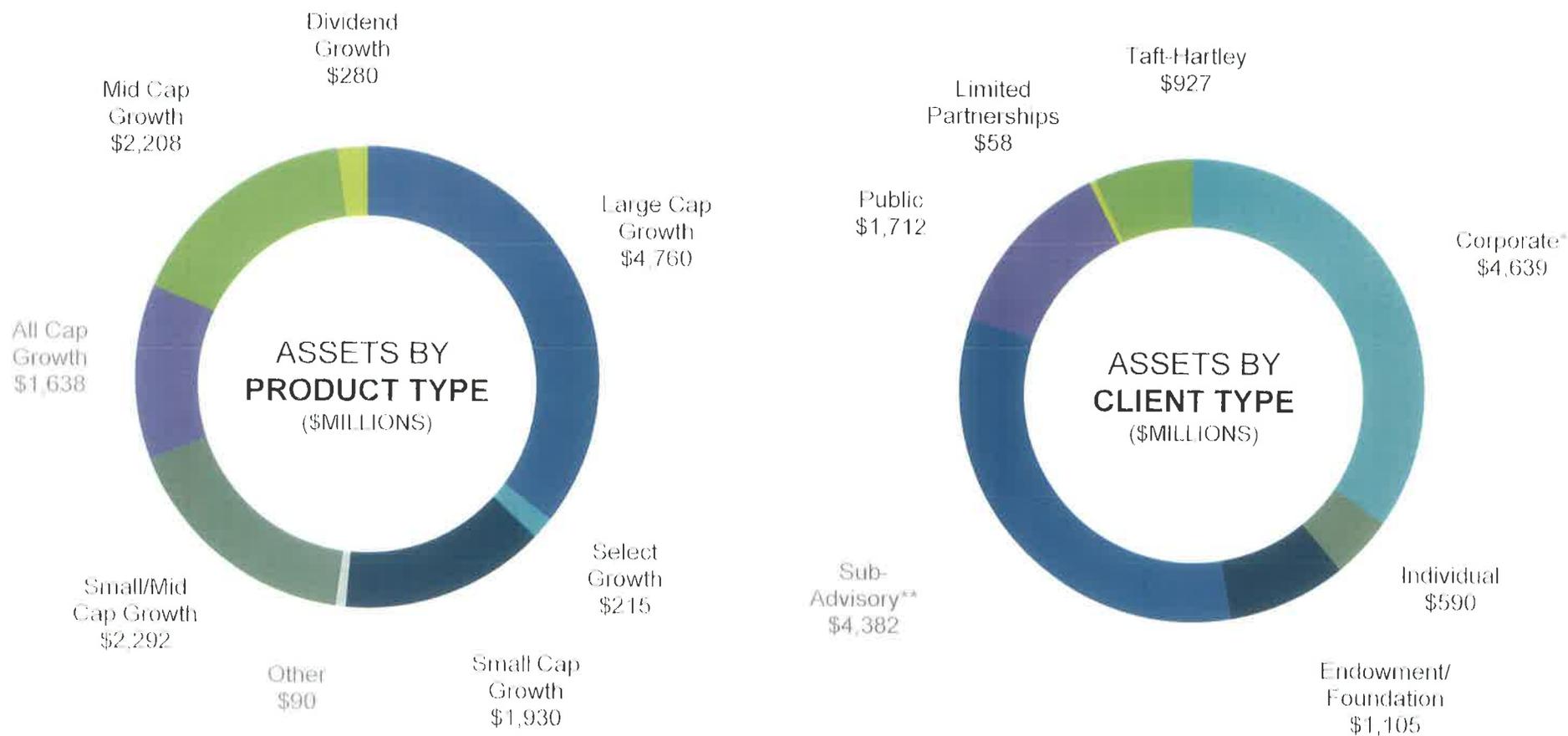
Large Cap Growth Equity
June 5, 2018

A focused asset management firm.

- ◆ Boston-based firm with \$13.4 billion in assets under management as of April 30, 2018, and 64 employees
- ◆ Specialize in growth equities across the market capitalization spectrum
- ◆ Team approach allows analysts to have an impact on portfolios and creates a differentiated culture
- ◆ Employee ownership aligns our interests with those of our clients

Our domestic growth equity products span the capitalization spectrum serving over 300 clients.

\$13.4 Billion in Assets Under Management



As of April 30, 2018

Our client base is diverse.

SOLE SUB-ADVISORY RELATIONSHIPS

Harbor Small Cap Growth Fund
HSBC Opportunity Fund
Touchstone Mid Cap Growth Fund
Touchstone Growth Opportunities Fund

PUBLIC FUNDS

West Virginia Investment Management Board
Kentucky Retirement Systems
State-Boston Retirement System
General Retirement System of the City of Detroit
Public School Retirement System of the City of St. Louis

CORPORATE & PENSION

Central PA Teamsters Retirement Income Plan 1987
International Paper
Catholic Health Initiatives Master Trust
Marriott International, Inc.
National Pension Service of Korea
Baker Hughes, a GE Company
Local #46 Sheetmetal Workers Pension Plan and Trust

ENDOWMENTS & FOUNDATIONS

Rotary Foundation
University of South Carolina Foundations
The Cleveland Clinic Foundation
Colorado School of Mines Foundation
The Chinese University of Hong Kong
Truth Initiative Foundation

Clients listed are generally representative of the types of clients that comprise Westfield Capital Management's institutional client base and not based on performance-based criteria. Inclusion does not imply client endorsement of Westfield Capital or its services. Westfield does not sell or distribute any mutual funds.

Our investment team is experienced and driven.



20 INVESTMENT
PROFESSIONALS

- 18 Years Average Experience
- Career Sector Analysts
- Analysts Cover Entire Cap Spectrum
- 300+ Annual Company Interactions Each
- Senior Team Together >14 Years

Our collaborative team structure is sector focused.



Chief Investment Officer

William A. Muggia

President, CEO & CIO
Market Outlook & Strategy
34 Years of Experience

Consumer, Business Services & Financials

Ethan J. Meyers, CFA

Director of Research
Business, Financial &
Consumer Services
22 Years of Experience

Scott R. Emerman, CFA

Consumer Discretionary
27 Years of Experience

Michael T. Poe

Financials
17 Years of Experience

Rosie Zhang, CFA

Consumer Discretionary
11 Years of Experience

Jehanne E. Hill, CFA

Business, Financial &
Consumer Services
6 Years of Experience

Information Technology

Richard D. Lee, CFA

Deputy CIO
Hardware & Semiconductors
24 Years of Experience

Robert T. Flores

Software & Internet
25 Years of Experience

Kevin H. Shin

Information Technology &
Real Estate
8 Years of Experience

Nate Cunningham

Software & Internet
5 Years of Experience

Energy, Industrials & Materials

D. Hamlen Thompson

Energy & Industrials
24 Years of Experience

William R. Gilchrist

Materials
15 Years of Experience

Edward D. Richardson

Industrials
11 Years of Experience

Samuel D. Ensslin

Industrials, Materials & Energy
8 Years of Experience

Health Care

Bruce N. Jacobs, CFA

Medtech & Consumer Staples
26 Years of Experience

Garth W. Jonson, CFA

Health Services, Big Pharma
& Biotechnology - Oncology
24 Years of Experience

Matthew R. Renna

Biotechnology &
Pharmaceuticals
14 Years of Experience

Portfolio Strategy & Risk Management

John M. Montgomery

Portfolio Strategist & COO
24 Years of Experience

Rajat Babbar, CFA

Risk Manager
20 Years of Experience

Sustainable Investing

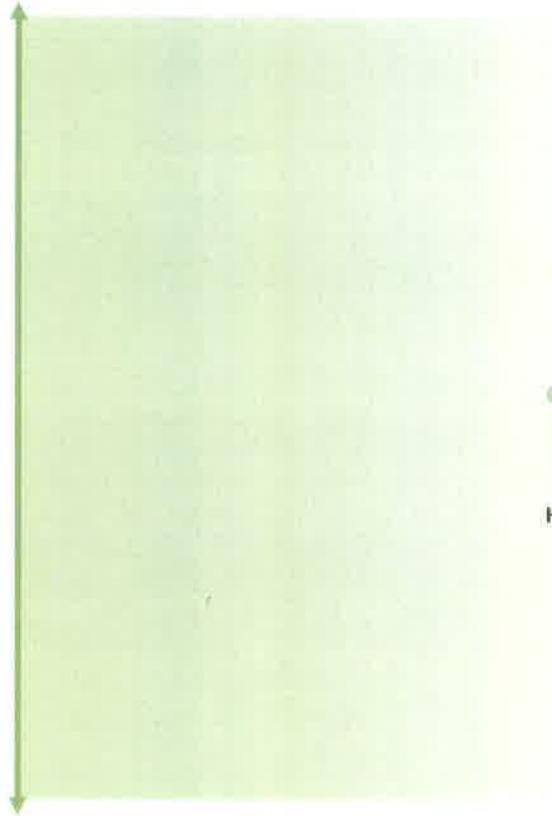
Paul D. McHugh

Director of ESG Research
23 Years of Experience

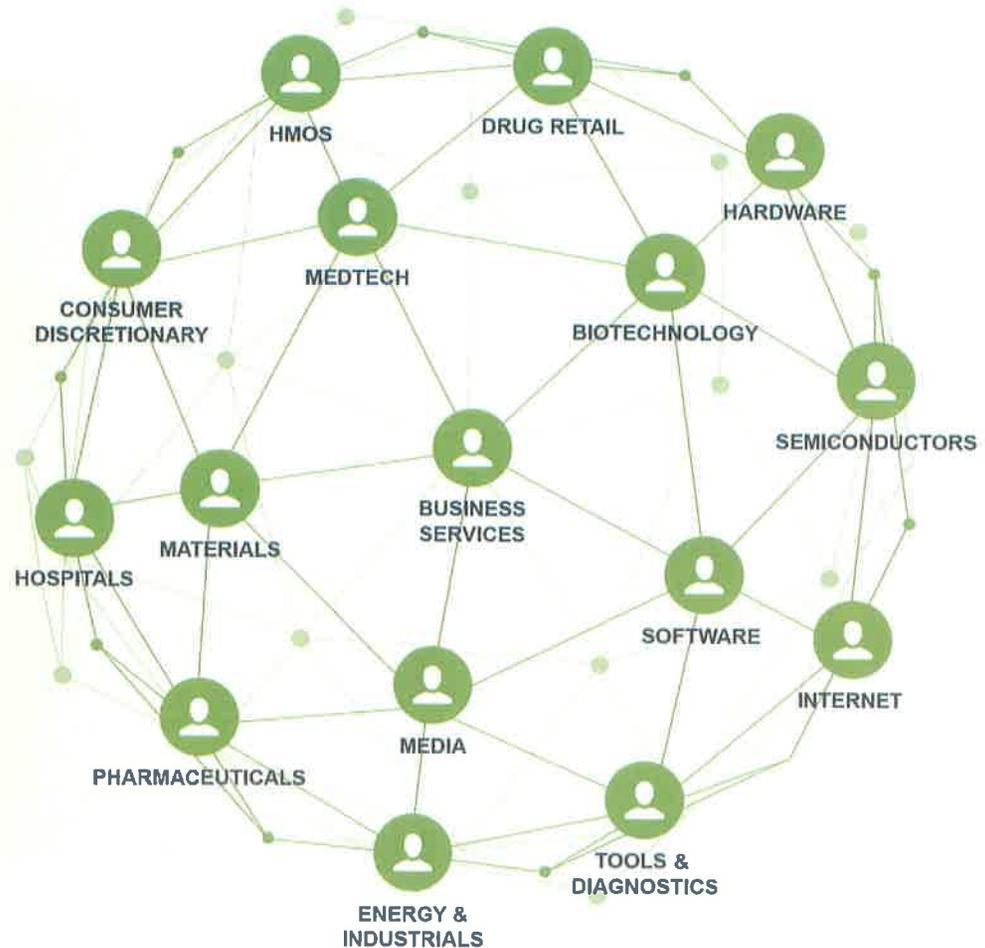
The information gathered and shared is greater than the sum of parts.



LARGE CAP



SMALL CAP



We employ a growth at a reasonable price (GARP) investment style.



- ◆ We invest in companies with underappreciated earnings growth trading at reasonable valuations, believing stock prices will follow earnings growth
- ◆ Earnings growth and attractive valuations are key characteristics that we look for in our investments
- ◆ We believe fundamental research best identifies inefficiencies and investment opportunities
- ◆ Our investment philosophy has been consistent over time and key to alpha generation

Growth-at-a-Reasonable-Price style has outperformed the broad indices over time.



Source: BofA Merrill Lynch Global Research U.S. Equity Strategy as of 2/31/18. Indices show monthly equal weighted returns of their respective index constituents. "Low PEG Basket" = the lowest quintile of the index, rebalanced monthly, based on the forward PEG ratio (price/IBES FY1 EPS divided by IBES long term growth rate). Past performance is not indicative of future results.

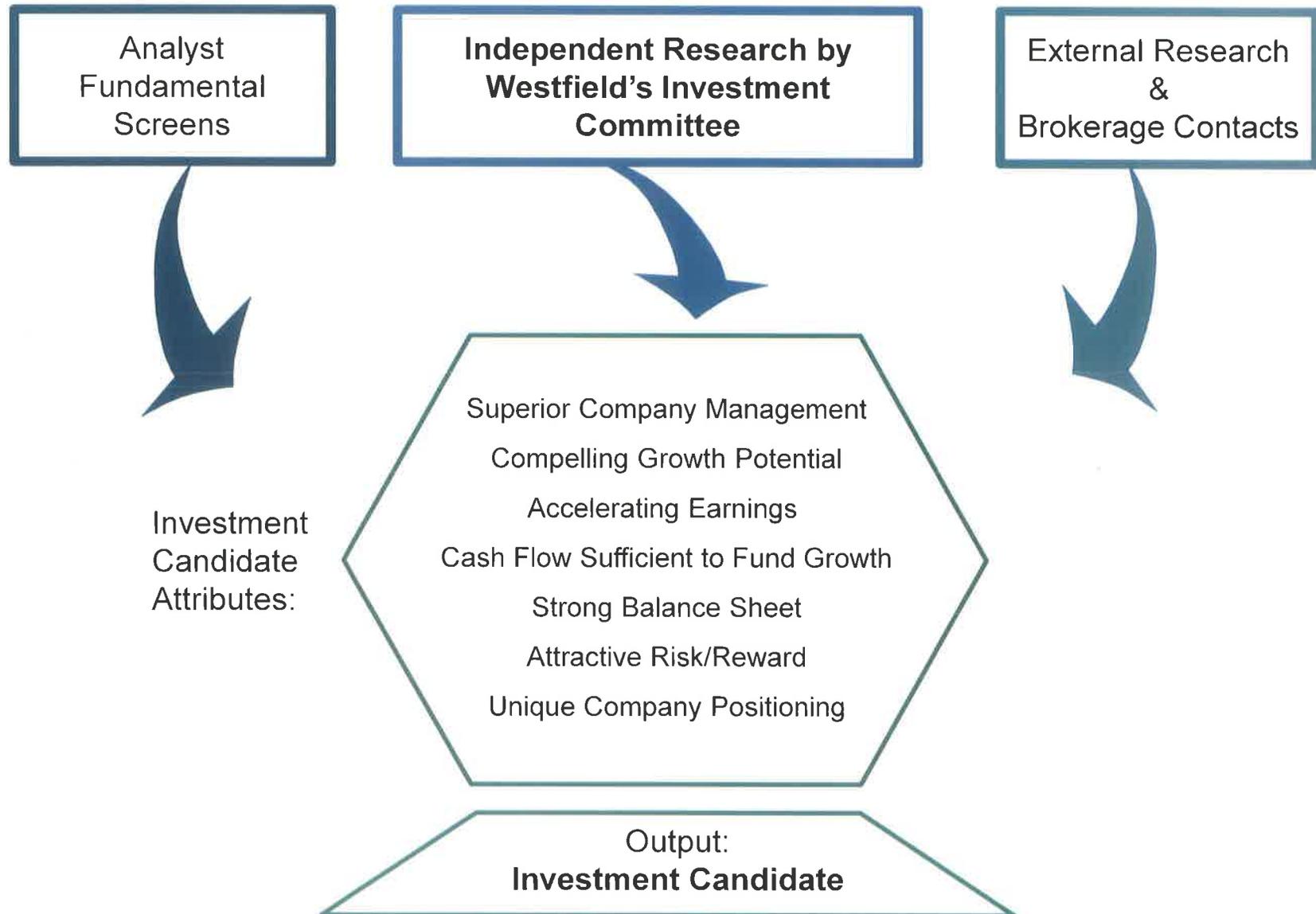
Our investment process is disciplined.



Process Strategy Review/Analysis:

- Process discipline
- Decisions and decision criteria
- Risk concentrations
- Behavioral variations

Fundamental research and experience drive idea generation.



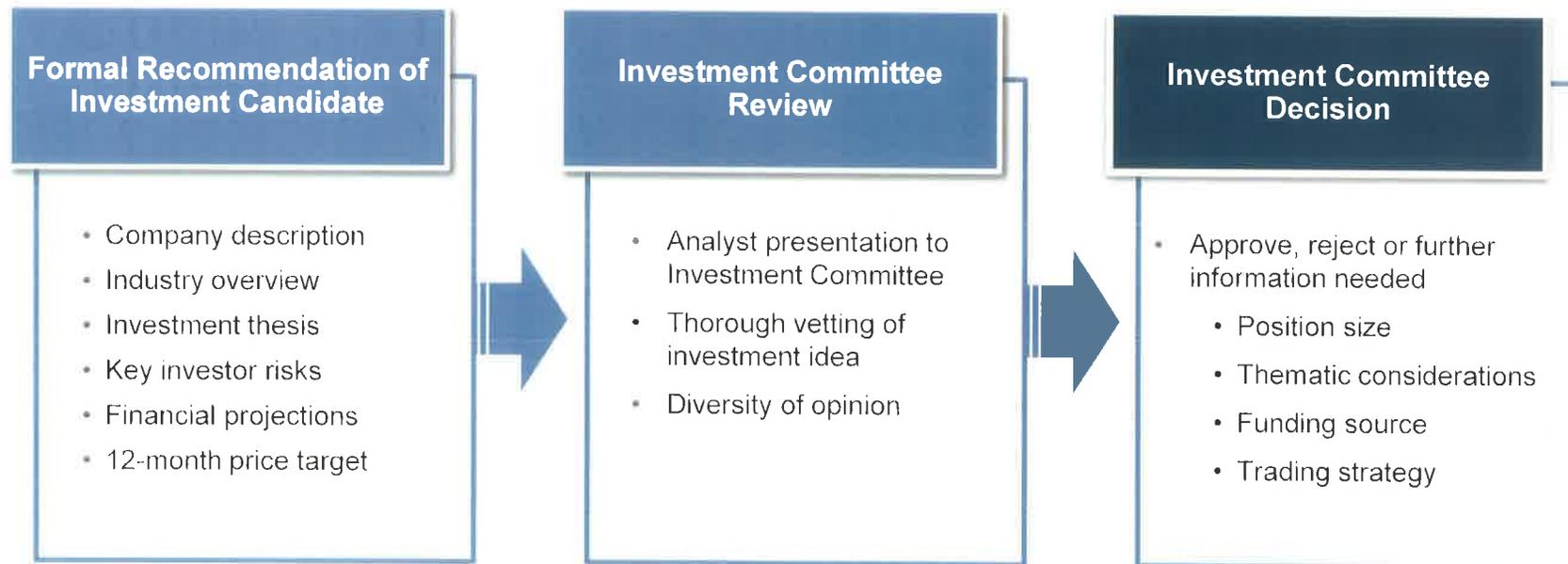
Our analysts have met with many company management teams – over 250 meetings in 1Q18.



Abbott Laboratories	Cantel Medical Corp	Equinix, Inc	Kohls Corp	Orbotech Ltd	Thermo Fisher Scientific Inc
Abercrombie & Fitch Co	Cardinal Health, Inc	Equity LifeStyle Properties, Inc	L Brands, Inc	Pacira Pharmaceuticals, Inc	TMT Investments PLC
Accelaron Pharma Inc	Casey's General Stores, Inc	Esperion Therapeutics, Inc	Ladder Capital Corp	Parsley Energy, Inc	Tokheim Corp Com New
Achacgen, Inc	Calalenti Inc	Esterline Technologies Corp	Lam Research Corp	Party City Holdco, Inc	Total System Services, Inc
Aclaris Therapeutics, Inc	Celanese Corp	Evolus, Inc	Lennox Int'l Inc	Paylocity Holding Corp	Trex Co., Inc
Adams-Russell Co Inc	Celgene Corp	Express, Inc	LG Display Co., Ltd	Pebblebrook Hotel Trust	Trinseo SA
Adtalem Global Education Inc	Chico's FAS, Inc	FCB Financial Holdings, Inc	Lions Gate Entertainment Corp	Phillips 66	Tyler Technologies, Inc
Advanced Energy Industries, Inc	Ciena Corp	FleetCor Technologies, Inc	Low e's Companies, Inc	Pinnacle Financial Partners, Inc	UMH Properties, Inc
Aerie Pharmaceuticals, Inc	Cirrus Logic, Inc	Flow serve Corp	Lululemon Athletica Inc	Pioneer Natural Resources Co	Under Armour, Inc
Albemarle Corp	Coherent, Inc	Foot Locker, Inc	LyondellBasell Industries NV	Playa Hotels & Resorts NV	United Continental Holdings, Inc
Alexander & Baldwin, Inc	Colony NorthStar, Inc	Foundation Medicine, Inc	Mack-Cali Realty Corp	PlayAGS, Inc	Univar, Inc
Alexandria Real Estate Equities, Inc	Comcast Corp	Galapagos NV	Macquarie Infrastructure Corp	PowerShares DB G10 Currency Harvest	Universal Display Corp
Alexion Pharmaceuticals, Inc	CommVault Systems, Inc	Gardner Denver Holdings, Inc	Manitowoc Co., Inc	PPG Industries, Inc	Universal Forest Products, Inc
Allergan PLC	Conagra Brands, Inc	GDS Holdings Ltd	Marathon Petroleum Corp	Proofpoint, Inc	Urban Outfitters, Inc
Alliance Data Systems Corp	CONSOL Energy Inc	Gilead Sciences, Inc	Marriott Int'l, Inc	Prothena Corp. PLC	Vail Resorts, Inc
Ambarella, Inc	Cooper Companies, Inc	Glacier Bancorp, Inc	Martin Marietta Materials, Inc	PTC Inc	Valero Energy Corp
American Airlines Group, Inc	Core Laboratories NV	Global Payments Inc	Marvell Technology Group Ltd	Purple Innovation, Inc	Varian Medical Systems, Inc
American Eagle Outfitters, Inc	CoreSite Realty Corp	Graco Inc	Masimo Corp	QTS Realty Trust, Inc	Venator Materials PLC
American Homes 4 Rent	CoStar Group, Inc	HB Fuller Co	Mastercard Inc	Qualys, Inc	Vertex Pharmaceuticals Inc
American Tower Corp	Costco Wholesale Corp	Halyard Health Inc	Matslon, Inc	Quidel Corp	Viavi Solutions Inc
AMETEK, Inc	Covenant Transportation Group, Inc	HCP, Inc	Medicines Co	Rayonier Inc	VICI Properties Inc
Amgen Inc	Cypress Semiconductor Corp	HEICO Corp	Mercury Systems, Inc	Rasoulie Energy Corp	Visa Inc
Analog Devices, Inc	CyrusOne, Inc	Hibbett Sports, Inc	Mersana Therapeutics, Inc	Royal Philips NV	Vital Therapies, Inc
Andeavor	Danaher Corp	Hill-Rom Holdings, Inc	Mettler-Toledo Int'l Inc	RSP Permian, Inc	Vulcan Materials Co
Applied Materials, Inc	Darden Restaurants, Inc	Hilton Worldwide Holdings Inc	MGIC Investment Corp	Ryder System, Inc	Watsco, Inc
Aptiv PLC	DDR Corp	Host Hotels & Resorts, Inc	MGM Growth Properties LLC	Saa, Inc	Wayfair, Inc
Ashland Global Holdings, Inc	Del Frisco's Restaurant Group, Inc	Howard Hughes Corp	Microchip Technology Inc	Semtech Corp	Western Alliance Bancorp
ASML Holding NV	Delphi Technologies PLC	Huntsman Corp	Micron Technology, Inc	Sensata Technologies Holding PLC	Westlake Chemical Corp
Assembly Biosciences, Inc	Delta Air Lines, Inc	IAC/InterActiveCorp	Mid-America Apartment Communities, Inc	ServiceMaster Global Holdings, Inc	WestRock Co
Astronics Corp	DENTSPLY SIRONA, Inc	Idera Pharmaceuticals, Inc	MINDBODY, Inc	ServiceNow, Inc	WEX Inc
Alara Biotherapeutics Inc	Dermira Inc	IDEX Corp	MongoDB, Inc	SkyWest, Inc	Whirlpool Corp
Atlassian Corp. PLC	Diamondback Energy, Inc	IDEXX Laboratories, Inc	Monolithic Power Systems, Inc	Sotheby's	Wix.com Ltd
Ball Corp	DiamondRock Hospitality Co	IHS Markit Ltd	MRC Global Inc	Spirit Airlines, Inc	Woodward, Inc
Bank of NT Butterfield & Son Ltd	Dick's Sporting Goods, Inc	insmed Inc	MSA Safety, Inc	SPX Flow, Inc	Worldpay, Inc
Baxter Int'l Inc	Digital Realty Trust, Inc	installed Building Products, Inc	Myriad Genetics, Inc	Square, Inc	Wright Medical Group NV
Berry Global Group Inc	Dine Brands Global, Inc	integra LifeSciences Holdings Corp	National Instruments Corp	STAG Industrial, Inc	Xcerra Corp
Biogen Inc	Discover Financial Services	Interxion Holding NV	National Oilwell Varco, Inc	STERIS PLC	XPO Logistics, Inc
Bio-Rad Laboratories, Inc	Discovery, Inc	Intuit Inc	Nektar Therapeutics	Steven Madden, Ltd	YY, Inc
BMC Software, Inc	Dow DuPont Inc	Invitae Corp	New Relic, Inc	Stitch Fix, Inc	Zayo Group Holdings, Inc
Boeing Co	DXP Enterprises, Inc	J.C. Penney Co., Inc	Nexeo Solutions, Inc	STMicroelectronics NV RegS	Zendesk, Inc
Boon Barn Holdings, Inc	E*TRADE Financial Corp	J.B. Hunt Transport Services, Inc	Nexstar Media Group, Inc	Summit Hotel Properties, Inc	Zillow Group, Inc
BorgWarner Inc	Eastman Chemical Co	J.Jill, Inc	NextDecade Corp	Summit Materials, Inc	Zoetis, Inc
Bottomline Technologies (de), Inc	Eaton Corp. PLC	Jazz Pharmaceuticals PLC	NICE Ltd	Sun Communities, Inc	
Brooks Automation, Inc	Eli Lilly and Co	Johnson Controls Int'l PLC	Northrop Grumman Corp	Sunesis Pharmaceuticals, Inc	
Brunswick Corp	Elie Mae, Inc	Jounce Therapeutics, Inc	Norwegian Cruise Line Holdings Ltd	Synchrony Financial	
Builders FirstSource, Inc	EnergyNorth, Inc	Juniper Networks, Inc	Oil States Int'l, Inc	Teledyne Technologies Inc	
Builders FirstSource, Inc	Envision Healthcare Corp	KalVista Pharmaceuticals, Inc	Old Dominion Freight Line, Inc	Tennant Co	
Camden Property Trust	EOG Resources, Inc	Kilroy Realty Corp	ON Semiconductor Corp	Teradyne, Inc	

Listed companies may or may not be owned in portfolios advised by Westfield Capital

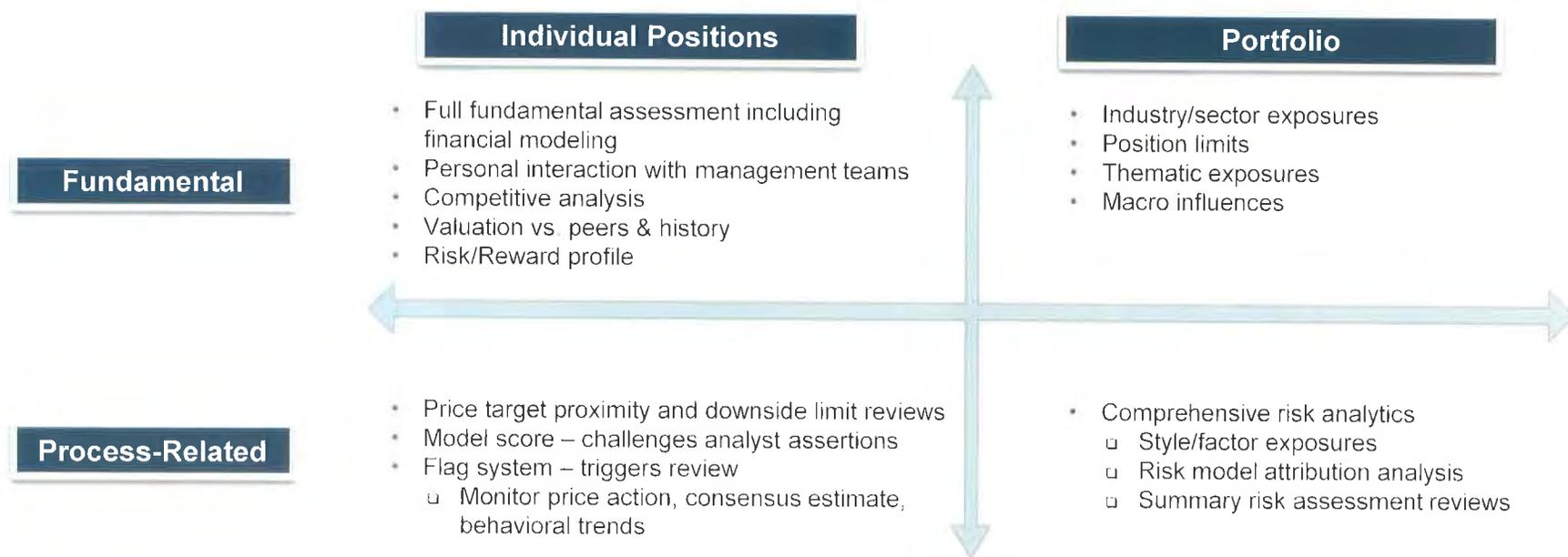
Investment decisions are consensus based.



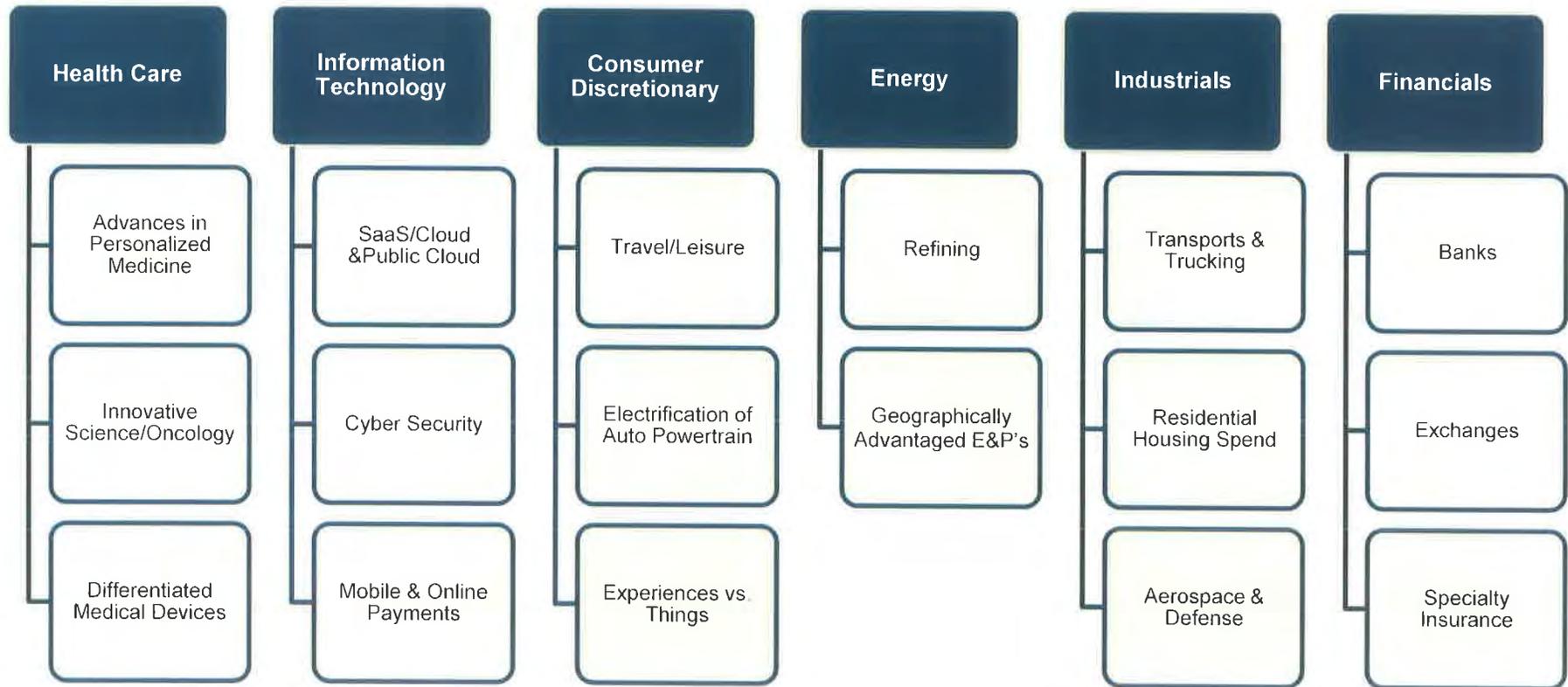
Risk management is fundamental to our process.



- ◆ Risk is monitored and managed throughout all steps of the investment life-cycle and from multiple perspectives
- ◆ Individual security risk & portfolio exposures are evaluated by integrating fundamental and process-related inputs



Attractive Growth Themes



Please see appendix for supplemental disclosure

Relationship Overview

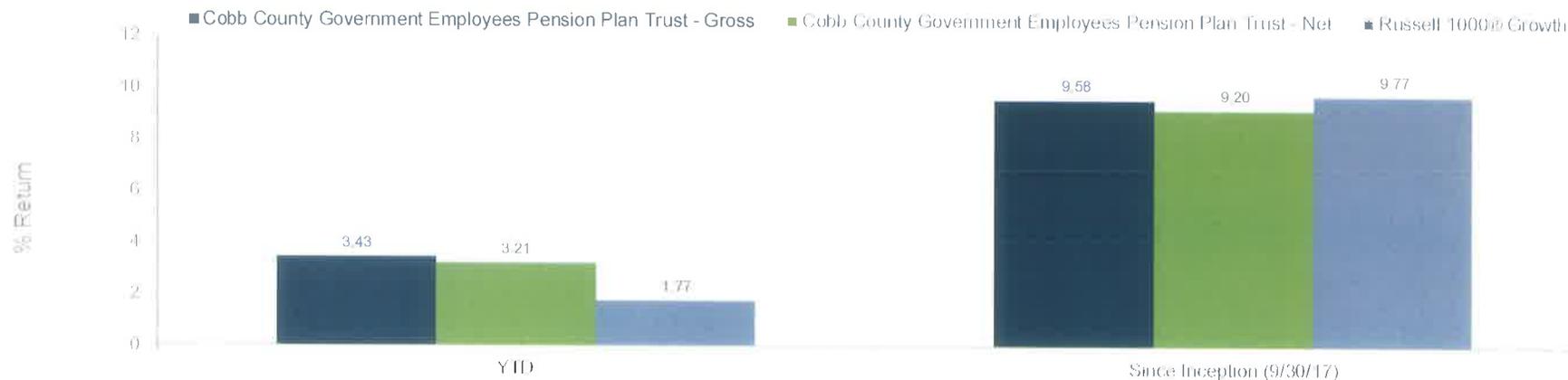
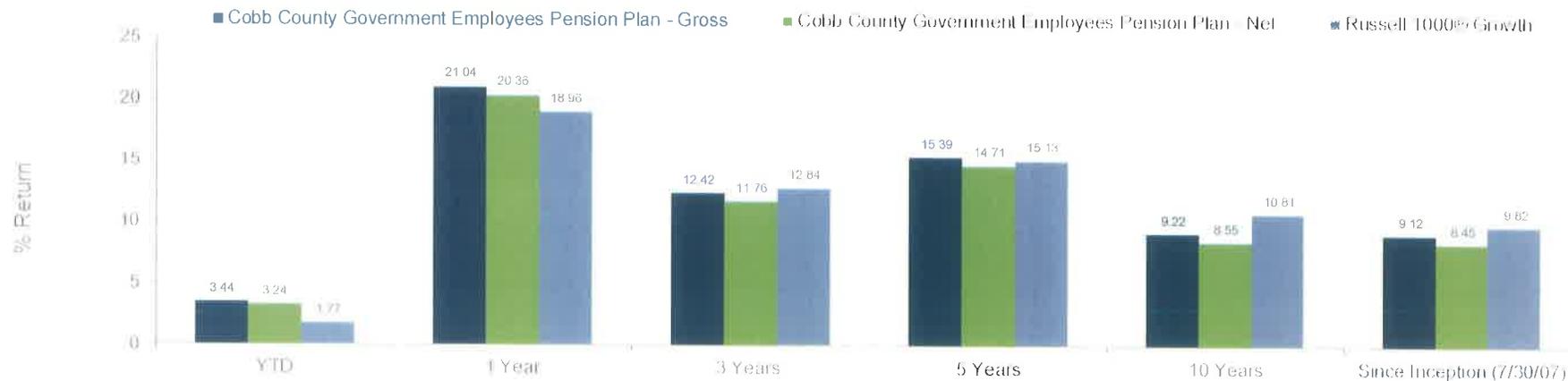


	<u>Cobb County Government Employees Pension Plan</u>	<u>Cobb County Government Employees Pension Plan Trust</u>	<u>Large Cap Growth Equity Product Guidelines & Limits</u>	
Inception Date	July 30, 2007	September 20, 2017	Benchmark	Russell 1000® Growth
Assets (\$000)			Position Size	Maximum 5% at market value or 2% over benchmark weight, whichever is greater
Initial Market Value	38,691	7,841	Market Cap	Typically greater than \$6 billion at initial purchase in the product or within the range of the benchmark
Net Cash Flows			Dual Listed Securities & ADRs	Maximum 15% of the total portfolio (excludes BDIs)
2014	(799)	-	Holdings	Generally maintain 40 to 55 equity securities
2015	(2,850)	-	Sector	Maximum 20% of the total portfolio or 2.5x the benchmark weight, whichever is greater
2016	(200)	-	Cash & Equivalents	Maximum 10% of the total portfolio
2017	24	-		
YTD 2018	6	-		
Apr-18 Market Value	49,637	8,648		
Custodian	SunTrust Bank	UBS Financial Services Inc		
Consultant	UBS Financial Services Inc			
Authorized Signatories	Tony Hagler Roger Tutterow Bill Volckmann W Earle Dodd, III, CIMA			
Fee Schedule	0.65% on the first \$25 million 0.50% on the next \$75 million 0.40% on the balance of assets			
				<u>Portfolio Guidelines & Limits</u>
			UBS Restrictions	The accounts are restricted from participating in IPOs, secondary trades, or principal investments Shares of UBS are restricted
			Position Size	Maximum 10% of total assets in a single security Maximum 6% at cost in any single issuer Maximum 25% of shares outstanding in single issuer
			Market Cap	Minimum market cap of \$250 million at initial time of purchase
			Sector	Maximum 25% of the total portfolio or 2x the benchmark weight, whichever is greater without exceeding 35% of the total portfolio
			Additional Restrictions	May not invest in client specified securities No stocks currently restricted from portfolio as of 4/30/2018 No investments in limited partnerships

Performance Summary

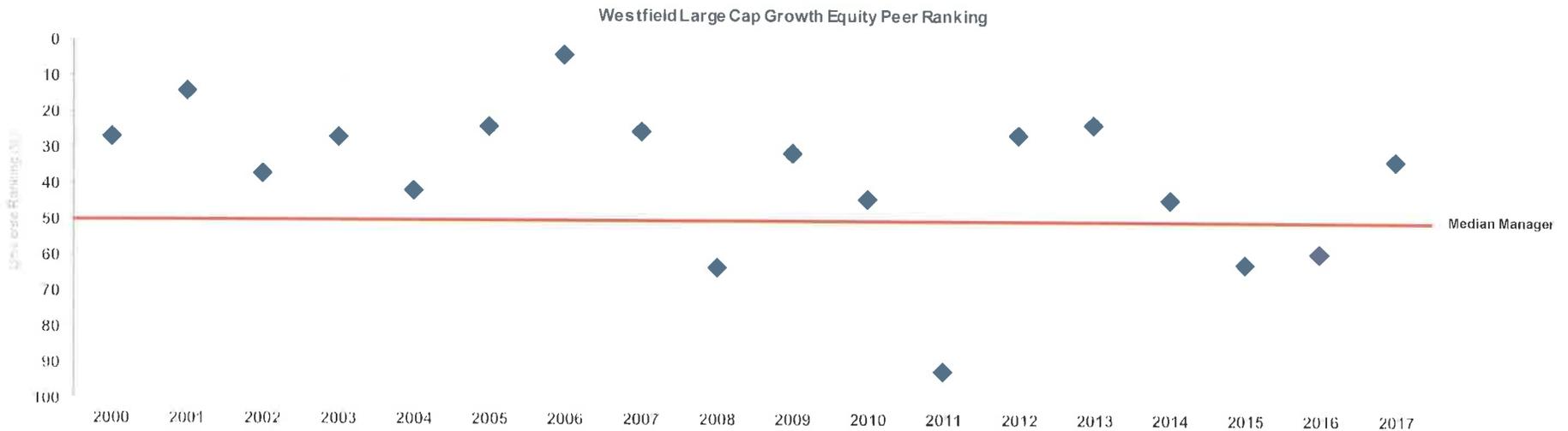
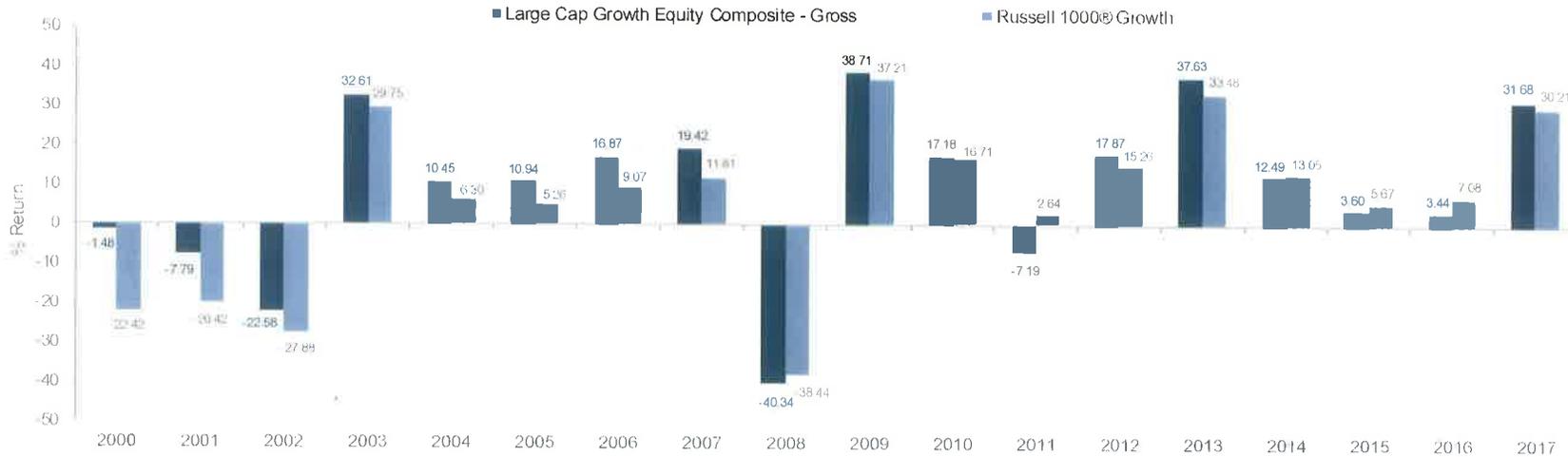


Performance Ending April 30, 2018



Past performance is not indicative of future results - Please see Appendix for GIPS® Compliant Presentation. Returns are annualized for periods greater than one year.

Long-Term Consistency: Large Cap Growth Equity



Past performance is not indicative of future results - Please see Appendix for Additional Important Disclosures and GIPS® Compliant Presentation. Source: eVestment Analytics. eVestment Universe data compiled as of 2/5/2018. The U.S. Large Cap Growth Equity Universe is determined by eVestment and subject to change. The ranking is based on annual composite investment performance on a gross basis versus the peer group for that year. Peer performance is provided by eVestment. Any third party data contained herein has been obtained from sources believed to be reliable, but the accuracy of the information cannot be guaranteed. All data contained herein is current as of 12/31/2017 unless otherwise stated.

Positive Stock Selection Over Time



- ◆ Westfield's Large Cap Growth strategy has had positive stock selection in 8 out of the last 12 calendar years.

	Westfield Large Cap Representative Portfolio	Russell 1000® Growth	Risk Based Performance Attribution		
	Total Return - Gross	Total Return	Common Factor Return	Stock Specific Return	Total Return
2018*	3.53	1.77	0.96	0.73	1.76
2017	31.69	30.22	2.11	-0.60	1.47
2016	3.79	7.08	-3.26	0.10	-3.29
2015	3.57	5.67	-2.20	0.05	-2.10
2014	12.51	13.04	-1.44	1.11	-0.53
2013	37.81	33.48	1.45	2.82	4.33
2012	17.92	15.26	2.48	-0.23	2.66
2011	-7.33	2.64	-4.86	-5.09	-9.98
2010	17.24	16.71	-2.29	2.82	0.53
2009	38.69	37.21	3.31	-1.90	1.48
2008	-40.34	-38.44	-4.12	1.95	-1.90
2007	19.29	11.80	5.84	1.53	7.50
2006	16.47	9.07	-0.22	7.50	7.39
AVERAGE			-0.17	0.83	

*2018 represents 12/31/2017 - 4/30/2018. Past performance is not indicative of future results - Please see Appendix for GIPS® Compliant Presentation Supplemental Information - Please see Appendix for Important Disclosures. Source: MSCI Barra. As defined by MSCI Barra, the common factor contribution is the collection of contributions from risk indices, industries, countries, and world/regional equity factors (the last two apply only in regional/global models). In general, portfolio exposures to factors and the factor's risk/covariances and returns are used to compute contributions to risk/return. This kind of attribution helps to identify unintended bets by Portfolio Managers because our common factors (especially risk indices) tend to uncover bets in risk sources that are not immediately obvious. Additionally, the specific risk from each asset is weighted and aggregated to compute the specific risk contribution of the portfolio.



ATTRIBUTION ANALYSIS

COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLAN

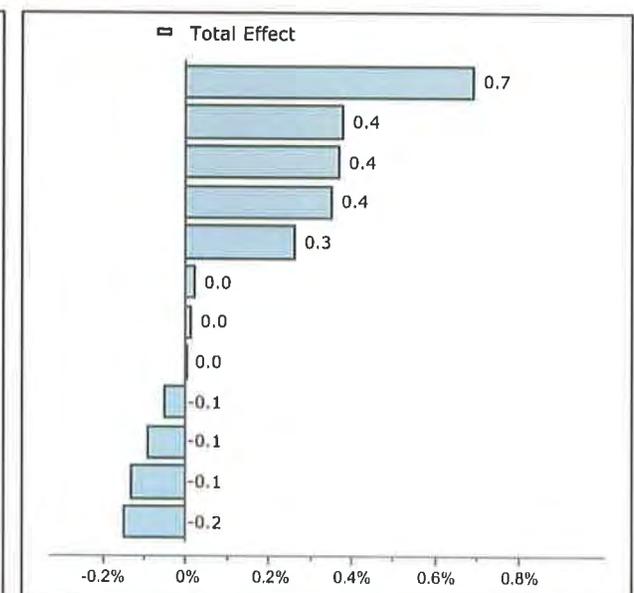
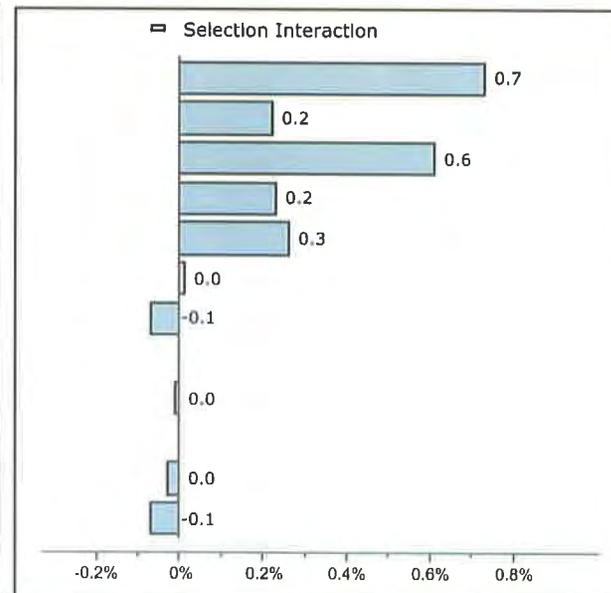
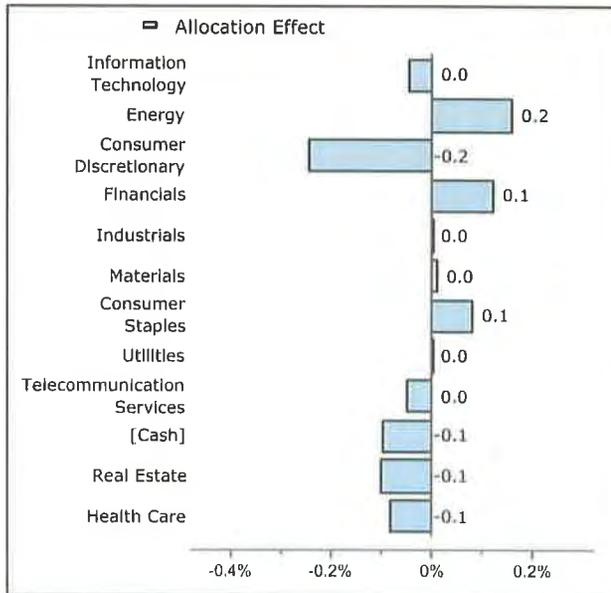
Russell 1000® Growth

Base Currency: USD

12/31/2017 to 4/30/2018

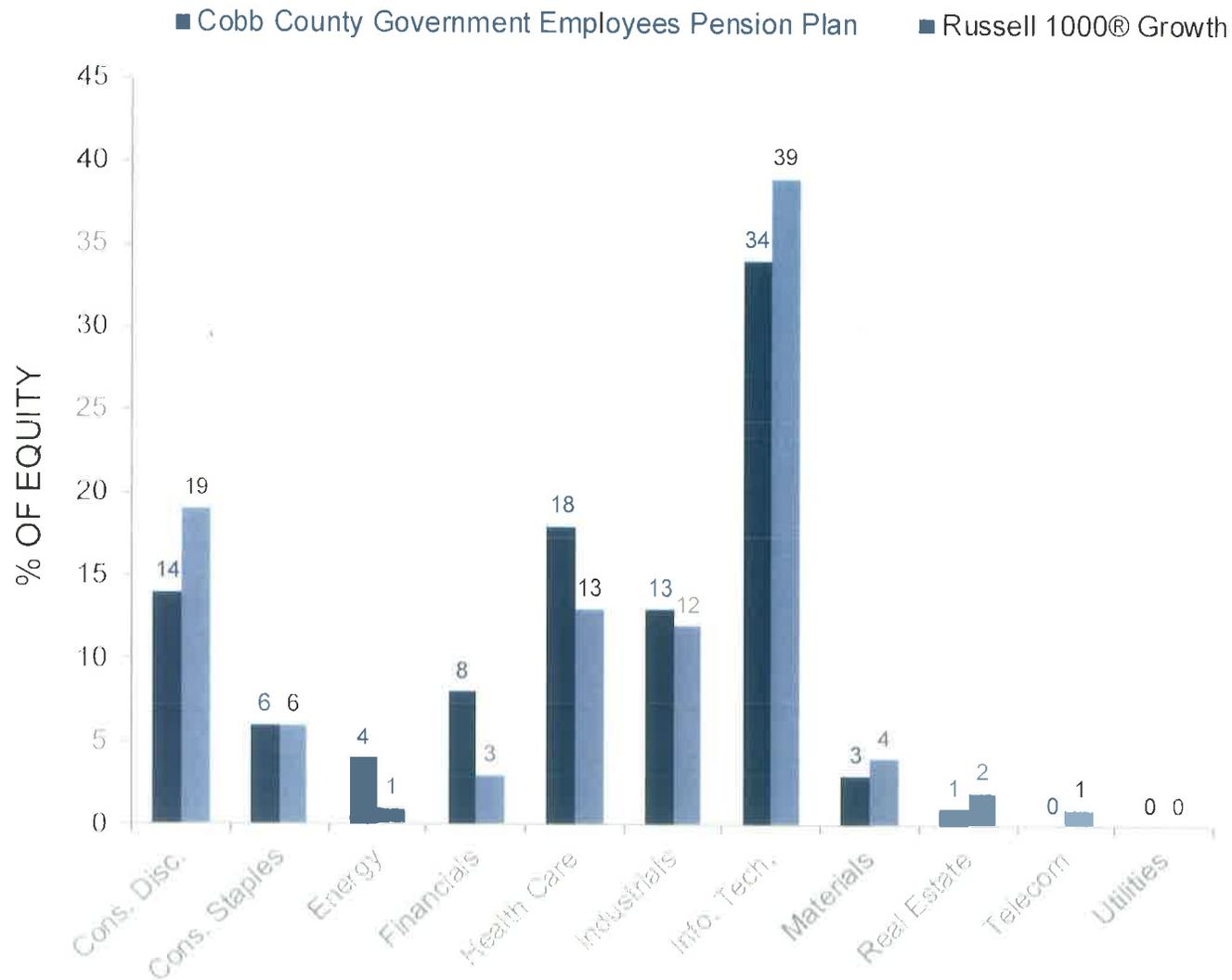
Gross Portfolio Return 3.44
 Benchmark Return 1.77
 Total Active Return 1.67

Sector Name	Avg. Port. Weight	Port. Return	Port. Contribution	Avg. Bench. Weight	Bench. Return	Bench. Contribution	Allocation Effect	Selection Effect	Total Effect
Information Technology	34.10	5.85	2.13	38.61	3.66	1.43	-0.04	0.73	0.69
Energy	2.60	9.39	0.50	0.84	2.53	0.03	0.16	0.22	0.38
Consumer Discretionary	13.54	12.47	1.51	18.58	7.40	1.24	-0.24	0.61	0.37
Financials	7.61	7.23	0.50	3.41	4.40	0.14	0.12	0.23	0.35
Industrials	12.42	-0.74	-0.15	12.63	-2.72	-0.34	0.00	0.26	0.26
Materials	3.42	-5.18	-0.15	3.57	-4.86	-0.15	0.01	0.01	0.02
Consumer Staples	5.34	-10.02	-0.49	6.35	-8.07	-0.51	0.08	-0.07	0.01
Utilities	--	--	--	0.01	9.08	0.00	0.00	--	0.00
Telecommunication Services	0.90	-8.73	-0.10	0.91	-4.39	-0.04	-0.05	-0.01	-0.05
[Cash]	1.92	0.39	0.01	--	--	--	-0.09	--	-0.09
Real Estate	1.70	-9.25	-0.23	2.32	-5.43	-0.14	-0.10	-0.03	-0.13
Health Care	16.46	0.31	-0.09	12.77	0.99	0.13	-0.08	-0.07	-0.15
Total	100.00	3.44	3.44	100.00	1.77	1.77	-0.22	1.89	1.67



Past performance is not indicative of future results - Please see Appendix for Important Disclosures. Source: FactSet Portfolio Analytics

Sector weights are driven by stock selection.



As of April 30, 2018. The holdings and percentages may not represent the current or future portfolio composition. Due to rounding, numbers may not sum to 100%. Please see Appendix for Important Disclosures.

Top ten holdings represent broad diversification.



 \$1,566.13 6.0%	 \$165.26 3.8%	 \$172.00 3.8%	 \$333.56 3.3%	 \$126.88 3.3%
UNITEDHEALTH GROUP [*] \$236.40 2.9%	 \$93.52 2.9%	 \$184.80 2.7%	Alphabet \$1,017.33 2.6%	 \$118.17 2.3%

*Class C Shares

Cobb County Government Employees Pension Plan

WEIGHTED AVG. MARKET CAP (M):	\$227,650	PRICE / EARNINGS:	19.5x	EPS GROWTH:	25.3%
		<small>*2018 est.</small>		<small>*Fwd 2018 est.</small>	

Russell 1000[®] Growth

WEIGHTED AVG. MARKET CAP (M):	\$240,042	PRICE / EARNINGS:	19.9x	EPS GROWTH:	21.1%
		<small>*2018 est.</small>		<small>*Fwd 2018 est.</small>	

Ending price and percentage of the portfolio are as of April 30, 2018. The holdings and percentages may not represent the current or future portfolio composition. Please see Appendix for Important Disclosures. Source: FactSet

Cobb County Government Employees Pension Plan



Quantity	Security Symbol	GICS Sector	Average Cost	Current Price	Market Value	% Port
Information Technology						34.2
11,490	AAPL	Apple Inc	116.66	165.26	1,898,637.40	3.8
10,875	FB	Facebook, Inc	85.48	172.00	1,870,500.00	3.8
12,000	V	Visa Inc	61.88	126.88	1,631,676.80	3.3
15,140	MSFT	Microsoft Corporation	43.02	93.92	1,415,892.80	2.9
3,264	GOOG	Alphabet Inc. Class C	426.13	1,017.33	1,285,905.12	2.6
9,120	CRM	salesforce.com, inc	68.42	120.69	1,103,428.80	2.2
3,067	GOOGL	Alphabet Inc. Class A	342.92	1,018.98	1,086,824.66	2.2
4,660	ADBE	Adobe Systems Incorporated	109.03	221.60	1,032,656.00	2.1
5,130	MA	Mastercard Incorporated	91.04	178.27	914,525.10	1.8
6,750	PYPL	PayPal Holdings Inc	40.46	74.61	727,447.50	1.5
6,710	CTSH	Cognizant Technology Solutions Corporation	66.09	81.62	712,693.20	1.4
3,005	AVGO	Broadcom Inc	184.73	229.42	689,407.10	1.4
4,820	NOV	ServiceNow, Inc	57.45	166.14	667,892.80	1.3
12,515	AMAT	Applied Materials, Inc	34.42	49.67	621,620.05	1.3
3,800	IBM	International Business Machines Corporation	160.12	144.96	511,708.80	1.0
2,240	BABA	Alibaba Group Holding Ltd Sponsored ADR	150.41	178.54	399,929.60	0.8
8,520	QJ	Qorvo Technology, Inc	44.26	45.98	391,749.60	0.8
Health Care						17.5
6,167	UNH	UnitedHealth Group Incorporated	233.65	236.40	1,443,694.60	2.9
4,765	COO	Cooper Companies, Inc	157.83	228.71	1,089,803.15	2.2
11,890	CELG	Celgene Corporation	78.29	87.10	1,029,522.00	2.1
6,370	VRTX	Vertex Pharmaceuticals Incorporated	153.76	153.16	975,629.20	2.0
9,300	STE	STERIS PLC	74.20	94.52	887,542.80	1.8
5,724	JAZZ	Jazz Pharmaceuticals PLC	160.41	162.04	870,276.96	1.8
14,000	ABB	Abbott Laboratories	43.18	68.13	819,051.70	1.7
2,942	BIIB	Biogen Inc	282.48	273.60	804,931.20	1.6
1,350	MTD	Mettler Toledo International Inc	575.41	559.90	757,025.36	1.5
Consumer Discretionary						13.4
1,910	AMZN	Amazon.com, Inc	788.73	1,566.13	3,000,705.08	6.0
7,170	HD	Home Depot, Inc	155.57	184.80	1,325,010.00	2.7
7,346	MAR	Marriott International, Inc	79.26	136.88	1,003,914.60	2.0
22,580	MGM	MGM Resorts International	34.75	31.42	700,886.06	1.4
7,550	APTV	Aptiv PLC	83.51	84.98	638,579.00	1.3

Quantity	Security Symbol	GICS Sector	Average Cost	Current Price	Market Value	% Port
Industrials						12.5
4,971	BA	Boeing Company	277.61	333.56	1,658,126.76	3.3
6,380	UNP	Union Pacific Corporation	69.77	133.63	1,119,819.40	2.3
14,460	AME	AMETEK, Inc	52.40	69.80	1,079,108.00	2.2
11,680	IR	Ingersoll Rand PLC	89.87	83.89	979,835.20	2.0
5,585	ITW	Illinois Tool Works Inc	166.59	142.02	793,181.70	1.6
6,650	UAL	United Continental Holdings, Inc	61.77	67.54	584,221.00	1.2
Financials						7.9
15,460	PGR	Progressive Corporation	42.25	60.29	932,083.40	1.9
4,080	SPGI	S&P Global, Inc	119.98	188.60	769,488.00	1.6
25,370	BAC	Bank of America Corp	25.41	29.92	759,070.40	1.5
4,670	CME	CME Group Inc	155.19	157.68	736,365.60	1.5
7,800	CMA	Comerica Incorporated	91.18	94.68	716,008.00	1.4
Consumer Staples						5.5
4,805	STZ	Constellation Brands, Inc	126.21	233.13	1,120,180.65	2.3
10,360	PM	Philip Morris International Inc	111.63	82.00	849,520.00	1.7
3,840	COST	Costco Wholesale Corporation	186.30	197.16	757,094.40	1.5
Energy						3.7
9,610	EOG	EOG Resources, Inc	100.05	118.17	1,135,613.70	2.3
6,460	VLO	Valero Energy Corporation	93.91	110.93	716,607.80	1.4
Materials						3.3
13,800	DWDP	DowDuPont Inc	54.26	63.24	872,712.00	1.8
7,270	CE	Celanese Corporation	71.98	108.67	790,030.90	1.6
Real Estate						1.1
4,010	AMT	American Tower Corporation	144.70	136.36	546,803.60	1.1

Total Equity	49,227,881.89	99.2
Cash and Cash Equivalents	409,390.64	0.8
Total Portfolio	49,637,072.53	100.0

As of April 30, 2018. The holdings and percentages may not represent the current or future portfolio composition. Please see Appendix for Important Disclosures.

More About Westfield Capital

MISSION STATEMENT

Deliver superior and consistent investment performance based on a disciplined, team-based approach, with exceptional client service.

VISION AND VALUES

Westfield's vision is to be a leading investment manager, widely respected by clients for the clarity of our process, the strength of our performance, and the consistency of our results. We believe our greatest strength comes from the collective wisdom of a fully engaged and inspired team working together with clear objectives.

CULTURE

We maintain a supportive and collegial work environment, predicated on teamwork, collaboration, and mutual respect. Our culture is one of our greatest strengths.

INTEGRITY

We accept only the highest ethical and moral standards. We are firmly committed to transparency, accountability, trust, and a client-first focus.

PHILANTHROPY

Westfield's employees are committed to giving back to the community by helping those in need, either financially or through personal service, a responsibility that we take very seriously.

PARTNERSHIP

We embrace our partnership structure, which aligns the advancement of the organization with our clients, and serves to attract and retain exceptional talent.

Biographies – Investment Team

William A. Muggia

PRESIDENT, CEO & CIO

Market Outlook & Strategy

1994-Present Westfield Capital Management
1992-1994 Alex Brown & Sons
1983-1990 Kidder Peabody & Co
1992 Harvard Business School, MBA
1983 Middlebury College, BA

Rajat Babbar, CFA

VICE PRESIDENT, RISK MANAGER

Risk Manager

2014-Present Westfield Capital Management
2009-2014 Copper Rock Capital Partners
2001-2009 New England Trust, NEAM, OSAM
1998-2001 SEI Investments
1998 University of Illinois, MBA
1995 Delhi College of Engineering, BE

Nate Cunningham

RESEARCH ANALYST

Software & Internet

2018-Present Westfield Capital Management
2015-2018 Guggenheim Securities
2014-2015 Pacific Crest Securities
2013-2014 Rutberg & Company
2013 Georgetown University, BS

Scott R. Emerman, CFA

PARTNER

Consumer Discretionary

2002-Present Westfield Capital Management
1997-2002 Harbor Capital Management
1997-1997 Morgan Stanley Dean Witter
1991-1997 Dean Witter Reynolds
1991 Lehigh University, BS

Samuel D. Ensslin

RESEARCH ANALYST

Industrials, Materials & Energy

2016-Present Westfield Capital Management
2014-2016 Midwood Capital Management
2010-2012 HarbourVest Partners
2008-2010 Harris Williams & Co
2014 The Wharton School of the
University of Pennsylvania, MBA
2007 Babson College, BS

Robert T. Flores

MANAGING PARTNER

Software & Internet

2007-Present Westfield Capital Management
2006 Magnetar
2004-2005 SAC Capital Advisors
2001-2004 Citadel Investment Group
2000-2001 Epiphany Software
1997-1999 Hambrecht & Quist
1992-1995 Fidelity Investments
1997 Haas School of Business, University
of California at Berkeley, MBA
1992 Trinity College, BA

Biographies – Investment Team

William R. Gilchrist

PARTNER

Materials

2007-Present Westfield Capital Management
2006-2007 Hartford Investment Management
2003-2006 Compound Capital Growth Investments
2003 Williams College BA

Jehanne E. Hill

RESEARCH ANALYST

Business, Financial & Consumer Services

2015-Present Westfield Capital Management
2012-2015 Hartford Investment Management
2012 Trinity College BS

Bruce N. Jacobs, CFA

MANAGING PARTNER

Medtech & Consumer Staples

2004-Present Westfield Capital Management
1996-2004 Deutsche Bank Securities
1993-1994 Alex Brown & Sons LTD
1991-1993 Alex Brown & Sons Inc
1996 Harvard Business School MBA
1991 The Wharton School of the
University of Pennsylvania, BS

Garth W. Jonson, CFA

VICE PRESIDENT

Health Services, Big Pharma & Biotechnology - Oncology

2010-Present Westfield Capital Management
2001-2008 Tudor Investment Corporation
1998-2001 The Boston Company Asset
Management, LLC
1996-1998 Fleet Investment Advisors
1994-1996 Fleet Investment Services
1993-1994 Harvard University Faculty of Arts & Sciences
1993 Harvard Institute for Economic Research
1991 Harvard College, AB

Richard D. Lee, CFA

MANAGING PARTNER

DEPUTY CHIEF INVESTMENT OFFICER

Hardware & Semiconductors

2004-Present Westfield Capital Management
2001-2003 KL Financial Group
1999-2000 Wit Soundview Technology Group
1996-1999 Hambrecht & Quist, LLC
1994-1996 Smith Barney
1994 Harvard College, AB

Paul D. McHugh

DIRECTOR OF ESG RESEARCH

Environmental, Social & Governance Concerns

2014-Present Westfield Capital Management
2007-2014 Twillingate Capital
2000-2006 Minot Capital
1998-2000 Putnam Investments
1994-1998 Robertson Stephens & Co
1994 Harvard Business School MBA
1988 St Francis Xavier University, BBA

Biographies – Investment Team

Ethan J. Meyers, CFA

MANAGING PARTNER
DIRECTOR OF RESEARCH

Business, Financial & Consumer Services

1999-Present Westfield Capital Management
1996-1999 Johnson Rice & Company LLC
1996 A.B. Freeman School of Business
Tulane University, BS

John M. Montgomery

MANAGING PARTNER & COO
Portfolio Strategist

2006-Present Westfield Capital Management
2001, 2006 Lehman Brothers
1998-2001 JP Morgan Securities
1994-1998 Morgan Stanley
1987-1992 Procter and Gamble
1994 J.L. Kellogg Graduate School of
Management, Northwestern
University, MM
1987 Trinity College, BA

Michael Poe

SENIOR SECURITY ANALYST
Financials

2016-Present Westfield Capital Management
2015-2016 Surveyor Capital
2012-2015 CDP Capital, Inc
2010-2012 SAC Capital Advisors
2001-2010 Corsair Capital LLC
2001 Princeton University, BA

Matthew R. Renna

SENIOR SECURITY ANALYST

Biotechnology & Pharmaceuticals

2013-Present Westfield Capital Management
2012-2013 Vinik Asset Management
2009-2012 BlackRock Inc
2008-2009 RA Capital Management
2005-2008 Soleil Securities Corporation
2004-2005 Leerink Swan LLC
2001-2004 Merck & Co., Inc
2006 Boston College, Carroll School
of Management, MBA
2001 Boston University, MS
1999 Boston University, BA

Edward D. Richardson

SENIOR SECURITY ANALYST
Industrials

2014-Present Westfield Capital Management
2011-2014 Delaware Investments
2007-2008 Merrill Lynch
2005-2007 TM Capital
2010 Cornell University, MBA
2004 Trinity College, BA

Kevin H. Shin

SENIOR SECURITY ANALYST

Information Technology & Real Estate

2015-Present Westfield Capital Management
2013-2015 Symphony Technology Group
2012-2013 Hellman & Friedman
2010-2012 J.P. Morgan
2009 Columbia University, BA

Biographies – Investment Team

D. Hamlen Thompson

MANAGING PARTNER

Energy & Industrials

2003-Present Westfield Capital Management
1999-2003 HLM Management Company
1994-1999 Fidelity Management & Research Co
1999 Boston College, Carroll School
of Management, MBA
1994 Colby College, BA

Rosie Zhang, CFA

SENIOR SECURITY ANALYST

Consumer Discretionary

2012-Present Westfield Capital Management
2011-2012 Suvoryor Capital
2009-2011 Sirios Capital Management
2007-2009 Lehman Brothers/Barclays Capital
2007 University of Virginia,
McIntire School of Commerce, BS

Strong extended team supports investments.

TRADERS

John R. Myles, CMT

HEAD TRADER

Elizabeth M. Lamberti, CMT

TRADER

Stephen Brown, CFA

TRADER

MARKETING & CLIENT SERVICE

Justin M. Moscardelli

PARTNER

Michael B. Kinney, CFA

VICE PRESIDENT

Jenny A. Muller, CFA

VICE PRESIDENT

Nicholas B. Thompson

HEAD OF INTERNATIONAL BUSINESS

COMPLIANCE, OPERATIONS & FINANCE

Kathryn A. Kearney

PARTNER, CHIEF FINANCIAL OFFICER
& CHIEF COMPLIANCE OFFICER

Dee Silveira

PARTNER, DIRECTOR OF TECHNOLOGY

Steven C. Wilner

PARTNER, DIRECTOR OF OPERATIONS

Kathy M. Balestrieri

VICE PRESIDENT AND TREASURER

Brandi M. McMahon

COMPLIANCE OFFICER

Important Disclosures

The information contained in this presentation is intended for client reporting purposes only and it not intended for use with non-Westfield clients.

The views expressed are those of Westfield Capital Management Company, L.P. as of the date referenced and are subject to change at any time based on market or other conditions. These views are not intended to be and should not be relied upon as investment advice and are not intended to be a forecast of future events or a guarantee of future results. The information provided in this material is not intended to be and should not be considered to be a recommendation or suggestion to engage in or refrain from a particular course of action or to make or hold a particular investment or pursue a particular investment strategy, including whether or not to buy, sell, or hold any of the securities mentioned. It should not be assumed that investments in such securities have been or will be profitable.

Past performance is not indicative of future results. Unless otherwise noted, all returns are presented in U.S. Dollars, gross of management fees, and include the reinvestment of all income. Actual returns will be reduced by investment advisory fees and other expenses that may be incurred in the management of the account. The collection of fees produces a compounding effect on the total rate of return net of management fees. As an example, the effect of investment management fees on the total value of a client's portfolio assuming (a) quarterly fee assessment, (b) \$1,000,000 investment, (c) portfolio return of 8% a year, and (d) 1.00% annual investment advisory fee would be \$10,416 in the first year, and cumulative effects of \$59,816 over five years and \$143,430 over ten years. Our current disclosure statement and fee schedules are set forth on Part 2A of Form ADV, which is available for your review upon request.

Westfield's products are evaluated against the Russell Growth indices, which are designed to measure specific market capitalizations of the U.S. growth equity universe. We have chosen the specified benchmark(s) as they most closely represent our investment strategies. The product's holdings, characteristics and performance may differ substantially from the benchmark. Due to differences in investment restrictions, account holdings, account funding periods, timing of contributions and withdrawals, as well as other factors, client account performance may differ substantially from the composite performance. Please see the next page/Appendix for the GIPS® Compliant Presentation(s).

The returns presented in the attribution report are time-weighted and calculated daily using a beginning of day cash flow assumption. Index weightings represent an average over the specified time period as reported by FactSet. Stock performance is based on price movement during the specified time period or for the time held. Specific securities identified do not represent all of the securities purchased, sold or recommended. A complete list of past recommendations is available upon request. Information on the methodology of the return contribution analysis presented in the attribution table and a complete list of every holding's contribution to performance during the measurement period is also available upon request. For information requests, please contact Westfield at clientservice@wcmgmt.com.

Some of the content on the preceding pages has been supplied by companies that are not affiliated with Westfield ("third party data"). Any third party data contained herein has been obtained from sources believed to be reliable, but the accuracy of the information cannot be guaranteed.

Please contact Westfield if there are any changes in your financial situation or investment objectives, or if you wish to delete, add or modify restrictions to the management of your account. A copy of our Proxy Voting Policy or a report of how proxy ballots were voted for your account can be obtained by contacting our Compliance Department at wcmcompliance@wcmgmt.com or at 617-428-7100.

Large Cap Growth Equity Composite

Performance Presentation (Reported in USD)

Index: Russell 1000® Growth

Period	Returns		3 Yr. Annualized Standard Deviation		Dispersion	As of December 31st			
	Total Gross Return	Total Net Return	Index	Composite	Index	Internal Asset Wtd.	Number of Portfolios	Composite Assets (\$MM)	Total Firm Assets (\$MM)
2016	3.44%	2.89%	7.08%	11.95%	11.15%	0.34%	82	3,421	11,753
2015	3.60%	3.08%	5.67%	11.62%	10.70%	0.20%	102	5,116	15,407
2014	12.49%	11.92%	13.05%	10.65%	9.59%	0.46%	118	6,144	17,498
2013	37.63%	36.93%	33.48%	14.84%	12.18%	0.89%	136	6,076	17,377
2012	17.87%	17.25%	15.26%	18.32%	15.66%	0.31%	154	5,136	14,157
2011	-7.19%	-7.68%	2.64%	19.22%	17.76%	0.32%	189	5,567	14,212
2010	17.18%	16.58%	16.71%			0.40%	167	5,831	15,137
2009	38.71%	38.04%	37.21%			0.65%	123	3,962	12,347
2008	-40.34%	-40.62%	-38.44%			0.78%	104	2,733	8,790
2007	19.42%	18.95%	11.81%			0.16%	63	2,675	13,161

The Large Cap Growth Equity Composite contains fully discretionary accounts that focus on long-term growth in equity securities of predominately Large Cap companies (capitalization of more than \$6 billion at initial purchase) with potential for growth. There is no minimum account size for this composite. For comparison purposes, the composite is evaluated against the Russell 1000® Growth index, which is designed to measure the domestic Large Cap growth equity segment. Previously, the Russell 1000® index was included as a secondary benchmark, however, it is no longer considered applicable. Index returns are not covered by the report of independent verifiers and are provided for informational purposes only. The index returns assume the reinvestment of dividends but do not reflect the impact of fees, applicable taxes or trading costs which may also reduce the returns shown.

Westfield Capital Management Company, L.P. claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS® standards. Westfield Capital Management Company, L.P. has been independently verified for the periods from January 1, 2000 through December 31, 2016. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS® standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS® standards. The Large Cap Growth Equity Composite has been examined for the periods from January 1, 1993 to December 31, 2016. The verification and performance examination reports are available upon request.

Westfield Capital Management Company, L.P. is a registered investment adviser. Registration does not imply a certain level of skill or training. The firm's list of composite descriptions is available upon request. Past performance is not indicative of future results. The performance of any individual account may vary from the composite performance provided above.

The U.S. Dollar is the currency used to express performance. Both gross and net returns reflect the deduction of transaction costs and the reinvestment of income. Gross returns do not reflect the deduction of investment advisory fees or any other expenses that may be incurred in the management of the account. Net performance was calculated using actual management fees except for accounts that were charged a performance based fee; net performance for these accounts was calculated using the highest management fee of 0.65%, applied monthly. The three-year annualized standard deviation measures the variability of the composite and the benchmark returns over the preceding 36-month period. The three-year annualized standard deviation is not presented for 2002 through 2010 because the disclosure is not required for periods prior to 2011. The annual composite dispersion presented is an asset-weighted standard deviation calculated for the accounts in the composite the entire year. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. Beginning January 1, 2010, accounts with significant cash flows (defined as exceeding 50% of an account's total assets) are taken out of the composite for the month during which the cash flow occurred.

The Large Cap Growth Equity Composite was created January 1, 2000. The management fee schedule for this composite is 0.65% on the first \$25 million, 0.60% on the next \$25 million, 0.55% on the next \$25 million, 0.50% on amounts exceeding \$75 million. Actual investment advisory fees incurred by clients may vary.



Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Total Portfolio

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

Cobb County Employees Retirement System March 31, 2018

Accounts Included in this Report

UBS account statements represent the only official record of holdings, balances, transactions and security values of assets in your UBS Financial Services Inc. account and are not replaced, amended or superseded by any information presented in this report. As an accommodation to you, values of accounts that you hold at other financial institutions may be included as part of your UBS IC Consulting Services Agreement based on information, including pricing information, provided to us. This report does not include assets held in your UBS account(s) that are not a part of the Institutional Consulting program unless you have requested that those accounts be included in this report. UBS does not independently verify or guarantee the accuracy or validity of any information provided by sources other than UBS Financial Services Inc. Please see the 'Important Information' section at the end of this report for detailed pricing information.

Account Name	Account Number	Custodian Name
Vaughan Nelson	79xxx49	SunTrust Bank
Blackrock Global Allocation Fund	79xxx61	SunTrust Bank
First Eagle Global Fund	79xxx62	SunTrust Bank
Natixis Loomis Sayles Global Equity	79xxx63	SunTrust Bank
Oppenheimer International Growth	11xxx66	SunTrust Bank
Dodge & Cox International Stock Fund	79xxx35	SunTrust Bank
Vanguard Total International Stock Fund	79xxx53	SunTrust Bank
Eagle Small Cap Growth	79xxx85	SunTrust Bank
Vanguard Intermediate Bond Index Fd	11xxx65	SunTrust Bank
Vanguard Midcap 400 Index Fund	11xxx24	SunTrust Bank
Westfield Capital Large Growth	79xxx32	SunTrust Bank
TCW Large Cap Growth	79xxx76	SunTrust Bank
Vanguard 500 Index	11xxx18	SunTrust Bank
Eagle Capital Large Value	11xxx14	SunTrust Bank
Delaware Diversified Income Fund	79xxx84	SunTrust Bank
Blackrock Strategic Income Opps Fund	79xxx86	SunTrust Bank
Richmond Capital Management	79xxx37	SunTrust Bank

This report is provided for informational purposes only. The information shown was obtained from sources believed to be reliable, the accuracy of which cannot be guaranteed. Account statements provided by UBS or other financial institutions are the official record of your holdings, balances, transactions and security values and are not amended or superseded by any of the information presented in this report. Information is current as of the date shown. Past performance is no guarantee of future returns. See IMPORTANT INFORMATION at end of report for details.

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Performance Analysis

This report is provided for informational purposes only. The information shown was obtained from sources believed to be reliable, the accuracy of which cannot be guaranteed. Account statements provided by UBS or other financial institutions are the official record of your holdings, balances, transactions and security values and are not amended or superseded by any of the information presented in this report. Information is current as of the date shown. Past performance is no guarantee of future returns. See IMPORTANT INFORMATION at end of report for details.

Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

CONSOLIDATED PORTFOLIO BENCHMARK

07/01/2013 - Present

45% Russell 3000
25% Bloomberg Barclays Aggregate Bond
20% MSCI AC World X US Net
10% HFRX Global Hedge Fund Index

10/01/2010 - 06/30/2013

45% Russell 3000
30% Bloomberg Barclays Aggregate Bond
15% MSCI Net EAFE
10% HFRX Global Hedge Fund Index

04/01/2010 - 09/30/2010

42% Russell 3000
35% Bloomberg Barclays Aggregate Bond
13% MSCI Net EAFE
10% HFRX Global Hedge Fund Index

10/01/2009 - 03/31/2010

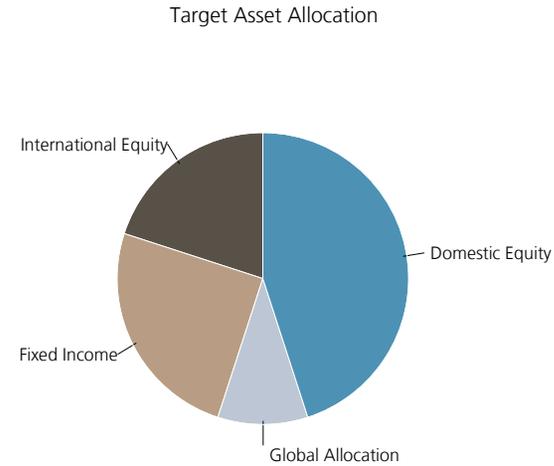
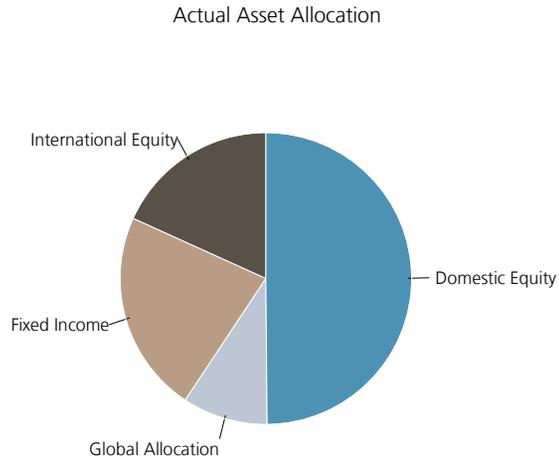
50% Russell 3000
35% Bloomberg Barclays Aggregate Bond
15% MSCI Net EAFE

06/30/1994 - 09/30/2009

45% Bloomberg Barclays Aggregate Bond
45% Russell 3000
10% MSCI Net EAFE

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Actual vs Target Asset Allocation As of March 31, 2018



	Market Value Actual	Percent Actual	Market Value Target	Percent Target	Market Value Difference	Percent Difference
Fixed Income	142,952,361.2	22.4%	159,384,582.5	25.0%	(16,432,221.3)	(2.6%)
Domestic Equity	317,860,531.4	49.9%	286,892,248.5	45.0%	30,968,282.8	4.9%
International Equity	116,315,917.6	18.2%	127,507,666.0	20.0%	(11,191,748.4)	(1.8%)
Global Allocation	60,409,519.9	9.5%	63,753,833.0	10.0%	(3,344,313.1)	(0.5%)
Total Fund	\$637,538,330.1	100.0%	\$637,538,330.1	100.0%	\$0.0	0.0%

This report is provided for informational purposes only. The information shown was obtained from sources believed to be reliable, the accuracy of which cannot be guaranteed. Account statements provided by UBS or other financial institutions are the official record of your holdings, balances, transactions and security values and are not amended or superseded by any of the information presented in this report. Information is current as of the date shown. Past performance is no guarantee of future returns. See IMPORTANT INFORMATION at end of report for details.

Performance Summary - Gross of Fees
Cobb County Employees Retirement System
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
Composite	06/30/1994	\$637,538,330	0.04%	17	0.04%	17	11.96%	4	7.11%	27	8.67%	28	8.29%	21	8.34%
<i>Policy Index</i>			-0.94%	72	-0.94%	72	10.06%	41	6.27%	58	7.74%	57	7.54%	62	7.81%
<i>Dynamic Index</i>			-0.88%	64	-0.88%	64	9.91%	43	6.20%	62	7.82%	55	7.52%	62	
Fixed Income															
Vanguard Intermediate Bond Index Fd	02/28/2005	\$44,378,032	-1.98%	99	-1.98%	99	0.53%	85	1.17%	53	1.78%	46	3.79%	9	4.71%
<i>Barclays Int Gov/Cr</i>			-0.98%	11	-0.98%	11	0.35%	92	0.94%	70	1.25%	83	2.25%	90	3.48%
Richmond Capital Management	07/31/2007	\$50,948,453	-1.47%	58	-1.47%	58	1.65%	30	1.73%	20	2.31%	17	3.70%	13	4.66%
<i>Barclays Govt/Credit</i>			-1.58%	76	-1.58%	76	1.38%	43	1.22%	48	1.84%	42	3.15%	39	4.15%
Blackrock Strategic Income Opps Fund	05/31/2011	\$24,117,958	0.34%	1	0.34%	1	3.80%	1	2.31%	1	2.91%	1			3.26%
<i>Barclays Aggregate</i>			-1.46%	58	-1.46%	58	1.20%	53	1.20%	50	1.82%	43			2.61%
Delaware Diversified Income Fund	05/31/2011	\$23,507,918	-0.99%	11	-0.99%	11	2.63%	2	1.67%	23	2.16%	24			2.96%
<i>Barclays Aggregate</i>			-1.46%	58	-1.46%	58	1.20%	53	1.20%	50	1.82%	43			2.61%
Large Cap Value															
Eagle Capital Large Value	12/31/2002	\$66,764,418	0.53%	1	0.53%	1	17.72%	1	12.25%	1	14.67%	1	14.25%	1	13.48%
<i>Russell 1000 Value</i>			-2.83%	74	-2.83%	74	6.95%	88	7.88%	64	10.78%	72	11.00%	61	9.19%
Large Cap Core															
Vanguard 500 Index	05/31/1999	\$75,321,667	-0.75%	38	-0.75%	38	13.96%	32	10.73%	5	13.27%	8	12.67%	5	5.94%
<i>S&P 500 Index</i>			-0.76%	38	-0.76%	38	13.99%	31	10.78%	4	13.31%	6	12.71%	4	5.83%
Large Cap Growth															
TCW Large Cap Growth	04/30/2013	\$34,685,019	4.27%	21	4.27%	21	22.15%	39	11.87%	44					13.76%
<i>Russell 1000 Growth</i>			1.42%	61	1.42%	61	21.25%	47	12.90%	27					15.32%
Westfield Capital Large Growth	07/31/2007	\$49,385,857	2.92%	39	2.92%	39	23.51%	30	12.11%	42	15.46%	44	12.79%	65	9.05%
<i>Russell 1000 Growth</i>			1.42%	61	1.42%	61	21.25%	47	12.90%	27	15.53%	39	14.09%	28	9.99%
Mid Cap Core															
Vanguard Midcap 400 Index Fund	05/31/2004	\$47,159,716	0.00%	12	0.00%	12	12.34%	19	7.87%	34	12.26%	11	11.31%	11	10.41%
<i>Russell Midcap</i>			-0.46%	18	-0.46%	18	12.20%	21	8.01%	30	12.09%	12	11.51%	8	10.09%
Small Cap Value															
Vaughan Nelson	04/30/2009	\$21,444,887	-1.78%	43	-1.78%	43	4.97%	77	6.83%	80	12.20%	29	11.03%	50	15.94%
<i>Russell 2000 Value</i>			-2.64%	62	-2.64%	62	5.13%	77	7.87%	65	9.96%	79	9.42%	83	14.04%
Small Cap Growth															
Eagle Small Cap Growth	10/31/2010	\$23,098,967	3.23%	47	3.23%	47	18.56%	58	11.53%	29	12.97%	70	11.81%	65	14.35%
<i>Russell 2000 Growth</i>			2.30%	60	2.30%	60	18.63%	57	8.77%	70	12.90%	72	11.29%	74	13.71%

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**Performance Summary - Gross of Fees
Cobb County Employees Retirement System
As of March 31, 2018**

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
International Equity															
Vanguard Total International Stock Fund	11/30/2006	\$39,555,872	-0.45%	29	-0.45%	29	17.10%	25	6.95%	10	6.43%	45	4.67%	60	3.40%
<i>International Index</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32	6.35%	49	5.20%	40	2.74%
Dodge & Cox International Stock Fund	07/31/2007	\$37,596,863	-2.14%	94	-2.14%	94	10.98%	98	3.68%	95	7.19%	20	5.47%	29	2.95%
<i>International Index</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32	6.35%	49	5.20%	40	1.78%
Oppenheimer International Growth	05/31/2014	\$39,163,182	0.18%	10	0.18%	10	18.27%	8	7.33%	7					4.10%
<i>MSCI AC Wld X US Net</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32					3.65%
Global Allocation															
Global Allocation	03/31/2010	\$60,409,520	0.05%	20	0.05%	20	10.57%	22	6.14%	5	6.75%	9	6.31%	23	7.29%
<i>HFRX Global Hedge</i>			-1.02%	61	-1.02%	61	3.21%	99	0.51%	99	1.29%	98	0.47%	99	0.89%

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Performance Summary - Net of Fees
Cobb County Employees Retirement System
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
Composite	06/30/1994	\$637,538,330	-0.01%	20	-0.01%	20	11.72%	10	6.86%	42	8.43%	35	8.05%	32	8.07%
<i>Policy Index</i>			-0.94%	72	-0.94%	72	10.06%	41	6.27%	58	7.74%	57	7.54%	62	7.81%
<i>Dynamic Index</i>			-0.88%	64	-0.88%	64	9.91%	43	6.20%	62	7.82%	55	7.52%	62	
Fixed Income															
Vanguard Intermediate Bond Index Fd	02/28/2005	\$44,378,032	-1.98%	99	-1.98%	99	0.53%	85	1.17%	53	1.78%	46	3.79%	9	4.71%
<i>Barclays Int Gov/Cr</i>			-0.98%	11	-0.98%	11	0.35%	92	0.94%	70	1.25%	83	2.25%	90	3.48%
Richmond Capital Management	07/31/2007	\$50,948,453	-1.52%	68	-1.52%	68	1.43%	41	1.50%	31	2.09%	27	3.48%	21	4.43%
<i>Barclays Govt/Credit</i>			-1.58%	76	-1.58%	76	1.38%	43	1.22%	48	1.84%	42	3.15%	39	4.15%
Blackrock Strategic Income Opps Fund	05/31/2011	\$24,117,958	0.34%	1	0.34%	1	3.80%	1	2.31%	1	2.91%	1			3.26%
<i>Barclays Aggregate</i>			-1.46%	58	-1.46%	58	1.20%	53	1.20%	50	1.82%	43			2.61%
Delaware Diversified Income Fund	05/31/2011	\$23,507,918	-0.99%	11	-0.99%	11	2.63%	2	1.67%	23	2.16%	24			2.96%
<i>Barclays Aggregate</i>			-1.46%	58	-1.46%	58	1.20%	53	1.20%	50	1.82%	43			2.61%
Large Cap Value															
Eagle Capital Large Value	12/31/2002	\$66,764,418	0.35%	1	0.35%	1	16.85%	1	11.40%	1	13.85%	1	13.44%	1	12.54%
<i>Russell 1000 Value</i>			-2.83%	65	-2.83%	65	6.95%	80	7.88%	50	10.78%	51	11.00%	43	9.19%
Large Cap Core															
Vanguard 500 Index	05/31/1999	\$75,321,667	-0.75%	38	-0.75%	38	13.96%	32	10.73%	5	13.27%	8	12.67%	5	5.94%
<i>S&P 500 Index</i>			-0.76%	38	-0.76%	38	13.99%	31	10.78%	4	13.31%	6	12.71%	4	5.83%
Large Cap Growth															
TCW Large Cap Growth	04/30/2013	\$34,685,019	4.27%	17	4.27%	17	21.79%	37	11.21%	45					13.17%
<i>Russell 1000 Growth</i>			1.42%	57	1.42%	57	21.25%	43	12.90%	17					15.32%
Westfield Capital Large Growth	07/31/2007	\$49,385,857	2.78%	38	2.78%	38	22.82%	30	11.45%	40	14.78%	39	12.11%	71	8.42%
<i>Russell 1000 Growth</i>			1.42%	57	1.42%	57	21.25%	43	12.90%	17	15.53%	22	14.09%	18	9.99%
Mid Cap Core															
Vanguard Midcap 400 Index Fund	05/31/2004	\$47,159,716	0.00%	12	0.00%	12	12.34%	19	7.87%	34	12.26%	11	11.31%	11	10.41%
<i>Russell Midcap</i>			-0.46%	18	-0.46%	18	12.20%	21	8.01%	30	12.09%	12	11.51%	8	10.09%
Small Cap Value															
Vaughan Nelson	04/30/2009	\$21,444,887	-2.02%	42	-2.02%	42	3.93%	80	5.77%	83	11.08%	30	9.93%	50	14.80%
<i>Russell 2000 Value</i>			-2.64%	58	-2.64%	58	5.13%	68	7.87%	42	9.96%	60	9.42%	64	14.04%
Small Cap Growth															
Eagle Small Cap Growth	10/31/2010	\$23,098,967	3.05%	51	3.05%	51	17.70%	59	10.70%	34	12.13%	68	10.98%	68	13.53%
<i>Russell 2000 Growth</i>			2.30%	59	2.30%	59	18.63%	54	8.77%	60	12.90%	55	11.29%	58	13.71%

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Performance Summary - Net of Fees
Cobb County Employees Retirement System
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
International Equity															
Vanguard Total International Stock Fund	11/30/2006	\$39,555,872	-0.45%	29	-0.45%	29	17.10%	25	6.95%	10	6.43%	45	4.67%	60	3.40%
<i>International Index</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32	6.35%	49	5.20%	40	2.74%
Dodge & Cox International Stock Fund	07/31/2007	\$37,596,863	-2.14%	94	-2.14%	94	10.98%	98	3.68%	95	7.19%	20	5.47%	29	2.95%
<i>International Index</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32	6.35%	49	5.20%	40	1.78%
Oppenheimer International Growth	05/31/2014	\$39,163,182	0.18%	10	0.18%	10	18.27%	8	7.33%	7					4.10%
<i>MSCI AC Wld X US Net</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32					3.65%
Global Allocation															
Global Allocation	03/31/2010	\$60,409,520	0.05%	20	0.05%	20	10.57%	22	6.14%	5	6.75%	9	6.31%	23	7.29%
<i>HFRX Global Hedge</i>			-1.02%	61	-1.02%	61	3.21%	99	0.51%	99	1.29%	98	0.47%	99	0.89%

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Total Portfolio Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
Gross Time Weighted Return	0.04	0.04	11.96	7.11	8.67	7.64	8.34	06/30/1994	\$637,538,330
Universe Median	-0.68	-0.68	9.69	6.67	8.14	6.88			
Policy Index	-0.94	-0.94	10.06	6.27	7.74	6.66	7.81		
%-tile	17	17	4	27	28	1			

(45% Russell 3000, 25% Bloomberg Barclays Aggregate Bond, 20% MSCI AC World X US Net, 10% HFRX Global Hedge Fund Index, established 7/31/2013)

Vanguard Intermediate Bond Index Fd - (Total Portfolio)

Gross Time Weighted Return	-1.98	-1.98	0.53	1.17	1.78	4.50	4.71	02/28/2005	\$44,378,032
Universe Median	-1.41	-1.41	1.26	1.20	1.74	3.95	3.97		
BB Int Gov/Cr	-0.98	-0.98	0.35	0.94	1.25	2.92	3.48		
%-tile	99	99	85	53	46	17	7		

(100.00% BB Int Gov/Cr; established 2/28/2005)

Richmond Capital Management - (Total Portfolio)

Gross Time Weighted Return	-1.47	-1.47	1.65	1.73	2.31	4.30	4.66	07/31/2007	\$50,948,453
Universe Median	-1.41	-1.41	1.26	1.20	1.74	3.95	4.17		
BB Gov/Cr Bond	-1.58	-1.58	1.38	1.22	1.84	3.65	4.15		
%-tile	58	58	30	20	17	28	21		

(100.00% BB Gov/Cr Bond; established 7/31/2007)

Blackrock Strategic Income Opps Fund - (Total Portfolio)

Gross Time Weighted Return	0.34	0.34	3.80	2.31	2.91		3.26	05/31/2011	\$24,117,958
Universe Median	-1.41	-1.41	1.26	1.20	1.74		2.74		
BB Agg Bond	-1.46	-1.46	1.20	1.20	1.82		2.61		
%-tile	1	1	1	1	1		18		

(100.00% BB Agg Bond; established 5/31/2011)

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
Delaware Diversified Income Fund - (Total Portfolio)									
Gross Time Weighted Return	-0.99	-0.99	2.63	1.67	2.16		2.96	05/31/2011	\$23,507,918
Universe Median	-1.41	-1.41	1.26	1.20	1.74		2.74		
BB Agg Bond	-1.46	-1.46	1.20	1.20	1.82		2.61		
%-tile	11	11	2	23	24		34		
<small>(100.00% BB Agg Bond; established 5/31/2011)</small>									
Eagle Capital Large Value - (Total Portfolio)									
Gross Time Weighted Return	0.53	0.53	17.72	12.25	14.67	13.49	13.48	12/31/2002	\$66,764,418
Universe Median	-2.22	-2.22	10.10	8.54	11.57	8.87	9.96		
Russell 1000 Value	-2.83	-2.83	6.95	7.88	10.78	7.78	9.19		
%-tile	1	1	1	1	1	1	1		
<small>(100.00% Russell 1000 Value; established 12/31/2002)</small>									
Vanguard 500 Index - (Total Portfolio)									
Gross Time Weighted Return	-0.75	-0.75	13.96	10.73	13.27	9.56	5.94	05/31/1999	\$75,321,667
Universe Median	-0.89	-0.89	13.30	9.15	12.19	8.69	5.68		
S&P 500 Index	-0.76	-0.76	13.99	10.78	13.31	9.49	5.83		
%-tile	38	38	32	5	8	12	39		
<small>(100.00% S&P 500 Index; established 5/31/1999)</small>									
TCW Large Cap Growth - (Total Portfolio)									
Gross Time Weighted Return	4.27	4.27	22.15	11.87			13.76	04/30/2013	\$34,685,019
Universe Median	2.03	2.03	20.96	11.66			15.15		
Russell 1000 Growth	1.42	1.42	21.25	12.90			15.32		
%-tile	21	21	39	44			71		
<small>(100.00% Russell 1000 Growth; established 4/30/2013)</small>									

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
Westfield Capital Large Growth - (Total Portfolio)									
Gross Time Weighted Return	2.92	2.92	23.51	12.11	15.46	9.99	9.05	07/31/2007	\$49,385,857
Universe Median	2.03	2.03	20.96	11.66	15.14	10.98	9.88		
Russell 1000 Growth	1.42	1.42	21.25	12.90	15.53	11.34	9.99		
%-tile	39	39	30	42	44	72	70		
<small>(100.00% Russell 1000 Growth; established 7/31/2007)</small>									
Vanguard Midcap 400 Index Fund - (Total Portfolio)									
Gross Time Weighted Return	0.00	0.00	12.34	7.87	12.26	10.23	10.41	05/31/2004	\$47,159,716
Universe Median	-1.05	-1.05	10.06	6.57	10.66	9.29	9.04		
Russell Midcap	-0.46	-0.46	12.20	8.01	12.09	10.21	10.09		
%-tile	12	12	19	34	11	18	1		
<small>(100.00% Russell Midcap; established 5/31/2004)</small>									
Vaughan Nelson - (Total Portfolio)									
Gross Time Weighted Return	-1.78	-1.78	4.97	6.83	12.20		15.94	04/30/2009	\$21,444,887
Universe Median	-2.06	-2.06	7.69	8.40	11.37		15.94		
Russell 2000 Value	-2.64	-2.64	5.13	7.87	9.96		14.04		
%-tile	43	43	77	80	29		49		
<small>(100.00% Russell 2000 Value; established 4/30/2009)</small>									
Eagle Small Cap Growth - (Total Portfolio)									
Gross Time Weighted Return	3.23	3.23	18.56	11.53	12.97		14.35	10/31/2010	\$23,098,967
Universe Median	3.14	3.14	20.96	10.30	13.87		14.91		
Russell 2000 Growth	2.30	2.30	18.63	8.77	12.90		13.71		
%-tile	47	47	58	29	70		64		
<small>(100.00% Russell 2000 Growth; established 10/31/2010)</small>									

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
Vanguard Total International Stock Fund - (Total Portfolio)									
Gross Time Weighted Return	-0.45	-0.45	17.10	6.95	6.43	3.04	3.40	11/30/2006	\$39,555,872
Universe Median	-0.81	-0.81	15.61	5.59	6.34	2.60	2.72		
International Index	-1.18	-1.18	16.53	6.18	6.35	2.67	2.74		
%-tile	29	29	25	10	45	32	30		

(100% MSCI AC World X US Net, established 7/01/2013)

Dodge & Cox International Stock Fund - (Total Portfolio)

Gross Time Weighted Return	-2.14	-2.14	10.98	3.68	7.19	4.16	2.95	07/31/2007	\$37,596,863
Universe Median	-0.81	-0.81	15.61	5.59	6.34	2.60	1.77		
International Index	-1.18	-1.18	16.53	6.18	6.35	2.67	1.78		
%-tile	94	94	98	95	20	11	19		

(100% MSCI AC World X US Net, established 7/01/2013)

Oppenheimer International Growth - (Total Portfolio)

Gross Time Weighted Return	0.18	0.18	18.27	7.33			4.10	05/31/2014	\$39,163,182
Universe Median	-0.81	-0.81	15.61	5.59			3.51		
MSCI AC Wld X US Net	-1.18	-1.18	16.53	6.18			3.65		
%-tile	10	10	8	7			34		

(100.00% MSCI AC Wld X US Net, established 5/31/2014)

Natixis Loomis Sayles Global Equity - (Total Portfolio)

Gross Time Weighted Return	1.62	1.62	17.13				10.76	11/30/2015	\$20,410,150
Universe Median	-0.72	-0.72	8.62				7.31		
HFRX Global Hedge	-1.02	-1.02	3.21				2.58		
%-tile	1	1	1				1		

(100.00% HFRX Global Hedge, established 11/30/2015)

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
First Eagle Global Fund - (Total Portfolio)									
Gross Time Weighted Return	-1.06	-1.06	6.76	6.64	7.12		8.21	03/31/2010	\$21,588,964
Universe Median	-0.72	-0.72	8.62	4.29	5.38		6.16		
HFRX Global Hedge	-1.02	-1.02	3.21	0.51	1.29		0.89		
%-tile	64	64	75	1	4		1		

(100.00% HFRX Global Hedge; established 3/31/2010)

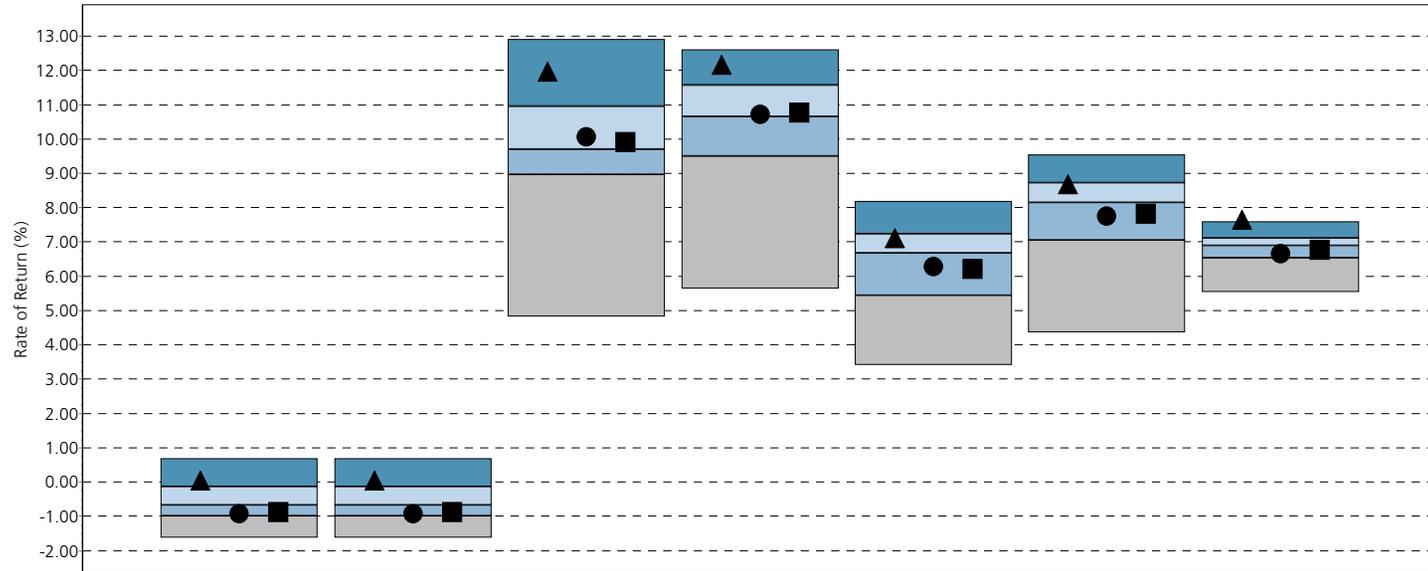
Blackrock Global Allocation Fund - (Total Portfolio)

Gross Time Weighted Return	-0.35	-0.35	8.38	4.39	5.60		5.89	03/31/2010	\$18,410,406
Universe Median	-0.72	-0.72	8.62	4.29	5.38		6.16		
HFRX Global Hedge	-1.02	-1.02	3.21	0.51	1.29		0.89		
%-tile	31	31	55	47	43		56		

(100.00% HFRX Global Hedge; established 3/31/2010)

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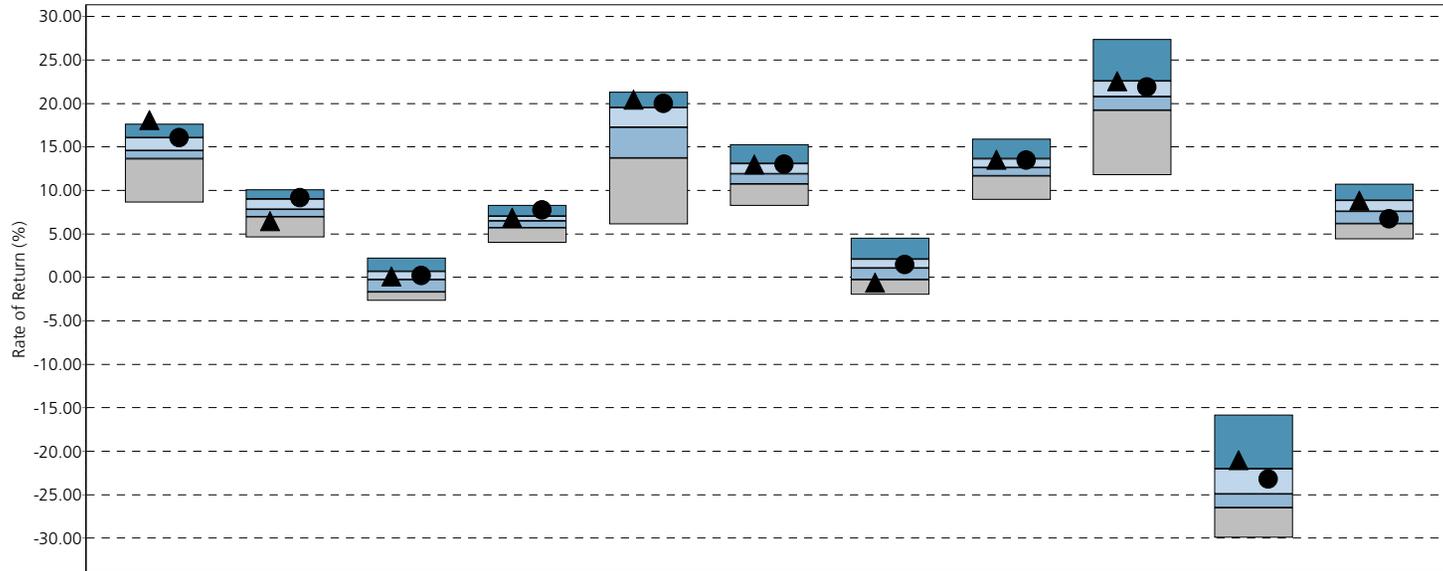
Consolidated Portfolio vs Master Trusts - Public : Plans < \$1 Billion Managers
June 30, 1994 Through March 31, 2018



	<u>Latest Quarter</u>		<u>Year To Date</u>		<u>One Year</u>		<u>Two Years</u>		<u>Three Years</u>		<u>Five Years</u>		<u>Ten Years</u>	
Highest Value	0.67		0.67		12.89		12.61		8.19		9.53		7.58	
First Quartile	-0.14		-0.14		10.95		11.57		7.22		8.72		7.10	
Median Value	-0.68		-0.68		9.69		10.65		6.67		8.14		6.88	
Third Quartile	-0.99		-0.99		8.96		9.49		5.43		7.06		6.53	
Lowest Value	-1.63		-1.63		4.83		5.63		3.40		4.35		5.54	
Mean	-0.57		-0.57		9.63		10.27		6.31		7.71		6.76	
Members	68		68		66		66		66		64		52	
	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Total Portfolio	0.04	17	0.04	17	11.96	4	12.16	10	7.11	27	8.67	28	7.64	1
● Policy Index	-0.94	72	-0.94	72	10.06	41	10.71	48	6.27	58	7.74	57	6.66	68
■ Dynamic Index	-0.88	64	-0.88	64	9.91	43	10.78	47	6.20	62	7.82	55	6.76	61

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Consolidated Portfolio vs Master Trusts - Public : Plans < \$1 Billion Managers
December 31, 2003 Through December 31, 2017



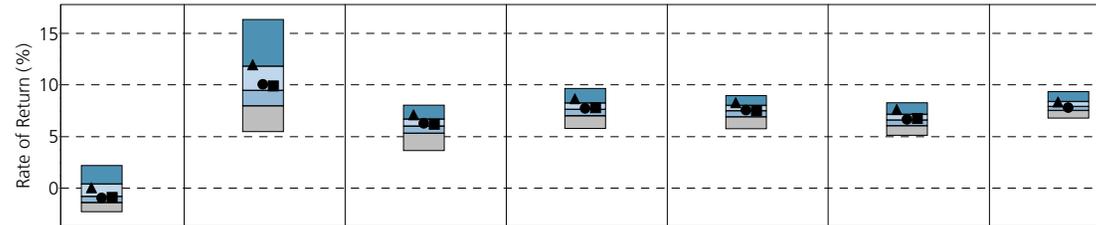
	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
Highest Value	17.66	10.12	2.21	8.25	21.36	15.31	4.55	15.93	27.33	-15.86	10.72
First Quartile	16.07	8.96	0.64	7.01	19.48	13.05	2.09	13.64	22.58	-22.08	8.80
Median Value	14.56	7.80	-0.24	6.48	17.23	11.86	1.06	12.57	20.78	-24.93	7.54
Third Quartile	13.62	6.91	-1.71	5.70	13.68	10.75	-0.24	11.69	19.20	-26.48	6.19
Lowest Value	8.56	4.58	-2.70	3.97	6.11	8.23	-1.99	8.92	11.75	-29.95	4.36
Mean	14.56	7.86	-0.45	6.33	15.94	11.83	0.95	12.52	20.51	-24.24	7.54
Members	78	73	70	70	69	68	68	67	59	54	63

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>											
▲ Total Portfolio	18.13	1	6.47	87	0.14	41	6.83	36	20.45	3	13.02	27	-0.61	82	13.51	28	22.58	25	-21.04	15	8.84	22
● Policy Benchmark	16.04	25	9.12	19	0.16	41	7.70	6	19.95	16	12.97	28	1.44	37	13.46	28	21.85	40	-23.18	35	6.74	64

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Consolidated Portfolio Peer Universe Comparison versus 50% Equity, 35% Fixed, 15% International Managers

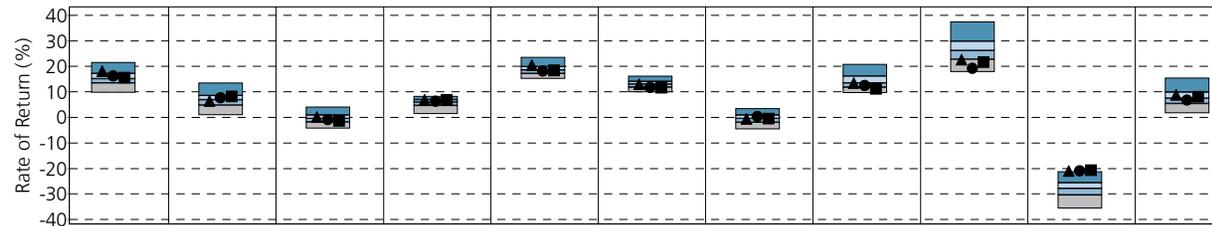
Trailing Periods



	Quarter	One Year	Three Years	Five Years	Seven Years	Ten Years	6/1994-3/2018
Highest Value	2.20	16.35	8.04	9.66	8.98	8.29	9.35
First Quartile	0.40	11.80	6.68	8.24	8.00	7.15	8.39
Median Value	-0.82	9.47	6.00	7.62	7.50	6.60	7.92
Third Quartile	-1.42	7.96	5.32	7.00	6.91	6.05	7.51
Lowest Value	-2.29	5.44	3.63	5.74	5.72	5.09	6.75
Mean	-0.49	9.94	5.98	7.65	7.45	6.61	7.95

	Return	Rank												
▲ Total Portfolio	0.04	31	11.96	24	7.11	13	8.67	13	8.29	13	7.64	10	8.34	27
● Policy Index	-0.94	55	10.06	40	6.27	39	7.74	44	7.54	47	6.66	46	7.81	56
■ Dynamic Index	-0.88	52	9.91	42	6.20	42	7.82	41	7.52	48	6.76	41	N/A	N/A

Annual Periods



	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Highest Value	21.58	13.46	4.09	8.30	23.56	16.14	3.38	20.78	37.35	-21.30	15.36
First Quartile	17.25	8.59	0.94	6.87	19.96	14.13	0.82	16.20	29.76	-25.56	9.93
Median Value	15.18	6.81	-0.46	5.93	18.52	13.01	-0.48	13.42	26.17	-27.87	7.49
Third Quartile	13.40	4.71	-1.76	4.64	17.24	11.86	-1.91	11.75	22.80	-30.35	5.43
Lowest Value	9.74	0.90	-4.38	1.36	15.11	9.85	-4.70	9.54	17.86	-35.70	1.64
Mean	15.40	6.67	-0.36	5.65	18.66	13.00	-0.55	14.06	26.42	-28.04	7.84

	Return	Rank												
▲ Total Portfolio	18.13	17	6.47	54	0.14	38	6.83	26	20.45	18	13.02	49	-0.61	52
● Policy Index	16.12	36	7.64	37	-0.96	59	6.22	42	18.13	57	11.67	78	0.23	36
■ Dynamic Index	15.61	43	8.21	29	-1.32	66	6.88	24	18.47	50	11.61	79	-0.41	48

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Performance Profile
June 30, 1994 Through March 31, 2018

	Ended	Return
Best Quarter	6/1997	14.08
Worst Quarter	9/2011	-11.22
Best 4 Quarters	3/1998	35.16
Worst 4 Quarters	3/2009	-21.72

Total # of Periods: 285
 # of Positive Periods: 184
 # of Negative Periods: 101

	Latest Month	Latest Quarter	One Year	Two Years	Three Years	Five Years	Ten Years	Since Inception
Consolidated Portfolio	-1.12	0.04	11.96	12.16	7.11	8.67	7.64	8.34
Policy Index	-1.19	-0.94	10.06	10.71	6.27	7.74	6.66	7.81
Excess	0.08	0.98	1.90	1.45	0.84	0.93	0.98	0.52
Riskless Index	0.14	0.35	1.07	0.73	0.55	0.36	0.37	2.60
Real ROR	-1.32	-1.16	9.53	9.73	5.21	7.25	6.02	5.99
CPI	0.20	1.20	2.22	2.22	1.81	1.32	1.53	2.21

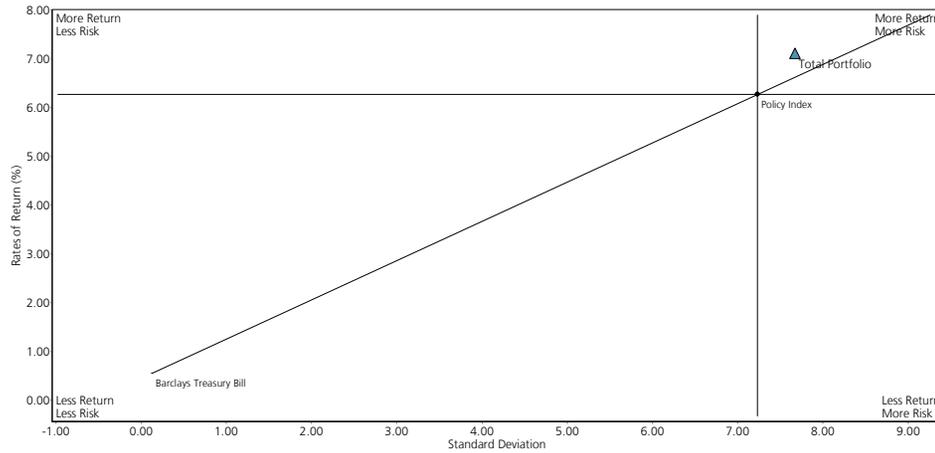
Period	Return	Std Dev	Sharpe Ratio	Alpha	Beta	R-Squared	Relative Risk	Track Error	Treynor Ratio	Info Ratio
One Year	11.96	5.86	1.86	1.09	1.08	98.01	1.09	0.92	10.12	1.90
Two Years	12.16	5.13	2.23	0.59	1.08	96.73	1.10	1.00	10.61	1.34
Three Years	7.11	7.57	0.87	0.53	1.05	98.20	1.06	1.08	6.24	0.76
Five Years	8.67	7.29	1.14	0.49	1.06	98.29	1.06	1.03	7.88	0.87
Ten Years	7.64	10.37	0.70	0.58	1.06	98.38	1.07	1.46	6.84	0.68
Since Inception	8.34	9.41	0.61	0.20	1.07	93.96	1.10	2.39	5.37	0.23

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Risk vs Reward Analysis

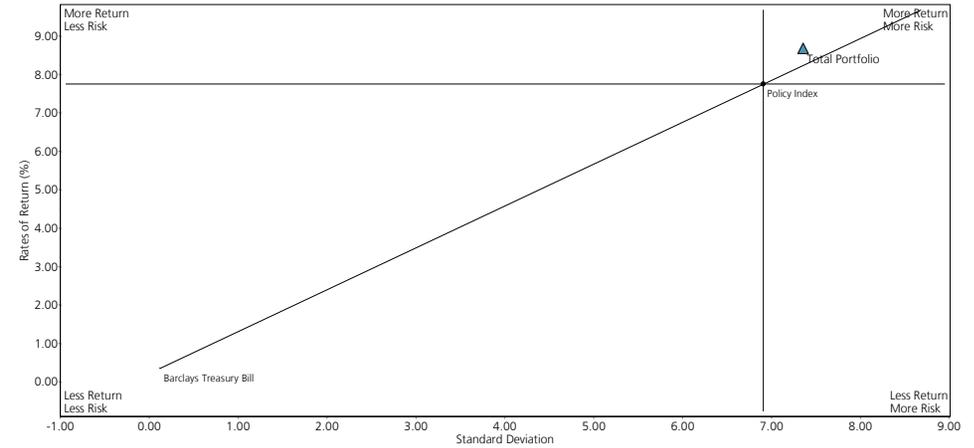
June 30, 1994 Through March 31, 2018

3 Years



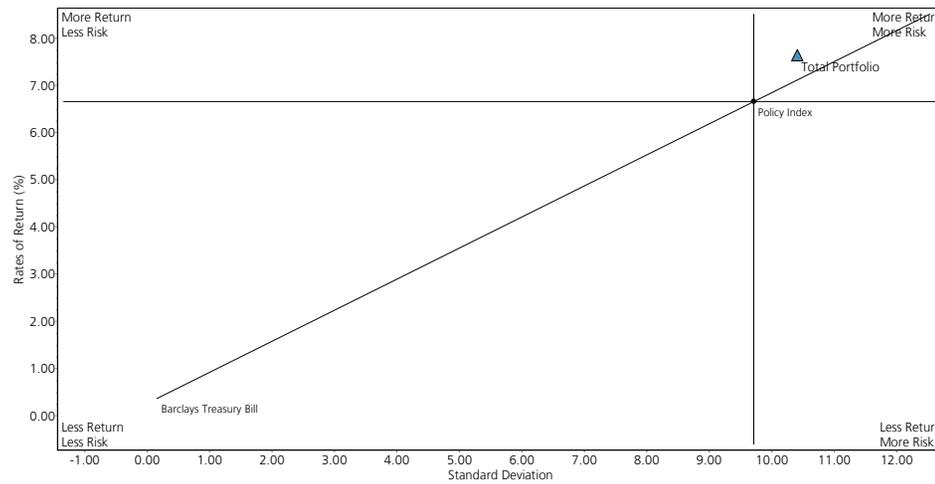
	Return	Std Dev	Alpha	Beta	R-Squared	Sharpe Ratio	Info Ratio
▲ Total Portfolio	7.11	7.67	0.53	1.05	98.20	0.85	0.75

5 Years



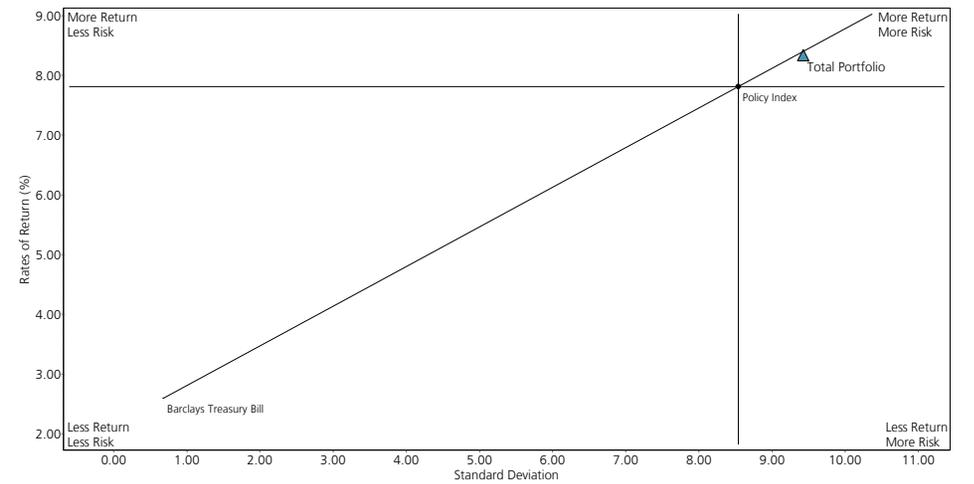
	Return	Std Dev	Alpha	Beta	R-Squared	Sharpe Ratio	Info Ratio
▲ Total Portfolio	8.67	7.36	0.49	1.06	98.29	1.13	0.86

10 Years



	Return	Std Dev	Alpha	Beta	R-Squared	Sharpe Ratio	Info Ratio
▲ Total Portfolio	7.64	10.41	0.58	1.06	98.38	0.70	0.67

Inception

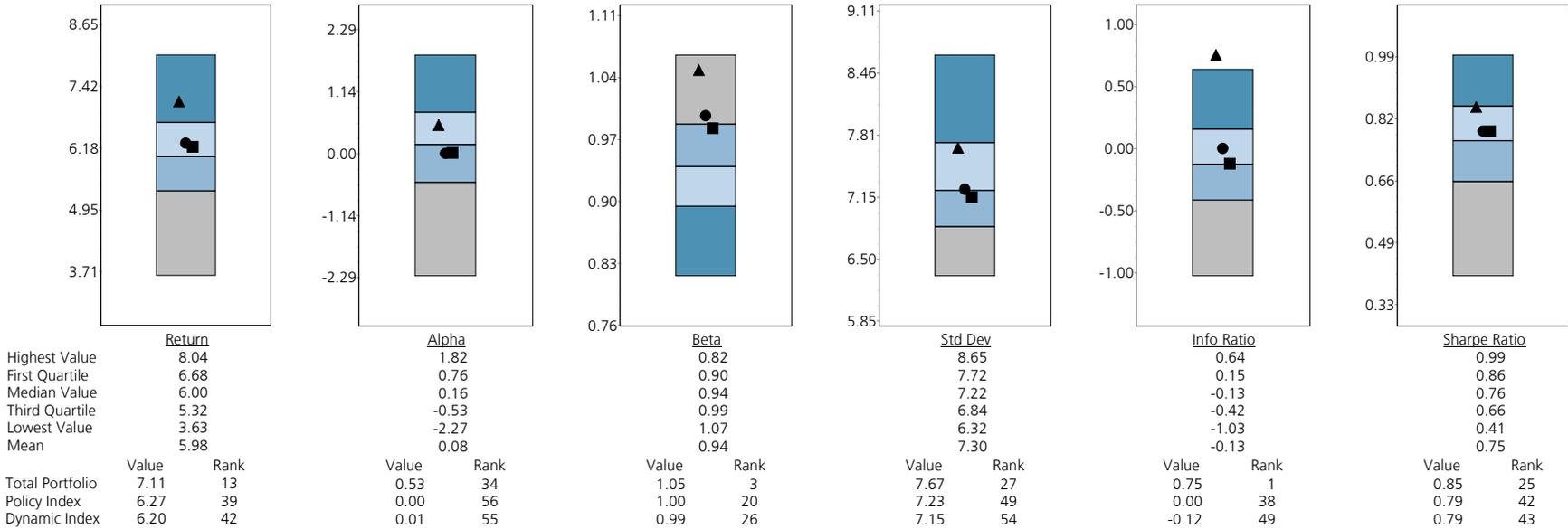


	Return	Std Dev	Alpha	Beta	R-Squared	Sharpe Ratio	Info Ratio
▲ Total Portfolio	8.34	9.43	0.20	1.07	93.96	0.61	0.23

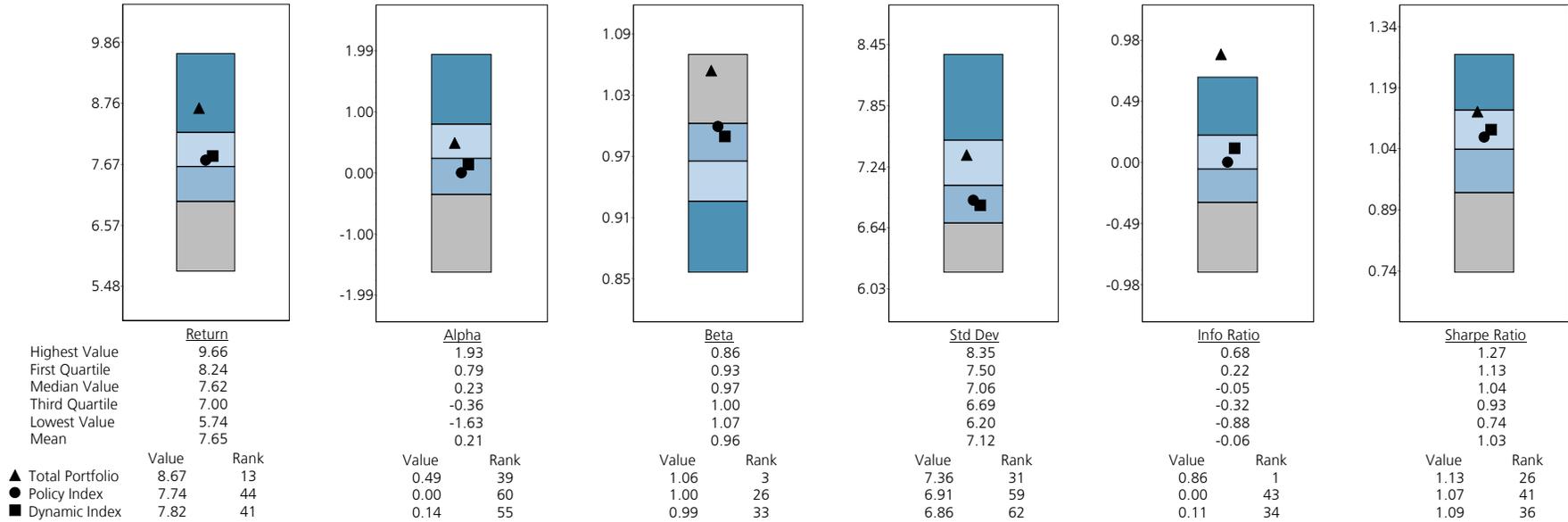
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Consolidated Portfolio vs 50% Equity, 35% Fixed, 15% International Managers
March 31, 2015 Through March 31, 2018

3 Year



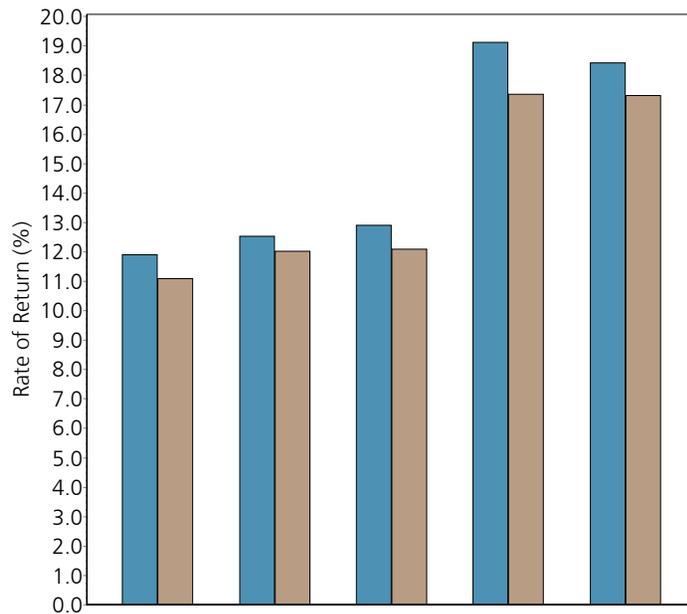
5 Year



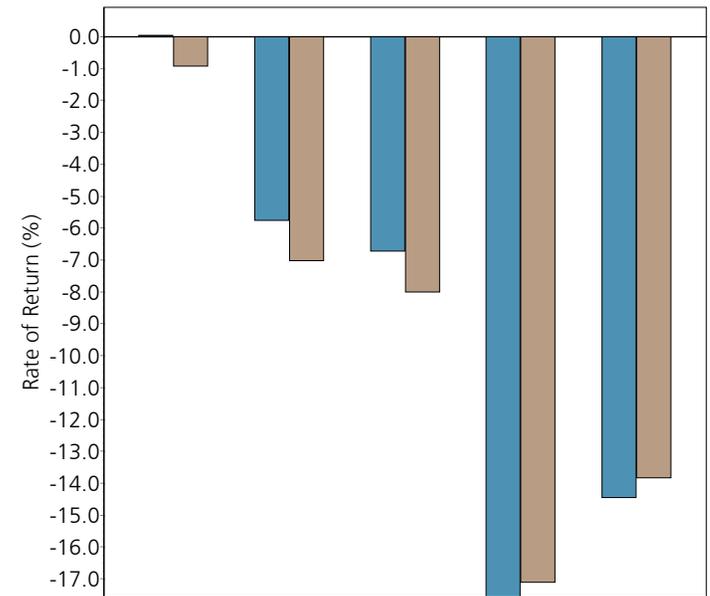
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Performance in Rising and Declining Markets
June 30, 1994 Through March 31, 2018

Up Market Performance



Down Market Performance



	One Year	Three Years	Five Years	Ten Years	Day
Consolidated Portfolio	11.92	12.53	12.91	19.12	18.43
Policy Index	11.11	12.02	12.09	17.37	17.32
Difference	0.81	0.51	0.82	1.75	1.11
Ratio	1.07	1.04	1.07	1.10	1.06
Up Periods	3	9	16	29	69

	One Year	Three Years	Five Years	Ten Years	Day
Consolidated Portfolio	0.04	-5.78	-6.74	-17.60	-14.48
Policy Index	-0.94	-7.04	-8.03	-17.13	-13.85
Difference	0.98	1.26	1.28	-0.47	-0.62
Ratio	-0.04	0.82	0.84	1.03	1.04
Down Periods	1	3	4	11	26

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard Intermediate Bond Index Fd

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

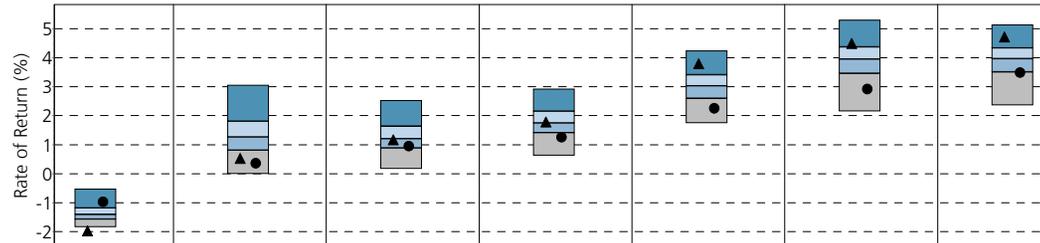
2/28/2005 - Present

100% Bloomberg Barclays Int Govt/Credit

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TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

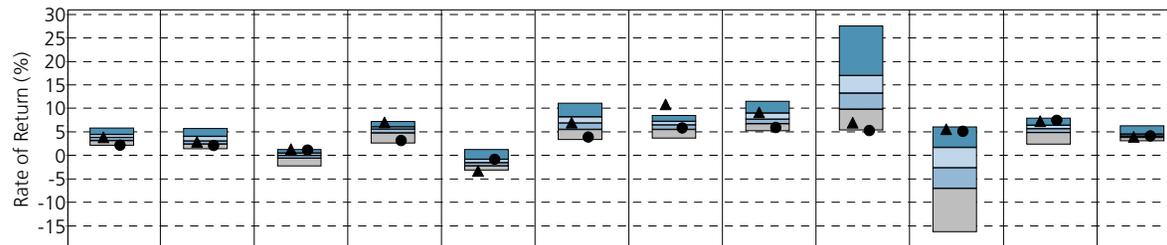
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Seven Years</u>	<u>Ten Years</u>	<u>2/2005-3/2018</u>
Highest Value	-0.53	3.05	2.52	2.92	4.23	5.29	5.13
First Quartile	-1.19	1.81	1.64	2.15	3.41	4.37	4.34
Median Value	-1.41	1.26	1.20	1.74	3.03	3.95	3.97
Third Quartile	-1.57	0.81	0.89	1.42	2.60	3.46	3.51
Lowest Value	-1.84	0.00	0.17	0.63	1.75	2.15	2.37
Mean	-1.36	1.31	1.25	1.77	3.02	3.90	3.92

	Return	Rank												
▲ Vanguard Interm Bond	-1.98	99	0.53	85	1.17	53	1.78	46	3.79	9	4.50	17	4.71	7
● Barclays Int Gov/Cr	-0.98	11	0.35	92	0.94	70	1.25	83	2.25	90	2.92	92	3.48	77

Annual Periods

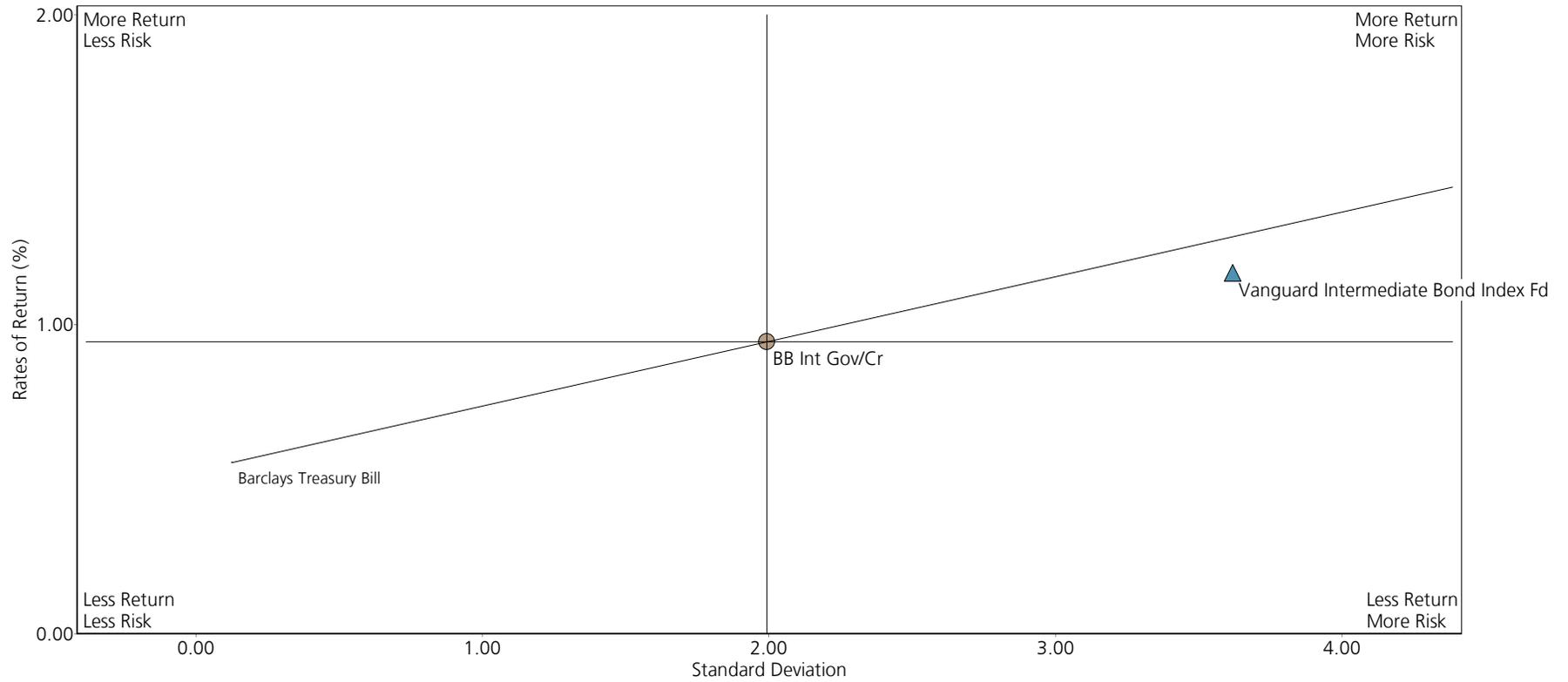


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Highest Value	5.78	5.74	1.28	7.23	1.24	11.08	8.46	11.53	27.55	6.02	7.95	6.31
First Quartile	4.39	4.00	0.41	6.02	-0.83	8.16	7.20	8.99	16.93	1.66	6.37	4.49
Median Value	3.81	3.03	-0.01	5.53	-1.57	6.88	6.47	7.67	13.18	-2.70	5.68	4.08
Third Quartile	3.16	2.40	-0.65	4.72	-2.23	5.49	5.49	6.68	9.76	-7.09	4.83	3.77
Lowest Value	2.05	1.35	-2.34	2.52	-3.22	3.26	3.64	5.15	5.35	-16.31	2.32	3.08
Mean	3.80	3.22	-0.14	5.35	-1.46	6.83	6.30	7.91	13.58	-2.92	5.55	4.19

	Return	Rank														
▲ Vanguard Interm Bond	3.87	46	2.85	56	1.31	1	6.95	2	-3.33	99	6.96	48	10.83	1	9.17	22
● Barclays Int Gov/Cr	2.14	98	2.08	86	1.07	2	3.12	96	-0.86	24	3.85	92	5.80	65	5.85	92

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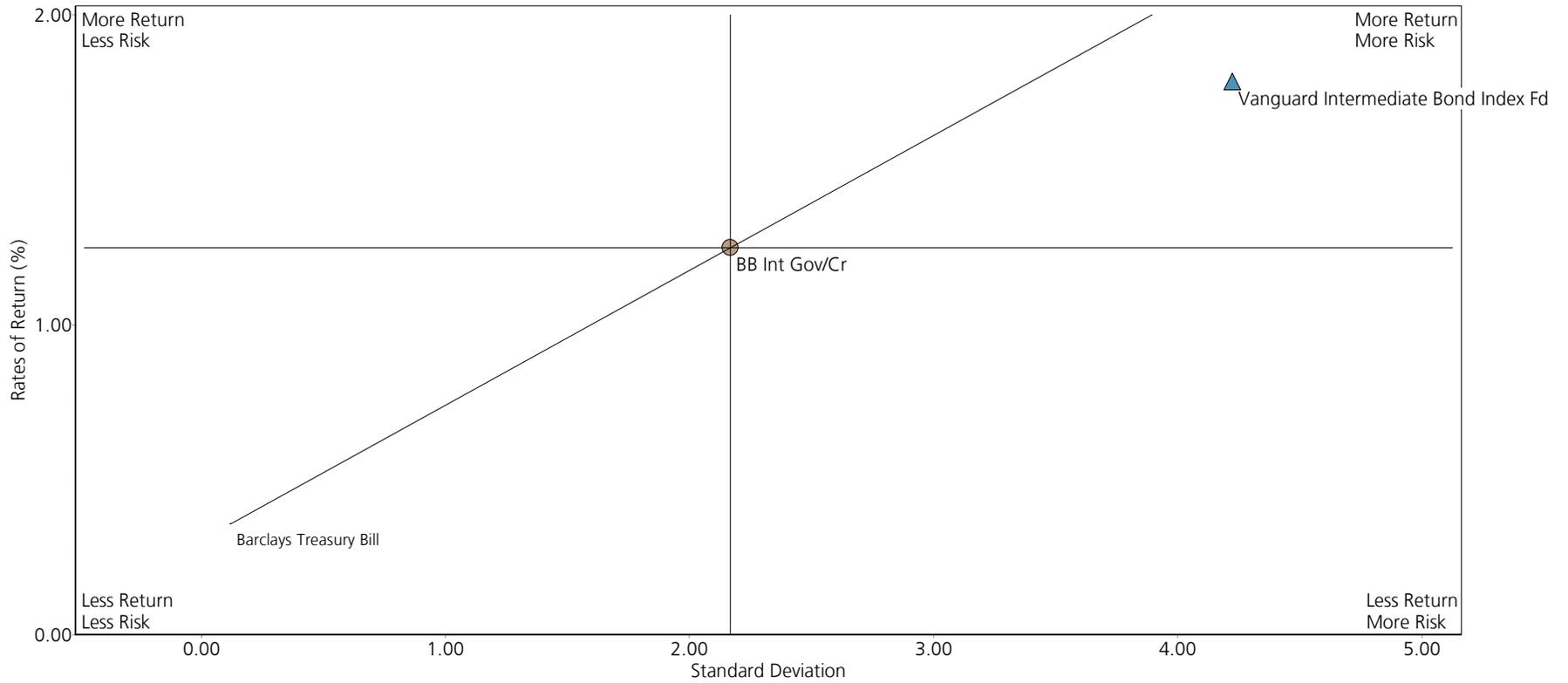
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Intermediate Bond Index Fd	1.17	3.62	-0.06	1.80	97.34
● BB Int Gov/Cr	0.94	1.99	0.00	1.00	100.00

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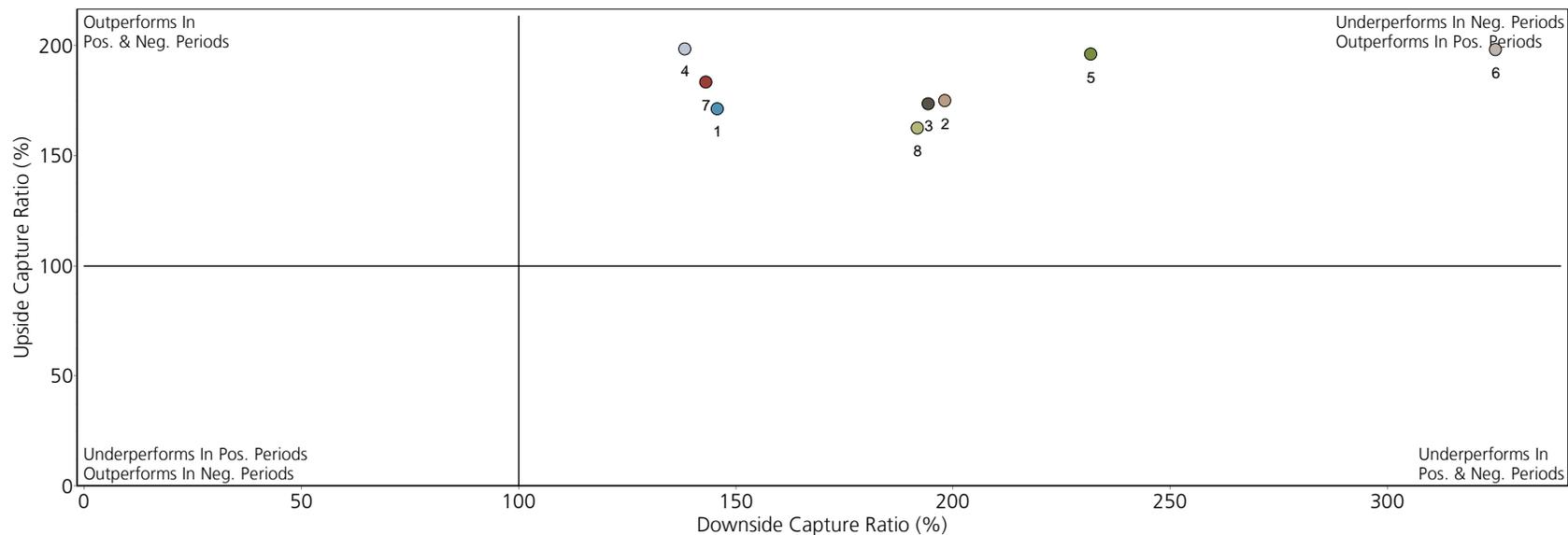
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Intermediate Bond Index Fd	1.78	4.22	-0.24	1.92	97.24
● BB Int Gov/Cr	1.25	2.17	0.00	1.00	100.00

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Capture Ratio
February 28, 2005 Through March 31, 2018

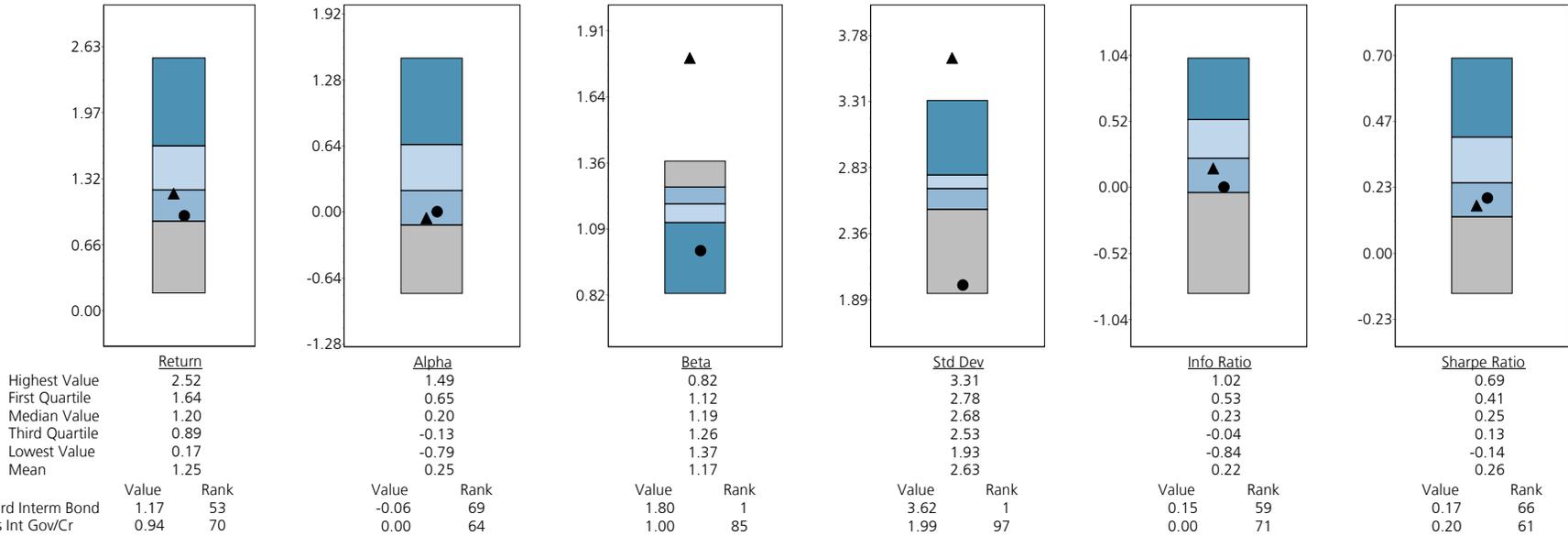


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	2/2005-3/2018
Up Periods	8.00	8.00	5.00	7.00	6.00	9.00	7.00	102.00
Upside Capture ROR	5.32	8.21	5.60	9.11	5.92	8.75	11.75	14.36
BB Int Gov/Cr	3.11	4.70	3.23	4.59	3.02	4.42	6.41	8.84
% Of Capture	170.96	174.76	173.49	198.33	195.92	197.92	183.23	162.39
Down Periods	4.00	4.00	7.00	5.00	6.00	3.00	5.00	55.00
Downside Capture ROR	-1.38	-4.95	-4.06	-1.94	-8.73	-1.64	-0.82	-11.07
BB Int Gov/Cr	-0.94	-2.50	-2.09	-1.40	-3.77	-0.51	-0.57	-5.77
% Of Capture	145.85	198.20	194.38	138.26	231.74	324.86	143.20	191.79

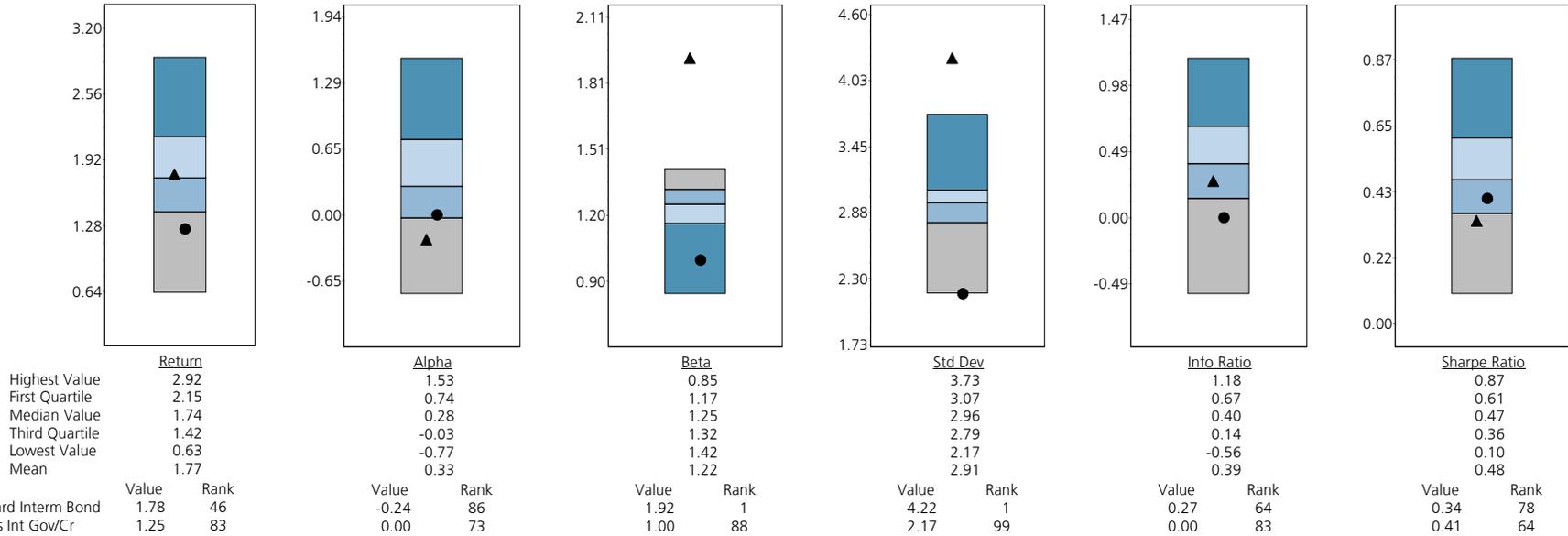
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TOTAL FUND vs Intermediate Bond Managers
March 31, 2015 Through March 31, 2018

3 Year



5 Year



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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Richmond Capital Management

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

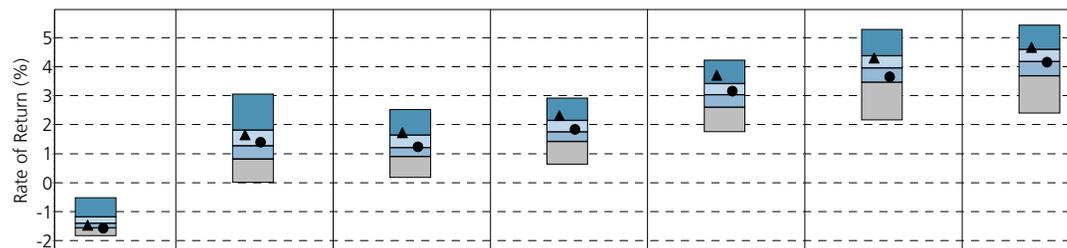
TOTAL FUND BENCHMARK

7/31/2007 - Present

100% Bloomberg Barclays Government/Credit Bond

TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

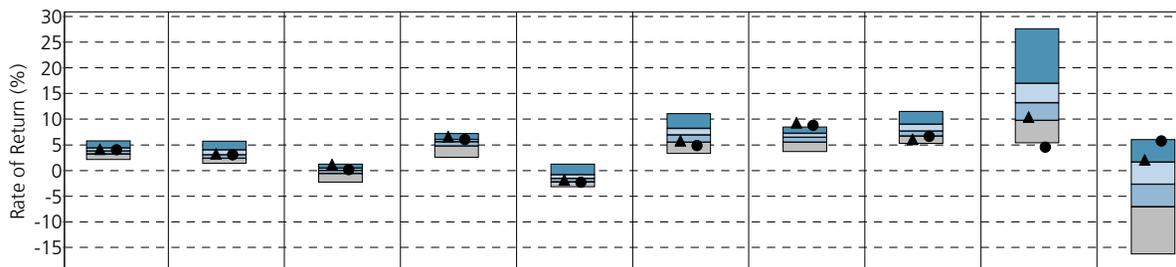
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Seven Years</u>	<u>Ten Years</u>	<u>7/2007-3/2018</u>
Highest Value	-0.53	3.05	2.52	2.92	4.23	5.29	5.43
First Quartile	-1.19	1.81	1.64	2.15	3.41	4.37	4.60
Median Value	-1.41	1.26	1.20	1.74	3.03	3.95	4.17
Third Quartile	-1.57	0.81	0.89	1.42	2.60	3.46	3.68
Lowest Value	-1.84	0.00	0.17	0.63	1.75	2.15	2.39
Mean	-1.36	1.31	1.25	1.77	3.02	3.90	4.13

	Return	Rank												
▲ Richmond Capital	-1.47	58	1.65	30	1.73	20	2.31	17	3.70	13	4.30	28	4.66	21
● Barclays Govt/Credit	-1.58	76	1.38	43	1.22	48	1.84	42	3.15	39	3.65	66	4.15	51

Annual Periods

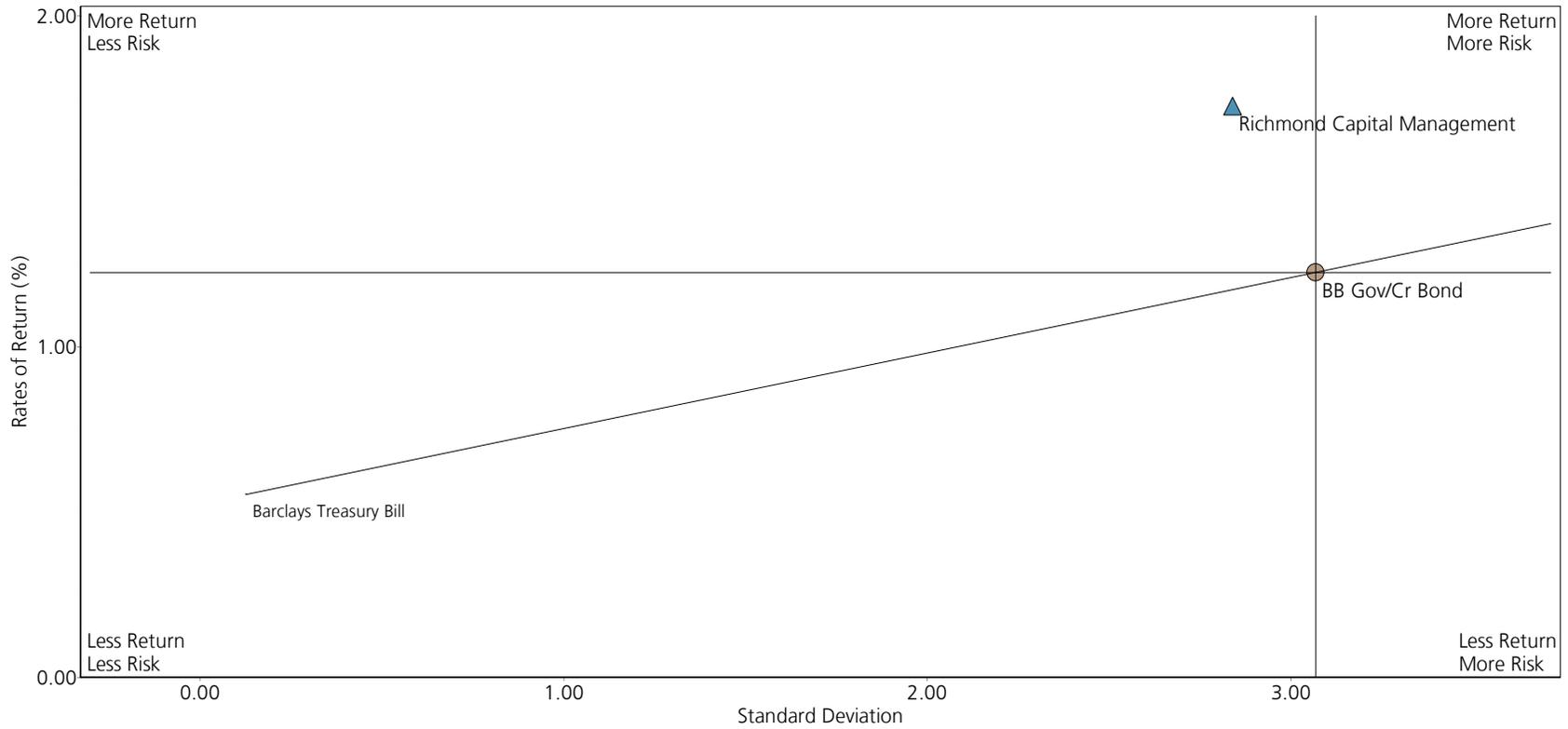


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>
Highest Value	5.78	5.74	1.28	7.23	1.24	11.08	8.46	11.53	27.55	6.02
First Quartile	4.39	4.00	0.41	6.02	-0.83	8.16	7.20	8.99	16.93	1.66
Median Value	3.81	3.03	-0.01	5.53	-1.57	6.88	6.47	7.67	13.18	-2.70
Third Quartile	3.16	2.40	-0.65	4.72	-2.23	5.49	5.49	6.68	9.76	-7.09
Lowest Value	2.05	1.35	-2.34	2.52	-3.22	3.26	3.64	5.15	5.35	-16.31
Mean	3.80	3.22	-0.14	5.35	-1.46	6.83	6.30	7.91	13.58	-2.92

	Return	Rank														
▲ Richmond Capital	4.15	34	3.26	43	1.19	1	6.60	9	-1.82	58	5.77	68	9.29	1	6.11	88
● Barclays Govt/Credit	4.00	40	3.05	49	0.15	40	6.01	23	-2.35	80	4.82	83	8.74	1	6.59	76

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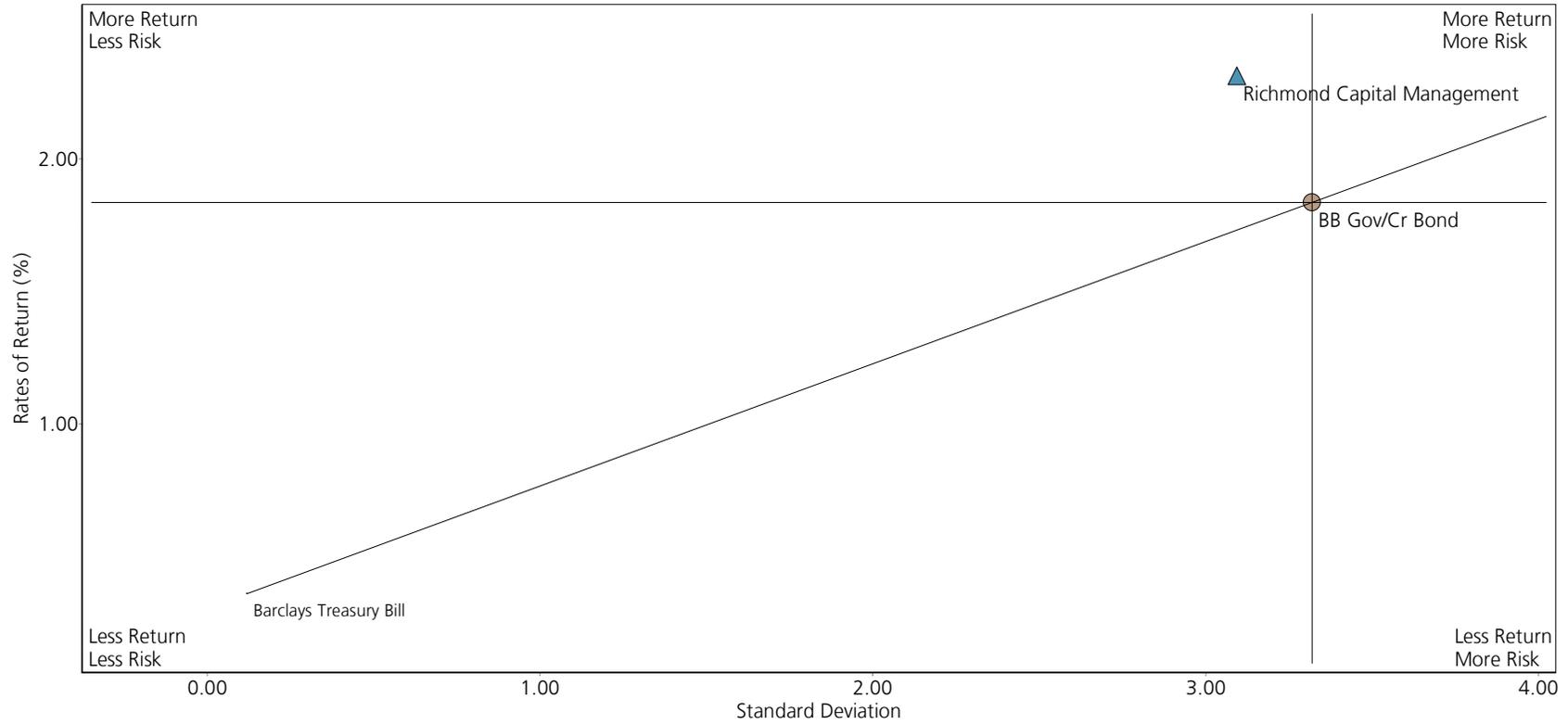
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Richmond Capital Management	1.73	2.84	0.55	0.92	98.59
● BB Gov/Cr Bond	1.22	3.07	0.00	1.00	100.00

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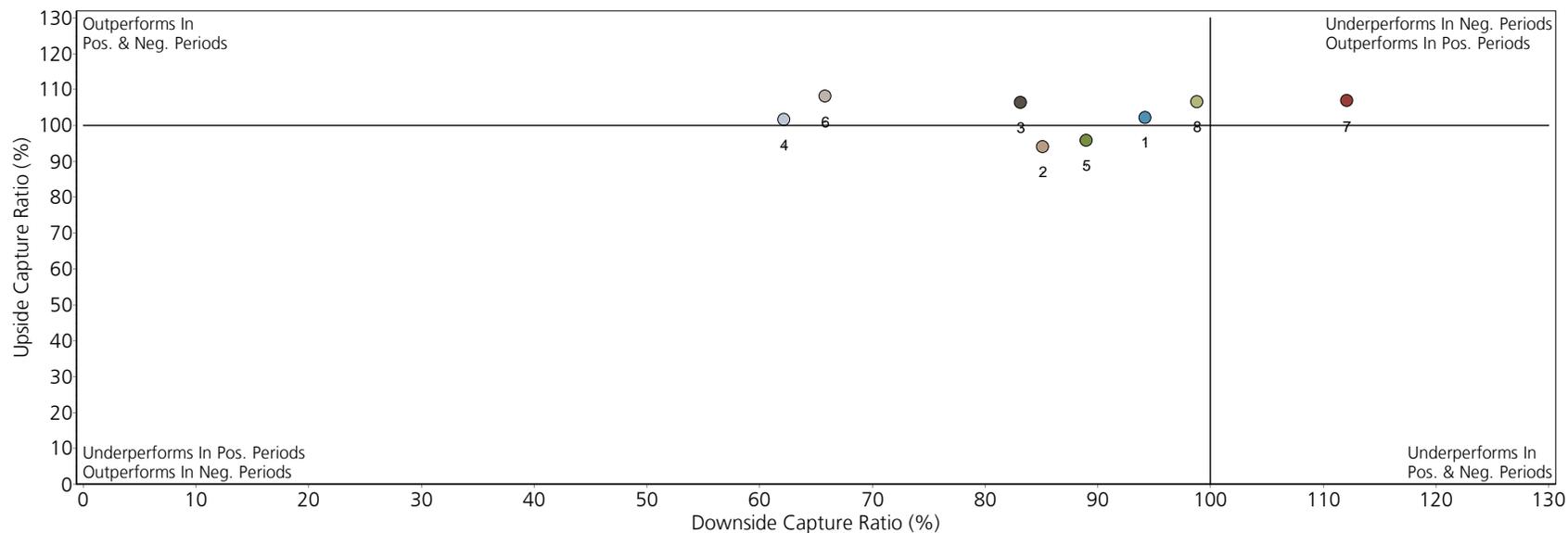
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Richmond Capital Management	2.31	3.09	0.57	0.93	98.70
● BB Gov/Cr Bond	1.84	3.32	0.00	1.00	100.00

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Capture Ratio
July 31, 2007 Through March 31, 2018

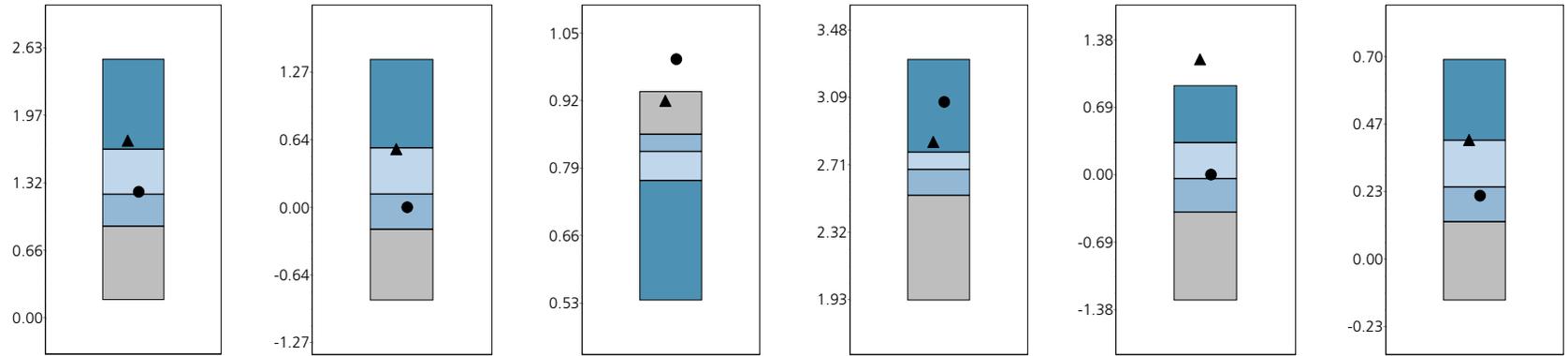


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	7/2007-3/2018
Up Periods	9.00	7.00	5.00	8.00	6.00	8.00	9.00	82.00
Upside Capture ROR	4.91	6.89	4.93	7.37	3.61	6.65	10.20	12.81
BB Gov/Cr Bond	4.81	7.33	4.63	7.25	3.77	6.15	9.54	12.02
% Of Capture	102.18	94.08	106.40	101.62	95.85	108.05	106.92	106.58
Down Periods	3.00	5.00	7.00	4.00	6.00	4.00	3.00	46.00
Downside Capture ROR	-0.73	-3.39	-3.57	-0.72	-5.25	-0.83	-0.82	-8.43
BB Gov/Cr Bond	-0.77	-3.99	-4.29	-1.16	-5.90	-1.26	-0.73	-8.53
% Of Capture	94.21	85.10	83.16	62.18	88.96	65.79	112.11	98.83

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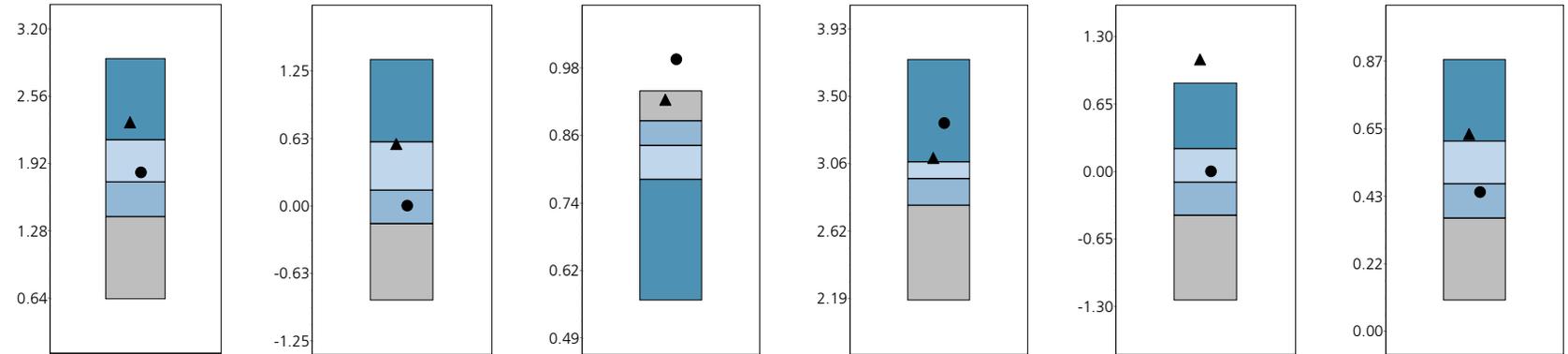
TOTAL FUND vs Intermediate Bond Managers
March 31, 2015 Through March 31, 2018

3 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
Highest Value	2.52		1.39		0.53		3.31		0.91		0.69	
First Quartile	1.64		0.56		0.76		2.78		0.33		0.41	
Median Value	1.20		0.12		0.82		2.68		-0.04		0.25	
Third Quartile	0.89		-0.21		0.85		2.53		-0.39		0.13	
Lowest Value	0.17		-0.88		0.94		1.93		-1.29		-0.14	
Mean	1.25		0.16		0.79		2.63		-0.05		0.26	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Richmond Capital	1.73	20	0.55	25	0.92	2	2.84	16	1.18	1	0.41	24
● Barclays Govt/Credit	1.22	48	0.00	59	1.00	1	3.07	4	0.00	47	0.22	57

5 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
Highest Value	2.92		1.36		0.56		3.73		0.85		0.87	
First Quartile	2.15		0.59		0.78		3.07		0.22		0.61	
Median Value	1.74		0.14		0.84		2.96		-0.10		0.47	
Third Quartile	1.42		-0.17		0.89		2.79		-0.42		0.36	
Lowest Value	0.63		-0.88		0.94		2.17		-1.24		0.10	
Mean	1.77		0.20		0.82		2.91		-0.11		0.48	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Richmond Capital	2.31	17	0.57	25	0.93	3	3.09	21	1.08	1	0.63	22
● Barclays Govt/Credit	1.84	42	0.00	62	1.00	1	3.32	6	0.00	41	0.45	56

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Blackrock Strategic Income Opps Fund

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

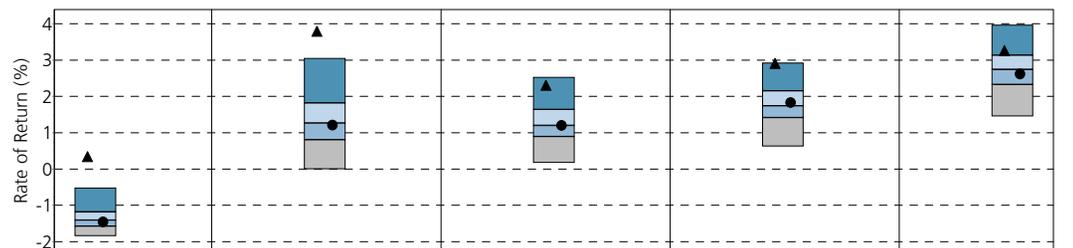
5/31/2011 - Present

100% Bloomberg Barclays Aggregate Bond

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TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

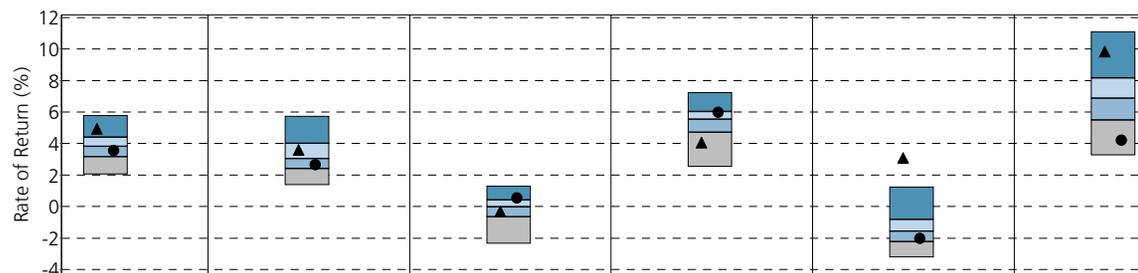
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>5/2011-3/2018</u>
Highest Value	-0.53	3.05	2.52	2.92	3.96
First Quartile	-1.19	1.81	1.64	2.15	3.14
Median Value	-1.41	1.26	1.20	1.74	2.74
Third Quartile	-1.57	0.81	0.89	1.42	2.33
Lowest Value	-1.84	0.00	0.17	0.63	1.46
Mean	-1.36	1.31	1.25	1.77	2.73

	Return	Rank								
▲ Blackrock Strategic	0.34	1	3.80	1	2.31	1	2.91	1	3.26	18
● Barclays Aggregate	-1.46	58	1.20	53	1.20	50	1.82	43	2.61	57

Annual Periods

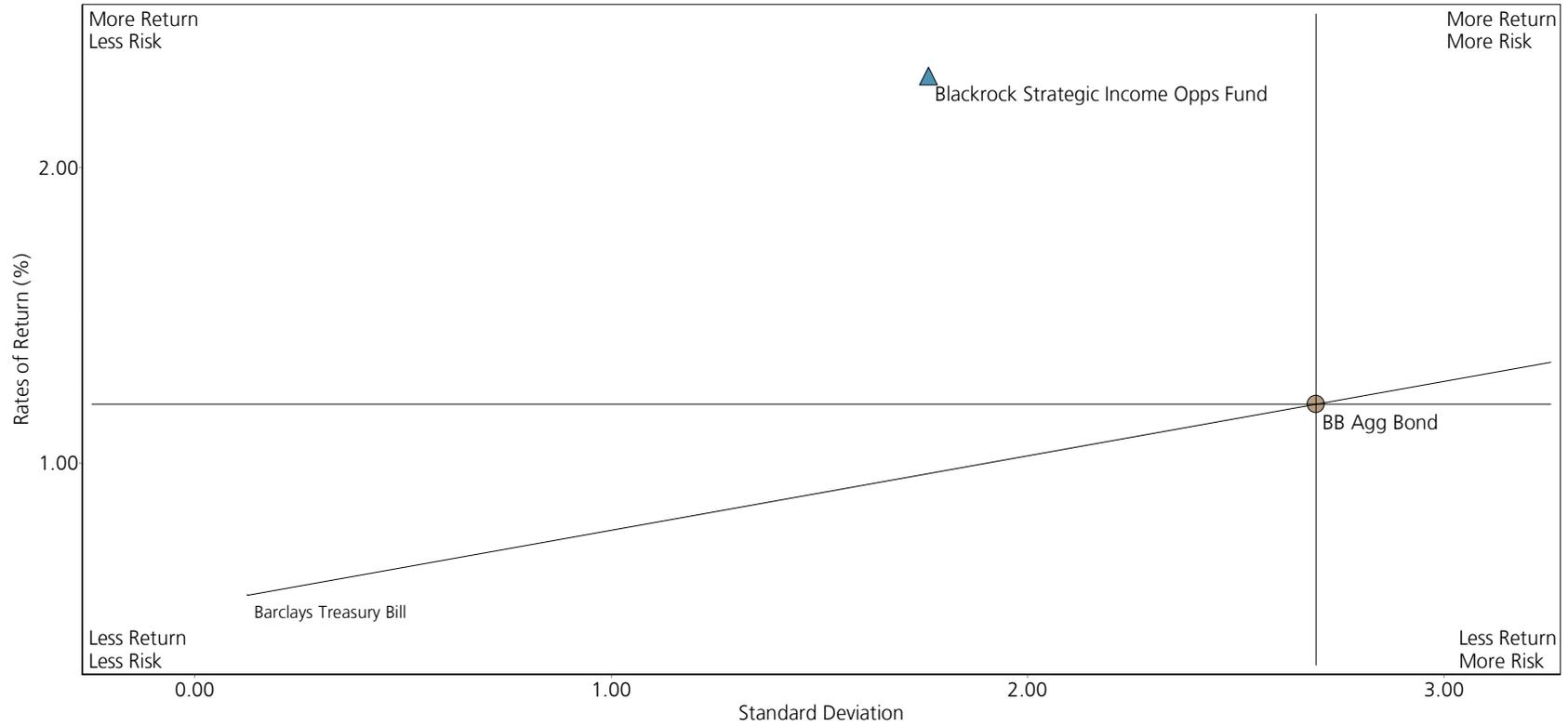


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>
Highest Value	5.78	5.74	1.28	7.23	1.24	11.08
First Quartile	4.39	4.00	0.41	6.02	-0.83	8.16
Median Value	3.81	3.03	-0.01	5.53	-1.57	6.88
Third Quartile	3.16	2.40	-0.65	4.72	-2.23	5.49
Lowest Value	2.05	1.35	-2.34	2.52	-3.22	3.26
Mean	3.80	3.22	-0.14	5.35	-1.46	6.83

	Return	Rank										
▲ Blackrock Strategic	4.94	9	3.61	35	-0.30	61	4.07	87	3.09	1	9.83	5
● Barclays Aggregate	3.54	58	2.65	64	0.55	16	5.97	25	-2.02	66	4.21	88

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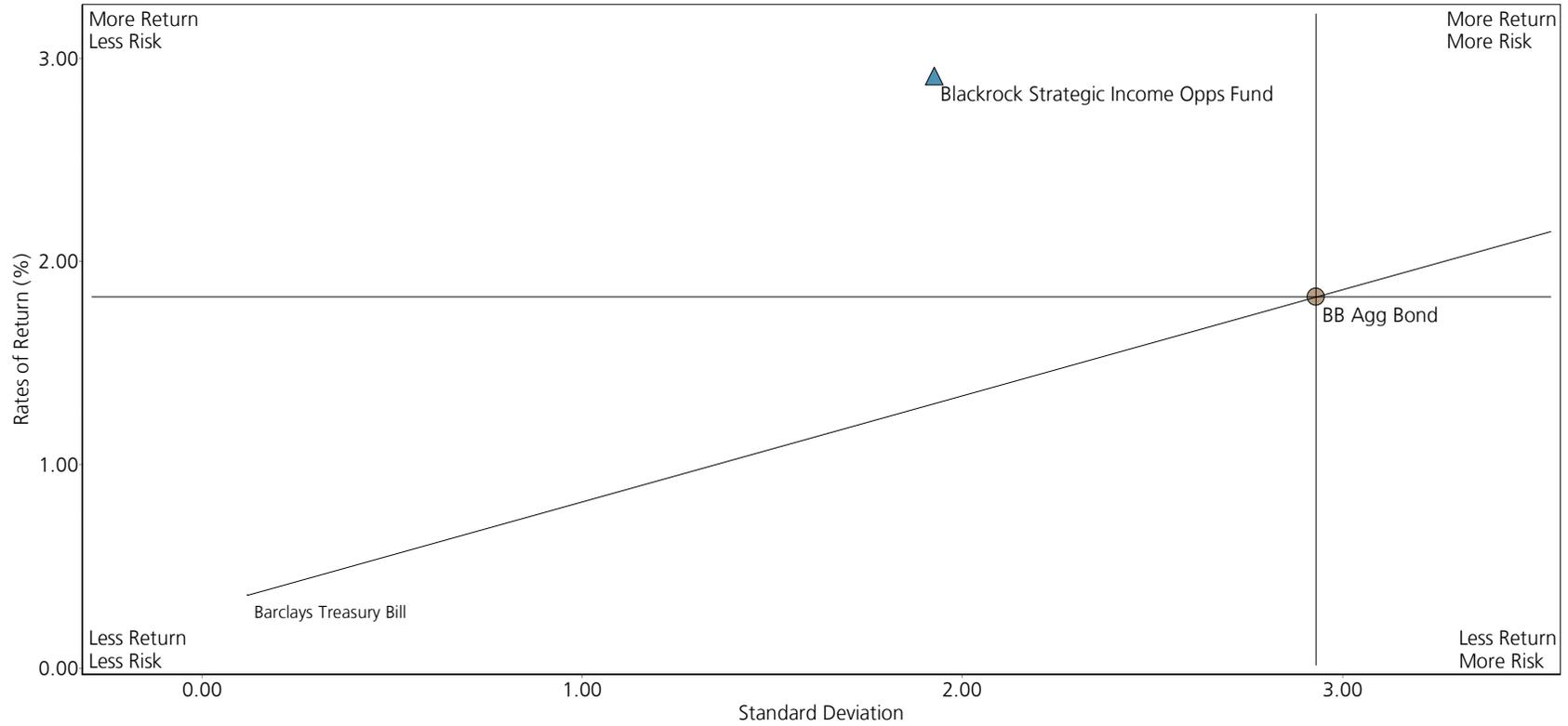
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Blackrock Strategic Income Opps Fund	2.31	1.76	1.72	0.04	0.42
● BB Agg Bond	1.20	2.69	0.00	1.00	100.00

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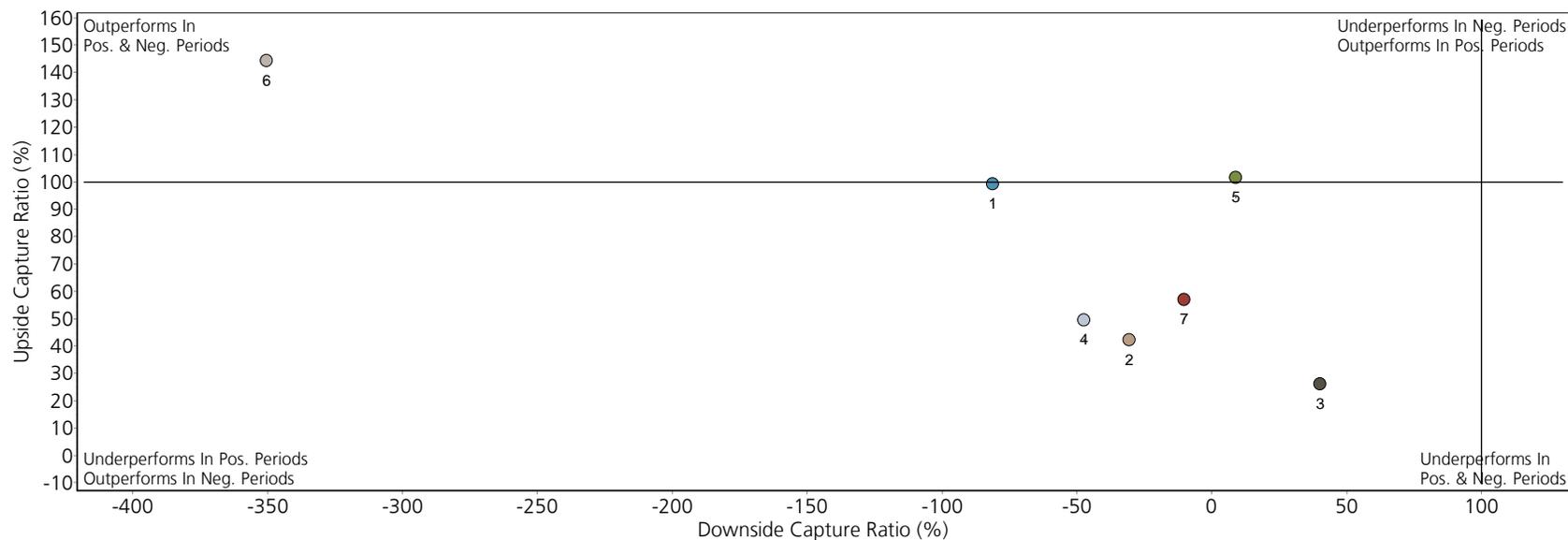
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Blackrock Strategic Income Opps Fund	2.91	1.93	2.21	0.21	10.59
● BB Agg Bond	1.82	2.93	0.00	1.00	100.00

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Capture Ratio May 31, 2011 Through March 31, 2018



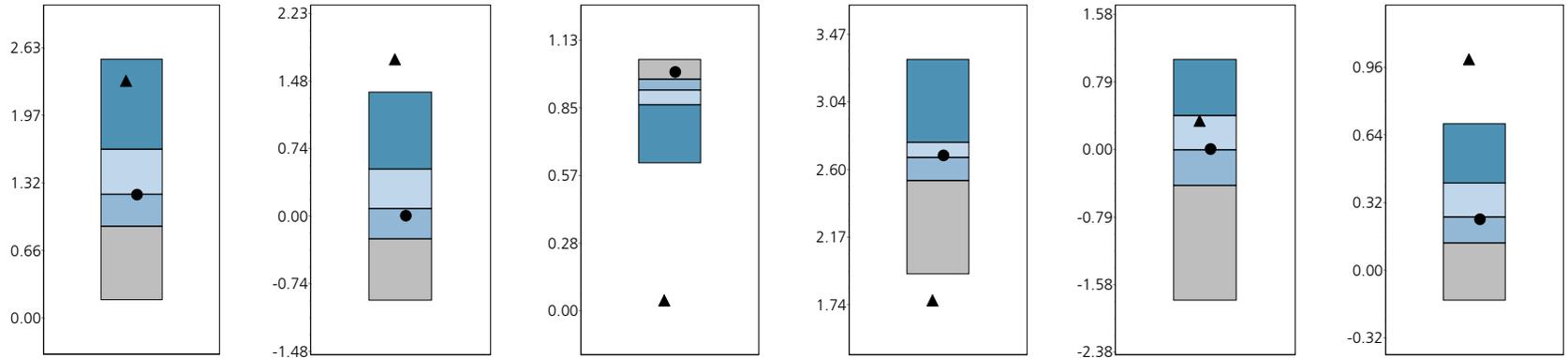
	1	2	3	4	5	6	7
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	5/2011-3/2018
Up Periods	8.00	8.00	5.00	9.00	6.00	9.00	51.00
Upside Capture ROR	4.30	2.58	1.04	3.53	3.58	7.16	4.88
BB Agg Bond	4.33	6.13	4.00	7.14	3.53	4.96	8.56
% Of Capture	99.27	42.09	26.06	49.44	101.43	144.22	57.01
Down Periods	4.00	4.00	7.00	3.00	6.00	3.00	31.00
Downside Capture ROR	0.61	1.00	-1.33	0.52	-0.48	2.50	0.66
BB Agg Bond	-0.76	-3.28	-3.32	-1.10	-5.37	-0.71	-6.47
% Of Capture	-81.16	-30.54	40.02	-47.35	8.86	-350.46	-10.17

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TOTAL FUND vs Intermediate Bond Managers

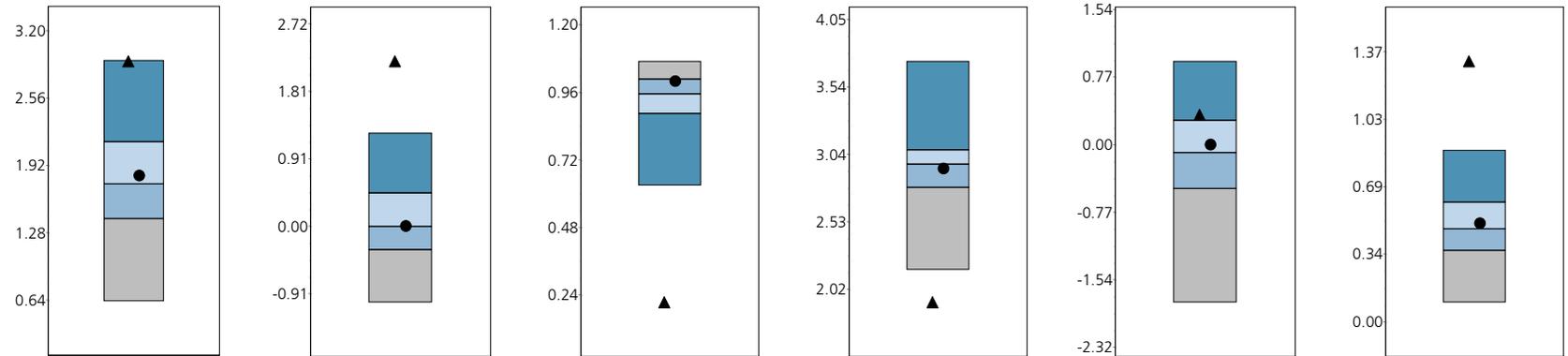
March 31, 2015 Through March 31, 2018

3 Year



	Return	Alpha	Beta	Std Dev	Info Ratio	Sharpe Ratio
Highest Value	2.52	1.36	0.62	3.31	1.06	0.69
First Quartile	1.64	0.51	0.86	2.78	0.40	0.41
Median Value	1.20	0.08	0.93	2.68	-0.01	0.25
Third Quartile	0.89	-0.25	0.97	2.53	-0.43	0.13
Lowest Value	0.17	-0.93	1.05	1.93	-1.77	-0.14
Mean	1.25	0.12	0.90	2.63	-0.06	0.26
	Value Rank					
▲ Blackrock Strategic	2.31 1	1.72 1	0.04 99	1.76 99	0.33 28	1.00 1
● Barclays Aggregate	1.20 50	0.00 55	1.00 12	2.69 44	0.00 49	0.24 52

5 Year



	Return	Alpha	Beta	Std Dev	Info Ratio	Sharpe Ratio
Highest Value	2.92	1.25	0.63	3.73	0.95	0.87
First Quartile	2.15	0.45	0.88	3.07	0.27	0.61
Median Value	1.74	-0.01	0.95	2.96	-0.09	0.47
Third Quartile	1.42	-0.31	1.01	2.79	-0.50	0.36
Lowest Value	0.63	-1.02	1.07	2.17	-1.80	0.10
Mean	1.77	0.06	0.93	2.91	-0.15	0.48
	Value Rank					
▲ Blackrock Strategic	2.91 1	2.21 1	0.21 99	1.93 99	0.34 20	1.33 1
● Barclays Aggregate	1.82 43	0.00 49	1.00 29	2.93 56	0.00 43	0.50 43

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Delaware Diversified Income Fund

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

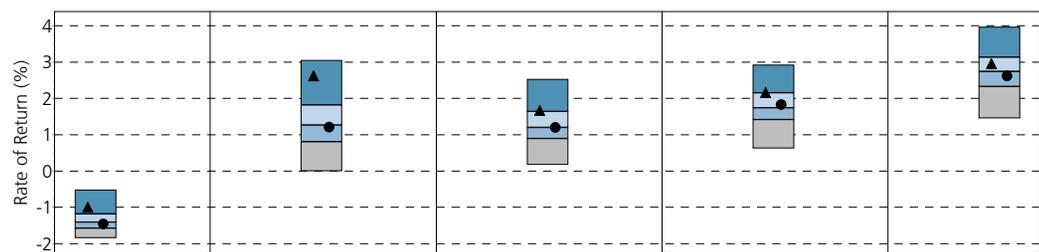
5/31/2011 - Present

100% Bloomberg Barclays Aggregate Bond

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TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

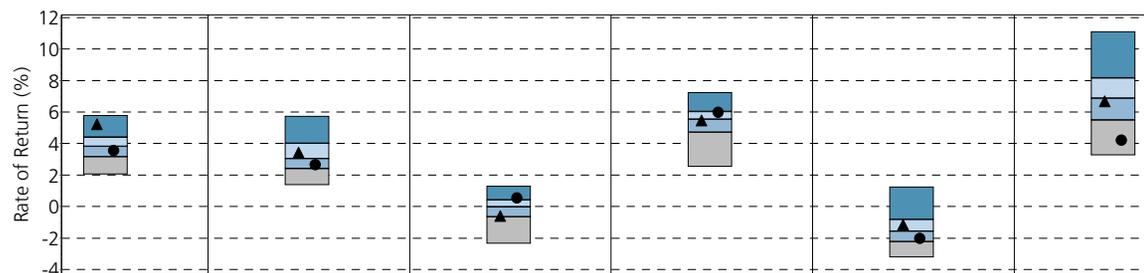
Trailing Periods



	Quarter	One Year	Three Years	Five Years	5/2011-3/2018
Highest Value	-0.53	3.05	2.52	2.92	3.96
First Quartile	-1.19	1.81	1.64	2.15	3.14
Median Value	-1.41	1.26	1.20	1.74	2.74
Third Quartile	-1.57	0.81	0.89	1.42	2.33
Lowest Value	-1.84	0.00	0.17	0.63	1.46
Mean	-1.36	1.31	1.25	1.77	2.73

	Return	Rank								
▲ Delaware Diversified	-0.99	11	2.63	2	1.67	23	2.16	24	2.96	34
● Barclays Aggregate	-1.46	58	1.20	53	1.20	50	1.82	43	2.61	57

Annual Periods

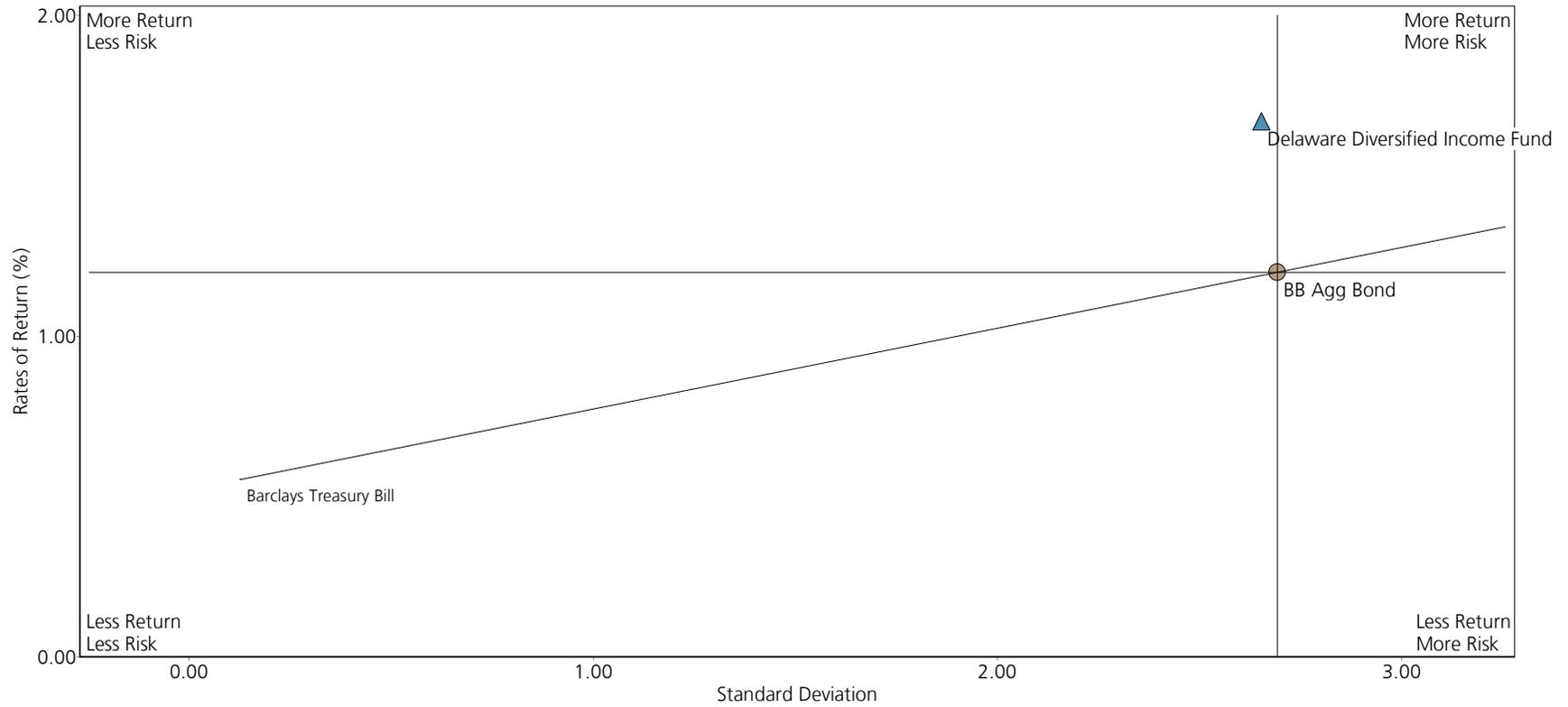


	2017	2016	2015	2014	2013	2012
Highest Value	5.78	5.74	1.28	7.23	1.24	11.08
First Quartile	4.39	4.00	0.41	6.02	-0.83	8.16
Median Value	3.81	3.03	-0.01	5.53	-1.57	6.88
Third Quartile	3.16	2.40	-0.65	4.72	-2.23	5.49
Lowest Value	2.05	1.35	-2.34	2.52	-3.22	3.26
Mean	3.80	3.22	-0.14	5.35	-1.46	6.83

	Return	Rank										
▲ Delaware Diversified	5.22	5	3.42	39	-0.60	72	5.47	51	-1.15	33	6.68	51
● Barclays Aggregate	3.54	58	2.65	64	0.55	16	5.97	25	-2.02	66	4.21	88

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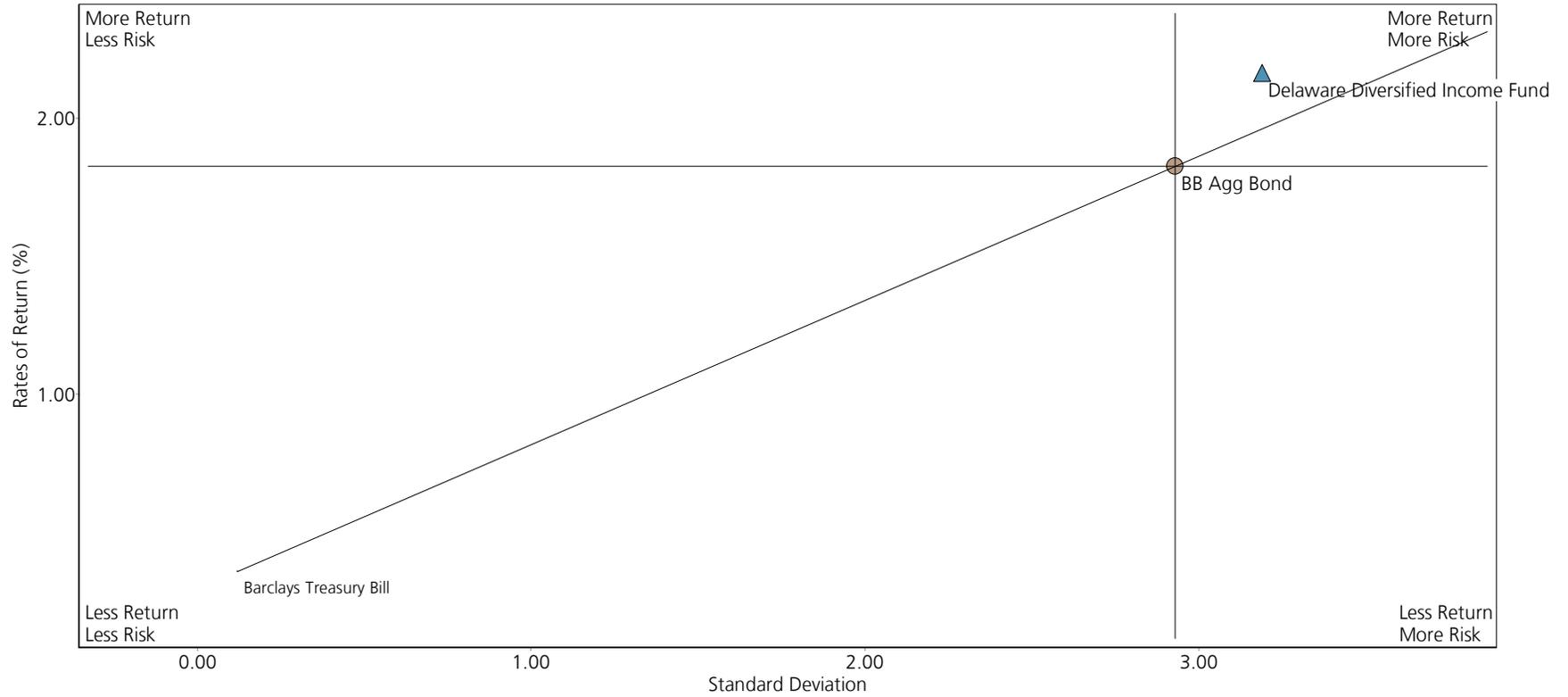
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Delaware Diversified Income Fund	1.67	2.65	0.58	0.83	71.00
● BB Agg Bond	1.20	2.69	0.00	1.00	100.00

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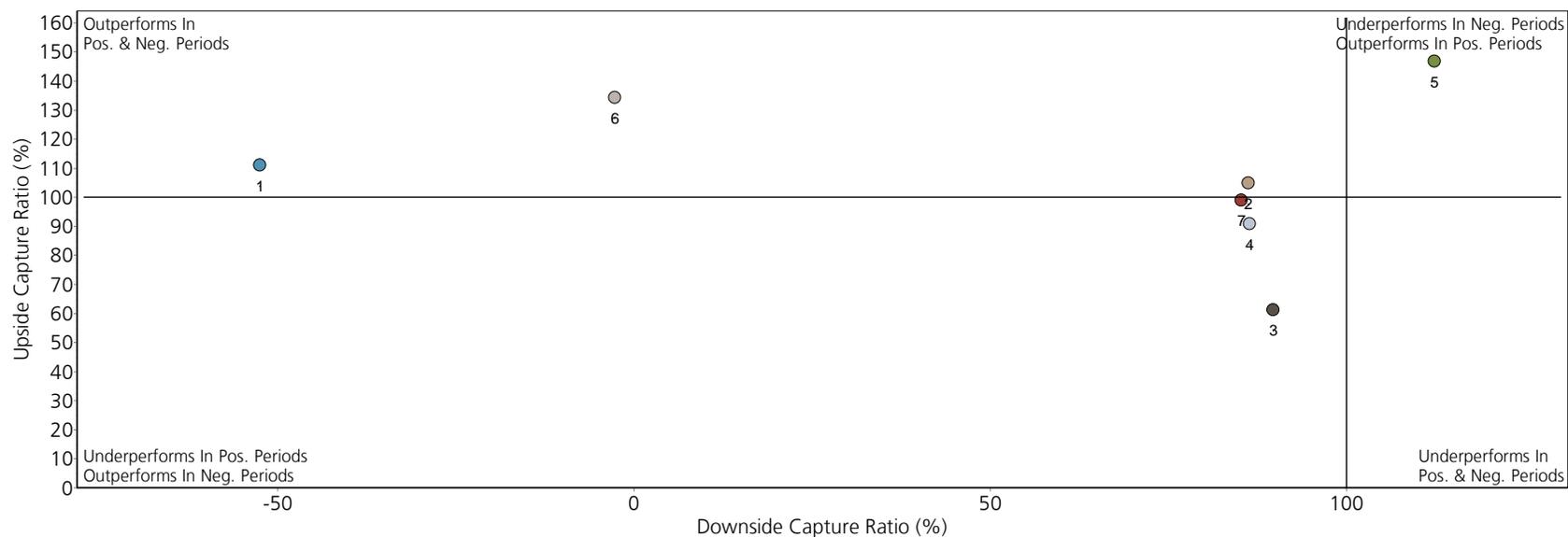
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Delaware Diversified Income Fund	2.16	3.19	0.41	0.95	76.37
● BB Agg Bond	1.82	2.93	0.00	1.00	100.00

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Capture Ratio
May 31, 2011 Through March 31, 2018

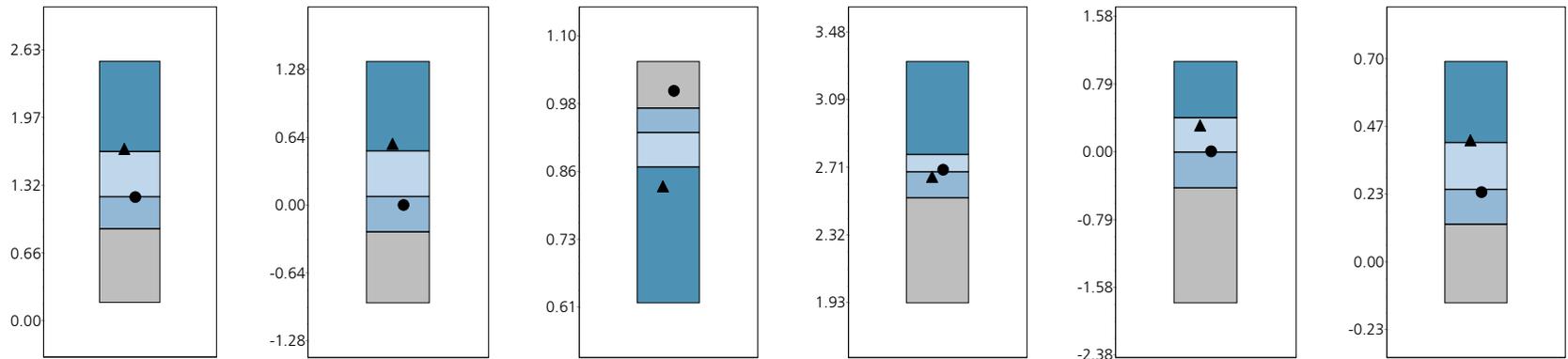


	1	2	3	4	5	6	7
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	5/2011-3/2018
Up Periods	8.00	8.00	5.00	9.00	6.00	9.00	51.00
Upside Capture ROR	4.80	6.43	2.45	6.48	5.18	6.66	8.48
BB Agg Bond	4.33	6.13	4.00	7.14	3.53	4.96	8.56
% Of Capture	110.95	104.91	61.28	90.75	146.73	134.24	99.05
Down Periods	4.00	4.00	7.00	3.00	6.00	3.00	31.00
Downside Capture ROR	0.40	-2.83	-2.97	-0.95	-6.02	0.02	-5.52
BB Agg Bond	-0.76	-3.28	-3.32	-1.10	-5.37	-0.71	-6.47
% Of Capture	-52.43	86.23	89.66	86.38	112.28	-2.69	85.24

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TOTAL FUND vs Intermediate Bond Managers March 31, 2015 Through March 31, 2018

3 Year



	Return
Highest Value	2.52
First Quartile	1.64
Median Value	1.20
Third Quartile	0.89
Lowest Value	0.17
Mean	1.25

	Alpha
Highest Value	1.36
First Quartile	0.51
Median Value	0.08
Third Quartile	-0.25
Lowest Value	-0.93
Mean	0.12

	Beta
Highest Value	0.62
First Quartile	0.86
Median Value	0.93
Third Quartile	0.97
Lowest Value	1.05
Mean	0.90

	Std Dev
Highest Value	3.31
First Quartile	2.78
Median Value	2.68
Third Quartile	2.53
Lowest Value	1.93
Mean	2.63

	Info Ratio
Highest Value	1.06
First Quartile	0.40
Median Value	-0.01
Third Quartile	-0.43
Lowest Value	-1.77
Mean	-0.06

	Sharpe Ratio
Highest Value	0.69
First Quartile	0.41
Median Value	0.25
Third Quartile	0.13
Lowest Value	-0.14
Mean	0.26

	Value	Rank
▲ Delaware Diversified	1.67	23
● Barclays Aggregate	1.20	50

	Value	Rank
▲ Delaware Diversified	0.58	21
● Barclays Aggregate	0.00	55

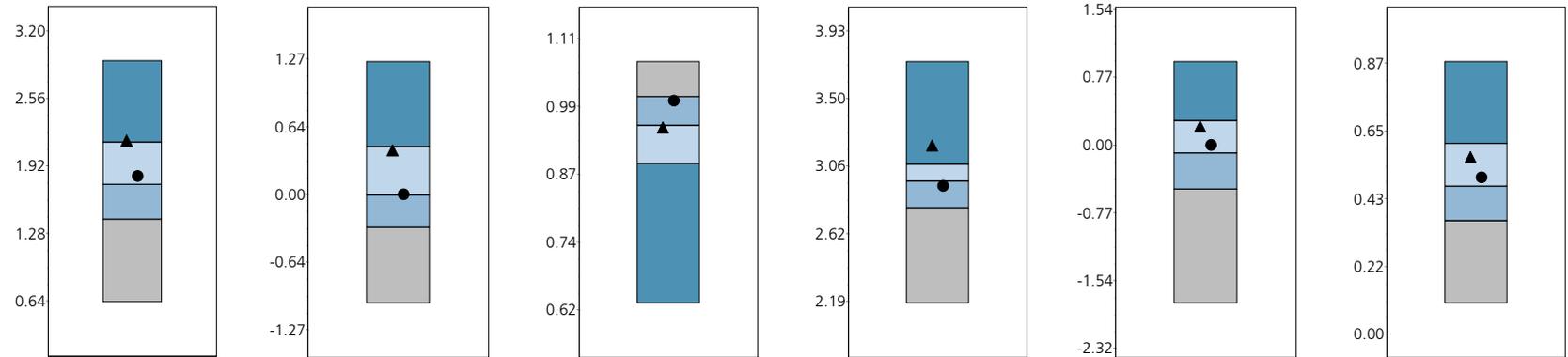
	Value	Rank
▲ Delaware Diversified	0.83	80
● Barclays Aggregate	1.00	12

	Value	Rank
▲ Delaware Diversified	2.65	57
● Barclays Aggregate	2.69	44

	Value	Rank
▲ Delaware Diversified	0.30	30
● Barclays Aggregate	0.00	49

	Value	Rank
▲ Delaware Diversified	0.42	23
● Barclays Aggregate	0.24	52

5 Year



	Return
Highest Value	2.92
First Quartile	2.15
Median Value	1.74
Third Quartile	1.42
Lowest Value	0.63
Mean	1.77

	Alpha
Highest Value	1.25
First Quartile	0.45
Median Value	-0.01
Third Quartile	-0.31
Lowest Value	-1.02
Mean	0.06

	Beta
Highest Value	0.63
First Quartile	0.88
Median Value	0.95
Third Quartile	1.01
Lowest Value	1.07
Mean	0.93

	Std Dev
Highest Value	3.73
First Quartile	3.07
Median Value	2.96
Third Quartile	2.79
Lowest Value	2.17
Mean	2.91

	Info Ratio
Highest Value	0.95
First Quartile	0.27
Median Value	-0.09
Third Quartile	-0.50
Lowest Value	-1.80
Mean	-0.15

	Sharpe Ratio
Highest Value	0.87
First Quartile	0.61
Median Value	0.47
Third Quartile	0.36
Lowest Value	0.10
Mean	0.48

	Value	Rank
▲ Delaware Diversified	2.16	24
● Barclays Aggregate	1.82	43

	Value	Rank
▲ Delaware Diversified	0.41	26
● Barclays Aggregate	0.00	49

	Value	Rank
▲ Delaware Diversified	0.95	53
● Barclays Aggregate	1.00	29

	Value	Rank
▲ Delaware Diversified	3.19	14
● Barclays Aggregate	2.93	56

	Value	Rank
▲ Delaware Diversified	0.21	28
● Barclays Aggregate	0.00	43

	Value	Rank
▲ Delaware Diversified	0.57	32
● Barclays Aggregate	0.50	43

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Eagle Capital Large Value

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

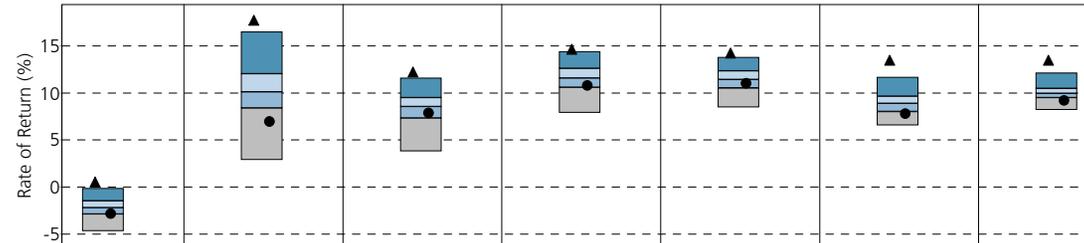
12/31/2002 - Present

100% Russell 1000 Value

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TOTAL FUND Peer Universe Comparison versus Large Cap Value Managers

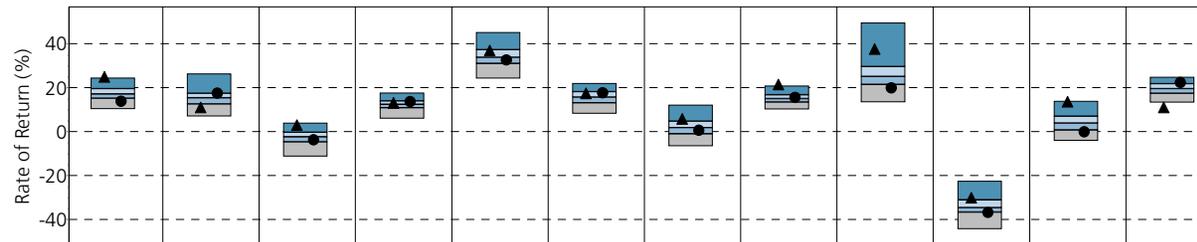
Trailing Periods



	Quarter	One Year	Three Years	Five Years	Seven Years	Ten Years	12/2002-3/2018
Highest Value	-0.13	16.49	11.58	14.40	13.77	11.65	12.10
First Quartile	-1.48	12.04	9.49	12.59	12.36	9.66	10.50
Median Value	-2.22	10.10	8.54	11.57	11.45	8.87	9.96
Third Quartile	-2.86	8.41	7.32	10.59	10.54	8.03	9.50
Lowest Value	-4.67	2.88	3.81	7.91	8.47	6.57	8.22
Mean	-2.22	10.20	8.35	11.53	11.40	8.88	9.99

	Return	Rank												
▲ Eagle Capital LV	0.53	1	17.72	1	12.25	1	14.67	1	14.25	1	13.49	1	13.48	1
● Russell 1000 Value	-2.83	74	6.95	88	7.88	64	10.78	72	11.00	61	7.78	83	9.19	85

Annual Periods

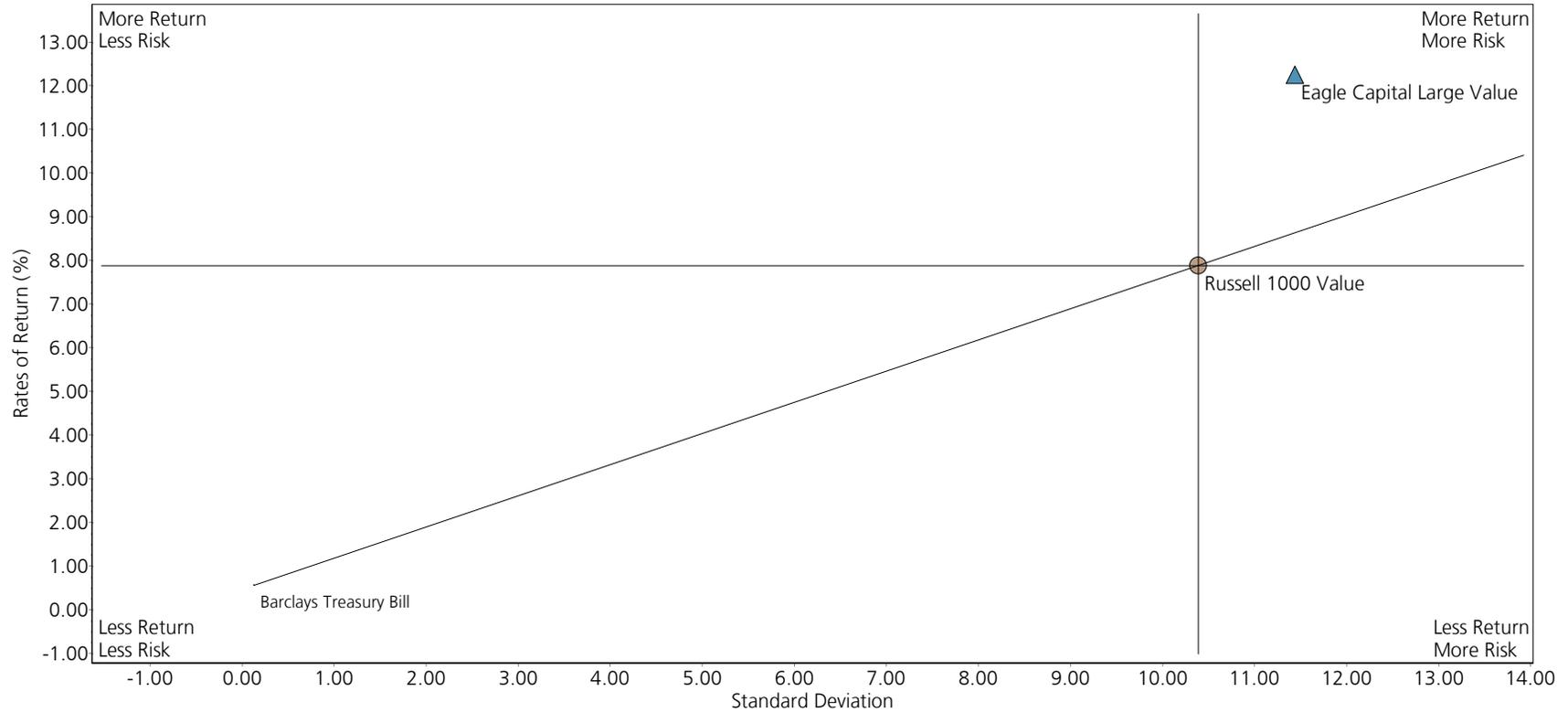


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Highest Value	24.26	26.12	3.75	17.52	45.00	21.82	12.01	20.58	49.33	-22.69	13.64	24.65
First Quartile	19.43	17.33	-0.34	13.83	37.12	17.96	4.68	16.58	29.57	-31.26	6.83	21.66
Median Value	16.97	15.17	-2.54	12.29	33.66	15.67	1.66	14.97	25.05	-34.74	3.82	19.43
Third Quartile	15.12	12.39	-4.76	10.70	30.87	13.00	-1.12	13.36	21.30	-36.81	0.57	17.26
Lowest Value	10.17	6.87	-11.30	5.90	24.06	8.20	-6.74	10.04	13.32	-44.34	-4.25	13.15
Mean	17.33	15.22	-2.71	12.15	33.98	15.49	1.92	15.07	26.05	-34.12	3.88	19.37

	Return	Rank												
▲ Eagle Capital LV	24.80	1	10.93	86	2.93	1	13.05	40	36.88	25	17.36	32	5.62	21
● Russell 1000 Value	13.66	90	17.34	24	-3.83	67	13.45	34	32.53	60	17.51	29	0.39	63

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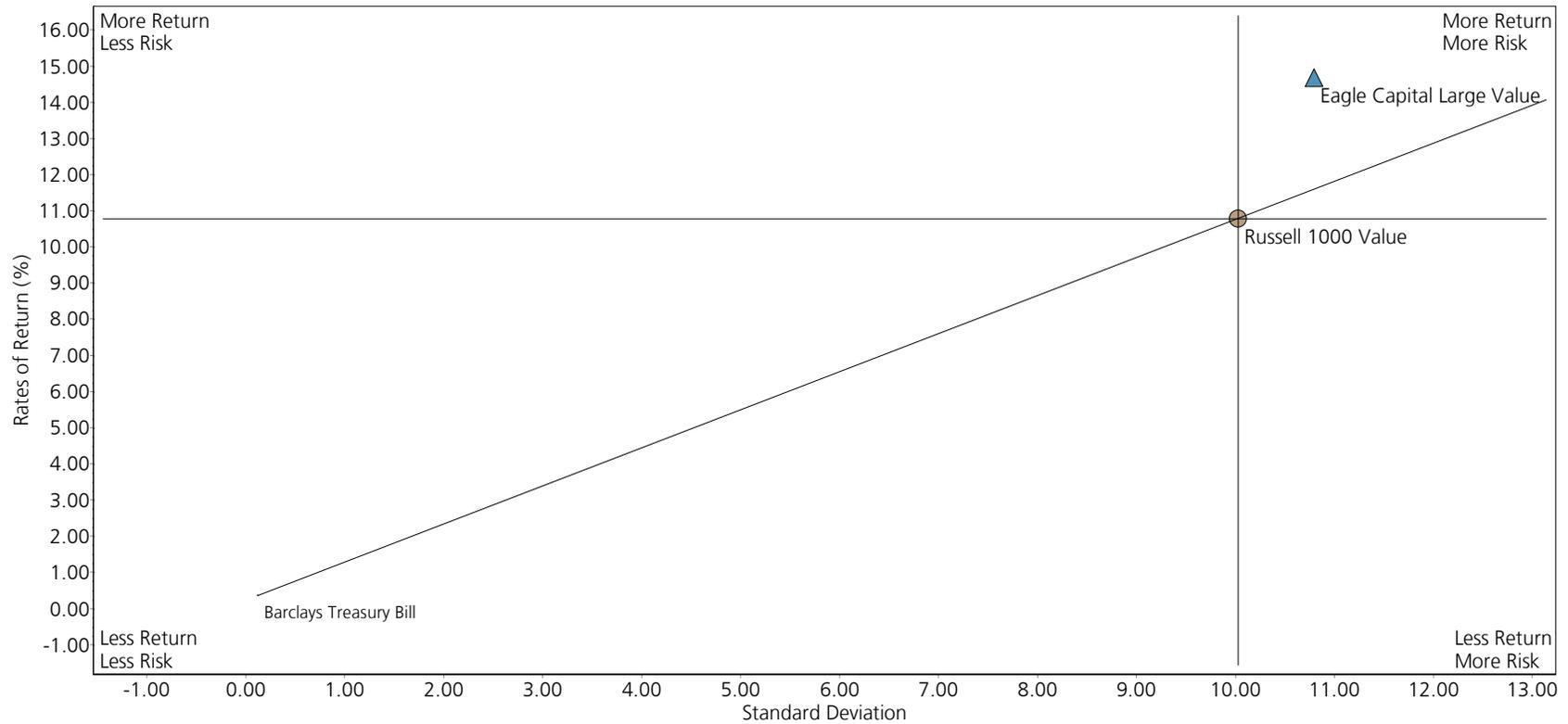
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Eagle Capital Large Value	12.25	11.44	4.25	0.98	79.76
● Russell 1000 Value	7.88	10.39	0.00	1.00	100.00

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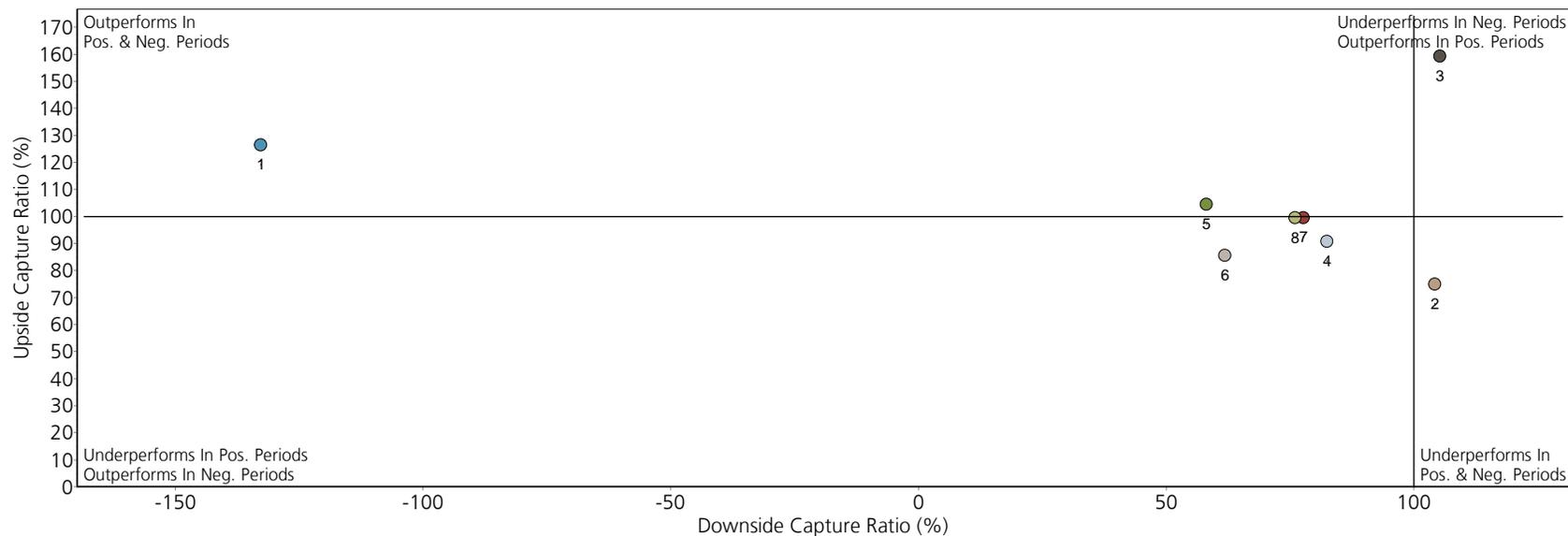
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Eagle Capital Large Value	14.67	10.79	3.86	0.97	81.53
● Russell 1000 Value	10.78	10.02	0.00	1.00	100.00

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Capture Ratio December 31, 2002 Through March 31, 2018



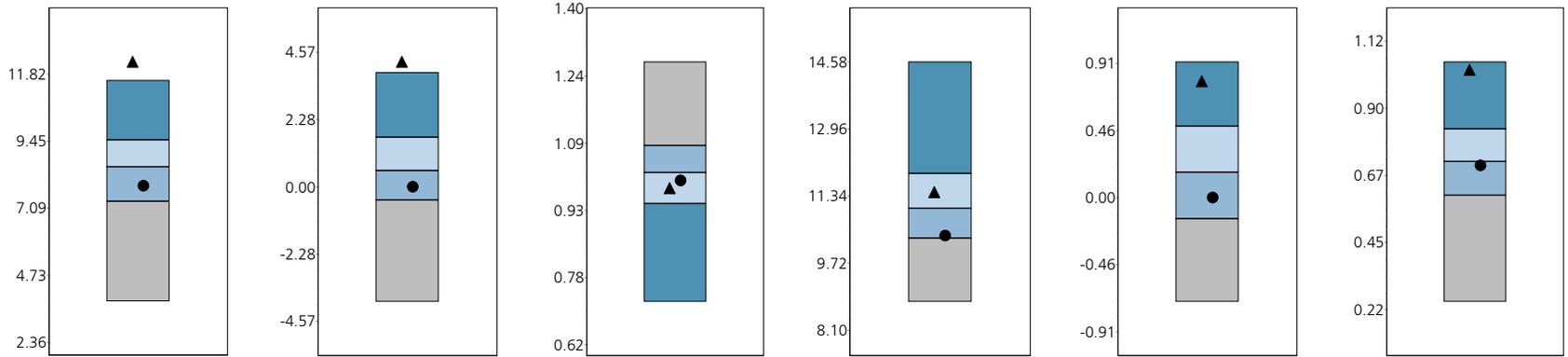
	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	12/2002-3/2018
Up Periods	8.00	8.00	6.00	9.00	10.00	8.00	6.00	117.00
Upside Capture ROR	20.87	19.46	25.65	20.13	40.67	22.93	24.14	43.29
Russell 1000 Value	16.52	25.97	16.12	22.19	38.98	26.79	24.26	43.57
% Of Capture	126.34	74.91	159.12	90.72	104.35	85.58	99.50	99.36
Down Periods	4.00	4.00	6.00	3.00	2.00	4.00	6.00	66.00
Downside Capture ROR	3.25	-7.14	-18.08	-5.89	-2.70	-4.53	-14.92	-24.96
Russell 1000 Value	-2.45	-6.85	-17.18	-7.15	-4.64	-7.32	-19.21	-32.80
% Of Capture	-132.69	104.19	105.28	82.43	58.13	61.82	77.68	76.09

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TOTAL FUND vs Large Cap Value Managers

March 31, 2015 Through March 31, 2018

3 Year



	Return
Highest Value	11.58
First Quartile	9.49
Median Value	8.54
Third Quartile	7.32
Lowest Value	3.81
Mean	8.35

	Alpha
Highest Value	3.88
First Quartile	1.68
Median Value	0.54
Third Quartile	-0.46
Lowest Value	-3.91
Mean	0.48

	Beta
Highest Value	0.72
First Quartile	0.95
Median Value	1.02
Third Quartile	1.08
Lowest Value	1.27
Mean	1.01

	Std Dev
Highest Value	14.58
First Quartile	11.89
Median Value	11.05
Third Quartile	10.33
Lowest Value	8.79
Mean	11.19

	Info Ratio
Highest Value	0.92
First Quartile	0.48
Median Value	0.17
Third Quartile	-0.14
Lowest Value	-0.71
Mean	0.16

	Sharpe Ratio
Highest Value	1.05
First Quartile	0.83
Median Value	0.72
Third Quartile	0.61
Lowest Value	0.25
Mean	0.71

	Value	Rank
▲ Eagle Capital LV	12.25	1
● Russell 1000 Value	7.88	64

	Value	Rank
▲ Eagle Capital LV	4.25	1
● Russell 1000 Value	0.00	64

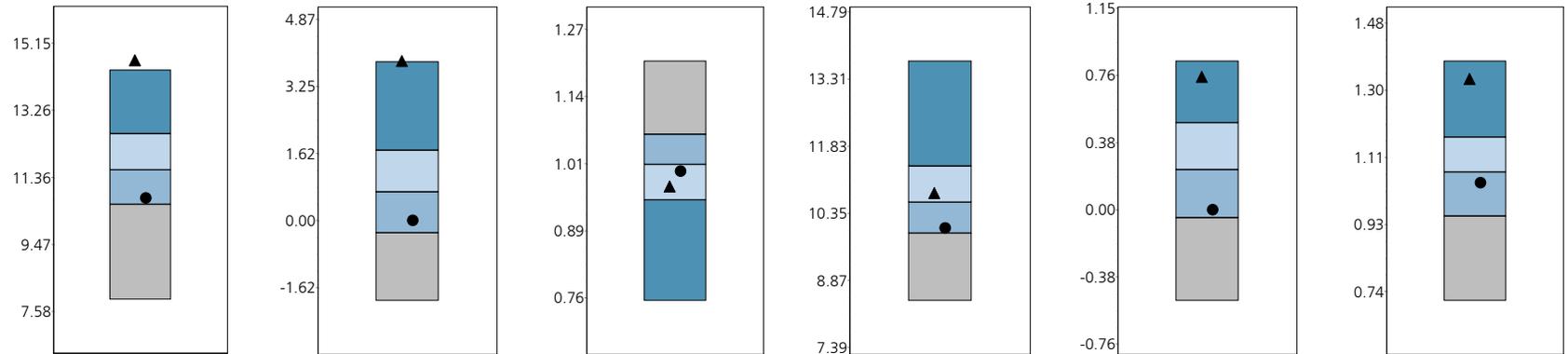
	Value	Rank
▲ Eagle Capital LV	0.98	62
● Russell 1000 Value	1.00	55

	Value	Rank
▲ Eagle Capital LV	11.44	38
● Russell 1000 Value	10.39	71

	Value	Rank
▲ Eagle Capital LV	0.79	5
● Russell 1000 Value	0.00	64

	Value	Rank
▲ Eagle Capital LV	1.02	3
● Russell 1000 Value	0.71	55

5 Year



	Return
Highest Value	14.40
First Quartile	12.59
Median Value	11.57
Third Quartile	10.59
Lowest Value	7.91
Mean	11.53

	Alpha
Highest Value	3.84
First Quartile	1.70
Median Value	0.69
Third Quartile	-0.29
Lowest Value	-1.94
Mean	0.74

	Beta
Highest Value	0.76
First Quartile	0.95
Median Value	1.01
Third Quartile	1.07
Lowest Value	1.21
Mean	1.00

	Std Dev
Highest Value	13.71
First Quartile	11.39
Median Value	10.60
Third Quartile	9.91
Lowest Value	8.43
Mean	10.69

	Info Ratio
Highest Value	0.85
First Quartile	0.49
Median Value	0.23
Third Quartile	-0.04
Lowest Value	-0.52
Mean	0.22

	Sharpe Ratio
Highest Value	1.38
First Quartile	1.17
Median Value	1.07
Third Quartile	0.95
Lowest Value	0.71
Mean	1.05

	Value	Rank
▲ Eagle Capital LV	14.67	1
● Russell 1000 Value	10.78	72

	Value	Rank
▲ Eagle Capital LV	3.86	1
● Russell 1000 Value	0.00	69

	Value	Rank
▲ Eagle Capital LV	0.97	68
● Russell 1000 Value	1.00	53

	Value	Rank
▲ Eagle Capital LV	10.79	41
● Russell 1000 Value	10.02	72

	Value	Rank
▲ Eagle Capital LV	0.76	5
● Russell 1000 Value	0.00	70

	Value	Rank
▲ Eagle Capital LV	1.33	1
● Russell 1000 Value	1.04	56

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard 500 Index

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

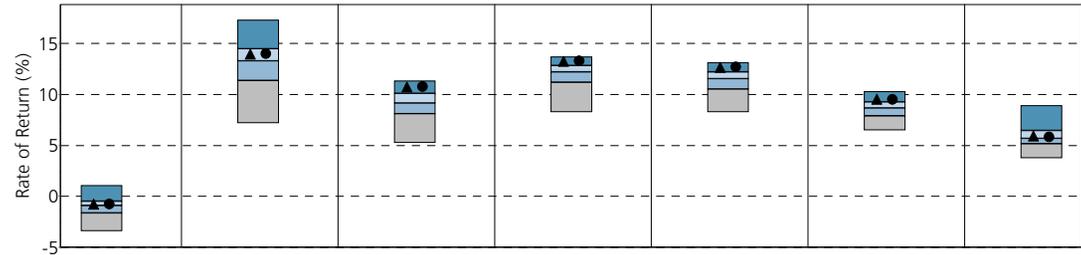
5/31/1999 - Present

100% S&P 500 Index

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TOTAL FUND Peer Universe Comparison versus Large Blend Managers

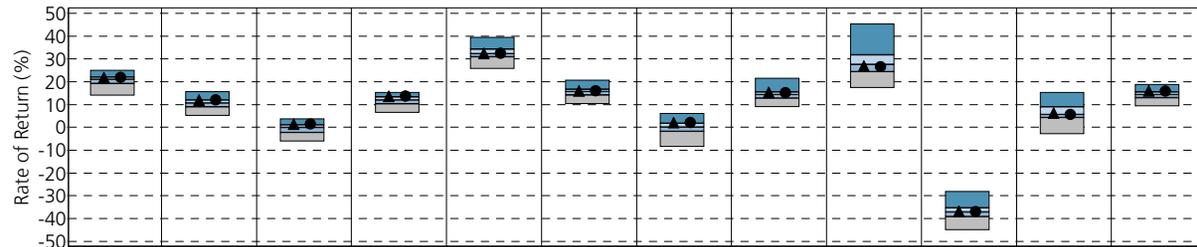
Trailing Periods



	Quarter	One Year	Three Years	Five Years	Seven Years	Ten Years	5/1999-3/2018
Highest Value	1.06	17.27	11.35	13.67	13.11	10.27	8.90
First Quartile	-0.48	14.48	10.11	12.85	12.21	9.25	6.45
Median Value	-0.89	13.30	9.15	12.19	11.55	8.69	5.68
Third Quartile	-1.65	11.37	8.13	11.21	10.51	7.89	5.15
Lowest Value	-3.39	7.21	5.27	8.27	8.28	6.51	3.75
Mean	-1.06	12.90	9.01	11.89	11.29	8.56	5.86

	Return	Rank												
▲ Vanguard 500 Index	-0.75	38	13.96	32	10.73	5	13.27	8	12.67	5	9.56	12	5.94	39
● S&P 500 Index	-0.76	38	13.99	31	10.78	4	13.31	6	12.71	4	9.49	14	5.83	43

Annual Periods

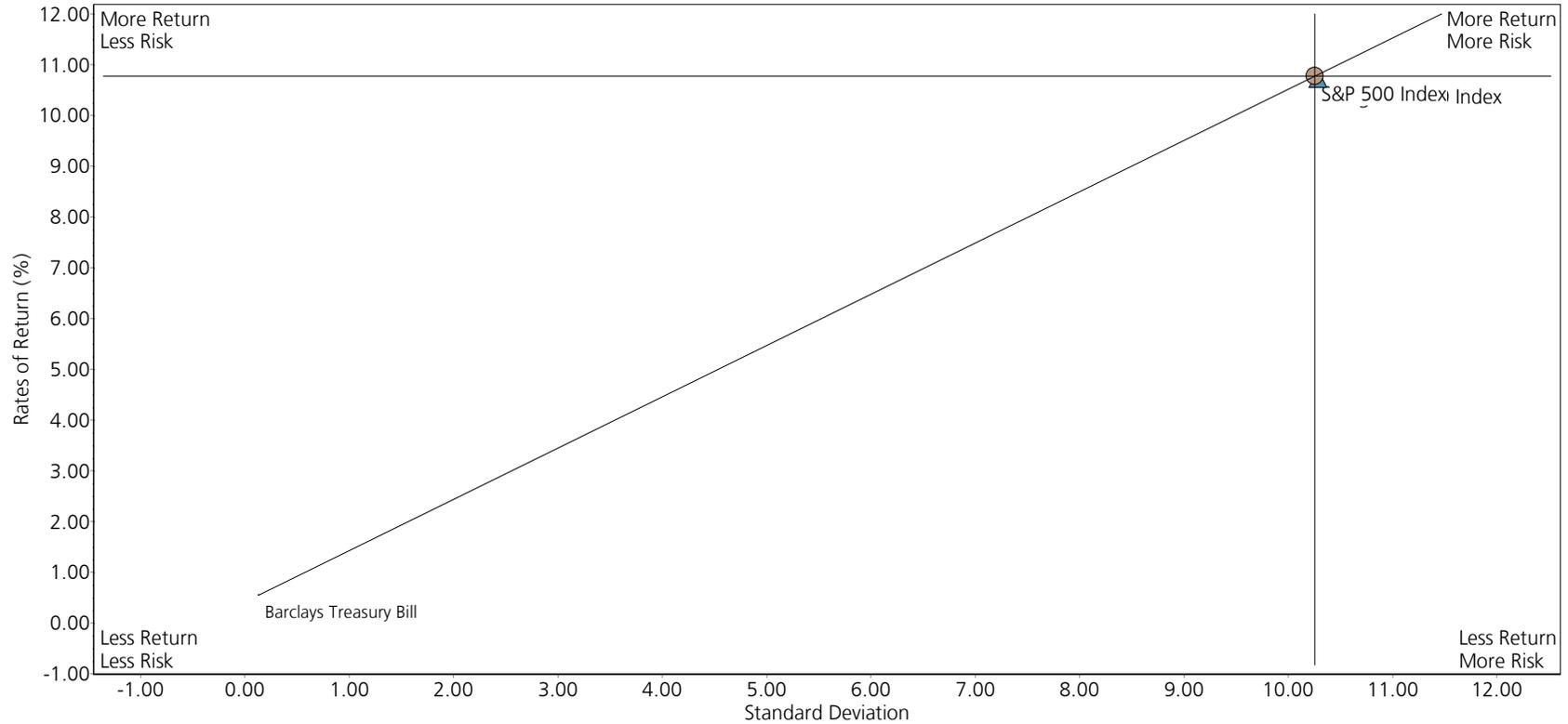


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Highest Value	25.06	15.62	3.69	15.29	39.41	20.61	6.05	21.43	45.30	-28.15	15.32	18.80
First Quartile	21.94	11.90	1.08	13.24	34.26	16.70	1.72	15.41	31.66	-35.31	8.91	15.51
Median Value	20.98	10.59	-0.10	11.92	32.16	15.68	0.05	14.32	27.55	-37.17	5.56	14.33
Third Quartile	19.12	8.98	-2.35	10.33	30.80	14.15	-1.77	12.76	24.40	-39.20	4.16	12.88
Lowest Value	14.03	5.06	-6.15	6.47	25.61	10.31	-8.56	8.87	17.37	-44.99	-2.89	9.34
Mean	20.50	10.53	-0.55	11.66	32.51	15.43	-0.03	14.27	28.32	-37.14	6.47	14.13

	Return	Rank														
▲ Vanguard 500 Index	21.76	27	11.93	24	1.35	18	13.64	14	32.37	45	15.96	40	2.05	14	15.24	27
● S&P 500 Index	21.83	25	11.96	23	1.38	17	13.65	14	32.35	44	16.00	39	2.11	14	15.06	29

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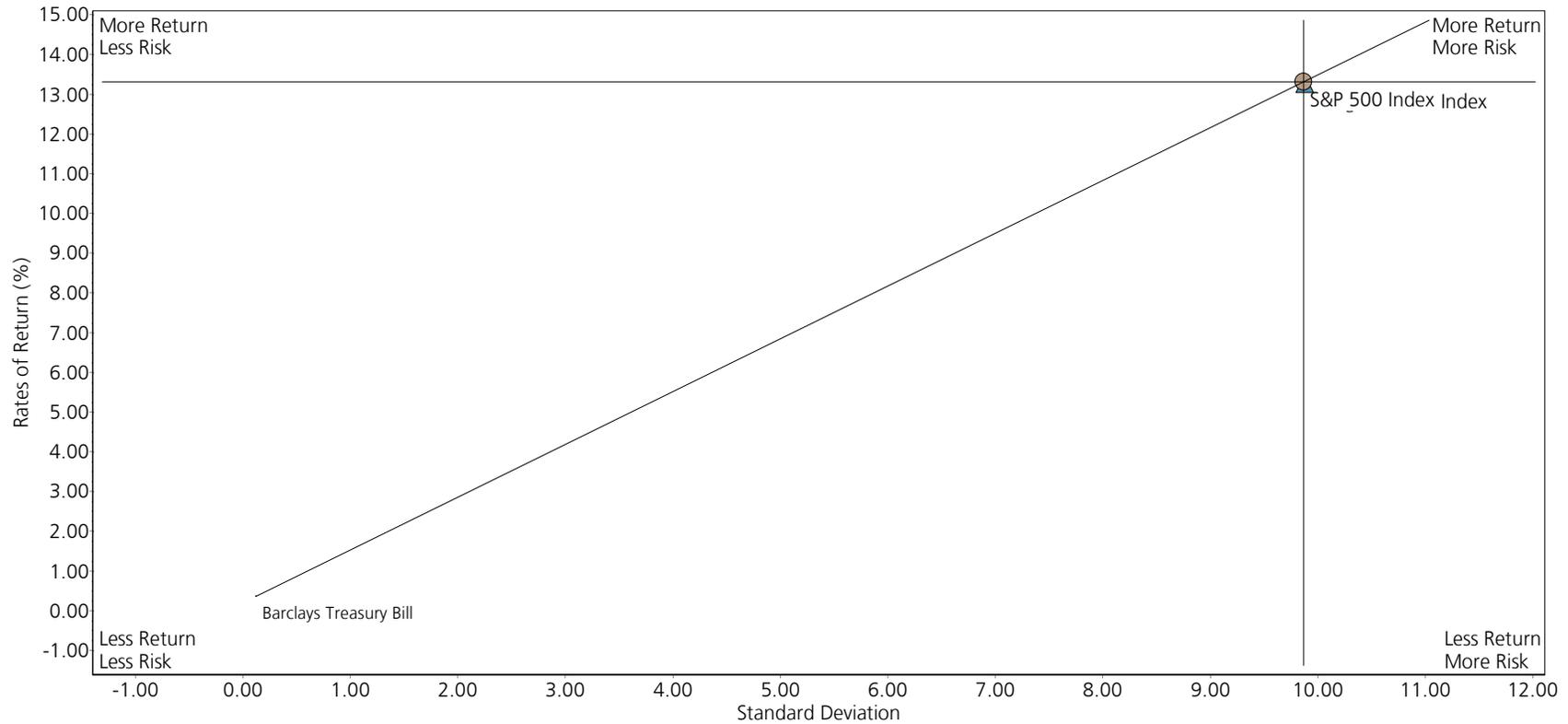
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard 500 Index	10.73	10.28	0.08	0.99	97.21
● S&P 500 Index	10.78	10.26	0.00	1.00	100.00

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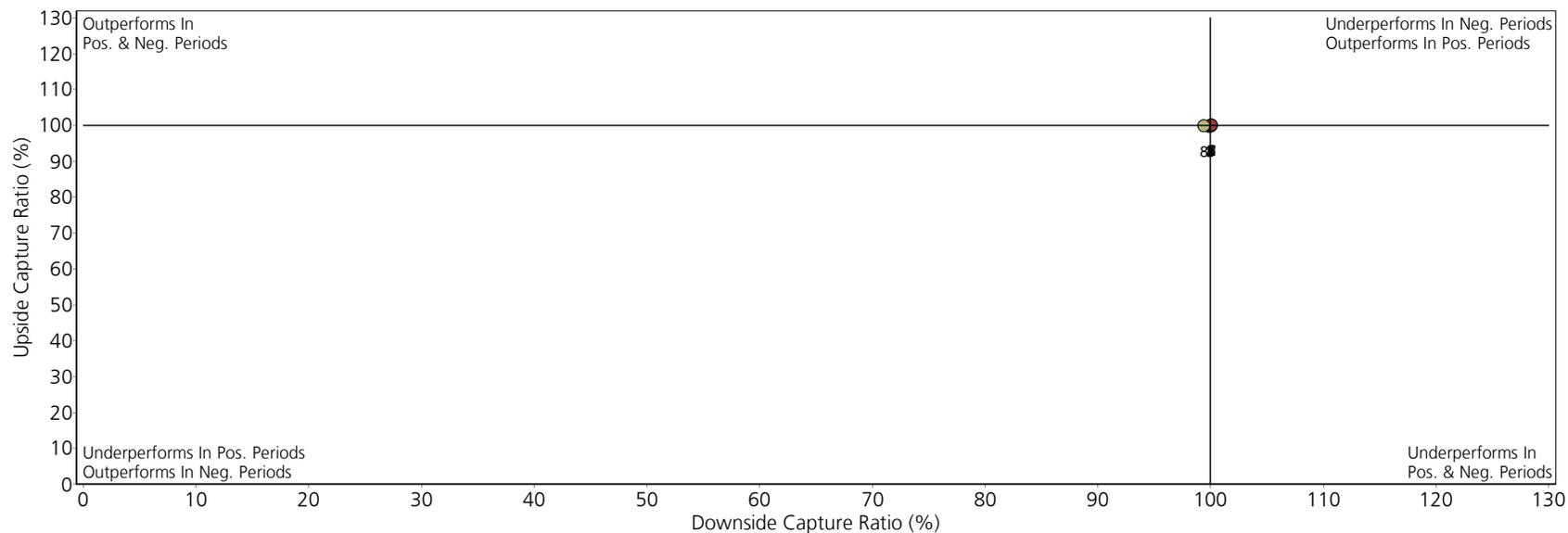
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard 500 Index	13.27	9.88	0.07	0.99	98.20
● S&P 500 Index	13.31	9.87	0.00	1.00	100.00

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Capture Ratio
May 31, 1999 Through March 31, 2018

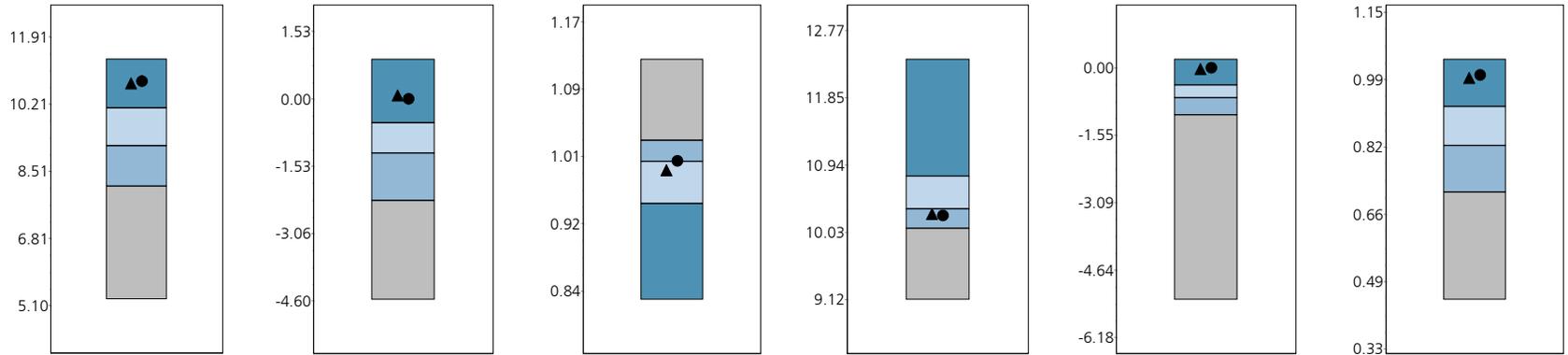


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	5/1999-3/2018
Up Periods	12.00	9.00	6.00	8.00	10.00	9.00	6.00	143.00
Upside Capture ROR	21.76	20.14	20.01	21.36	38.18	26.53	22.20	42.27
S&P 500 Index	21.83	20.16	20.07	21.41	38.19	26.54	22.21	42.33
% Of Capture	99.69	99.89	99.73	99.77	99.97	99.96	99.95	99.85
Down Periods	0.00	3.00	6.00	4.00	2.00	3.00	6.00	83.00
Downside Capture ROR	N/A	-6.83	-15.55	-6.36	-4.20	-8.33	-16.46	-36.26
S&P 500 Index	N/A	-6.82	-15.56	-6.36	-4.20	-8.32	-16.45	-36.48
% Of Capture	N/A	100.12	99.92	99.99	100.06	100.12	100.08	99.40

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TOTAL FUND vs Large Blend Managers
March 31, 2015 Through March 31, 2018

3 Year



	Return
Highest Value	11.35
First Quartile	10.11
Median Value	9.15
Third Quartile	8.13
Lowest Value	5.27
Mean	9.01

	Alpha
Highest Value	0.90
First Quartile	-0.54
Median Value	-1.24
Third Quartile	-2.31
Lowest Value	-4.57
Mean	-1.47

	Beta
Highest Value	0.83
First Quartile	0.95
Median Value	1.00
Third Quartile	1.03
Lowest Value	1.13
Mean	0.99

	Std Dev
Highest Value	12.38
First Quartile	10.79
Median Value	10.35
Third Quartile	10.09
Lowest Value	9.12
Mean	10.50

	Info Ratio
Highest Value	0.20
First Quartile	-0.40
Median Value	-0.68
Third Quartile	-1.08
Lowest Value	-5.32
Mean	-0.87

	Sharpe Ratio
Highest Value	1.04
First Quartile	0.92
Median Value	0.83
Third Quartile	0.71
Lowest Value	0.45
Mean	0.81

	Value	Rank
▲ Vanguard 500 Index	10.73	5
● S&P 500 Index	10.78	4

	Value	Rank
▲ Vanguard 500 Index	0.08	7
● S&P 500 Index	0.00	8

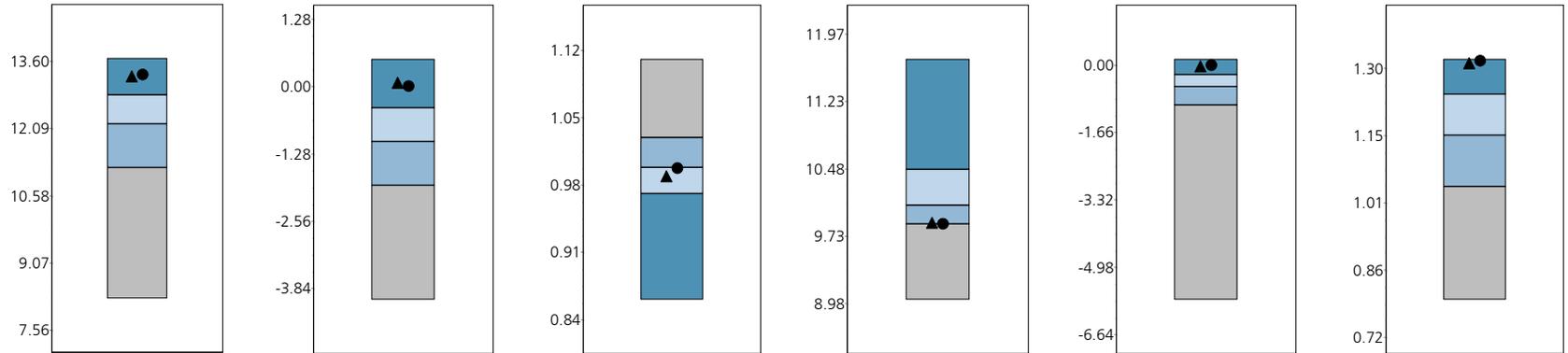
	Value	Rank
▲ Vanguard 500 Index	0.99	58
● S&P 500 Index	1.00	48

	Value	Rank
▲ Vanguard 500 Index	10.28	54
● S&P 500 Index	10.26	60

	Value	Rank
▲ Vanguard 500 Index	-0.03	5
● S&P 500 Index	0.00	5

	Value	Rank
▲ Vanguard 500 Index	0.99	5
● S&P 500 Index	1.00	3

5 Year



	Return
Highest Value	13.67
First Quartile	12.85
Median Value	12.19
Third Quartile	11.21
Lowest Value	8.27
Mean	11.89

	Alpha
Highest Value	0.52
First Quartile	-0.41
Median Value	-1.05
Third Quartile	-1.88
Lowest Value	-4.05
Mean	-1.24

	Beta
Highest Value	0.86
First Quartile	0.97
Median Value	1.00
Third Quartile	1.03
Lowest Value	1.11
Mean	1.00

	Std Dev
Highest Value	11.70
First Quartile	10.47
Median Value	10.07
Third Quartile	9.86
Lowest Value	9.02
Mean	10.20

	Info Ratio
Highest Value	0.15
First Quartile	-0.24
Median Value	-0.53
Third Quartile	-0.98
Lowest Value	-5.78
Mean	-0.77

	Sharpe Ratio
Highest Value	1.32
First Quartile	1.24
Median Value	1.15
Third Quartile	1.04
Lowest Value	0.80
Mean	1.13

	Value	Rank
▲ Vanguard 500 Index	13.27	8
● S&P 500 Index	13.31	6

	Value	Rank
▲ Vanguard 500 Index	0.07	6
● S&P 500 Index	0.00	7

	Value	Rank
▲ Vanguard 500 Index	0.99	64
● S&P 500 Index	1.00	53

	Value	Rank
▲ Vanguard 500 Index	9.88	68
● S&P 500 Index	9.87	71

	Value	Rank
▲ Vanguard 500 Index	-0.03	9
● S&P 500 Index	0.00	7

	Value	Rank
▲ Vanguard 500 Index	1.31	2
● S&P 500 Index	1.31	1

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

TCW Large Cap Growth

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

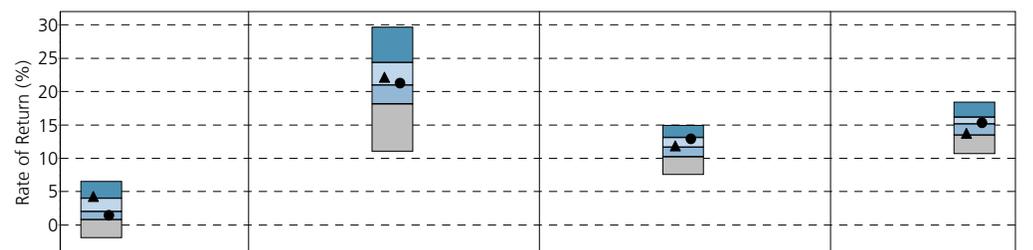
4/30/2013 - Present

100% Russell 1000 Growth

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TOTAL FUND Peer Universe Comparison versus Large Cap Growth Managers

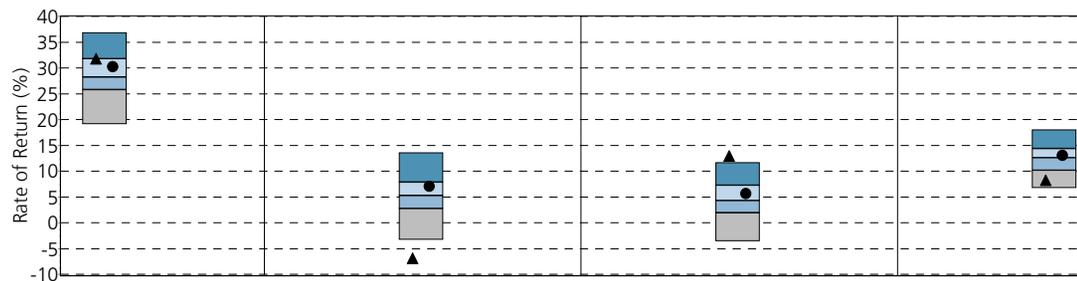
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>4/2013-3/2018</u>
Highest Value	6.50	29.63	14.91	18.40
First Quartile	4.02	24.37	13.09	16.14
Median Value	2.03	20.96	11.66	15.15
Third Quartile	0.80	18.14	10.21	13.46
Lowest Value	-1.94	11.00	7.52	10.65
Mean	2.28	21.13	11.62	14.86

	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ TCW LCG	4.27	21	22.15	39	11.87	44	13.76	71
● Russell 1000 Growth	1.42	61	21.25	47	12.90	27	15.32	44

Annual Periods

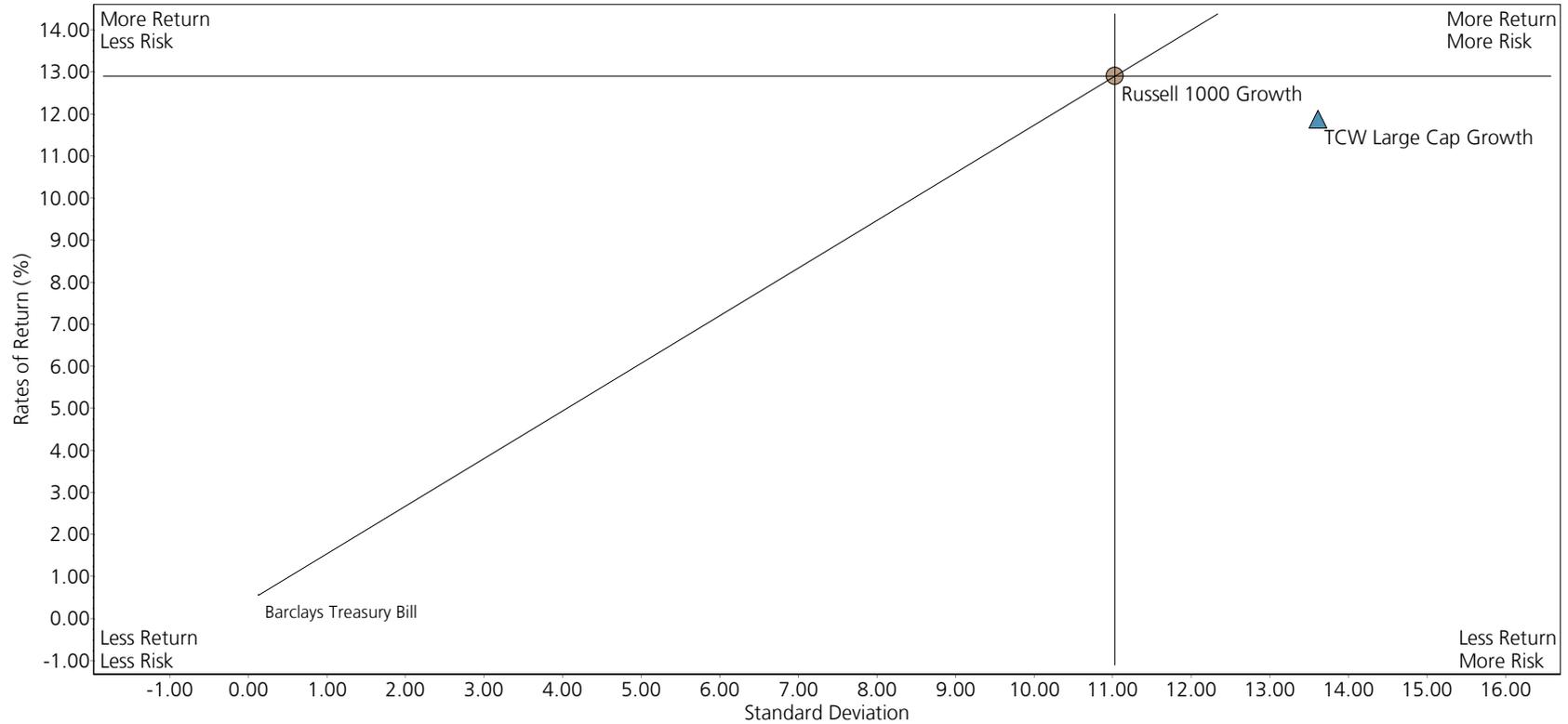


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Highest Value	36.78	13.55	11.67	17.98
First Quartile	31.79	7.89	7.29	14.37
Median Value	28.21	5.25	4.31	12.60
Third Quartile	25.78	2.77	1.97	10.16
Lowest Value	19.09	-3.22	-3.54	6.78
Mean	28.47	5.14	4.45	12.34

	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ TCW LCG	31.82	24	-6.86	99	12.95	1	8.22	92
● Russell 1000 Growth	30.21	35	7.08	30	5.67	38	13.05	42

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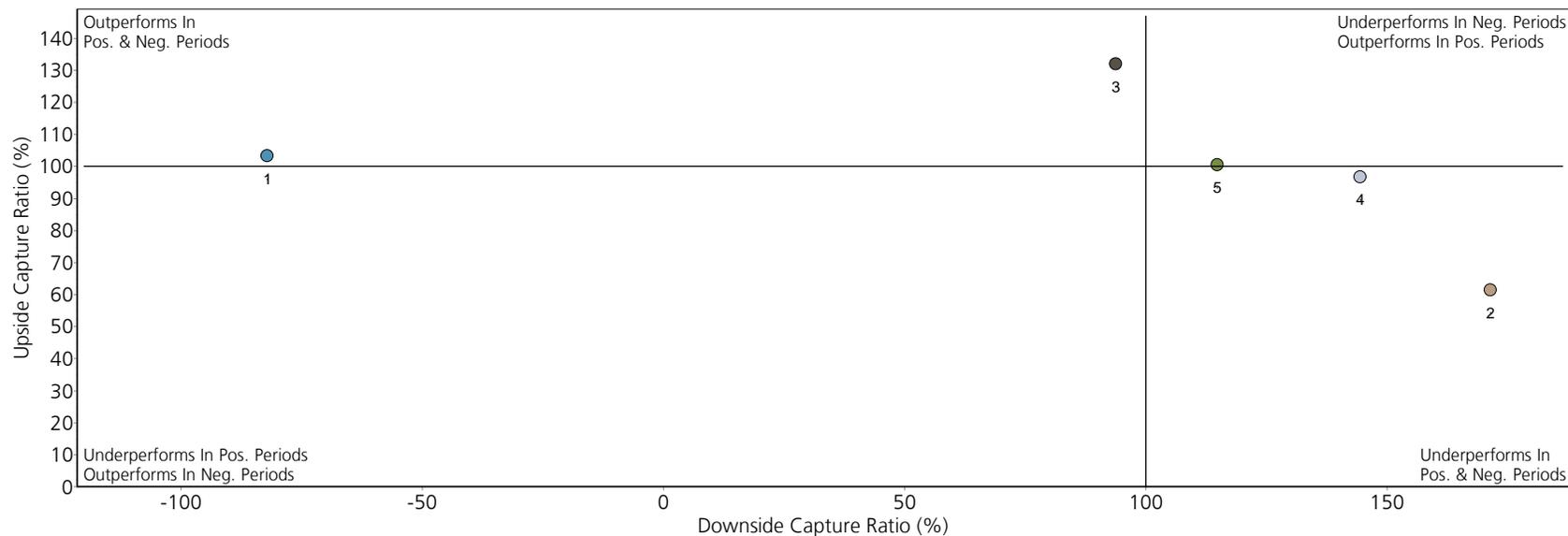
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ TCW Large Cap Growth	11.87	13.61	-1.99	1.11	81.33
● Russell 1000 Growth	12.90	11.03	0.00	1.00	100.00

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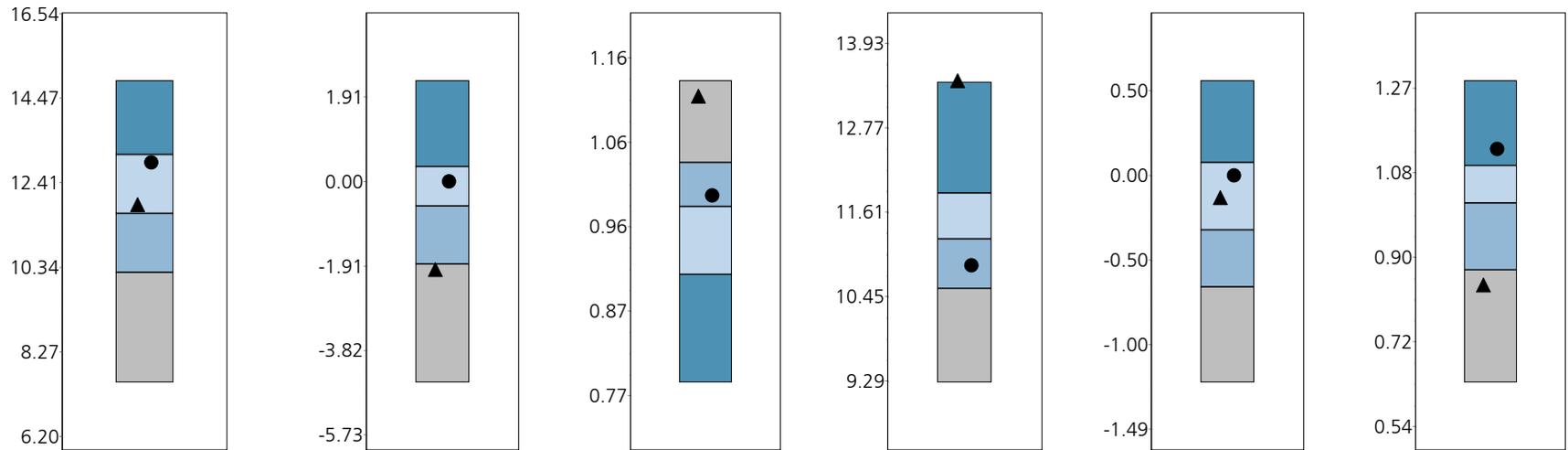
Capture Ratio
April 30, 2013 Through March 31, 2018



	1	2	3	4	5
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	4/2013-3/2018
Up Periods	11.00	6.00	6.00	7.00	37.00
Upside Capture ROR	31.53	11.23	29.58	21.67	44.03
Russell 1000 Growth	30.56	18.31	22.42	22.41	43.83
% Of Capture	103.19	61.34	131.95	96.67	100.47
Down Periods	1.00	6.00	6.00	5.00	22.00
Downside Capture ROR	0.22	-16.27	-12.84	-11.05	-23.50
Russell 1000 Growth	-0.26	-9.49	-13.68	-7.65	-20.46
% Of Capture	-82.04	171.37	93.82	144.49	114.87

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TOTAL FUND vs Large Cap Growth Managers
March 31, 2015 Through March 31, 2018



	<u>Return</u>		<u>Alpha</u>		<u>Beta</u>		<u>Std Dev</u>		<u>Info Ratio</u>		<u>Sharpe Ratio</u>	
Highest Value	14.91		2.28		0.79		13.39		0.56		1.28	
First Quartile	13.09		0.33		0.91		11.87		0.07		1.10	
Median Value	11.66		-0.56		0.99		11.24		-0.32		1.02	
Third Quartile	10.21		-1.86		1.04		10.56		-0.66		0.88	
Lowest Value	7.52		-4.54		1.13		9.27		-1.22		0.64	
Mean	11.62		-0.76		0.97		11.28		-0.32		0.99	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ TCW LCG	11.87	44	-1.99	77	1.11	6	13.42	1	-0.13	33	0.84	81
● Russell 1000 Growth	12.90	27	0.00	34	1.00	38	10.87	61	0.00	27	1.13	17

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Westfield Capital Large Growth

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Performance Analysis

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TOTAL FUND BENCHMARK

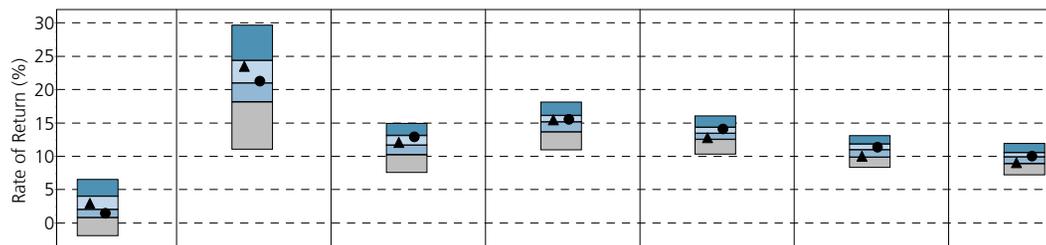
7/31/2007 - Present

100% Russell 1000 Growth

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TOTAL FUND Peer Universe Comparison versus Large Cap Growth Managers

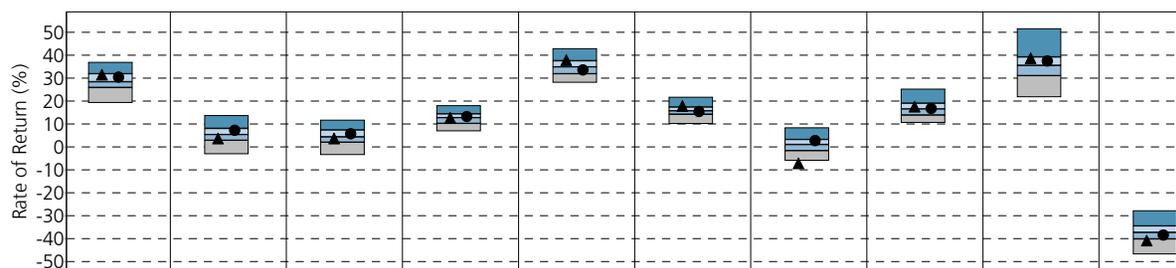
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Seven Years</u>	<u>Ten Years</u>	<u>7/2007-3/2018</u>
Highest Value	6.50	29.63	14.91	18.13	16.04	13.13	11.94
First Quartile	4.02	24.37	13.09	16.13	14.32	11.82	10.54
Median Value	2.03	20.96	11.66	15.14	13.43	10.98	9.88
Third Quartile	0.80	18.14	10.21	13.64	12.52	9.83	8.90
Lowest Value	-1.94	11.00	7.52	10.91	10.29	8.28	7.16
Mean	2.28	21.13	11.62	14.89	13.32	10.84	9.73

	Return	Rank												
▲ Westfield Capital LG	2.92	39	23.51	30	12.11	42	15.46	44	12.79	65	9.99	72	9.05	70
● Russell 1000 Growth	1.42	61	21.25	47	12.90	27	15.53	39	14.09	28	11.34	37	9.99	43

Annual Periods

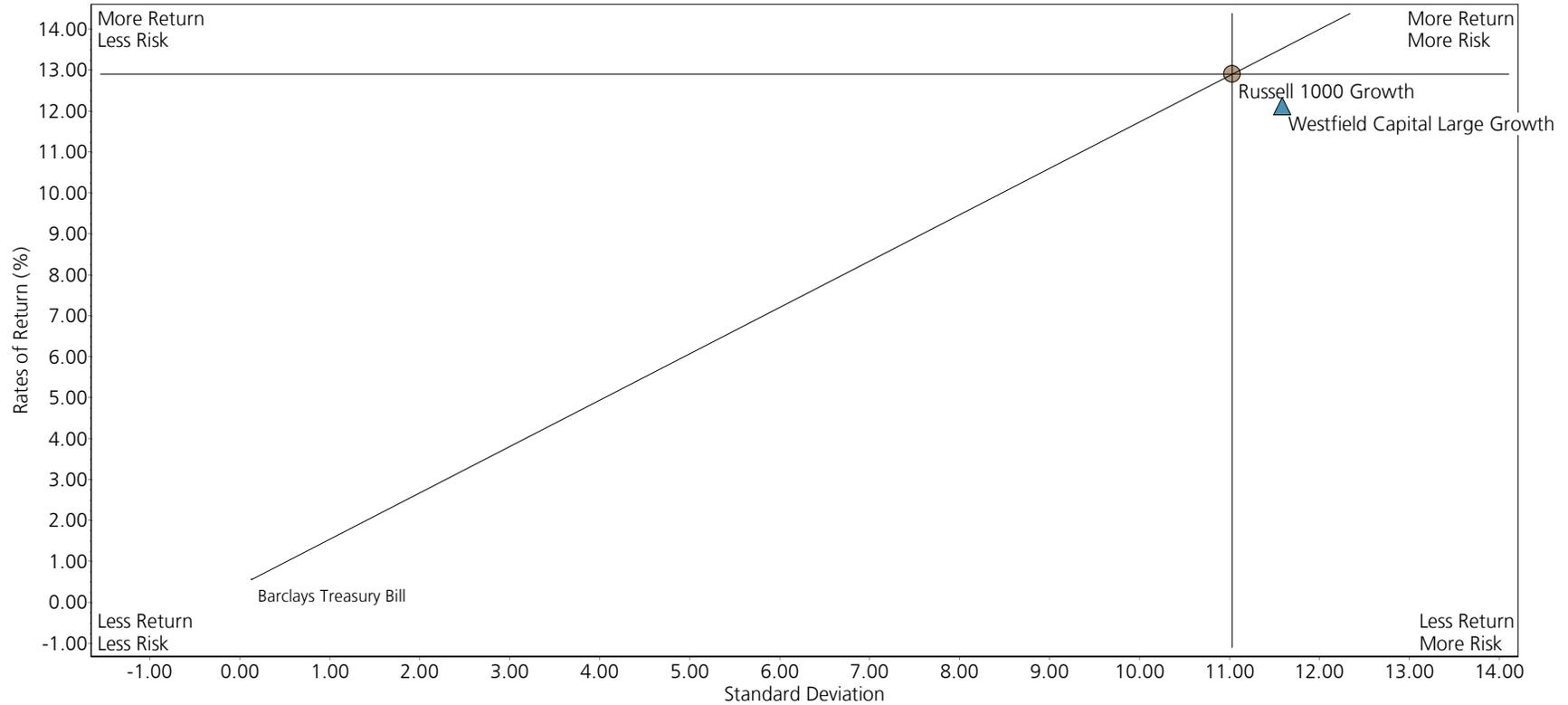


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>
Highest Value	36.78	13.55	11.67	17.98	42.74	21.61	8.28	25.20	51.36	-27.81
First Quartile	31.79	7.89	7.29	14.37	37.44	17.33	3.12	19.01	39.14	-34.55
Median Value	28.21	5.25	4.31	12.60	34.82	15.60	0.96	16.39	35.50	-37.29
Third Quartile	25.78	2.77	1.97	10.16	31.77	14.05	-1.64	13.75	30.94	-40.16
Lowest Value	19.09	-3.22	-3.54	6.78	27.97	10.04	-6.08	10.39	21.69	-46.84
Mean	28.47	5.14	4.45	12.34	34.78	15.77	0.93	16.60	35.38	-37.20

	Return	Rank														
▲ Westfield Capital LG	31.42	27	3.56	65	3.58	58	12.58	50	37.84	19	17.83	21	-7.22	99	17.39	36
● Russell 1000 Growth	30.21	35	7.08	30	5.67	38	13.05	42	33.48	62	15.26	54	2.64	32	16.71	47

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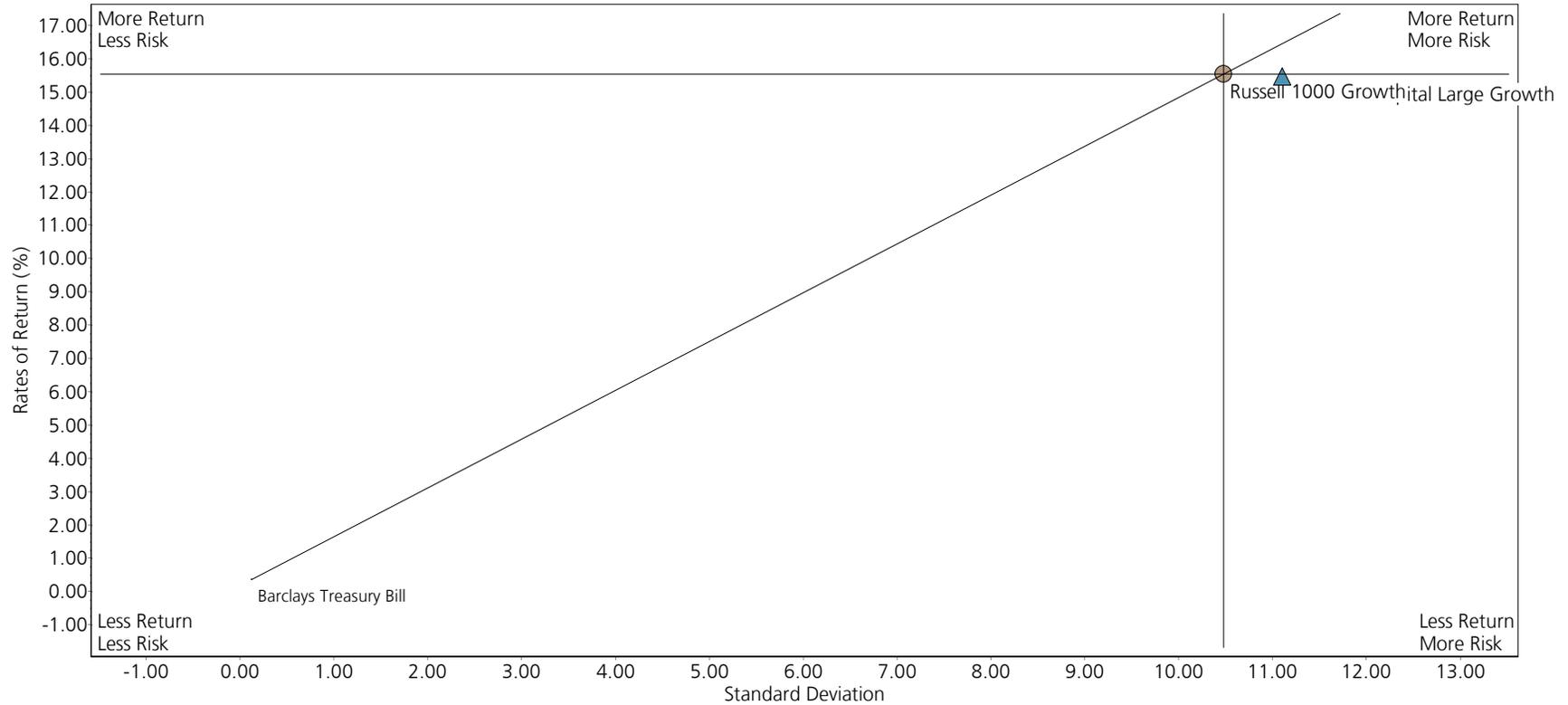
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Westfield Capital Large Growth	12.11	11.58	-0.80	1.01	92.99
● Russell 1000 Growth	12.90	11.03	0.00	1.00	100.00

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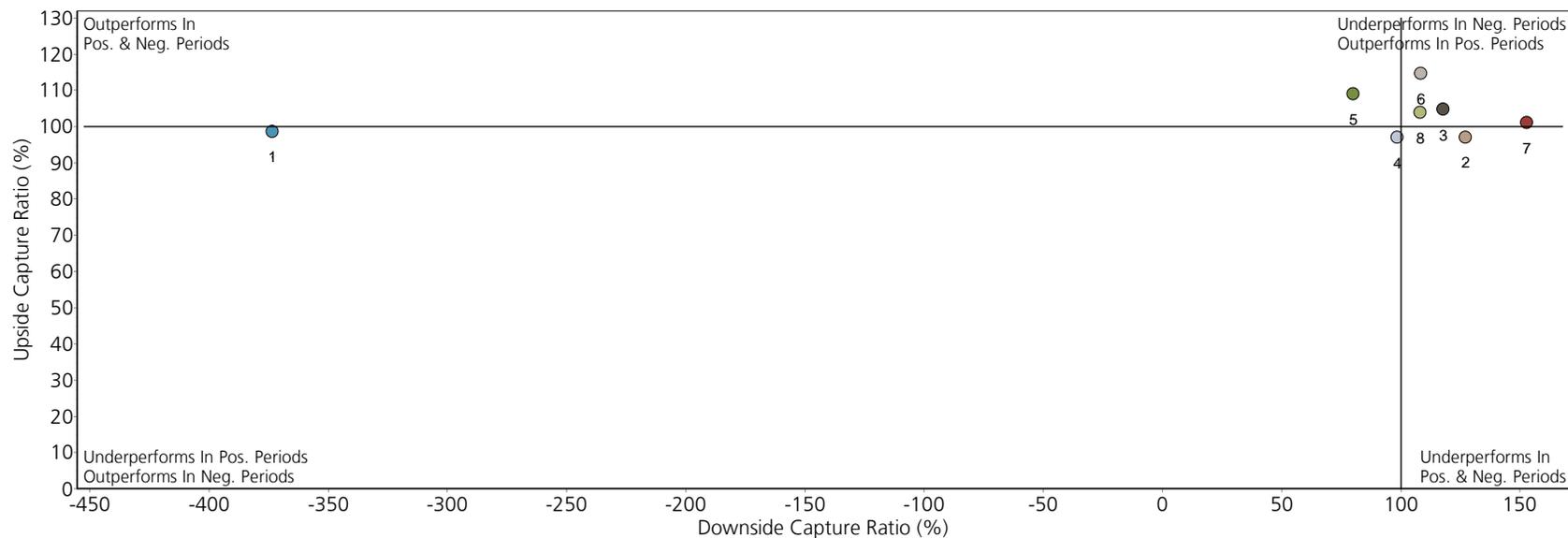
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Westfield Capital Large Growth	15.46	11.10	-0.36	1.03	93.68
● Russell 1000 Growth	15.53	10.48	0.00	1.00	100.00

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Capture Ratio July 31, 2007 Through March 31, 2018



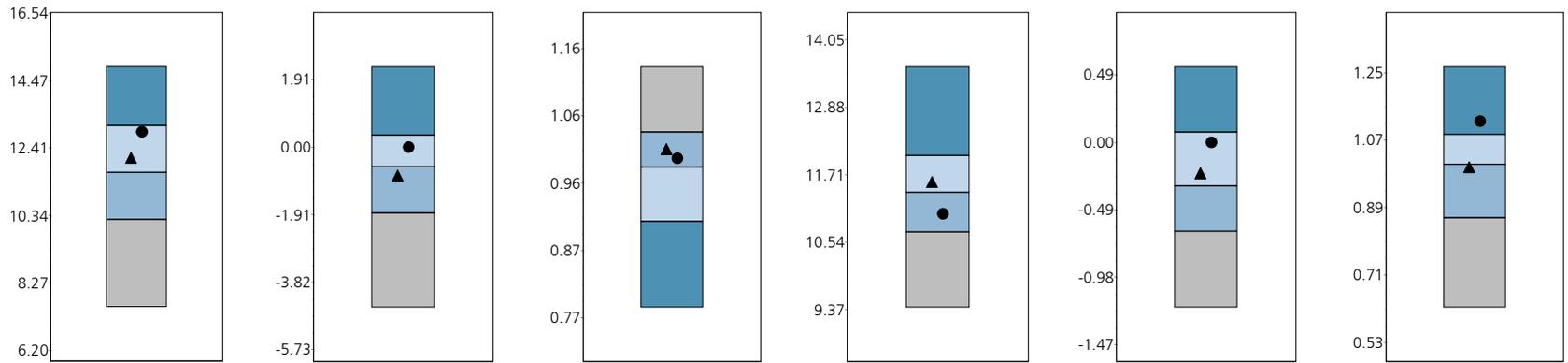
	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	7/2007-3/2018
Up Periods	11.00	6.00	6.00	7.00	10.00	8.00	5.00	78.00
Upside Capture ROR	30.14	17.77	23.47	21.75	41.90	31.05	21.82	53.84
Russell 1000 Growth	30.56	18.31	22.42	22.41	38.42	27.09	21.61	51.84
% Of Capture	98.64	97.09	104.69	97.04	109.06	114.60	100.99	103.85
Down Periods	1.00	6.00	6.00	5.00	2.00	4.00	7.00	50.00
Downside Capture ROR	0.98	-12.07	-16.10	-7.54	-2.86	-10.08	-23.84	-36.24
Russell 1000 Growth	-0.26	-9.49	-13.68	-7.65	-3.56	-9.31	-15.59	-33.48
% Of Capture	-373.46	127.13	117.71	98.52	80.15	108.30	152.86	108.25

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TOTAL FUND vs Large Cap Growth Managers

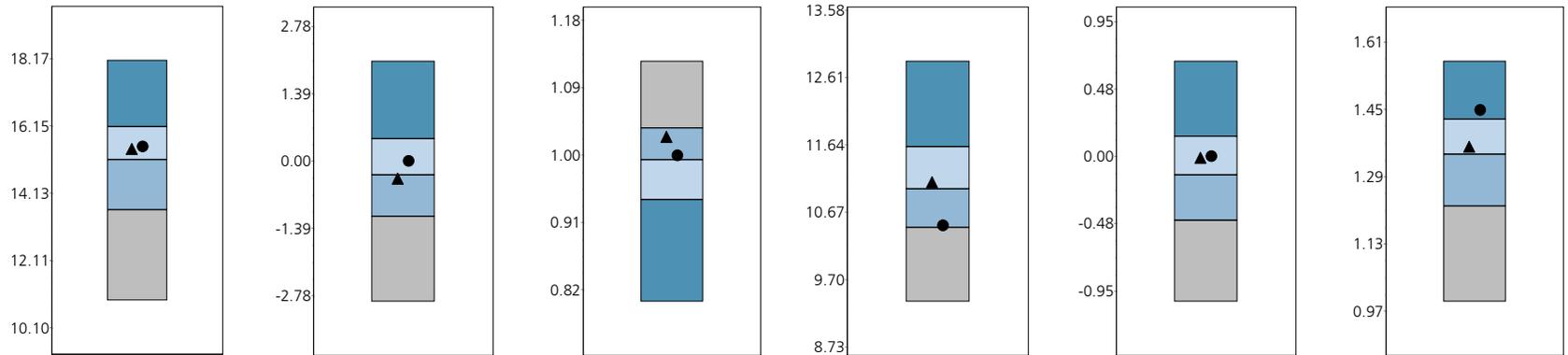
March 31, 2015 Through March 31, 2018

3 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
Highest Value	14.91		2.28		0.79		13.58		0.55		1.26	
First Quartile	13.09		0.33		0.91		12.04		0.07		1.08	
Median Value	11.66		-0.56		0.99		11.40		-0.32		1.01	
Third Quartile	10.21		-1.86		1.04		10.71		-0.65		0.86	
Lowest Value	7.52		-4.54		1.13		9.40		-1.20		0.63	
Mean	11.62		-0.76		0.97		11.44		-0.32		0.97	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Westfield Capital LG	12.11	42	-0.80	56	1.01	30	11.58	42	-0.22	40	1.00	51
● Russell 1000 Growth	12.90	27	0.00	34	1.00	38	11.03	61	0.00	27	1.12	17

5 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
Highest Value	18.13		2.06		0.80		12.85		0.67		1.57	
First Quartile	16.13		0.46		0.94		11.61		0.14		1.43	
Median Value	15.14		-0.28		0.99		11.01		-0.13		1.34	
Third Quartile	13.64		-1.14		1.04		10.45		-0.45		1.22	
Lowest Value	10.91		-2.90		1.13		9.38		-1.03		0.99	
Mean	14.89		-0.35		0.99		11.05		-0.15		1.32	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Westfield Capital LG	15.46	44	-0.36	54	1.03	30	11.10	42	-0.01	41	1.36	43
● Russell 1000 Growth	15.53	39	0.00	43	1.00	43	10.48	73	0.00	39	1.45	19

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard Midcap 400 Index Fund

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

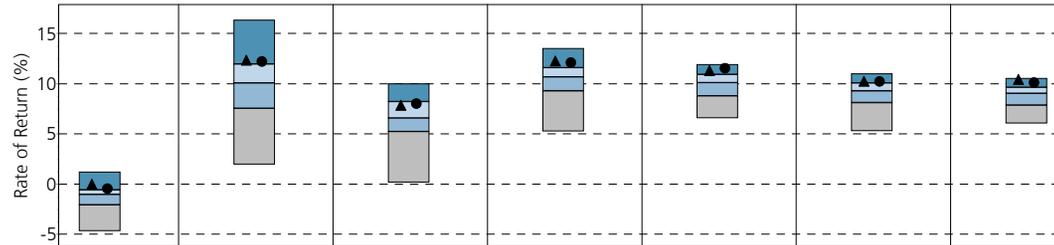
5/31/2004 - Present

100% Russell Midcap

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TOTAL FUND Peer Universe Comparison versus Mid Cap Blend Managers

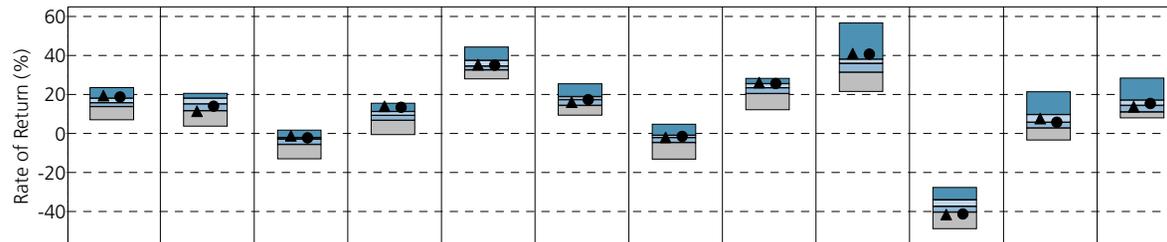
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Seven Years</u>	<u>Ten Years</u>	<u>5/2004-3/2018</u>
Highest Value	1.19	16.31	9.99	13.51	11.92	10.98	10.54
First Quartile	-0.59	11.96	8.23	11.59	10.94	10.06	9.65
Median Value	-1.05	10.06	6.57	10.66	10.10	9.29	9.04
Third Quartile	-2.08	7.53	5.23	9.27	8.79	8.09	7.86
Lowest Value	-4.67	1.96	0.18	5.27	6.58	5.28	6.03
Mean	-1.28	9.63	6.43	10.35	9.80	8.94	8.70

	Return	Rank												
▲ Vanguard Midcap 400	0.00	12	12.34	19	7.87	34	12.26	11	11.31	11	10.23	18	10.41	1
● Russell Midcap	-0.46	18	12.20	21	8.01	30	12.09	12	11.51	8	10.21	19	10.09	5

Annual Periods

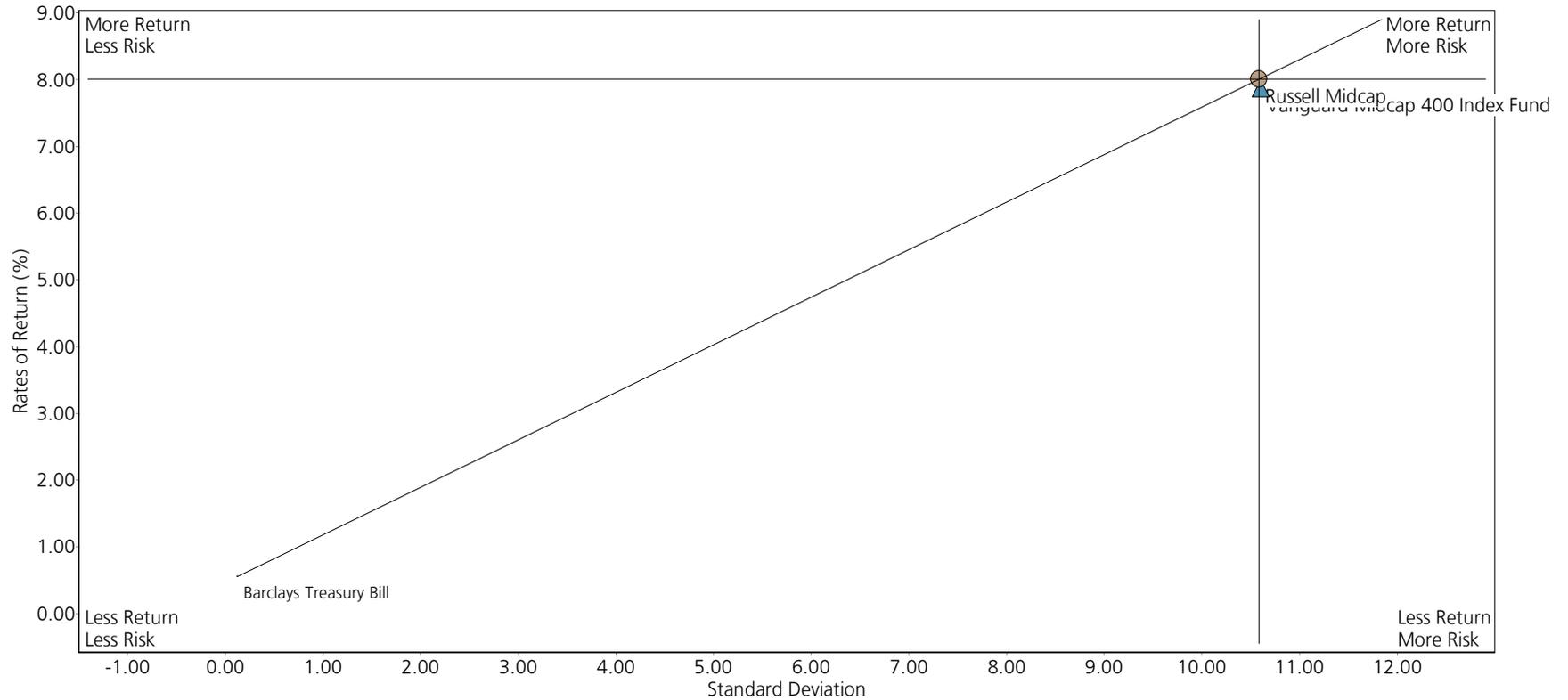


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
Highest Value	23.41	20.49	1.61	15.33	44.17	25.44	4.57	28.09	56.62	-27.67	21.33	28.27
First Quartile	17.88	17.95	-2.15	11.06	37.45	18.68	-1.01	25.47	38.03	-34.21	9.56	17.04
Median Value	15.66	15.08	-3.02	9.19	34.40	17.20	-2.31	23.34	35.91	-37.62	5.70	14.27
Third Quartile	13.57	11.57	-5.72	6.61	32.40	14.26	-4.79	20.31	31.35	-40.41	2.61	10.83
Lowest Value	6.81	3.49	-13.12	-0.81	27.86	9.07	-13.43	11.96	21.24	-49.04	-3.64	7.84
Mean	15.72	14.44	-3.96	8.82	34.91	16.72	-2.97	22.69	35.48	-37.70	6.44	14.62

	Return	Rank												
▲ Vanguard Midcap 400	19.25	9	11.23	76	-1.34	17	13.78	7	35.26	42	16.01	68	-1.95	37
● Russell Midcap	18.52	16	13.80	60	-2.44	30	13.22	10	34.76	46	17.28	49	-1.55	27

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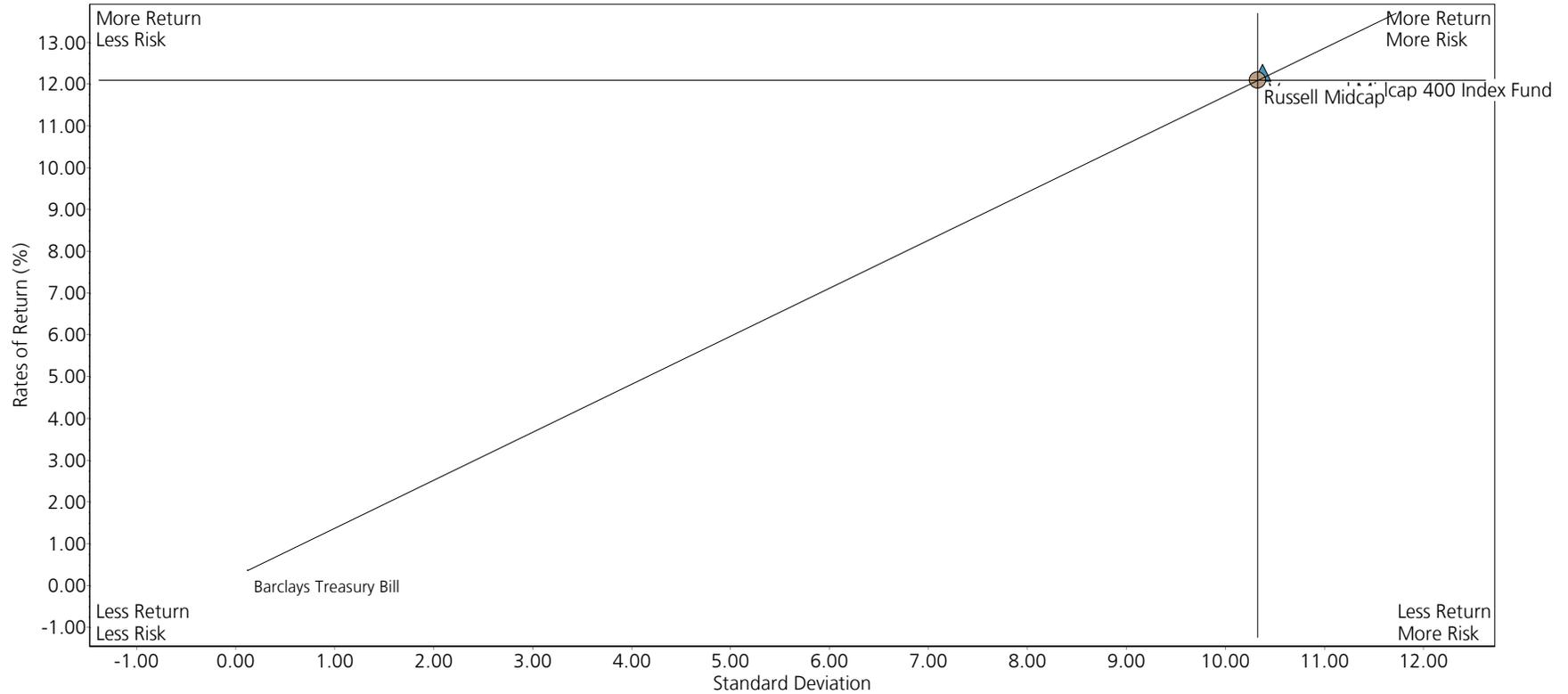
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Midcap 400 Index Fund	7.87	10.60	-0.08	0.99	98.57
● Russell Midcap	8.01	10.59	0.00	1.00	100.00

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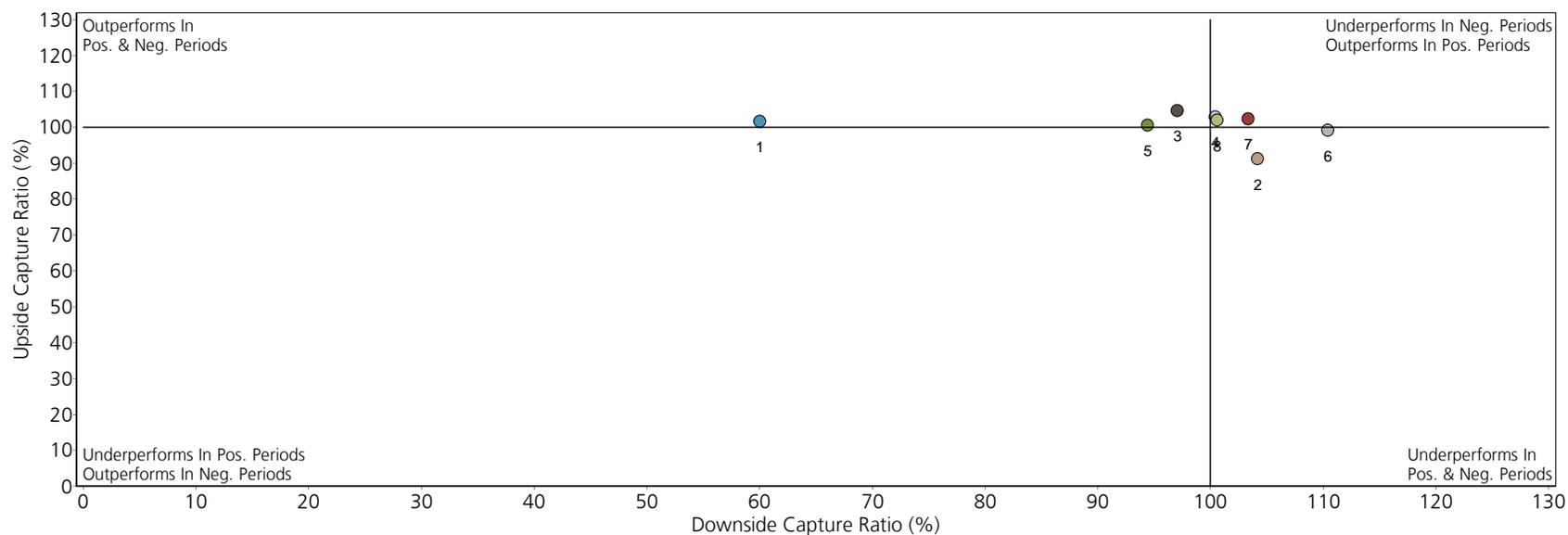
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Midcap 400 Index Fund	12.26	10.37	0.19	1.00	98.79
● Russell Midcap	12.09	10.33	0.00	1.00	100.00

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Capture Ratio
May 31, 2004 Through March 31, 2018



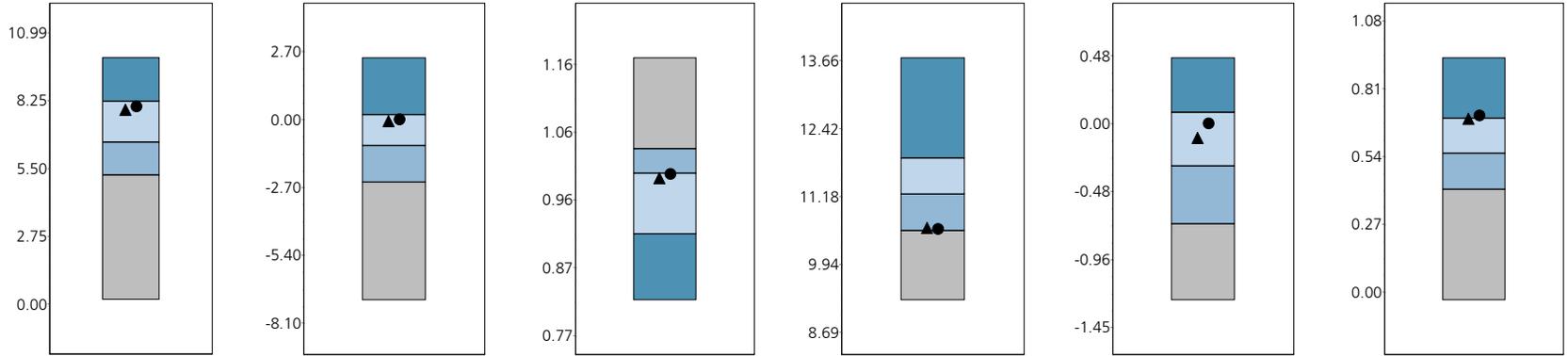
	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	5/2004-3/2018
Up Periods	10.00	9.00	6.00	7.00	10.00	9.00	5.00	108.00
Upside Capture ROR	19.96	23.79	15.62	24.80	40.35	27.18	25.86	49.67
Russell Midcap	19.63	26.08	14.93	24.13	40.14	27.41	25.28	48.73
% Of Capture	101.69	91.22	104.64	102.78	100.51	99.15	102.32	101.92
Down Periods	2.00	3.00	6.00	5.00	2.00	3.00	7.00	58.00
Downside Capture ROR	-0.56	-10.15	-14.67	-8.83	-3.62	-8.79	-22.13	-37.34
Russell Midcap	-0.93	-9.74	-15.11	-8.79	-3.84	-7.96	-21.41	-37.13
% Of Capture	60.01	104.18	97.07	100.42	94.41	110.43	103.37	100.58

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TOTAL FUND vs Mid Cap Blend Managers

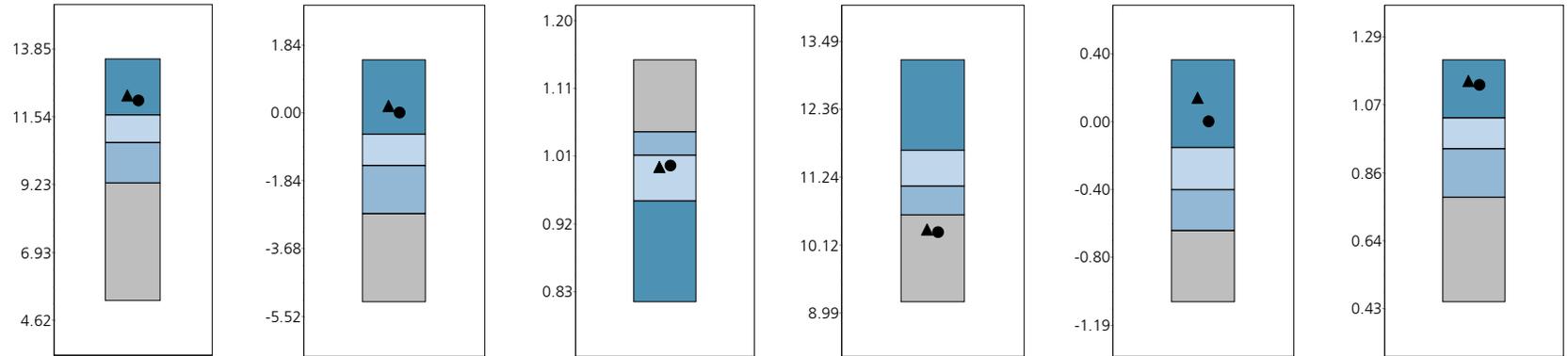
March 31, 2015 Through March 31, 2018

3 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
Highest Value	9.99		2.45		0.82		13.72		0.47		0.93	
First Quartile	8.23		0.18		0.92		11.88		0.08		0.69	
Median Value	6.57		-1.05		1.00		11.22		-0.30		0.55	
Third Quartile	5.23		-2.50		1.04		10.55		-0.71		0.41	
Lowest Value	0.18		-7.19		1.17		9.28		-1.25		-0.03	
Mean	6.43		-1.34		0.99		11.25		-0.34		0.53	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Vanguard Midcap 400	7.87	34	-0.08	32	0.99	53	10.60	71	-0.10	37	0.69	25
● Russell Midcap	8.01	30	0.00	29	1.00	50	10.59	73	0.00	30	0.70	20

5 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
Highest Value	13.51		1.44		0.81		13.18		0.36		1.22	
First Quartile	11.59		-0.58		0.95		11.68		-0.15		1.03	
Median Value	10.66		-1.43		1.01		11.09		-0.40		0.93	
Third Quartile	9.27		-2.74		1.05		10.61		-0.64		0.78	
Lowest Value	5.27		-5.13		1.14		9.17		-1.06		0.45	
Mean	10.35		-1.56		1.01		11.13		-0.40		0.91	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Vanguard Midcap 400	12.26	11	0.19	13	1.00	58	10.37	80	0.14	6	1.15	8
● Russell Midcap	12.09	12	0.00	16	1.00	55	10.33	82	0.00	12	1.14	9

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vaughan Nelson

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

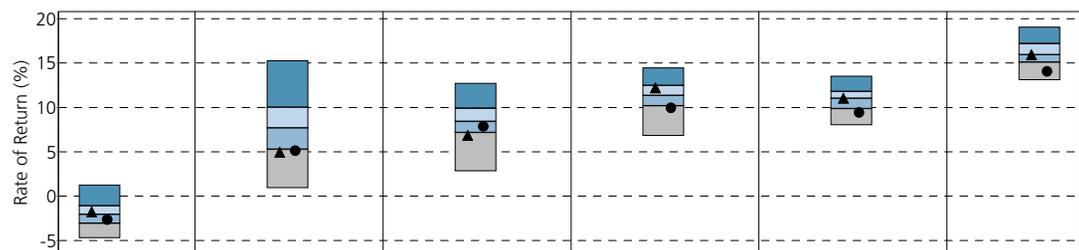
4/30/2009 - Present

100% Russell 2000 Value

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TOTAL FUND Peer Universe Comparison versus Small Cap Value Managers

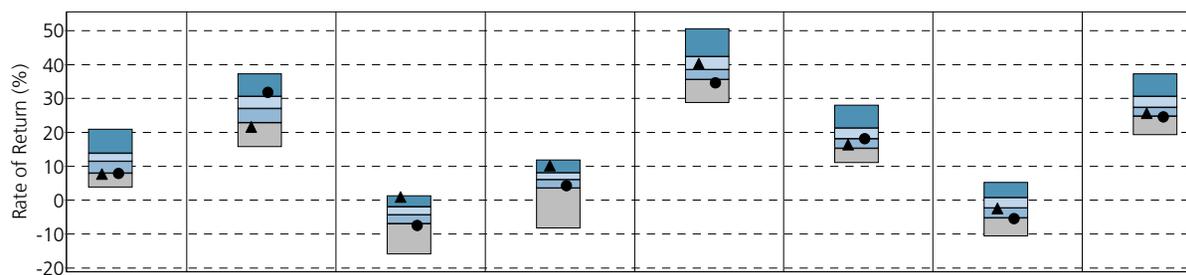
Trailing Periods



	Quarter	One Year	Three Years	Five Years	Seven Years	4/2009-3/2018
Highest Value	1.25	15.26	12.71	14.45	13.53	19.02
First Quartile	-1.06	10.02	9.92	12.50	11.80	17.20
Median Value	-2.06	7.69	8.40	11.37	11.04	15.94
Third Quartile	-3.06	5.26	7.17	10.18	9.88	15.08
Lowest Value	-4.71	0.94	2.84	6.81	8.03	13.07
Mean	-2.01	7.86	8.47	11.30	10.94	16.13

	Return	Rank										
▲ Vaughan Nelson	-1.78	43	4.97	77	6.83	80	12.20	29	11.03	50	15.94	49
● Russell 2000 Value	-2.64	62	5.13	77	7.87	65	9.96	79	9.42	83	14.04	93

Annual Periods

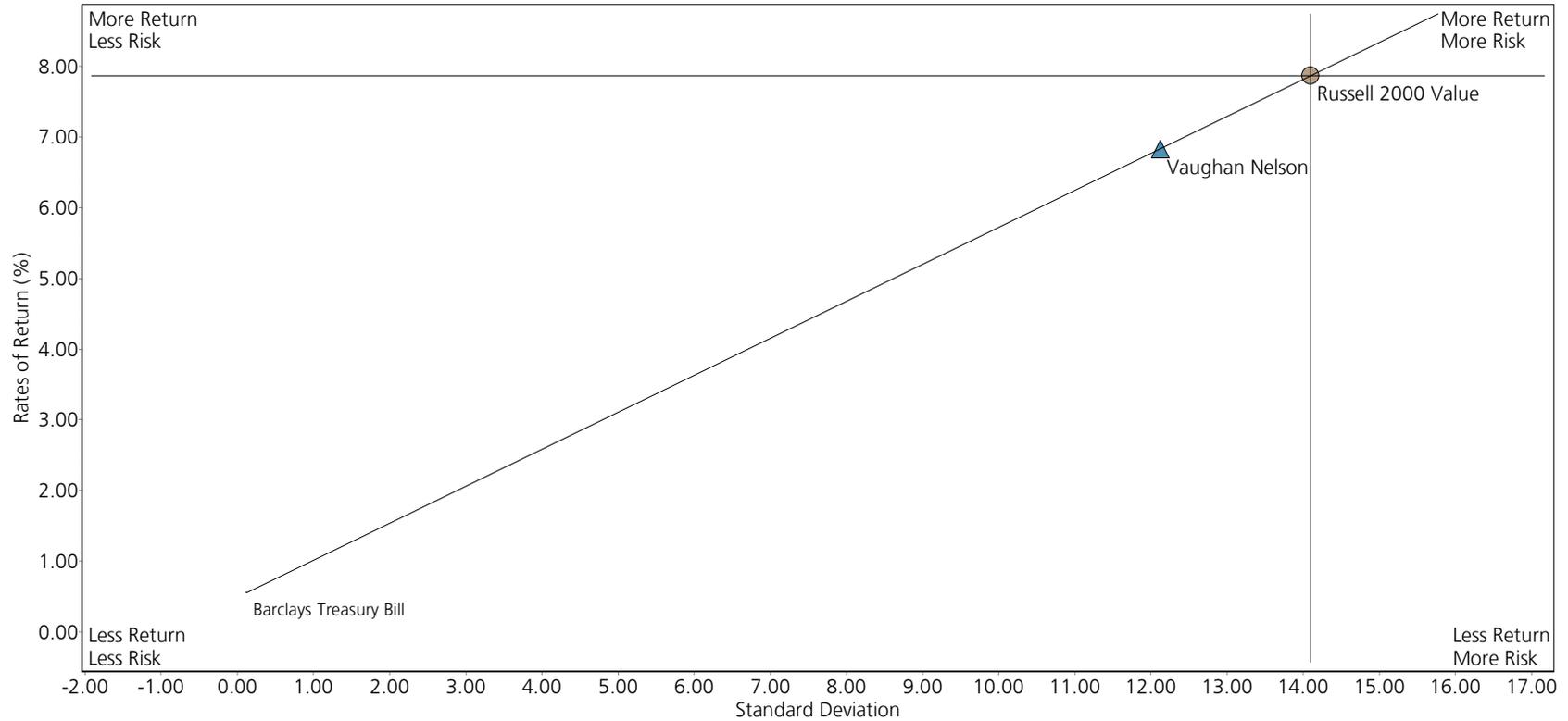


	2017	2016	2015	2014	2013	2012	2011	2010
Highest Value	20.86	37.22	1.23	11.89	50.52	28.02	5.23	37.28
First Quartile	13.86	30.57	-2.04	8.03	42.31	21.21	0.71	30.62
Median Value	11.40	26.95	-4.31	5.96	38.52	18.06	-2.32	27.38
Third Quartile	7.97	22.85	-6.97	3.57	35.53	15.29	-5.25	24.72
Lowest Value	3.73	15.75	-15.98	-8.36	28.68	10.95	-10.63	19.19
Mean	11.33	26.71	-4.82	5.37	38.94	18.36	-2.40	27.48

	Return	Rank												
▲ Vaughan Nelson	7.75	78	21.61	79	0.94	2	10.19	5	40.34	37	16.36	65	-2.49	52
● Russell 2000 Value	7.84	77	31.74	15	-7.47	78	4.22	70	34.52	80	18.05	50	-5.50	77

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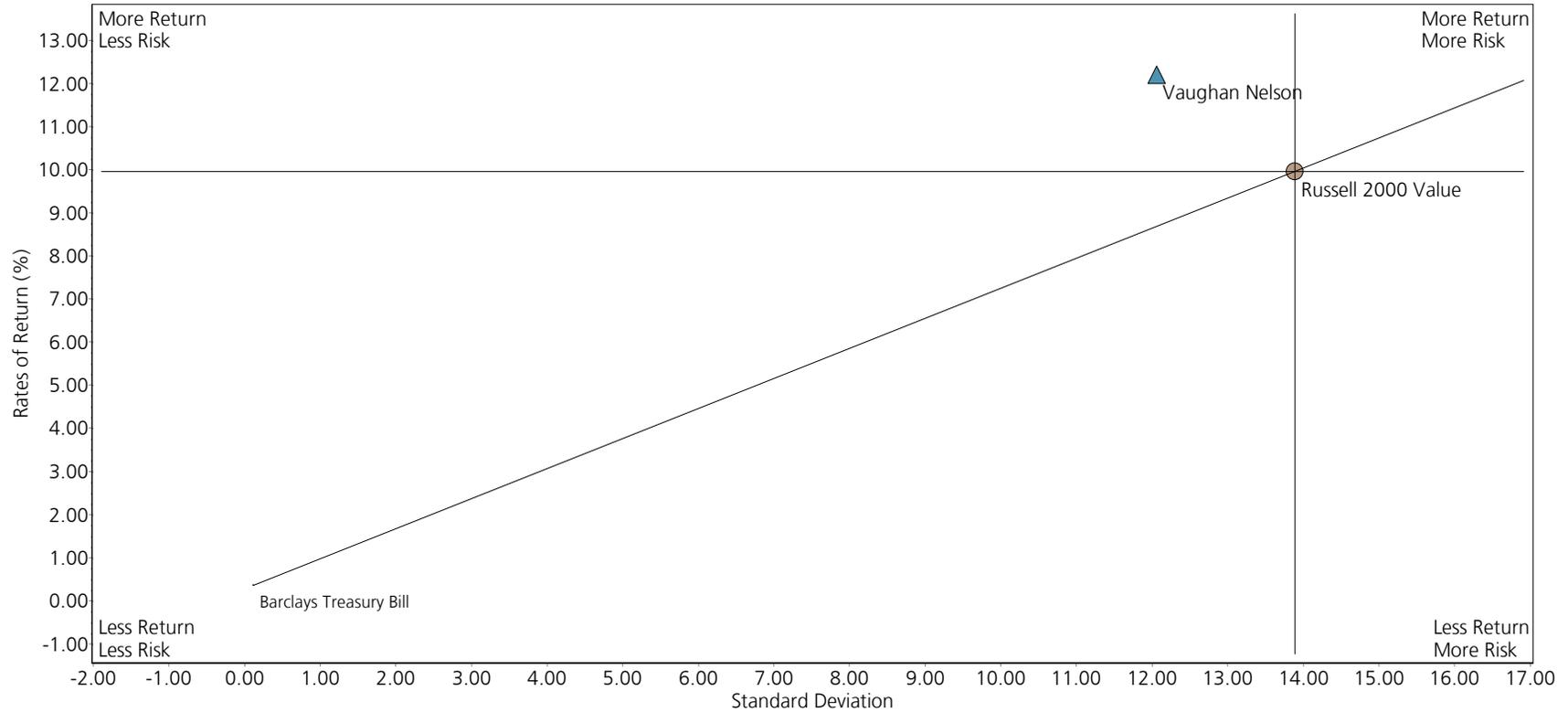
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vaughan Nelson	6.83	12.13	0.25	0.82	90.30
● Russell 2000 Value	7.87	14.10	0.00	1.00	100.00

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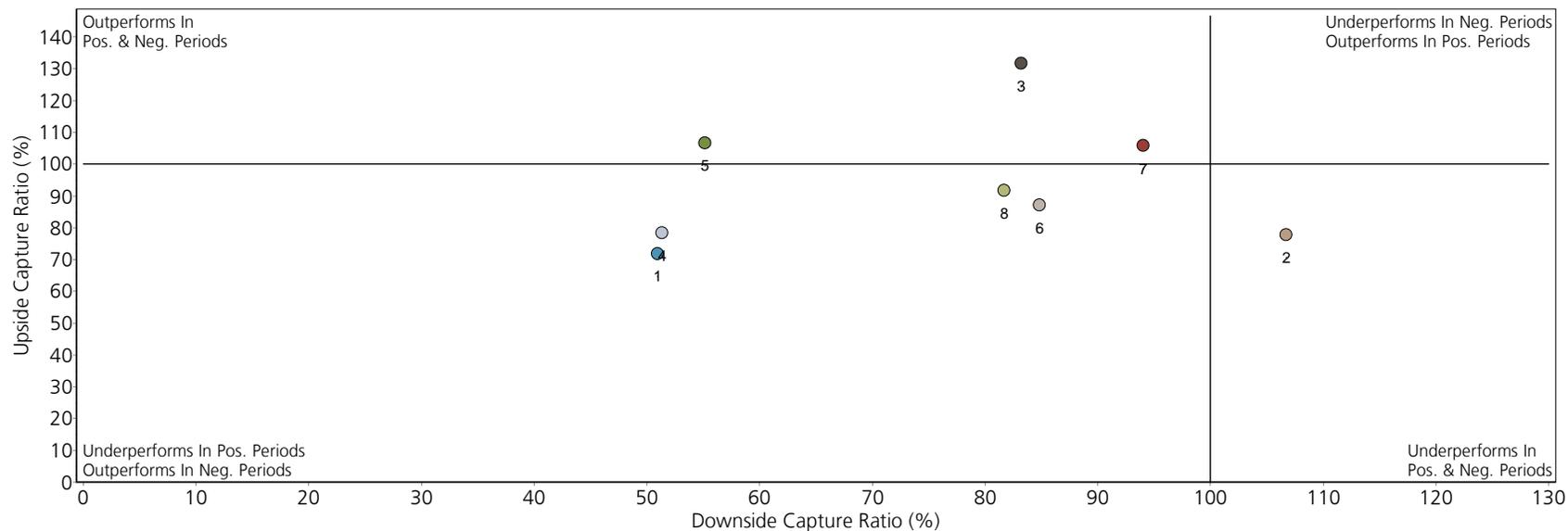
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vaughan Nelson	12.20	12.06	3.72	0.81	87.03
● Russell 2000 Value	9.96	13.89	0.00	1.00	100.00

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Capture Ratio
April 30, 2009 Through March 31, 2018

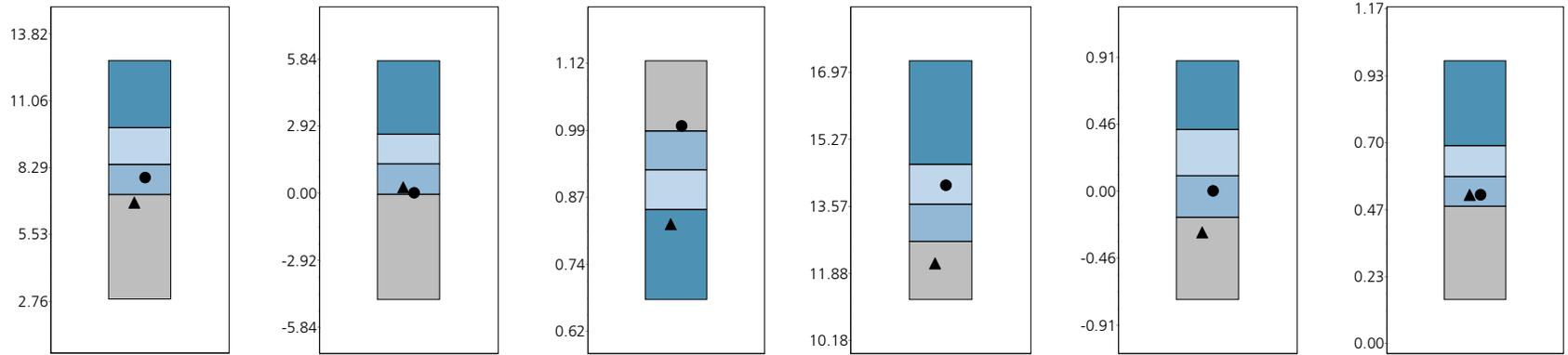


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	4/2009-3/2018
Up Periods	7.00	10.00	6.00	7.00	9.00	8.00	6.00	69.00
Upside Capture ROR	12.24	35.79	21.94	21.63	44.24	26.63	27.37	53.44
Russell 2000 Value	17.03	46.03	16.67	27.60	41.45	30.53	25.88	58.24
% Of Capture	71.87	77.75	131.60	78.37	106.72	87.22	105.75	91.77
Down Periods	5.00	2.00	6.00	5.00	3.00	4.00	6.00	38.00
Downside Capture ROR	-4.00	-10.44	-17.22	-9.41	-2.70	-8.11	-23.45	-30.30
Russell 2000 Value	-7.85	-9.78	-20.69	-18.32	-4.90	-9.56	-24.93	-37.08
% Of Capture	50.96	106.69	83.23	51.34	55.18	84.81	94.05	81.72

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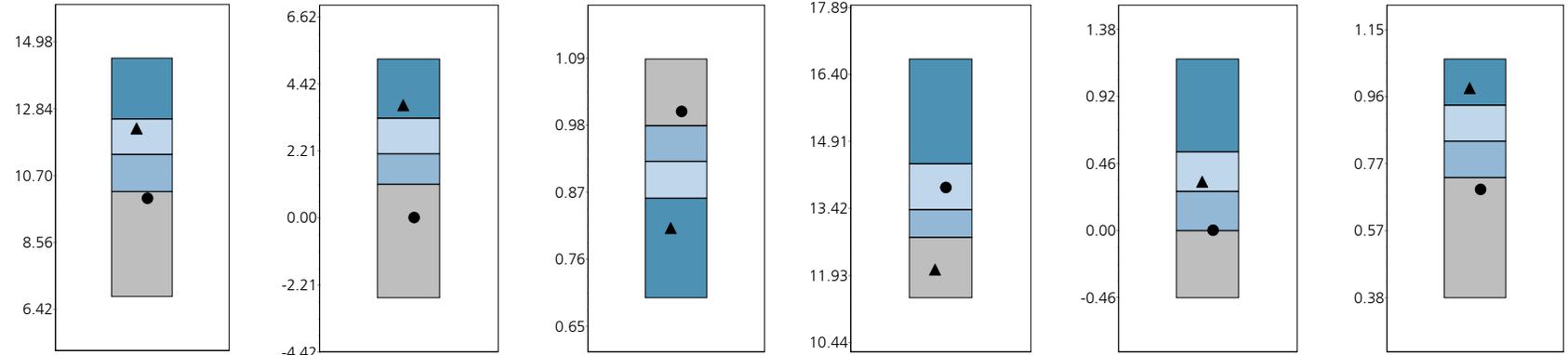
TOTAL FUND vs Small Cap Value Managers
March 31, 2015 Through March 31, 2018

3 Year



	<u>Return</u>		<u>Alpha</u>		<u>Beta</u>		<u>Std Dev</u>		<u>Info Ratio</u>		<u>Sharpe Ratio</u>	
Highest Value	12.71		5.78		0.68		17.26		0.89		0.99	
First Quartile	9.92		2.56		0.85		14.63		0.42		0.69	
Median Value	8.40		1.27		0.92		13.61		0.10		0.58	
Third Quartile	7.17		-0.06		0.99		12.67		-0.18		0.48	
Lowest Value	2.84		-4.65		1.12		11.20		-0.74		0.15	
Mean	8.47		1.21		0.91		13.70		0.10		0.58	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Vaughan Nelson	6.83	80	0.25	72	0.82	80	12.13	86	-0.28	83	0.52	69
● Russell 2000 Value	7.87	65	0.00	74	1.00	19	14.10	39	0.00	59	0.52	68

5 Year



	<u>Return</u>		<u>Alpha</u>		<u>Beta</u>		<u>Std Dev</u>		<u>Info Ratio</u>		<u>Sharpe Ratio</u>	
Highest Value	14.45		5.24		0.70		16.75		1.18		1.07	
First Quartile	12.50		3.28		0.86		14.41		0.54		0.93	
Median Value	11.37		2.10		0.92		13.39		0.27		0.83	
Third Quartile	10.18		1.10		0.98		12.77		0.00		0.73	
Lowest Value	6.81		-2.64		1.09		11.42		-0.47		0.38	
Mean	11.30		2.07		0.92		13.58		0.28		0.81	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
▲ Vaughan Nelson	12.20	29	3.72	14	0.81	87	12.06	90	0.33	40	0.98	14
● Russell 2000 Value	9.96	79	0.00	88	1.00	17	13.89	37	0.00	74	0.69	79

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Eagle Small Cap Growth

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

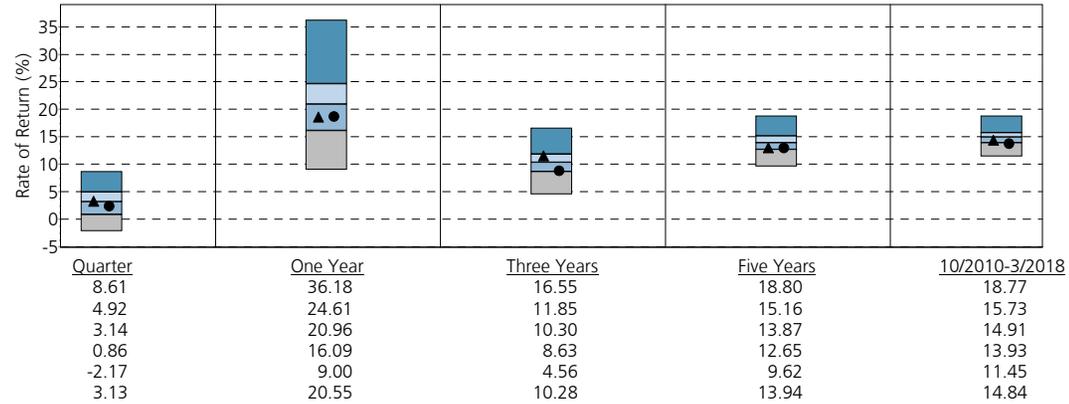
TOTAL FUND BENCHMARK

10/31/2010 - Present

100% Russell 2000 Growth

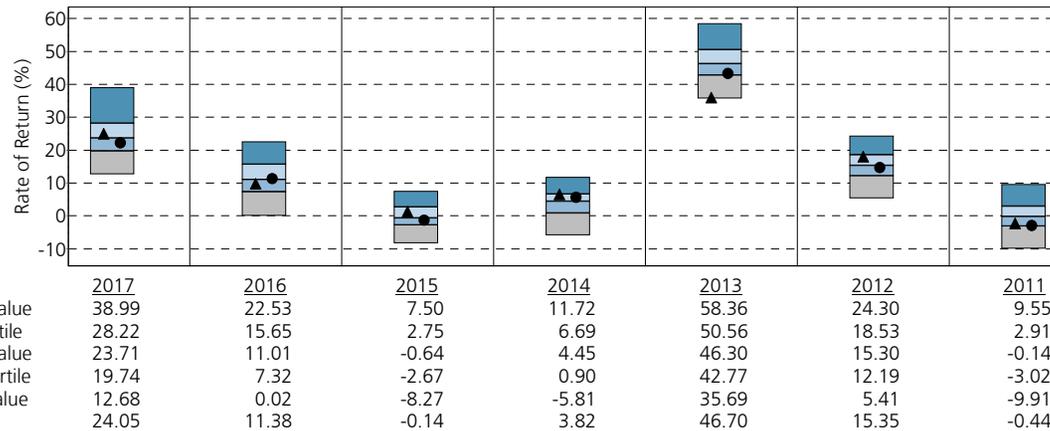
TOTAL FUND Peer Universe Comparison versus Small Cap Growth Managers

Trailing Periods



	Return	Rank								
▲ Eagle SCG	3.23	47	18.56	58	11.53	29	12.97	70	14.35	64
● Russell 2000 Growth	2.30	60	18.63	57	8.77	70	12.90	72	13.71	77

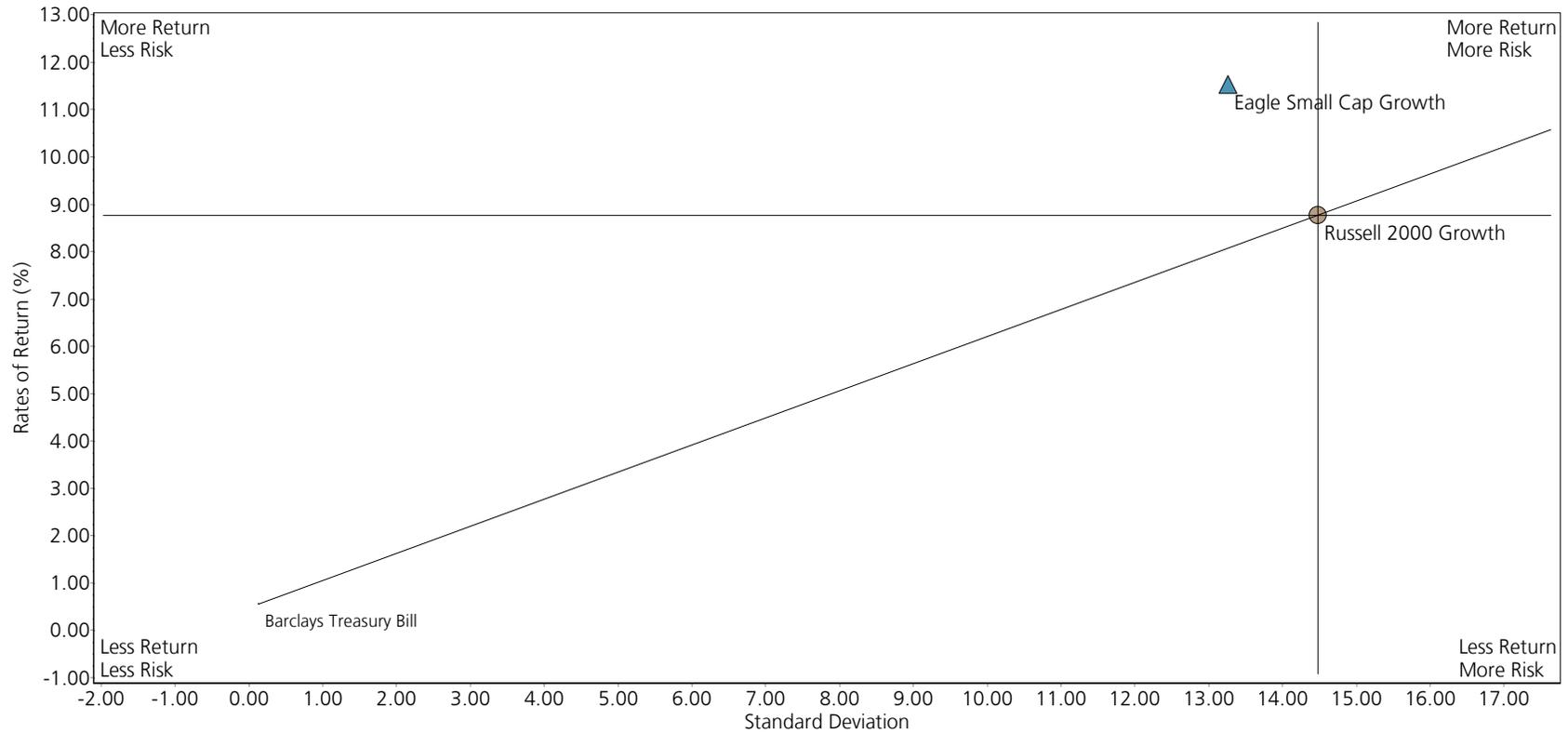
Annual Periods



	Return	Rank												
▲ Eagle SCG	24.92	43	9.81	59	1.38	37	6.50	27	35.92	98	17.98	28	-2.27	68
● Russell 2000 Growth	22.17	59	11.32	48	-1.38	60	5.60	34	43.30	71	14.59	55	-2.91	71

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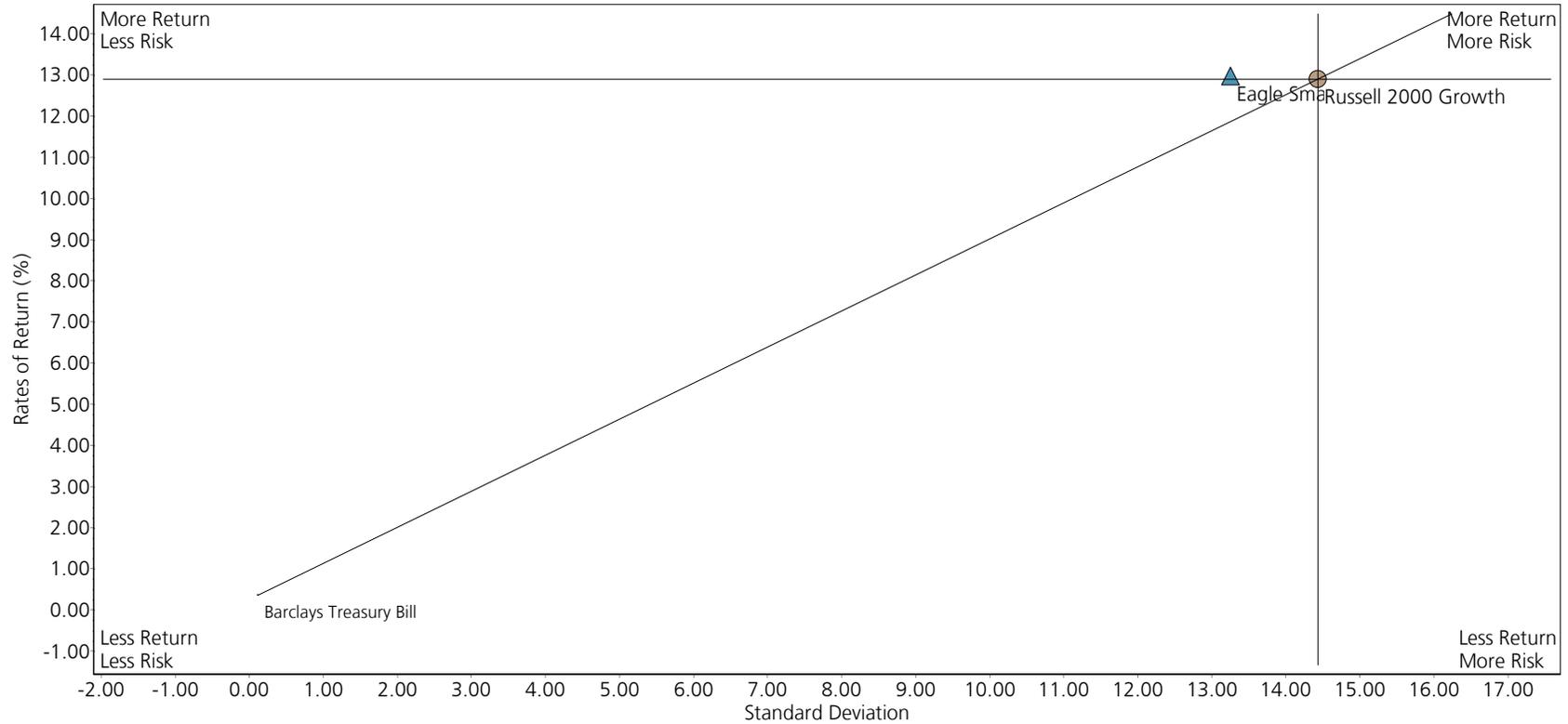
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Eagle Small Cap Growth	11.53	13.26	3.50	0.87	90.51
● Russell 2000 Growth	8.77	14.48	0.00	1.00	100.00

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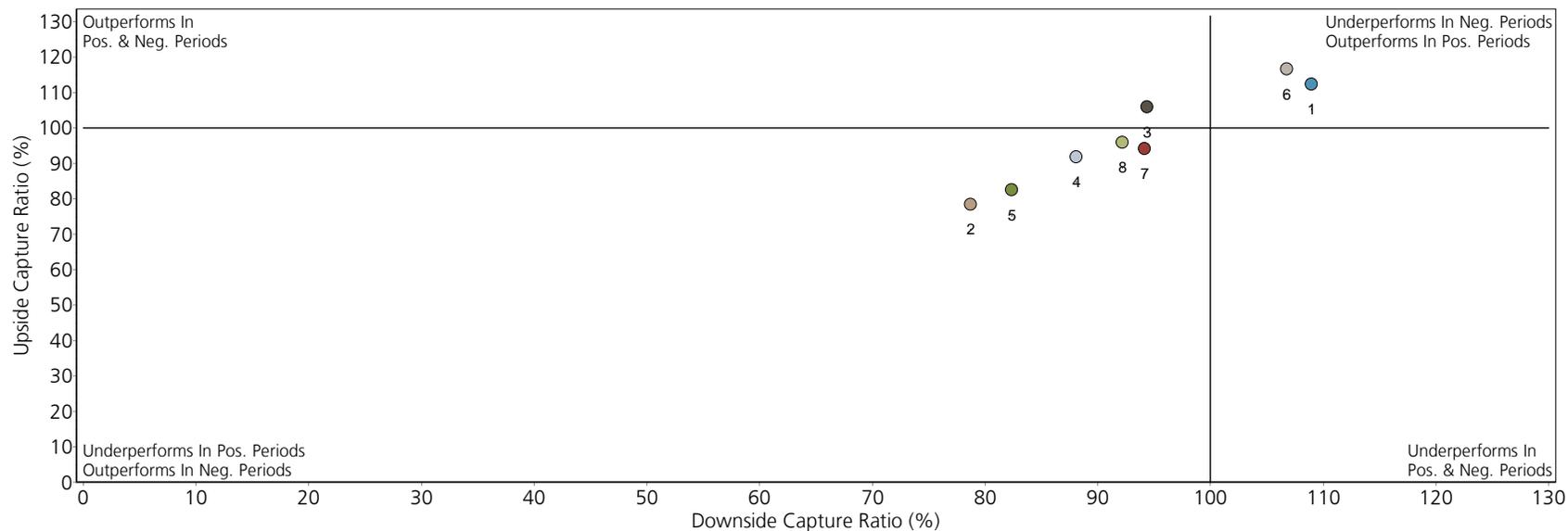
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Eagle Small Cap Growth	12.97	13.25	1.47	0.88	91.45
● Russell 2000 Growth	12.90	14.43	0.00	1.00	100.00

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Capture Ratio
October 31, 2010 Through March 31, 2018



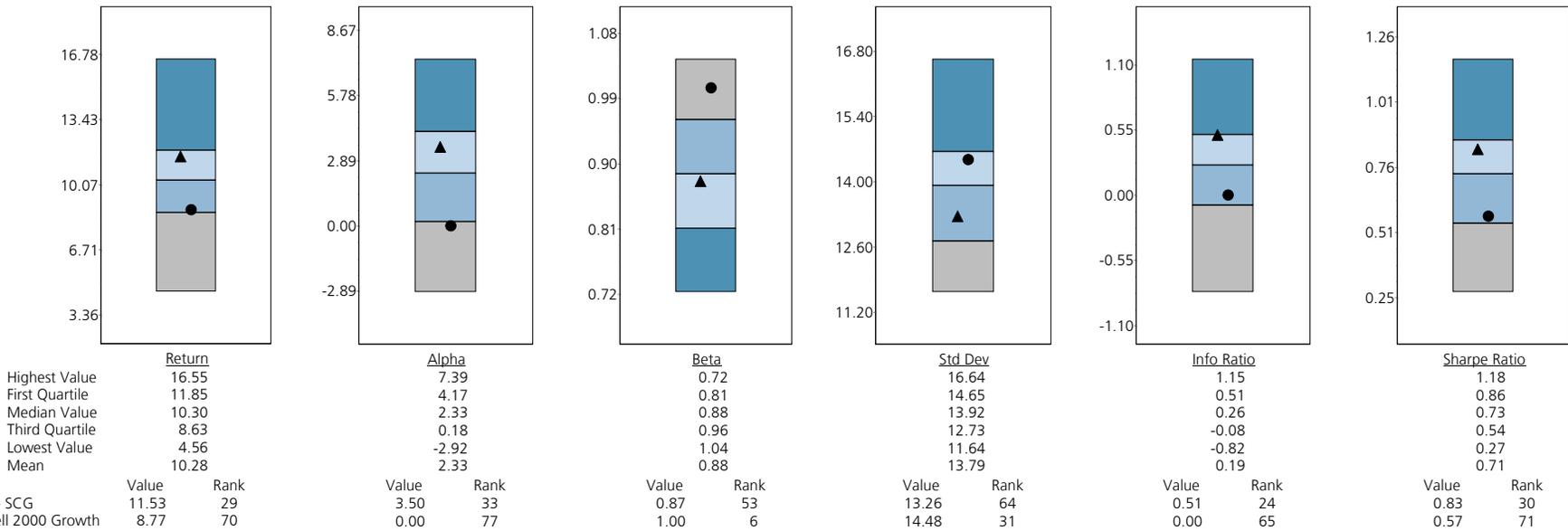
	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	10/2010-3/2018
Up Periods	10.00	8.00	7.00	7.00	9.00	8.00	4.00	57.00
Upside Capture ROR	26.33	27.18	27.63	28.12	39.61	37.05	30.00	53.94
Russell 2000 Growth	23.43	34.68	26.11	30.62	48.04	31.76	31.86	56.24
% Of Capture	112.38	78.37	105.83	91.83	82.44	116.64	94.15	95.90
Down Periods	2.00	4.00	5.00	5.00	3.00	4.00	8.00	32.00
Downside Capture ROR	-1.12	-13.66	-20.57	-16.87	-2.64	-13.92	-24.82	-32.65
Russell 2000 Growth	-1.03	-17.35	-21.80	-19.15	-3.20	-13.04	-26.37	-35.43
% Of Capture	108.94	78.72	94.36	88.10	82.38	106.76	94.13	92.16

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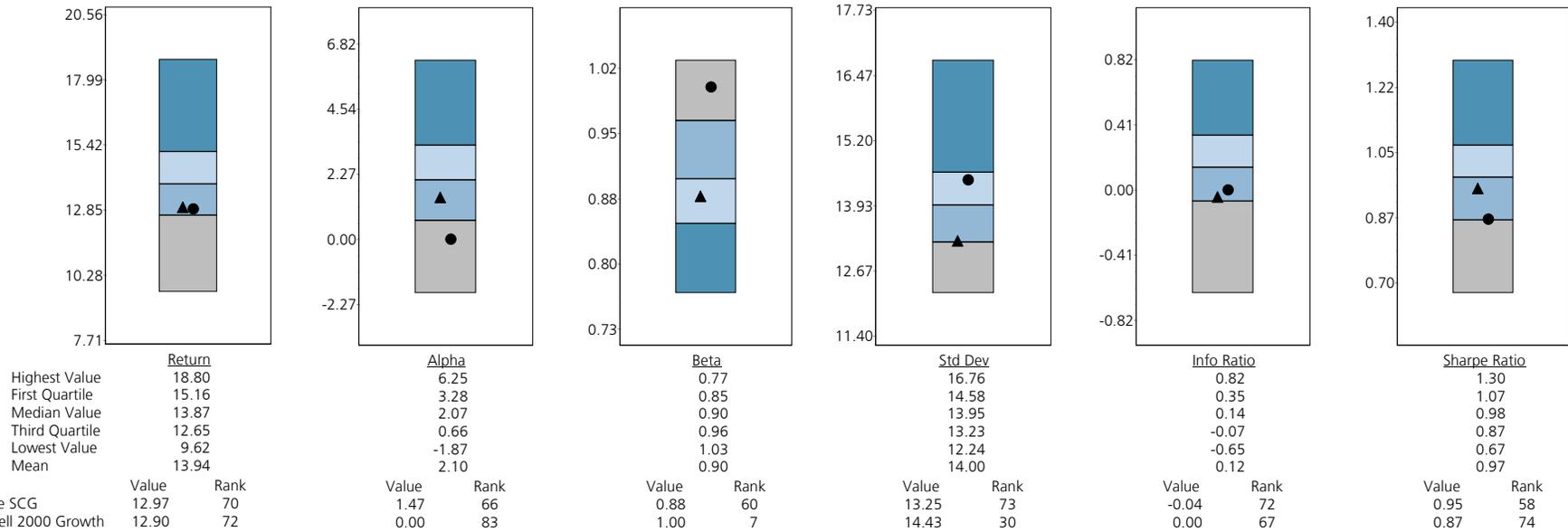
TOTAL FUND vs Small Cap Growth Managers

March 31, 2015 Through March 31, 2018

3 Year



5 Year



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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard Total International Stock Fund

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

07/01/2013 - Present

100% MSCI AC World X US Net

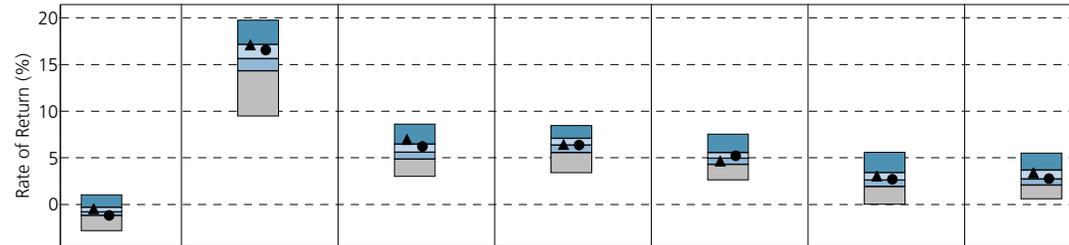
12/31/1998 - 06/30/2013

100% MSCI Net EAFE

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TOTAL FUND Peer Universe Comparison versus Foreign Large Blend Managers

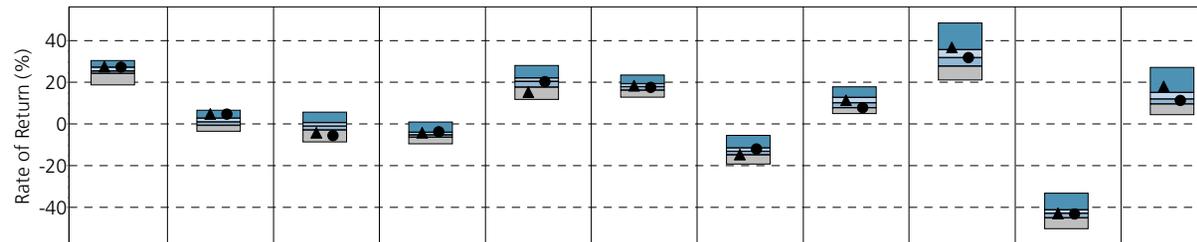
Trailing Periods



	Quarter	One Year	Three Years	Five Years	Seven Years	Ten Years	11/2006-3/2018
Highest Value	1.01	19.73	8.60	8.46	7.53	5.59	5.51
First Quartile	-0.32	17.15	6.48	7.08	5.56	3.41	3.69
Median Value	-0.81	15.61	5.59	6.34	4.95	2.60	2.72
Third Quartile	-1.18	14.33	4.86	5.56	4.27	1.91	2.08
Lowest Value	-2.84	9.46	2.99	3.36	2.61	-0.02	0.57
Mean	-0.78	15.60	5.64	6.27	4.91	2.66	2.89

	Return	Rank												
▲ Vanguard Total Intl	-0.45	29	17.10	25	6.95	10	6.43	45	4.67	60	3.04	32	3.40	30
● International Index	-1.18	75	16.53	36	6.18	32	6.35	49	5.20	40	2.67	46	2.74	48

Annual Periods

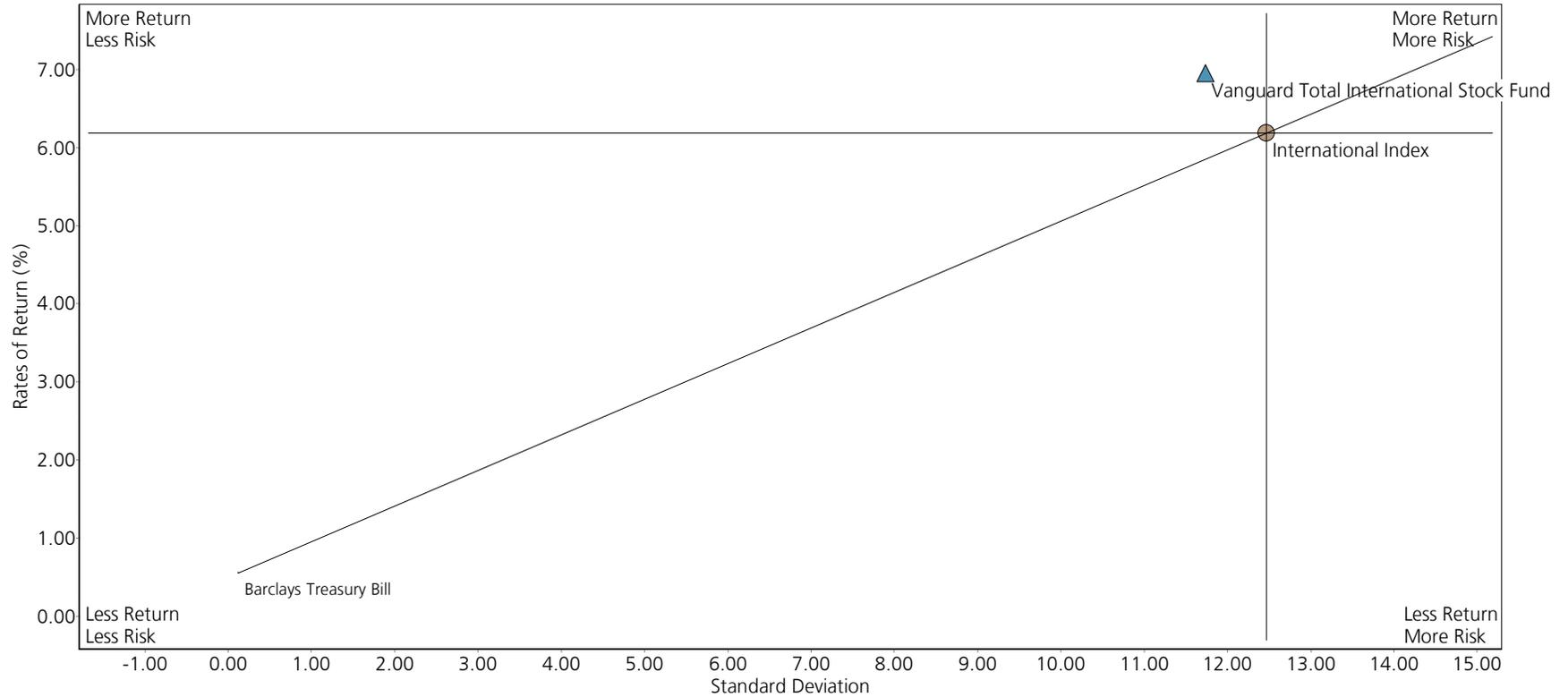


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Highest Value	30.34	6.52	5.71	0.98	28.13	23.46	-5.60	17.72	48.41	-33.25	27.10
First Quartile	27.20	2.66	0.48	-4.06	21.98	19.25	-11.54	12.64	35.54	-41.27	14.96
Median Value	25.34	0.94	-1.14	-5.39	20.43	17.81	-13.22	10.07	31.67	-42.93	11.98
Third Quartile	24.20	-0.82	-2.92	-6.39	17.66	16.05	-14.94	7.69	27.61	-45.10	9.43
Lowest Value	18.55	-3.64	-8.80	-9.79	11.57	12.67	-19.49	4.75	20.92	-50.41	4.14
Mean	25.52	1.02	-1.43	-5.01	19.90	17.80	-13.06	10.25	32.25	-43.10	12.68

	Return	Rank														
▲ Vanguard Total Intl	27.57	20	4.70	8	-4.24	83	-4.15	26	15.15	85	18.27	41	-14.69	72	11.35	36
● International Index	27.19	25	4.50	10	-5.66	91	-3.87	21	20.07	53	17.32	56	-12.14	32	7.75	74

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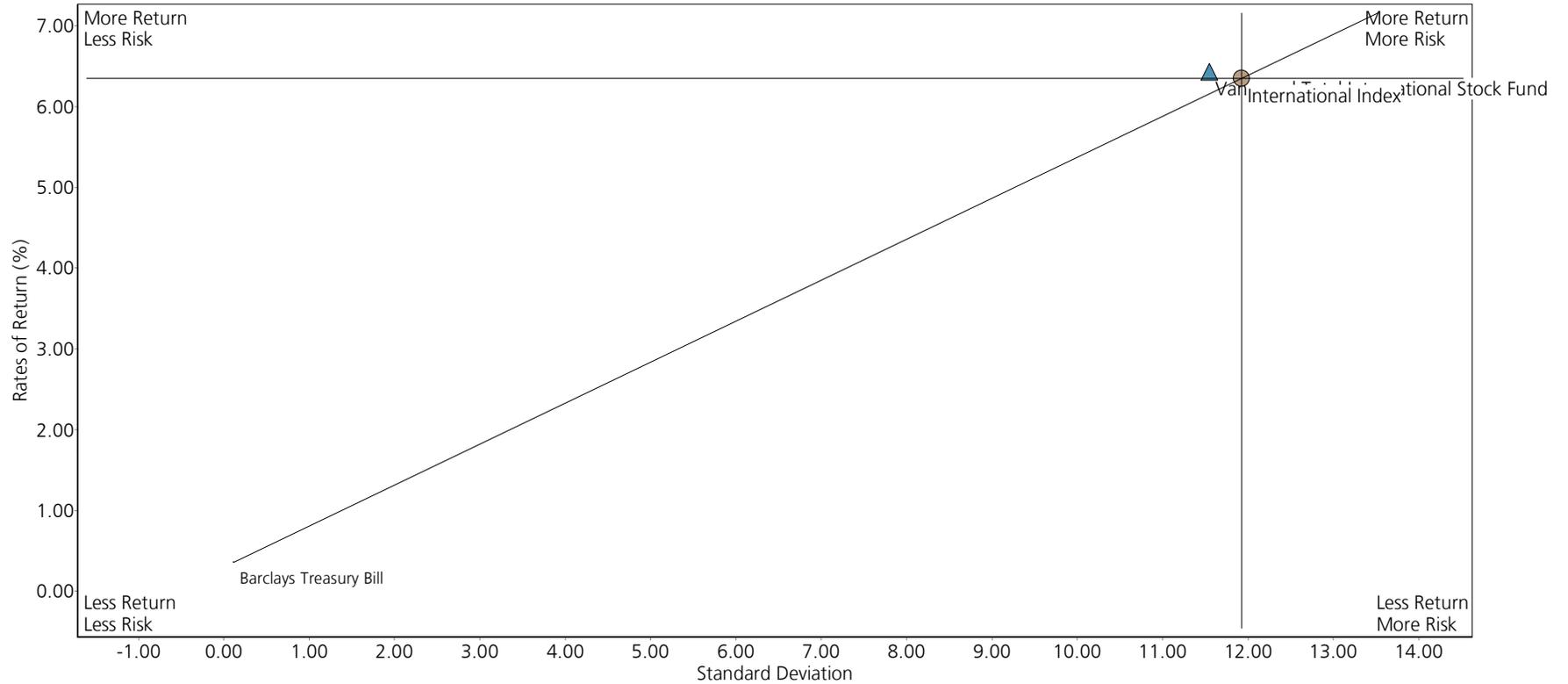
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Total International Stock Fund	6.95	11.74	1.06	0.93	98.19
● International Index	6.18	12.47	0.00	1.00	100.00

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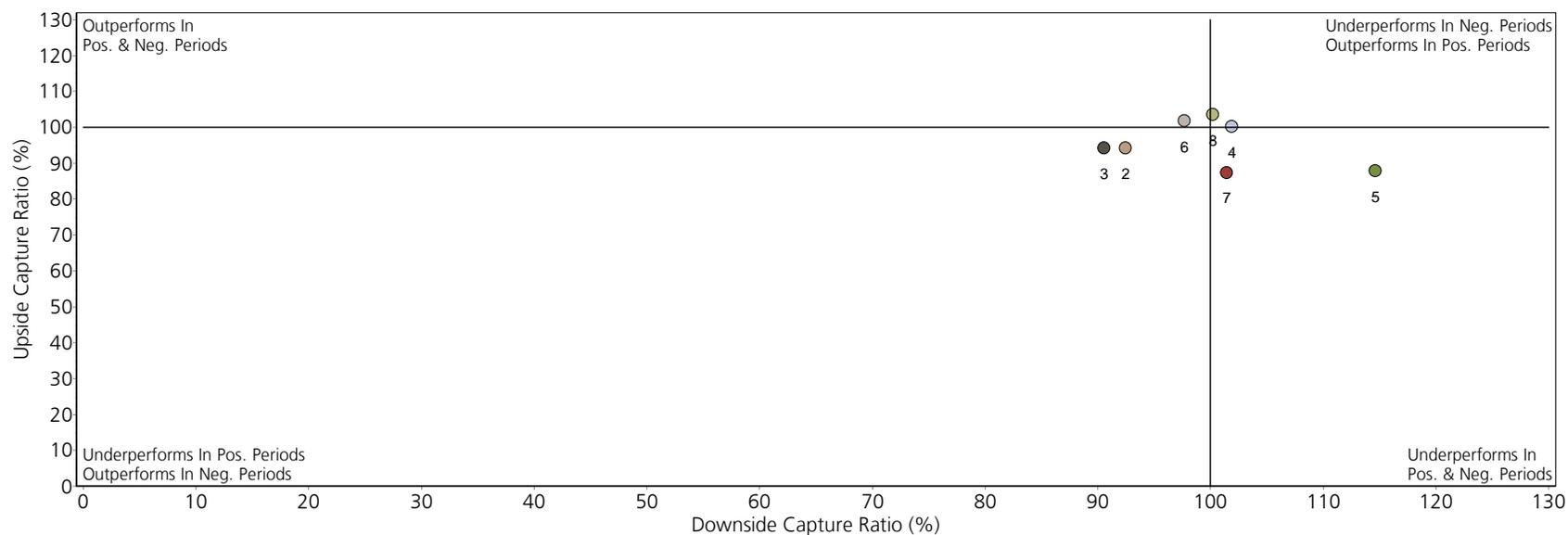
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Total International Stock Fund	6.43	11.55	0.31	0.96	97.85
● International Index	6.35	11.92	0.00	1.00	100.00

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Capture Ratio
November 30, 2006 Through March 31, 2018

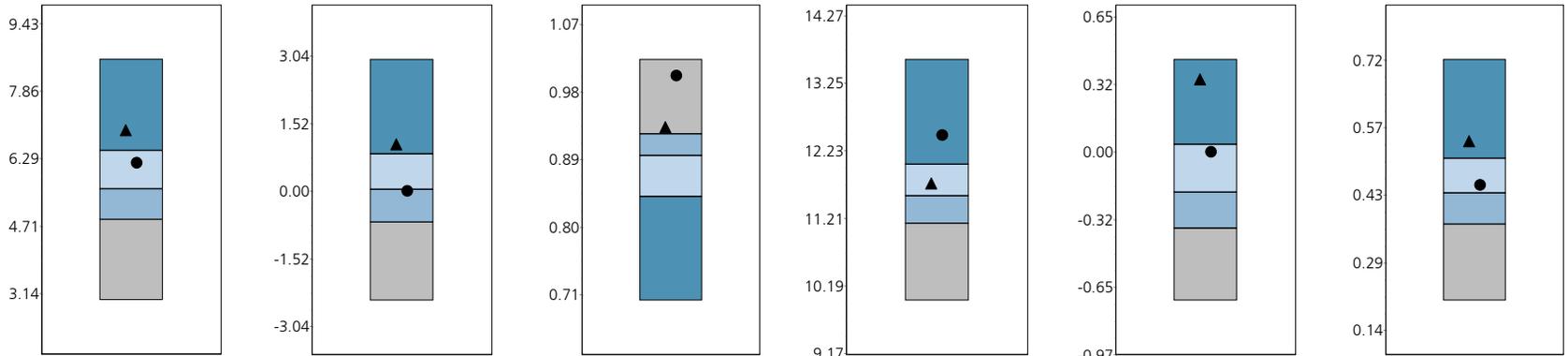


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	11/2006-3/2018
Up Periods	12.00	6.00	3.00	7.00	8.00	9.00	4.00	76.00
Upside Capture ROR	27.57	20.42	17.80	12.02	26.88	36.42	19.97	57.02
International Index	27.19	21.68	18.91	12.00	30.60	35.81	22.86	55.08
% Of Capture	101.40	94.18	94.13	100.15	87.84	101.70	87.37	103.52
Down Periods	0.00	6.00	9.00	5.00	4.00	3.00	8.00	60.00
Downside Capture ROR	N/A	-13.06	-18.71	-14.44	-9.24	-13.30	-28.89	-39.09
International Index	N/A	-14.12	-20.66	-14.17	-8.06	-13.62	-28.49	-39.01
% Of Capture	N/A	92.44	90.55	101.90	114.63	97.70	101.43	100.20

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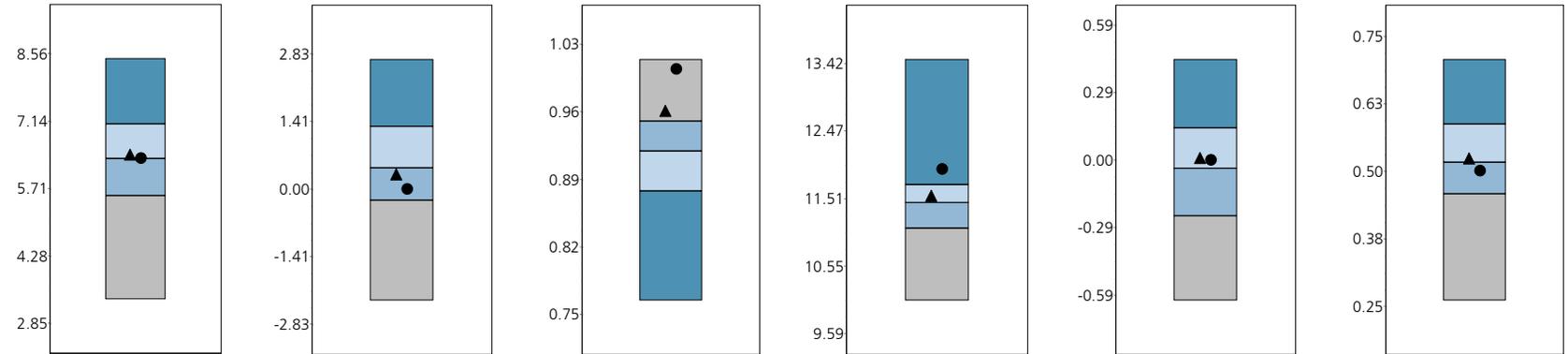
TOTAL FUND vs Foreign Large Blend Managers
March 31, 2015 Through March 31, 2018

3 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
	Highest Value	First Quartile	Median Value	Third Quartile	Lowest Value	Mean	Value	Rank	Value	Rank	Value	Rank
▲ Vanguard Total Intl	6.95	6.18	6.95	6.18	0.93	1.06	0.93	11.74	0.35	0.55	0.93	10
● International Index	6.18	6.18	6.18	6.18	0.00	2.97	1.00	12.47	0.00	0.45	0.00	32

5 Year



	Return		Alpha		Beta		Std Dev		Info Ratio		Sharpe Ratio	
	Highest Value	First Quartile	Median Value	Third Quartile	Lowest Value	Mean	Value	Rank	Value	Rank	Value	Rank
▲ Vanguard Total Intl	6.43	6.35	6.43	6.35	0.31	0.00	0.96	11.55	0.01	0.53	0.31	45
● International Index	6.35	6.35	6.35	6.35	0.00	2.71	1.00	11.92	0.00	0.50	0.00	49

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Dodge & Cox International Stock Fund

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

07/01/2013 - Present

100% MSCI AC World X US Net

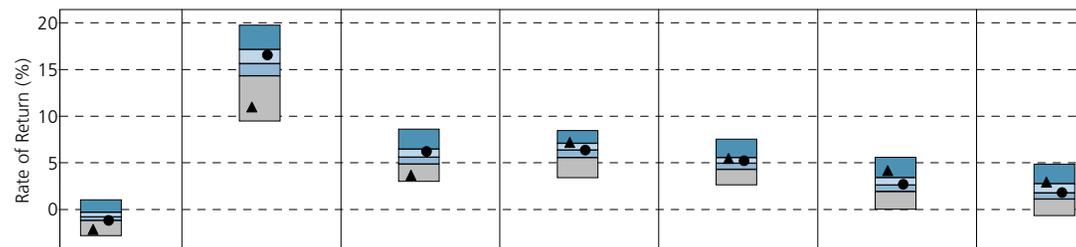
12/31/1998 - 06/30/2013

100% MSCI Net EAFE

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TOTAL FUND Peer Universe Comparison versus Foreign Large Blend Managers

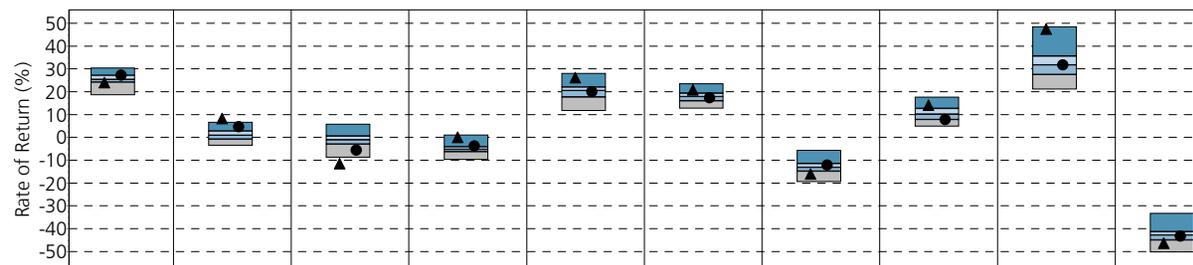
Trailing Periods



	Quarter	One Year	Three Years	Five Years	Seven Years	Ten Years	7/2007-3/2018
Highest Value	1.01	19.73	8.60	8.46	7.53	5.59	4.84
First Quartile	-0.32	17.15	6.48	7.08	5.56	3.41	2.76
Median Value	-0.81	15.61	5.59	6.34	4.95	2.60	1.77
Third Quartile	-1.18	14.33	4.86	5.56	4.27	1.91	1.11
Lowest Value	-2.84	9.46	2.99	3.36	2.61	-0.02	-0.71
Mean	-0.78	15.60	5.64	6.27	4.91	2.66	1.92

	Return	Rank												
▲ Dodge & Cox Intl	-2.14	94	10.98	98	3.68	95	7.19	20	5.47	29	4.16	11	2.95	19
● International Index	-1.18	75	16.53	36	6.18	32	6.35	49	5.20	40	2.67	46	1.78	49

Annual Periods

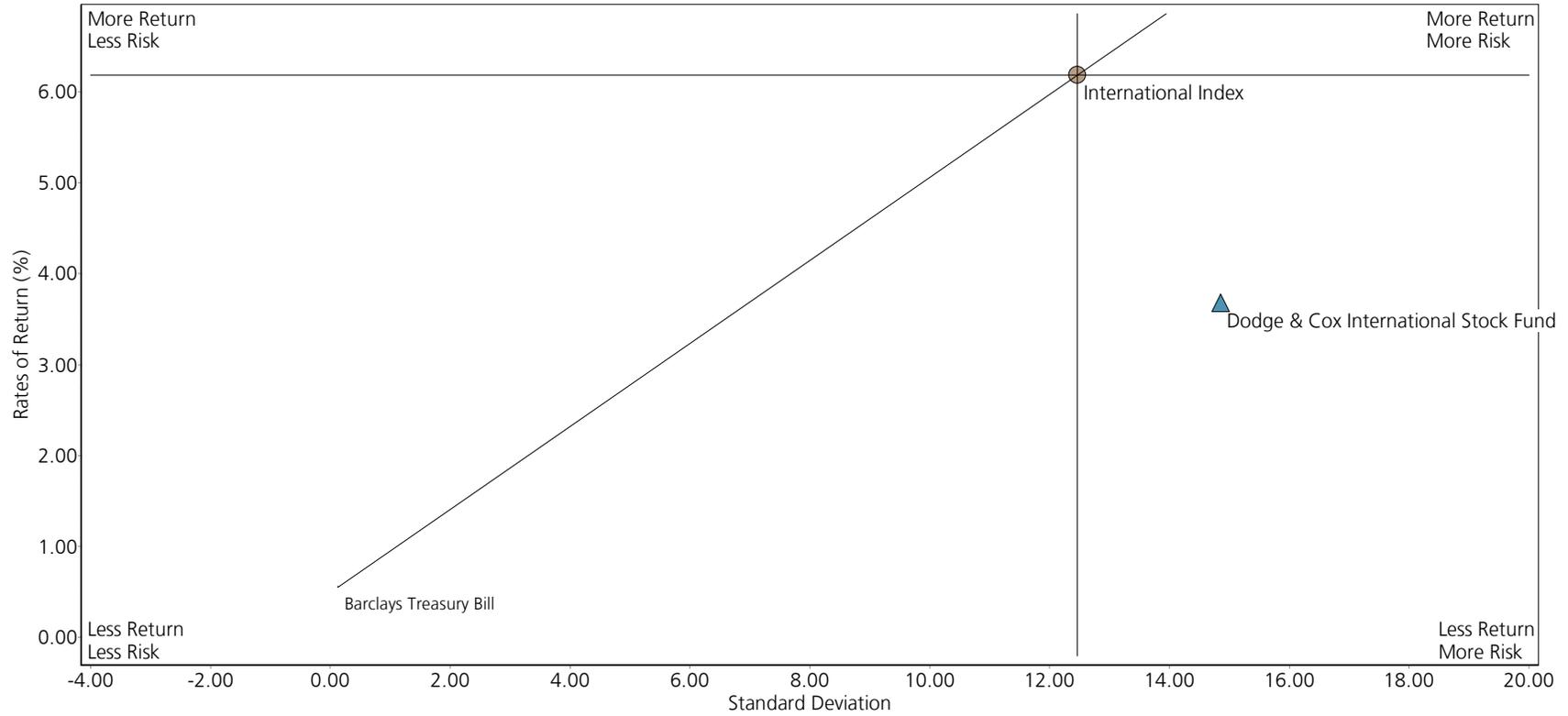


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
Highest Value	30.34	6.52	5.71	0.98	28.13	23.46	-5.60	17.72	48.41	-33.25
First Quartile	27.20	2.66	0.48	-4.06	21.98	19.25	-11.54	12.64	35.54	-41.27
Median Value	25.34	0.94	-1.14	-5.39	20.43	17.81	-13.22	10.07	31.67	-42.93
Third Quartile	24.20	-0.82	-2.92	-6.39	17.66	16.05	-14.94	7.69	27.61	-45.10
Lowest Value	18.55	-3.64	-8.80	-9.79	11.57	12.67	-19.49	4.75	20.92	-50.41
Mean	25.52	1.02	-1.43	-5.01	19.90	17.80	-13.06	10.25	32.25	-43.10

	Return	Rank														
▲ Dodge & Cox Intl	23.97	78	8.26	1	-11.58	99	0.08	3	26.15	7	20.82	13	-15.99	86	14.06	14
● International Index	27.19	25	4.50	10	-5.66	91	-3.87	21	20.07	53	17.32	56	-12.14	32	7.75	74

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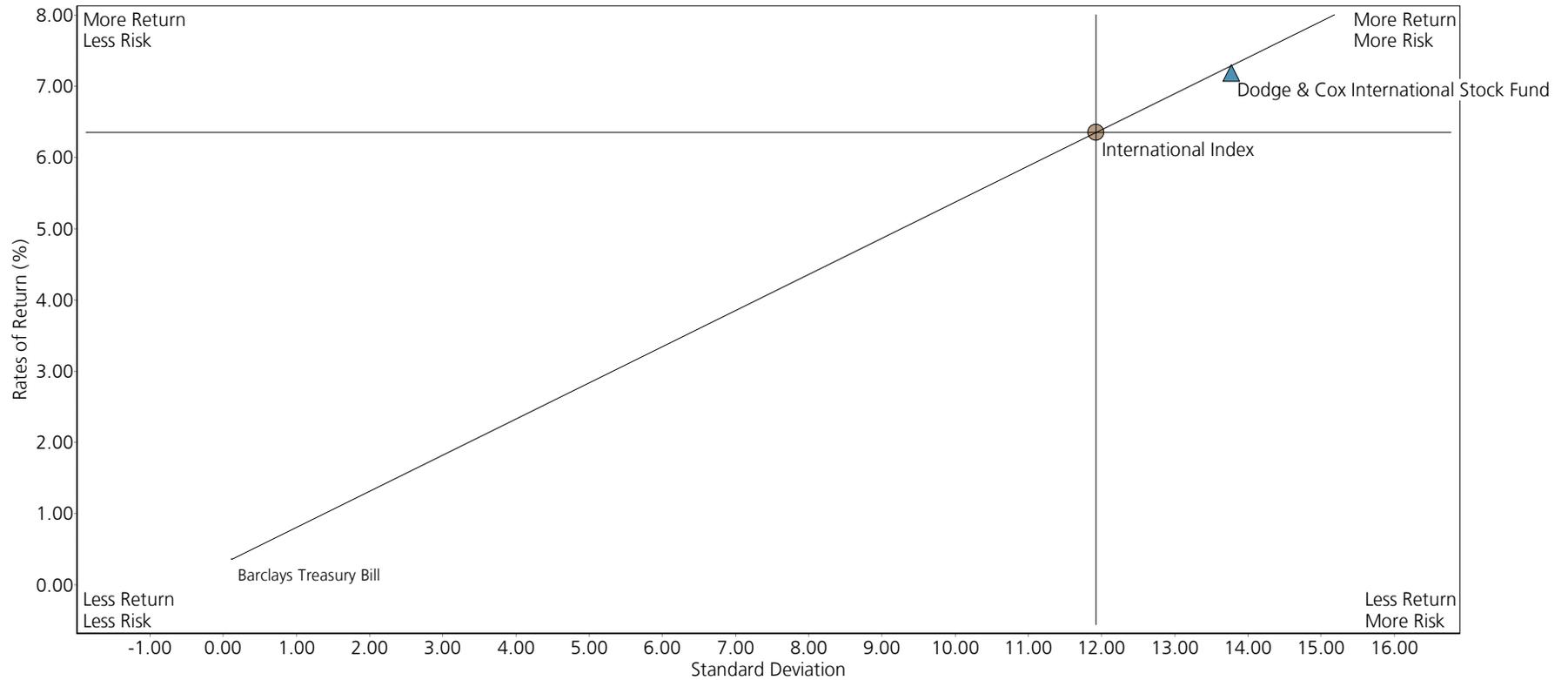
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Dodge & Cox International Stock Fund	3.68	14.85	-2.88	1.13	89.72
● International Index	6.18	12.47	0.00	1.00	100.00

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Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018

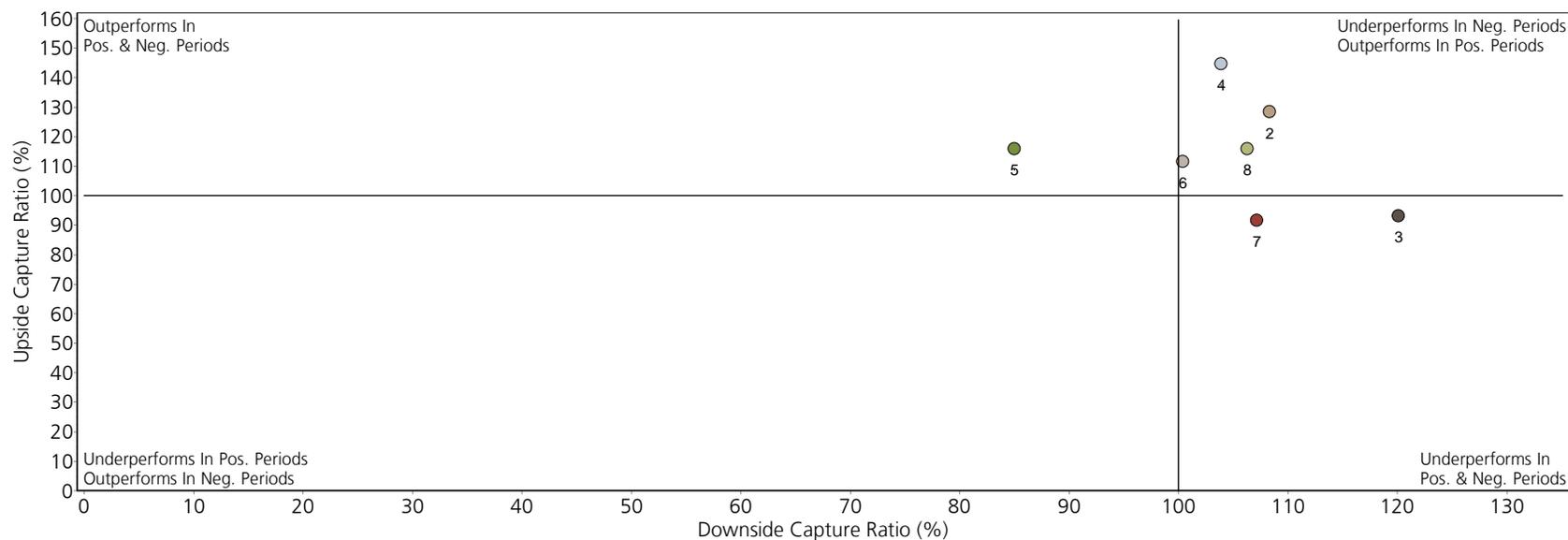


	Return	Std Dev	Alpha	Beta	R-Squared
▲ Dodge & Cox International Stock Fund	7.19	13.77	0.43	1.09	89.16
● International Index	6.35	11.92	0.00	1.00	100.00

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Capture Ratio

July 31, 2007 Through March 31, 2018

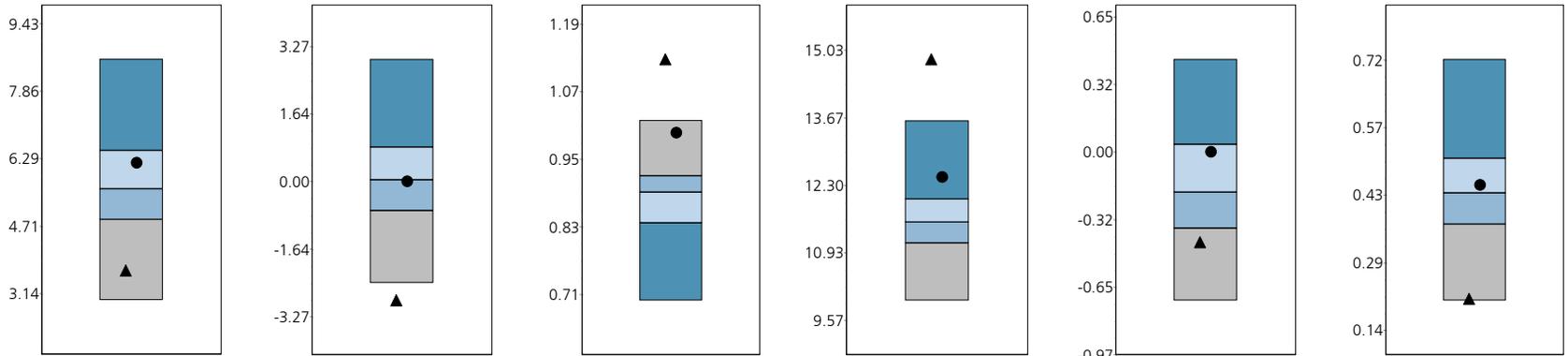


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	7/2007-3/2018
Up Periods	12.00	6.00	3.00	7.00	8.00	9.00	4.00	69.00
Upside Capture ROR	23.97	27.82	17.60	17.36	35.43	39.96	20.93	67.69
International Index	27.19	21.68	18.91	12.00	30.60	35.81	22.86	58.43
% Of Capture	88.15	128.32	93.11	144.58	115.81	111.59	91.56	115.84
Down Periods	0.00	6.00	9.00	5.00	4.00	3.00	8.00	59.00
Downside Capture ROR	N/A	-15.30	-24.81	-14.72	-6.85	-13.67	-30.53	-41.81
International Index	N/A	-14.12	-20.66	-14.17	-8.06	-13.62	-28.49	-39.34
% Of Capture	N/A	108.33	120.09	103.91	85.02	100.41	107.17	106.30

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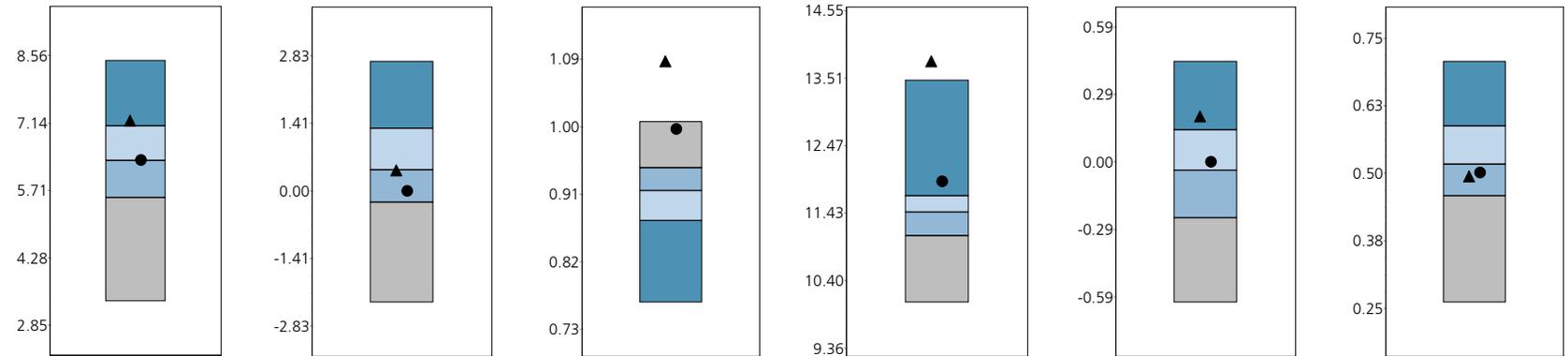
TOTAL FUND vs Foreign Large Blend Managers
March 31, 2015 Through March 31, 2018

3 Year



	<u>Return</u>		<u>Alpha</u>		<u>Beta</u>		<u>Std Dev</u>		<u>Info Ratio</u>		<u>Sharpe Ratio</u>	
	Highest Value	First Quartile	Median Value	Third Quartile	Lowest Value	Mean	Value	Rank	Value	Rank	Value	Rank
▲ Dodge & Cox Intl	3.68	95	-2.88	99	1.13	1	14.85	1	-0.43	81	0.21	99
● International Index	6.18	32	0.00	50	1.00	2	12.47	13	0.00	28	0.45	43

5 Year



	<u>Return</u>		<u>Alpha</u>		<u>Beta</u>		<u>Std Dev</u>		<u>Info Ratio</u>		<u>Sharpe Ratio</u>	
	Highest Value	First Quartile	Median Value	Third Quartile	Lowest Value	Mean	Value	Rank	Value	Rank	Value	Rank
▲ Dodge & Cox Intl	7.19	20	0.43	50	1.09	1	13.77	1	0.20	17	0.50	59
● International Index	6.35	49	0.00	67	1.00	1	11.92	17	0.00	43	0.50	56

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Oppenheimer International Growth

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

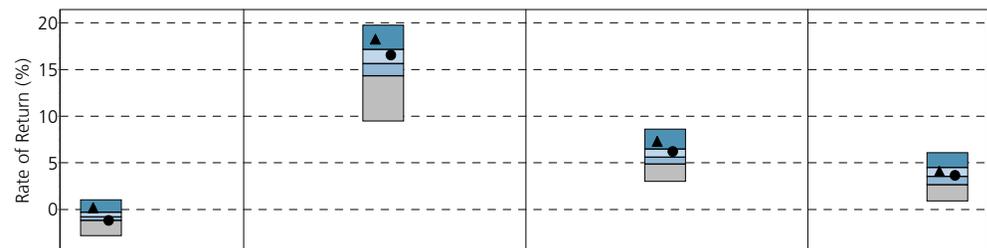
5/31/2014 - Present

100% MSCI AC World X US Net

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TOTAL FUND Peer Universe Comparison versus Foreign Large Blend Managers

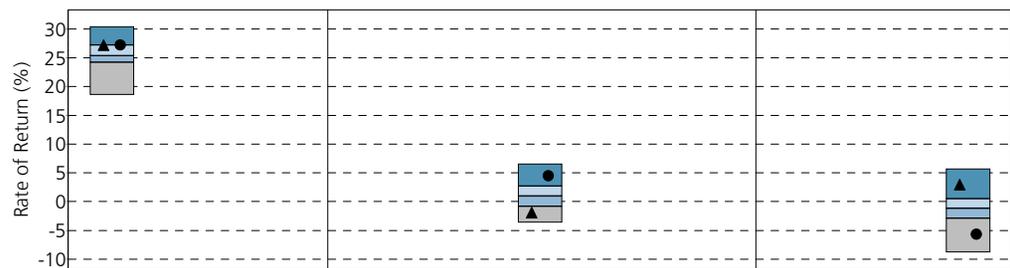
Trailing Periods



	<u>Quarter</u>	<u>One Year</u>	<u>Three Years</u>	<u>5/2014-3/2018</u>
Highest Value	1.01	19.73	8.60	6.09
First Quartile	-0.32	17.15	6.48	4.46
Median Value	-0.81	15.61	5.59	3.51
Third Quartile	-1.18	14.33	4.86	2.65
Lowest Value	-2.84	9.46	2.99	0.88
Mean	-0.78	15.60	5.64	3.53

	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Oppenheimer Intl G	0.18	10	18.27	8	7.33	7	4.10	34
● MSCI AC Wld X US Net	-1.18	75	16.53	36	6.18	32	3.65	46

Annual Periods



	<u>2017</u>	<u>2016</u>	<u>2015</u>
Highest Value	30.34	6.52	5.71
First Quartile	27.20	2.66	0.48
Median Value	25.34	0.94	-1.14
Third Quartile	24.20	-0.82	-2.92
Lowest Value	18.55	-3.64	-8.80
Mean	25.52	1.02	-1.43

	Return	Rank	Return	Rank	Return	Rank
▲ Oppenheimer Intl G	27.21	24	-1.88	86	2.98	3
● MSCI AC Wld X US Net	27.19	25	4.50	10	-5.66	91

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb County Employees Retirement System
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Blackrock Global Allocation Fund First Eagle Global Fund Loomis Sayles Global Equity & Income Fund

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

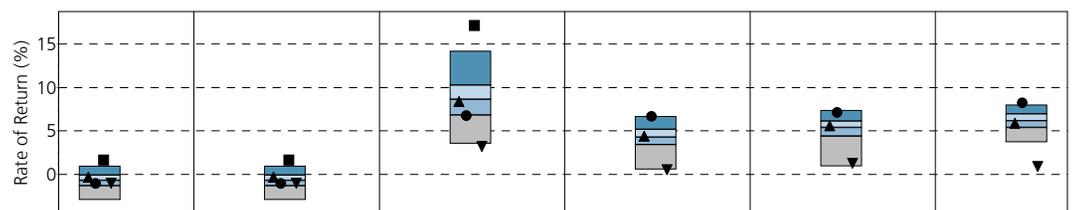
3/31/2010 - Present

100% HFRX Global Hedge Fund Index

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TOTAL FUND Peer Universe Comparison versus World Allocation Managers

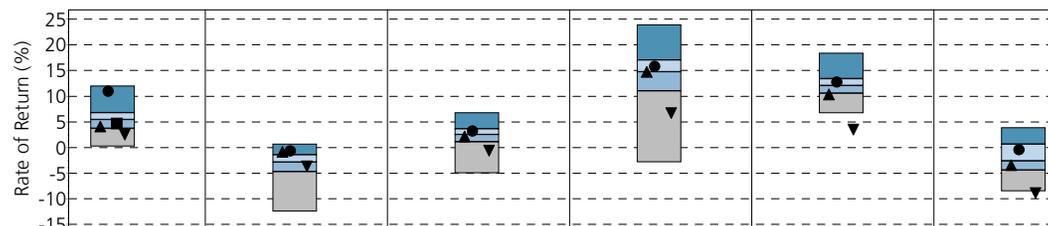
Trailing Periods



	Quarter	Calendar YTD	One Year	Three Years	Five Years	3/2010-3/2018
Highest Value	0.94	0.94	14.18	6.65	7.37	7.99
First Quartile	-0.10	-0.10	10.28	5.19	6.13	6.96
Median Value	-0.72	-0.72	8.62	4.29	5.38	6.16
Third Quartile	-1.33	-1.33	6.81	3.41	4.41	5.38
Lowest Value	-2.94	-2.94	3.53	0.55	0.95	3.71
Mean	-0.79	-0.79	8.66	4.23	5.15	6.08

	Return	Rank										
▲ Blackrock Global	-0.35	31	-0.35	31	8.38	55	4.39	47	5.60	43	5.89	56
● First Eagle Global	-1.06	64	-1.06	64	6.76	75	6.64	1	7.12	4	8.21	1
■ Loomis Sayles	1.62	1	1.62	1	17.13	1	N/A	N/A	N/A	N/A	N/A	N/A
▼ HFRX Global Hedge	-1.02	61	-1.02	61	3.21	99	0.51	99	1.29	98	0.89	99

Annual Periods

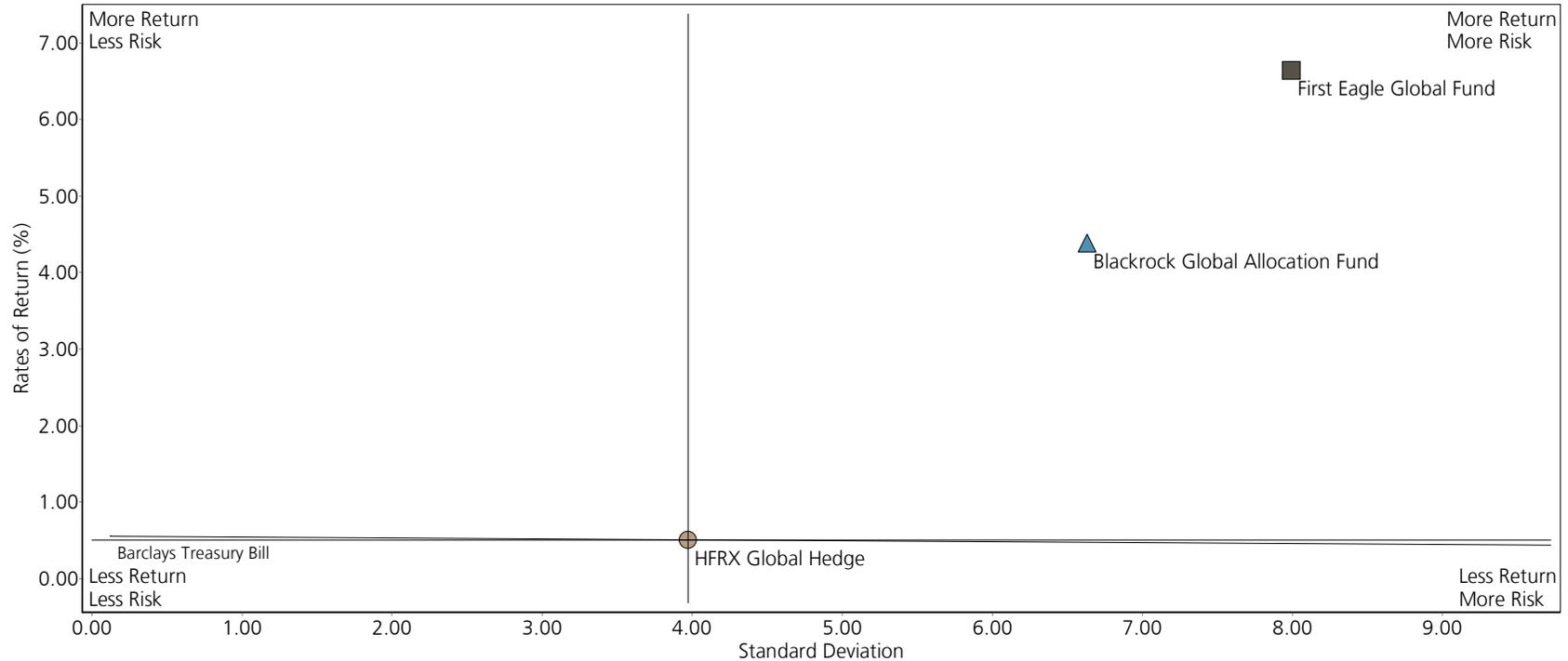


	2016	2015	2014	2013	2012	2011
Highest Value	12.00	0.62	6.75	23.87	18.42	3.84
First Quartile	6.79	-1.47	3.67	17.01	13.40	0.64
Median Value	5.41	-2.85	2.49	14.71	12.06	-2.65
Third Quartile	3.74	-4.72	1.10	11.04	10.58	-4.40
Lowest Value	0.24	-12.48	-5.02	-2.83	6.70	-8.48
Mean	5.64	-3.43	2.36	13.64	12.18	-2.44

	Return	Rank										
▲ Blackrock Global	4.09	68	-0.83	13	2.15	56	14.71	50	10.33	77	-3.43	61
● First Eagle Global	10.94	3	-0.66	10	3.19	35	15.79	35	12.73	36	-0.50	29
■ Loomis Sayles	4.67	59	N/A	N/A								
▼ HFRX Global Hedge	2.50	91	-3.64	62	-0.58	90	6.72	88	3.51	99	-8.87	99

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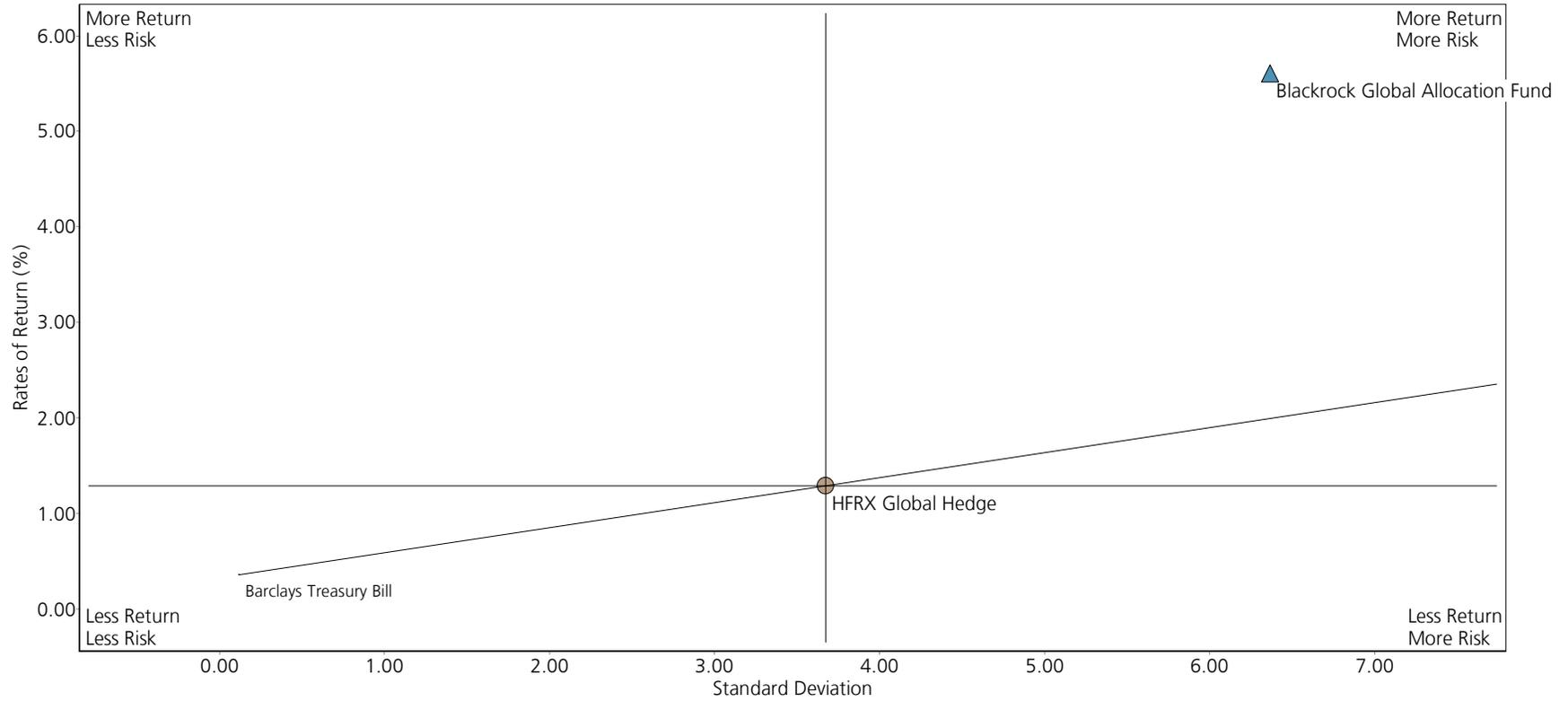
Risk vs Reward Analysis
March 31, 2015 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Blackrock Global Allocation Fund	4.39	6.63	3.91	1.52	82.87
● HFRX Global Hedge	0.51	3.98	0.00	1.00	100.00
■ First Eagle Global Fund	6.64	7.99	6.15	1.68	69.42
▼ Natixis Loomis Sayles Global Equity	N/A	N/A	N/A	N/A	N/A

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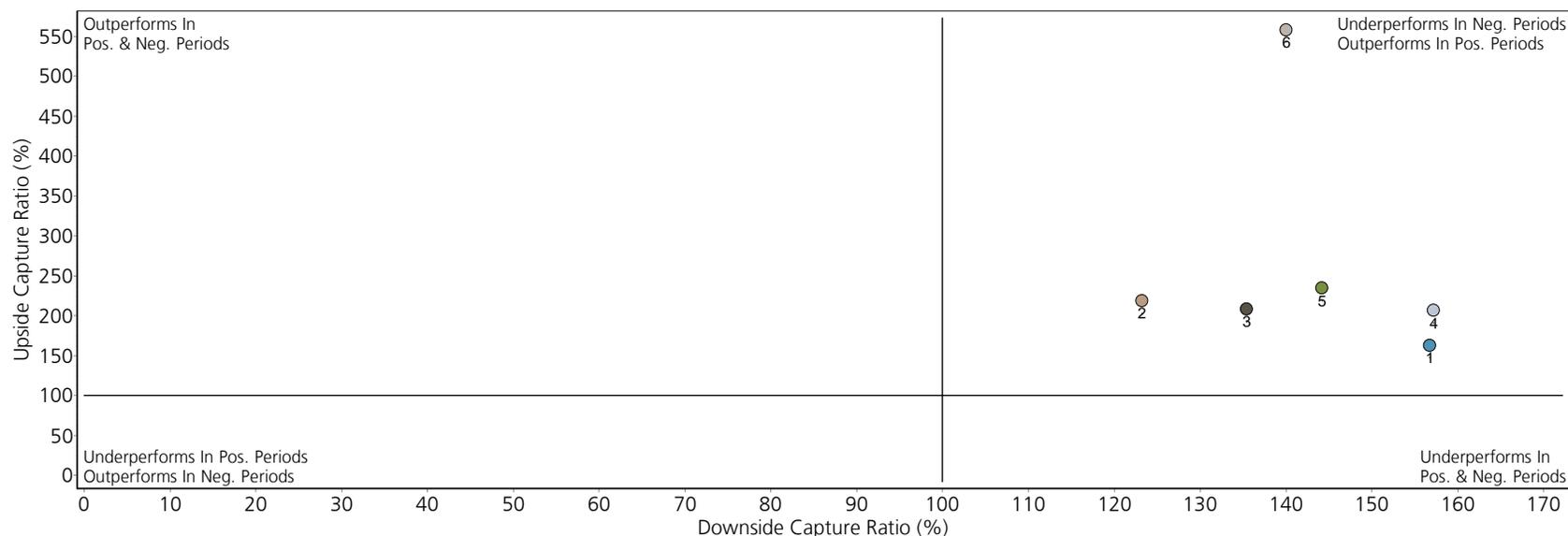
Risk vs Reward Analysis
March 31, 2013 Through March 31, 2018



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Blackrock Global Allocation Fund	5.60	6.37	3.77	1.55	79.66
● HFRX Global Hedge	1.29	3.67	0.00	1.00	100.00

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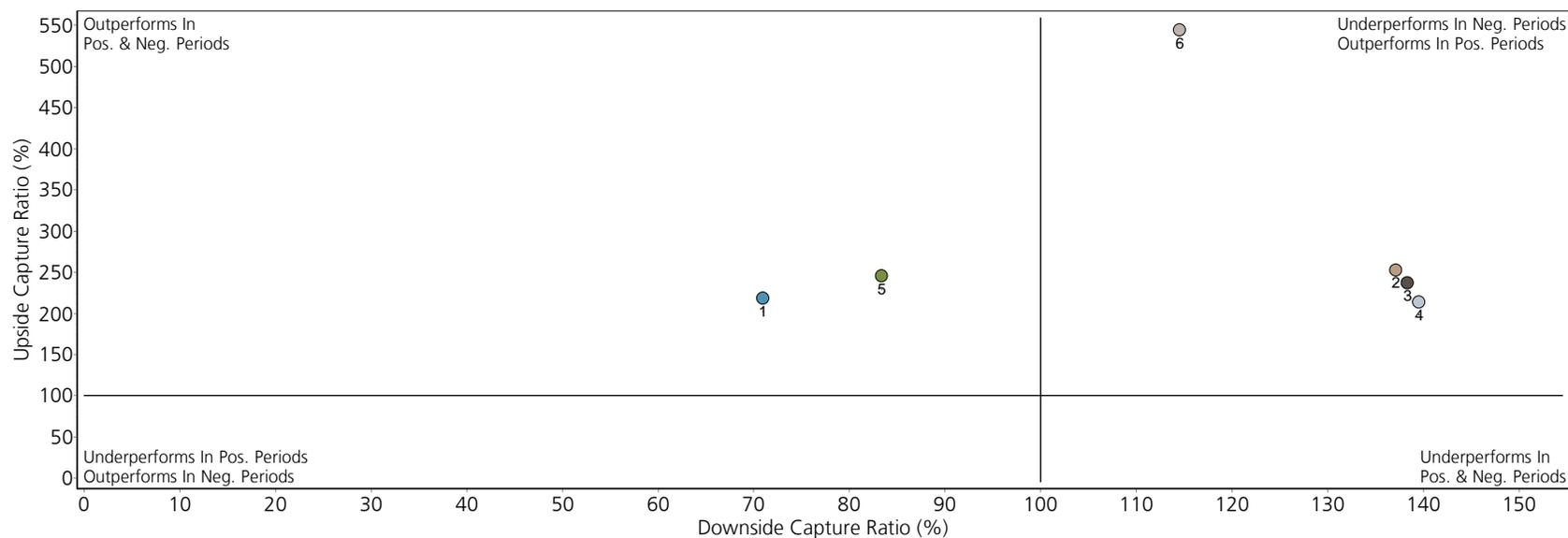
**Capture Ratio - Blackrock Global Allocation Fund
December 31, 2010 Through December 31, 2016**



	1	2	3	4	5	6
	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011
Up Periods	9.00	5.00	5.00	10.00	8.00	4.00
Upside Capture ROR	10.37	9.50	9.29	18.78	14.48	14.48
HFRX Global Hedge	6.36	4.35	4.46	9.09	6.18	2.59
% Of Capture	162.91	218.59	208.12	206.49	234.32	558.15
Down Periods	3.00	7.00	7.00	2.00	4.00	8.00
Downside Capture ROR	-5.69	-9.43	-6.53	-3.42	-3.62	-15.65
HFRX Global Hedge	-3.63	-7.65	-4.82	-2.18	-2.51	-11.17
% Of Capture	156.75	123.22	135.39	157.21	144.19	140.04

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Capture Ratio - First Eagle Global Fund
December 31, 2010 Through December 31, 2016



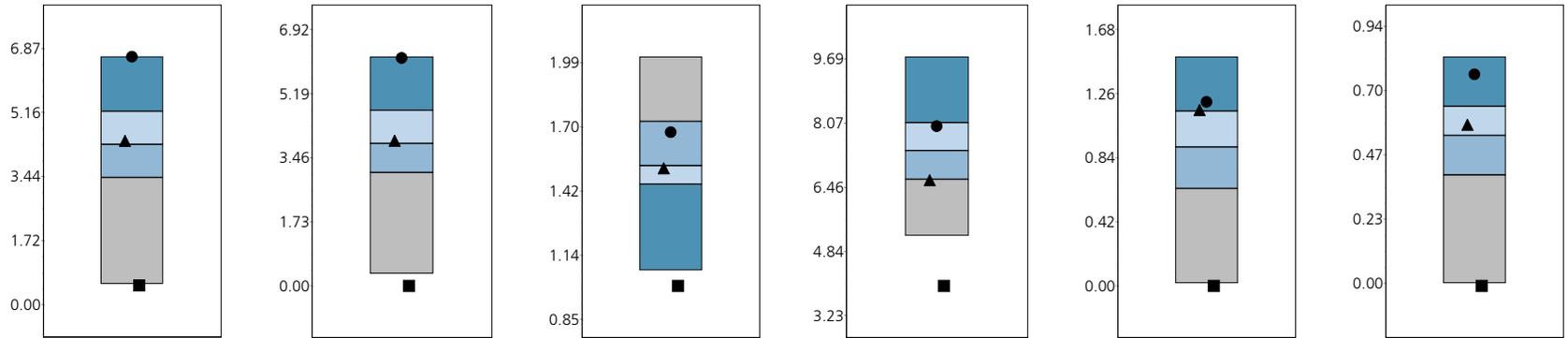
	1	2	3	4	5	6
	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011
Up Periods	9.00	5.00	5.00	10.00	8.00	4.00
Upside Capture ROR	13.88	10.99	10.57	19.42	15.14	14.11
HFRX Global Hedge	6.36	4.35	4.46	9.09	6.18	2.59
% Of Capture	218.05	252.75	236.96	213.54	245.07	543.80
Down Periods	3.00	7.00	7.00	2.00	4.00	8.00
Downside Capture ROR	-2.58	-10.49	-6.67	-3.04	-2.09	-12.80
HFRX Global Hedge	-3.63	-7.65	-4.82	-2.18	-2.51	-11.17
% Of Capture	70.97	137.12	138.37	139.55	83.35	114.54

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TOTAL FUND vs World Allocation Managers

March 31, 2015 Through March 31, 2018

3 Year



	Return
Highest Value	6.65
First Quartile	5.19
Median Value	4.29
Third Quartile	3.41
Lowest Value	0.55
Mean	4.23

	Alpha
Highest Value	6.18
First Quartile	4.73
Median Value	3.84
Third Quartile	3.05
Lowest Value	0.33
Mean	3.81

	Beta
Highest Value	1.07
First Quartile	1.45
Median Value	1.53
Third Quartile	1.73
Lowest Value	2.01
Mean	1.57

	Std Dev
Highest Value	9.74
First Quartile	8.08
Median Value	7.38
Third Quartile	6.66
Lowest Value	5.24
Mean	7.39

	Info Ratio
Highest Value	1.50
First Quartile	1.14
Median Value	0.91
Third Quartile	0.63
Lowest Value	0.02
Mean	0.87

	Sharpe Ratio
Highest Value	0.83
First Quartile	0.65
Median Value	0.54
Third Quartile	0.39
Lowest Value	0.00
Mean	0.51

- ▲ Blackrock Global
- First Eagle Global
- HFRX Global Hedge

	Value	Rank
Blackrock Global	4.39	47
First Eagle Global	6.64	1
HFRX Global Hedge	0.51	99

	Value	Rank
Blackrock Global	3.91	47
First Eagle Global	6.15	1
HFRX Global Hedge	0.00	99

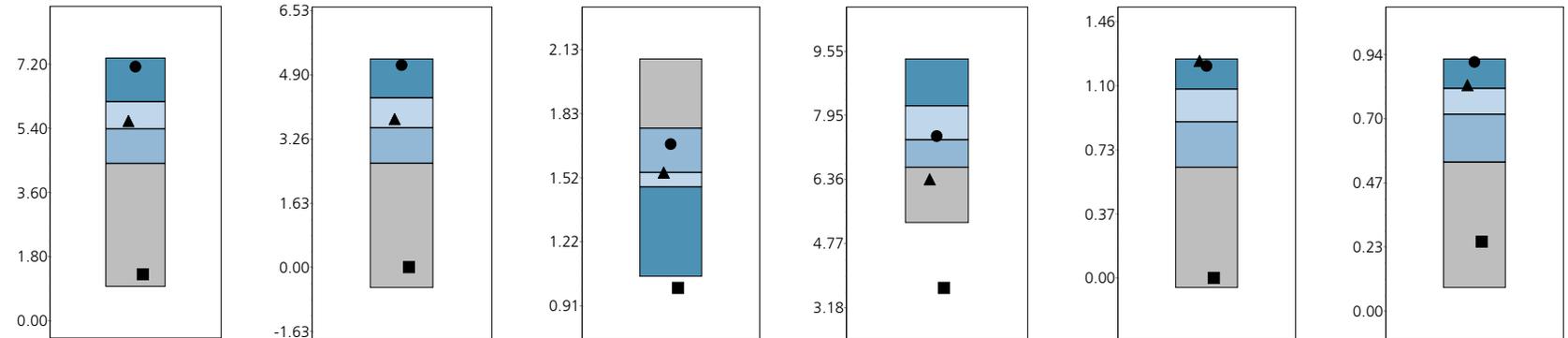
	Value	Rank
Blackrock Global	1.52	54
First Eagle Global	1.68	34
HFRX Global Hedge	1.00	99

	Value	Rank
Blackrock Global	6.63	77
First Eagle Global	7.99	26
HFRX Global Hedge	3.98	99

	Value	Rank
Blackrock Global	1.15	23
First Eagle Global	1.20	17
HFRX Global Hedge	0.00	99

	Value	Rank
Blackrock Global	0.58	42
First Eagle Global	0.76	6
HFRX Global Hedge	-0.01	99

5 Year



	Return
Highest Value	7.37
First Quartile	6.13
Median Value	5.38
Third Quartile	4.41
Lowest Value	0.95
Mean	5.15

	Alpha
Highest Value	5.30
First Quartile	4.31
Median Value	3.54
Third Quartile	2.64
Lowest Value	-0.53
Mean	3.36

	Beta
Highest Value	1.05
First Quartile	1.48
Median Value	1.55
Third Quartile	1.76
Lowest Value	2.09
Mean	1.62

	Std Dev
Highest Value	9.35
First Quartile	8.19
Median Value	7.34
Third Quartile	6.66
Lowest Value	5.29
Mean	7.42

	Info Ratio
Highest Value	1.25
First Quartile	1.08
Median Value	0.89
Third Quartile	0.63
Lowest Value	-0.06
Mean	0.82

	Sharpe Ratio
Highest Value	0.92
First Quartile	0.81
Median Value	0.72
Third Quartile	0.54
Lowest Value	0.08
Mean	0.66

- ▲ Blackrock Global
- First Eagle Global
- HFRX Global Hedge

	Value	Rank
Blackrock Global	5.60	43
First Eagle Global	7.12	4
HFRX Global Hedge	1.29	98

	Value	Rank
Blackrock Global	3.77	44
First Eagle Global	5.14	3
HFRX Global Hedge	0.00	99

	Value	Rank
Blackrock Global	1.55	50
First Eagle Global	1.68	37
HFRX Global Hedge	1.00	99

	Value	Rank
Blackrock Global	6.37	83
First Eagle Global	7.44	44
HFRX Global Hedge	3.67	99

	Value	Rank
Blackrock Global	1.24	1
First Eagle Global	1.21	1
HFRX Global Hedge	0.00	98

	Value	Rank
Blackrock Global	0.82	22
First Eagle Global	0.91	1
HFRX Global Hedge	0.25	95

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Cobb County Employees Retirement System - Investments Not Reviewed by UBS

The firm (UBS) does not currently conduct due diligence and has not otherwise reviewed the following investments or strategies, which are included in this report at your request. The inclusion does not constitute an endorsement that you continue to hold these investments. Please see "Important Information" for additional details.

At the time of report creation, all investments in your portfolio are reviewed.

Cash and Money Market Funds are not included in this analysis. UBS does not research any money market mutual funds, other than those offered by UBS and its affiliates.

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Performance Reconciliation Adjustments

This section provides a record of differences between information reported by your custodian and information used to create this performance report, whether at your direction or as prescribed by your Institutional Consultant on your behalf.

Scenario	Description	Net Adjustment (+/-)
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No differences in information were used in the creation of this performance report.

IMPORTANT INFORMATION

This report is provided for informational purposes only, does not constitute an offer to buy or sell securities or investment products, does not constitute a recommendation that you buy, sell or hold securities or investment products, and is current as of the date shown. It may include information regarding your Institutional Consulting accounts held at various UBS entities including UBS Financial Services Inc., UBS Securities LLC and UBS AG (collectively, "UBS" or "UBS entities"), as well as accounts you hold at other financial institutions. Accounts included in this report are identified at the beginning of the report. Also, information may be shown for individual accounts or as one or more combined portfolios; the accounts included in each portfolio are also identified at the beginning of the report.

Investment Monitoring: Neither UBS nor any of its employees will track or monitor specific investments you make to determine whether they complement your Investment Policy, unless the Plan has engaged UBS for such services.

Accounts and Assets Included: UBS account statements provide the official records of holdings, balances, transactions, and security values of assets held in UBS accounts and are not replaced, amended or superseded by any of the information presented in this report. If assets that you hold at other financial institutions are included in this report, they are being provided as part of your UBS IC Consulting Services Agreement or you have asked us to include those assets as an accommodation, but they are not included as part of your UBS IC Consulting Services Agreement with us. In either situation, the inclusion of those assets is based on information, including pricing and transactional information, furnished to UBS. You should review the account statements and other documentation provided by other financial institutions for their record of holdings, balances, transactions, and security values of assets held in those accounts, as well as notices, disclosures and other information important to you, and may also serve as a reference should questions arise regarding the accuracy of the information in this report. UBS Financial Services Inc. SIPC coverage would only apply to those assets respectively held at UBS Financial Services Inc. You should contact your financial representative at any other financial institution where you hold an account to determine the availability of SIPC coverage, if any. UBS has not verified and is not responsible for the accuracy or completeness of information regarding assets held at other financial institutions.

We require that you hold and purchase only eligible managed assets in your UBS advisory accounts. Please contact your UBS Institutional Consultant for a list of the eligible assets in your program. These reports may provide performance information for eligible and ineligible assets in a fee-based program. Since ineligible assets are not considered fee-based program assets, the inclusion of such securities will distort the actual performance of your advisory assets. As a result, the performance reflected in this report can vary substantially from the individual account performance reflected in the performance reports provided to you as part of those programs. For fee-based programs, fees are charged on the market value of eligible assets in the accounts and assessed quarterly in advance, prorated according to the number of calendar days in the billing period. Neither UBS nor your UBS Institutional Consultant will act as your investment adviser with respect to ineligible assets. The investment advisory programs and brokerage accounts we offer are separate and distinct and each is governed by different laws and separate contracts with you.

Pricing of Securities: All securities held in UBS accounts are priced as of the end of the period shown unless otherwise noted and reflect the last recorded transaction of all listed securities, options and OTC NASDAQ securities, when available. Less actively traded securities may be priced using a computerized valuation model and may not reflect an actual market price or value. To obtain current quotations, when available, contact your Institutional Consultant. CD prices may be derived using a computerized valuation model and therefore represent an estimated market value. Deposits or securities denominated in currencies other than U.S. dollars may be reflected at the exchange rate as of the date of these reports. To obtain precise U.S. dollar values for these deposits or securities at a time before the date of these reports, contact your Institutional Consultant. Prices may or may not represent current or future market value. Every reasonable attempt has been made to accurately price securities; however, no warranty is made with respect to any security's price. Securities that have no readily available market value are displayed at the most recently obtainable price. Such pricing may affect the performance information provided in these reports. The services UBS provides to you may be based on and/or include information obtained from third-party sources. Assets held at other financial institutions reflect the price provided by the respective institution or you. UBS will not independently verify pricing information obtained from third-party sources and cannot guarantee the accuracy of such third-party information. If pricing is indicated as "NA", the required data for that field was not provided by the other financial institution or you; this will affect the performance information provided in these reports.

Performance Analytics: Unless otherwise noted, performance shown is based on Time Weighted Rate of Return. Periods greater than one year have been annualized, but annual performance may not represent a full calendar year depending on the inception date of the first account included in these reports. Standard deviations are shown only for periods of 12 months or longer. This report may reflect performance before the deduction of manager fees and it does reflect performance before the deduction of your UBS Institutional Consulting advisory fees. The payment of fees and expenses will reduce the performance of the account and the reduction in performance will have a cumulative effect over time. The net effect of the payment of fees on the annualized performance, and the compounded or cumulative effect over time, is dependent on the amount of the fee and the account's investment performance. For example, an account that experiences an annual gross performance of 10% but incurs a 2.8% annual fee that is deducted quarterly on a prorated basis, will experience net annual performance of 7.1%, a reduction of 2.9% per year. Compounding will similarly affect the account's performance on a cumulative basis.

Performance information incorporates data as of the date your accounts became available for these reports, not as of your initial acquisition of a particular investment unless performance history is imported at client's request. For reports that reflect combined account information, the Performance Start Date will be the earliest performance start date of any of the individual accounts selected for the consolidation time period. If an individual account's performance information is not available for a full reporting time period (month to date, quarter to date, year to date or performance to date), that account's information will only be included for the period when available. For consolidated accounts that include different account Performance Start Dates, the consolidated Additions/Withdrawals, Income Earned and Investment Appreciation/ Depreciation will include all activity that occurred during the consolidated reporting time period. Accounts that hold or held insurance products will be reported on from the month end date of when insurance and annuity activity could be obtained from the carrier. To the extent that your historical data contains a mixture of net and gross performance history related to manager or advisory fees, those distinctions will impact your performance reports to the extent that the different methods of reporting are blended.

Note that various factors, including unpriced securities and certain holdings, adjustments or activity may cause the results shown in this report to differ from actual performance (see the Performance Reconciliation Adjustments section for detail on differences between your Custodial statement and information used to create this performance report). Note that these results may differ from other performance reports provided to you by UBS. Performance information may be impacted by the different ways each UBS entity or third party financial institution respectively records trade executions. Past performance is no guarantee of future results. Neither the UBS entities nor any of their respective representatives provide tax or legal advice. You must consult with your legal or tax advisors regarding your personal circumstances.

You have discussed the receipt of this individually customized report with your Financial Advisor. Your UBS account statements and trade confirmation are the official records of your accounts at UBS. We assign index benchmarks to our asset allocations, strategies in our separately managed accounts and discretionary programs based on our understanding of the allocation, strategy, the investment style and our research. The benchmarks included in this report can differ from those assigned through our research process. As a result, you may find that the performance comparisons may differ, sometimes significantly, from that presented in performance reports and other materials that are prepared and delivered centrally by the Firm. Depending upon the composition of your portfolio and your investment objectives, the indexes used in this report may not be an appropriate measure for comparison purposes, and as such, are represented for illustration only. Your portfolio holdings and performance may vary significantly from the index. Your financial advisor can provide additional information about how benchmarks within this report were selected.

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The ACCESS, Strategic Wealth Portfolio ("SWP"), Managed Accounts Consulting ("MAC") and Institutional Consulting ("IC") programs offer some of the same Separately Managed Account ("SMA") Managers for different SMA Manager fees. The amount of the fee paid to each SMA Manager is a function of that SMA Manager's investment style and the fee negotiated with the SMA Manager either by UBS (in ACCESS, SWP) and by you in the MAC or IC Program. Depending on your asset level and ability to negotiate the investment management fee with the SMA Manager in the dual-contract structure of the MAC or IC program, you may find that the single-contract structure in ACCESS and SWP provides a more cost-effective option or vice versa. In addition, based on the combination of our fees and your SMA Manager's fees, the overall fee for your SMA account in ACCESS, SWP, MAC or IC may exceed 3% of the account value. Please review your options and overall costs carefully with your Financial Advisor.

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Benchmark Index Information:

For comparison purposes, these reports may contain a number of general broad market indices, which were selected to demonstrate the performance of broad market indicators that are readily recognized, rather than for direct performance comparisons, and do not reflect the performance of actual investments. The selection and use of benchmarks is not a promise or guarantee that your accounts will meet or exceed the stated benchmarks. Benchmark information is illustrative and relates to historical performance of market indexes and not the performance of actual investments. Indexes are not available for direct investment and reflect an unmanaged universe of securities. Indices assume no management, custody, transaction fees or expenses that would lower the performance results, and assume reinvestment of dividends and capital gains. Information about indices is based on information obtained from sources believed to be reliable, but no independent verification has been made. UBS does not guarantee the accuracy or completeness of any index information presented. Market index data is subject to review and revision, and UBS reserves the right to substitute indices or display only those indices for which current updated information is available. Information regarding the indexes shown in this report can be found at the end of this report.

Risk Considerations: Some of the general risk considerations associated with the investment options included in this report are described below. The descriptions are not meant to be a complete list of all investment risks. For more complete information regarding fees, expenses, risks and restrictions associated with these investments please review the offering documents and marketing materials. Investors should consult their tax advisor about their specific tax situation before investing in any securities. In addition, clients should familiarize themselves with the particular market risks and the other risks associated with the specific investment. All investments contain risk and may lose value.

Offshore Funds: Offshore mutual funds are not registered with the Securities and Exchange Commission and may not be sold to any person who is a citizen or resident of the United States.

Alternative Investments: Non-traditional asset classes are alternative investments that include hedge funds, private equity, and private real estate (collectively, non-traditional or alternative investments). These investments can be subject to substantial risks (including the risks associated with limited liquidity, the use of leverage, short-sales and concentrated positions), may involve complex tax structures and strategies, and may not be easily valued. The risks of alternative investments should be carefully considered in light of your investment objectives, risk tolerance and net worth. Alternative investments are speculative and entail substantial risks, which may place your capital at risk. Alternative investments may not have been registered with the Securities and Exchange Commission or under any state securities laws. The market for such investments may be highly illiquid and subjectively valued, and these reports provide values for informational purposes only. Accuracy is not guaranteed. These values may differ substantially from prices, if any, at which a unit may be bought or sold and do not necessarily represent the value you would receive from the issuer upon liquidation. Issuer estimated values, if any, are generally updated on a regular (annual or semi-annual) basis and are supplied to us by the issuer, but may be calculated based on different information from what is used by third parties to derive their estimated values.

Fixed Income: Investing in the fixed income market is subject to risks including market, interest rate, issuer, credit, default and inflation risk. An investment in a portfolio may be worth more or less than its original cost when redeemed. Derivatives may involve certain costs and risks such as liquidity, interest rate, market, credit, management, default risk, and the risk that the position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested.

Variable Annuities: A variable deferred annuity is a long-term financial product designed for retirement purposes. It is a contractual agreement in which payment(s) are made to an insurance company, which agrees to pay out an income or a lump sum amount at a later date. There are fees and charges associated with a variable annuity contract, which include, but are not limited to, operations charges, sales and surrender charges, administrative fees, and additional charges for optional benefits. Variable annuities are sold by prospectus and you should carefully consider important information on the subaccounts's investment objectives, risk, charges and expenses. Please read the prospectus and offering documents carefully before you invest. Your Financial Advisor can provide a copy of the prospectus. For current month-end returns: <http://advisor.morningstar.com/familyinfo.asp>.

Withdrawals from an annuity contract are taxable as ordinary income, not as capital gains and, if made prior to age 59 and 1/2, may be subject to an additional 10% federal income tax penalty. Withdrawals may also be subject to surrender charges. Withdrawals will reduce the death benefit, living benefits and cash surrender value. For tax purposes, withdrawals will come from any gain in the contract first. Please see the prospectus for complete details. Amounts in the annuity's variable investment portfolios are subject to fluctuation in value and market risk, including loss of principal.

Unregistered group variable annuities and registered group variable annuities that are solely available for use in qualified plans are rated and ranked based on their position within the bell curve of the open end fund peer group (a.k.a. category), rather than the variable annuity subaccount peer group. These ratings and ranks are calculated by using an overlay of the open end fund peer group break points and therefore do not contribute to the category average or number of funds within the peer group.

For variable annuity subaccounts, standardized return is total return based on its inception date within the separate account and is adjusted to reflect recurring and non-recurring charges such as surrender fees, contract charges, maximum front-end load, maximum deferred load, maximum M&E risk charge, administration fees, and actual ongoing fund-level expenses. The benchmark used for each individual subaccount performance is an index that has been assigned to the particular manager or fund.

Mutual Fund Performance Information: Mutual Funds are sold by prospectus and you should carefully consider important information on the fund's investment objectives, risk, charges and expenses. Please read the prospectus and offering documents carefully before you invest. Your UBS Institutional Consultant can provide a copy of the prospectus. For current month-end returns: <http://advisor.morningstar.com/familyinfo.asp>.

This analysis may incorporate mutual fund and exchange traded fund performance results. Analytics shown are calculated based on the fund's Net Asset Value, which may reflect the reinvestment of dividends and capital gains, as well as the deduction of 12b-1 fees and fund internal expenses (e.g. fund management fees). The analytics do not reflect the deduction of the sales load, where applicable, the UBS Consulting fee(s), where applicable, or the impact of taxes. Had the sales load, fee or taxes been included, the results used in this analysis would have been reduced.

Wilshire Trust Universe Comparison Service Information: These reports may contain comparative peer performance data provided by Wilshire Associates Incorporated (Wilshire®), entitled "Quartile Ranking Comparison." Output will be presented as a universe organized by asset type, plan type, plan size or other basis. Wilshire®, the Wilshire Trust Universe Comparison Service® and TUCS® are service marks of Wilshire Associates Incorporated and have been licensed for use by UBS Financial Services Inc. All content of TUCS is ©2016 Wilshire Associates Incorporated, all rights reserved.

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Policy Index: A point of reference for evaluating a portfolio's investment performance. A policy Index can be comprised of single or multiple benchmarks (weighted blend). Portfolios with multiple benchmarks will be depicted with a description of benchmarks and weights that comprise the policy.

Gain/(Loss) Information: When data is available from UBS, estimated unrealized gains/losses are calculated for individual security lots. For assets transferred from another financial institution, gain/loss information will be reflected only for the period of time the assets have been held at UBS entities. For assets held at other financial institutions, information provided by that entity, if any, is reflected. Total realized gain/loss information may include calculations based upon non-UBS entities cost basis information. UBS Financial Services Inc. does not independently verify or guarantee the accuracy or validity of any information provided by sources other than UBS Financial Services Inc. When original cost information is unavailable, gain/loss amounts will represent current market value and total gains/losses may be inaccurate. Date information for when a particular security was acquired, when available, appears on these reports. When no acquisition date is provided for a security, these reports reflect "N/A" and omit this information. As a result, these figures may not be accurate and are provided for informational purposes only.

Interest and Dividend Income: When shown on this report, information does not reflect your account's tax status or reporting requirements. You should use only official IRS forms for tax reporting purposes. The classification of private investment distributions can only be determined by referring to the official year-end tax-reporting document provided by the issuer.

Contributions and Withdrawals: When shown on a report, information regarding contributions and withdrawals may represent the net value of all cash and securities contributions and withdrawals, and may include program fees (including wrap fees) and other fees added to or subtracted from your accounts from the first day to the last day of the period covered by these reports. Program fees may be separately identified or included in withdrawals except when paid via an invoice or through a separate account billing arrangement.

Cash Flow: Cash Flow analysis is based on the historical dividend, coupon and interest payments you have received as of the Record Date in connection with the securities listed and assumes that you will continue to hold the securities for the periods for which cash flows are projected. This may or may not include principal paybacks for the securities listed. These potential cash flows are subject to change due to a variety of reasons, including but not limited to, contractual provisions, changes in corporate policies, changes in the value of the underlying securities and interest rate fluctuations. The effect of a call on any security(s) and the consequential impact on its potential cash flow(s) is not reflected in this report. Payments that occur in the same month in which the report is generated -- but prior to the report run ("As of") date -- are not reflected in this report. In determining the potential cash flows, UBS relies on information obtained from third party services it believes to be reliable but does not independently verify or guarantee the accuracy or validity of any information provided by third parties. Cash flows for mortgage-backed, asset-backed, factored, and other pass-through securities are based on the assumptions that the current face amount, principal pay-down, interest payment and payment frequency remain constant. Calculations may include principal payments, are intended to be an estimate of future projected interest cash flows and do not in any way guarantee accuracy.

Important information about advisory & brokerage services: As a firm providing wealth management services to clients, we offer both investment advisory and brokerage services. These services are separate and distinct, differ in material ways and are governed by different laws and separate contracts. For more information on the distinctions between our brokerage and investment advisory services, please speak with your Financial Advisor or visit our website at <<http://ubs.com/workingwithus>>.

While we strive to make sure the nature of our services is clear in the materials we publish, if at any time you would like clarification on the nature of your accounts or the services you are receiving, please speak with your UBS Institutional Consultant.

The ACCESS, SWP, MAC and Institutional Consulting ("IC") programs offer some of the same Separately Manage Account ("SMA") Managers for different SMA Manager fees. The amount of the fee paid to each SMA Manager is a function of that SMA Manager's investment style and the fee negotiated with the SMA Manager either by UBS (in ACCESS, SWP) and by you in the MAC or IC Program. Depending on your asset level and ability to negotiate the investment management fee with the SMA Manager in the dual-contract structure of the MAC or IC program, you may find that the single-contract structure in ACCESS and SWP provides a more cost-effective option or vice versa. In addition, based on the combination of our fees and your SMA Manager's fees, the overall fee for your SMA account in ACCESS, SWP, MAC or IC may exceed 3% of the account value. Please review your options and overall costs carefully with your Financial Advisor before investing.

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Calculation Definitions

Alpha: Alpha measures the difference between an investment's actual performance, and its expected performance as indicated by the returns of a selected market index. A positive Alpha indicates the risk-adjusted performance is above that index. In calculating Alpha, Standard Deviation (total risk) is used as risk measure. Alpha is often used to judge the value added or subtracted by a manager.

Appreciation/Depreciation: Appreciation or Depreciation is the change in market value minus net cash flows. The value indicates by how much the portfolio value has changed due to changes in asset values. Appreciation would be an increase, Depreciation would be a decrease.

Average Exposure: Average Exposure is generally, the average allocation to a segment or an asset. Calculated as the beginning market value plus the weighted net cash flows as a percentage of the total portfolio market value.

Beta: Beta is defined as a Manager's sensitivity to market movements and is used to evaluate market related, or systematic risk. Beta is a measure of the linear relationship, over time, of the Manager's returns and those of the Benchmark. Beta is computed by regressing the Manager's excess returns over the risk free rate (cash proxy) against the excess returns of the Benchmark over the risk free rate. An investment that is as equally volatile as the market will have a Beta of 1.0; an investment half as volatile as the market will have a Beta of 0.5; and so on. Thus, Betas higher than 1.0 indicate that the fund is more volatile than the market.

Composite Benchmark: The Composite Benchmark is a weighted average benchmark based on the allocation of funds within each of the portfolios in the composite and the risk index assigned to each portfolio.

Correlation (R): The Correlation represents the degree to which investments move in tandem with one another and is a critical component of diversified portfolio construction. The Correlation varies between a minimum of -1 (move in opposite direction) and a maximum of 1 (completely correlated). Lower Correlations enhance diversification and lead to better risk-adjusted returns within diversified portfolios. An R of less than 0.3 is often considered low Correlation.

Current Yield: This measure looks at the current price of a bond instead of its face value and represents the return an investor would expect if he or she purchased the bond and held it for a year. This measure is not an accurate reflection of the actual return that an investor will receive in all cases because bond and stock prices are constantly changing due to market factors.

Distribution of Excess Returns: Distribution of Excess Returns displays an arrangement of statistical data that exhibits the frequency of occurrence of the investment's returns in excess of the selected Market Index.

Down Market (Mkt) Capture Ratio: Down Market Capture Ratio is a measure of an investment's performance in down markets relative to the market itself. A down market is one in which the market's return is less than zero. The lower the investment's Down Market Capture Ratio, the better the investment protected capital during a market decline. A negative Down Market Capture Ratio indicates that an investment's returns rose while the market declined.

Downside Capture Return: The downside capture return is the cumulative performance of the portfolio in all periods during which the risk benchmark posted a negative return.

Downside Probability: The downside probability is the ratio of the number of periods during which the portfolio posted a negative return to the total number of periods under study. If, for example, during a 12 month span, the portfolio realized 5 months of negative returns, the downside probability would be equal to 5/12 or 42 percent. The sum of the downside and upside probabilities must equal 1.0. The downside probability does not consider the extent to which the portfolio will fail to exceed the target index. It merely considers the likelihood that the target will not be exceeded. It is important to bear in mind this point when comparing the downside probabilities of more than one portfolio. It is not necessarily correct, for example, to deem portfolio A riskier than portfolio B simply because A has a higher downside probability.

Downside Risk (Semi Standard Deviation, Semi Std Dev, or Downside Deviation): Downside Risk only identifies volatility on the down side. Downside Risk measures the variability of returns below zero, whereas Standard Deviation attributes volatility in either direction to risk. The Downside Risk method calculates the deviations below zero for each observed return. Each time a return falls below zero, the sum is divided by the number of observations and the square root is taken. This result is then shown on an annualized basis.

Dynamic Index: A weighted average blended benchmark of the risk indices assigned to each asset class, based on the asset allocation of the portfolio for a given period. The benchmark index weighting adjusts with changes to the asset allocation. A Dynamic Index should not be used when measuring against the client's *Investment Policy Statement*.

Effective Duration: A duration calculation for bonds with embedded options. Effective duration takes into account that expected cash flows will fluctuate as interest rates change.

Excess: Denotes that a statistic is being measured relative to the Market Index selected. The data set analyzed consists of the periodic differences between the investment's measure and the selected Market Index's definition.

Expense Ratio: Often referred to as the Net Expense Ratio, Morningstar pulls the net annual expense ratio from the fund's audited annual report. Annual-report expense ratios reflect the actual fees charged during a particular fiscal year. The annual report expense ratio for a fund of funds is the wrap or sponsor fee only. The expense ratio expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as initial or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. If the fund's assets are small, its expense ratio can be quite high because the fund must meet its expenses from a restricted asset base. Conversely, as the net assets of the fund grow, the expense percentage should ideally diminish as expenses are spread across the wider base. Funds may also opt to waive all or a portion of the expenses that make up their overall expense ratio.

Gross Dollar Weighted Return: Gross Dollar Weighted Return is the internal rate of return, excluding money manager fees.

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The Gross Expense Ratio: Represents the total gross expenses (net expenses with waivers added back in) divided by the fund's average net assets. If it is not equal to the net expense ratio, the gross expense ratio portrays the fund's expenses had the fund not waived a portion, or all, of its fees. Thus, to some degree, it is an indication of fee contracts. Some fee waivers have an expiration date; other waivers are in place indefinitely.

Gross Time Weighted Return: Gross Time Weighted Return is the Modified Dietz return, excluding money manager fees.

Index Value: Index Value is the unit value series based on the return stream. It can be used to calculate rates of return between any two dates in the report.

Information Ratio: The Information Ratio is a measure of value added by an investment manager. It is the ratio of (annualized) excess return above the selected Market Index to (annualized) Tracking Error. Excess return is calculated by linking the difference of the manager's return for each period minus the selected Market Index return for each period, then annualizing the result.

Manager Capture Ratio: The Manager Capture Ratio is manager return divided by the selected Market Index return. It shows what portion of the market performance was captured by the manager under certain market conditions: up market, down market, or both.

Market Experience: Market Experience is the presumable market value of the portfolio if it and its cash flows had grown at the policy index rate of return. It lets the reader know if active management has aided or hurt the portfolio.

Net Cash Flow: For the total portfolio, net cash flow is aggregate contributions minus aggregate withdrawals. At the asset class level, net cash flow is aggregate purchases minus aggregate sales minus aggregate income. It is used in the numerator of the Modified Dietz return calculation. It is the same as "New Money" and "Flow".

Net Dollar Weighted Return: Net Dollar Weighted Returns is the internal rate of return, including money manager fees.

Net Time Weighted Return: Net Time Weighted Return is the Modified Dietz return, including money manager fees.

New Money: For the total portfolio, New Money is aggregate contributions minus aggregate withdrawals. At the asset class level, New Money is aggregate purchases minus aggregate sales minus aggregate income. It is used in the numerator of the Modified Dietz return calculation. It is the same as "Net Cash Flow" and "Flow".

Policy Index: A point of reference for evaluating a portfolio's investment performance. A policy Index can be comprised of single or multiple benchmarks (weighted blend). Portfolios with multiple benchmarks will be depicted with a description of benchmarks and weights that comprise the policy.

Rate of Return, ROR, Return %, ROI: All Return terms refer to the Modified Dietz return.

Relative Risk: Relative risk is simply the ratio of the standard deviation of the portfolio to the standard deviation of the risk index. The statistic reveals how much of the variation of the risk index is "shared" by the portfolio. A relative risk of 1.0 indicates that the portfolio has the same level of return variability as the risk index. A relative risk of less than 1.0 indicates that the portfolio has shown a lower dispersion of returns than the index. A relative risk in excess of 1.0 indicates that the portfolio returns have been more dispersed than those of the index.

Riskless Index: The theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time. The 3 month T-Bill is the usual index used for riskless.

R-Squared (R2): The diversification measure R2 indicates the percentage of volatility in portfolio returns which can be "explained" by market volatility. This statistic indicates the degree to which the observed values of one variable, such as the returns of a managed portfolio, can be explained by, or are associated with the values of another variable, such as a Market Index. It is especially helpful in assessing how likely it is that Alpha and Beta are statistically significant. The R2 values generally range from 0.0 to 1.0. An investment with an R2 of 1.0 is perfectly correlated with the market whereas an investment with an R2 of 0.0 will behave independently of the market. An R2 of 0.95, for example, implies that 95% of the fluctuations in a portfolio are explained by fluctuations in the market.

Sector Allocations: The percentage a manager has allocated to specific economic sectors.

Sharpe Ratio: The Sharpe Ratio indicates the excess return per unit of total risk as measured by Standard Deviation. It is a ratio of the arithmetic average of excess returns over the risk free rate to the Standard Deviation. The Sharpe Ratio is a measure of the premium earned for the risk incurred by the portfolio.

Sortino Ratio: The Sortino Ratio is a measure of reward per unit of risk. With Sortino, the numerator (i.e., reward) is defined as the incremental compounded average return over the minimum acceptable return (MAR). The denominator (i.e., risk) is defined as the downside deviation of the returns below the MAR. Since the downside deviation is the standard deviation of those returns which fail to exceed the MAR, the result of the Sortino Ratio is a measure of the average reward per unit of loss. As with Sharpe and Treynor, the Sortino Ratio only has value when it is used as the basis of comparison between portfolios. The higher the Sortino Ratio, the better.

Standard Deviation: A measure of the extent to which observations in a series vary from the arithmetic mean of the series. The Standard Deviation of a series of asset returns is a measure of volatility or risk of the asset.

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Target Allocation: The Target Allocation is the allocation goal of the portfolio.

Tracking Error (Excess Standard Deviation): Tracking Error is a measure of how closely an investment's returns track the returns of the selected Market Index. It is the annualized Standard Deviation of the differences between the investment's and the associated index's returns. If an investment tracks its associated index closely, then Tracking Error will be low. If an investment tracks its associated index perfectly, then Tracking Error will be zero.

Treynor Ratio: The Treynor Ratio is defined as the ratio of the manager's excess geometrically annualized return over the portfolio Beta. Excess returns are computed versus the cash index.

Up Market (Mkt) Capture Ratio: Up Market Capture Ratio is a measure of a product's performance in up markets relative to the market itself. An up market is one in which the market's return is greater than or equal to zero. The higher the investment's Up Market Capture Ratio, the better the investment capitalized on a rising market.

Upside Capture Return: The upside capture return is the cumulative performance of the portfolio in all periods during which the risk benchmark posted a positive return.

Upside Probability: The upside probability is the ratio of the number of periods during which the portfolio posted a positive return to the total number of periods under study. If, for example, during a 12 month span, the portfolio realized 7 months of positive returns, the upside probability would be equal to 7/12 or 58 percent. The sum of upside and downside probabilities must equal 1.0.

Upside Uncertainty: Upside uncertainty measures the variability of portfolio returns that exceed a minimum acceptable return (MAR). Risk, in this instance, is defined as the likelihood that the MAR will not be achieved. Since the statistic is defined as the variability of returns greater than the MAR, risk is not an issue. Thus, variability on the upside is referred to as uncertainty, not risk. The upside uncertainty is simply the standard deviation of those portfolio returns that exceed the MAR. The larger the upside uncertainty, the better.

Weighted Average: This is a calculation that looks at the average for the statistic for each security weighted by the allocation by market value for each security.

Weighted Flow: The net cash flows weighted for the duration of the month during which the money manager had access to the funds. It is used in the denominator of the Modified Dietz rate of return calculation.

Yield: Yield refers to the yield to maturity.

YTD: Year to Date.

Index Definitions

10-Year U.S. Treasury Index: A debt obligation issued by the U.S. Treasury with a term of 10 years.

Barclays Capital Global Aggregate X U.S.: An index consisting of all investment grade securities issued in different currencies and combining the Barclays Aggregate, Barclays Pan-European Aggregate and Barclays Global Treasury indexes. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities and U.S. dollar investment grade, 144A securities.

Barclays Capital Global Emerging Markets: Tracks total returns of external-currency-denominated debt instruments of the emerging markets: Brady bonds, loans, Eurobonds, and U.S. dollar-denominated local market instruments. The index covers five regions: Americas, Europe, Asia, Middle East and Africa.

Barclays Capital Muni Bond Index: A capitalization-weighted bond index created by Barclays intended to be a representative of major municipal bonds of all quality ratings.

Barclays Capital U.S. Aggregate Index: Covers the U.S. dollar-denominated, investment grade, fixed rate, taxable bond market segment of SEC-registered securities and includes bonds from the U.S. Treasury, government-related, corporate, mortgage- and asset-backed and commercial mortgage-backed securities.

Barclays Capital U.S. Aggregate Government: Composed of the Barclays U.S. Treasury Bond Index (all public obligations of the U.S. Treasury, excluding flower bonds and foreign-targeted issues) and the Agency Bond Index (all publicly issued debt of U.S. government agencies, quasi-federal corporations, and corporate debt guaranteed by the U.S. government).

Barclays Capital U.S. Aggregate High Yield: Covers the universe of fixed-rate, dollar-denominated, non-convertible, publicly issued, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded but Canadian bonds and SEC-registered global bonds of issuers in non-emerging countries are included. Original issue zeroes, step-up coupon structures and 144As are also included. Bonds must have at least one year to final maturity, at least \$150 million par amount outstanding and be rated Ba1 or lower.

Barclays Capital U.S. Aggregate Investment Grade: Covers all publicly issued, fixed-rate, nonconvertible, investment grade corporate debt. Issues are rated at least Baa by Moody's Investors Service or BBB by Standard & Poor's. Total return comprises price appreciation / depreciation and income as a percentage of the original investment.

Barclays Capital U.S. Convertibles Composite: The Barclays Capital U.S. Convertible Bond Index represents the market of U.S. convertible bonds. Convertible bonds are bonds that can be exchanged, at the option of the holder, for a specific number of shares of the issuer's preferred stock or common stock.

Barclays Capital U.S. Treasury - Bills (1-3 months): Is a market value-weighted index of investment-grade fixed-rate public obligations of the U.S. Treasury with maturities of three months, excluding zero coupon strips.

Cambridge U.S. Private Equity: Based on returns data compiled on funds representing more than 70% of the total dollars raised by U.S. leveraged buyout funds, subordinated debt and special situation managers between 1986-2008.

Cambridge U.S. Venture Capital Index: Based on returns data compiled for more than 75% of U.S., institutional venture capital assets between 1990-2008.

Dow Jones AIG Commodity Index: Composed of futures contracts on 20 physical commodities. It is composed of commodities traded on U.S. exchanges with the exception of nickel, aluminum and zinc. The Index relies primarily on liquidity data or the relative amount of trading activity to determine its weightings. All data used for both liquidity and production calculations are averaged for a five-year period.

HFRI Distressed & Restructuring: Equally weighted index of investment managers who employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near-term proceedings. Distressed strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

HFRI Equity Hedge: Equally weighted index of investment managers who employ equity hedge strategies, maintaining both long and short positions primarily in equity and equity derivative securities. Equity hedge managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities both long and short.

HFRI Event Driven: Equally weighted index of investment managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities.

HFRI Fund of Funds Index: Fund of funds invested with multiple managers through funds or managed accounts. The strategy accesses a diversified pool of managers with the objective of lowering the risk of investing in one single manager. The fund of funds manager has discretion in choosing which strategies and managers to invest in the fund.

HFRI Fund Weighted Composite: An equally weighted return of all funds net of fees in the HFRI monthly indexes. Fund strategies include, but are not limited to: convertible arbitrage, distressed securities, emerging markets, equity hedge, equity market neutral, statistical arbitrage, event driven, macro, market timing, merger and risk arbitrage, relative value, short selling and sector funds.

HFRI Macro: Equally weighted index of investment managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental

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approaches and long- and short-term holding periods.

HFRI Relative Value: Equally weighted index of investment managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types.

JP Morgan Global Ex-U.S. Bond Index: Consists of regularly traded, fixed-rate domestic government debt instruments from 12 international bond markets. Countries included are Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, the Netherlands, Spain, Sweden and the United Kingdom.

MSCI AC World Index ex USA: Consists of approximately 2,000 securities across 47 markets, with emerging markets representing approximately 18%. MSCI attempts to capture approximately 85% of the market capitalization in each country.

MSCI EAFE Index (Europe, Australasia, Far East): A free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. As of June 2007, the MSCI EAFE Index consisted of the following 21 developed market country indexes: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

MSCI Emerging Markets Index: A free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. As of November 2008, the MSCI Emerging Markets Index consisted of the following 24 emerging market country indexes: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

MSCI Europe Index: A free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of the developed markets in Europe. As of June 2007, the MSCI Europe Index consisted of the following 16 developed market country indexes: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

MSCI Japan Index: A free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of Japan.

NAREIT Index: Benchmarks the performance of the REIT industry since its inception in 1972. It was designed to provide a comprehensive assessment of overall industry performance. Some REITs available from over-the-counter markets are not included due to the lack of real-time pricing.

NCREIF Property Index (NPI): A quarterly time series composite total rate of return measure of investment performance of a large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors - the great majority being pension funds. As such, all properties are held in a fiduciary environment.

Russell 1000® Index: Measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market.

Russell 1000® Growth Index: Measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

Russell 1000® Value Index: Measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values.

Russell 2000® Growth Index: Measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

Russell 2000® Value Index: Measures the performance of the small-cap value segment of the U.S. equity universe. It includes those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

Russell Mid-Cap® Growth Index: Measures the performance of the mid-cap growth segment of the U.S. equity universe. It includes those Russell mid-cap companies with higher price-to-book ratios and higher forecasted growth values.

Russell Mid-Cap® Value Index: Measures the performance of the mid-cap value segment of the U.S. equity universe. It includes those Russell mid-cap companies with lower price-to-book ratios and lower forecasted growth values.

S&P 500 Index: Covers 500 large cap industrial, utility, transportation, and financial companies of the US markets. The index represents about 75% of NYSE market capitalization and 30% of NYSE issues. It is a capitalization weighted index calculated on a total return basis with dividends reinvested.

TASS Index of CTAs: Is a dollar-weighted index based on historical managed futures performance of CTAs with established track records.

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Cobb County Government 457 Deferred Compensation Plan

UBS DC Report

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March 31, 2018

Prepared by:

UBS Institutional Consulting Group

UBS Financial Services Inc.

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Cobb County Government 457 Deferred Compensation Plan

Alerts Summary

Recent Alerts 04-09-2018

Name	Performance	Portfolio	Operations		
	5 Yr. Total Return (% Rank in Category)	Equity Style Box Change	Morningstar Category Change	Manager Change	Prospectus Net Expense Ratio (% Rank in Cat.)
American Funds 2010 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2015 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2020 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2025 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2030 Trgt Date Retire R6	✓	✗	✓	✓	✓
American Funds 2035 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2040 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2045 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2050 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2055 Trgt Date Retire R6	✓	✓	✓	✓	✓
American Funds 2060 Trgt Date Retire R6	—	✓	✓	✓	✓
American Funds Europacific Growth R6	✓	✓	✓	✓	✓
American Funds New Perspective R6	✓	✓	✓	✓	✓
American Funds Washington Mutual R6	✓	✓	✓	✓	✓
ClearBridge Small Cap I	✓	✓	✓	✓	✓
Harbor Mid Cap Growth Retirement	✓	✓	✓	✓	✓
JHancock Fundamental Large Cap Core R6	✓	✗	✓	✓	✓
Nuveen Real Estate Securities R6	✓	✗	✓	✓	✓
Oakmark International Institutional	✓	✗	✓	✓	✓
Prudential High-Yield Q	✓	✗	✓	✓	✓
T. Rowe Price Growth Stock I	✓	✓	✓	✓	✓
Vanguard Treasury Money Market Investor	—	—	✓	✓	✓
Victory Sycamore Established Value R6	✓	✗	✓	✓	✓
Western Asset Core Plus Bond IS	✓	✓	✓	✓	✓

- ✗ Alerts Triggered
- ✓ Alerts Not Triggered

Note: funds that display a dash for any data column above are due to lack of data. The Alerts displayed in this report are being provided to assist retirement plan fiduciaries in evaluating the investment options offered under a defined contribution retirement plan. A number of different factors should be considered when choosing to add, remove or maintain retirement plan investment options. Please refer to Important Information on Alerts in back of this report.

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Cobb County Government 457 Deferred Compensation Plan

Alerts Summary

Recent Alerts 04-09-2018

Name	Performance	Portfolio	Morningstar Category	Operations	Prospectus Net Expense Ratio (% Rank in Cat.)
	5 Yr. Total Return (% Rank in Category)	Equity Style Box Change	Change	Manager Change	

 Alerts Triggered

 Alerts Not Triggered

Note: funds that display a dash for any data column above are due to lack of data. The Alerts displayed in this report are being provided to assist retirement plan fiduciaries in evaluating the investment options offered under a defined contribution retirement plan. A number of different factors should be considered when choosing to add, remove or maintain retirement plan investment options. Please refer to Important Information on Alerts in back of this report.

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Cobb County Government 457 Deferred Compensation Plan

Alerts

Portfolio Statistics 04-09-2018

Equity Style Box Change

Security Name	Initial Trigger Value	Current Trigger Value	Current Comparison Value	Current Comparison Subject
American Funds 2030 Trgt Date Retire R6	 (as of 02-08-2018)			—
JHancock Fundamental Large Cap Core R6	 (as of 01-09-2018)			—
Nuveen Real Estate Securities R6	 (as of 03-08-2018)			—
Oakmark International Institutional	 (as of 02-08-2018)			—
Prudential High-Yield Q	 (as of 01-09-2018)			—
Victory Sycamore Established Value R6	 (as of 02-08-2018)			—

All performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period shown. All other percentage rankings displayed are measured on an absolute basis and compared to its Morningstar Category for the each period shown.

The performance data quoted represents past performance and does not guarantee future results. Then investment return and principal value of an investment will fluctuate; thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>. An investment in a mutual fund is not insured or guaranteed by the FDIC or any other government agency. It is possible to lose money by investing in the fund.

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Cobb County Government 457 Deferred Compensation Plan

Plan Summary

Benchmark

S&P 500 TR USD

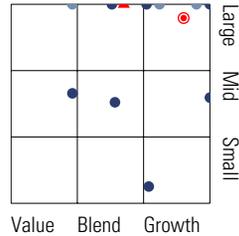
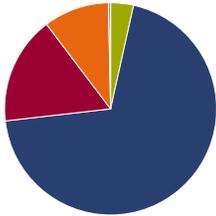
Plan Value

111,038,871.24

Total Number of Options

24

Composition 03-31-2018



Style Analysis 03-31-2018

15	20	43	Large
2	6	7	Mid
2	2	3	Small
Value	Blend	Growth	

0	2	0	High
6	74	0	Med
17	0	0	Low
Ltd	Mod	Ext	

Asset Allocation

- Cash
- US Stocks
- Non-US Stocks
- Bonds
- Other/Not Clsfd

	Portfolio Net %	Bmark Net %
Cash	3.49	0.00
US Stocks	69.70	99.16
Non-US Stocks	16.49	0.84
Bonds	10.00	0.00
Other/Not Clsfd	0.33	0.00

Equity Ownership Zone™

- Plan
- Domestic Equity
- International Equity
- ▲ Benchmark

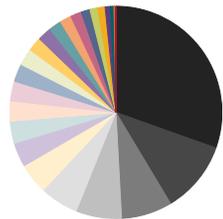
Equity Investment Style Actual %

Geo Avg Cap Plan (\$Mil)	58,378.16
Geo Avg Cap Bmark (\$Mil)	92,743.14

Fixed-Income Investment Style Actual %

Avg Effective Duration (Yrs)	5.03
Avg Effective Maturity (Yrs)	12.66
Avg Credit Quality	—

Composition By Fund 03-31-2018



Fund Name	Ticker	Plan %	Amount \$	Fund Name	Ticker	Plan %	Amount \$
● T. Rowe Price Growth Stock I	PRUFX	30.43	33,793,594.81	● JHancock Fundamental Large Cap Core R6	JLCWX	10.96	12,167,765.02
● American Funds Washington Mutual R6	RWMGX	7.76	8,618,150.94	● American Funds New Perspective R6	RNPGX	6.96	7,727,107.00
● Harbor Mid Cap Growth Retirement	HNMGX	5.87	6,517,966.62	● ClearBridge Small Cap I	LMNSX	4.66	5,169,372.69
● American Funds 2030 Trgt Date Retire R6	RFETX	3.66	4,068,764.97	● American Funds Europacific Growth R6	RERGX	3.38	3,750,879.21
● Western Asset Core Plus Bond IS	WAPSX	3.06	3,398,990.29	● American Funds 2020 Trgt Date Retire R6	RRCTX	3.01	3,346,691.56
● Oakmark International Institutional	OANIX	2.70	3,000,838.66	● American Funds 2025 Trgt Date Retire R6	RFDTX	2.58	2,859,344.61
● American Funds 2035 Trgt Date Retire R6	RFFTX	2.16	2,400,389.07	● Nuveen Real Estate Securities R6	FREGX	2.12	2,354,419.73
● American Funds 2015 Trgt Date Retire R6	RFJTX	1.95	2,162,478.27	● Victory Sycamore Established Value R6	VEVRX	1.76	1,957,056.05
● Prudential High-Yield Q	PHYQX	1.68	1,864,708.99	● American Funds 2040 Trgt Date Retire R6	RFGTX	1.36	1,505,604.99
● American Funds 2010 Trgt Date Retire R6	RFTTX	1.18	1,311,644.07	● American Funds 2045 Trgt Date Retire R6	RFHTX	1.13	1,252,564.65
● American Funds 2050 Trgt Date Retire R6	RFITX	0.78	864,419.02	● Vanguard Treasury Money Market Investor	VUSXX	0.55	614,993.21
● American Funds 2055 Trgt Date Retire R6	RFKTX	0.30	328,073.77	● American Funds 2060 Trgt Date Retire R6	RFUTX	0.00	3,053.04

Cobb County Government 457 Deferred Compensation Plan

Performance

Style Count 03-31-2018

Equity Investment Style

1	1	4	Large Mid Small
1	1	1	
0	0	1	
Value	Blend	Growth	

Equity Style Options: 10

* Does not include 12 hybrid funds.

* Style Count data is not available for 1 holdings.

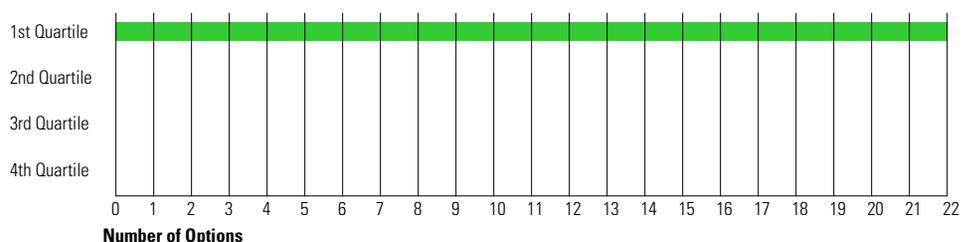
Fixed-Income Investment Style

0	0	0	High Med Low
0	1	0	
0	0	0	
Ltd	Mod	Ext	

Fixed-Income Options: 1

Performance Quartiles 03-31-2018

Quartile Rank (Trailing 5 Yr)



Number of Options

* Category % Rank is not available for 2 holdings.

Fund Performance 03-31-2018

	Type	Inception Date	Ret % YTD	Ret % 3 Mo	Ret % 1 Yr	Ret % 3 Yr	Ret % 5 Yr	Ret % 10 Yr	Ret % Since Incep	Gross Fund Exp Ratio	1 Yr % Rank	3 Yr % Rank	5 Yr % Rank	10 Yr % Rank
Large Value(Fds)	Avg	—	-2.55	-2.55	9.07	7.65	10.32	7.66	—	1.30	—	—	—	—
American Funds Washington Mutual R6	MF	05-01-2009	-1.32	-1.32	13.90	10.53	12.75	9.09	15.05	0.30	8(1263)	5(1086)	3(958)	14(687)
Russell 1000 Value TR USD	Idx	12-31-1978	-2.83	-2.83	6.95	7.88	10.78	7.78	—	—	—	—	—	—
Large Blend(Fds)	Avg	—	-0.98	-0.98	12.82	8.89	11.72	8.58	—	1.40	—	—	—	—
JHancock Fundamental Large Cap Core R6	MF	09-01-2011	-1.53	-1.53	12.12	11.33	13.16	7.81	14.48	0.69	67(1401)	6(1204)	16(1077)	76(802)
Russell 1000 TR USD	Idx	12-31-1978	-0.69	-0.69	13.98	10.39	13.17	9.61	—	—	—	—	—	—
Large Growth(Fds)	Avg	—	2.30	2.30	20.41	10.64	13.81	9.87	—	1.52	—	—	—	—
T. Rowe Price Growth Stock I	MF	08-28-2015	3.86	3.86	25.04	13.89	17.11	11.92	15.69	0.52	21(1376)	11(1213)	8(1099)	14(779)
Russell 1000 Growth TR USD	Idx	12-31-1978	1.42	1.42	21.25	12.90	15.53	11.34	—	—	—	—	—	—

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period shown.

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Cobb County Government 457 Deferred Compensation Plan

Performance

Fund Performance 03-31-2018

	Type	Inception Date	Ret % YTD	Ret % 3 Mo	Ret % 1 Yr	Ret % 3 Yr	Ret % 5 Yr	Ret % 10 Yr	Ret % Since Incep	Gross Fund Exp Ratio	1 Yr % Rank	3 Yr % Rank	5 Yr % Rank	10 Yr % Rank
Mid-Cap Value(Fds)	Avg	—	-2.21	-2.21	7.30	6.75	10.06	8.87	—	1.42	—	—	—	—
Victory Sycamore Established Value R6	MF	03-04-2014	-1.09	-1.09	9.22	10.26	13.32	11.28	11.19	0.54	23(407)	8(361)	3(309)	3(225)
Russell Mid Cap Value TR USD	Idx	12-31-1985	-2.50	-2.50	6.50	7.23	11.11	9.81	—	—	—	—	—	—
Mid-Cap Growth(Fds)	Avg	—	2.15	2.15	18.34	8.28	11.94	9.39	—	1.64	—	—	—	—
Harbor Mid Cap Growth Retirement	MF	03-01-2016	5.61	5.61	27.47	10.51	13.42	9.55	24.22	0.81	7(613)	20(549)	21(485)	49(352)
Russell Mid Cap Growth TR USD	Idx	12-31-1985	2.17	2.17	19.74	9.17	13.31	10.61	—	—	—	—	—	—
Small Blend(Fds)	Avg	—	-0.93	-0.93	9.68	7.21	10.29	9.15	—	1.87	—	—	—	—
ClearBridge Small Cap I	MF	12-01-1994	-0.89	-0.89	7.76	9.87	12.22	10.06	11.25	0.98	73(781)	12(627)	14(542)	30(400)
Russell 2000 TR USD	Idx	12-31-1978	-0.08	-0.08	11.79	8.39	11.47	9.84	—	—	—	—	—	—
Real Estate(Fds)	Avg	—	-6.89	-6.89	-2.30	1.26	5.55	5.88	—	1.90	—	—	—	—
Nuveen Real Estate Securities R6	MF	04-30-2013	-6.99	-6.99	-2.10	1.55	6.38	7.34	5.13	0.87	42(261)	39(228)	20(198)	14(143)
S&P United States REIT TR USD	Idx	12-31-1992	-8.15	-8.15	-4.73	0.59	5.64	6.16	—	—	—	—	—	—
Foreign Large Blend(Fds)	Avg	—	-0.86	-0.86	15.20	5.75	6.21	2.64	—	1.51	—	—	—	—
Oakmark International Institutional	MF	11-30-2016	-2.76	-2.76	15.47	7.21	8.80	7.93	22.30	0.82	49(768)	14(605)	3(536)	2(355)
MSCI ACWI Ex USA NR USD	Idx	01-01-2001	-1.18	-1.18	16.53	6.18	5.89	2.70	—	—	—	—	—	—
Foreign Large Growth(Fds)	Avg	—	0.20	0.20	20.06	7.35	7.62	3.90	—	3.46	—	—	—	—
American Funds Europacific Growth R6	MF	05-01-2009	1.03	1.03	21.18	7.93	8.80	4.87	10.50	0.50	33(409)	34(339)	21(293)	23(211)
MSCI ACWI Ex USA Growth NR USD	Idx	01-01-2001	-0.87	-0.87	19.92	7.28	6.84	3.25	—	—	—	—	—	—
World Large Stock(Fds)	Avg	—	-0.44	-0.44	14.93	7.77	9.21	5.76	—	2.59	—	—	—	—
American Funds New Perspective R6	MF	05-01-2009	2.20	2.20	20.57	10.85	12.07	8.23	14.02	0.45	17(873)	12(717)	10(591)	7(340)
MSCI ACWI NR USD	Idx	01-01-2001	-0.96	-0.96	14.85	8.12	9.20	5.57	—	—	—	—	—	—

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Cobb County Government 457 Deferred Compensation Plan

Performance

Fund Performance 03-31-2018														
	Type	Inception Date	Ret % YTD	Ret % 3 Mo	Ret % 1 Yr	Ret % 3 Yr	Ret % 5 Yr	Ret % 10 Yr	Ret % Since Incep	Gross Fund Exp Ratio	1 Yr % Rank	3 Yr % Rank	5 Yr % Rank	10 Yr % Rank
Intermediate-Term Bond(Fds)	Avg	—	-1.31	-1.31	1.31	1.27	1.73	3.80	—	1.14	—	—	—	—
Western Asset Core Plus Bond IS	MF	08-04-2008	-1.07	-1.07	3.85	3.22	3.56	6.08	6.71	0.42	3(999)	2(858)	2(784)	1(561)
BBgBarc US Agg Bond TR USD	Idx	01-01-1976	-1.46	-1.46	1.20	1.20	1.82	3.63	—	—	—	—	—	—
High Yield Bond(Fds)	Avg	—	-0.97	-0.97	3.20	3.88	3.82	6.66	—	1.41	—	—	—	—
Prudential High-Yield Q	MF	10-31-2011	-0.46	-0.46	4.32	5.57	5.30	7.77	6.91	0.41	20(684)	9(588)	10(488)	15(319)
ICE BofAML US High Yield TR USD	Idx	08-29-1986	-0.91	-0.91	3.69	5.18	5.01	8.12	—	—	—	—	—	—
Target-Date 2000-2010(Fds)	Avg	—	-0.71	-0.71	5.94	4.11	5.06	4.77	—	5.89	—	—	—	—
American Funds 2010 Trgt Date Retire R6	MF	07-13-2009	-1.01	-1.01	5.87	4.84	6.06	5.33	8.74	0.34	57(129)	12(110)	8(87)	28(75)
Morningstar Lifetime Mod 2010 TR USD	Idx	02-18-2009	-0.62	-0.62	6.59	4.32	4.85	5.30	—	—	—	—	—	—
Target-Date 2015(Fds)	Avg	—	-0.74	-0.74	6.87	4.43	5.55	5.06	—	6.28	—	—	—	—
American Funds 2015 Trgt Date Retire R6	MF	07-13-2009	-0.95	-0.95	6.47	5.18	6.74	5.61	9.30	0.33	64(133)	14(105)	8(74)	28(49)
Morningstar Lifetime Mod 2015 TR USD	Idx	02-18-2009	-0.74	-0.74	7.31	4.71	5.42	5.58	—	—	—	—	—	—
Target-Date 2020(Fds)	Avg	—	-0.81	-0.81	7.60	4.65	5.74	5.16	—	3.73	—	—	—	—
American Funds 2020 Trgt Date Retire R6	MF	07-13-2009	-0.63	-0.63	7.83	5.80	7.60	6.02	10.18	0.35	46(245)	9(200)	2(159)	20(99)
Morningstar Lifetime Mod 2020 TR USD	Idx	02-18-2009	-0.83	-0.83	8.19	5.20	6.12	5.87	—	—	—	—	—	—
Target-Date 2025(Fds)	Avg	—	-0.75	-0.75	9.10	5.42	6.69	5.74	—	2.51	—	—	—	—
American Funds 2025 Trgt Date Retire R6	MF	07-13-2009	-0.30	-0.30	9.86	6.75	8.83	6.82	11.41	0.37	27(215)	2(173)	1(136)	9(72)
Morningstar Lifetime Mod 2025 TR USD	Idx	02-18-2009	-0.87	-0.87	9.31	5.84	7.00	6.22	—	—	—	—	—	—
Target-Date 2030(Fds)	Avg	—	-0.75	-0.75	10.37	6.07	7.36	5.86	—	3.54	—	—	—	—
American Funds 2030 Trgt Date Retire R6	MF	07-13-2009	0.00	0.00	12.14	7.86	9.94	7.49	12.29	0.39	9(235)	1(190)	1(149)	1(89)
Morningstar Lifetime Mod 2030 TR USD	Idx	02-18-2009	-0.85	-0.85	10.66	6.61	7.92	6.60	—	—	—	—	—	—

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Cobb County Government 457 Deferred Compensation Plan

Performance

Fund Performance 03-31-2018

	Type	Inception Date	Ret % YTD	Ret % 3 Mo	Ret % 1 Yr	Ret % 3 Yr	Ret % 5 Yr	Ret % 10 Yr	Ret % Since Incep	Gross Fund Exp Ratio	1 Yr % Rank	3 Yr % Rank	5 Yr % Rank	10 Yr % Rank
Target-Date 2035(Fds)	Avg	—	-0.61	-0.61	11.73	6.73	8.16	6.35	—	3.51	—	—	—	—
American Funds 2035 Trgt Date Retire R6	MF	07-13-2009	0.34	0.34	14.29	8.86	10.63	7.80	12.70	0.40	2(210)	1(168)	1(131)	6(67)
Morningstar Lifetime Mod 2035 TR USD	Idx	02-18-2009	-0.82	-0.82	11.95	7.31	8.65	6.92	—	—	—	—	—	—
Target-Date 2040(Fds)	Avg	—	-0.66	-0.66	12.42	7.04	8.48	6.33	—	3.93	—	—	—	—
American Funds 2040 Trgt Date Retire R6	MF	07-27-2009	0.39	0.39	15.02	9.20	10.93	7.95	11.93	0.41	2(235)	1(190)	1(149)	6(89)
Morningstar Lifetime Mod 2040 TR USD	Idx	02-18-2009	-0.79	-0.79	12.86	7.78	9.03	7.09	—	—	—	—	—	—
Target-Date 2045(Fds)	Avg	—	-0.54	-0.54	13.18	7.38	8.89	6.57	—	3.54	—	—	—	—
American Funds 2045 Trgt Date Retire R6	MF	07-13-2009	0.45	0.45	15.35	9.41	11.07	8.01	12.98	0.41	3(210)	1(168)	1(131)	1(66)
Morningstar Lifetime Mod 2045 TR USD	Idx	02-18-2009	-0.78	-0.78	13.31	7.96	9.11	7.10	—	—	—	—	—	—
Target-Date 2050(Fds)	Avg	—	-0.62	-0.62	13.25	7.41	8.91	6.57	—	3.60	—	—	—	—
American Funds 2050 Trgt Date Retire R6	MF	07-13-2009	0.53	0.53	15.60	9.53	11.12	8.04	13.02	0.42	2(231)	1(185)	1(144)	2(61)
Morningstar Lifetime Mod 2050 TR USD	Idx	02-18-2009	-0.78	-0.78	13.47	7.98	9.05	7.04	—	—	—	—	—	—
Target-Date 2055(Fds)	Avg	—	-0.52	-0.52	13.61	7.61	9.23	7.04	—	4.39	—	—	—	—
American Funds 2055 Trgt Date Retire R6	MF	02-01-2010	0.53	0.53	15.60	9.51	11.12	—	11.37	0.42	4(208)	1(159)	1(105)	—
Morningstar Lifetime Mod 2055 TR USD	Idx	02-18-2009	-0.79	-0.79	13.57	7.97	8.96	6.96	—	—	—	—	—	—
Target-Date 2060+(Fds)	Avg	—	-0.60	-0.60	13.72	8.03	9.57	—	—	13.41	—	—	—	—
American Funds 2060 Trgt Date Retire R6	MF	03-27-2015	0.56	0.56	15.57	9.49	—	—	9.49	0.49	3(162)	1(56)	—	—
Morningstar Lifetime Mod 2060 TR USD	Idx	06-23-2014	-0.79	-0.79	13.63	7.94	8.87	6.95	—	—	—	—	—	—
Money Market - Taxable(FM)	Avg	—	0.24	0.24	0.67	0.27	0.17	0.21	—	0.55	—	—	—	—
Vanguard Treasury Money Market Investor	FM	12-14-1992	0.33	0.33	1.02	0.47	0.28	0.30	2.49	0.09	—	—	—	—
ICE BofAML USD 3M Dep OR CM TR USD	Idx	12-30-1994	0.33	0.33	1.21	0.76	0.55	0.74	—	—	—	—	—	—

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Cobb County Government 457 Deferred Compensation Plan

Performance

Standard Benchmark Returns 03-31-2018

	Type	Inception Date	Ret % YTD	Ret % 3 Mo	Ret % 1 Yr	Ret % 3 Yr	Ret % 5 Yr	Ret % 10 Yr	Ret % Since Incep	Gross Fund Exp Ratio	1 Yr % Rank	3 Yr % Rank	5 Yr % Rank	10 Yr % Rank
S&P 500 TR USD	Idx	—	-0.76	-0.76	13.99	10.78	13.31	9.49	—	—	—	—	—	—
BBgBarc US Agg Bond TR USD	Idx	—	-1.46	-1.46	1.20	1.20	1.82	3.63	—	—	—	—	—	—
MSCI EAFE NR USD	Idx	—	-1.53	-1.53	14.80	5.55	6.50	2.74	—	—	—	—	—	—
USTREAS T-Bill Auction Ave 3 Mon	Idx	—	0.41	0.41	1.23	0.59	0.37	0.32	—	—	—	—	—	—

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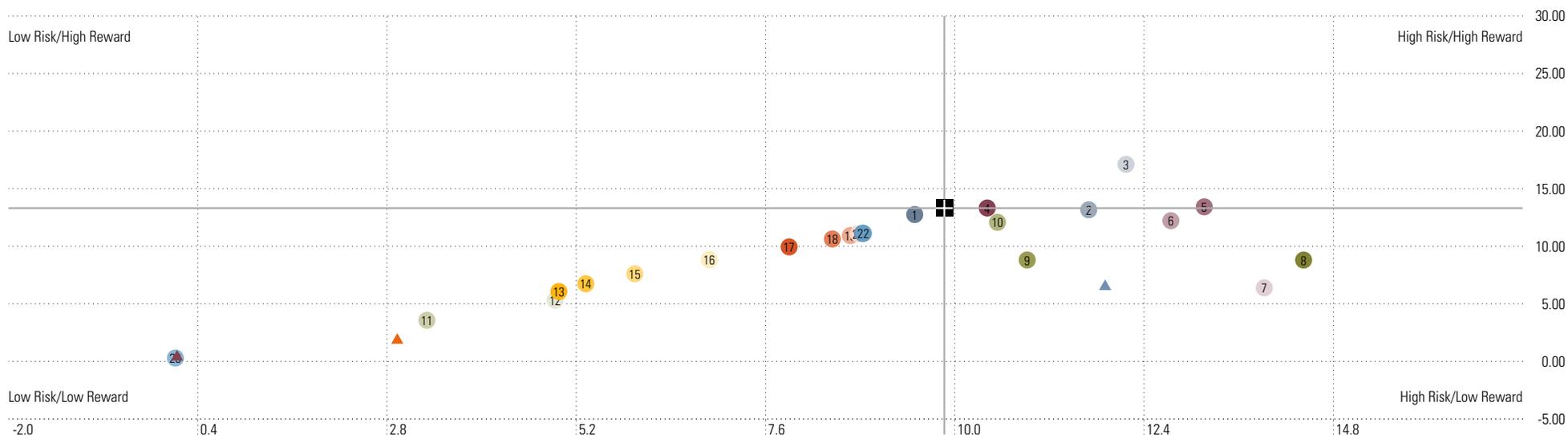
Cobb County Government 457 Deferred Compensation Plan

Risk and Return

Risk/Return 03-31-2018

Benchmarks ■ S&P 500 TR USD ▲ BBgBarc US Agg Bond TR USD ▲ MSCI EAFE NR USD ▲ USTREAS T-Bill Auction Ave 3 Mon

5 Year Mean



5 Year Standard Deviation

* Data not available for 1 options/funds.

Risk/Return Detail 03-31-2018

	Type	Std Dev 5 Yr	Mean 5 Yr	Alpha 5 Yr	Beta 5 Yr	R2 5 Yr	Information Ratio 5Yr	Treynor 5 Yr	Sharpe Ratio 5 Yr	Upside Capture 5 Yr	Downside Capture 5 Yr
Large Value(Fds)	Avg	10.43	10.32	-0.16	0.98	88.89	-0.17	10.30	0.97	96.26	96.86
① American Funds Washington Mutual R6	MF	9.49	12.75	2.63	0.91	92.99	0.74	13.57	1.28	98.05	77.58
Russell 1000 Value TR USD	Idx	10.03	10.78	-1.95	0.98	92.12	-0.89	10.68	1.04	91.73	106.70
Large Blend(Fds)	Avg	10.25	11.72	-1.18	0.99	92.23	-0.57	11.48	1.11	95.45	104.42
② JHancock Fundamental Large Cap Core R6	MF	11.70	13.16	-1.22	1.11	88.40	0.00	11.50	1.09	108.75	121.32
Russell 1000 TR USD	Idx	9.89	13.17	-0.13	1.00	99.61	-0.22	12.80	1.27	99.59	100.43

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Cobb County Government 457 Deferred Compensation Plan

Risk and Return

Risk/Return Detail 03-31-2018

	Type	Std Dev 5 Yr	Mean 5 Yr	Alpha 5 Yr	Beta 5 Yr	R2 5 Yr	Information Ratio 5Yr	Treynor 5 Yr	Sharpe Ratio 5 Yr	Upside Capture 5 Yr	Downside Capture 5 Yr
Large Growth(Fds)	Avg	11.34	13.81	-1.56	1.01	87.72	-0.54	13.31	1.18	95.96	107.23
3 T. Rowe Price Growth Stock I	MF	12.17	17.11	0.20	1.09	88.56	0.37	15.32	1.34	107.88	104.89
Russell 1000 Growth TR USD	Idx	10.48	15.53	1.71	1.03	93.19	0.81	14.80	1.40	107.27	94.51
Mid-Cap Value(Fds)	Avg	11.21	10.06	-1.02	1.02	86.75	-0.29	9.66	0.89	97.32	104.65
4 Victory Sycamore Established Value R6	MF	10.41	13.32	2.39	0.96	90.42	0.68	13.43	1.22	102.70	84.62
Russell Mid Cap Value TR USD	Idx	10.27	11.11	-1.10	0.93	80.38	-0.48	11.51	1.04	89.68	98.15
Mid-Cap Growth(Fds)	Avg	11.70	11.94	-1.02	0.99	85.82	-0.42	11.76	1.01	96.32	104.52
5 Harbor Mid Cap Growth Retirement	MF	13.16	13.42	-1.14	1.12	85.86	0.02	11.67	1.00	107.27	115.43
Russell Mid Cap Growth TR USD	Idx	10.90	13.31	-0.15	1.02	85.48	0.00	12.69	1.17	99.53	98.84
Small Blend(Fds)	Avg	13.36	10.29	-0.18	0.92	90.14	-0.40	10.93	0.78	90.16	90.59
6 ClearBridge Small Cap I	MF	12.74	12.22	1.85	0.89	92.28	0.19	13.38	0.94	96.30	88.86
Russell 2000 TR USD	Idx	13.82	11.47	-2.14	1.08	58.96	-0.21	10.33	0.83	101.06	122.16
Real Estate(Fds)	Avg	13.47	5.55	0.40	0.90	93.21	-0.05	6.06	0.45	90.71	88.50
7 Nuveen Real Estate Securities R6	MF	13.92	6.38	0.86	0.96	99.39	0.62	6.24	0.49	98.28	93.76
S&P United States REIT TR USD	Idx	14.40	5.64	—	—	—	—	—	0.43	—	—
Foreign Large Blend(Fds)	Avg	11.51	6.21	0.76	0.92	89.60	0.10	6.48	0.56	93.78	89.24
8 Oakmark International Institutional	MF	14.42	8.80	2.44	1.10	82.12	0.47	7.65	0.63	114.27	100.10
MSCI ACWI Ex USA NR USD	Idx	11.88	5.89	—	—	—	—	—	0.51	—	—
Foreign Large Growth(Fds)	Avg	11.63	7.62	1.07	0.95	88.15	0.16	7.62	0.66	97.64	90.91
9 American Funds Europacific Growth R6	MF	10.92	8.80	2.34	0.92	92.90	0.65	9.18	0.80	98.09	82.93
MSCI ACWI Ex USA Growth NR USD	Idx	11.45	6.84	—	—	—	—	—	0.60	—	—
World Large Stock(Fds)	Avg	10.72	9.21	0.47	0.96	85.78	-0.01	9.26	0.84	97.11	94.45
10 American Funds New Perspective R6	MF	10.54	12.07	2.95	0.97	90.86	0.91	12.07	1.10	105.17	83.77
MSCI ACWI NR USD	Idx	10.35	9.20	—	—	—	—	—	0.87	—	—

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Cobb County Government 457 Deferred Compensation Plan

Risk and Return

Risk/Return Detail 03-31-2018

	Type	Std Dev 5 Yr	Mean 5 Yr	Alpha 5 Yr	Beta 5 Yr	R2 5 Yr	Information Ratio 5Yr	Treynor 5 Yr	Sharpe Ratio 5 Yr	Upside Capture 5 Yr	Downside Capture 5 Yr
Intermediate-Term Bond(Fds)	Avg	2.92	1.73	0.03	0.92	86.67	-0.26	1.52	0.48	93.71	93.20
¹¹ Western Asset Core Plus Bond IS	MF	3.31	3.56	1.64	1.04	86.07	1.40	3.06	0.96	124.67	84.34
BBgBarc US Agg Bond TR USD	Idx	2.93	1.82	—	—	—	—	—	0.50	—	—
High Yield Bond(Fds)	Avg	5.17	3.82	-0.61	0.89	88.01	-0.66	4.39	0.79	85.59	94.84
¹² Prudential High-Yield Q	MF	4.93	5.30	0.62	0.92	97.64	0.34	5.34	1.00	96.23	87.24
ICE BofAML US High Yield TR USD	Idx	5.27	5.01	—	—	—	—	—	0.88	—	—
Target-Date 2000-2010(Fds)	Avg	4.80	5.06	0.17	1.01	92.74	0.15	4.62	0.97	99.62	94.77
¹³ American Funds 2010 Trgt Date Retire R6	MF	4.98	6.06	0.91	1.06	94.46	1.00	5.39	1.13	111.52	97.87
Morningstar Lifetime Mod 2010 TR USD	Idx	4.59	4.85	—	—	—	—	—	0.98	—	—
Target-Date 2015(Fds)	Avg	5.39	5.55	-0.02	1.03	93.36	0.11	5.00	0.96	100.35	98.32
¹⁴ American Funds 2015 Trgt Date Retire R6	MF	5.32	6.74	1.15	1.02	94.27	1.03	6.23	1.18	108.85	92.67
Morningstar Lifetime Mod 2015 TR USD	Idx	5.06	5.42	—	—	—	—	—	1.00	—	—
Target-Date 2020(Fds)	Avg	5.70	5.74	-0.18	0.97	92.93	-0.18	5.52	0.94	94.83	95.95
¹⁵ American Funds 2020 Trgt Date Retire R6	MF	5.94	7.60	1.30	1.02	94.52	1.06	7.10	1.20	108.75	92.45
Morningstar Lifetime Mod 2020 TR USD	Idx	5.68	6.12	—	—	—	—	—	1.01	—	—
Target-Date 2025(Fds)	Avg	6.64	6.69	-0.25	0.99	95.26	-0.15	6.35	0.95	96.99	98.50
¹⁶ American Funds 2025 Trgt Date Retire R6	MF	6.89	8.83	1.55	1.03	94.66	1.14	8.23	1.21	109.83	92.77
Morningstar Lifetime Mod 2025 TR USD	Idx	6.52	7.00	—	—	—	—	—	1.02	—	—
Target-Date 2030(Fds)	Avg	7.43	7.36	-0.25	0.96	94.82	-0.27	7.25	0.95	94.58	96.30
¹⁷ American Funds 2030 Trgt Date Retire R6	MF	7.90	9.94	1.66	1.03	96.00	1.26	9.28	1.20	110.91	96.27
Morningstar Lifetime Mod 2030 TR USD	Idx	7.51	7.92	—	—	—	—	—	1.01	—	—
Target-Date 2035(Fds)	Avg	8.25	8.16	-0.19	0.97	96.57	-0.25	8.06	0.95	95.12	95.87
¹⁸ American Funds 2035 Trgt Date Retire R6	MF	8.45	10.63	1.92	0.99	96.33	1.22	10.38	1.20	107.13	91.69
Morningstar Lifetime Mod 2035 TR USD	Idx	8.39	8.65	—	—	—	—	—	0.99	—	—

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Cobb County Government 457 Deferred Compensation Plan

Risk and Return

Risk/Return Detail 03-31-2018

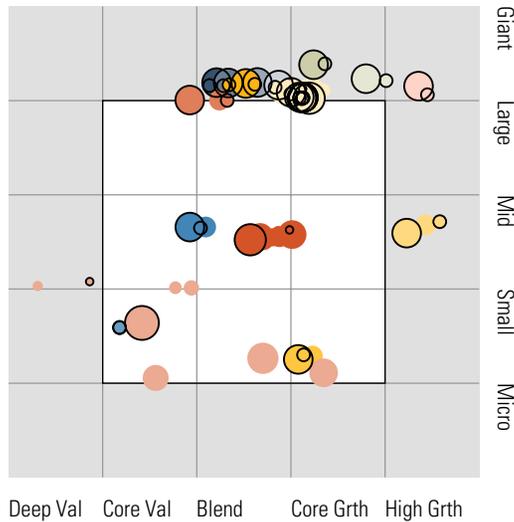
	Type	Std Dev 5 Yr	Mean 5 Yr	Alpha 5 Yr	Beta 5 Yr	R2 5 Yr	Information Ratio 5Yr	Treynor 5 Yr	Sharpe Ratio 5 Yr	Upside Capture 5 Yr	Downside Capture 5 Yr
Target-Date 2040(Fds)	Avg	8.65	8.48	-0.06	0.95	95.26	-0.24	8.58	0.94	93.85	93.81
¹⁹ American Funds 2040 Trgt Date Retire R6	MF	8.68	10.93	2.12	0.95	96.44	1.12	11.07	1.20	104.36	88.42
Morningstar Lifetime Mod 2040 TR USD	Idx	8.94	9.03	—	—	—	—	—	0.97	—	—
Target-Date 2045(Fds)	Avg	9.05	8.89	0.04	0.97	96.77	-0.09	8.78	0.95	95.72	93.96
²⁰ American Funds 2045 Trgt Date Retire R6	MF	8.77	11.07	2.30	0.94	96.21	1.10	11.40	1.20	102.13	83.81
Morningstar Lifetime Mod 2045 TR USD	Idx	9.16	9.11	—	—	—	—	—	0.96	—	—
Target-Date 2050(Fds)	Avg	9.11	8.91	0.20	0.96	95.15	-0.02	8.90	0.95	95.50	92.84
²¹ American Funds 2050 Trgt Date Retire R6	MF	8.83	11.12	2.41	0.94	96.16	1.13	11.48	1.20	102.27	83.28
Morningstar Lifetime Mod 2050 TR USD	Idx	9.25	9.05	—	—	—	—	—	0.95	—	—
Target-Date 2055(Fds)	Avg	9.21	9.23	0.46	0.98	96.68	0.17	9.11	0.97	97.82	93.09
²² American Funds 2055 Trgt Date Retire R6	MF	8.84	11.12	2.53	0.93	95.84	1.13	11.54	1.20	102.41	82.84
Morningstar Lifetime Mod 2055 TR USD	Idx	9.30	8.96	—	—	—	—	—	0.93	—	—
Target-Date 2060+(Fds)	Avg	9.12	9.57	0.93	0.97	97.33	0.52	9.54	1.01	98.10	89.29
American Funds 2060 Trgt Date Retire R6	MF	—	—	—	—	—	—	—	—	—	—
Morningstar Lifetime Mod 2060 TR USD	Idx	9.33	8.87	—	—	—	—	—	0.92	—	—
Money Market - Taxable(FM)	Avg	0.08	0.17	-0.30	0.56	24.04	-5.83	-0.40	-3.00	30.13	-189.58
²³ Vanguard Treasury Money Market Investor	FM	0.12	0.28	-0.13	0.28	38.41	-5.92	-0.30	-3.27	50.97	-466.67
ICE BofAML USD 3M Dep OR CM TR USD	Idx	0.12	0.55	—	—	—	—	—	3.28	—	—

Cobb County Government 457 Deferred Compensation Plan

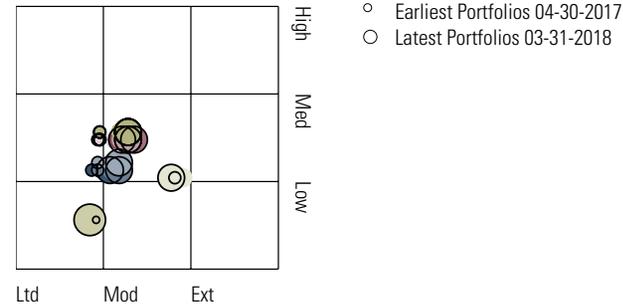
Style Drift

Style Orientation 03-31-2018

Equity Style Drift - 1 Year



Fixed-Income Style Drift - 1 Year



○ Earliest Portfolios 04-30-2017
○ Latest Portfolios 03-31-2018

Equity Options

- American Funds 2010 Trgt Date Retire R6
- American Funds 2020 Trgt Date Retire R6
- American Funds 2030 Trgt Date Retire R6
- American Funds 2040 Trgt Date Retire R6
- American Funds 2050 Trgt Date Retire R6
- American Funds 2060 Trgt Date Retire R6
- American Funds New Perspective R6
- ClearBridge Small Cap I
- JHancock Fundamental Large Cap Core R6
- Oakmark International Institutional
- T. Rowe Price Growth Stock I
- Western Asset Core Plus Bond IS
- American Funds 2015 Trgt Date Retire R6
- American Funds 2025 Trgt Date Retire R6
- American Funds 2035 Trgt Date Retire R6
- American Funds 2045 Trgt Date Retire R6
- American Funds 2055 Trgt Date Retire R6
- American Funds Europacific Growth R6
- American Funds Washington Mutual R6
- Harbor Mid Cap Growth Retirement
- Nuveen Real Estate Securities R6
- Prudential High-Yield Q
- Victory Sycamore Established Value R6

Fixed-Income Options

- American Funds 2010 Trgt Date Retire R6
- American Funds 2020 Trgt Date Retire R6
- American Funds 2030 Trgt Date Retire R6
- American Funds 2040 Trgt Date Retire R6
- American Funds 2050 Trgt Date Retire R6
- American Funds 2060 Trgt Date Retire R6
- Western Asset Core Plus Bond IS
- American Funds 2015 Trgt Date Retire R6
- American Funds 2025 Trgt Date Retire R6
- American Funds 2035 Trgt Date Retire R6
- American Funds 2045 Trgt Date Retire R6
- American Funds 2055 Trgt Date Retire R6
- Prudential High-Yield Q

Please refer to "Style Drift" in the back of this report for more complete information on the graphical illustrations above.

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Cobb County Government 457 Deferred Compensation Plan

Style Drift

Style Orientation 03-31-2018

*Data not available for 1 options/funds

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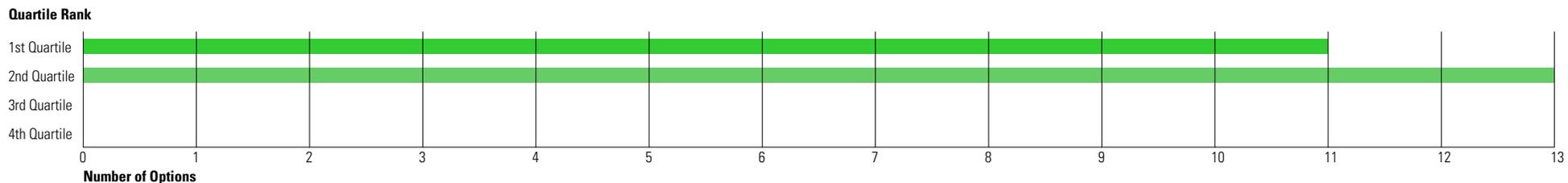
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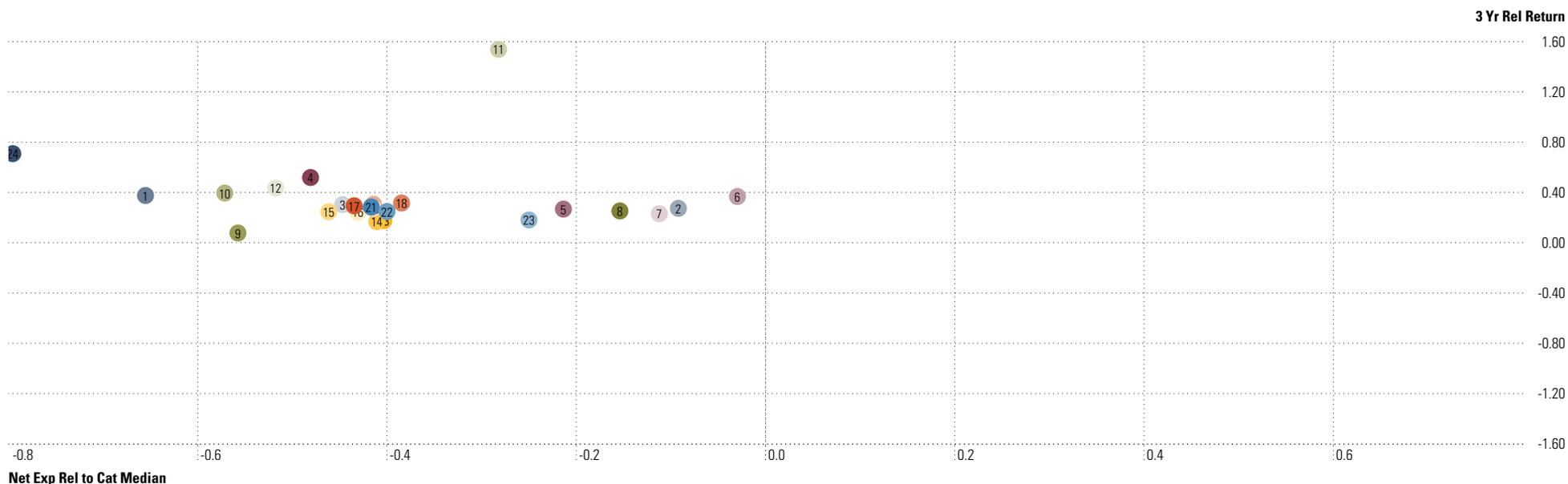
Cobb County Government 457 Deferred Compensation Plan

Investment Costs

Net Expense Ratio Quartiles 03-31-2018



Expense/Return 03-31-2018



Cost measures for mutual funds use Prospectus Net Expense Ratio. For VAs, total insurance expense is included in the Prospectus ratio. For CITs, CEs, and ETFs, Net Operating Expense Ratio is used. The Weighted Average Cost is the total of each security's Expense Ratio, multiplied by the weight of each security's assets in the plan, multiplied by 100.

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Cobb County Government 457 Deferred Compensation Plan

Investment Costs

Investment Costs 03-31-2018

	Type	Market Value \$	% of Portfolio	Gross Exp Ratio %	Net Exp Ratio %	Net Fund Exp \$	Rel to Cat	Net Exp Median	Current 12b-1	Weighted Avg Cost	Net Exp % Rank in Cat
Large Value(Fds)	Med	—	—	0.93	0.87	—	—	—	0.25	—	—
① American Funds Washington Mutual R6	MF	8,618,150.94	7.76	0.30	0.30	25,854.45	-0.66	—	—	0.0233	15
Russell 1000 Value TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Large Blend(Fds)	Med	—	—	0.83	0.76	—	—	—	0.25	—	—
② JHancock Fundamental Large Cap Core R6	MF	12,167,765.02	10.96	0.69	0.69	83,957.58	-0.09	0.00	0.00	0.0756	40
Russell 1000 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Large Growth(Fds)	Med	—	—	0.98	0.94	—	—	—	0.25	—	—
③ T. Rowe Price Growth Stock I	MF	33,793,594.81	30.43	0.52	0.52	175,726.69	-0.45	—	—	0.1583	23
Russell 1000 Growth TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Mid-Cap Value(Fds)	Med	—	—	1.10	1.04	—	—	—	0.25	—	—
④ Victory Sycamore Established Value R6	MF	1,957,056.05	1.76	0.54	0.54	10,568.10	-0.48	0.00	0.00	0.0095	17
Russell Mid Cap Value TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Mid-Cap Growth(Fds)	Med	—	—	1.07	1.03	—	—	—	0.25	—	—
⑤ Harbor Mid Cap Growth Retirement	MF	6,517,966.62	5.87	0.81	0.81	52,795.53	-0.21	—	—	0.0475	28
Russell Mid Cap Growth TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Small Blend(Fds)	Med	—	—	1.08	1.01	—	—	—	0.25	—	—
⑥ ClearBridge Small Cap I	MF	5,169,372.69	4.66	0.98	0.98	50,659.85	-0.03	—	—	0.0456	45
Russell 2000 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Real Estate(Fds)	Med	—	—	1.02	0.98	—	—	—	0.25	—	—
⑦ Nuveen Real Estate Securities R6	MF	2,354,419.73	2.12	0.87	0.87	20,483.45	-0.11	0.00	0.00	0.0184	34
S&P United States REIT TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Foreign Large Blend(Fds)	Med	—	—	0.97	0.91	—	—	—	0.25	—	—
⑧ Oakmark International Institutional	MF	3,000,838.66	2.70	0.82	0.77 ¹	23,106.46	-0.15	—	—	0.0208	43
MSCI ACWI Ex USA NR USD	Idx	—	—	—	—	—	—	—	—	—	—

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Cobb County Government 457 Deferred Compensation Plan

Investment Costs

Investment Costs 03-31-2018

	Type	Market Value \$	% of Portfolio	Gross Exp Ratio %	Net Exp Ratio %	Net Fund Exp \$	Rel to Cat	Net Exp Median	Current 12b-1	Weighted Avg Cost	Net Exp % Rank in Cat
Foreign Large Growth(Fds)	Med	—	—	1.14	1.13	—	—	—	0.25	—	—
9 American Funds Europacific Growth R6	MF	3,750,879.21	3.38	0.50	0.50	18,754.40	-0.56	—	—	0.0169	13
MSCI ACWI Ex USA Growth NR USD	Idx	—	—	—	—	—	—	—	—	—	—
World Large Stock(Fds)	Med	—	—	1.10	1.05	—	—	—	0.25	—	—
10 American Funds New Perspective R6	MF	7,727,107.00	6.96	0.45	0.45	34,771.98	-0.57	—	—	0.0313	16
MSCI ACWI NR USD	Idx	—	—	—	—	—	—	—	—	—	—
Intermediate-Term Bond(Fds)	Med	—	—	0.66	0.59	—	—	—	0.25	—	—
11 Western Asset Core Plus Bond IS	MF	3,398,990.29	3.06	0.42	0.42	14,275.76	-0.28	—	—	0.0129	31
BBgBarc US Agg Bond TR USD	Idx	—	—	—	—	—	—	—	—	—	—
High Yield Bond(Fds)	Med	—	—	0.91	0.85	—	—	—	0.25	—	—
12 Prudential High-Yield Q	MF	1,864,708.99	1.68	0.41	0.41	7,645.31	-0.52	—	—	0.0069	11
ICE BofAML US High Yield TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2000-2010(Fds)	Med	—	—	0.76	0.57	—	—	—	0.50	—	—
13 American Funds 2010 Trgt Date Retire R6	MF	1,311,644.07	1.18	0.34	0.34	4,459.59	-0.40	—	—	0.0040	23
Morningstar Lifetime Mod 2010 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2015(Fds)	Med	—	—	0.67	0.56	—	—	—	0.25	—	—
14 American Funds 2015 Trgt Date Retire R6	MF	2,162,478.27	1.95	0.33	0.33	7,136.18	-0.41	—	—	0.0064	21
Morningstar Lifetime Mod 2015 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2020(Fds)	Med	—	—	0.80	0.65	—	—	—	0.25	—	—
15 American Funds 2020 Trgt Date Retire R6	MF	3,346,691.56	3.01	0.35	0.35	11,713.42	-0.46	—	—	0.0105	22
Morningstar Lifetime Mod 2020 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2025(Fds)	Med	—	—	0.76	0.65	—	—	—	0.25	—	—
16 American Funds 2025 Trgt Date Retire R6	MF	2,859,344.61	2.58	0.37	0.37	10,579.58	-0.43	—	—	0.0095	26
Morningstar Lifetime Mod 2025 TR USD	Idx	—	—	—	—	—	—	—	—	—	—

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Cobb County Government 457 Deferred Compensation Plan

Investment Costs

Investment Costs 03-31-2018

	Type	Market Value \$	% of Portfolio	Gross Exp Ratio %	Net Exp Ratio %	Net Fund Exp \$	Rel to Cat	Net Exp Median	Current 12b-1	Weighted Avg Cost	Net Exp % Rank in Cat
Target-Date 2030(Fds)	Med	—	—	0.78	0.69	—	—	—	0.25	—	—
17 American Funds 2030 Trgt Date Retire R6	MF	4,068,764.97	3.66	0.39	0.39	15,868.18	-0.43	—	—	0.0143	25
Morningstar Lifetime Mod 2030 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2035(Fds)	Med	—	—	0.76	0.65	—	—	—	0.25	—	—
18 American Funds 2035 Trgt Date Retire R6	MF	2,400,389.07	2.16	0.40	0.40	9,601.56	-0.38	—	—	0.0086	27
Morningstar Lifetime Mod 2035 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2040(Fds)	Med	—	—	0.83	0.70	—	—	—	0.25	—	—
19 American Funds 2040 Trgt Date Retire R6	MF	1,505,604.99	1.36	0.41	0.41	6,172.98	-0.41	—	—	0.0056	27
Morningstar Lifetime Mod 2040 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2045(Fds)	Med	—	—	0.79	0.70	—	—	—	0.25	—	—
20 American Funds 2045 Trgt Date Retire R6	MF	1,252,564.65	1.13	0.41	0.41	5,135.52	-0.41	—	—	0.0046	28
Morningstar Lifetime Mod 2045 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2050(Fds)	Med	—	—	0.92	0.72	—	—	—	0.25	—	—
21 American Funds 2050 Trgt Date Retire R6	MF	864,419.02	0.78	0.42	0.42	3,630.56	-0.42	—	—	0.0033	27
Morningstar Lifetime Mod 2050 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2055(Fds)	Med	—	—	0.90	0.70	—	—	—	0.25	—	—
22 American Funds 2055 Trgt Date Retire R6	MF	328,073.77	0.30	0.42	0.42	1,377.91	-0.40	—	—	0.0012	29
Morningstar Lifetime Mod 2055 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Target-Date 2060+(Fds)	Med	—	—	1.14	0.60	—	—	—	0.25	—	—
23 American Funds 2060 Trgt Date Retire R6	MF	3,053.04	0.00	0.49	0.45 ²	13.74	-0.25	—	—	0.0000	29
Morningstar Lifetime Mod 2060 TR USD	Idx	—	—	—	—	—	—	—	—	—	—
Money Market - Taxable(FM)	Med	—	—	0.47	0.44	—	—	—	0.25	—	—
24 Vanguard Treasury Money Market Investor	FM	614,993.21	0.55	0.09	0.09	553.49	-0.80	—	—	0.0005	5
ICE BofAML USD 3M Dep OR CM TR USD	Idx	—	—	—	—	—	—	—	—	—	—

Cost measures for mutual funds use Prospectus Net Expense Ratio. For VAs, total insurance expense is included in the Prospectus ratio. For CITs, CEs, and ETFs, Net Operating Expense Ratio is used. The Weighted Average Cost is the total of each security's Expense Ratio, multiplied by the weight of each security's assets in the plan, multiplied by 100.

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Cobb County Government 457 Deferred Compensation Plan

Investment Costs

Investment Costs 03-31-2018

	Type	Market Value \$	% of Portfolio	Gross Exp Ratio %	Net Exp Ratio %	Net Fund Exp \$	Rel to Cat Median	Net Exp	Current 12b-1	Weighted Avg Cost	Net Exp % Rank in Cat
Total	—	111,038,871.24	100.00	—	—	594,842.26	—	—	—	0.5400	—

1. Contractual waiver; 01-28-2018.
2. Contractual waiver; 01-01-2019.

Cost measures for mutual funds use Prospectus Net Expense Ratio. For VAs, total insurance expense is included in the Prospectus ratio. For CITs, CEs, and ETFs, Net Operating Expense Ratio is used. The Weighted Average Cost is the total of each security's Expense Ratio, multiplied by the weight of each security's assets in the plan, multiplied by 100.

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2010 Trgt Date Retire R6 (USD)

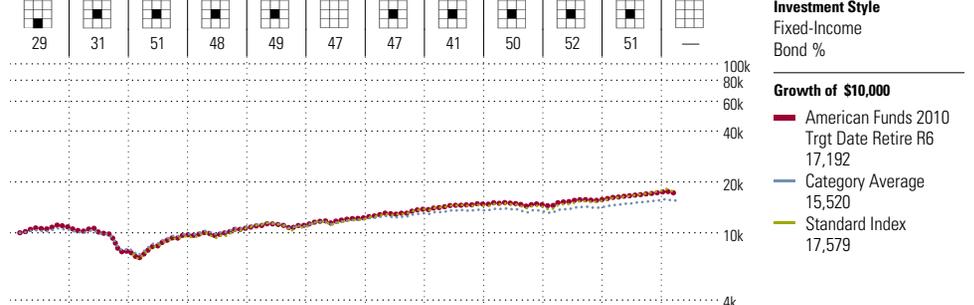
Details 03-31-2018

Ticker	RFTTX
Gross Expense Ratio %	0.34
Total Assets	\$2,923.36 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

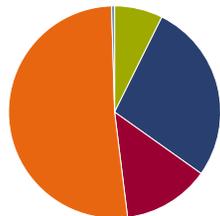
Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★	110 TA
Standard Deviation 3 Yr		4.98
Mean 3 Yr		4.84
Alpha 3 Yr		0.23
Beta 3 Yr		1.08
R-Squared 3 Yr		94.43
Upside Capture Ratio 3 Yr		105.93
Downside Capture Ratio 3 Yr		100.00
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2010 TR USD	

Performance 03-31-2018



Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.36	1.00
US Stocks	27.46	38.46
Non-US Stocks	13.22	22.40
Bonds	51.49	38.08
Other/Not Clsfd	0.47	0.06

Sector Weightings 12-31-2017

	Stocks %	Rel Std Index
Cyclical	32.2	0.77
Basic Materials	4.4	0.77
Consumer Cyclical	9.1	0.79
Financial Services	15.5	0.84
Real Estate	3.2	0.53
Sensitive	39.9	1.09
Communication Services	5.7	1.75
Energy	9.7	1.66
Industrials	10.6	0.90
Technology	13.8	0.88
Defensive	27.9	1.28
Consumer Defensive	11.3	1.42
Healthcare	11.7	1.11
Utilities	4.9	1.51

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	8.63	9.12	8.99	9.53	10.15	10.33	9.76	10.18	10.93	10.82	NAV/Price
Total Return %	—	-27.29	23.79	9.98	3.71	10.51	12.55	6.79	-0.84	7.45	10.41	-1.01	Total Return %
+/- Standard Index	—	-5.10	2.02	-2.35	3.12	-1.54	-1.76	1.90	0.95	-1.12	-4.25	-0.14	+/- Standard Index
+/- Category Index	—	-9.07	4.81	-1.98	0.10	-0.10	3.79	1.63	0.74	0.81	0.22	-0.39	+/- Category Index
% Rank Cat	—	—	—	70	3	34	1	1	27	3	44	—	% Rank Cat
No. of Funds in Cat	—	—	—	179	167	145	153	141	126	111	110	138	No. of Funds in Cat

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
37	26	29				P/E Ratio TTM	20.6	1.12	1.00
4	3	1				Geo Avg Cap Plan (\$Mil)			85,531
0	0	0				Geo Avg Cap Bmark (\$Mil)			32,280

Fixed-Income Investment Style Actual %

Ltd	Mod	Ext	High	Med	Low	Avg Effective Duration (Yrs)	4.30
0	0	0				Avg Effective Maturity (Yrs)	—
100	0	0				Avg Credit Quality	—
0	0	0				Bond %	
						AAA	68.35
						AA	4.00
						A	8.52
						BBB	8.35
						BB	4.52
						B	4.35
						Below B	1.04
						NR	0.87

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2010 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



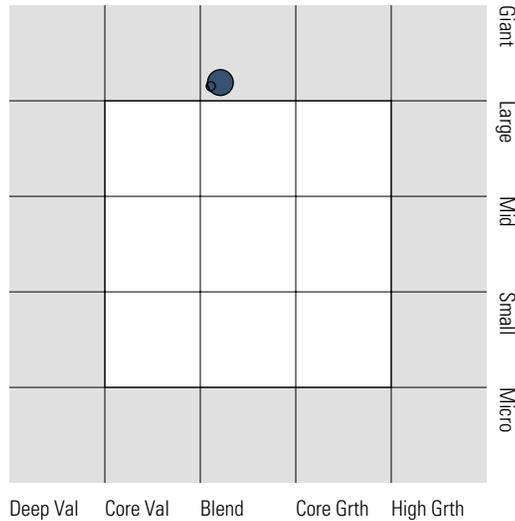
3 Year Standard Deviation

- Fund
- Target-Date 2000-2010

Benchmarks

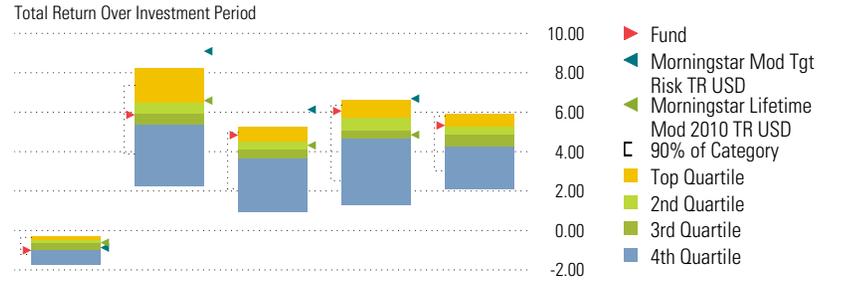
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	138	129	110	87	75	Number of Funds in Category
	—	57	12	8	28	Percentile Rank
	-1.01	5.87	4.84	6.06	5.33	American Funds 2010 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.62	6.59	4.32	4.85	—	Morningstar Lifetime Mod 2010 TR USD
	-0.29	8.25	5.27	6.62	5.90	Category High Return
	-0.67	5.94	4.09	5.04	4.84	Category Median Return
	-1.72	2.26	0.91	1.29	2.10	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Capital Income Bldr R6	12.00
American Funds Income Fund of Amer R6	12.00
American Funds Interm Bd Fd of Amer R6	11.99
American Funds Bond Fund of Amer R6	7.99
American Funds Inflation Linked Bd R6	6.99
American Funds Mortgage R6	5.99
American Funds American Mutual R6	5.40
American Funds Capital World Bond R6	4.99
American Funds American High-Inc R6	4.99
American Funds Invmt Co of Amer R6	4.40

Investment Strategy 03-31-2018

The investment seeks growth, income and conservation of capital. The adviser will attempt to achieve the fund's investment objectives by investing in a mix of American Funds in different combinations and weightings. The underlying American Funds represent a variety of fund categories such as growth-and-income funds, equity-income funds and a balanced fund and bond funds. Equity-income and balanced funds generally strive for income and growth through stocks and/or bond investments, while bond funds seek current income through bond investments.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>.

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2015 Trgt Date Retire R6 (USD)

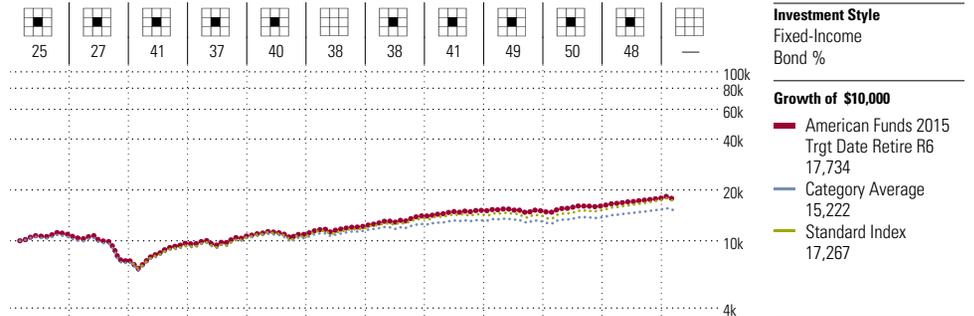
Details 03-31-2018

Ticker	RFJTX
Gross Expense Ratio %	0.33
Total Assets	\$4,698.20 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★	105 TD
Standard Deviation 3 Yr		5.16
Mean 3 Yr		5.18
Alpha 3 Yr		0.42
Beta 3 Yr		1.01
R-Squared 3 Yr		95.25
Upside Capture Ratio 3 Yr		100.98
Downside Capture Ratio 3 Yr		92.53
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2015 TR USD	

Performance 03-31-2018

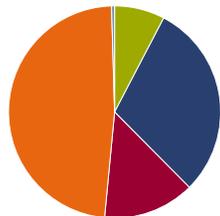


Investment Style
Fixed-Income
Bond %

Growth of \$10,000
American Funds 2015 Trgt Date Retire R6 17,734
Category Average 15,222
Standard Index 17,267

Performance Quartile
(within category)
History
NAV/Price
Total Return %
+/- Standard Index
+/- Category Index
% Rank Cat
No. of Funds in Cat

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.67	1.00
US Stocks	29.88	38.46
Non-US Stocks	13.97	22.40
Bonds	48.03	38.08
Other/Not Clsfd	0.46	0.06

Sector Weightings 12-31-2017

	Stocks %	Rel Std Index
Cyclical	32.3	0.78
Basic Materials	4.4	0.77
Consumer Cyclical	9.5	0.83
Financial Services	15.5	0.84
Real Estate	2.9	0.48
Sensitive	40.4	1.10
Communication Services	5.5	1.68
Energy	9.5	1.64
Industrials	10.6	0.90
Technology	14.7	0.94
Defensive	27.4	1.26
Consumer Defensive	10.9	1.37
Healthcare	12.0	1.13
Utilities	4.5	1.39

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
NAV/Price	—	—	8.64	9.15	9.02	9.66	10.77	11.02	10.34	10.76	11.61	11.50
Total Return %	—	-28.84	25.04	10.21	2.31	11.58	15.72	6.64	-0.62	7.55	11.19	-0.95
+/- Standard Index	—	-6.65	3.27	-2.12	1.72	-0.47	1.42	1.76	1.17	-1.02	-3.47	-0.08
+/- Category Index	—	-7.01	3.82	-2.68	-0.59	0.08	5.23	1.09	1.10	0.45	-0.20	-0.21
% Rank Cat	—	—	—	81	9	30	1	3	18	7	54	—
No. of Funds in Cat	—	—	—	149	157	154	178	182	158	131	122	146

Style Analysis 12-31-2017

Equity Investment Style Actual %

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	20.8	1.13	1.01
Geo Avg Cap Plan (\$Mil)			85,079
Geo Avg Cap Bmark (\$Mil)			32,280

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
0	0	0	Avg Effective Duration (Yrs) 4.60
0	100	0	Avg Effective Maturity (Yrs) —
0	0	0	Avg Credit Quality —
0	0	0	AAA 69.10
			AA 3.29
			A 8.04
			BBB 8.41
			BB 4.75
			B 4.57
			Below B 1.10
			NR 0.73

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2015 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



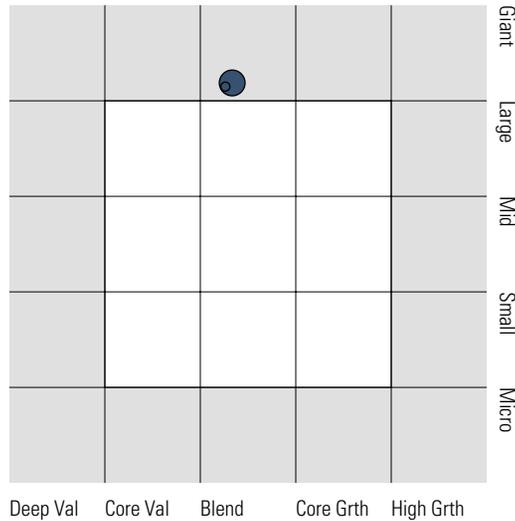
3 Year Standard Deviation

- Fund
- Target-Date 2015

Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	146	133	105	74	49	Number of Funds in Category
	—	64	14	8	28	Percentile Rank
	-0.95	6.47	5.18	6.74	5.61	American Funds 2015 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.74	7.31	4.71	5.42	—	Morningstar Lifetime Mod 2015 TR USD
	0.09	10.23	5.83	7.10	6.36	Category High Return
	-0.72	6.94	4.57	5.78	5.07	Category Median Return
	-1.70	3.43	1.98	2.78	3.44	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Capital Income Bldr R6	10.80
American Funds Income Fund of Amer R6	10.80
American Funds Interm Bd Fd of Amer R6	9.00
American Funds Bond Fund of Amer R6	8.00
American Funds Inflation Linked Bd R6	7.00
American Funds Mortgage R6	6.00
American Funds American Mutual R6	6.00
American Funds American High-Inc R6	5.00
American Funds US Government Sec R6	5.00
American Funds Invmt Co of Amer R6	5.00

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2020 Trgt Date Retire R6 (USD)

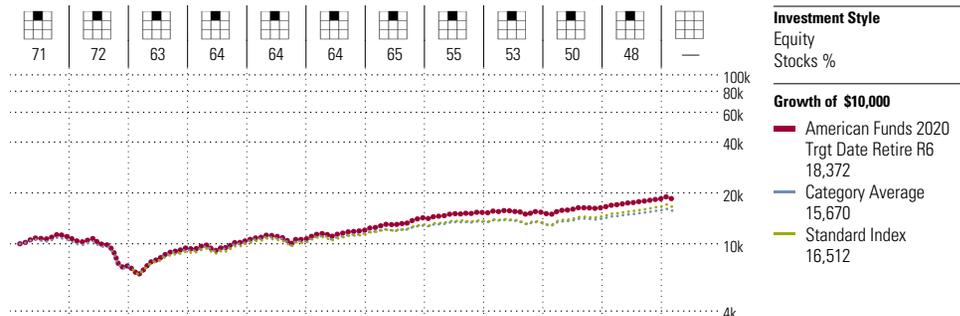
Details 03-31-2018

Ticker	RRCTX
Gross Expense Ratio %	0.35
Total Assets	\$12,898.21 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

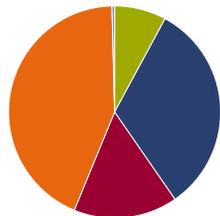
Overall Morningstar Rating	★★★★★	200 TE
Standard Deviation 3 Yr	5.75	
Mean 3 Yr	5.80	
Alpha 3 Yr	0.61	
Beta 3 Yr	0.99	
R-Squared 3 Yr	94.93	
Upside Capture Ratio 3 Yr	102.02	
Downside Capture Ratio 3 Yr	93.04	
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2020 TR USD	

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
NAV/Price	—	—	8.46	9.08	8.89	9.72	11.24	11.55	11.08	11.48	12.60	12.52
Total Return %	—	-32.28	27.25	11.30	1.10	12.98	18.71	6.74	0.19	7.05	12.87	-0.63
+/- Standard Index	—	-10.09	5.47	-1.04	0.51	0.94	4.40	1.85	1.98	-1.52	-1.79	0.24
+/- Category Index	—	-6.01	3.12	-2.72	-0.64	0.45	5.73	0.87	2.07	-0.61	0.08	0.19
% Rank Cat	—	—	—	72	21	26	1	3	4	25	47	—
No. of Funds in Cat	—	—	—	203	205	208	222	228	237	221	234	262

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.90	1.00
US Stocks	32.46	38.46
Non-US Stocks	15.86	22.40
Bonds	43.39	38.08
Other/Not Clsfd	0.40	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	32.7	0.79
Basic Materials	4.4	0.78
Consumer Cyclical	10.8	0.95
Financial Services	15.4	0.83
Real Estate	2.1	0.35
Sensitive	41.3	1.13
Communication Services	5.0	1.52
Energy	9.1	1.56
Industrials	10.4	0.88
Technology	16.9	1.08
Defensive	25.9	1.19
Consumer Defensive	10.0	1.26
Healthcare	12.3	1.16
Utilities	3.6	1.12

Style Analysis 12-31-2017

Equity Investment Style Actual %

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	21.3	1.16	1.08
Geo Avg Cap Plan (\$Mil)	82,983		
Geo Avg Cap Bmark (\$Mil)	32,280		

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
0	0	0	Avg Effective Duration (Yrs) 4.60
0	100	0	Avg Effective Maturity (Yrs) —
0	0	0	Avg Credit Quality —
0	0	0	AAA 72.26
0	0	0	AA 3.39
0	0	0	A 8.58
0	0	0	BBB 8.18
0	0	0	BB 3.19
0	0	0	B 2.99
0	0	0	Below B 0.60
0	0	0	NR 0.80

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2020 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



3 Year Standard Deviation

- Fund
- Target-Date 2020

Benchmarks

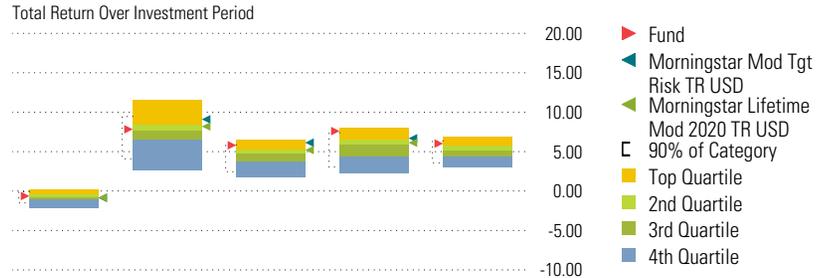
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	262	245	200	159	99	Number of Funds in Category
	—	46	9	2	20	Percentile Rank
	-0.63	7.83	5.80	7.60	6.02	American Funds 2020 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.83	8.19	5.20	6.12	—	Morningstar Lifetime Mod 2020 TR USD
	0.22	11.57	6.50	7.92	6.87	Category High Return
	-0.82	7.64	4.72	5.90	5.14	Category Median Return
	-2.21	2.56	1.81	2.28	3.07	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Interm Bd Fd of Amer R6	8.99
American Funds Capital Income Bldr R6	6.99
American Funds Income Fund of Amer R6	6.99
American Funds Bond Fund of Amer R6	6.79
American Funds Inflation Linked Bd R6	6.19
American Funds American Mutual R6	5.99
American Funds Mortgage R6	5.59
American Funds US Government Sec R6	5.39
American Funds Invmt Co of Amer R6	5.39
American Funds Washington Mutual R6	5.39

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2025 Trgt Date Retire R6 (USD)

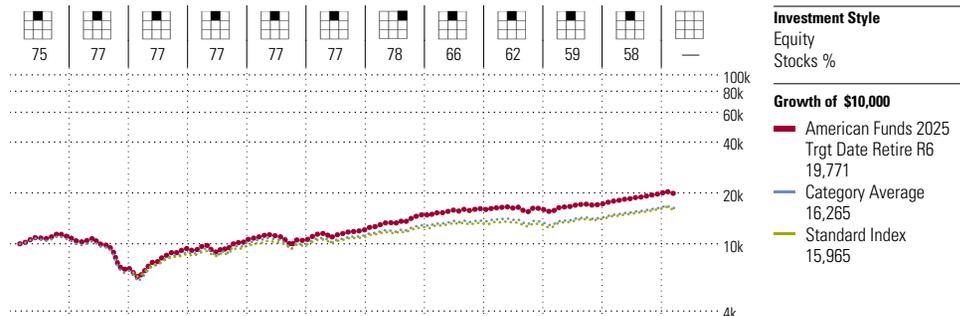
Details 03-31-2018

Ticker	RFDTX
Gross Expense Ratio %	0.37
Total Assets	\$15,662.02 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

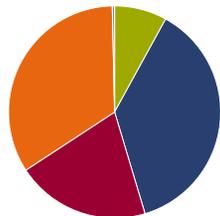
Overall Morningstar Rating	★★★★★	173 TG
Standard Deviation 3 Yr		6.62
Mean 3 Yr		6.75
Alpha 3 Yr		0.92
Beta 3 Yr		0.99
R-Squared 3 Yr		95.26
Upside Capture Ratio 3 Yr		103.84
Downside Capture Ratio 3 Yr		93.36
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2025 TR USD	

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
NAV/Price	—	—	8.38	9.17	8.82	9.88	11.94	12.26	11.57	12.01	13.49	13.45
Total Return %	—	-34.48	29.71	12.68	-0.97	15.58	23.76	6.66	0.13	7.36	15.33	-0.30
+/- Standard Index	—	-12.29	7.94	0.34	-1.56	3.54	9.45	1.78	1.93	-1.21	0.67	0.57
+/- Category Index	—	-3.90	2.54	-2.48	-1.21	1.91	7.48	0.62	2.20	-1.03	0.78	0.57
% Rank Cat	—	—	—	71	24	5	1	11	3	28	38	—
No. of Funds in Cat	—	—	—	131	145	154	181	185	206	195	208	230

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	8.00	1.00
US Stocks	37.37	38.46
Non-US Stocks	20.42	22.40
Bonds	33.86	38.08
Other/Not Clsfd	0.36	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	33.4	0.80
Basic Materials	4.6	0.81
Consumer Cyclical	11.8	1.03
Financial Services	15.4	0.83
Real Estate	1.6	0.27
Sensitive	41.7	1.14
Communication Services	4.6	1.39
Energy	8.7	1.50
Industrials	10.2	0.86
Technology	18.2	1.16
Defensive	24.9	1.14
Consumer Defensive	9.4	1.19
Healthcare	12.4	1.17
Utilities	3.0	0.94

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth
27	26	37
3	3	3
0	0	1

Fixed-Income Investment Style Actual %

High	Med	Low
0	0	0
0	100	0
0	0	0

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2025 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



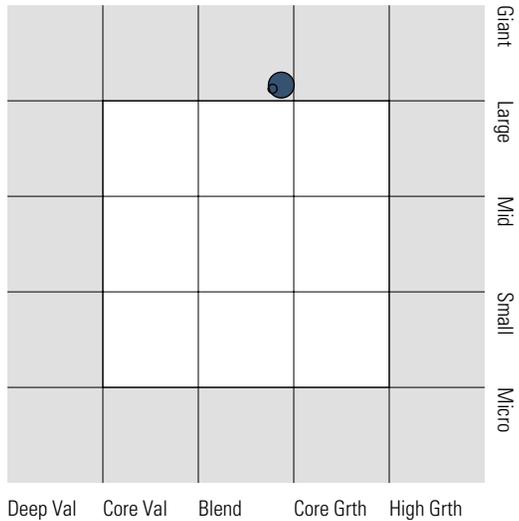
3 Year Standard Deviation

- Fund
- Target-Date 2025

Benchmarks

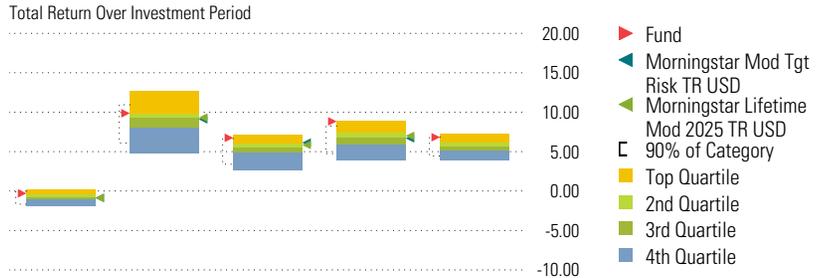
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	230	215	173	136	72	Number of Funds in Category
	—	27	2	1	9	Percentile Rank
	-0.30	9.86	6.75	8.83	6.82	American Funds 2025 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.87	9.31	5.84	7.00	—	Morningstar Lifetime Mod 2025 TR USD
	0.18	12.67	7.12	8.83	7.27	Category High Return
	-0.75	9.25	5.50	6.74	5.59	Category Median Return
	-1.86	4.77	2.61	3.84	3.93	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Interm Bd Fd of Amer R6	7.00
American Funds Washington Mutual R6	6.80
American Funds US Government Sec R6	6.40
American Funds Invmt Co of Amer R6	6.40
American Funds American Balanced R6	6.00
American Funds American Mutual R6	6.00
American Funds Global Balanced R6	6.00
American Funds Fundamental Invs R6	5.40
American Funds Mortgage R6	5.00
American Funds Capital World Bond R6	5.00

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2030 Trgt Date Retire R6 (USD)

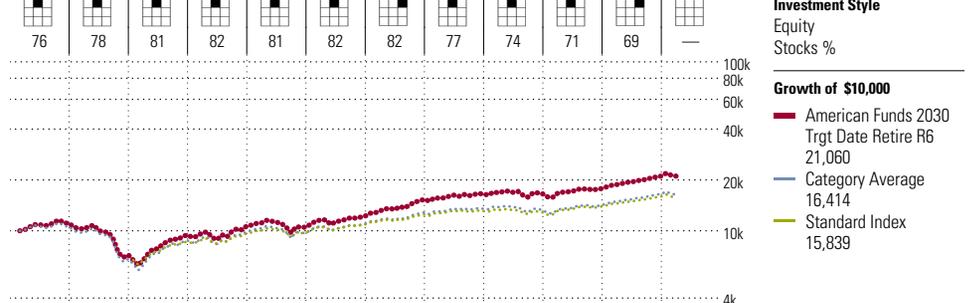
Details 03-31-2018

Ticker	RFETX
Gross Expense Ratio %	0.39
Total Assets	\$16,648.29 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

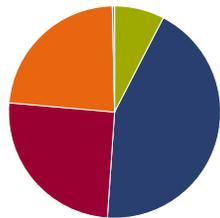
Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	190 TH
Mean 3 Yr	7.95
Alpha 3 Yr	7.86
Beta 3 Yr	1.04
R-Squared 3 Yr	1.03
Upside Capture Ratio 3 Yr	95.98
Downside Capture Ratio 3 Yr	108.05
Standard Index	98.73
Category Index	Morningstar Mod Tgt Risk TR USD
	Morningstar Lifetime Mod 2030 TR USD

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
NAV/Price	—	—	8.48	9.38	8.96	10.10	12.39	12.72	12.08	12.54	14.45	14.45
Total Return %	—	-34.99	31.19	13.15	-1.82	16.49	25.64	7.06	0.47	7.71	18.40	0.00
+/- Standard Index	—	-12.79	9.42	0.82	-2.42	4.44	11.33	2.17	2.26	-0.86	3.74	0.87
+/- Category Index	—	-1.28	1.58	-2.89	-0.60	1.81	6.01	1.05	2.77	-1.55	1.81	0.86
% Rank Cat	—	—	—	61	31	5	1	7	2	38	12	—
No. of Funds in Cat	—	—	—	200	205	208	222	228	237	221	234	251

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.61	1.00
US Stocks	43.48	38.46
Non-US Stocks	25.29	22.40
Bonds	23.27	38.08
Other/Not Clsfd	0.35	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.0	0.82
Basic Materials	4.7	0.83
Consumer Cyclical	12.5	1.09
Financial Services	15.3	0.83
Real Estate	1.5	0.25
Sensitive	41.5	1.13
Communication Services	4.3	1.29
Energy	8.3	1.42
Industrials	10.1	0.86
Technology	18.8	1.20
Defensive	24.5	1.13
Consumer Defensive	9.1	1.15
Healthcare	12.6	1.19
Utilities	2.8	0.87

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth
25	25	37
3	4	4
1	0	1

Fixed-Income Investment Style Actual %

High	Med	Low
0	0	0
0	100	0
0	0	0

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

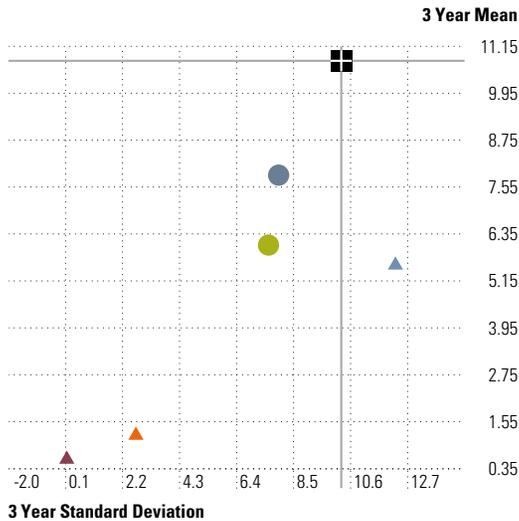
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Cobb County Government 457 Deferred Compensation Plan

American Funds 2030 Trgt Date Retire R6 (USD)

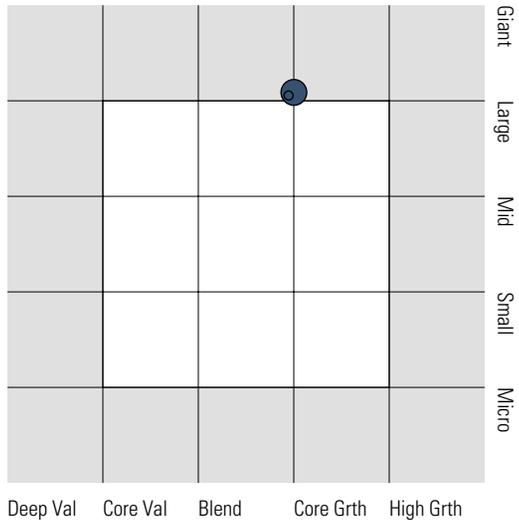
Risk/Return 03-31-2018



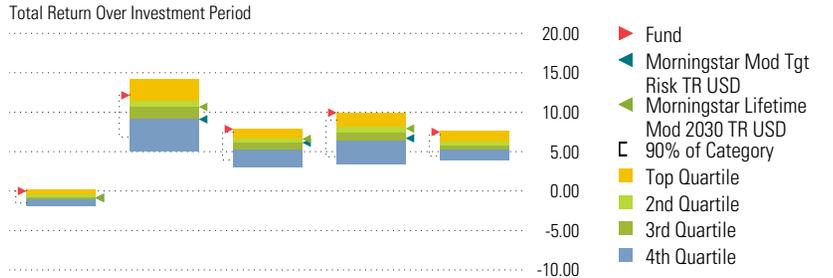
Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	251	235	190	149	89	Number of Funds in Category
	—	9	1	1	1	Percentile Rank
	0.00	12.14	7.86	9.94	7.49	American Funds 2030 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.85	10.66	6.61	7.92	—	Morningstar Lifetime Mod 2030 TR USD
	0.23	14.21	7.85	9.94	7.64	Category High Return
	-0.81	10.62	6.09	7.36	5.73	Category Median Return
	-1.92	4.97	3.01	3.37	3.91	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Washington Mutual R6	8.00
American Funds US Government Sec R6	7.40
American Funds Invmt Co of Amer R6	7.00
American Funds American Balanced R6	6.00
American Funds American Mutual R6	6.00
American Funds Fundamental Invs R6	6.00
American Funds Global Balanced R6	6.00
American Funds New Perspective R6	5.76
American Funds Capital World Gr&Inc R6	5.00
American Funds AMCAP R6	4.76

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2035 Trgt Date Retire R6 (USD)

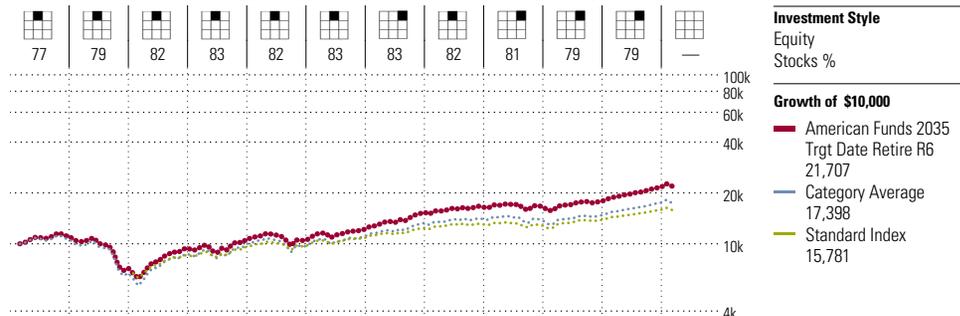
Details 03-31-2018

Ticker	RFFT
Gross Expense Ratio %	0.40
Total Assets	\$13,036.02 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

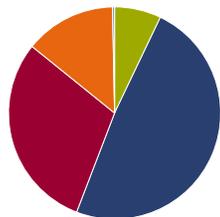
Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	168 TI
Mean 3 Yr	8.71
Alpha 3 Yr	8.86
Beta 3 Yr	1.48
R-Squared 3 Yr	1.00
Upside Capture Ratio 3 Yr	96.27
Downside Capture Ratio 3 Yr	106.97
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2035 TR USD

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
American Funds 2035 Trgt Date Retire R6	—	—	8.48	9.33	8.90	10.07	12.40	12.77	12.13	12.62	14.88	14.93
Category Average	—	-35.43	31.81	13.06	-2.13	16.64	25.97	7.02	0.59	8.00	21.04	0.34
Standard Index	—	-13.24	10.03	0.73	-2.72	4.60	11.66	2.13	2.39	-0.57	6.38	1.21
NAV/Price	—	-0.11	0.73	-3.47	0.14	1.28	3.93	1.22	3.17	-2.06	2.52	1.16
Total Return %	—	—	—	79	16	8	1	11	1	41	3	—
+/- Standard Index	—	—	—	125	139	154	181	185	205	195	208	225
+/- Category Index	—	—	—	—	—	—	—	—	—	—	—	—
% Rank Cat	—	—	—	—	—	—	—	—	—	—	—	—
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	—	—

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.10	1.00
US Stocks	48.73	38.46
Non-US Stocks	29.96	22.40
Bonds	13.89	38.08
Other/Not Clsfd	0.32	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.4	0.83
Basic Materials	4.7	0.83
Consumer Cyclical	13.2	1.15
Financial Services	15.1	0.82
Real Estate	1.4	0.24
Sensitive	41.3	1.13
Communication Services	3.9	1.20
Energy	7.9	1.35
Industrials	10.1	0.85
Technology	19.5	1.24
Defensive	24.2	1.11
Consumer Defensive	8.8	1.11
Healthcare	12.9	1.22
Utilities	2.6	0.80

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth
23	24	37
3	4	5
1	1	2

Fixed-Income Investment Style Actual %

High	Med	Low
0	0	0
0	100	0
0	0	0

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2035 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



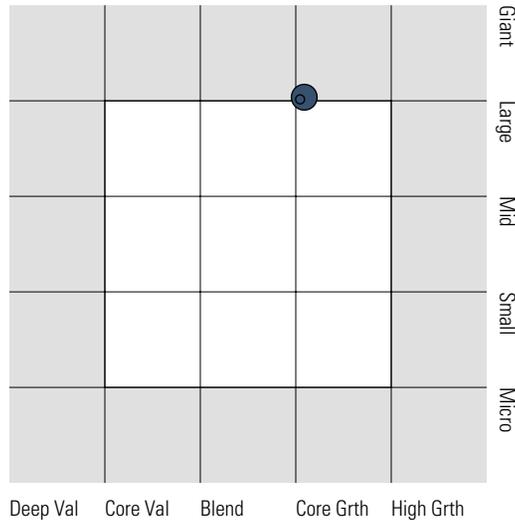
3 Year Standard Deviation

- Fund
- Target-Date 2035

Benchmarks

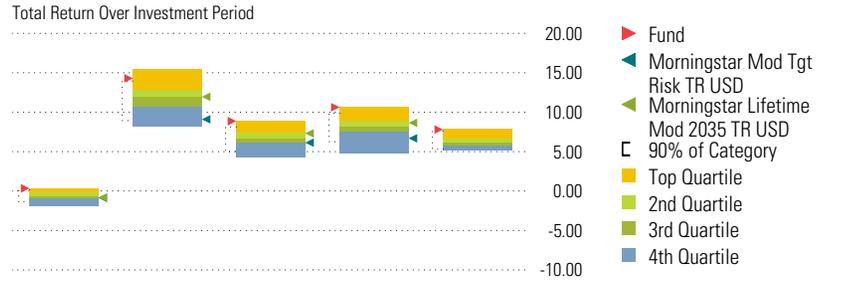
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	225	210	168	131	67	Number of Funds in Category
	—	2	1	1	6	Percentile Rank
	0.34	14.29	8.86	10.63	7.80	American Funds 2035 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.82	11.95	7.31	8.65	—	Morningstar Lifetime Mod 2035 TR USD
	0.34	15.53	8.86	10.63	7.89	Category High Return
	-0.67	11.94	6.68	8.11	6.13	Category Median Return
	-1.93	8.19	4.27	4.78	5.20	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Washington Mutual R6	8.00
American Funds Invmt Co of Amer R6	7.00
American Funds New Perspective R6	7.00
American Funds US Government Sec R6	6.80
American Funds AMCAP R6	6.40
American Funds Growth Fund of Amer R6	6.40
American Funds SMALLCAP World R6	6.40
American Funds American Balanced R6	6.00
American Funds American Mutual R6	6.00
American Funds Fundamental Invs R6	6.00

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2040 Trgt Date Retire R6 (USD)

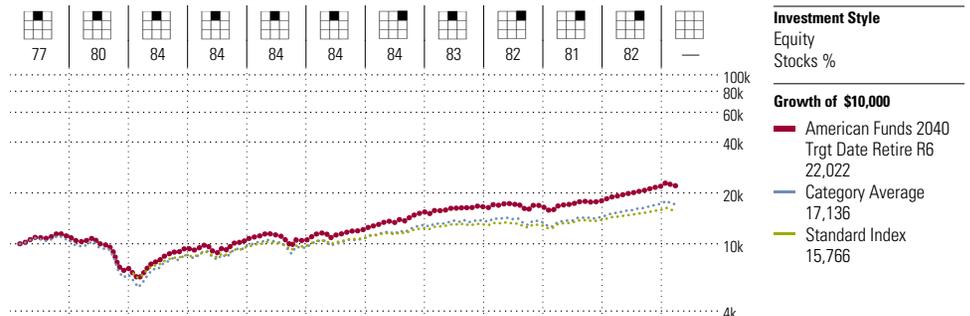
Details 03-31-2018

Ticker	RFGTX
Gross Expense Ratio %	0.41
Total Assets	\$11,339.25 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

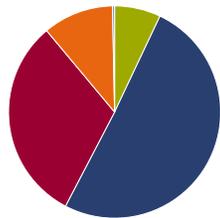
Overall Morningstar Rating	★★★★★	190 TJ
Standard Deviation 3 Yr		8.99
Mean 3 Yr		9.20
Alpha 3 Yr		1.61
Beta 3 Yr		0.96
R-Squared 3 Yr		96.49
Upside Capture Ratio 3 Yr		103.47
Downside Capture Ratio 3 Yr		91.21
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2040 TR USD	

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
NAV/Price	—	—	8.52	9.40	8.96	10.17	12.58	12.92	12.33	12.84	15.25	15.31
Total Return %	—	-35.36	31.89	13.01	-2.28	16.71	26.66	6.96	0.58	8.17	21.98	0.39
+/- Standard Index	—	-13.17	10.12	0.68	-2.87	4.67	12.35	2.08	2.37	-0.40	7.32	1.26
+/- Category Index	—	0.58	0.08	-3.70	0.57	1.01	3.60	1.45	3.41	-2.44	2.11	1.19
% Rank Cat	—	—	—	75	16	9	1	15	1	39	6	—
No. of Funds in Cat	—	—	—	194	202	204	218	227	237	221	234	251

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.04	1.00
US Stocks	50.62	38.46
Non-US Stocks	31.26	22.40
Bonds	10.76	38.08
Other/Not Clsfd	0.32	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.5	0.83
Basic Materials	4.7	0.83
Consumer Cyclical	13.3	1.17
Financial Services	15.1	0.82
Real Estate	1.4	0.22
Sensitive	41.4	1.13
Communication Services	3.8	1.17
Energy	7.8	1.33
Industrials	10.0	0.85
Technology	19.7	1.26
Defensive	24.1	1.11
Consumer Defensive	8.7	1.09
Healthcare	13.0	1.23
Utilities	2.5	0.77

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
22	24	37	P/E Ratio TTM	22.1	1.20	1.13
3	4	6	Geo Avg Cap Plan (\$Mil)			57,995
1	1	2	Geo Avg Cap Bmark (\$Mil)			32,280

Fixed-Income Investment Style Actual %

High	Med	Low	Avg Effective Duration (Yrs)	4.90
0	0	0	Avg Effective Maturity (Yrs)	—
0	100	0	Avg Credit Quality	—
0	0	0	Bond %	
			AAA	83.24
			AA	1.73
			A	5.78
			BBB	6.36
			BB	1.16
			B	1.16
			Below B	0.00
			NR	0.58

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2040 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



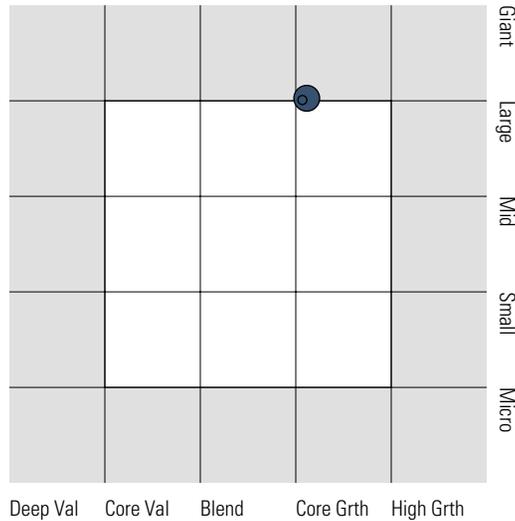
3 Year Standard Deviation

- Fund
- Target-Date 2040

Benchmarks

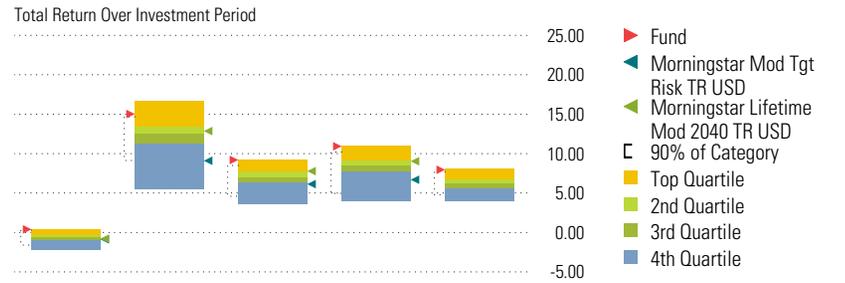
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	251	235	190	149	89	Number of Funds in Category
	—	2	1	1	6	Percentile Rank
	0.39	15.02	9.20	10.93	7.95	American Funds 2040 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.79	12.86	7.78	9.03	—	Morningstar Lifetime Mod 2040 TR USD
	0.40	16.65	9.20	10.93	8.12	Category High Return
	-0.66	12.53	6.94	8.46	6.19	Category Median Return
	-2.17	5.52	3.60	3.96	4.04	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Washington Mutual R6	8.00
American Funds Invmt Co of Amer R6	7.40
American Funds AMCAP R6	7.00
American Funds Growth Fund of Amer R6	7.00
American Funds New Perspective R6	7.00
American Funds SMALLCAP World R6	7.00
American Funds American Mutual R6	6.40
American Funds Fundamental Invs R6	6.40
American Funds American Balanced R6	6.00
American Funds Global Balanced R6	5.60

Investment Strategy 03-31-2018

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American Funds 2045 Trgt Date Retire R6 (USD)

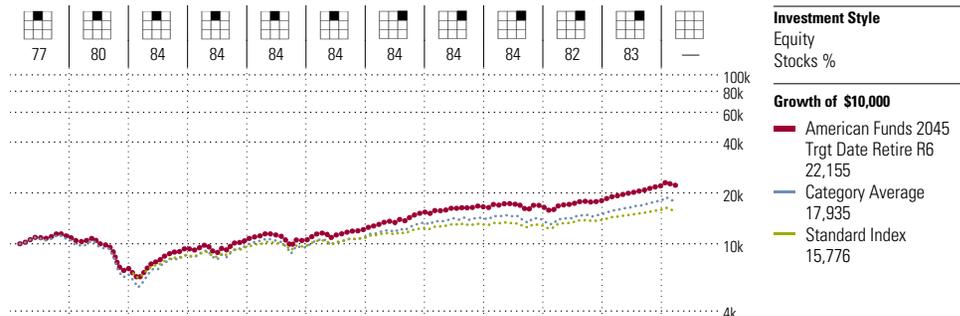
Details 03-31-2018

Ticker	RFHTX
Gross Expense Ratio %	0.41
Total Assets	\$7,914.25 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

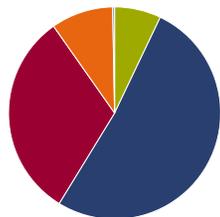
Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★	168 TK
Standard Deviation 3 Yr		9.15
Mean 3 Yr		9.41
Alpha 3 Yr		1.73
Beta 3 Yr		0.95
R-Squared 3 Yr		96.37
Upside Capture Ratio 3 Yr		100.04
Downside Capture Ratio 3 Yr		85.05
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2045 TR USD	

Performance 03-31-2018



Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.09	1.00
US Stocks	51.67	38.46
Non-US Stocks	31.48	22.40
Bonds	9.46	38.08
Other/Not Clsfd	0.30	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.4	0.83
Basic Materials	4.7	0.83
Consumer Cyclical	13.4	1.17
Financial Services	15.1	0.82
Real Estate	1.2	0.20
Sensitive	41.5	1.13
Communication Services	3.8	1.16
Energy	7.7	1.33
Industrials	10.0	0.85
Technology	19.9	1.27
Defensive	24.0	1.10
Consumer Defensive	8.5	1.07
Healthcare	13.1	1.24
Utilities	2.4	0.74

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	8.56	9.38	8.95	10.16	12.58	12.98	12.44	12.98	15.49	15.56	NAV/Price
Total Return %	—	-35.46	32.03	12.98	-2.29	16.80	26.51	7.09	0.64	8.27	22.44	0.45	Total Return %
+/- Standard Index	—	-13.26	10.26	0.64	-2.88	4.75	12.20	2.20	2.43	-0.30	7.78	1.32	+/- Standard Index
+/- Category Index	—	0.82	-0.28	-3.79	0.90	0.96	3.44	1.84	3.66	-2.57	1.91	1.23	+/- Category Index
% Rank Cat	—	—	—	84	11	12	2	13	1	45	8	—	% Rank Cat
No. of Funds in Cat	—	—	—	125	139	145	180	185	206	195	208	225	No. of Funds in Cat

Style Analysis 12-31-2017

Equity Investment Style Actual %

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	22.1	1.20	1.13
Geo Avg Cap Plan (\$Mil)			58,474
Geo Avg Cap Bmark (\$Mil)			32,280

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
0	100	0	Avg Effective Duration (Yrs) 4.90
0	0	0	Avg Effective Maturity (Yrs) —
0	0	0	Avg Credit Quality —
0	0	0	AAA 85.19
			AA 1.85
			A 5.56
			BBB 5.56
			BB 0.62
			B 0.62
			Below B 0.00
			NR 0.62

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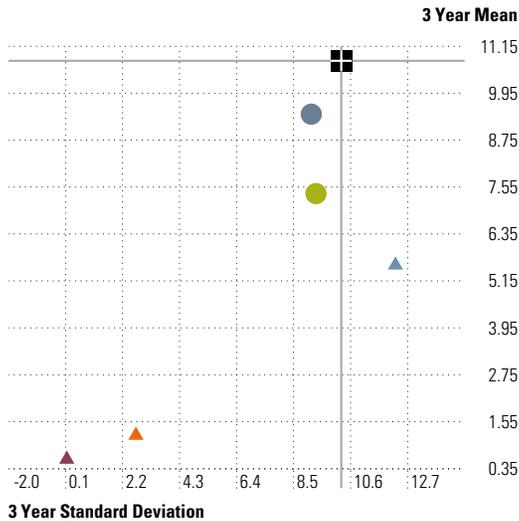
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Cobb County Government 457 Deferred Compensation Plan

American Funds 2045 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018

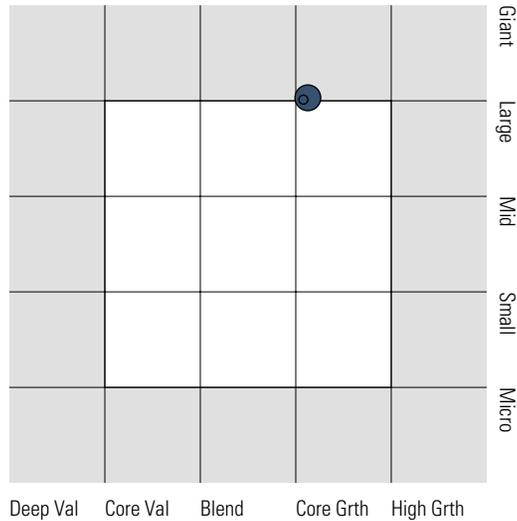


- Fund
- Target-Date 2045

Benchmarks

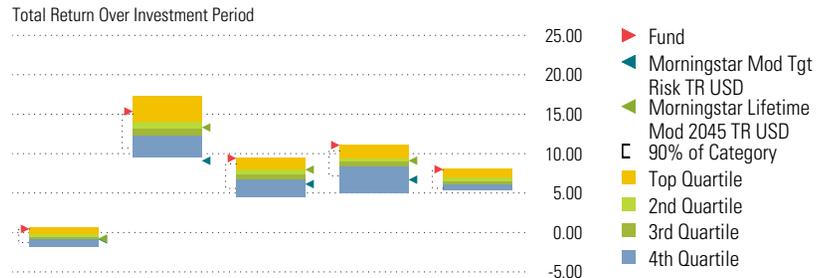
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
225	210	168	131	66	66	Number of Funds in Category
—	3	1	1	1	1	Percentile Rank
0.45	15.35	9.41	11.07	8.01	8.01	American Funds 2045 Trgt Date Retire R6
-0.87	9.09	6.13	6.69	—	—	Morningstar Mod Tgt Risk TR USD
-0.78	13.31	7.96	9.11	—	—	Morningstar Lifetime Mod 2045 TR USD
0.61	17.34	9.42	11.07	8.17	8.17	Category High Return
-0.58	13.15	7.33	8.89	6.43	6.43	Category Median Return
-1.79	9.60	4.49	4.98	5.32	5.32	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Invmt Co of Amer R6	8.40
American Funds Washington Mutual R6	8.40
American Funds American Mutual R6	7.40
American Funds Fundamental Invs R6	7.40
American Funds AMCAP R6	7.00
American Funds Growth Fund of Amer R6	7.00
American Funds New Perspective R6	7.00
American Funds SMALLCAP World R6	7.00
American Funds Capital World Gr&Inc R6	6.40
American Funds American Balanced R6	5.60

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2050 Trgt Date Retire R6 (USD)

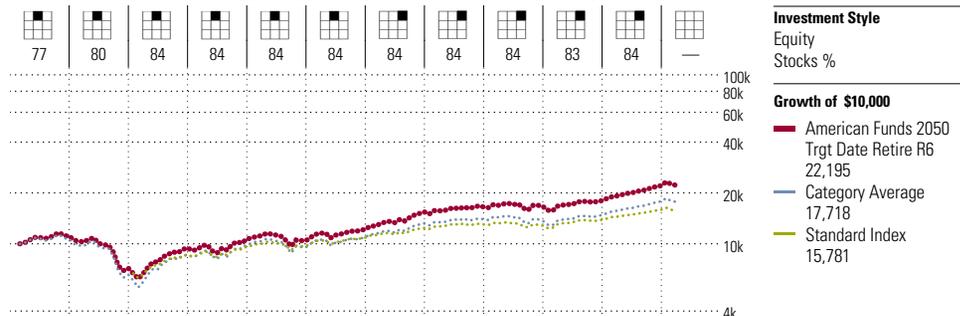
Details 03-31-2018

Ticker	RFITX
Gross Expense Ratio %	0.42
Total Assets	\$6,390.46 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	11.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

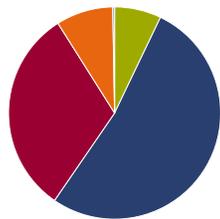
Overall Morningstar Rating	★★★★★	185 TN
Standard Deviation 3 Yr		9.20
Mean 3 Yr		9.53
Alpha 3 Yr		1.85
Beta 3 Yr		0.94
R-Squared 3 Yr		96.21
Upside Capture Ratio 3 Yr		99.85
Downside Capture Ratio 3 Yr		83.99
Standard Index	Morningstar Mod Tgt Risk TR USD	
Category Index	Morningstar Lifetime Mod 2050 TR USD	

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
American Funds 2050 Trgt Date Retire R6	—	—	8.43	9.21	8.78	9.97	12.35	12.70	12.16	12.69	15.16	15.24
Category Average	—	-35.51	31.86	13.07	-2.28	16.72	26.65	7.02	0.65	8.33	22.61	0.53
Standard Index	—	-13.32	10.08	0.74	-2.87	4.68	12.34	2.13	2.44	-0.24	7.95	1.40
NAV/Price	—	0.98	-0.90	-3.71	1.19	0.79	3.82	2.02	3.84	-2.56	1.83	1.31
Total Return %	—	—	—	80	12	16	1	18	1	43	8	—
+/- Standard Index	—	—	—	150	168	177	202	212	226	213	230	247
+/- Category Index	—	—	—	—	—	—	—	—	—	—	—	—
% Rank Cat	—	—	—	—	—	—	—	—	—	—	—	—
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	—	—

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.12	1.00
US Stocks	52.47	38.46
Non-US Stocks	31.44	22.40
Bonds	8.69	38.08
Other/Not Clsfd	0.28	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.4	0.83
Basic Materials	4.7	0.83
Consumer Cyclical	13.3	1.17
Financial Services	15.2	0.82
Real Estate	1.1	0.19
Sensitive	41.7	1.14
Communication Services	3.8	1.16
Energy	7.7	1.33
Industrials	10.1	0.85
Technology	20.0	1.28
Defensive	24.0	1.10
Consumer Defensive	8.5	1.07
Healthcare	13.2	1.25
Utilities	2.3	0.72

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth
22	24	37
3	4	6
1	1	2

Fixed-Income Investment Style Actual %

High	Med	Low	Metric	Value
0	100	0	Avg Effective Duration (Yrs)	4.90
0	0	0	Avg Effective Maturity (Yrs)	—
0	0	0	Avg Credit Quality	—
0	0	0	Bond %	—
			AAA	85.90
			AA	1.92
			A	5.13
			BBB	5.13
			BB	0.64
			B	0.64
			Below B	0.00
			NR	0.64

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2050 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



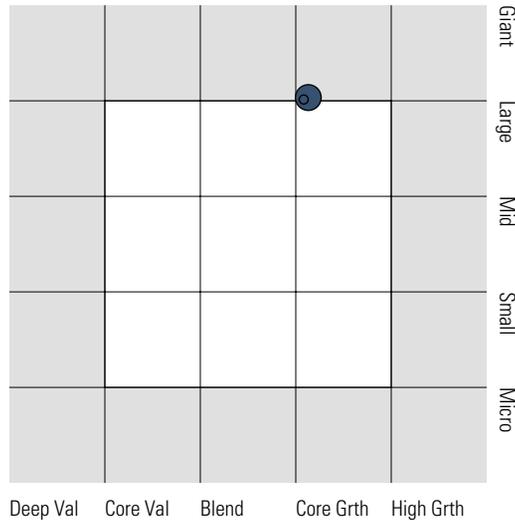
3 Year Standard Deviation

- Fund
- Target-Date 2050

Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	247	231	185	144	61	Number of Funds in Category
	—	2	1	1	2	Percentile Rank
	0.53	15.60	9.53	11.12	8.04	American Funds 2050 Trgt Date Retire R6
	-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD
	-0.78	13.47	7.98	9.05	—	Morningstar Lifetime Mod 2050 TR USD
	0.75	17.85	9.53	11.12	8.17	Category High Return
	-0.65	13.34	7.31	8.99	6.43	Category Median Return
	-2.34	6.43	4.08	4.55	4.17	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Invmt Co of Amer R6	9.00
American Funds Washington Mutual R6	9.00
American Funds American Mutual R6	8.00
American Funds Fundamental Invs R6	8.00
American Funds AMCAP R6	7.00
American Funds Growth Fund of Amer R6	7.00
American Funds New Perspective R6	7.00
American Funds SMALLCAP World R6	7.00
American Funds Capital World Gr&Inc R6	7.00
American Funds US Government Sec R6	5.00

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2055 Trgt Date Retire R6 (USD)

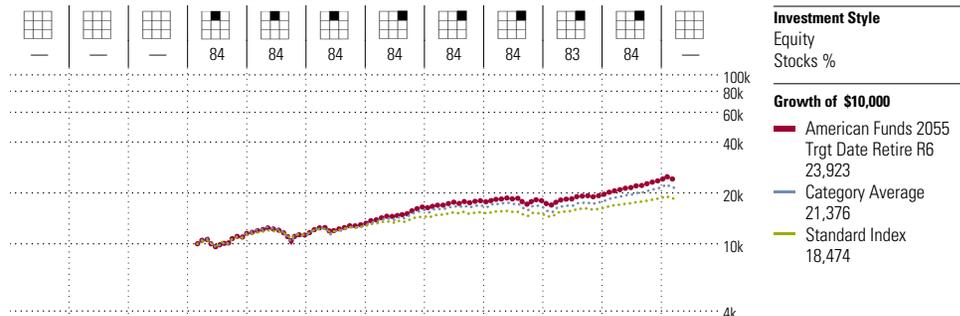
Details 03-31-2018

Ticker	RFKTX
Gross Expense Ratio %	0.42
Total Assets	\$3,120.44 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro
Tenure	8.2 Years
Objective	Asset Allocation

Risk and Return 03-31-2018

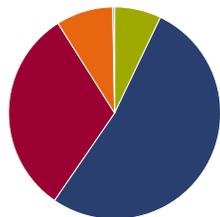
Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	159 TL
Mean 3 Yr	9.20
Alpha 3 Yr	9.51
Beta 3 Yr	1.90
R-Squared 3 Yr	0.93
Upside Capture Ratio 3 Yr	95.93
Downside Capture Ratio 3 Yr	99.47
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2055 TR USD

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
American Funds 2055 Trgt Date Retire R6	—	—	—	11.36	10.75	12.23	15.14	15.66	15.11	15.82	18.94	19.04
Category Average	—	—	—	—	-2.29	16.76	26.59	7.01	0.63	8.30	22.63	0.53
Standard Index	—	—	—	—	-2.88	4.71	12.28	2.12	2.42	-0.27	7.97	1.40
NAV/Price	—	—	—	—	1.46	0.76	4.09	2.27	3.97	-2.61	1.68	1.32
Total Return %	—	—	—	—	10	14	1	20	1	45	6	—
+/- Standard Index	—	—	—	—	235	102	130	156	238	193	206	225
+/- Category Index	—	—	—	—	—	—	—	—	—	—	—	—
% Rank Cat	—	—	—	—	—	—	—	—	—	—	—	—
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	—	—

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.12	1.00
US Stocks	52.48	38.46
Non-US Stocks	31.44	22.40
Bonds	8.68	38.08
Other/Not Clsfd	0.28	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.4	0.83
Basic Materials	4.7	0.83
Consumer Cyclical	13.3	1.17
Financial Services	15.2	0.82
Real Estate	1.1	0.19
Sensitive	41.7	1.14
Communication Services	3.8	1.16
Energy	7.7	1.33
Industrials	10.1	0.85
Technology	20.0	1.28
Defensive	24.0	1.10
Consumer Defensive	8.5	1.07
Healthcare	13.2	1.25
Utilities	2.3	0.72

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
22	24	37	P/E Ratio TTM	22.1	1.20	1.12
3	4	6	Geo Avg Cap Plan (\$Mil)	58,911		
1	1	2	Geo Avg Cap Bmark (\$Mil)	32,280		

Fixed-Income Investment Style Actual %

High	Med	Low	Metric	Value
0	100	0	Avg Effective Duration (Yrs)	4.90
0	0	0	Avg Effective Maturity (Yrs)	—
0	0	0	Avg Credit Quality	—
0	0	0	Bond %	—
			AAA	85.81
			AA	1.94
			A	5.16
			BBB	5.16
			BB	0.65
			B	0.65
			Below B	0.00
			NR	0.65

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American Funds 2055 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



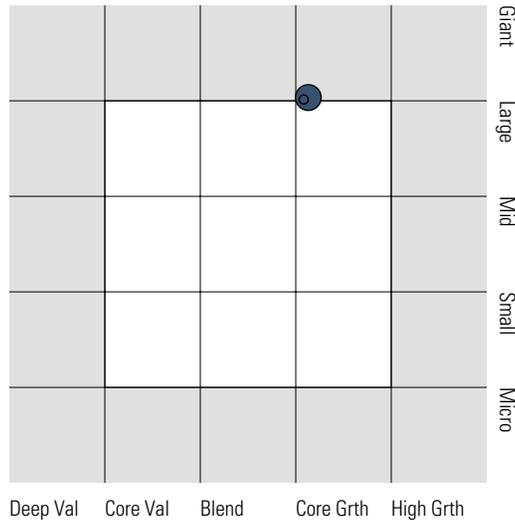
3 Year Standard Deviation

- Fund
- Target-Date 2055

Benchmarks

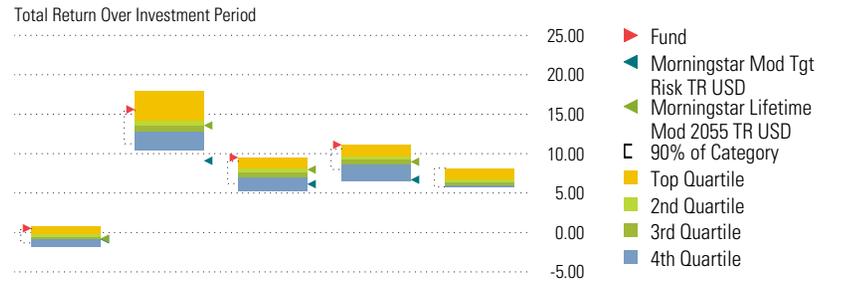
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
225	208	159	105	9	Number of Funds in Category	
—	4	1	1	—	Percentile Rank	
0.53	15.60	9.51	11.12	—	American Funds 2055 Trgt Date Retire R6	
-0.87	9.09	6.13	6.69	—	Morningstar Mod Tgt Risk TR USD	
-0.79	13.57	7.97	8.96	—	Morningstar Lifetime Mod 2055 TR USD	
0.77	17.85	9.51	11.12	8.15	Category High Return	
-0.57	13.52	7.50	9.15	6.31	Category Median Return	
-1.83	10.38	5.25	6.52	5.77	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Invmt Co of Amer R6	9.00
American Funds Washington Mutual R6	9.00
American Funds American Mutual R6	8.00
American Funds Fundamental Invs R6	8.00
American Funds AMCAP R6	7.00
American Funds Growth Fund of Amer R6	7.00
American Funds New Perspective R6	7.00
American Funds SMALLCAP World R6	7.00
American Funds Capital World Gr&Inc R6	7.00
American Funds American Balanced R6	5.00

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds 2060 Trgt Date Retire R6 (USD)

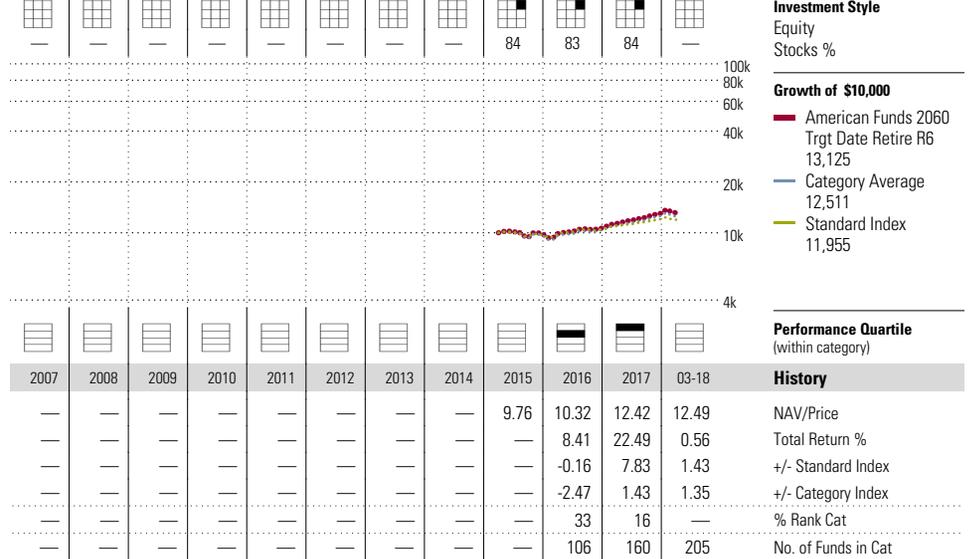
Details 03-31-2018

Ticker	RFUTX
Gross Expense Ratio %	0.49
Total Assets	\$750.86 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro, Andrew Suzman, Jody Jonsson, Wesley Phoa, Bradley Vogt,
Tenure	3.1 Years
Objective	Asset Allocation

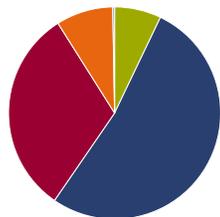
Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	56 XQ
Mean 3 Yr	9.14
Alpha 3 Yr	9.49
Beta 3 Yr	1.97
R-Squared 3 Yr	0.92
Upside Capture Ratio 3 Yr	95.97
Downside Capture Ratio 3 Yr	97.18
Standard Index	79.34
Category Index	Morningstar Mod Tgt Risk TR USD
	Morningstar Lifetime Mod 2060 TR USD

Performance 03-31-2018



Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.12	1.00
US Stocks	52.48	38.46
Non-US Stocks	31.44	22.40
Bonds	8.68	38.08
Other/Not Clsfd	0.28	0.06

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.4	0.83
Basic Materials	4.7	0.83
Consumer Cyclical	13.3	1.17
Financial Services	15.2	0.82
Real Estate	1.1	0.19
Sensitive	41.7	1.14
Communication Services	3.8	1.16
Energy	7.7	1.33
Industrials	10.1	0.85
Technology	20.0	1.28
Defensive	24.0	1.10
Consumer Defensive	8.5	1.07
Healthcare	13.2	1.25
Utilities	2.3	0.72

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
22	24	37	P/E Ratio TTM	22.1	1.20	1.10
3	4	6	Geo Avg Cap Plan (\$Mil)	58,911		
1	1	2	Geo Avg Cap Bmark (\$Mil)	32,280		

Fixed-Income Investment Style Actual %

High	Med	Low	Metric	Value
0	100	0	Avg Effective Duration (Yrs)	4.90
0	0	0	Avg Effective Maturity (Yrs)	—
0	0	0	Avg Credit Quality	—
0	0	0	Bond %	—
			AAA	85.81
			AA	1.94
			A	5.16
			BBB	5.16
			BB	0.65
			B	0.65
			Below B	0.00
			NR	0.65

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American Funds 2060 Trgt Date Retire R6 (USD)

Risk/Return 03-31-2018



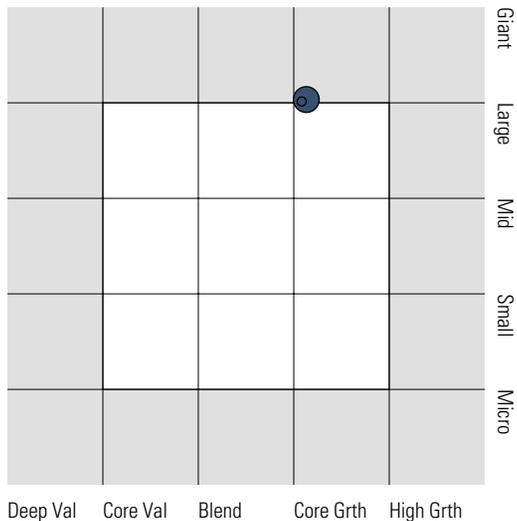
3 Year Standard Deviation

- Fund
- Target-Date 2060+

Benchmarks

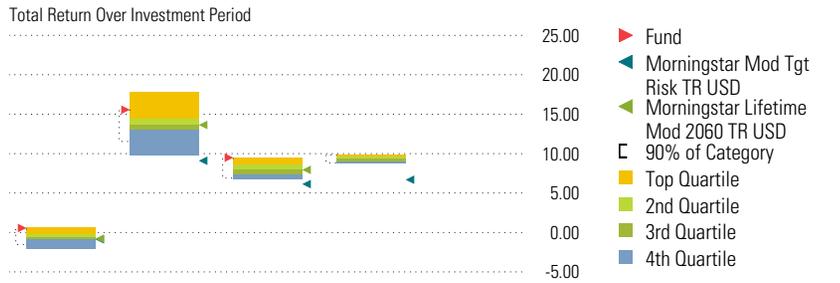
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
205	162	56	8	—	—	Number of Funds in Category
—	3	1	—	—	—	Percentile Rank
0.56	15.57	9.49	—	—	—	American Funds 2060 Trgt Date Retire R6
-0.87	9.09	6.13	6.69	—	—	Morningstar Mod Tgt Risk TR USD
-0.79	13.63	7.94	—	—	—	Morningstar Lifetime Mod 2060 TR USD
0.69	17.81	9.49	9.85	—	—	Category High Return
-0.65	13.68	8.00	9.38	—	—	Category Median Return
-2.14	9.81	6.69	8.83	—	—	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
American Funds Invmt Co of Amer R6	9.00
American Funds Washington Mutual R6	9.00
American Funds American Mutual R6	8.00
American Funds Fundamental Invs R6	8.00
American Funds AMCAP R6	7.00
American Funds Growth Fund of Amer R6	7.00
American Funds New Perspective R6	7.00
American Funds SMALLCAP World R6	7.00
American Funds Capital World Gr&Inc R6	7.00
American Funds American Balanced R6	5.00

Investment Strategy 03-31-2018

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Cobb County Government 457 Deferred Compensation Plan

American Funds Europacific Growth R6 (USD)

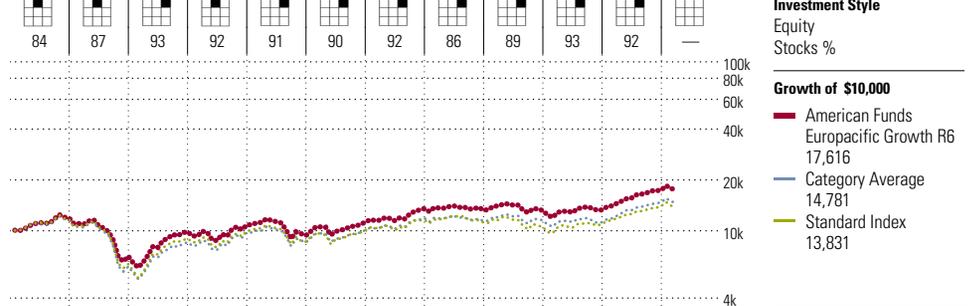
Details 03-31-2018

Ticker	REGX
Gross Expense Ratio %	0.50
Total Assets	\$167,169.29 mil
Family	American Funds
Manager	Mark Denning,
Tenure	26.3 Years
Objective	Foreign Stock

Risk and Return 03-31-2018

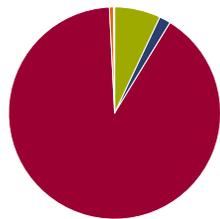
Overall Morningstar Rating	★★★★	339 FG
Standard Deviation 3 Yr		11.41
Mean 3 Yr		7.93
Alpha 3 Yr		1.23
Beta 3 Yr		0.90
R-Squared 3 Yr		92.37
Upside Capture Ratio 3 Yr		92.79
Downside Capture Ratio 3 Yr		84.81
Standard Index	MSCI ACWI Ex USA NR USD	
Category Index	MSCI ACWI Ex USA Growth NR USD	

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	38.34	41.37	35.13	41.18	49.03	47.09	45.32	45.04	56.14	56.72	NAV/Price
Total Return %	18.96	-40.53	39.35	9.76	-13.31	19.64	20.58	-2.29	-0.48	1.01	31.17	1.03	Total Return %
+/- Standard Index	2.30	5.00	-2.10	-1.39	0.40	2.81	5.29	1.57	5.18	-3.48	3.98	2.22	+/- Standard Index
+/- Category Index	-2.07	5.09	0.68	-4.69	0.90	2.97	5.09	0.36	0.77	0.89	-0.84	1.90	+/- Category Index
% Rank Cat	—	—	—	—	—	—	—	27	66	20	44	—	% Rank Cat
No. of Funds in Cat	—	—	—	—	—	—	—	341	361	363	399	427	No. of Funds in Cat

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.03	0.01
US Stocks	1.74	0.73
Non-US Stocks	90.44	99.17
Bonds	0.63	0.00
Other/Not Clsfd	0.17	0.09

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	39.5	0.86
Basic Materials	7.0	0.84
Consumer Cyclical	11.5	1.03
Financial Services	19.5	0.85
Real Estate	1.4	0.42
Sensitive	42.0	1.24
Communication Services	3.8	0.92
Energy	6.3	0.94
Industrials	9.4	0.87
Technology	22.5	1.84
Defensive	18.5	0.92
Consumer Defensive	9.9	1.03
Healthcare	6.0	0.79
Utilities	2.6	0.86

Style Analysis 12-31-2017

Equity Investment Style Actual %

Style	Value	Blend	Growth
Large	17	31	48
Mid	1	1	2
Small	0	0	0

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	19.7	1.34	0.94
Geo Avg Cap Plan (\$Mil)			49,692
Geo Avg Cap Bmark (\$Mil)			33,897

Fixed-Income Investment Style Actual %

Style	High	Med	Low
Avg Effective Duration (Yrs)	—	—	—
Avg Effective Maturity (Yrs)	—	—	—
Avg Credit Quality	—	—	—
Bond %	—	—	—
AAA	—	—	—
AA	—	—	—
A	—	—	—
BBB	—	—	—
BB	—	—	—
B	—	—	—
Below B	—	—	—
NR	—	—	—

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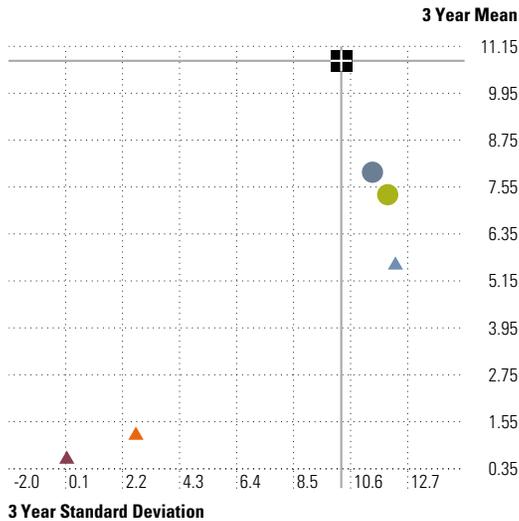
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Cobb County Government 457 Deferred Compensation Plan

American Funds Europacific Growth R6 (USD)

Risk/Return 03-31-2018



● Fund
● Foreign Large Growth

Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



○ Earliest Portfolios
○ Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
427	409	339	293	211	Number of Funds in Category	
—	33	34	21	23	Percentile Rank	
1.03	21.18	7.93	8.80	4.87	American Funds Europacific Growth R6	
-1.18	16.53	6.18	5.89	2.70	MSCI ACWI Ex USA NR USD	
-0.87	19.92	7.28	6.84	3.25	MSCI ACWI Ex USA Growth NR USD	
6.87	37.94	18.34	18.45	6.75	Category High Return	
-0.03	19.91	7.06	7.10	3.68	Category Median Return	
-3.50	0.00	1.99	2.53	0.16	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Samsung Electronics Co Ltd	3.25
AIA Group Ltd	2.62
British American Tobacco PLC	2.54
Taiwan Semiconductor Manufacturing Co Ltd	2.04
Alibaba Group Holding Ltd ADR	2.03
Reliance Industries Ltd	2.02
Airbus SE	2.00
HDFC Bank Ltd	1.96
Tencent Holdings Ltd	1.87
SoftBank Group Corp	1.80

Investment Strategy 03-31-2018

The investment seeks long-term growth of capital. The fund invests primarily in common stocks of issuers in Europe and the Pacific Basin that the investment adviser believes have the potential for growth. Growth stocks are stocks that the investment adviser believes have the potential for above-average capital appreciation. It normally will invest at least 80% of its net assets in securities of issuers in Europe and the Pacific Basin. The fund may invest a portion of its assets in common stocks and other securities of companies in emerging markets.

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Cobb County Government 457 Deferred Compensation Plan

American Funds New Perspective R6 (USD)

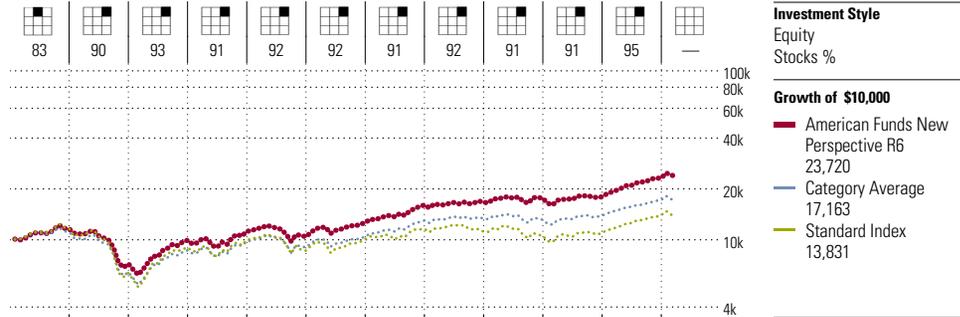
Details 03-31-2018

Ticker	RNPGX
Gross Expense Ratio %	0.45
Total Assets	\$78,944.62 mil
Family	American Funds
Manager	Robert Lovelace,
Tenure	17.3 Years
Objective	World Stock

Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★	717 WS
Standard Deviation 3 Yr		11.01
Mean 3 Yr		10.85
Alpha 3 Yr		2.76
Beta 3 Yr		0.96
R-Squared 3 Yr		91.06
Upside Capture Ratio 3 Yr		106.56
Downside Capture Ratio 3 Yr		88.28
Standard Index	MSCI ACWI Ex USA NR USD	
Category Index	MSCI ACWI NR USD	

Performance 03-31-2018

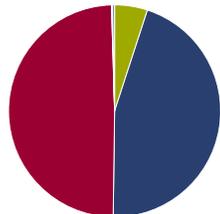


Investment Style
Equity
Stocks %

Growth of \$10,000
 American Funds New Perspective R6: 23,720
 Category Average: 17,163
 Standard Index: 13,831

Performance Quartile
(within category)
History

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	5.01	0.01
US Stocks	45.20	0.73
Non-US Stocks	49.31	99.17
Bonds	0.13	0.00
Other/Not Clsfd	0.34	0.09

Sector Weightings 12-31-2017

	Stocks %	Rel Std Index
Cyclical	37.9	0.83
Basic Materials	6.3	0.76
Consumer Cyclical	16.8	1.49
Financial Services	14.8	0.64
Real Estate	0.0	0.00
Sensitive	43.0	1.27
Communication Services	2.0	0.47
Energy	4.5	0.67
Industrials	9.2	0.85
Technology	27.3	2.24
Defensive	19.1	0.95
Consumer Defensive	9.9	1.02
Healthcare	8.4	1.11
Utilities	0.8	0.28

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	25.65	28.63	26.15	31.25	37.57	36.29	36.02	35.33	43.17	44.12	NAV/Price
Total Return %	16.04	-37.83	37.73	13.11	-7.33	21.19	27.23	3.56	5.63	2.19	29.30	2.20	Total Return %
+/- Standard Index	-0.62	7.69	-3.72	1.96	6.38	4.36	11.95	7.43	11.29	-2.30	2.10	3.38	+/- Standard Index
+/- Category Index	4.37	4.36	3.10	0.44	0.02	5.06	4.43	-0.60	8.00	-5.67	5.32	3.16	+/- Category Index
% Rank Cat	—	—	—	46	43	14	38	40	6	77	16	—	% Rank Cat
No. of Funds in Cat	—	—	—	865	893	936	1040	1158	1208	1015	860	947	No. of Funds in Cat

Style Analysis 12-31-2017

Equity Investment Style Actual %

	Value	Blend	Growth
Large	13	23	55
Mid	1	3	5
Small	0	0	0

Portfolio Statistics: Port Avg 23.5, Rel Index 1.60, Rel Cat 1.15
 P/E Ratio TTM: 23.5, 1.60, 1.15
 Geo Avg Cap Plan (\$Mil): 69,097
 Geo Avg Cap Bmark (\$Mil): 33,897

Fixed-Income Investment Style Actual %

	High	Med	Low
Avg Effective Duration (Yrs)	—	—	—
Avg Effective Maturity (Yrs)	—	—	—
Avg Credit Quality	—	—	—
Bond %	—	—	—
AAA	—	—	—
AA	—	—	—
A	—	—	—
BBB	—	—	—
BB	—	—	—
B	—	—	—
Below B	—	—	—
NR	—	—	—

Ltd Mod Ext

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Cobb County Government 457 Deferred Compensation Plan

American Funds New Perspective R6 (USD)

Risk/Return 03-31-2018



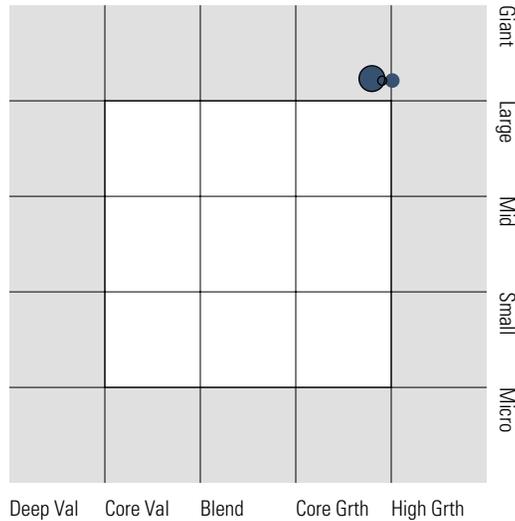
3 Year Standard Deviation

- Fund
- World Large Stock

Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
947	873	717	591	340	Number of Funds in Category	
—	17	12	10	7	Percentile Rank	
2.20	20.57	10.85	12.07	8.23	American Funds New Perspective R6	
-1.18	16.53	6.18	5.89	2.70	MSCI ACWI Ex USA NR USD	
-0.96	14.85	8.12	9.20	5.57	MSCI ACWI NR USD	
7.38	41.60	20.66	23.78	10.51	Category High Return	
-0.82	14.44	7.42	9.10	5.87	Category Median Return	
-7.24	0.70	0.39	2.48	1.06	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Amazon.com Inc	3.78
Facebook Inc A	2.33
Naspers Ltd Class N	2.30
Taiwan Semiconductor Manufacturing Co Ltd	2.30
Microsoft Corp	1.96
JPMorgan Chase & Co	1.61
Broadcom Ltd	1.50
ASML Holding NV	1.47
British American Tobacco PLC	1.43
CME Group Inc Class A	1.38

Investment Strategy 03-31-2018

The investment seeks long-term growth of capital; future income is a secondary objective. The fund seeks to take advantage of investment opportunities generated by changes in international trade patterns and economic and political relationships by investing in common stocks of companies located around the world. In pursuing its primary investment objective, it invests primarily in common stocks that the investment adviser believes have the potential for growth. In pursuing its secondary objective, the fund invests in common stocks of companies with the potential to pay dividends in the future.

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Cobb County Government 457 Deferred Compensation Plan

American Funds Washington Mutual R6 (USD)

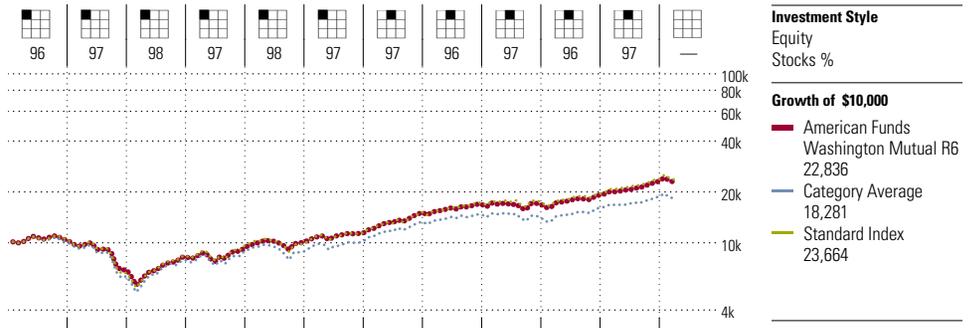
Details 03-31-2018

Ticker	RWMGX
Gross Expense Ratio %	0.30
Total Assets	\$99,948.05 mil
Family	American Funds
Manager	Alan Berro,
Tenure	20.8 Years
Objective	Growth and Income

Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★	1,086 LV
Standard Deviation 3 Yr		9.91
Mean 3 Yr		10.53
Alpha 3 Yr		3.02
Beta 3 Yr		0.92
R-Squared 3 Yr		92.71
Upside Capture Ratio 3 Yr		98.89
Downside Capture Ratio 3 Yr		73.67
Standard Index	S&P 500 TR USD	
Category Index	Russell 1000 Value TR USD	

Performance 03-31-2018



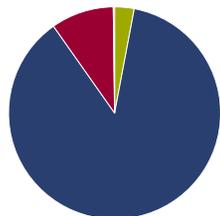
Investment Style
Equity
Stocks %

Growth of \$10,000
American Funds Washington Mutual R6 22,836
Category Average 18,281
Standard Index 23,664

Performance Quartile
(within category)

History	NAV/Price
2007	—
2008	-1.32
2009	-0.56
2010	1.51
2011	—
2012	—
2013	—
2014	—
2015	—
2016	—
2017	—
03-18	—
Total Return %	
+/- Standard Index	
+/- Category Index	
% Rank Cat	
No. of Funds in Cat	

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.98	0.00
US Stocks	87.25	99.16
Non-US Stocks	9.57	0.84
Bonds	0.20	0.00
Other/Not Clsfd	0.00	0.00

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	30.6	0.91
Basic Materials	4.7	1.74
Consumer Cyclical	8.1	0.69
Financial Services	17.2	1.02
Real Estate	0.6	0.28
Sensitive	46.3	1.11
Communication Services	5.3	1.61
Energy	10.6	1.85
Industrials	13.8	1.30
Technology	16.6	0.75
Defensive	23.2	0.94
Consumer Defensive	7.4	0.94
Healthcare	13.2	0.95
Utilities	2.6	0.90

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
32	26	37	P/E Ratio TTM	23.6	1.13	1.32
3	1	1	Geo Avg Cap Plan (\$Mil)		110.31	
0	0	0	Geo Avg Cap Bmark (\$Mil)		92.743	

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
			Avg Effective Duration (Yrs)
			Avg Effective Maturity (Yrs)
			Avg Credit Quality
			AAA
			AA
			A
			BBB
			BB
			B
			Below B
			NR

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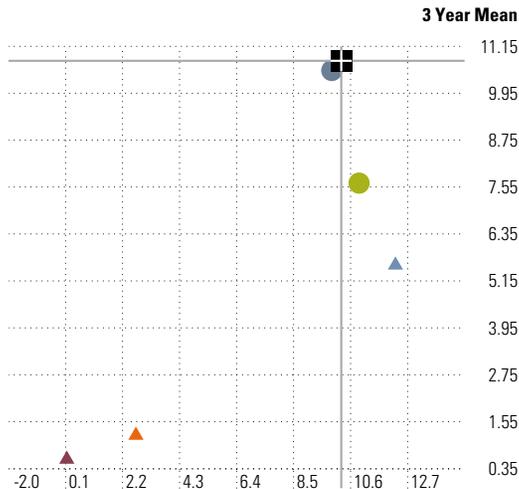
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Cobb County Government 457 Deferred Compensation Plan

American Funds Washington Mutual R6 (USD)

Risk/Return 03-31-2018



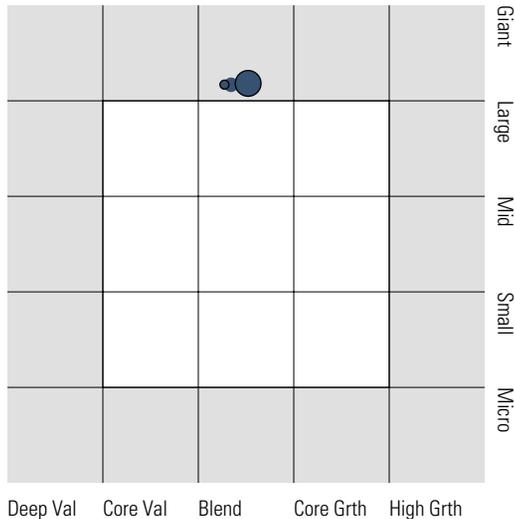
3 Year Standard Deviation

- Fund
- Large Value

Benchmarks

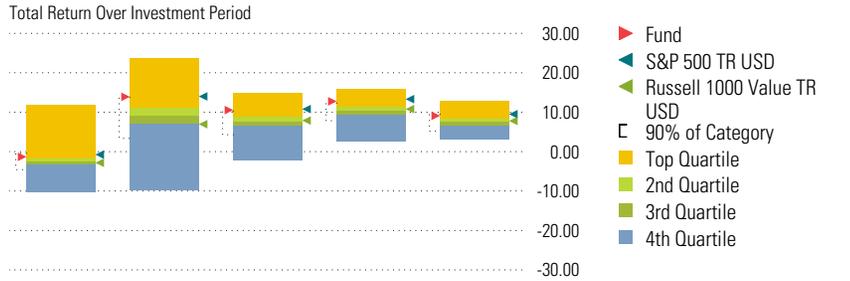
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
1334	1263	1086	958	687	Number of Funds in Category	
—	8	5	3	14	Percentile Rank	
-1.32	13.90	10.53	12.75	9.09	American Funds Washington Mutual R6	
-0.76	13.99	10.78	13.31	9.49	S&P 500 TR USD	
-2.83	6.95	7.88	10.78	7.78	Russell 1000 Value TR USD	
11.85	23.62	14.90	15.79	12.84	Category High Return	
-2.52	9.04	7.63	10.32	7.55	Category Median Return	
-10.28	-9.80	-2.20	2.58	3.07	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Microsoft Corp	6.11
The Home Depot Inc	3.72
Boeing Co	3.01
Intel Corp	2.80
Lockheed Martin Corp	2.73
Royal Dutch Shell PLC ADR Class B	2.48
Comcast Corp Class A	2.39
Verizon Communications Inc	2.25
Johnson & Johnson	2.17
JPMorgan Chase & Co	1.93

Investment Strategy 03-31-2018

The investment seeks to produce income and to provide an opportunity for growth of principal consistent with sound common stock investing. The fund invests primarily in common stocks of established companies that are listed on, or meet the financial listing requirements of, the New York Stock Exchange and have a strong record of earnings and dividends. Its advisor strives to maintain a fully invested, diversified portfolio, consisting primarily of high-quality common stocks.

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Cobb County Government 457 Deferred Compensation Plan

ClearBridge Small Cap I (USD)

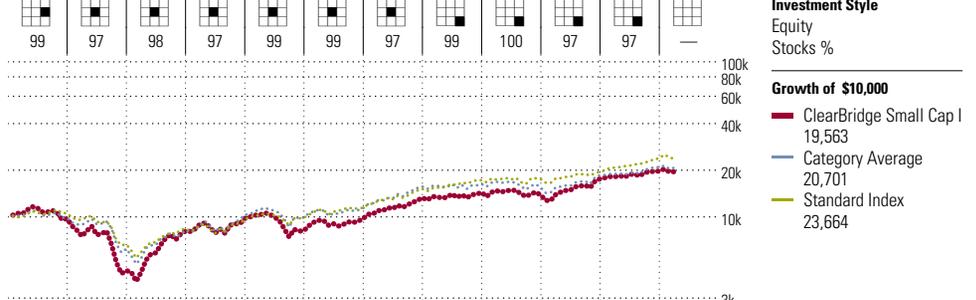
Details 03-31-2018

Ticker	LMNSX
Gross Expense Ratio %	0.98
Total Assets	\$1,025.31 mil
Family	Legg Mason
Manager	Albert Grosman,
Tenure	6.5 Years
Objective	Small Company

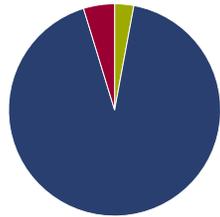
Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★
Standard Deviation 3 Yr	12.68
Mean 3 Yr	9.87
Alpha 3 Yr	2.17
Beta 3 Yr	0.89
R-Squared 3 Yr	94.02
Upside Capture Ratio 3 Yr	94.95
Downside Capture Ratio 3 Yr	82.75
Standard Index	S&P 500 TR USD
Category Index	Russell 2000 TR USD

Performance 03-31-2018



Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.92	0.00
US Stocks	92.34	99.16
Non-US Stocks	4.74	0.84
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.00

Sector Weightings 12-31-2017

	Stocks %	Rel Std Index
Cyclical	46.2	1.38
Basic Materials	6.3	2.37
Consumer Cyclical	13.2	1.13
Financial Services	20.5	1.21
Real Estate	6.1	2.70
Sensitive	37.8	0.90
Communication Services	0.7	0.22
Energy	2.3	0.40
Industrials	16.5	1.55
Technology	18.2	0.82
Defensive	16.1	0.65
Consumer Defensive	3.0	0.39
Healthcare	10.8	0.78
Utilities	2.2	0.78

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
41.71	19.29	34.77	41.82	34.94	40.59	52.05	48.91	45.16	56.44	60.59	60.05	NAV/Price
-2.60	-53.75	80.47	20.28	-16.45	19.45	36.40	8.10	-4.19	27.72	12.10	-0.89	Total Return %
-8.09	-16.75	54.01	5.21	-18.56	3.45	4.02	-5.59	-5.57	15.76	-9.73	-0.13	+/- Standard Index
-1.03	-19.97	53.30	-6.58	-12.28	3.10	-2.42	3.20	0.23	6.41	-2.54	-0.81	+/- Category Index
—	—	—	—	—	—	—	9	43	7	54	—	% Rank Cat
—	—	—	—	—	—	—	737	780	750	802	818	No. of Funds in Cat

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
0	0	0	0	8	4	P/E Ratio TTM	19.8	0.95	0.92
22	31	35				Geo Avg Cap Plan (\$Mil)	1,923		
						Geo Avg Cap Bmark (\$Mil)	92,743		

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
			Avg Effective Duration (Yrs) —
			Avg Effective Maturity (Yrs) —
			Avg Credit Quality —
			AAA —
			AA —
			A —
			BBB —
			BB —
			B —
			Below B —
			NR —

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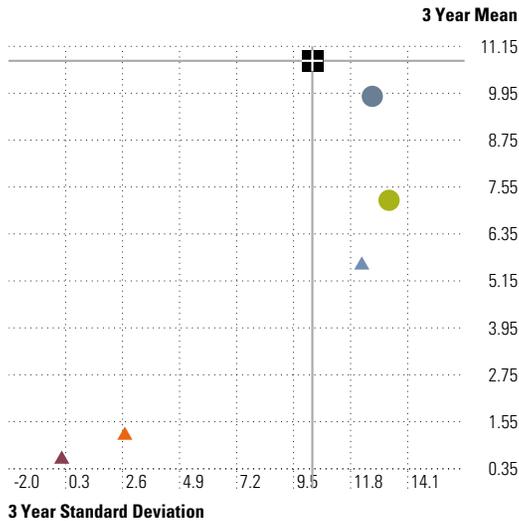
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Cobb County Government 457 Deferred Compensation Plan

ClearBridge Small Cap I (USD)

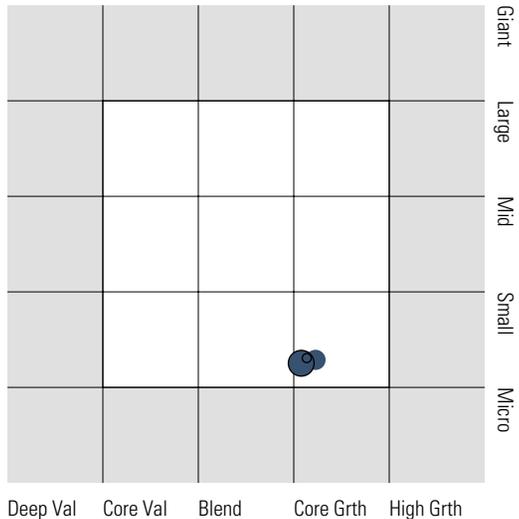
Risk/Return 03-31-2018



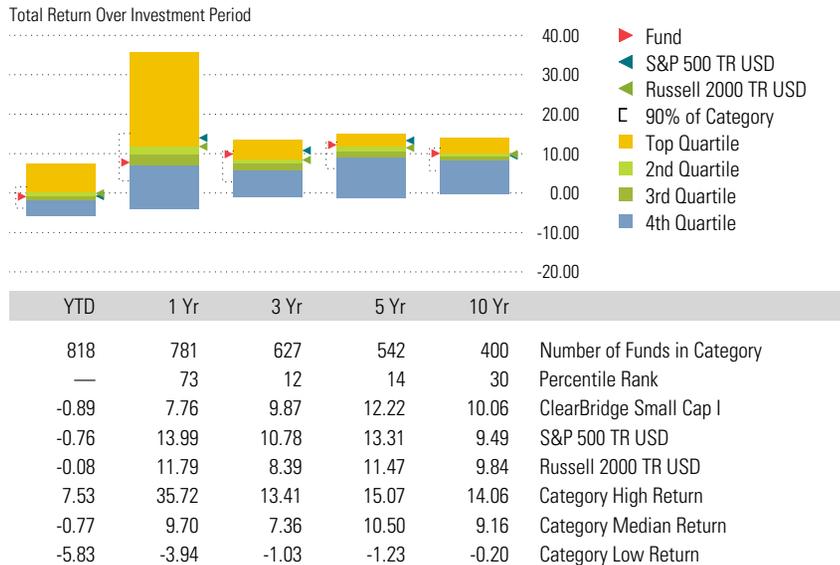
Benchmarks

- S&P 500 TR USD
- ▲ BbgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



Return vs Category Quartiles 03-31-2018



Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Gray Television Inc	2.45
Service Corp International	2.23
Sprouts Farmers Market Inc	2.14
LegacyTexas Financial Group Inc	2.11
2U Inc	1.92
First Interstate BancSystem Inc	1.91
Washington Federal Inc	1.91
WNS (Holdings) Ltd ADR	1.78
Cadence Bancorp A	1.69
HealthEquity Inc	1.68

Investment Strategy 03-31-2018

The investment seeks capital appreciation. Under normal circumstances, the fund invests at least 80% of its net assets plus borrowings for investment purposes, if any, in common stocks and other equity securities of small capitalization companies or in other investments that the portfolio managers believe have similar economic characteristics. The adviser does not currently intend to borrow for investment purposes.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>.

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Cobb County Government 457 Deferred Compensation Plan

Harbor Mid Cap Growth Retirement (USD)

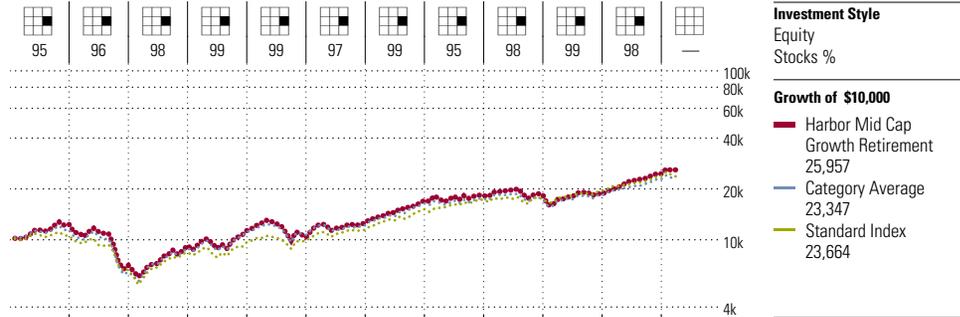
Details 03-31-2018

Ticker	HNMGX
Gross Expense Ratio %	0.81
Total Assets	\$338.22 mil
Family	Harbor
Manager	Michael Carmen,
Tenure	12.6 Years
Objective	Growth

Risk and Return 03-31-2018

Overall Morningstar Rating	☆☆☆	549 MG
Standard Deviation 3 Yr	13.50	
Mean 3 Yr	10.51	
Alpha 3 Yr	0.33	
Beta 3 Yr	1.14	
R-Squared 3 Yr	85.87	
Upside Capture Ratio 3 Yr	109.46	
Downside Capture Ratio 3 Yr	105.30	
Standard Index	S&P 500 TR USD	
Category Index	Russell Mid Cap Growth TR USD	

Performance 03-31-2018



Investment Style
Equity
Stocks %

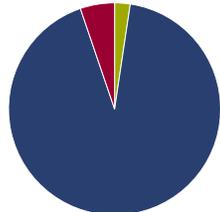
Growth of \$10,000

- Harbor Mid Cap Growth Retirement: 25,957
- Category Average: 23,347
- Standard Index: 23,664

Performance Quartile
(within category)

History

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.37	0.00
US Stocks	92.40	99.16
Non-US Stocks	5.23	0.84
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.00

Sector Weightings 12-31-2017

	Stocks %	Rel Std Index
Cyclical	28.9	0.86
Basic Materials	0.0	0.00
Consumer Cyclical	20.7	1.77
Financial Services	3.9	0.23
Real Estate	4.3	1.89
Sensitive	49.5	1.18
Communication Services	0.0	0.00
Energy	1.5	0.26
Industrials	17.7	1.66
Technology	30.3	1.37
Defensive	21.6	0.88
Consumer Defensive	6.2	0.80
Healthcare	15.3	1.10
Utilities	0.0	0.00

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	—	—	—	—	—	—	—	8.72	10.33	10.91	NAV/Price
Total Return %	23.16	-42.72	31.21	22.51	-8.95	21.83	36.01	6.59	1.04	0.81	32.32	5.61	Total Return %
+/- Standard Index	17.67	-5.72	4.75	7.44	-11.07	5.82	3.63	-7.10	-0.35	-11.15	10.48	6.37	+/- Standard Index
+/- Category Index	11.74	1.61	-15.08	-3.88	-7.30	6.02	0.27	-5.31	1.24	-6.52	7.05	3.44	+/- Category Index
% Rank Cat	—	—	—	—	—	—	—	—	—	—	7	—	% Rank Cat
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	617	627	No. of Funds in Cat

Style Analysis 12-31-2017

Equity Investment Style Actual %

	3	5	18	Large	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	7	6	50	Mid	30.0	1.44	1.14	
Geo Avg Cap Plan (\$Mil)	0	2	9	Small	11,201			
Geo Avg Cap Bmark (\$Mil)					92,743			
	Value	Blend	Growth					

Fixed-Income Investment Style Actual %

	High	Med	Low	Bond %
Avg Effective Duration (Yrs)	—	—	—	—
Avg Effective Maturity (Yrs)	—	—	—	—
Avg Credit Quality	—	—	—	—
AAA	—	—	—	—
AA	—	—	—	—
A	—	—	—	—
BBB	—	—	—	—
BB	—	—	—	—
B	—	—	—	—
Below B	—	—	—	—
NR	—	—	—	—

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

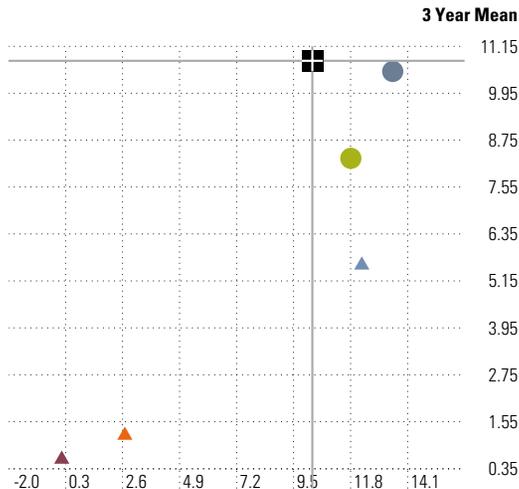
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Cobb County Government 457 Deferred Compensation Plan

Harbor Mid Cap Growth Retirement (USD)

Risk/Return 03-31-2018



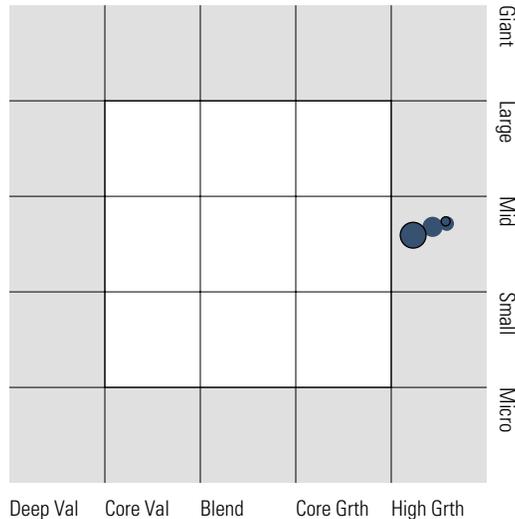
3 Year Standard Deviation

- Fund
- Mid-Cap Growth

Benchmarks

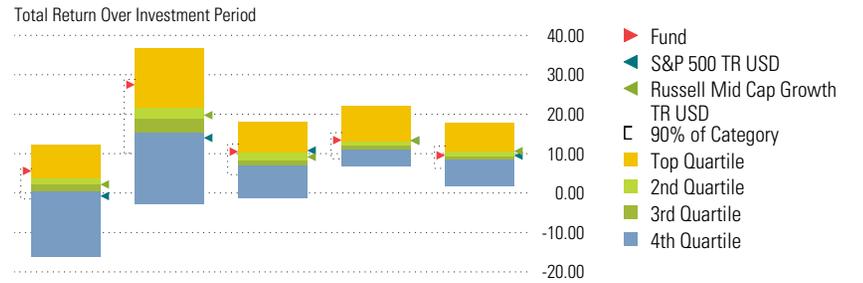
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
627	613	549	485	352	Number of Funds in Category	
—	7	20	21	49	Percentile Rank	
5.61	27.47	10.51	13.42	9.55	Harbor Mid Cap Growth Retirement	
-0.76	13.99	10.78	13.31	9.49	S&P 500 TR USD	
2.17	19.74	9.17	13.31	10.61	Russell Mid Cap Growth TR USD	
12.14	36.84	18.01	22.07	17.82	Category High Return	
2.12	18.76	8.32	11.91	9.34	Category Median Return	
-16.09	-2.75	-1.37	6.86	1.63	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
ServiceNow Inc	3.56
Workday Inc Class A	3.32
Microchip Technology Inc	3.27
Melco Resorts and Entertainment Ltd ADR	3.03
Hilton Worldwide Holdings Inc	2.87
Dollar Tree Inc	2.85
Guidewire Software Inc	2.81
TD Ameritrade Holding Corp	2.79
CoStar Group Inc	2.66
Insulet Corp	2.44

Investment Strategy 03-31-2018

The investment seeks long-term growth of capital. The fund invests primarily in equity securities, principally common and preferred stocks of mid cap companies. The adviser defines mid cap companies as those with market capitalizations that fall within the range of the Russell Midcap® Growth Index. It normally invests at least 80% of its net assets, plus borrowings for investment purposes, in a diversified portfolio of equity securities of mid cap companies. The fund may invest up to 25% of its total assets in the securities of foreign issuers, including issuers located or doing business in emerging markets.

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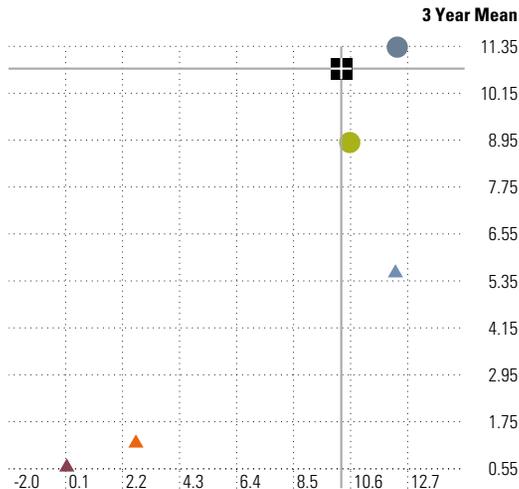
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Cobb County Government 457 Deferred Compensation Plan

JHancock Fundamental Large Cap Core R6 (USD)

Risk/Return 03-31-2018



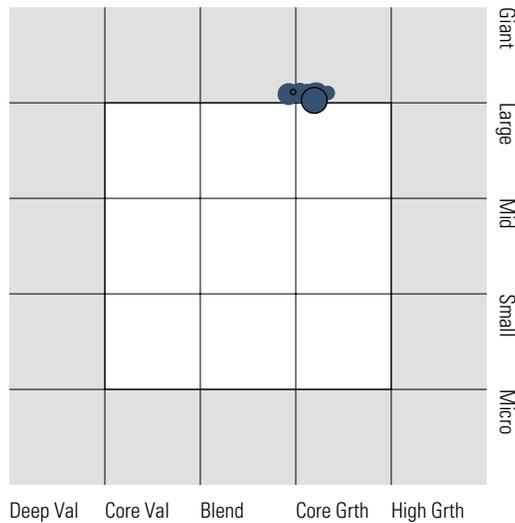
3 Year Standard Deviation

- Fund
- Large Blend

Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

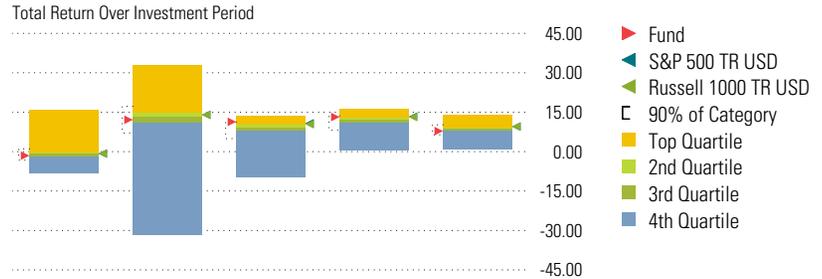
Equity Style Drift 01-31-2018



- Fund

- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
1501	1401	1204	1077	802	802	Number of Funds in Category
—	67	6	16	76	76	Percentile Rank
-1.53	12.12	11.33	13.16	7.81	7.81	JHancock Fundamental Large Cap Core R6
-0.76	13.99	10.78	13.31	9.49	9.49	S&P 500 TR USD
-0.69	13.98	10.39	13.17	9.61	9.61	Russell 1000 TR USD
15.61	32.87	13.43	16.13	14.12	14.12	Category High Return
-0.85	13.26	9.12	12.16	8.59	8.59	Category Median Return
-8.16	-31.58	-9.64	0.62	0.73	0.73	Category Low Return

Top 10 Holdings 01-31-2018

Holding Name	% Net Assets
Amazon.com Inc	7.92
General Electric Co	6.15
Apple Inc	5.73
Bank of America Corporation	4.66
Citigroup Inc	4.38
Alphabet Inc A	4.37
Goldman Sachs Group Inc	4.32
Allergan PLC	3.47
Lennar Corp	3.26
Visa Inc Class A	3.24

Investment Strategy 03-31-2018

The investment seeks long-term capital appreciation. The fund normally invests at least 80% of its net assets (plus any borrowings for investment purposes) in equity securities of large-capitalization companies. It may invest up to 20% of its assets in bonds of any maturity, including up to 15% of net assets in below investment grade bonds (i.e., junk bonds) rated as low as CC by Standard & Poor's Ratings Services or Ca by Moody's Investors' Service, Inc. and their unrated equivalents. The fund may invest up to 35% of its assets in foreign securities and may trade securities actively.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>.

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Cobb County Government 457 Deferred Compensation Plan

Nuveen Real Estate Securities R6 (USD)

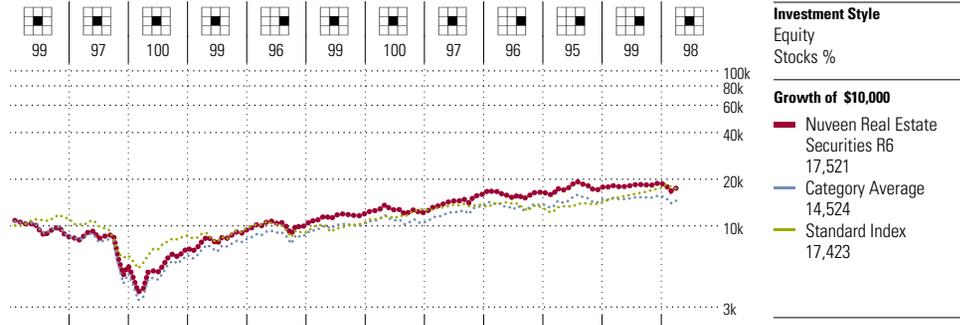
Details 03-31-2018

Ticker	FREGX
Gross Expense Ratio %	0.87
Total Assets	\$3,450.84 mil
Family	Nuveen
Manager	Jay Rosenberg,
Tenure	12.9 Years
Objective	Specialty - Real Estate

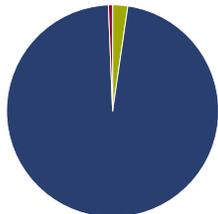
Risk and Return 03-31-2018

Overall Morningstar Rating	★★★
Standard Deviation 3 Yr	228 SR
Mean 3 Yr	13.58
Alpha 3 Yr	1.55
Beta 3 Yr	0.92
R-Squared 3 Yr	0.97
Upside Capture Ratio 3 Yr	99.19
Downside Capture Ratio 3 Yr	97.91
Standard Index	MSCI ACWI NR USD
Category Index	S&P United States REIT TR USD

Performance 03-31-2018



Composition 01-31-2018



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.31	0.00
US Stocks	97.06	52.23
Non-US Stocks	0.63	47.72
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.04

Sector Weightings 01-31-2018

	Stocks %	Rel Std Index
Cyclical	97.8	2.46
Basic Materials	0.0	0.00
Consumer Cyclical	0.0	0.00
Financial Services	0.3	0.01
Real Estate	97.5	33.50
Sensitive	2.2	0.06
Communication Services	1.7	0.44
Energy	0.0	0.00
Industrials	0.6	0.05
Technology	0.0	0.00
Defensive	0.0	0.00
Consumer Defensive	0.0	0.00
Healthcare	0.0	0.00
Utilities	0.0	0.00

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	—	—	—	—	19.72	24.17	23.07	22.23	20.75	19.17	NAV/Price
Total Return %	-15.19	-34.80	30.53	30.57	7.96	18.34	1.41	31.51	3.60	7.05	5.78	-6.99	Total Return %
+/- Standard Index	-26.85	7.40	-4.09	17.90	15.31	2.21	-21.39	27.35	5.97	-0.82	-18.20	-6.03	+/- Standard Index
+/- Category Index	1.51	3.53	1.94	2.09	-0.52	0.36	-0.98	1.24	1.06	-1.45	1.45	1.16	+/- Category Index
% Rank Cat	—	—	—	—	—	—	—	12	33	34	43	—	% Rank Cat
No. of Funds in Cat	—	—	—	—	—	—	—	274	282	267	257	276	No. of Funds in Cat

Style Analysis 01-31-2018

Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
0	19	5	Large	Mid	Small	P/E Ratio TTM	31.9	1.84	0.96
6	44	4				Geo Avg Cap Plan (\$Mil)			10,847
10	9	3				Geo Avg Cap Bmark (\$Mil)			54,951

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
			Avg Effective Duration (Yrs)
			Avg Effective Maturity (Yrs)
			Avg Credit Quality
			AAA
			AA
			A
			BBB
			BB
			B
			Below B
			NR

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

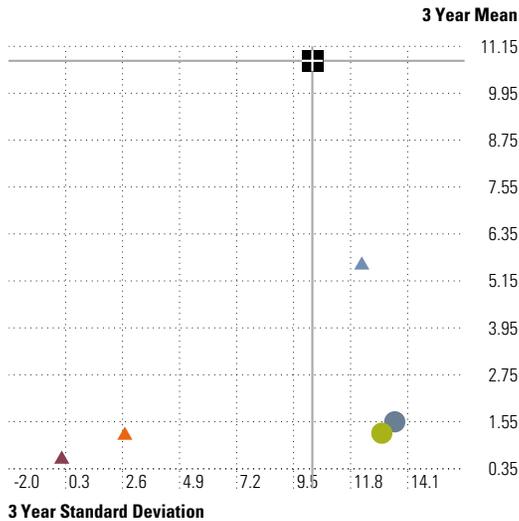
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Cobb County Government 457 Deferred Compensation Plan

Nuveen Real Estate Securities R6 (USD)

Risk/Return 03-31-2018



- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

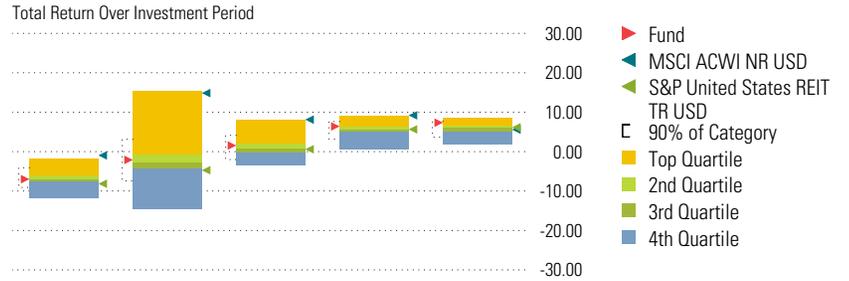
Benchmarks

Equity Style Drift 01-31-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	276	261	228	198	143	Number of Funds in Category
	—	42	39	20	14	Percentile Rank
	-6.99	-2.10	1.55	6.38	7.34	Nuveen Real Estate Securities R6
	-0.96	14.85	8.12	9.20	5.57	MSCI ACWI NR USD
	-8.15	-4.73	0.59	5.64	6.16	S&P United States REIT TR USD
	-1.74	15.40	7.92	8.97	8.52	Category High Return
	-7.06	-2.82	0.70	5.51	5.83	Category Median Return
	-11.88	-14.59	-3.43	0.53	1.95	Category Low Return

Top 10 Holdings 01-31-2018

Holding Name	% Net Assets
Simon Property Group Inc	6.08
AvalonBay Communities Inc	4.87
Duke Realty Corp	4.69
Public Storage	4.10
Equinix Inc	3.70
Federal Realty Investment Trust	3.31
Digital Realty Trust Inc	3.15
Prologis Inc	3.01
Camden Property Trust	2.77
Boston Properties Inc	2.69

Investment Strategy 03-31-2018

The investment seeks to provide above average current income and long-term capital appreciation. The fund normally invests at least 80% of the sum of its net assets and the amount of any borrowings for investment purposes in income-producing common stocks of publicly traded companies engaged in the real estate industry. The advisor expects to emphasize investments in equity REITs, although it may invest in all three kinds of REITs. It may invest up to 15% of its total assets in non-dollar denominated equity securities of non-U.S. issuers. Up to 15% of the fund's total assets may be invested in equity securities of emerging market issuers.

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Cobb County Government 457 Deferred Compensation Plan

Oakmark International Institutional (USD)

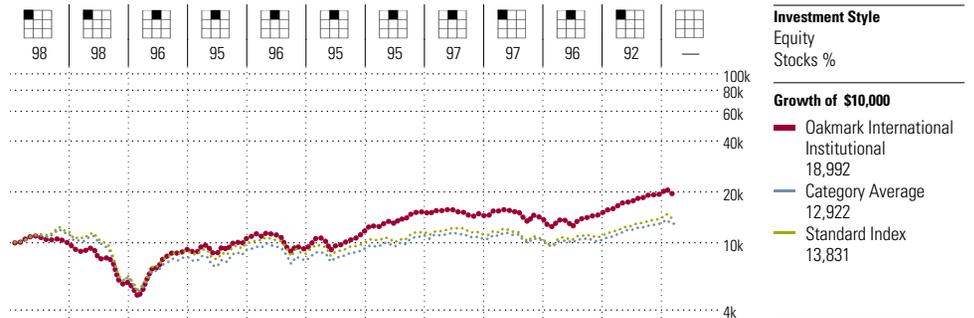
Details 03-31-2018

Ticker	OANIX
Gross Expense Ratio %	0.82
Total Assets	\$46,113.26 mil
Family	Oakmark
Manager	David Herro,
Tenure	25.6 Years
Objective	Foreign Stock

Risk and Return 03-31-2018

Overall Morningstar Rating	☆☆☆☆	605 FB
Standard Deviation 3 Yr	15.86	
Mean 3 Yr	7.21	
Alpha 3 Yr	0.41	
Beta 3 Yr	1.17	
R-Squared 3 Yr	83.80	
Upside Capture Ratio 3 Yr	116.00	
Downside Capture Ratio 3 Yr	115.36	
Standard Index	MSCI ACWI Ex USA NR USD	
Category Index	MSCI ACWI Ex USA NR USD	

Performance 03-31-2018



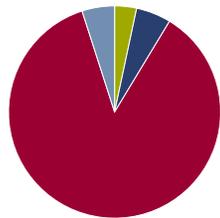
Investment Style
Equity
Stocks %

Growth of \$10,000
 ■ Oakmark International Institutional 18,992
 ■ Category Average 12,922
 ■ Standard Index 13,831

Performance Quartile
(within category)

History	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
NAV/Price	—	—	—	—	—	—	—	—	—	22.71	28.59	27.80
Total Return %	-0.51	-41.06	56.30	16.22	-14.07	29.22	29.34	-5.41	-3.83	7.96	30.00	-2.76
+/- Standard Index	-17.16	4.46	14.86	5.07	-0.36	12.39	14.06	-1.54	1.84	3.47	2.81	-1.58
+/- Category Index	-17.16	4.46	14.86	5.07	-0.36	12.39	14.06	-1.54	1.84	3.47	2.81	-1.58
% Rank Cat	—	—	—	—	—	—	—	—	—	—	8	—
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	—	756	823

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	3.34	0.01
US Stocks	5.32	0.73
Non-US Stocks	86.37	99.17
Bonds	0.00	0.00
Other/Not Clsfd	4.96	0.09

Sector Weightings 12-31-2017

	Stocks %	Rel Std Index
Cyclical	73.9	1.61
Basic Materials	9.5	1.15
Consumer Cyclical	31.1	2.77
Financial Services	33.3	1.45
Real Estate	0.0	0.00
Sensitive	20.5	0.60
Communication Services	2.8	0.67
Energy	0.0	0.00
Industrials	15.1	1.39
Technology	2.7	0.22
Defensive	5.6	0.27
Consumer Defensive	4.2	0.44
Healthcare	1.4	0.18
Utilities	0.0	0.00

Style Analysis 12-31-2017

Equity Investment Style Actual %

42	34	16	Large	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	
1	7	0		Mid	P/E Ratio TTM	14.7	1.00	0.87
0	0	0	Small	Geo Avg Cap Plan (\$Mil)	39,595			
				Value Blend Growth	Geo Avg Cap Bmark (\$Mil)	33,897		

Fixed-Income Investment Style Actual %

			High	Avg Effective Duration (Yrs)	—
				Avg Effective Maturity (Yrs)	—
			Med	Avg Credit Quality	—
			Low	Bond %	—
				AAA	—
			AA	—	
			A	—	
			BBB	—	
			BB	—	
			B	—	
			Below B	—	
			NR	—	

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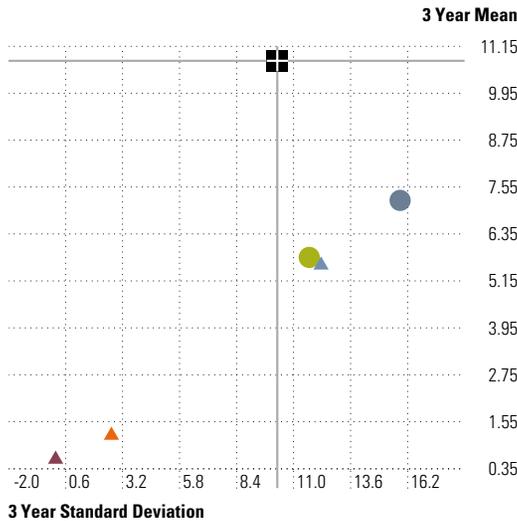
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Cobb County Government 457 Deferred Compensation Plan

Oakmark International Institutional (USD)

Risk/Return 03-31-2018

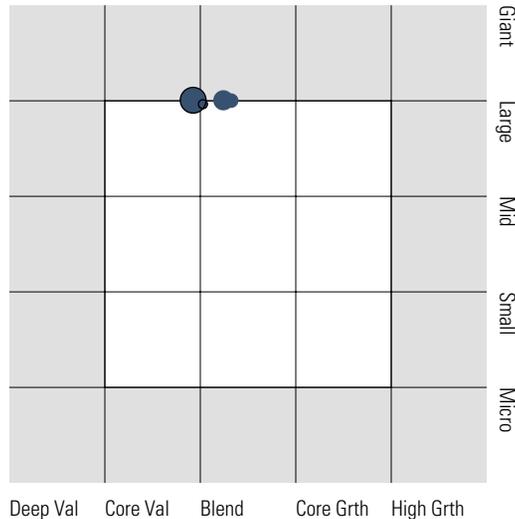


- Fund
- Foreign Large Blend

Benchmarks

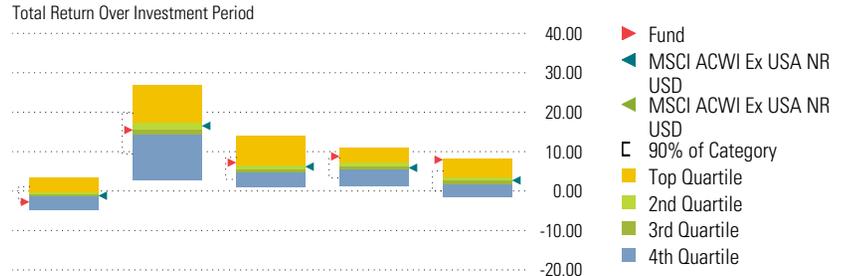
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
823	768	605	536	355	Number of Funds in Category	
—	49	14	3	2	Percentile Rank	
-2.76	15.47	7.21	8.80	7.93	Oakmark International Institutional	
-1.18	16.53	6.18	5.89	2.70	MSCI ACWI Ex USA NR USD	
-1.18	16.53	6.18	5.89	2.70	MSCI ACWI Ex USA NR USD	
3.29	26.81	14.06	11.08	8.30	Category High Return	
-0.89	15.66	5.52	6.28	2.48	Category Median Return	
-4.75	2.80	0.91	1.28	-1.40	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Lloyds Banking Group PLC	5.05
Daimler AG	4.81
Glencore PLC	4.64
BNP Paribas	4.57
Bayerische Motoren Werke AG	4.21
Credit Suisse Group AG	3.88
Intesa Sanpaolo	3.74
Hennes & Mauritz AB B	3.70
Toyota Motor Corp	3.45
Allianz SE	3.39

Investment Strategy 03-31-2018

The investment seeks long-term capital appreciation. The fund invests primarily in a diversified portfolio of common stocks of non-U.S. companies. It may invest in non-U.S. markets throughout the world, including emerging markets. Ordinarily, the fund will invest in the securities of at least five countries outside of the U.S. There are no geographic limits on the fund's non-U.S. investments. The fund may invest in securities of large-, mid-, and small- capitalization companies.

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Cobb County Government 457 Deferred Compensation Plan

Prudential High-Yield Q (USD)

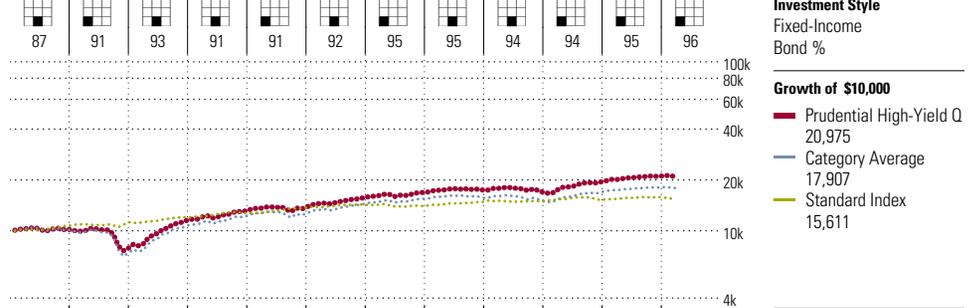
Details 03-31-2018

Ticker	PHYQX
Gross Expense Ratio %	0.41
Total Assets	\$6,959.04 mil
Family	Prudential Funds (PGIM Investments)
Manager	Terence Wheat
Tenure	12.3 Years
Objective	Corporate Bond - High Yield

Risk and Return 03-31-2018

Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	5.16
Mean 3 Yr	5.57
Alpha 3 Yr	0.79
Beta 3 Yr	0.90
R-Squared 3 Yr	97.61
Upside Capture Ratio 3 Yr	95.93
Downside Capture Ratio 3 Yr	84.99
Standard Index	BBgBarc US Agg Bond TR USD
Category Index	ICE BofAML US High Yield TR USD

Performance 03-31-2018



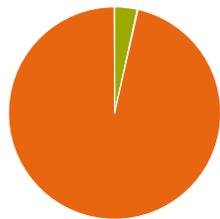
Investment Style
Fixed-Income
Bond %

Growth of \$10,000
 ■ Prudential High-Yield Q 20,975
 ■ Category Average 17,907
 ■ Standard Index 15,611

Performance Quartile
(within category)
History

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	NAV/Price	Total Return %	+/- Standard Index	+/- Category Index	% Rank Cat	No. of Funds in Cat
Value	—	—	—	—	5.38	5.73	5.74	5.54	5.05	5.46	5.52	5.41	—	-0.46	1.00	—	—	—
Blend	1.92	-22.66	46.99	13.84	4.43	14.45	7.15	2.95	-2.68	15.61	7.70	-0.46	—	-0.46	1.00	—	—	—
Growth	-5.05	-27.90	41.06	7.30	-3.42	10.24	9.17	-3.01	-3.23	12.97	4.16	1.00	—	1.00	—	—	—	—
Standard Index	-0.27	3.73	-10.52	-1.35	0.04	-1.13	-0.27	0.45	1.96	-1.88	0.22	0.45	—	0.45	—	—	—	—
Rank	—	—	—	—	—	55	36	15	35	20	23	—	—	—	—	—	—	—
Funds	—	—	—	—	—	598	662	731	769	707	699	734	—	—	—	—	—	—

Composition 02-28-2018



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	3.43	9.42
US Stocks	0.13	0.00
Non-US Stocks	0.01	0.00
Bonds	96.37	90.55
Other/Not Clsfd	0.06	0.02

Sector Weightings 02-28-2018

Sector	Stocks %	Rel Std Index
Cyclical	32.0	—
Basic Materials	0.0	—
Consumer Cyclical	9.5	—
Financial Services	22.5	—
Real Estate	0.0	—
Sensitive	8.6	—
Communication Services	0.0	—
Energy	8.6	—
Industrials	0.0	—
Technology	0.0	—
Defensive	59.5	—
Consumer Defensive	0.0	—
Healthcare	0.0	—
Utilities	59.5	—

Style Analysis 02-28-2018

Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
0	0	0	Large	Mid	Small	P/E Ratio TTM	34.0	—	—
0	0	0	Geo Avg Cap Plan (\$Mil)	1,756	—	Geo Avg Cap Bmark (\$Mil)	—	—	—
87	13	0							

Fixed-Income Investment Style Actual %

High	Med	Low	Avg Effective Duration (Yrs)	3.82
0	0	0	Avg Effective Maturity (Yrs)	—
0	0	0	Avg Credit Quality	—
100	0	0	Bond %	—
Ltd	Mod	Ext	AAA	11.69
			AA	0.00
			A	0.00
			BBB	2.14
			BB	31.21
			B	42.23
			Below B	11.70
			NR	1.03

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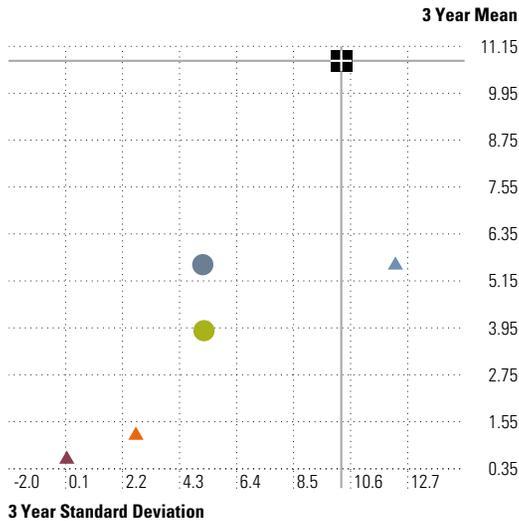
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Cobb County Government 457 Deferred Compensation Plan

Prudential High-Yield Q (USD)

Risk/Return 03-31-2018

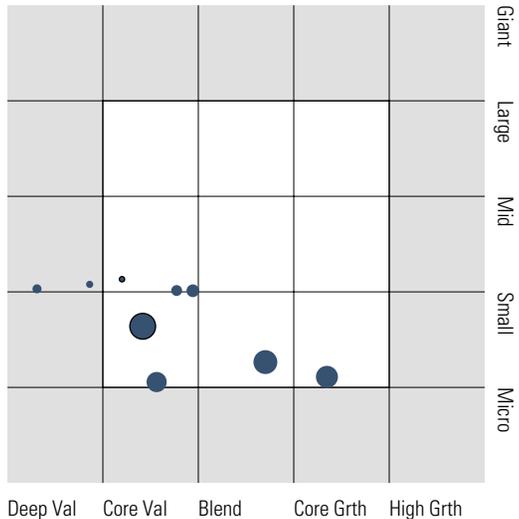


- Fund
- High Yield Bond

Benchmarks

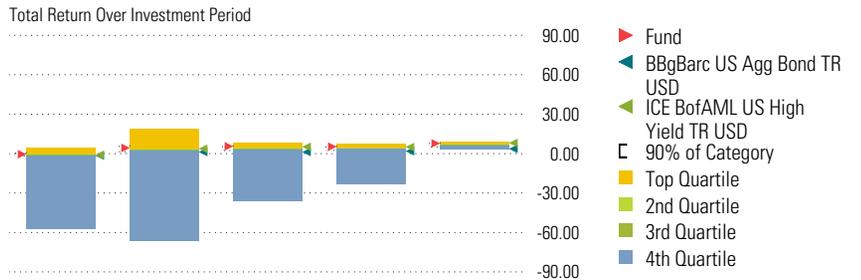
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 02-28-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	734	684	588	488	319	Number of Funds in Category
	—	20	9	10	15	Percentile Rank
	-0.46	4.32	5.57	5.30	7.77	Prudential High-Yield Q
	-1.46	1.20	1.20	1.82	3.63	BBgBarc US Agg Bond TR USD
	-0.91	3.69	5.18	5.01	8.12	ICE BofAML US High Yield TR USD
	4.54	18.43	7.80	7.60	9.08	Category High Return
	-0.84	3.25	3.92	3.94	6.63	Category Median Return
	-57.22	-66.19	-35.82	-23.46	3.03	Category Low Return

Top 10 Holdings 02-28-2018

Holding Name	% Net Assets
US 10 Year Note (CBT) June18	3.79
2 Year US Treasury Note Future June18	3.51
Bmc Software Fin 144A 8.125%	1.27
Dish Dbs 7.75%	1.19
First Data 144A 7%	1.06
Laureate Educ 144A 8.25%	0.87
Altice Financing S.A. 144A 7.75%	0.79
Bombardier 144A 7.5%	0.76
Numericable Grp Sa 144A 7.375%	0.70
Atrium Xii Llc 2015-12r FRN	0.67

Investment Strategy 03-31-2018

The investment seeks to maximize current income; and capital appreciation is a secondary objective. The fund normally invests at least 80% of its investable assets in a diversified portfolio of high yield fixed-income instruments rated Ba or lower by Moody's Investors Service (Moody's) or BB or lower by S&P Global Ratings (Standard & Poor's), and instruments either rated by another nationally recognized statistical rating organization (NRSRO), or considered to be of comparable quality, that is, junk bonds.

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Cobb County Government 457 Deferred Compensation Plan

T. Rowe Price Growth Stock I (USD)

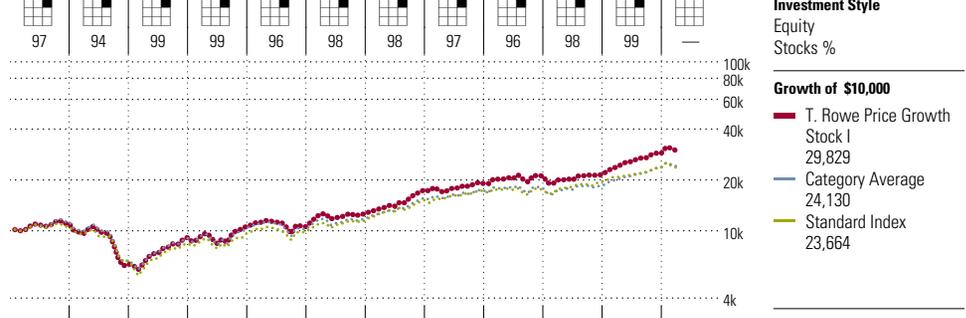
Details 03-31-2018

Ticker	PRUFX
Gross Expense Ratio %	0.52
Total Assets	\$51,731.21 mil
Family	T. Rowe Price
Manager	Joseph Fath
Tenure	4.3 Years
Objective	Growth

Risk and Return 03-31-2018

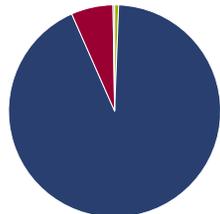
Overall Morningstar Rating	☆☆☆☆
Standard Deviation 3 Yr	12.88
Mean 3 Yr	13.89
Alpha 3 Yr	-0.24
Beta 3 Yr	1.11
R-Squared 3 Yr	90.30
Upside Capture Ratio 3 Yr	108.67
Downside Capture Ratio 3 Yr	110.17
Standard Index	S&P 500 TR USD
Category Index	Russell 1000 Growth TR USD

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	10.37	-42.26	43.25	16.93	-0.97	18.92	39.20	8.83	10.93	1.58	33.84	3.86	Total Return %
+/- Standard Index	4.87	-5.26	16.78	1.87	-3.08	2.91	6.81	-4.86	9.55	-10.38	12.01	4.62	+/- Standard Index
+/- Category Index	-1.45	-3.82	6.04	0.22	-3.61	3.66	5.72	-4.22	5.27	-5.50	3.63	2.44	+/- Category Index
% Rank Cat	—	—	—	—	—	—	—	—	—	63	15	—	% Rank Cat
No. of Funds in Cat	—	—	—	—	—	—	—	—	—	1463	1363	1436	No. of Funds in Cat

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	0.61	0.00
US Stocks	92.76	99.16
Non-US Stocks	6.39	0.84
Bonds	0.00	0.00
Other/Not Clsfd	0.24	0.00

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	34.2	1.02
Basic Materials	0.0	0.00
Consumer Cyclical	19.7	1.68
Financial Services	12.4	0.73
Real Estate	2.2	0.97
Sensitive	46.4	1.11
Communication Services	1.4	0.42
Energy	0.0	0.00
Industrials	11.8	1.11
Technology	33.3	1.50
Defensive	19.3	0.79
Consumer Defensive	2.7	0.34
Healthcare	15.9	1.15
Utilities	0.7	0.26

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
3	20	67	P/E Ratio TTM	29.3	1.41	1.04
1	4	5	Geo Avg Cap Plan (\$Mil)	110,44		
0	0	0	Geo Avg Cap Bmark (\$Mil)	92,743		

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
			Avg Effective Duration (Yrs)
			Avg Effective Maturity (Yrs)
			Avg Credit Quality
			AAA
			AA
			A
			BBB
			BB
			B
			Below B
			NR

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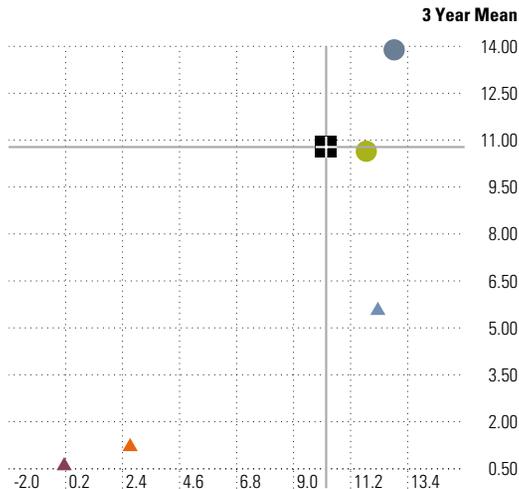
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Cobb County Government 457 Deferred Compensation Plan

T. Rowe Price Growth Stock I (USD)

Risk/Return 03-31-2018



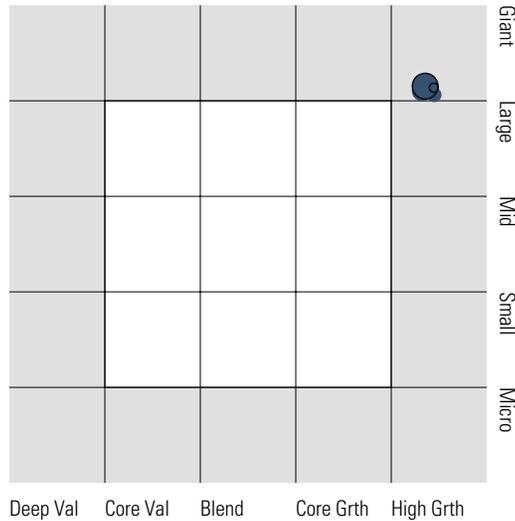
3 Year Standard Deviation

Legend: Fund (Blue circle), Large Growth (Yellow circle)

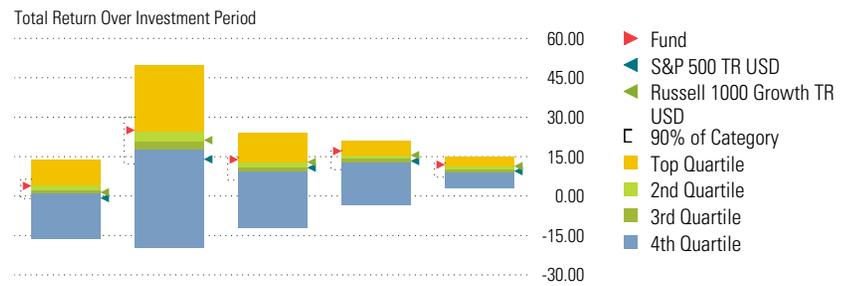
Benchmarks

- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
1436	1376	1213	1099	779	Number of Funds in Category	
—	21	11	8	14	Percentile Rank	
3.86	25.04	13.89	17.11	11.92	T. Rowe Price Growth Stock I	
-0.76	13.99	10.78	13.31	9.49	S&P 500 TR USD	
1.42	21.25	12.90	15.53	11.34	Russell 1000 Growth TR USD	
13.86	49.67	23.79	21.22	14.93	Category High Return	
2.01	20.49	10.88	14.11	10.00	Category Median Return	
-16.49	-19.75	-12.03	-3.56	2.84	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Apple Inc	6.36
Amazon.com Inc	6.33
Microsoft Corp	4.47
Facebook Inc A	4.18
The Priceline Group Inc	3.92
Alphabet Inc C	2.88
Alibaba Group Holding Ltd ADR	2.85
Boeing Co	2.69
Alphabet Inc A	2.63
Visa Inc Class A	2.60

Investment Strategy 03-31-2018

The investment seeks long-term capital growth through investments in stocks. The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in the common stocks of a diversified group of growth companies. While most assets will typically be invested in U.S. common stocks, the fund may invest in foreign stocks in keeping with the fund's objectives.

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Cobb County Government 457 Deferred Compensation Plan

Victory Sycamore Established Value R6 (USD)

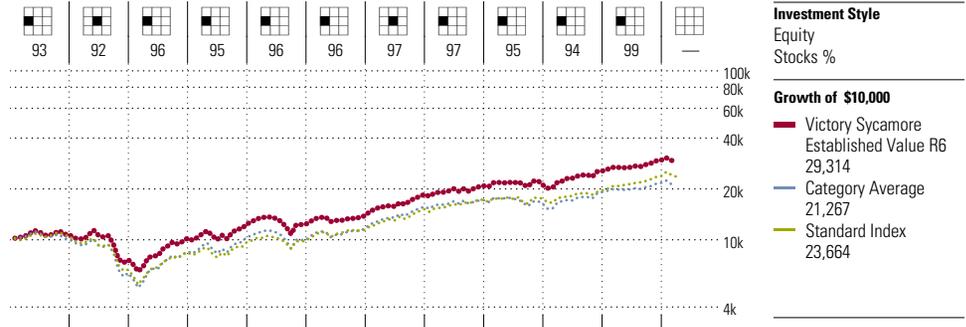
Details 03-31-2018

Ticker	VEVRX
Gross Expense Ratio %	0.54
Total Assets	\$10,633.99 mil
Family	Victory
Manager	Gary Miller,
Tenure	19.8 Years
Objective	Growth

Risk and Return 03-31-2018

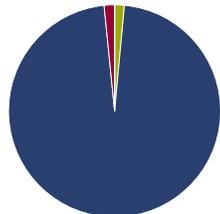
Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	10.71
Mean 3 Yr	10.26
Alpha 3 Yr	3.24
Beta 3 Yr	0.94
R-Squared 3 Yr	88.76
Upside Capture Ratio 3 Yr	101.03
Downside Capture Ratio 3 Yr	75.42
Standard Index	S&P 500 TR USD
Category Index	Russell Mid Cap Value TR USD

Performance 03-31-2018



Investment Style	Equity
Stocks %	100k
Growth of \$10,000	
Victory Sycamore	29,314
Established Value R6	21,267
Category Average	21,267
Standard Index	23,664
Performance Quartile	(within category)
History	
NAV/Price	40.05
Total Return %	-1.09
+/- Standard Index	-0.33
+/- Category Index	1.41
% Rank Cat	—
No. of Funds in Cat	432

Composition 12-31-2017



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	1.48	0.00
US Stocks	96.94	99.16
Non-US Stocks	1.58	0.84
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.00

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	46.7	1.39
Basic Materials	7.0	2.61
Consumer Cyclical	16.6	1.42
Financial Services	20.0	1.18
Real Estate	3.1	1.40
Sensitive	36.3	0.87
Communication Services	0.0	0.00
Energy	6.4	1.11
Industrials	18.8	1.77
Technology	11.1	0.50
Defensive	17.0	0.69
Consumer Defensive	6.5	0.83
Healthcare	7.1	0.51
Utilities	3.4	1.18

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18	History
NAV/Price	—	—	—	—	—	—	—	33.67	30.43	36.18	40.61	40.05	NAV/Price
Total Return %	7.45	-29.12	34.21	21.18	-0.03	11.91	34.16	12.23	1.03	21.11	16.08	-1.09	Total Return %
+/- Standard Index	1.96	7.87	7.74	6.12	-2.14	-4.09	1.78	-1.46	-0.35	9.15	-5.75	-0.33	+/- Standard Index
+/- Category Index	8.88	9.32	0.00	-3.57	1.35	-6.59	0.71	-2.52	5.81	1.12	2.74	1.41	+/- Category Index
% Rank Cat	—	—	—	—	—	—	—	—	6	25	21	—	% Rank Cat
No. of Funds in Cat	—	—	—	—	—	—	—	—	471	399	405	432	No. of Funds in Cat

Style Analysis 12-31-2017

Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
12	15	2	Large	Mid	Small	P/E Ratio TTM	21.8	1.04	1.40
20	32	12				Geo Avg Cap Plan (\$Mil)			12,699
1	2	4				Geo Avg Cap Bmark (\$Mil)			92,743

Fixed-Income Investment Style Actual %

High	Med	Low	Bond %
High	High	High	Avg Effective Duration (Yrs) —
High	High	High	Avg Effective Maturity (Yrs) —
High	High	High	Avg Credit Quality —
High	High	High	AAA —
High	High	High	AA —
High	High	High	A —
High	High	High	BBB —
High	High	High	BB —
High	High	High	B —
High	High	High	Below B —
High	High	High	NR —

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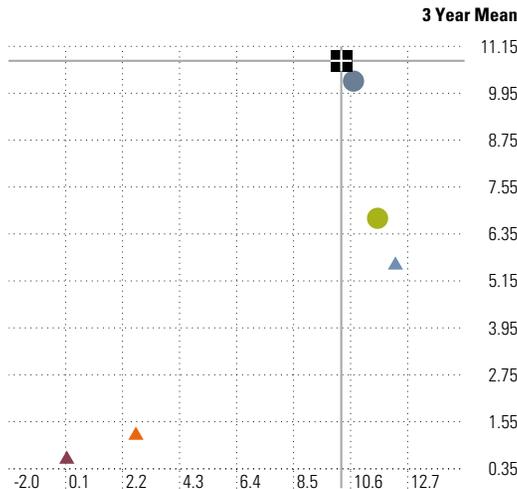
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Cobb County Government 457 Deferred Compensation Plan

Victory Sycamore Established Value R6 (USD)

Risk/Return 03-31-2018



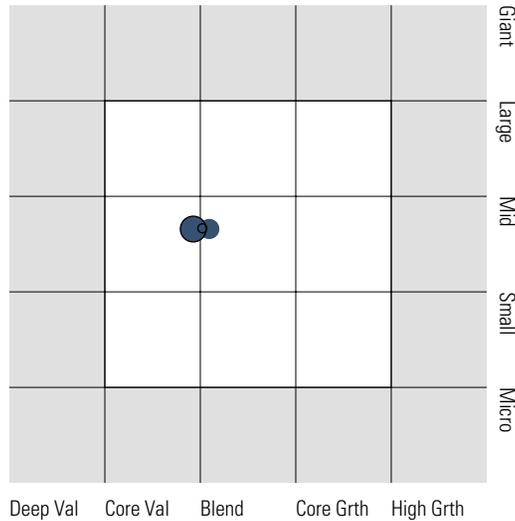
3 Year Standard Deviation

- Fund
- Mid-Cap Value

Benchmarks

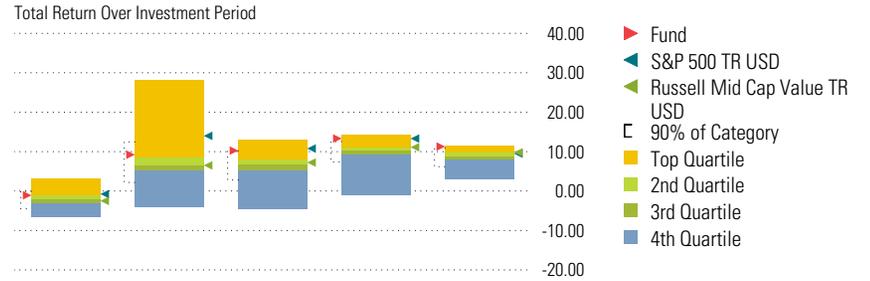
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 12-31-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	432	407	361	309	225	Number of Funds in Category
	—	23	8	3	3	Percentile Rank
	-1.09	9.22	10.26	13.32	11.28	Victory Sycamore Established Value R6
	-0.76	13.99	10.78	13.31	9.49	S&P 500 TR USD
	-2.50	6.50	7.23	11.11	9.81	Russell Mid Cap Value TR USD
	3.08	28.08	13.04	14.16	11.52	Category High Return
	-2.18	6.53	6.57	10.16	8.69	Category Median Return
	-6.59	-4.05	-4.46	-1.00	3.10	Category Low Return

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
Archer-Daniels Midland Co	2.64
Reliance Steel & Aluminum Co	2.41
SunTrust Banks Inc	2.31
Aflac Inc	2.16
VF Corp	2.03
Alleghany Corp	1.97
Citizens Financial Group Inc	1.91
Quanta Services Inc	1.79
Textron Inc	1.78
Quest Diagnostics Inc	1.72

Investment Strategy 03-31-2018

The investment seeks long-term capital growth by investing primarily in common stocks. The fund pursues its investment objective by investing, under normal circumstances, at least 80% of its assets in equity securities of companies with market capitalizations, at the time of purchase, within the range of companies comprising the Russell MidCap® Value Index. The fund may invest a portion of its assets in equity securities of foreign companies traded in the U.S., including American Depositary Receipts and Global Depositary Receipts (ADRs and GDRs).

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>.

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Cobb County Government 457 Deferred Compensation Plan

Western Asset Core Plus Bond IS (USD)

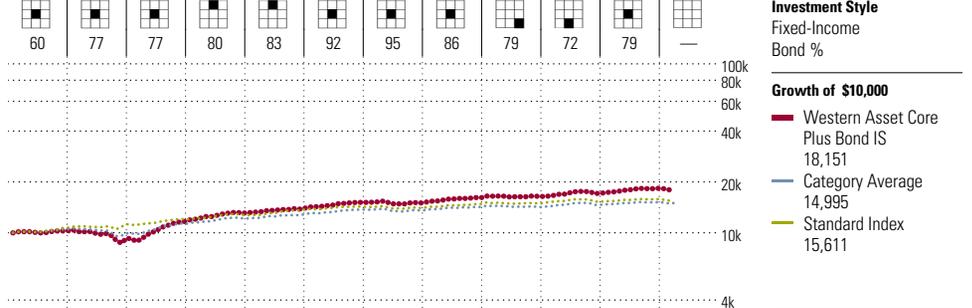
Details 03-31-2018

Ticker	WAPSX
Gross Expense Ratio %	0.42
Total Assets	\$23,368.86 mil
Family	Legg Mason
Manager	Carl Eichstaedt,
Tenure	19.8 Years
Objective	Corporate Bond - General

Risk and Return 03-31-2018

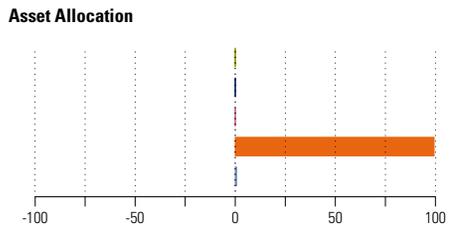
Overall Morningstar Rating	★★★★★
858 CI	
Standard Deviation 3 Yr	3.19
Mean 3 Yr	3.22
Alpha 3 Yr	1.96
Beta 3 Yr	1.05
R-Squared 3 Yr	79.67
Upside Capture Ratio 3 Yr	134.66
Downside Capture Ratio 3 Yr	80.14
Standard Index	BBgBarc US Agg Bond TR USD
Category Index	BBgBarc US Agg Bond TR USD

Performance 03-31-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	03-18
Western Asset Core Plus Bond IS	—	8.66	10.13	10.78	11.10	11.67	11.19	11.64	11.43	11.42	11.83	11.61
Category Average	2.57	-9.76	26.11	12.10	6.65	8.57	-0.98	7.74	1.32	4.72	6.99	-1.07
Standard Index	-4.39	-15.00	20.18	5.56	-1.19	4.35	1.04	1.78	0.77	2.07	3.44	0.39
Performance Quartile (within category)	—	—	7	3	38	26	29	2	7	14	1	—
History	—	—	1123	1164	1195	1165	1079	1038	1042	985	986	1046

Composition 12-31-2017



	Portfolio Net %	Bmark Net %
Cash	0.00	9.42
US Stocks	0.03	0.00
Non-US Stocks	0.00	0.00
Bonds	99.32	90.55
Other/Not Clsfd	0.65	0.02
Total	100.00	100.00

Sector Weightings 12-31-2017

Sector	Stocks %	Rel Std Index
Cyclical	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
Sensitive	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
Defensive	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

Style Analysis 12-31-2017

Equity Investment Style Actual %

Style	Value	Blend	Growth
Large	—	—	—
Mid	—	—	—
Small	—	—	—

Fixed-Income Investment Style Actual %

Style	Ltd	Mod	Ext
High	0	0	0
Med	0	100	0
Low	0	0	0

Performance rankings are based on each fund's total returns relative to other funds in its Morningstar Category for each period. The performance data represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate, thus an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the return data quoted. For performance data current to the most recent month-end, visit <http://advisor.morningstar.com/familyinfo.asp>. The "Overall Morningstar Rating" is based on risk-adjusted returns, derived from a weighted average of the three, five and ten-year (if applicable) Morningstar metrics. An investment in the fund is not insured or guaranteed by the FDIC or any other government agency.

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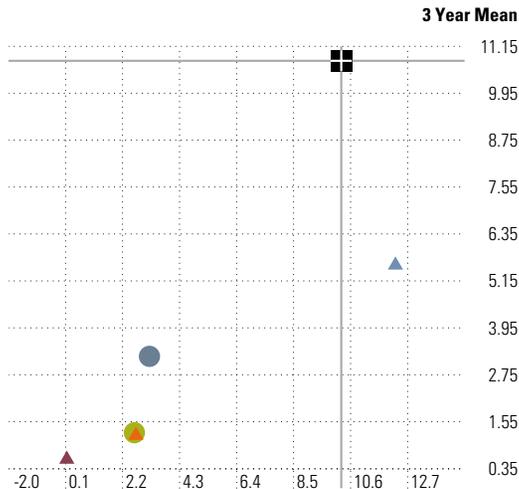
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Western Asset Core Plus Bond IS (USD)

Risk/Return 03-31-2018



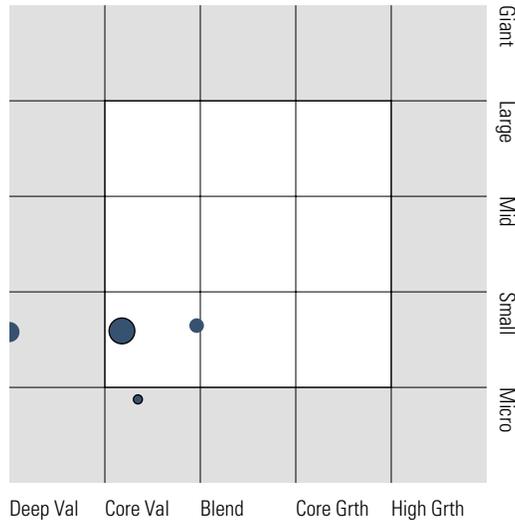
3 Year Standard Deviation

- Fund
- Intermediate-Term Bond

Benchmarks

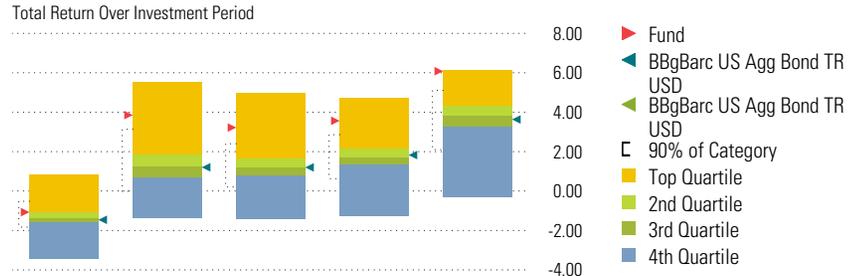
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

Equity Style Drift 06-30-2017



- Fund
- Earliest Portfolios
- Latest Portfolios

Return vs Category Quartiles 03-31-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
1046	999	858	784	561	Number of Funds in Category	
—	3	2	2	1	Percentile Rank	
-1.07	3.85	3.22	3.56	6.08	Western Asset Core Plus Bond IS	
-1.46	1.20	1.20	1.82	3.63	BBgBarc US Agg Bond TR USD	
-1.46	1.20	1.20	1.82	3.63	BBgBarc US Agg Bond TR USD	
0.84	5.54	4.98	4.70	6.12	Category High Return	
-1.39	1.23	1.16	1.71	3.82	Category Median Return	
-3.42	-1.33	-1.42	-1.28	-0.32	Category Low Return	

Top 10 Holdings 12-31-2017

Holding Name	% Net Assets
US Treasury Bond 3.75%	6.28
US Treasury Bond 3%	3.64
Fed Natl Mort Assc 3.5%	3.50
US Treasury Bond 3%	2.97
Fx Fut Mexican Peso Fut Mar18	-2.36
Fx Fut Mexican Peso Fut Mar18	2.36
US Treasury Note 1.875%	1.73
US Treasury Note	1.43
Fed Natl Mort Assc 3%	1.43
Freddie Mac Gold Single Family TBA 3%	1.41

Investment Strategy 03-31-2018

The investment seeks to maximize total return, consistent with prudent investment management and liquidity needs. The fund invests in a portfolio of fixed income securities of various maturities and, under normal market conditions, will invest at least 80% of its net assets in debt and fixed income securities. Although the fund may invest in securities of any maturity, it will normally maintain a dollar-weighted average effective duration within 30% of the average duration of the domestic bond market as a whole as estimated by the fund's subadvisers. The fund may invest up to 20% of its total assets in non-U.S. dollar denominated securities.

The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please visit <http://advisor.morningstar.com/familyinfo.asp>.

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Disclosure

The Defined Contribution Plan Status Report is supplemental sales literature, and therefore must be preceded or accompanied by the fund's current prospectus or an equivalent statement. Please read this information carefully. In all cases, this disclosure statement should accompany the Defined Contribution Plan Status Report. Morningstar is not itself a FINRA-member firm. All data presented is based on the most recent information available to Morningstar as of the release date and may or may not be an accurate reflection of current data for securities included in the fund's portfolio. There is no assurance that the data will remain the same.

The information and data in the presentation may be deemed reliable; however, their accuracy and completeness is not guaranteed by UBS Financial Services Inc and providing you with this information is not to be considered a solicitation on our part with respect to the purchase or sale of any securities, investments, strategies or products that may be mentioned. In addition, the information and data used are subject to change without notice.

Morningstar and its employees are not affiliated with UBS Financial Services Inc. or its affiliates.

Unless otherwise specified, the definition of "funds" used throughout this Disclosure Statement includes closed-end funds, exchange-traded funds, grantor trusts, index mutual funds, open-ended mutual funds, and unit investment trusts. It does not include exchange-traded notes or exchange-traded commodities.

Prior to 2016, Morningstar's methodology evaluated open-end mutual funds and exchange-traded funds as separate groups. Each group contained a subset of the current investments included in our current comparative analysis. In this report, historical data presented on a calendar-year basis and trailing periods ending at the most-recent month-end reflect the updated methodology. Following this change, we expect some movement in the UBS Fund Score. For example, some mutual funds could score a little worse than ETFs after the category merge. Alerts that were set using UBS MF (or US ETF) category

returns/ranking could be triggered.

Risk measures (such as alpha, beta, r-squared, standard deviation, mean, or Sharpe ratio) are calculated for securities or portfolios that have at least a three-year history.

Most Morningstar rankings do not include any adjustment for one-time sales charges, or loads. Morningstar does publish load-adjusted returns, and ranks such returns within a Morningstar Category in certain reports. The total returns for ETFs and fund share classes without one-time loads are equal to Morningstar's calculation of load-adjusted returns. Share classes that are subject to one-time loads relating to advice or sales commissions have their returns adjusted as part of the load-adjusted return calculation to reflect those loads.

Comparison of Fund Types

Funds, including closed-end funds, exchange-traded funds (ETFs), money market funds, open-end funds, and unit investment trusts (UITs), have many similarities, but also many important differences. In general, publically-offered funds are investment companies registered with the Securities and Exchange Commission under the Investment Company Act of 1940, as amended. Funds pool money from their investors and manage it according to an investment strategy or objective, which can vary greatly from fund to fund. Funds have the ability to offer diversification and professional management, but also involve risk, including the loss of principal.

A closed-end fund is an investment company, which typically makes one public offering of a fixed number of shares. Thereafter, shares are traded on a secondary market. As a result, the secondary market price may be higher or lower than the closed-end fund's net asset value (NAV). If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. A closed-end mutual fund's expense ratio is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Closed-end funds may also have 12b-1 fees. Income distributions and capital gains of the closed-end fund are subject to income tax, if held in a taxable account.

An ETF is an investment company that typically has an investment objective of striving to achieve a similar return as a particular market index. The ETF will invest in either all or a representative sample of the securities included in the index it is seeking to imitate. Like closed-end funds, an ETF can be traded on a secondary market and thus have a market price that may be higher or lower than its net asset value. If these shares trade at a price above their NAV, they are said to be trading at a premium. Conversely, if they are trading at a price below their NAV, they are said to be trading at a discount. ETFs are not actively managed, so their value may be affected by a general decline in the U.S. market segments relating to their underlying indexes. Similarly, an imperfect match between an ETF's holdings and those of its underlying index may cause its performance to vary from that of its underlying index. The expense ratio of an ETF is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. ETFs do not have 12b-1 fees or sales loads. Capital gains from funds held in a taxable account are subject to income tax. In many, but not all cases, ETFs are generally considered to be more tax-efficient when compared to similarly invested mutual funds.

Holding company depository receipts (HOLDRs) are similar to ETFs, but they focus on narrow industry groups. HOLDRs initially own 20 stocks, which are unmanaged, and can become more concentrated due to mergers, or the disparate performance of their holdings. HOLDRs can only be bought in 100-share increments. Investors may exchange shares of a HOLDR for its underlying stocks at any time.

A money-market fund is an investment company that invests in commercial paper, banker's acceptances, repurchase agreements, government securities, certificates of deposit and other highly liquid securities, and pays money market rates of interest. Money markets are not FDIC-insured, may lose money, and are not guaranteed by a bank or other financial institution. **Although the money market seeks to preserve a stable per share value (i.e. \$1.00 per share), it is possible to lose money by investment in the fund.**

An open-end fund is an investment company that issues shares on a continuous basis. Shares can be purchased from the open-end mutual

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fund itself, or through an intermediary, but cannot be traded on a secondary market, such as the New York Stock Exchange. Investors pay the open-end mutual fund's current net asset value plus any initial sales loads. Net asset value is calculated daily, at the close of business. Open-end mutual fund shares can be redeemed, or sold back to the fund or intermediary, at their current net asset value minus any deferred sales loads or redemption fees. The expense ratio for an open-end mutual fund is an annual fee charged to a shareholder. It includes operating expenses and management fees, but does not take into account any brokerage costs. Open-end funds may also have 12b-1 fees. Income distributions and capital gains of the open-end fund are subject to income tax, if held in a taxable account.

Mutual Fund Performance Information

Additional information regarding each fund analyzed is presented in the Fact Sheets included with this analysis. Note that the information contained in this analysis was obtained from a variety of sources and UBS has not verified the accuracy of this information.

Mutual Funds are sold by prospectus and you should carefully consider important information on the fund's investment objectives, risk, charges and expenses. Please read the prospectus and offering documents carefully before you invest. Your Financial Advisor can provide a copy of the prospectus. For current month-end returns:
<http://advisor.morningstar.com/familyinfo.asp>

A unit investment trust (UIT) is an investment company organized under a trust agreement between a sponsor and trustee. UITs typically purchase a fixed portfolio of securities and then sell units in the trust to investors. The major difference between a UIT and a mutual fund is that a mutual fund is actively managed, while a UIT is not. On a periodic basis, UITs usually distribute to the unit holder their pro rata share of the trust's net investment income and net realized capital gains, if any. If the trust is one that invests only in tax-free securities, then the income from the trust is also tax-free. UITs generally make one public offering of a fixed number of units. However, in some cases, the sponsor will maintain a secondary market that allows existing unit holders to sell their units and for new investors to buy units. A one-time initial sales

charge is deducted from an investment made into the trust. UIT investors may also pay creation and development fees, organization costs, and/or trustee and operation expenses. UIT units may be redeemed by the sponsor at their net asset value minus a deferred sales charge, and sold to other investors. UITs have set termination dates, at which point the underlying securities are sold and the sales proceeds are paid to the investor. Typically, a UIT investment is rolled over into successive trusts as part of a long-term strategy. A rollover fee may be charged for the exercise of rollover purchases. There are tax consequences associated with rolling over an investment from one trust to the next.

Comparison of Other Security Types

A bond is a debt security. When an investor purchases a bond, the purchase amount is lent to a government, municipality, corporation or other entity known as an issuer. The issuer promises to pay a specified rate of interest during the life of the bond and repay the face value of the bond when it matures. U.S. Treasuries can be purchased directly from the Treasury or through a brokerage firm. Most other newly issued bonds are offered through an underwriter. Older bonds are traded throughout the day on the secondary market and can be purchased through a brokerage firm, who will charge transaction fees and commission for the purchase or sale. Price evaluations are provided by Interactive Data Corporation (IDC).

A commingled pool or collective investment trust (CIT) is a product where assets from several accounts are pooled and managed together. This strategy reduces management and administrative costs. Typically a collection of participants with the same strategy is pooled together.

Insurance group separate accounts (IGSA) are unregistered group annuities, primarily used in 401(k) qualified, but also 403(b) and 457 retirement plans. They are segregated (usually pooled) investment portfolios, separate from the general investment portfolios established by life insurance companies. These products are regulated by state insurance boards, but not the SEC.

A separate account is a professionally managed portfolio of individual securities. Generally, it is an investment consulting relationship in which a client's money is placed with one or more money managers, and

all administrative and management fees, along with commissions, are wrapped into one comprehensive fee, often paid quarterly.

A stock is an ownership interest in a company. When an investor purchases a stock, they become a business owner, and the value of their ownership stake will rise and fall according to the underlying business. Stockholders are entitled to the profits, if any, generated by the company after everyone else – employees, vendors, lenders – get paid. Companies usually pay out their profits to investors in the form of dividends, or they reinvest the money back into the business. Stocks trade on exchanges throughout the day, through a brokerage firm who will charge a commission for the purchase or sale of shares. Income distributions and capital gains of the stock are subject to income tax upon their sale, if held in a taxable account.

Variable annuities are tax-deferred investments structured to convert a sum of money into a series of payments over time. Variable annuity policies have limitations and are not viewed as short-term liquid investments. An insurance company's fulfillment of a commitment to pay a minimum death benefit, a schedule of payments, a fixed investment account guaranteed by the insurance company, or another form of guarantee depends on the claims-paying ability of the issuing insurance company. Any such guarantee does not affect or apply to the investment return or principal value of the separate account and its subaccount. The financial ratings quoted for an insurance company do not apply to the separate account and its subaccount. The insurance company offering a variable life contract will charge several fees to investors, including annual contract charges that compensate the insurance company for the cost of maintaining and administering the variable life contract, mortality and expense risk (M&E Risk) charges based on a percentage of a subaccount's assets to cover costs associated with mortality and expense risk, and administration fees that are based on a percentage of a subaccount's assets to cover the costs involved in offering and administering the subaccount. A variable life investor will also be charged a front-end load by the insurance company on their initial contribution, ongoing fees related to the management of the fund, and surrender charges if the investor makes a withdrawal prior to a specified time. If the variable annuity subaccount is invested in a money-market fund, the money market fund is not FDIC-insured, may lose money, and is

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not guaranteed by a bank or other financial institution.

Performance

The performance data given represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when sold, may be worth more or less than the original investment. Fund portfolio statistics change over time. Funds are not FDIC-insured, may lose value, and are not guaranteed by a bank or other financial institution.

Morningstar calculates after-tax returns using the highest applicable federal marginal income tax rate plus the Medicare surcharge. As of 2016, this rate is 39.6% plus 0.9% Medicare surcharge, or 40.5%, this has been unchanged since 2013. This rate changes periodically in accordance with changes in federal law.

Pre-Inception Returns

The analysis in this report may be based, in part, on adjusted historical returns for periods prior to the inception of the share class of the fund shown in this report ("Report Share Class"). If pre-inception returns are shown, a performance stream consisting of the Report Share Class and older share class(es) is created. Morningstar adjusts pre-inception returns downward to reflect higher expenses in the Report Share Class, we do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns please see the Morningstar Extended Performance Methodology.

When pre-inception data is presented in the report, the header at the top of the report will indicate this. In addition, the pre-inception data included in the report will appear in italics.

While the inclusion of pre-inception data provides valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the

pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

The information contained in this report is from the most recent information available to Morningstar as of the release date, and may or may not be an accurate reflection of the current composition of the securities included in the plan. There is no assurance that the weightings, composition and ratios will remain the same.

Benchmark Returns

Benchmark performance is based on market total returns for market indices and NAV total returns for category averages. NAV total return reflects performance without adjusting for sales charges or the effects of taxation, but is adjusted to reflect all actual ongoing security expenses (management, administrative, 12b-1 fees and other costs taken out of fund assets), and assumes reinvestment of dividends and capital gains. A fund's portfolio may differ significantly from the securities in the benchmark.

Returns for custom benchmarks are calculated by applying user-supplied weightings to each benchmark's returns every month. Trailing returns are calculated by geometrically linking these weighted-average monthly returns. Custom benchmark returns thus assume monthly rebalancing.

12b1 Expense %

Current 12b-1 is the maximum annual charge deducted from fund assets to pay for distribution and marketing costs. This information is taken directly from the fund's prospectus.

ALERTS

The Alerts displayed in this report are being provided to assist retirement plan fiduciaries in evaluating the investment options offered under a defined contribution retirement plan. A number of different factors should be considered when choosing to add, remove or maintain a retirement plan investment options.

General

The Alerts section identifies alerts that you and your financial advisor set to help identify changes and/or potential problems in securities. The Alerts section is intended to be for client reporting purposes on implemented strategies or for advisor use only. It is not intended for use as supplemental sales literature. Morningstar is not itself a FINRA member firm.

The content of this section is driven by measurement criteria that were selected by you and your advisor.

Alerts may be set on performance, risk, ratings, composition, and other characteristics. Alerts may be set on an absolute basis, where a measure is compared against a set value, or on a relative basis, where a security value is compared with the value of a benchmark or category.

Triggering of alerts is based on comparisons of data points that are available to Morningstar, Inc., applying mechanical checking mechanisms. Although best efforts are made by Morningstar, Inc. to maintain accurate and complete data and functional mechanical processes, there are no guarantees with regard to either.

You and your financial advisor determined the criteria for setting alerts. There is no guarantee that the alerts set are appropriate. Setting alerts does not provide or guarantee protection against losses, market risk, or any other factors impacting securities. The presence of triggered alerts does not necessarily indicate weaknesses or problems with the securities, and is not necessarily a cause for action or changes in the implemented securities. The absence of triggered alerts also does not necessarily indicate security strength. Alerts are checked on a schedule (daily, weekly, monthly) selected by the advisor. The checking schedule set may be insufficient to trigger a current alert even if an alert criterion is met currently.

Any performance data given in the report represents past performance and should not be considered indicative of future results. Principal value and investment return will fluctuate, so that an investor's shares, when redeemed, may be worth more or less than the original investment. Most securities covered in this report are not FDIC-insured, may lose value and are not guaranteed by a bank or other financial institution.

Cobb County Government 457 Deferred Compensation Plan

Disclosure

Alert Terminology

Security Alert: An alert rule that is based on characteristics of a single security, e.g. a mutual fund. Note that it is possible to set one alert rule to multiple securities at a time.

Status: The status of an alert will be either “triggered” or “not triggered.” A status of “triggered” means that the criteria set in the alert is currently met. A status of “not triggered” means that conditions set in the alert were not met when last checked.

Initial Trigger Date: This represents the first date on which the alert was checked and for which alert conditions were met. Note that it is possible that conditions for triggering the alert were met prior to the first check.

Initial Trigger Value: This represents the measure that caused an alert’s conditions to first be met. For example, if an alert is set to trigger when one-year trailing return is less than 2%, and one year trailing return is 1.9% when checked, 1.9 will appear as the trigger value.

Current Trigger Value: This represents the measure that causes an alert’s conditions to continue to be met when most recently checked.

Current Comparison Value: This represents the value that is being compared to determine if the alert is triggered. For example, if an alert is set to trigger when one-year trailing return is less than 2.0%, a value of 2 will appear as the Comparison Value. If the alert is set to trigger when one-year trailing performance for a security is less than one-year performance for a benchmark, the comparison value will show the performance of the benchmark.

Current Comparison Subject: This represents the entity against which the security or aggregate is compared. For example, if an alert is set to trigger if one-year return is less than the return of a benchmark, the benchmark name will be shown as the comparison subject.

Security Name: When a security alert is triggered, the name of any impacted security will be listed.

Frequency: Alerts may be set on monthly, weekly, and daily frequencies.

Monthly alerts compare data based on the last business day of the month and continue monthly. Weekly alerts compare data based on the last business day of the week and continue weekly. Daily alerts compare data based on the previous business day and continue daily.

Alpha

Alpha is a measure of the difference between a security or portfolio’s actual returns and its expected performance, given its level of risk (as measured by beta.) Alpha is often seen as a measure of the value added or subtracted by a portfolio manager.

Asset Allocation

Asset Allocation reflects asset class weightings of the portfolio. The “Other” category includes security types that are not neatly classified in the other asset classes, such as convertible bonds and preferred stocks, or cannot be classified by Morningstar as a result of missing data. Morningstar may display asset allocation data in several ways, including tables or pie charts. In addition, Morningstar may compare the asset class breakdown of the fund against its three-year average, category average, and/or index proxy.

Asset allocations shown in tables may include a breakdown among the long, short, and net (long positions net of short) positions. These statistics summarize what the fund’s managers are buying and how they are positioning the fund’s portfolio. When short positions are captured in these portfolio statistics, investors get a more robust description of the fund’s exposure and risk. Long positions involve buying the security outright and selling it later, with the hope the security’s price rises over time. Short positions are taken with the hope of benefitting from anticipated price declines. The investor borrows the security from another investor, sells it and receives cash, and then is obligated to buy it back at some point in the future. If the price falls after the short sale, the investor will have sold high and can buy low to close the short position and lock in a profit. However, if the price of the security increases after the short sale, the investor will experience a loss buying it at a higher price than the sale price.

Most fund portfolios hold fairly conventional securities, such as long

positions in equities and bonds. Morningstar may generate a colored pie chart for these portfolios. Other portfolios use other investment strategies or securities, such as short positions or derivatives, in an attempt to reduce transaction costs, enhance returns, or reduce risk. Some of these securities and strategies behave like conventional securities, while other have unique return and risk characteristics. Portfolios that incorporate investment strategies resulting in short positions or portfolio with relatively exotic derivative positions often report data to Morningstar that does not meet the parameters of the calculation underlying a pie chart’s generation. Because of the nature of how these securities are reported to Morningstar, we may not always get complete portfolio information to report asset allocation. Morningstar, at its discretion, may determine if unidentified characteristics of fund holdings are material. Asset allocation and other breakdowns may be rescaled accordingly so that percentages total to 100 percent. (Morningstar used discretion to determine if unidentified characteristics of fund holdings are material, pie charts and other breakdowns may rescale identified characteristics to 100% for more intuitive presentation.)

Note that all other portfolio statistics presented in this report are based on the long (or long rescaled) holdings of the fund only.

Average Effective Duration

Duration is a time measure of a bond’s interest-rate sensitivity. Average effective duration is a weighted average of the duration of the fixed-income securities within a portfolio.

Average Effective Maturity

Average Effective Maturity is a weighted average of the maturities of all bonds in a portfolio.

Best Fit Index

Alpha, beta, and R-squared statistics are presented for a broad market index and a “best fit” index. The Best Fit Index identified in this report was determined by Morningstar by calculating R-squared for the fund against approximately 100 indexes tracked by Morningstar. The index representing the highest R-squared is identified as the best fit index. The best fit index may not be the fund’s benchmark, nor does it

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necessarily contain the types of securities that may be held by the fund or portfolio.

Beta

Beta is a measure of a security or portfolio's sensitivity to market movements (proxied using an index.) A beta of greater than 1 indicates more volatility than the market, and a beta of less than 1 indicates less volatility than the market.

Capture Ratios

Capture Ratios compare the fund's results to their peer group index in periods of both positive and negative returns. The Downside Capture Ratio uses the annualized cumulative returns for both the fund and the S&P 500 for all the quarters when the S&P500 had negative returns.

Dividing the fund's return during the down quarters by the S&P 500's return during the same quarters provides the downside capture ratio. The Upside Capture Ratio uses the annualized cumulative returns for both the fund and the S&P 500 for all quarters when the S&P 500 had positive returns. Dividing the fund's return during the positive quarters by the S&P 500's return during the same quarters provides the upside capture ratio.

Composition By Fund

The pie chart displays the funds' exposure by their respective percentage allocation. The corresponding table provides the fund name, ticker, plan percentage, and amount (\$) of funds in the plan. If your plan has more than 26 funds only the top 26 based on their percentage of plan assets will be listed.

Concentration Ratio

The concentration ratio depicts how much of the plan's aggregate investment options are within the top 10 stock holdings.

Correlation Matrix Graph

The Correlation Matrix is based on the correlation coefficient calculated for the monthly returns of each investment showing in the report against the other investments in the report. The correlation coefficient is a number between -1.0 and 1.0.

If there is a perfect positive linear relationship between the returns of investments, the correlation will be 1.0. A correlation close to 1.0 means that two investments perform similarly—when one investment is performing above its average return, the other performs above its average return. The opposite is also true—when one investment performs below its average return, the other also performs below its average.

A correlation coefficient of 0.0 means that there is no linear relationship between the returns of two investments. Securities with a correlation coefficient at or near 0 indicate a pattern of returns between two securities that are unrelated.

If there is a perfect negative linear relationship between two investments the correlation coefficient is -1.0. If there is a perfectly negative relationship between two investments, when one investment performs above its average return, the other performs below its average, and vice versa.

Correlation between securities is a helpful measure because it indicates the extent to which securities may serve to improve diversification within a portfolio. Portfolios containing securities with low correlation of returns produce portfolio risk that is lower than the average risk of the individual securities. The lower the correlation between securities, the greater the impact in lowering portfolio risk. Securities with correlations equal to 1.0 indicate a pattern of returns that do not contribute to beneficial diversification in a portfolio and do not lower overall portfolio risk when the securities are combined in a portfolio. Securities with correlations equal to 0.0 or close to 0.0 indicate a pattern of returns that serve to improve diversification effects in a portfolio. Securities with correlations equal to -1.0 or close to -1.0 indicate a pattern of returns that serve to strongly improve diversification effects in a portfolio, notably, lower overall portfolio risk. Note that it is very unusual to have investments with extremely strong negative correlation patterns. Most securities have a correlation above 0.

Note that return patterns between securities may change over time. The correlation coefficient between two investments over one period may differ from that of another period.

Further, note that while combining securities with correlation coefficients less than 1.0 in a portfolio can reduce risk, risk cannot be completely eliminated with diversification. There is no guarantee that any particular mix of securities will eliminate risk, reduce your current exposure to risk, or manage your exposure to risk in a way that is tolerable for you.

Deferred Load %

The back-end sales charge or deferred load is imposed when an investor redeems shares of a fund. The percentage of the load charged generally declines the longer the fund's shares are held by the investor. This charge, coupled with 12b-1 fees, commonly serves as an alternative to a traditional front-end load.

Expense Ratio %

Prospectus Gross Expense Ratio is the maximum expense ratio which a fund may charge as detailed in the prospectus. The purpose of this data point is to identify the maximum exposure an investor has to fund expenses. The Prospectus Gross Expense Ratio may not equal the actual expenses paid.

Prospectus Net Expense Ratio reflects actual expenses paid by the fund as well as any voluntary waivers, reductions from brokerage service arrangements and any other expense offset arrangements.

Expense Ratio Quartile Rank

The expense ratio quartile rank of a holding is calculated by dividing the expense ratio of the holding by the expense ratio of its Morningstar Category. The graph, ranging from Q1 (best/lowest) to Q4 (worse/highest), displays the number of funds that fall into each of the resulting quartiles.

Expense/Return Graph

Cost measures for mutual funds use Prospectus Net Expense Ratio. For VAs, total insurance expense is included in the Prospectus ratio. For CITs, CEs, and ETFs, Net Operating Expense Ratio is used. The expense/return graph is used to capture each security's return and expense performance relative to its category peers. It's important to understand the context in which returns and expenses are experienced.

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For example, slightly higher than category median expenses may be acceptable if the option provides much higher than category average returns. The desirable quadrant of the expense/return graph is the upper left, where options have demonstrated lower expenses and higher returns than their category peers. The 3 Yr Relative Return measures the fund's 3 year performance relative to the median of its Morningstar Category. The Median Relative Expense measures the security's Net Expense relative to the median of its Morningstar Category.

Front-end Load %

The initial sales charge or front-end load is a deduction made from each investment in the fund and is generally based on the amount of the investment.

IMPORTANT INFORMATION ON FUND SCORING

The fund scores illustrated in this report are derived from a UBS proprietary process using a number of different standards and criteria to measure a fund's overall performance, risk and history. UBS does not make any representation regarding the effectiveness of this process, and makes no guarantee regarding the funds earning strong scores from this process. These scores are being provided to assist retirement plan fiduciaries in evaluating the investment options offered under a defined contribution retirement plan. These scores do not constitute fiduciary advice or judgment, and should not be used in place of the retirement plan fiduciaries' prudent review of the investment options. The fund scores are only one element for consideration when evaluating the appropriateness of such investment options. This process does not factor other considerations that affect future performance, such as whether a manager's investing style is recently out of favor. For this reason, many investment options that receive low scores may outperform peers. A number of different factors should be considered when choosing to add, remove or maintain a retirement plan investment option.

The Fund Scoring Process

The following is a description of the proprietary process we use to arrive at the fund score. The process is comprised of ten individual scoring measures (as further discussed below under "More Detail on Individual Scoring Measures") and one Overall Fund Score. The formula in each

individual category calculates a percentile ranking relative to the funds in their respective Morningstar peer group. The percentile rank is then assigned a numerical value as indicated the chart below.

Transforming Percentile Ranks to Fund Scores

When transforming a percentile rank into a fund score for any given measure, or overall score, the following rules will be followed:

- 91st percentile or greater - 5
- Between 71st and 90th Percentile - 4
- Between 31st and 70th percentile - 3
- Between 11th and 30th percentile - 2
- Less than 11th percentile - 1

Note: A score of 5 represents the best possible score - and a 1 represents the worst. If a security is missing any measure among the 10, no overall score will be calculated.

Overall Score

The Overall score is derived from the final percentage rankings for each measure, weighting them at the percentages noted below:

- Criteria 1 - Information Ratio vs. Category Benchmark: 7.143%
- Criteria 2 - Information Ratio vs. Category Average: 7.143%
- Criteria 3 - Sharpe Ratio : 14.286%
- Criteria 4 - Batting Average vs. Category Benchmark: 7.143%
- Criteria 5 - Batting Average vs. Category Average: 7.143%
- Criteria 6 - Performance vs. Peers: 14.286%
- Criteria 7 - Capture Ratios vs. Category Benchmark: 7.143%
- Criteria 8 - Capture Ratios vs. Category Average: 7.143%
- Criteria 9 - Manager Tenure: 14.286%
- Criteria 10 - Expense Ratio: 14.286%

Rolling Periods

All metrics, with the exception of batting average, manager tenure, and expense ratio, are for 36-month periods, rolled monthly. The first period begins 96 months before the most recent month-end and ends 60 months before the most recent month end. For periods of less than 96 months, the score will be calculated based on the data available, provided there is a minimum of 36 months.

For rolling period scores, each period's score is calculated and then

transformed into a percentile. The percentiles for all periods are averaged and then transformed into a final percentile used to assign the scores 1-5, as noted above.

More Detail on Individual Scoring Measures

1.) Modified Information Ratio Versus Category Benchmark--Has the fund demonstrated value added over the category benchmark for available rolling three year rolling periods ending over the last five years? [7.143% of the overall score]

This measure looks at excess returns over the category benchmark for all available rolling 36-month periods going back monthly, ending over the last 5 years.

The Information Ratio is an investment's active premium (its annualized geometric return minus the benchmark's annualized geometric return) divided by its tracking error. This calculation of the information ratio uses excess returns over the benchmark for 36 months ending with the most recent month.

2.) Modified Information Ratio Versus Category Average--Has the fund demonstrated value added over the category average for available rolling three year periods ending over the last five years? [7.143% of the overall score]

This measure looks at excess returns over the category average for available rolling 36-month periods going back monthly, ending over the last five years.

The Information Ratio is an investment's active premium (its annualized geometric return minus the benchmark's annualized geometric return) divided by its tracking error. This calculation of the information ratio uses excess returns over the category average for each 36-month period evaluated.

3.) Modified Sharpe Ratio- Did the fund perform well against a relevant peer universe for the rolling three year monthly periods ended over the last five years in terms of Sharpe ratios? [14.286% of the overall score]

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The Sharpe Ratio is calculated by using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. The Sharpe Ratios are calculated for all rolling periods available (e.g. all 36-month periods ending in the past five years). Each fund's rolling period Sharpe ratios are averaged. Within each category, the average rolling Sharpe ratios for included funds is ranked.

4.) Batting Average Versus Category Benchmark- Did the fund perform well versus its category benchmark over the most recent eight years? [7.143% of the overall score]

The batting average versus category benchmark is the average number of times, expressed in percentage, that the fund's returns beat the category benchmark over the past 96 months. (For periods of less than 96 months, the score will be calculated based on the data available, provided there is a minimum of 36 months.) For example, if the fund has a better record than the category benchmark in 66 out of the last 96 months, the batting average for this period would be 0.6875 (66/96).

Using all monthly returns available over the last eight years (96 months), the fund's batting average is calculated compared to the category benchmark. All batting averages are ranked within the category.

5.) Batting Average Versus Category Average- Did the fund perform well versus its category average over the most recent eight years? [7.143% of the overall score]

The batting average versus category average is the average number of times the fund's returns beat the category average over the past 96 months. (For periods of less than 96 months, the score will be calculated based on the data available, provided there is a minimum of 36 months.) For example, if the fund has a better record than the category average in 66 out of the last 96 months, the batting average for this period was 0.6875 (66/96).

Using all monthly returns available over the last eight years (96 months), the fund's batting average is calculated compared to the category benchmark. All batting averages are ranked within the category.

5.) Batting Average Versus Category Average- Did the fund perform well versus its category average over the most recent eight years? [7.143% of the overall score]

The batting average versus category average is the average number of times the fund's returns beat the category average over the past 96 months. (For periods of less than 96 months, the score will be calculated based on the data available, provided there is a minimum of 36 months.) For example, if the fund has a better record than the category average in 66 out of the last 96 months, the batting average for this period was 0.6875 (66/96).

Using all monthly return data available over the last eight years (96 months), the fund's batting average is calculated compared to the category average. All batting averages are ranked within the category.

6.) Performance vs. Peers--Did the fund perform well against a relevant peer universe for the available three year rolling periods ended over the last five years? [14.286% of the overall score]

For the available 36-month rolling periods ending in the most recent 5 years, the fund's average return is calculated. All funds in the category are ranked, and the fund's score is assigned based on its percentile rank.

7.) Capture Ratios Vs. Category Benchmark- Has the fund achieved an acceptable up-side to down-side performance capture ratio relative to its category benchmark? [7.143% of the overall score] This metric evaluates a fund's capture ratios, which reflect the percentage of the market's performance that the fund participated in over time, including up and down markets.

The upside capture ratio is the compound return of the portfolio for all periods in which the benchmark was up, divided by the compound return of the benchmark during the same periods.

The downside capture ratio is the compound return of the portfolio for all periods in which the benchmark was down, divided by the compound return of the benchmark during the same periods.

Capture ratios are usually expressed as a percent, so if a portfolio's compound return during positive markets was 21% and the benchmark's return was 20%, the upside capture ratio would be 105 (21/20). A good upside capture ratio is greater than 100 and a good downside capture ratio is less than 100. Because it is difficult to devise a strategy that will outperform in both up and down markets, an investment fund may choose to focus on one side, e.g., create an aggressive or defensive portfolio. This metric awards its best value to funds that perform well in both up and down markets.

Capture ratios are calculated as follows: All rolling periods' capture ratios are averaged for the fund. The percentile rankings are calculated for each score (Upside and Downside). The score for each fund is then applied from the average of these two percentiles.

8.) Capture Ratios Vs Category Average- Has the fund achieved an acceptable up-side to down-side performance capture ratio relative to its category average? [7.143% of the overall score]

This metric evaluates a fund's capture ratios, which reflect the percentage of the market's performance in which the fund participated over time, including up and down markets.

The upside capture ratio is the compound return of the portfolio for all periods in which the benchmark was up, divided by the compound return of the benchmark during the same periods.

The downside capture ratio is the compound return of the portfolio for all periods in which the benchmark was down, divided by the compound return of the benchmark during the same periods.

Capture ratios are usually expressed as a percent, so if a portfolio's compound return during positive markets was 21% and the benchmark's return was 20%, the upside capture ratio would be 105 (21/20). A good upside capture ratio is greater than 100 and a good downside capture ratio is less than 100. Because it is difficult to devise a strategy that will outperform in both up and down markets, an investment fund may choose to focus on one side, e.g., create an aggressive or defensive portfolio. This metric awards its best value to funds that perform well in

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both up and down markets.

All rolling periods' capture ratios are averaged for the fund. The percentile rankings for each score (Upside and Downside) are calculated. The score for each fund is then applied from the average of these two percentiles.

9.) Manager Tenure—Percent rank of the average tenure of the portfolio management among those funds in its peer group. It is assumed that a longer tenure is more desirable than a shorter tenure. [14.286% of the overall score]

10.) Expense ratio relative to peer group- The percent rank of a fund's operating expense among those funds in its peer group with the same load structure. It is assumed that a lower expense ratio is more desirable than a higher expense ratio. [14.286% of the overall score]

Note: Net prospectus expense ratios are used for open-end mutual funds, operating expense ratios are used for closed-end funds, exchange-traded funds, and CITs, and prospectus net expense ratio plus total insurance expense are used for variable annuity subaccounts.

Pre-Inception Returns

Monthly returns for the security, category, category benchmark, and a risk-free rate proxy are required to perform most of the calculations. When actual return is lacking for a mutual fund or variable annuity subaccount, pre-inception return will be applied. The US 3-month Treasury bill return will be used for the risk-free rate.

For ETFs and closed-end funds, NAV return will be applied, rather than market return, in all calculations.

Notes

In the Fund Scoring report, a "Note" column is included next to each investment option (security) analyzed and will be populated as follows:

Null Value

A null value (dash) will be populated in the "note" column if the score is calculated for a fund.

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Value of "A"

If a fund has less than 36 months of consecutive, recent monthly return history, only Expense Ratio and Manager Tenure will be scored. No overall score will be generated and a value of "A" will be populated in the Note column.

Value of "B"

If a fund has at least 36 but less than 96 months of consecutive, recent monthly return, the measurement values and scores will be calculated. A value of "B" will be populated in the Note column.

Value of "C"

If a category average or category benchmark has less than the number of included return available for the fund (i.e., any month's return applied in calculating scores for the fund is unavailable for the category average or category benchmark), measurement values and scores will be calculated for the fund. A value of "C" will be populated in the Note column of the table.

Value of "D"

If a fund has less than \$25MM in total assets, no scores will be calculated and a value of "D" will be populated in the Note column.

Geometric Average Market Capitalization

Geometric Average Market Capitalization is a measure of the size of the companies in which a portfolio invests.

Holding Portfolio Date

The Portfolio Date is the date that the fund's portfolio was last updated. When making comparisons among funds, it is an important date to keep in mind. Although Morningstar tries to ensure timely information, Morningstar does not always receive current information from fund companies. By law, funds need only report this information two times during the calendar year, and they have two months after the report date to actually release the shareholder report and portfolio. Therefore, it is possible that a fund's portfolio could be up to eight months old at the time of publication.

Information Ratio

Information ratio is a risk-adjusted performance measure. It is similar in structure to the Sharpe Ratio as a ratio of excess return per unit of risk. In the Sharpe Ratio, excess return and risk are measured relative to a risk-free rate. In comparison, the Information Ratio measures excess return and risk relative to a specific benchmark index.

The numerator for the Information Ratio is the difference between the annualized returns of the fund and the annualized returns of the benchmark. The denominator is the fund's annualized tracking error, which is the standard deviation of the fund's monthly excess returns over the benchmark returns.

Information Ratio is especially helpful for evaluating active managers. Index funds will typically have an Information Ratio close to zero, because these funds achieve very little excess return over the benchmark. In contrast, active managers deviate from the benchmark in an attempt to add value. The Information Ratio measures how much the fund outperformed the benchmark per unit of additional risk taken.

Investment Fees and Expenses

Please note that all data in the Fees and Expenses section are entered by your financial advisor. This section of the report itemizes costs at a plan level and investment level based on information entered by the advisor.

Investment Strategy

The investment strategy displayed in this report summarizes the fund's plan of investing assets among various investments/securities. These plans take into consideration such factors as goals, what kinds of companies they look for, what market cap range they invest in, where they are located and how much will they pay. Morningstar pulls this information directly from the fund's prospectus.

Management Fees %

The management fee includes the management and administrative fees listed in the Management Fees section of a fund's prospectus. Typically, these fees represent the costs shareholders paid for management and administrative services over the fund's prior fiscal year.

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Maximum Redemption Fee %

The Maximum Redemption Fee is the maximum amount a fund may charge if redeemed in a specific time period after the fund's purchase (for example, 30, 180, or 365 days).

Mean

Mean is the annualized geometric return for the period shown.

Morningstar Analyst Rating™

The Morningstar Analyst Rating™ is not a credit or risk rating. It is a subjective evaluation performed by Morningstar's manager research group, which consists of various Morningstar, Inc. subsidiaries ("Manager Research Group"). In the United States, that subsidiary is Morningstar Research Services LLC, which is registered with and governed by the U.S. Securities and Exchange Commission. The Manager Research Group evaluates funds based on five key pillars, which are process, performance, people, parent, and price. The Manager Research Group uses this five pillar evaluation to determine how they believe funds are likely to perform relative to a benchmark, or in the case of exchange-traded funds and index mutual funds, a relevant peer group, over the long term on a risk-adjusted basis. They consider quantitative and qualitative factors in their research, and the weight of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, and Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflects the Manager Research Group's conviction in a fund's prospects for outperformance. Analyst Ratings ultimately reflect the Manager Research Group's overall assessment, are overseen by an Analyst Rating Committee, and are continuously monitored and reevaluated at least every 14 months. For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to global.morningstar.com/managerdisclosures/.

The Morningstar Analyst Rating (i) should not be used as the sole basis in evaluating a fund, (ii) involves unknown risks and uncertainties which may cause the Manager Research Group's expectations not to occur or to differ significantly from what they expected, and (iii) should not be considered an offer or solicitation to buy or sell the fund.

Morningstar Category

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Morningstar Category is assigned by placing funds into peer groups based on their underlying holdings. The underlying securities in each portfolio are the primary factor in our analysis as the investment objective and investment strategy stated in a fund's prospectus may not be sufficiently detailed for our proprietary classification methodology. Funds are placed in a category based on their portfolio statistics and compositions over the past three years. Analysis of performance and other indicative facts are also considered. If the fund is new and has no portfolio history, Morningstar estimates where it will fall before giving it a permanent category assignment. Categories may be changed based on recent changes to the portfolio.

Morningstar Ownership Zone

The Morningstar Ownership Zone provides a graphic representation of the size and investment style of long stocks in fund's portfolio. The Ownership Zone is derived by plotting each stock in the portfolio within the Morningstar Style Box™. The Ownership Zone is the shaded area that represents 75% of the assets in the portfolio and indicates the level of concentration in the holdings. The "centroid" in the middle of the Ownership Zone represents the weighted average of all the holdings. The Ownership Zone helps investors differentiate between portfolios that may otherwise look similar. Investors can also use the Ownership Zone to construct diversified portfolios and model how multiple funds complement one another in a portfolio.

Morningstar Pillar Ratings

Morningstar Pillar Ratings are subjective evaluations of funds performed by manager research analysts of Morningstar. Morningstar evaluates funds based on five key pillars, which are process, performance, people, parent, and price. Morningstar's analysts assign each pillar a rating of Positive, Neutral, or Negative. Morningstar Pillar Scores are then used to help determine the fund's Morningstar Analyst Rating.

The Morningstar Pillar Rating should not be used as the sole basis in evaluating a fund. Morningstar Pillar Ratings involve unknown risks and uncertainties which may cause Morningstar's expectations not to occur or to differ significantly from what we expected.

Morningstar Rank

Morningstar Rank is the total return percentile rank within each Morningstar Category. The highest (or most favorable) percentile rank is zero and the lowest (or least favorable) percentile rank is 100. Historical percentile ranks are based on a snapshot of a fund at the time of calculation.

Morningstar Rating™

The Morningstar Rating™ for funds, or "star rating", is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange-traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product's monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods.

The subaccounts of unregistered variable annuities, as well as those of registered group variable annuities that are solely available for use in qualified plans, are rated based on their position within the bell curve of the open-end/ETF fund peer group (a.k.a. category), rather than the variable annuity subaccount peer group. These ratings are calculated by using an overlay of the open-end/ETF fund peer group break points and therefore do not contribute to the category average or number of funds within the subaccount peer group.

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The Morningstar Rating for separate accounts is based on the same methodology that Morningstar uses to rate other investments, such as open-end mutual funds, closed-end mutual funds, and variable annuity subaccounts. There are some differences between the separate account rating methodology and the rating methodologies for other investments because of the unique way that separate account managers calculate and report investment performance. All separate account performance data is reported to Morningstar as a "composite" of similarly managed portfolios. Morningstar rates separate accounts based on total returns that have not been adjusted for investment management fees.

Morningstar does not tax-adjust the returns of separate accounts that invest in municipal bonds. The Morningstar Rating for separate accounts is based on quarter-end performance data. It will be recalculated quarterly, because many managers do not provide monthly returns until the end of each quarter.

Please note that some Morningstar proprietary calculations, including the Morningstar Rating, may be calculated based on adjusted historical returns (pre-inception returns). If the extended performance rating is in effect, the "stars" are represented as unshaded stars.

Morningstar Return

The Morningstar Return rates a fund's performance relative to other managed products in its Morningstar Category. It is an assessment of a product's excess return over a risk-free rate (the return of the 90-day Treasury Bill) in comparison with the products in its Morningstar category. In each Morningstar category, the top 10% of products earn a High Morningstar Return (High), the next 22.5% Above Average (+Avg), the middle 35% Average (Avg), the next 22.5% Below Average (-Ave), and the bottom 10% Low (Low). Morningstar Return is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Risk

Morningstar Risk evaluates a fund's downside volatility relative to that of other products in its Morningstar Category. It is an assessment of the variations in monthly returns, with an emphasis on downside variations,

in comparison with the products in its Morningstar category. In each Morningstar category, the 10% of products with the lowest measured risk are described as Low Risk (Low), the next 22.5% Below Average (-Avg), the middle 35% Average (Avg), the next 22.5% Above Average (+Avg), and the top 10% High (High). Morningstar Risk is measured for up to three time periods (three, five, and 10 years). These separate measures are then weighted and averaged to produce an overall measure for the product. Products with less than three years of performance history are not rated.

Morningstar Style Box™

The Morningstar Style Box™ reveals a fund's investment strategy as of the date noted on this report.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth.) A darkened square in the style box indicates the weighted average style of the portfolio.

For fixed-income funds, the vertical axis shows the credit quality of the long bonds owned and the horizontal axis shows interest-rate sensitivity as measured by a bond's effective duration. Morningstar seeks credit rating information from fund companies on a periodic basis (for example, quarterly). In compiling credit rating information, Morningstar accepts credit ratings reported by fund companies that have been issued by all Nationally Recognized Statistical Rating Organizations. For a list of all NRSROs, please visit <http://www.sec.gov/divisions/marketreg/ratingagency.htm>. Additionally, Morningstar accepts foreign credit ratings from widely recognized or registered rating agencies. If two rating organizations/agencies have rated a security, fund companies are to report the lower rating; if three or more organizations/agencies have rated a security, fund companies are to report the median rating; and in cases where there are more than two organization/agency ratings and a median rating does not exist, fund companies are to use the lower of the two middle ratings.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. NRSRO or rating agency ratings can change from time to time.

For credit quality, Morningstar combines the credit rating information provided by the fund companies with an average default rate calculation to come up with a weighted-average credit quality. The weighted-average credit quality is currently a letter that roughly corresponds to the scale used by a leading NRSRO. Bond funds are assigned a style box placement of "low," "medium," or "high" based on their average credit quality. Funds with a "low" credit quality are those whose weighted-average credit quality is determined to be less than "BBB-"; "medium" are those less than "AA-", but greater or equal to "BBB-"; and "high" are those with a weighted-average credit quality of "AA-" or higher. When classifying a bond portfolio, Morningstar first maps the NRSRO credit ratings of the underlying holdings to their respective default rates (as determined by Morningstar's analysis of actual historical default rates). Morningstar then averages these default rates to determine the average default rate for the entire bond fund. Finally, Morningstar maps this average default rate to its corresponding credit rating along a convex curve.

For interest-rate sensitivity, Morningstar obtains from fund companies the average effective duration. Generally, Morningstar classifies a fixed-income fund's interest-rate sensitivity based on the effective duration of the Morningstar Core Bond Index, which is currently three years. The classification of Limited will be assigned to those funds whose average effective duration is between 25% to 75% of MCBI's average effective duration; funds whose average effective duration is between 75% to 125% of the MCBI will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCBI will be classified as Extensive.

For municipal-bond funds, Morningstar also obtains from fund companies the average effective duration. In these cases, static breakpoints are used. These breakpoints are as follows: (i) Limited: 4.5 years or less; (ii) Moderate: more than 4.5 years but less than 7 years; and (iii) Extensive: more than 7 years. In addition, for non-U.S. taxable and non-U.S. domiciled fixed-income funds, static duration breakpoints are used: (i) Limited: less than or equal to 3.5 years; (ii) Moderate: more than 3.5 years but less than or equal to 6 years; (iii) Extensive: more than 6 years.

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Disclosure

Interest-rate sensitivity for non-U.S. domiciled funds (excluding funds in convertible categories) may be measured with modified duration when effective duration is not available.

Net Expense Relative to Category Median

This ratio shows how an individual fund compares to the median of all funds within its Morningstar Category. The category median is always set to equal 0.0. For example, a Large Blend fund with a Relative Expense Ratio weighting of 0.5 has 50% more expense than its median peer. The Net Expense Relative to Category Median is calculated by dividing the fund's Expense Ratio by the Category Net Expense Ratio median, then subtracting 1.

P/B Ratio TTM

The Price/Book Ratio (or P/B Ratio) for a fund is the weighted average of the P/B Ratio of the stocks in its portfolio. Book value is the total assets of a company, less total liabilities. The P/B ratio of a company is calculated by dividing the market price of its outstanding stock by the company's book value, and then adjusting for the number of shares outstanding. Stocks with negative book values are excluded from this calculation. It shows approximately how much an investor is paying for a company's assets based on historical valuations.

P/C Ratio TTM

The Price/Cash Flow Ratio (or P/C Ratio) for a fund is the weighted average of the P/C Ratio of the stocks in its portfolio. The P/C Ratio of a stock represents the amount an investor is willing to pay for a dollar generated from a company's operations. It shows the ability of a company to generate cash and acts as a gauge of liquidity and solvency.

P/E Ratio TTM

The Price/Earnings Ratio (or P/E Ratio) for a fund is the weighted average of the P/E Ratios of the stocks in its portfolio. The P/E Ratio of a stock is the stock's current price divided by the company's trailing 12-month earnings per share. A high P/E Ratio usually indicates the market will pay more to obtain the company's earnings because it believes in the company's abilities to increase their earnings. A low P/E Ratio indicates the market has less confidence that the company's earnings will increase, however value investors may believe such stocks have an

overlooked or undervalued potential for appreciation.

Percentage of Investments

The Percentage of Investments column indicates the percentage of net assets that any given security (either as an individual holding or as an underlying stock makes up as an overall position of the plan's investment options.

Percentile Rank in Category

Percentile Rank is a standardized way of ranking items within a peer group, in this case, funds within the same Morningstar Category. The observation with the largest numerical value is ranked zero the observation with the smallest numerical value is ranked 100. The remaining observations are placed equal distance from one another on the rating scale. Note that lower percentile ranks are generally more favorable for returns (high returns), while higher percentile ranks are generally more favorable for risk measures (low risk).

Performance Quartile

Performance Quartile reflects a fund's Morningstar Rank.

Plan Growth of 10,000

This graph shows how an investment of \$10,000 invested in the plan would have grown over time based on historical monthly returns and compares it with that of a benchmark index. The total returns are not adjusted to reflect sales charges or the effects of taxation but are adjusted to reflect actual ongoing fund expenses, and they assume reinvestment of dividends and capital gains. If adjusted, effects of sales charges and taxation would reduce the performance quoted. The growth of \$10,000 begins at the earliest common inception date of each investment option within the trailing ten years.

The benchmark index in the Growth of 10,000 graph is an unmanaged portfolio of specified securities and cannot be invested in directly. The benchmark index does not reflect any initial or ongoing expenses. A fund's portfolio may differ significantly from the securities in the benchmark index. The index is chosen by Morningstar.

Plan Trailing Total Returns

Plan Trailing Total Returns reflect the weighted average of the underlying holdings' non-standardized returns during the same periods. The plan-level performance is calculated by applying the holding weightings supplied by the user to an individual holding's monthly returns. When monthly returns are unavailable for a holding (i.e. due to it not being in existence during the historical period being reported), the remaining portfolio holdings are re-weighted to maintain consistent proportions. Inception dates are listed in the Standardized and Tax Adjusted Returns Disclosure Statement. Trailing returns are calculated by geometrically linking these weighted-average monthly returns. The plan-level returns thus assume monthly rebalancing. Returns for individual holdings are simple time-weighted trailing returns. Neither portfolio returns nor holding returns are adjusted for loads or taxes. If they were, the returns shown would be reduced. The returns stated assume the reinvestment of dividends and capital gains. Mutual fund returns include all ongoing fund expenses. VA/VL returns reflect subaccount level fund expenses, including M&E expenses, administration fees, and actual ongoing fund-level expenses. Benchmark returns may or may not be adjusted to reflect ongoing expenses such as sales charges. An investment's portfolio may differ significantly from the securities in the benchmark. Returns for custom benchmarks are calculated by applying user-supplied weighting to each benchmark's return every month. Trailing returns are calculated by geometrically linking these weighted-average monthly returns. Custom benchmark returns thus assume monthly rebalancing.

Potential Capital Gains Exposure

Potential Capital Gains Exposure is an estimate of the percent of a fund's assets that represent gains. It measures how much the fund's assets have appreciated, and it can be an indicator of possible future capital gains distributions. A positive potential capital gains exposure value means that the fund's holdings have generally increased in value while a negative value means that the fund has reported losses on its book.

Quarterly Returns

Quarterly Return is calculated applying the same methodology as Total Return except it represents return through each quarter-end.

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R-Squared

R-squared is the percentage of a security or portfolio's return movements that are explained by movements in its benchmark index, showing the degree of correlation between the security or portfolio and the benchmark. This figure is helpful in assessing how likely it is that beta and alpha are statistically significant. A value of 1 indicates perfect correlation between the security or portfolio and its benchmark. The lower the R-squared value, the lower the correlation.

Regional Exposure

The regional exposure is a display of the portfolio's assets invested in the regions shown on the report.

Return vs. Category Quartiles Graph

This graph shows how the total return of a single investment matches up to the returns of its category each year for up to the past 10 years.

Relative Return

Relative Return is a ratio that shows how an individual fund compares to the average return of all funds in its Morningstar Category. The category average is always set to equal 0.00. For example, a Large Blend fund with a Relative Return of 0.5 has 50 more return than its average peer. The relative return is calculated by dividing the difference between the fund's return and the category average return by the absolute value of the category average return.

Risk/Reward Scatterplot

The risk/reward scatterplot graph plots the return and risk (measured by standard deviation) for a selection of securities and a benchmark index for the trailing period identified in the report. The table beneath the graph identifies the specific risk and return plot points for the graphed securities and the benchmark index.

The returns noted for a security reflect any sales charges that were applied in the illustration over the time period selected, but do not reflect impacts of taxation. If impacts of taxation were reflected, the returns would be lower than those indicated in the report.

The return plotted in the graph is mean geometric return. Standard

deviation is a statistical measure of the volatility of the security's or portfolio's returns in relation to the mean return. The larger the standard deviation, the greater the volatility of return in relation to the mean return.

Sector Delta

The sector delta is an equilateral triangle that depicts a fund's super sector allocation, relative to a benchmark. The sector delta is divided into four parts of equal area representing the diversified, defensive, sensitive, and cyclical classifications of a fund's portfolio and is used to represent a fund's allocation at a single point in time or over a historical period.

Sector Weightings

Super Sectors represent Morningstar's broadest classification of equity sectors by assigning the 11 equity sectors into three classifications. The Cyclical Super Sector includes industries significantly impacted by economic shifts, and the stocks included in these sectors generally have betas greater than 1. The Defensive Super Sector generally includes industries that are relatively immune to economic cycles, and the stocks in these industries generally have betas less than 1. The Sensitive Super Sector includes industries that ebb and flow with the overall economy, but not severely so. Stocks in the Sensitive Super Sector generally have betas that are close to 1.

Security Types

The following security types may be represented herein: bond (BD), closed-end fund (CE), collective investment trust (CIT), exchange-traded fund (ETF), holding company depository receipt (HOLDR), insurance group separate account (IGSA), index (IDX), money market mutual fund (MM), open-end mutual fund (MF), separate account (SA), stock (ST), and variable annuity/life (VA/L).

Share Change

Shares Change represents the number of shares of a stock bought or sold by a fund since the previously reported portfolio of the fund.

Sharpe Ratio

Sharpe Ratio uses standard deviation and excess return (a measure of a

security or portfolio's return in excess of the U.S. Treasury three-month Treasury Bill) to determine the reward per unit of risk. The higher the Sharpe Ratio, the better the portfolio's historical risk-adjusted performance. It can be used to compare two portfolios directly on how much excess return each portfolio achieved for a certain level of risk.

Sortino Ratio

Sortino Ratio is similar to the Sharpe ratio, except that it uses downside risk (downside deviation). Since upside volatility is not necessarily undesirable, the Sortino ratio is sometimes preferable to a Sharpe ratio. It measures the annualized rate of return for a given level of downside risk.

Standard Deviation

Standard deviation is a statistical measure of the volatility of the security or portfolio's returns. The larger the standard deviation, the greater the volatility of return.

Standardized Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the security was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Style Drift

The Equity Style Drift graph visually depicts a historical view of the holdings in a fund's portfolio and where they have fallen in the Morningstar Style Box™. A larger circle within the graph denotes a more recent portfolio. All circles represent a distinct month-end date where a maximum of 12 circles are available for fund companies that submit monthly portfolios and a maximum of 4 circles are available for fund companies that submit quarterly portfolios.

Stock Intersection

The stock intersection report reviews the top 25 stock holdings across

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Disclosure

the plan's investment option offerings. It identifies (both at the plan level and the fund level) the overall weightings of a particular security. While this report only displays the top 25 holdings, your plan portfolio may hold substantially more. For purposes of this report, all investment option offerings in the plan are considered on an equally weighted basis, regardless of the actual amount of plan assets invested in each fund.

This report is being provided to help plan fiduciaries evaluate overlap and diversification within the plan's investment option offerings and not intended to be a promotion, offer or recommendation by UBS Financial Services Inc. or Morningstar to purchase or liquidate any security listed. While the plan does not own the securities held by an open-end fund, closed-end fund, group annuity separate account or similar investment, the holdings are relevant in reviewing the overall asset allocation and diversification.

Style Count

Style count is a derivation of the Morningstar Style Box that reveals a plan's investment strategy. For equity holdings, the vertical axis shows the market capitalization of the stocks owned and the horizontal axis shows investment style (value, blend, or growth). For fixed-income holdings, the vertical axis shows the average credit quality of the bonds owned and the horizontal axis shows interest rate sensitivity as measured by a bond's duration (limited, moderate, or extended). The boxes contain the count of funds in the plan for which the weighted average of holdings falls in that box.

Style Orientation

Style orientation is a graph that visually depicts a historical view of the holdings in the portfolio and where they have fallen in the Morningstar Style Box. A larger circle within the graph denotes a more recent portfolio. All circles represent a distinct month-end date where a maximum of 12 circles are available for companies that submit monthly portfolios and a maximum of 4 circles are available for companies that submit quarterly portfolios.

Total Return

Total Return, or "Non Load-Adjusted Return", reflects performance without adjusting for sales charges (if applicable) or the effects of

taxation, but it is adjusted to reflect all actual ongoing security expenses and assumes reinvestment of dividends and capital gains. It is the return an investor would have experienced if the fund was held throughout the period. If adjusted for sales charges and the effects of taxation, the performance quoted would be significantly reduced.

Total Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

Trailing Returns

Standardized Return applies the methodology described in the Standardized Returns page of this report. Standardized Return is calculated through the most recent calendar-quarter end for one-year, five-year, 10-year, and/or since-inception periods, and it demonstrates the impact of sales charges (if applicable) and ongoing fund expenses. Standardized Return reflects the return an investor may have experienced if the fund was purchased at the beginning of the period and sold at the end, incurring transaction charges.

Load-Adjusted Monthly Return is calculated applying the same methodology as Standardized Return, except that it represents return through month-end. As with Standardized Return, it reflects the impact of sales charges and ongoing fund expenses, but not taxation. If adjusted for the effects of taxation, the performance quoted would be significantly different.

Trailing Return +/- indicates how a fund has performed relative to its peers (as measure by its Standard Index and/or Morningstar Category Index) over the time periods shown.

Treynor Ratio

Treynor Ratio is a risk-adjusted measure of return based on systematic risk. It is the annualized monthly excess return of the strategy divided by the beta of the strategy's excess returns relative to the strategy's benchmark. It is similar to the Sharpe ratio with the difference being that it uses beta as the measurement of volatility (rather than standard deviation). In using beta, the Treynor ratio assumes a portfolio is fully diversified and all unsystematic risk has been eliminated. Investors

should look for a higher Treynor number, especially relative to a strategy's benchmark, indicating a higher level of return per unit of risk.

UBS Fund Eligibility

Investment options that are not available through UBS, as well as investment options recently removed from the UBS fund eligibility list are specifically noted on the "Performance" page. These investment options are included at your request and such inclusion does not constitute an endorsement that the Plan continue to hold these investment options. Please speak with your financial advisor for additional information.

World Regions

Broad breakdown of a portfolio's geographical exposure, by region and by market maturity. Only non-cash equity assets are evaluated in determining the exposures. "Not Available" indicates the percentage of the equity portion of the portfolio for which Morningstar is unable to assess region or origin.

Investment Risks

Some of the general risk considerations associated with the investment options included in this report are described below. The descriptions are not meant to be a complete list of all investment risks. For more complete information regarding fees, expenses, risks and restrictions associated with these investments please review the offering documents and marketing materials. Investors should consult their tax advisor about their specific tax situation before investing in any securities. In addition, clients should familiarize themselves with the particular market risks and the other risks associated with the specific investment. **All investments contain risk and may lose value.**

International/Emerging Market Equities: Investing in international securities involve special additional risks. These risks include, but are not limited to, currency risk, political risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

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Sector Strategies: Portfolios that invest exclusively in one sector or industry involve additional risks. The lack of industry diversification subjects the investor to increased industry-specific risks.

Non-Diversified Strategies: Portfolios that invest a significant percentage of assets in a single issuer involve additional risks, including share price fluctuations, because of the increased concentration of investments.

Small Cap Equities: Portfolios that invest in stocks of small companies involve additional risks. Smaller companies typically have a higher risk of failure, and are not as well established as larger blue-chip companies. Historically, smaller company stocks have experienced a greater degree of market volatility than the overall market average.

Mid Cap Equities: Portfolios that invest in companies with market capitalization below \$10 billion involve additional risks. The securities of these companies may be more volatile and less liquid than the securities of larger companies.

High-Yield Bonds: Portfolios that invest in lower-rated debt securities (commonly referred to as junk bonds) involve additional risks because of the lower credit quality of the securities in the portfolio. The investor should be aware of the possible higher level of volatility, and increased risk of default.

Tax-Free Municipal Bonds: The investor should note that the income from tax-free municipal bond funds may be subject to state and local taxation and the Alternative Minimum Tax.

Bonds: Bonds are subject to interest rate risk. As the prevailing level of bond interest rates rise, the value of bonds already held in a portfolio decline. Portfolios that hold bonds are subject to declines and increases in value due to general changes in interest rates.

HOLDERS: The investor should note that these are narrow industry-focused products that, if the industry is hit by hard times, will lack diversification and possible loss of investment would be likely. These securities can trade at a discount to market price, ownership is of a

fractional share interest, the underlying investments may not be representative of the particular industry, the HOLDER might be delisted from the AMEX if the number of underlying companies drops below nine, and the investor may experience trading halts.

Hedge Funds: The investor should note that hedge fund investing involves specialized risks that are dependent upon the type of strategies undertaken by the manager. This can include distressed or event-driven strategies, long/short strategies, using arbitrage (exploiting price inefficiencies), international investing, and use of leverage, options and/or derivatives. Although the goal of hedge fund managers may be to reduce volatility and produce positive absolute return under a variety of market conditions, hedge funds may involve a high degree of risk and are suitable only for investors of substantial financial means who could bear the entire loss of their investment.

Bank Loan/Senior Debt: Bank loans and senior loans are impacted by the risks associated with fixed income in general, including interest rate risk and default risk. They are often non-investment grade; therefore, the risk of default is high. These securities are also relatively illiquid. Managed products that invest in bank loans/senior debt are often highly leveraged, producing a high risk of return volatility.

Exchange Traded Notes (ETNs): ETNs are unsecured debt obligations. Any repayment of notes are subject to the issuer's ability to repay its obligations. ETNs do not typically pay interest.

Leveraged ETFs: Levered investments are designed to meet multiples of the return performance of the index they track and seek to meet their fund objectives on a daily basis (or other time period stated within the Fund objective). The leverage/gearing ratio is the amount of excess return that a levered investment is designed to achieve in comparison to its index performance (i.e. 200%, 300%, -200%, or -300% or 2X, 3X, -2X, -3X). Compounding has the ability to affect the performance of the fund to be either greater or less than the index performance multiplied by the multiple stated within the funds objective over a stated time period.

Short Positions: When a short position moves in an unfavorable way, the losses are theoretically unlimited. The broker may demand more

collateral and a manager might have to close out a short position at an inopportune time to limit further losses.

Long-Short: Due to the strategies used by long-short funds, which may include but are not limited to leverage, short selling, short-term trading, and investing in derivatives, these funds may have greater risk, volatility, and expenses than those focusing on traditional investment strategies.

Liquidity Risk: Closed-end fund, ETF, and HOLDER trading may be halted due to market conditions, impacting an investor's ability to sell a fund.

Market Price Risk: The market price of ETFs, HOLDERS, and closed-end funds traded on the secondary market is subject to the forces of supply and demand and thus independent of the NAV. This can result in the market price trading at a premium or discount to the NAV which will affect an investor's value.

Market Risk: The market prices of ETF's and HOLDERS can fluctuate as a result of several factors, such as security-specific factors or general investor sentiment. Therefore, investors should be aware of the prospect of market fluctuations and the impact it may have on the market price.

Target-Date Funds: Target-date funds typically invest in other mutual funds and are designed for investors who are planning to retire during the target date year. The fund's target date is the approximate date of when investors expect to begin withdrawing their money. Target-date fund's investment objective/strategy typically becomes more conservative over time primarily by reducing its allocation to equity mutual funds and increasing its allocations in fixed-income mutual funds. An investor's principal value in a target-date fund is not guaranteed at anytime, including at the fund's target date.

High double- and triple-digit returns were the result of extremely favorable market conditions, which may not continue to be the case. High returns for short time periods must not be a major factor when making investment decisions.

The information and data presented may be deemed reliable; however, their accuracy and completeness is not guaranteed by UBS Financial

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Disclosure

Services Inc.

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As a firm providing wealth management services to clients, we offer both investment advisory and brokerage services. These services are separate and distinct, differ in material ways and are governed by different laws and separate contracts. For more information on the distinctions between our brokerage and investment advisory services, please speak with your Financial Advisor or visit our website at ubs.com/workingwithus. ©UBS 2016. All rights reserved. UBS Financial Services Inc. is a subsidiary of UBS AG. Member FINRA/SIPC.

Benchmark Disclosure

The past performance of an index is not a guarantee of future results. Each index reflects an unmanaged universe of securities without any deduction for advisory fees or other expenses that would reduce actual returns. An actual investment in the securities included in the index would require an investor to incur transaction costs, which would lower the performance results. Indices are not actively managed and investors cannot invest directly in the indices.

BBgBarc US Agg Bond TR USD

This index is composed of the BarCap Government/Credit Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index. The returns we publish for the index are total returns, which includes the daily

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reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core US Aggregate Bond ETF.

MSCI EAFE NR USD

This Europe, Australasia, and Far East index is a market-capitalization-weighted index of 21 non-U.S., industrialized country indexes.

This disclosure applies to all MSCI indices: Certain information included herein is derived by Morningstar in part from MSCI's Index Constituents (the "Index Data"). However, MSCI has not reviewed any information contained herein and does not endorse or express any opinion such information or analysis. MSCI does not make any express or implied warranties, representations or guarantees concerning the Index Data or any information or data derived therefrom, and in no event will MSCI have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) relating to any use of this information.

S&P 500 TR USD

A market capitalization-weighted index composed of the 500 most widely held stocks whose assets and/or revenues are based in the US; it's often used as a proxy for the U.S. stock market. TR (Total Return) indexes include daily reinvestment of dividends. The constituents displayed for this index are from the following proxy: iShares Core S&P 500 ETF.

USTREAS T-Bill Auction Ave 3 Mon

Three-month T-bills are government-backed, short-term investments considered to be risk-free and as good as cash because the maturity is only three months. Morningstar collects yields on the T-bill on a weekly basis from the Wall Street Journal.

Risk and Return Benchmark Disclosure

Investment Name

MPT Index

American Funds 2010 Trgt Date Retire R6	Morningstar Lifetime Mod 2010 TR USD
American Funds 2015 Trgt Date Retire R6	Morningstar Lifetime Mod 2015 TR USD
American Funds 2020 Trgt Date Retire R6	Morningstar Lifetime Mod 2020 TR USD
American Funds 2025 Trgt Date Retire R6	Morningstar Lifetime Mod 2025 TR USD
American Funds 2030 Trgt Date Retire R6	Morningstar Lifetime Mod 2030 TR USD
American Funds 2035 Trgt Date Retire R6	Morningstar Lifetime Mod 2035 TR USD
American Funds 2040 Trgt Date Retire R6	Morningstar Lifetime Mod 2040 TR USD
American Funds 2045 Trgt Date Retire R6	Morningstar Lifetime Mod 2045 TR USD
American Funds 2050 Trgt Date Retire R6	Morningstar Lifetime Mod 2050 TR USD
American Funds 2055 Trgt Date Retire R6	Morningstar Lifetime Mod 2055 TR USD
American Funds 2060 Trgt Date Retire R6	Morningstar Lifetime Mod 2060 TR USD
American Funds Europacific Growth R6	MSCI ACWI Ex USA Growth NR USD
American Funds New Perspective R6	MSCI ACWI NR USD
American Funds Washington Mutual R6	Russell 1000 Value TR USD
ClearBridge Small Cap I	Russell 2000 TR USD
Harbor Mid Cap Growth Retirement	Russell Mid Cap Growth TR USD
JHancock Fundamental Large Cap Core R6	Russell 1000 TR USD
Nuveen Real Estate Securities R6	S&P United States REIT TR USD
Oakmark International Institutional	MSCI ACWI Ex USA NR USD
Prudential High-Yield Q	ICE BofAML US High Yield TR USD
T. Rowe Price Growth Stock I	Russell 1000 Growth TR USD
Vanguard Treasury Money Market Investor	ICE BofAML USD 3M Dep OR CM TR USD
Victory Sycamore Established Value R6	Russell Mid Cap Value TR USD

See Important Information and Disclosures at the end of this Report

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Disclosure

Western Asset Core Plus Bond IS

BBgBarc US Agg Bond TR USD



Investment Performance

Period Ending March 31, 2018

Prepared for:

Cobb OPEB

May 10, 2018

Prepared by:

Earle Dodd, Van Price, Allen Wright

Total Portfolio

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

Cobb OPEB
March 31, 2018

Accounts Included in this Report

UBS account statements represent the only official record of holdings, balances, transactions and security values of assets in your UBS Financial Services Inc. account and are not replaced, amended or superseded by any information presented in this report. As an accommodation to you, values of accounts that you hold at other financial institutions may be included as part of your UBS IC Consulting Services Agreement based on information, including pricing information, provided to us. This report does not include assets held in your UBS account(s) that are not a part of the Institutional Consulting program unless you have requested that those accounts be included in this report. UBS does not independently verify or guarantee the accuracy or validity of any information provided by sources other than UBS Financial Services Inc. Please see the 'Important Information' section at the end of this report for detailed pricing information.

Account Name	Account Number	Custodian Name
Multiple Funds	AXxxx57	UBS Financial Services
Richmond Capital Management	AXxxx92	UBS Financial Services
Eagle Capital Large Value	AXxxx00	UBS Financial Services
TCW Large Cap Growth	AXxxx93	UBS Financial Services
Westfield Capital Large Growth	AXxxx91	UBS Financial Services
Vaughan Nelson	AXxxx94	UBS Financial Services

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Performance Analysis

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

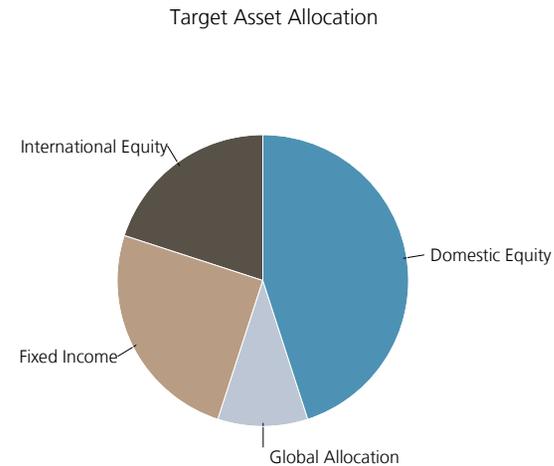
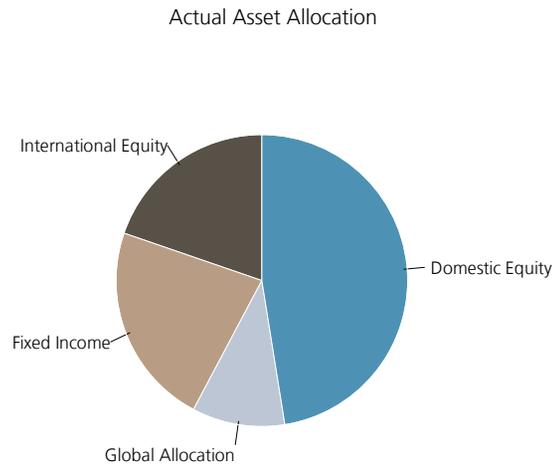
CONSOLIDATED PORTFOLIO BENCHMARK

09/30/2016 - Present

45%	Russell 3000
25%	Bloomberg Barclays Aggregate Bond
20%	MSCI ACWI ex US Net
10%	HFRX Global Hedge Fund Index

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Actual vs Target Asset Allocation As of March 31, 2018



	Market Value Actual	Percent Actual	Market Value Target	Percent Target	Market Value Difference	Percent Difference
Fixed Income	26,093,092.8	22.5%	29,000,868.8	25.0%	(2,907,776.0)	(2.5%)
Domestic Equity	55,070,448.5	47.5%	52,201,563.8	45.0%	2,868,884.7	2.5%
International Equity	22,894,848.9	19.7%	23,200,695.0	20.0%	(305,846.1)	(0.3%)
Global Allocation	11,945,084.9	10.3%	11,600,347.5	10.0%	344,737.4	0.3%
Total Fund	\$116,003,475.1	100.0%	\$116,003,475.1	100.0%	\$0.0	0.0%

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Performance Summary - Gross of Fees
Cobb OPEB
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
Composite	09/30/2016	\$116,003,475	-0.07%	14	-0.07%	14	12.23%	2							12.19%
<i>Policy Index</i>			-0.94%	57	-0.94%	57	10.00%	25							10.49%
<i>Composite Benchmark Policy Index</i>			-0.89%	56	-0.89%	56									
Fixed Income															
Vanguard Interm-Term Bond Index	09/30/2017	\$7,797,815	-1.99%	99	-1.99%	99									-1.94%
<i>BB Int Gov/Cr</i>			-0.98%	11	-0.98%	11									-1.18%
Richmond Capital Management	09/30/2017	\$9,218,578	-1.52%	67	-1.52%	67									-0.81%
<i>BB Gov/Cr Bond</i>			-1.58%	76	-1.58%	76									-1.10%
Blackrock Strategic Income I	09/30/2017	\$4,585,145	0.40%	1	0.40%	1									1.25%
<i>BB Agg Bond</i>			-1.46%	58	-1.46%	58									-1.08%
Delaware Diversified Income I	09/30/2017	\$4,491,555	-1.05%	15	-1.05%	15									-0.48%
<i>BB Agg Bond</i>			-1.46%	58	-1.46%	58									-1.08%
Domestic Equity															
Eagle Capital Large Value	09/30/2017	\$12,223,749	-0.01%	1	-0.01%	1									6.83%
<i>Russell 1000 Value</i>			-2.83%	74	-2.83%	74									2.34%
Vanguard 500 Index	09/30/2017	\$12,642,987	-0.77%	39	-0.77%	39									5.82%
<i>S&P 500 Index</i>			-0.76%	38	-0.76%	38									5.84%
TCW Large Cap Growth	09/30/2017	\$6,518,282	4.39%	20	4.39%	20									10.08%
<i>Russell 1000 Growth</i>			1.42%	61	1.42%	61									9.39%
Westfield Capital Large Growth	09/30/2017	\$8,604,590	2.91%	40	2.91%	40									9.02%
<i>Russell 1000 Growth</i>			1.42%	61	1.42%	61									9.39%
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,044,827	0.01%	11	0.01%	11									5.66%
<i>Russell Midcap</i>			-0.46%	18	-0.46%	18									5.58%
Vaughan Nelson	09/30/2017	\$3,861,241	-1.76%	42	-1.76%	42									1.96%
<i>Russell 2000 Value</i>			-2.64%	62	-2.64%	62									-0.65%
Eagle Small Cap Growth Fund	09/30/2017	\$4,174,772	1.64%	71	1.64%	71									7.80%
<i>Russell 2000 Growth</i>			2.30%	60	2.30%	60									6.99%
International Equity															
Vanguard Total International Stock Fund	09/30/2017	\$8,307,843	-0.45%	29	-0.45%	29									4.40%
<i>MSCI ACWI ex US Net</i>			-1.18%	75	-1.18%	75									3.76%
Dodge & Cox International Stock Fund	09/30/2017	\$7,117,768	-2.14%	94	-2.14%	94									-0.96%
<i>MSCI ACWI ex US Net</i>			-1.18%	75	-1.18%	75									3.76%
Oppenheimer International Growth	09/30/2017	\$7,469,237	0.16%	11	0.16%	11									3.84%
<i>MSCI ACWI ex US Net</i>			-1.18%	75	-1.18%	75									3.76%

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Performance Summary - Gross of Fees
Cobb OPEB
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
Global Allocation															
Global Allocation	09/30/2017	\$11,945,085	0.06%	20	0.06%	20									3.55%
HFRX Global Hedge			-1.02%	61	-1.02%	61									0.47%

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Performance Summary - Net of Fees
Cobb OPEB
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
Composite	09/30/2016	\$116,003,475	-0.12%	16	-0.12%	16	12.11%	3							12.07%
<i>Policy Index</i>			-0.94%	57	-0.94%	57	10.00%	25							10.49%
<i>Composite Benchmark Policy Index</i>			-0.89%	56	-0.89%	56									
Fixed Income															
Vanguard Interm-Term Bond Index	09/30/2017	\$7,797,815	-1.99%	99	-1.99%	99									-1.94%
<i>BB Int Gov/Cr</i>			-0.98%	11	-0.98%	11									-1.18%
Richmond Capital Management	09/30/2017	\$9,218,578	-1.57%	75	-1.57%	75									-0.88%
<i>BB Gov/Cr Bond</i>			-1.58%	76	-1.58%	76									-1.10%
Blackrock Strategic Income I	09/30/2017	\$4,585,145	0.40%	1	0.40%	1									1.25%
<i>BB Agg Bond</i>			-1.46%	58	-1.46%	58									-1.08%
Delaware Diversified Income I	09/30/2017	\$4,491,555	-1.05%	15	-1.05%	15									-0.48%
<i>BB Agg Bond</i>			-1.46%	58	-1.46%	58									-1.08%
Domestic Equity															
Eagle Capital Large Value	09/30/2017	\$12,223,749	-0.19%	1	-0.19%	1									6.62%
<i>Russell 1000 Value</i>			-2.83%	65	-2.83%	65									2.34%
Vanguard 500 Index	09/30/2017	\$12,642,987	-0.77%	39	-0.77%	39									5.82%
<i>S&P 500 Index</i>			-0.76%	38	-0.76%	38									5.84%
TCW Large Cap Growth	09/30/2017	\$6,518,282	4.23%	18	4.23%	18									9.91%
<i>Russell 1000 Growth</i>			1.42%	57	1.42%	57									9.39%
Westfield Capital Large Growth	09/30/2017	\$8,604,590	2.77%	38	2.77%	38									8.87%
<i>Russell 1000 Growth</i>			1.42%	57	1.42%	57									9.39%
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,044,827	0.01%	11	0.01%	11									5.66%
<i>Russell Midcap</i>			-0.46%	18	-0.46%	18									5.58%
Vaughan Nelson	09/30/2017	\$3,861,241	-2.00%	42	-2.00%	42									1.44%
<i>Russell 2000 Value</i>			-2.64%	58	-2.64%	58									-0.65%
Eagle Small Cap Growth Fund	09/30/2017	\$4,174,772	1.64%	67	1.64%	67									7.80%
<i>Russell 2000 Growth</i>			2.30%	59	2.30%	59									6.99%
International Equity															
Vanguard Total International Stock Fund	09/30/2017	\$8,307,843	-0.45%	29	-0.45%	29									4.40%
<i>MSCI ACWI ex US Net</i>			-1.18%	75	-1.18%	75									3.76%
Dodge & Cox International Stock Fund	09/30/2017	\$7,117,768	-2.14%	94	-2.14%	94									-0.96%
<i>MSCI ACWI ex US Net</i>			-1.18%	75	-1.18%	75									3.76%
Oppenheimer International Growth	09/30/2017	\$7,469,237	0.16%	11	0.16%	11									3.84%
<i>MSCI ACWI ex US Net</i>			-1.18%	75	-1.18%	75									3.76%

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Performance Summary - Net of Fees
Cobb OPEB
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking	Inception
Global Allocation															
Global Allocation	09/30/2017	\$11,945,085	0.06%	20	0.06%	20									3.55%
HFRX Global Hedge			-1.02%	61	-1.02%	61									0.47%

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Total Portfolio Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
Gross Time Weighted Return	-0.07	-0.07	12.23	12.19	09/30/2016	\$116,003,475
Universe Median	-0.74	-0.74	8.38			
Policy Index	-0.94	-0.94	10.00	10.49		
%-tile	14	14	2			

(45% Russell 3000, 25% Bloomberg Barclays Aggregate Bond, 20% MSCI ACWI ex US Net, 10% HFRX Global Hedge Fund Index, established 9/30/2016)

Vanguard Interm-Term Bond Index - (Total Portfolio)

Gross Time Weighted Return	-1.99	-1.99		-1.94	09/30/2017	\$7,797,815
Universe Median	-1.41	-1.41		-1.09		
BB Int Gov/Cr	-0.98	-0.98		-1.18		
%-tile	99	99		99		

(100.00% BB Int Gov/Cr; established 9/30/2017)

Richmond Capital Management - (Total Portfolio)

Gross Time Weighted Return	-1.52	-1.52		-0.81	09/30/2017	\$9,218,578
Universe Median	-1.41	-1.41		-1.09		
BB Gov/Cr Bond	-1.58	-1.58		-1.10		
%-tile	67	67		25		

(100.00% BB Gov/Cr Bond; established 9/30/2017)

Blackrock Strategic Income I - (Total Portfolio)

Gross Time Weighted Return	0.40	0.40		1.25	09/30/2017	\$4,585,145
Universe Median	-1.41	-1.41		-1.09		
BB Agg Bond	-1.46	-1.46		-1.08		
%-tile	1	1		1		

(100.00% BB Agg Bond; established 9/30/2017)

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
Delaware Diversified Income I - (Total Portfolio)						
Gross Time Weighted Return	-1.05	-1.05		-0.48	09/30/2017	\$4,491,555
Universe Median	-1.41	-1.41		-1.09		
BB Agg Bond	-1.46	-1.46		-1.08		
%-tile	15	15		7		
<small>(100.00% BB Agg Bond; established 9/30/2017)</small>						
Eagle Capital Large Value - (Total Portfolio)						
Gross Time Weighted Return	-0.01	-0.01		6.83	09/30/2017	\$12,223,749
Universe Median	-2.22	-2.22		3.97		
Russell 1000 Value	-2.83	-2.83		2.34		
%-tile	1	1		4		
<small>(100.00% Russell 1000 Value; established 9/30/2017)</small>						
Vanguard 500 Index - (Total Portfolio)						
Gross Time Weighted Return	-0.77	-0.77		5.82	09/30/2017	\$12,642,987
Universe Median	-0.89	-0.89		5.53		
S&P 500 Index	-0.76	-0.76		5.84		
%-tile	39	39		34		
<small>(100.00% S&P 500 Index; established 9/30/2017)</small>						
TCW Large Cap Growth - (Total Portfolio)						
Gross Time Weighted Return	4.39	4.39		10.08	09/30/2017	\$6,518,282
Universe Median	2.03	2.03		9.37		
Russell 1000 Growth	1.42	1.42		9.39		
%-tile	20	20		36		
<small>(100.00% Russell 1000 Growth; established 9/30/2017)</small>						

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
Westfield Capital Large Growth - (Total Portfolio)						
Gross Time Weighted Return	2.91	2.91		9.02	09/30/2017	\$8,604,590
Universe Median	2.03	2.03		9.37		
Russell 1000 Growth	1.42	1.42		9.39		
%-tile	40	40		55		

(100.00% Russell 1000 Growth; established 9/30/2017)

Vanguard Mid-Cap Index Fund Admiral - (Total Portfolio)

Gross Time Weighted Return	0.01	0.01		5.66	09/30/2017	\$7,044,827
Universe Median	-1.05	-1.05		4.57		
Russell Midcap	-0.46	-0.46		5.58		
%-tile	11	11		12		

(100.00% Russell Midcap; established 9/30/2017)

Vaughan Nelson - (Total Portfolio)

Gross Time Weighted Return	-1.76	-1.76		1.96	09/30/2017	\$3,861,241
Universe Median	-2.06	-2.06		1.46		
Russell 2000 Value	-2.64	-2.64		-0.65		
%-tile	42	42		42		

(100.00% Russell 2000 Value; established 9/30/2017)

Eagle Small Cap Growth Fund - (Total Portfolio)

Gross Time Weighted Return	1.64	1.64		7.80	09/30/2017	\$4,174,772
Universe Median	3.14	3.14		8.14		
Russell 2000 Growth	2.30	2.30		6.99		
%-tile	71	71		51		

(100.00% Russell 2000 Growth; established 9/30/2017)

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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
Vanguard Total International Stock Fund - (Total Portfolio)						
Gross Time Weighted Return	-0.45	-0.45		4.40	09/30/2017	\$8,307,843
Universe Median	-0.81	-0.81		3.02		
MSCI ACWI ex US Net	-1.18	-1.18		3.76		
%-tile	29	29		14		
<small>(100.00% MSCI ACWI ex US Net; established 9/30/2017)</small>						
Dodge & Cox International Stock Fund - (Total Portfolio)						
Gross Time Weighted Return	-2.14	-2.14		-0.96	09/30/2017	\$7,117,768
Universe Median	-0.81	-0.81		3.02		
MSCI ACWI ex US Net	-1.18	-1.18		3.76		
%-tile	94	94		99		
<small>(100.00% MSCI ACWI ex US Net; established 9/30/2017)</small>						
Oppenheimer International Growth - (Total Portfolio)						
Gross Time Weighted Return	0.16	0.16		3.84	09/30/2017	\$7,469,237
Universe Median	-0.81	-0.81		3.02		
MSCI ACWI ex US Net	-1.18	-1.18		3.76		
%-tile	11	11		26		
<small>(100.00% MSCI ACWI ex US Net; established 9/30/2017)</small>						
Loomis Sayles Global Equity and Income Fund - (Total Portfolio)						
Gross Time Weighted Return	1.58	1.58		6.24	09/30/2017	\$4,275,273
Universe Median	-0.72	-0.72		2.36		
HFRX Global Hedge	-1.02	-1.02		0.47		
%-tile	1	1		1		
<small>(100.00% HFRX Global Hedge; established 9/30/2017)</small>						

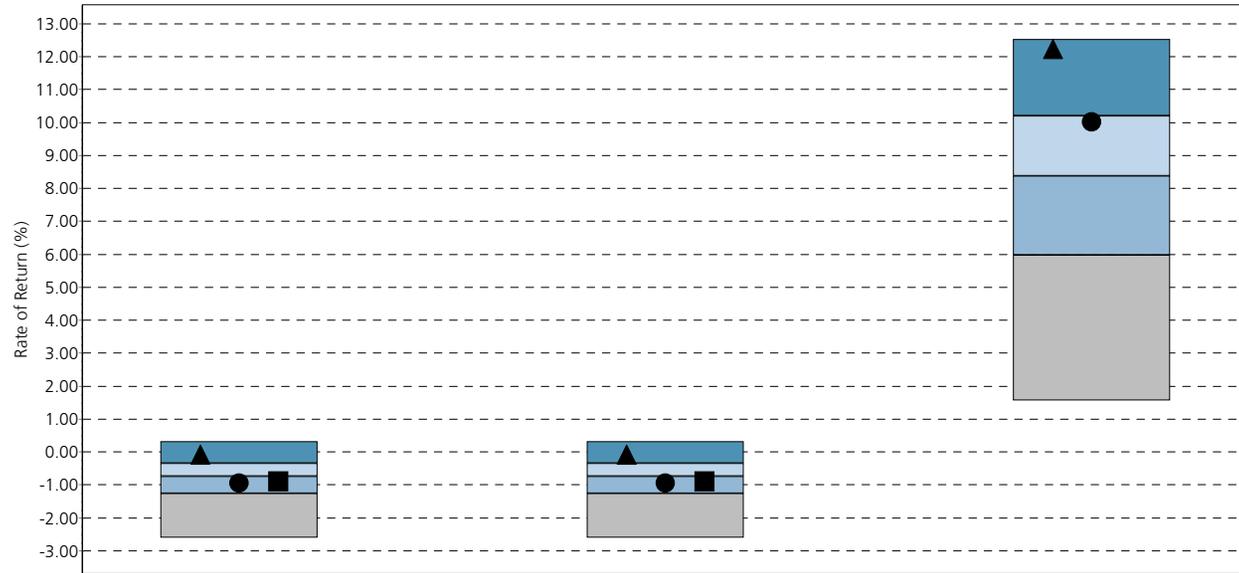
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Total Portfolio
Performance Summary Through March 31, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
First Eagle Global Funds Class I - (Total Portfolio)						
Gross Time Weighted Return	-1.08	-1.08		2.17	09/30/2017	\$4,101,377
Universe Median	-0.72	-0.72		2.36		
HFRX Global Hedge	-1.02	-1.02		0.47		
%-tile	65	65		55		
<small>(100.00% HFRX Global Hedge; established 9/30/2017)</small>						
Blackrock Global Allocation Fund - (Total Portfolio)						
Gross Time Weighted Return	-0.40	-0.40		2.06	09/30/2017	\$3,568,435
Universe Median	-0.72	-0.72		2.36		
HFRX Global Hedge	-1.02	-1.02		0.47		
%-tile	33	33		58		
<small>(100.00% HFRX Global Hedge; established 9/30/2017)</small>						

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Consolidated Portfolio vs Master Trusts - Corporate : Plans < \$1 Billion Managers
September 30, 2016 Through March 31, 2018

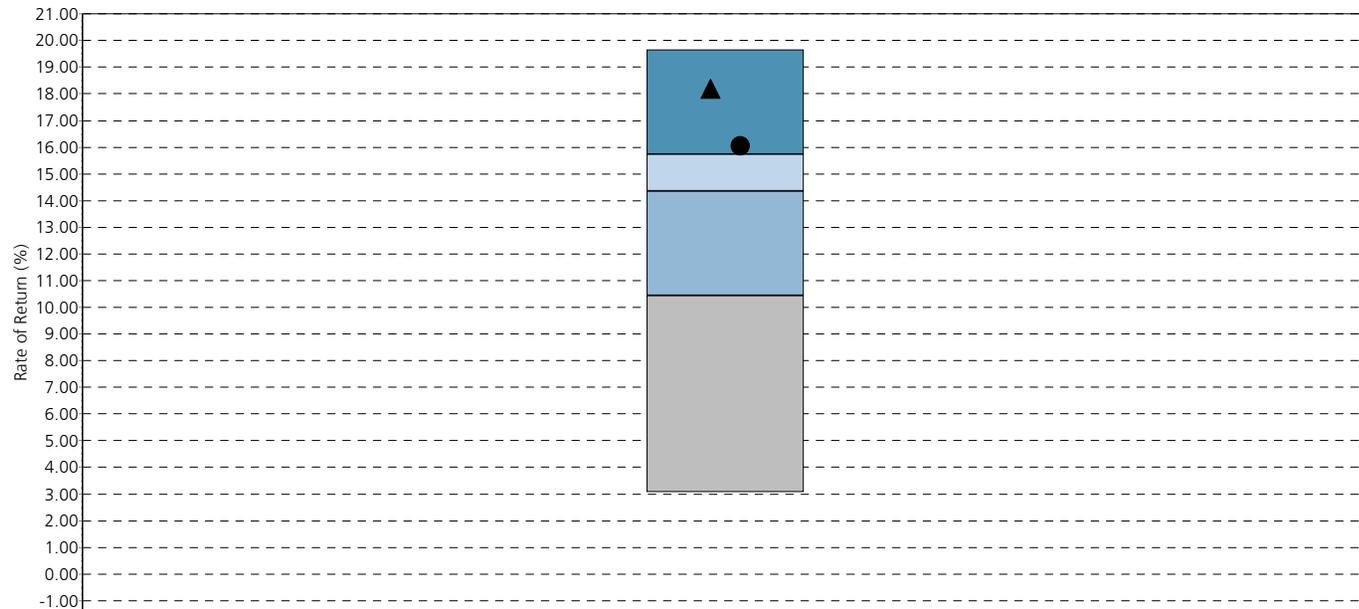


	<u>Latest Quarter</u>	<u>Year To Date</u>	<u>One Year</u>
Highest Value	0.31	0.31	12.51
First Quartile	-0.34	-0.34	10.21
Median Value	-0.74	-0.74	8.38
Third Quartile	-1.27	-1.27	5.97
Lowest Value	-2.60	-2.60	1.55
Mean	-0.83	-0.83	7.97
Members	83	83	81

	Return	Rank	Return	Rank	Return	Rank
▲ Total Portfolio	-0.07	14	-0.07	14	12.23	2
● Policy Index	-0.94	57	-0.94	57	10.00	25
■ Composite Benchmark Policy Index	-0.89	56	-0.89	56	N/A	N/A

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Consolidated Portfolio vs Master Trusts - Corporate : Plans < \$1 Billion Managers
December 31, 2003 Through December 31, 2017



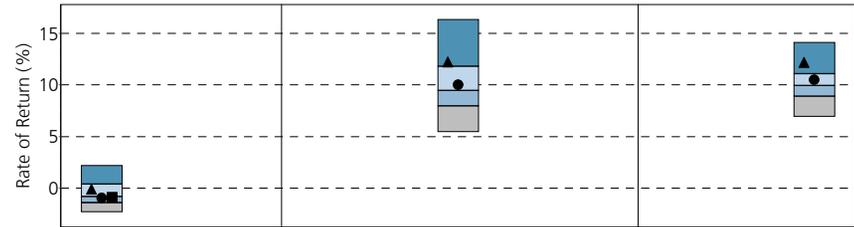
	<u>2017</u>
Highest Value	19.64
First Quartile	15.73
Median Value	14.35
Third Quartile	10.43
Lowest Value	3.06
Mean	13.07
Members	97

▲ Total Portfolio	Return	Rank
● Policy Benchmark	18.19	3
	16.04	18

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Consolidated Portfolio Peer Universe Comparison versus 50% Equity, 35% Fixed, 15% International Managers

Trailing Periods



	Quarter	One Year	9/2016-3/2018
Highest Value	2.20	16.35	14.14
First Quartile	0.40	11.80	11.08
Median Value	-0.82	9.47	9.96
Third Quartile	-1.42	7.96	8.91
Lowest Value	-2.29	5.44	6.92
Mean	-0.49	9.94	10.10

	Return	Rank	Return	Rank	Return	Rank
▲ Total Portfolio	-0.07	33	12.23	22	12.19	12
● Policy Index	-0.94	55	10.00	41	10.49	36
■ Composite Benchmark Policy Index	-0.89	52	N/A	N/A	N/A	N/A

Annual Periods



	2017
Highest Value	21.58
First Quartile	17.25
Median Value	15.18
Third Quartile	13.40
Lowest Value	9.74
Mean	15.40

	Return	Rank
▲ Total Portfolio	18.19	17
● Policy Index	16.06	36
■ Composite Benchmark Policy Index	N/A	N/A

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Performance Profile
September 30, 2016 Through March 31, 2018

	Ended	Return
Best Quarter	3/2017	5.23
Worst Quarter	3/2018	-0.07
Best 4 Quarters	3/2018	12.23
Worst 4 Quarters	3/2018	12.23

Total # of Periods: 18
 # of Positive Periods: 15
 # of Negative Periods: 3

	Latest Month	Latest Quarter	One Year	Since Inception
Consolidated Portfolio	-1.11	-0.07	12.23	12.19
Policy Index	-1.19	-0.94	10.00	10.49
Excess	0.08	0.87	2.23	1.70
Riskless Index	0.14	0.35	1.07	0.84
Real ROR	-1.31	-1.27	9.80	9.92
CPI	0.20	1.20	2.22	2.08

Period	Return	Std Dev	Sharpe Ratio	Alpha	Beta	R-Squared	Relative Risk	Track Error	Treynor Ratio	Info Ratio
One Year	12.23	6.03	1.85	1.17	1.10	96.82	1.12	1.21	10.12	1.71
Since Inception	12.19	5.15	2.20	2.35	0.91	79.20	1.03	2.39	12.42	0.64

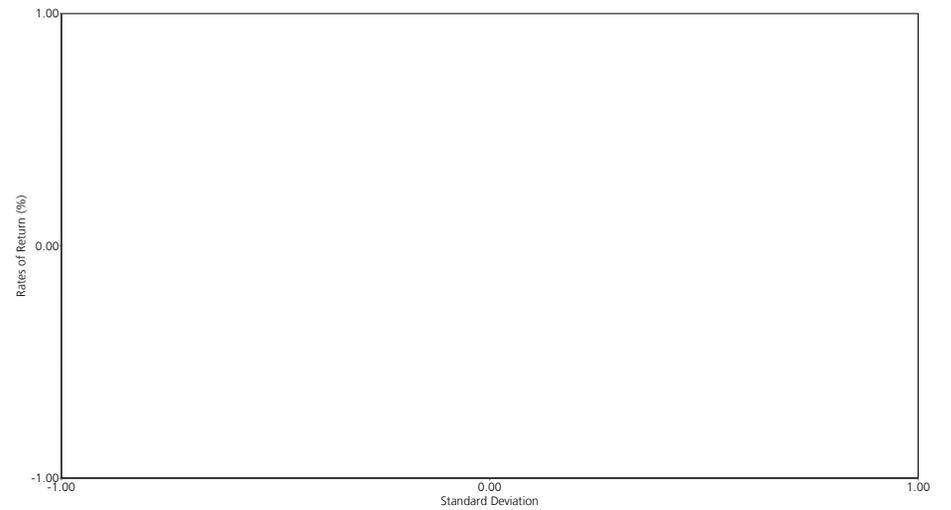
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Risk vs Reward Analysis
September 30, 2016 Through March 31, 2018

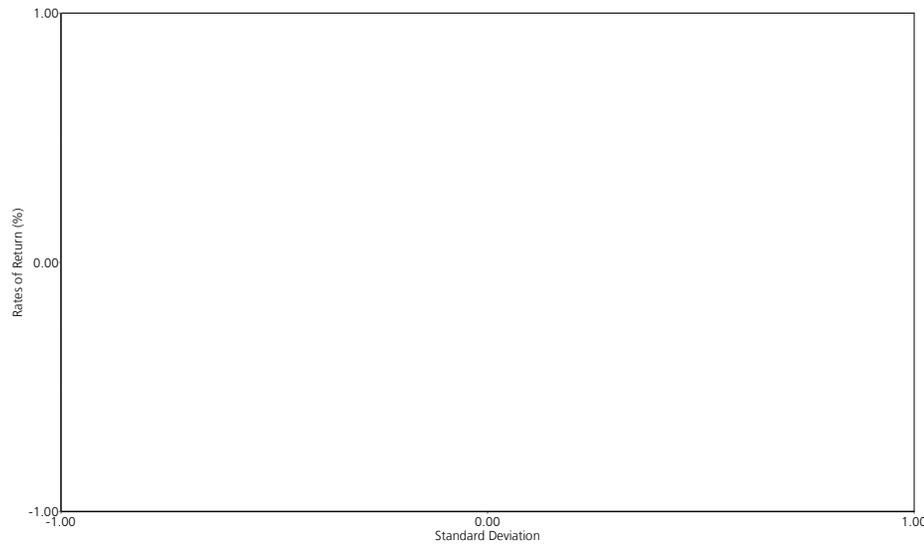
3 Years



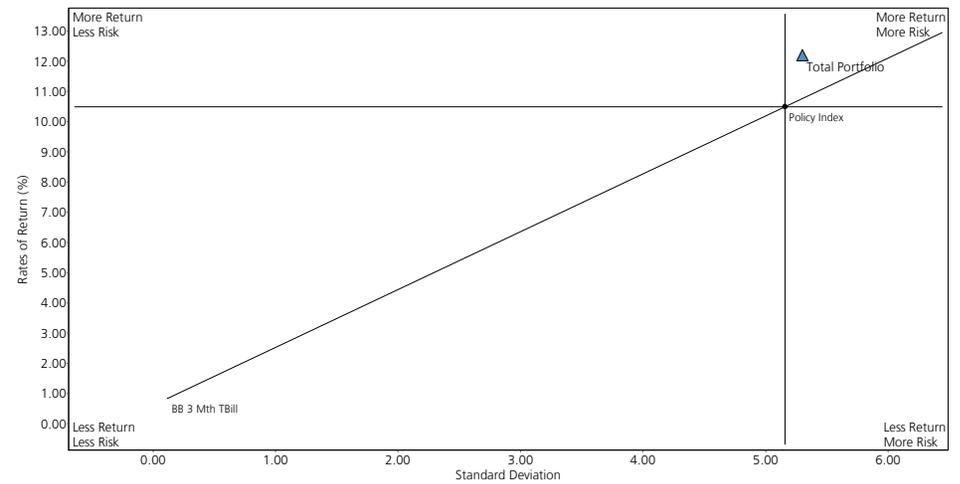
5 Years



10 Years



Inception

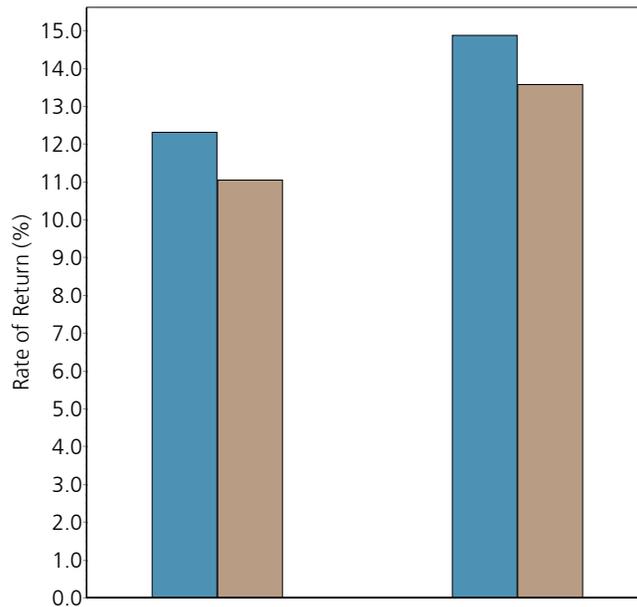


▲ Total Portfolio	Return	Std Dev	Alpha	Beta	R-Squared	Sharpe Ratio	Info Ratio
	12.19	5.30	2.35	0.91	79.20	2.14	0.62

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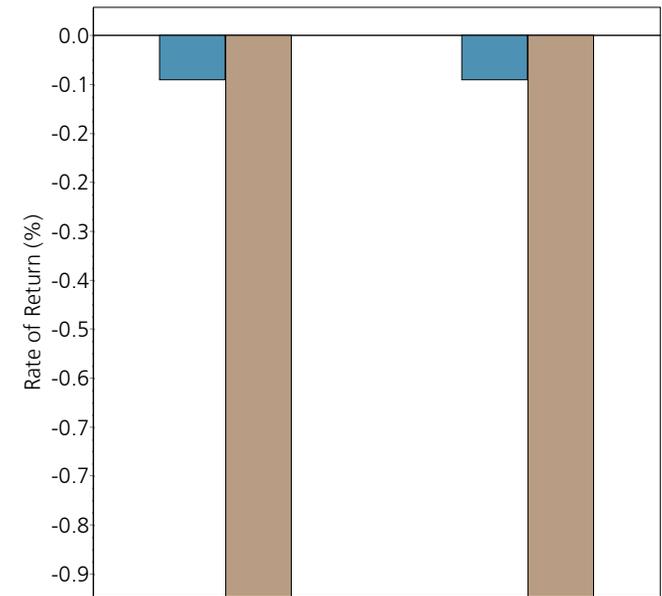
Performance in Rising and Declining Markets
September 30, 2016 Through March 31, 2018

Up Market Performance



	One Year	Since Inception Day
Consolidated Portfolio	12.32	14.87
Policy Index	11.05	13.58
Difference	1.27	1.30
Ratio	1.11	1.10
Up Periods	3	5

Down Market Performance



	One Year	Since Inception Day
Consolidated Portfolio	-0.07	-0.07
Policy Index	-0.94	-0.94
Difference	0.87	0.87
Ratio	0.08	0.08
Down Periods	1	1

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard Interm-Term Bond Index

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

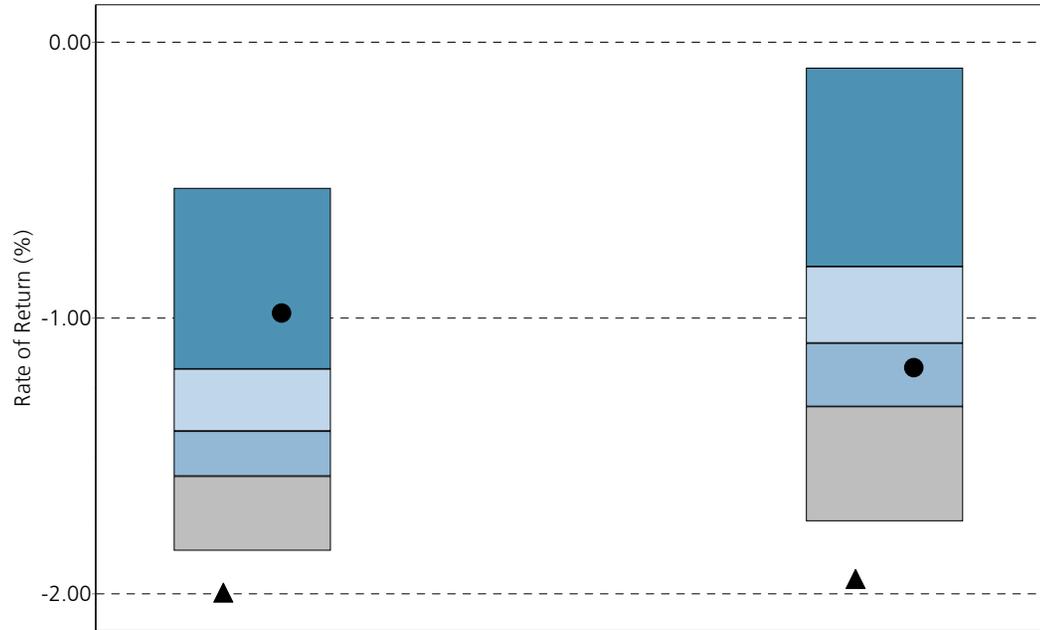
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Bloomberg Barclays Int Govt/Credit

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TOTAL FUND versus Intermediate Bond Managers
September 30, 2017 Through March 31, 2018



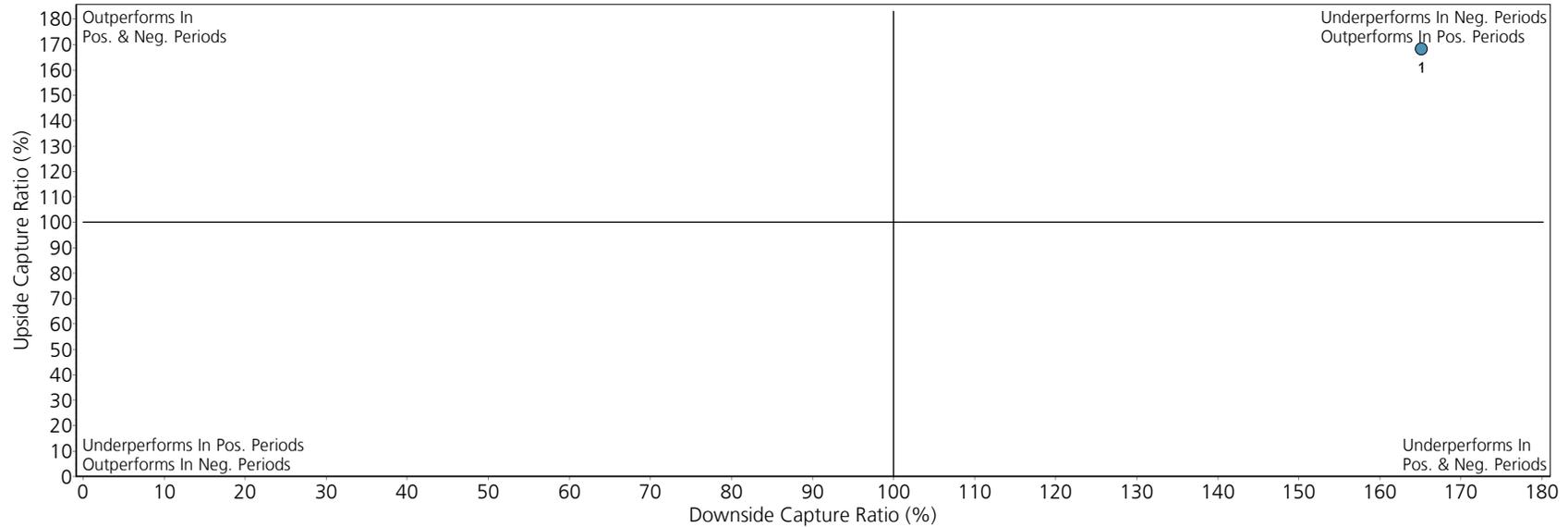
	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	-0.53	-0.09
First Quartile	-1.19	-0.81
Median Value	-1.41	-1.09
Third Quartile	-1.57	-1.32
Lowest Value	-1.84	-1.74
Mean	-1.36	-1.06

▲ Vanguard Interm-Term Bond Index
 ● BB Int Gov/Cr

Return	Rank	Return	Rank
-1.99	99	-1.94	99
-0.98	11	-1.18	59

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	2.00
Upside Capture ROR	0.80
BB Int Gov/Cr	0.47
% Of Capture	168.08
Down Periods	4.00
Downside Capture ROR	-2.72
BB Int Gov/Cr	-1.65
% Of Capture	165.15

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Richmond Capital Management

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Performance Analysis

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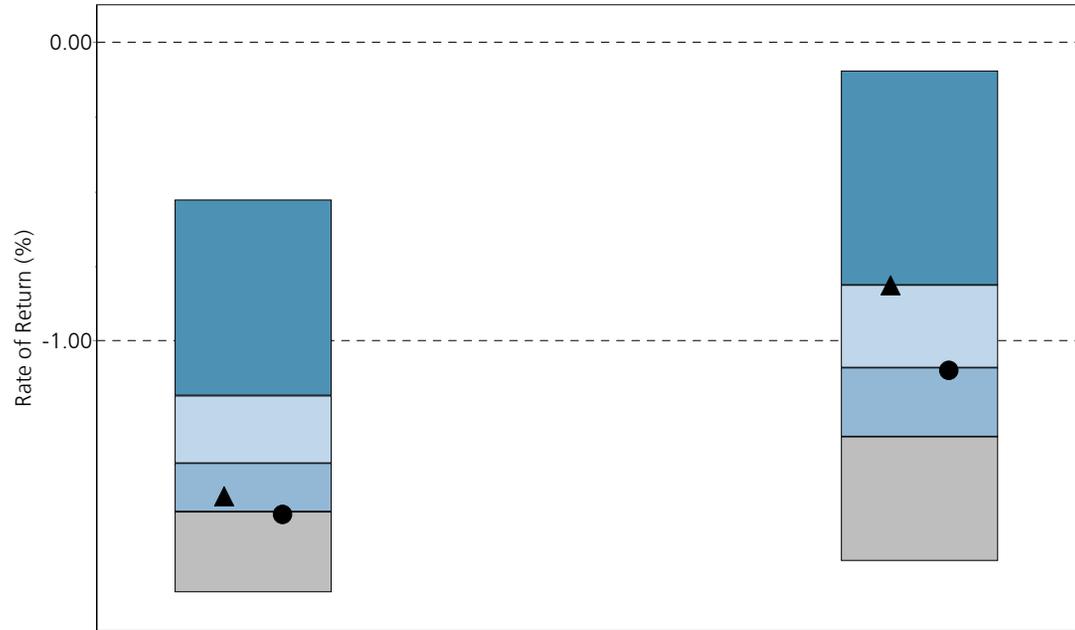
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Bloomberg Barclays Government/Credit Bond

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TOTAL FUND versus Intermediate Bond Managers
September 30, 2017 Through March 31, 2018

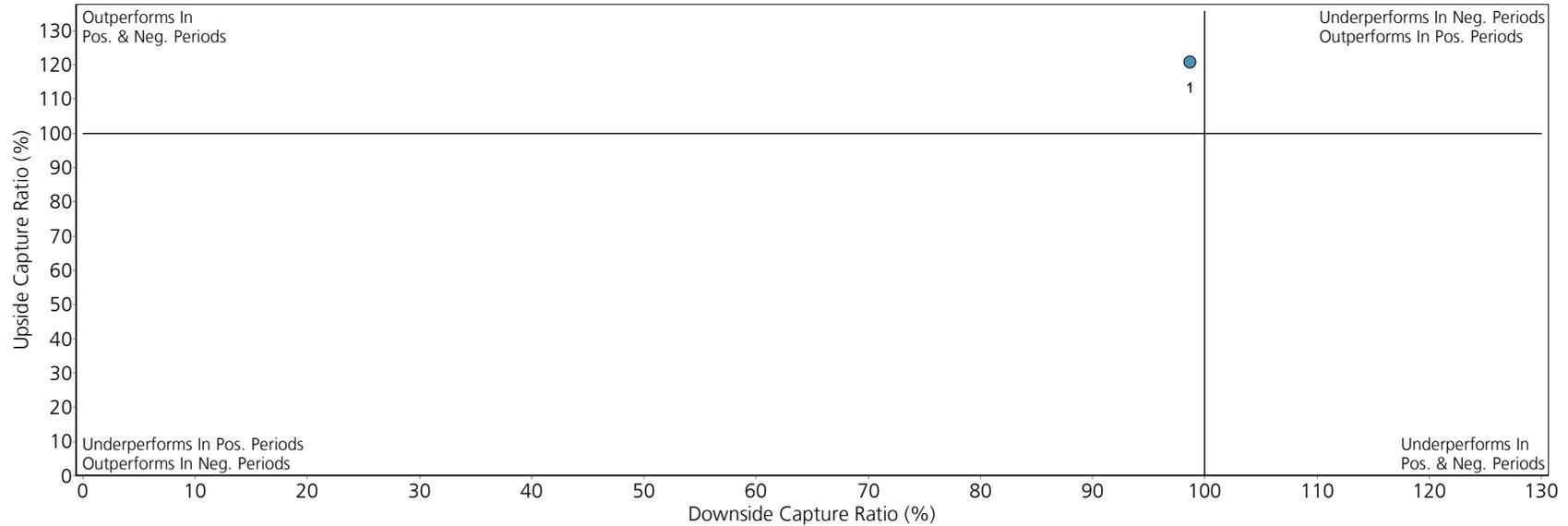


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	-0.53	-0.09
First Quartile	-1.19	-0.81
Median Value	-1.41	-1.09
Third Quartile	-1.57	-1.32
Lowest Value	-1.84	-1.74
Mean	-1.36	-1.06

	Return	Rank	Return	Rank
▲ Richmond Capital Management	-1.52	67	-0.81	25
● BB Gov/Cr Bond	-1.58	76	-1.10	51

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	3.00
Upside Capture ROR	1.53
BB Gov/Cr Bond	1.26
% Of Capture	120.68
Down Periods	3.00
Downside Capture ROR	-2.30
BB Gov/Cr Bond	-2.34
% Of Capture	98.70

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Blackrock Strategic Income I

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

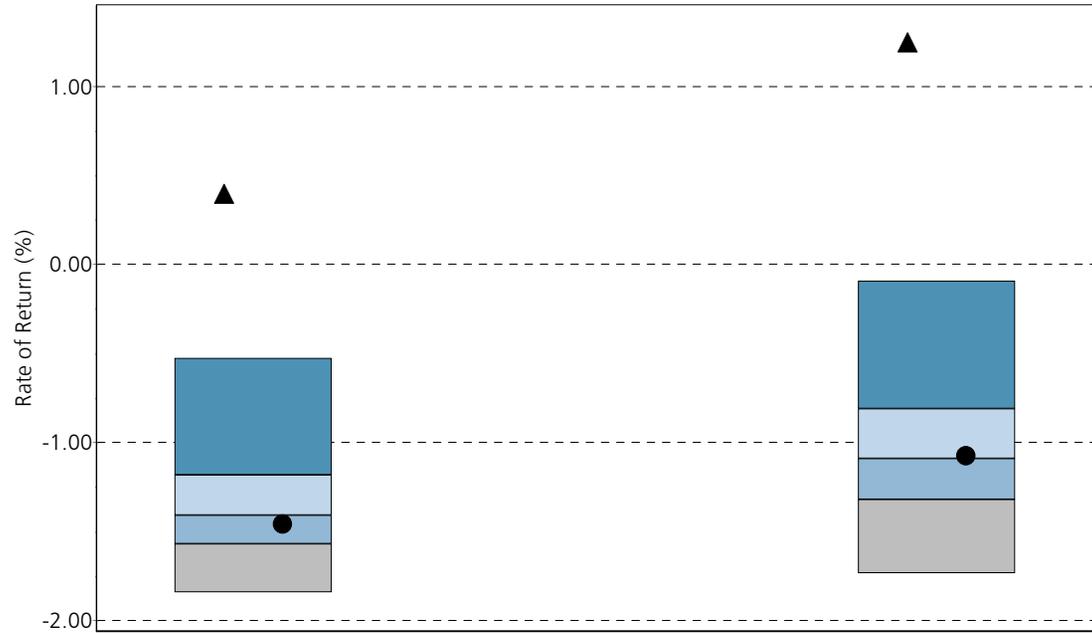
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Bloomberg Barclays Aggregate Bond

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TOTAL FUND versus Intermediate Bond Managers
September 30, 2017 Through March 31, 2018

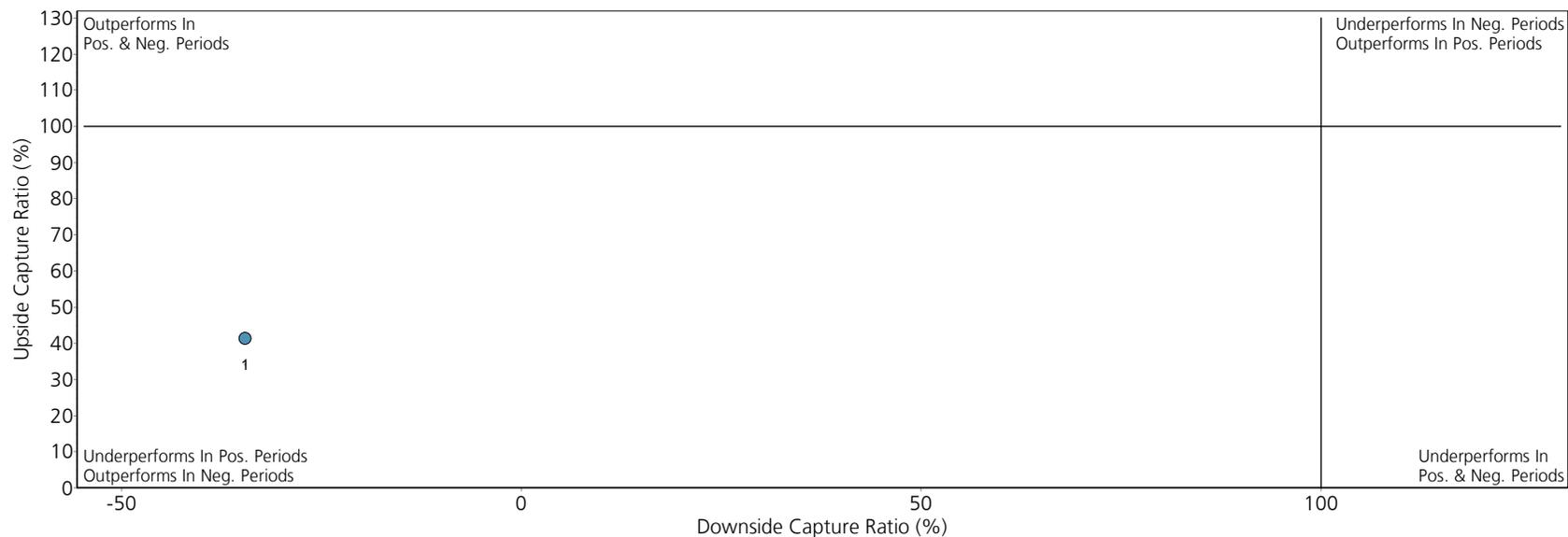


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	-0.53	-0.09
First Quartile	-1.19	-0.81
Median Value	-1.41	-1.09
Third Quartile	-1.57	-1.32
Lowest Value	-1.84	-1.74
Mean	-1.36	-1.06

	Return	Rank	Return	Rank
▲ Blackrock Strategic Income I	0.40	1	1.25	1
● BB Agg Bond	-1.46	58	-1.08	48

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	3.00
Upside Capture ROR	0.48
BB Agg Bond	1.16
% Of Capture	41.26
Down Periods	3.00
Downside Capture ROR	0.76
BB Agg Bond	-2.21
% Of Capture	-34.53

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Delaware Diversified Income I

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Performance Analysis

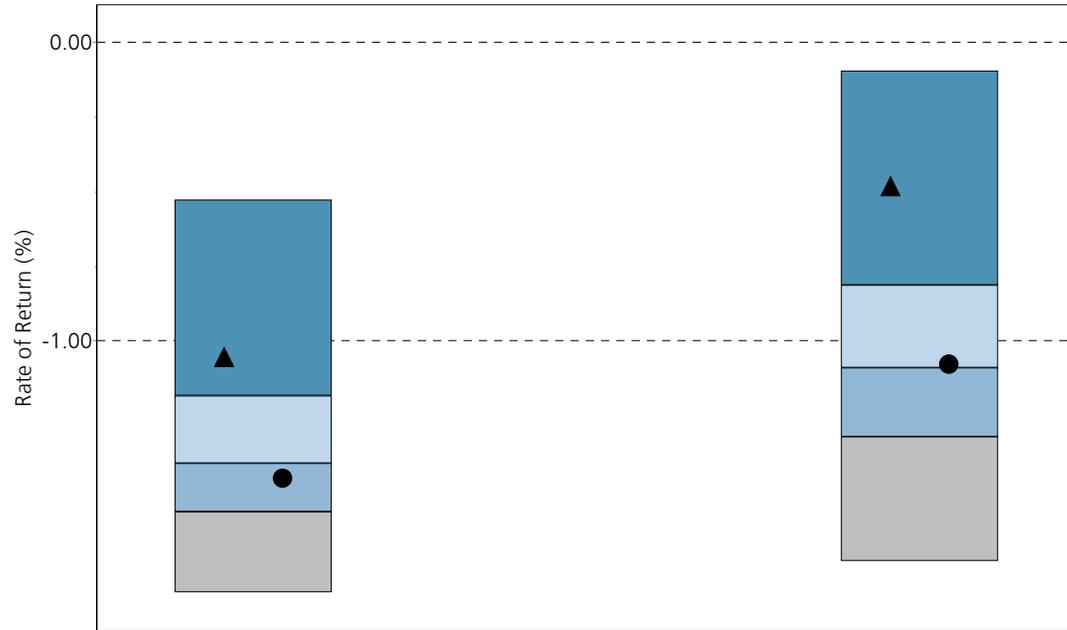
The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Bloomberg Barclays Aggregate Bond

TOTAL FUND versus Intermediate Bond Managers
September 30, 2017 Through March 31, 2018



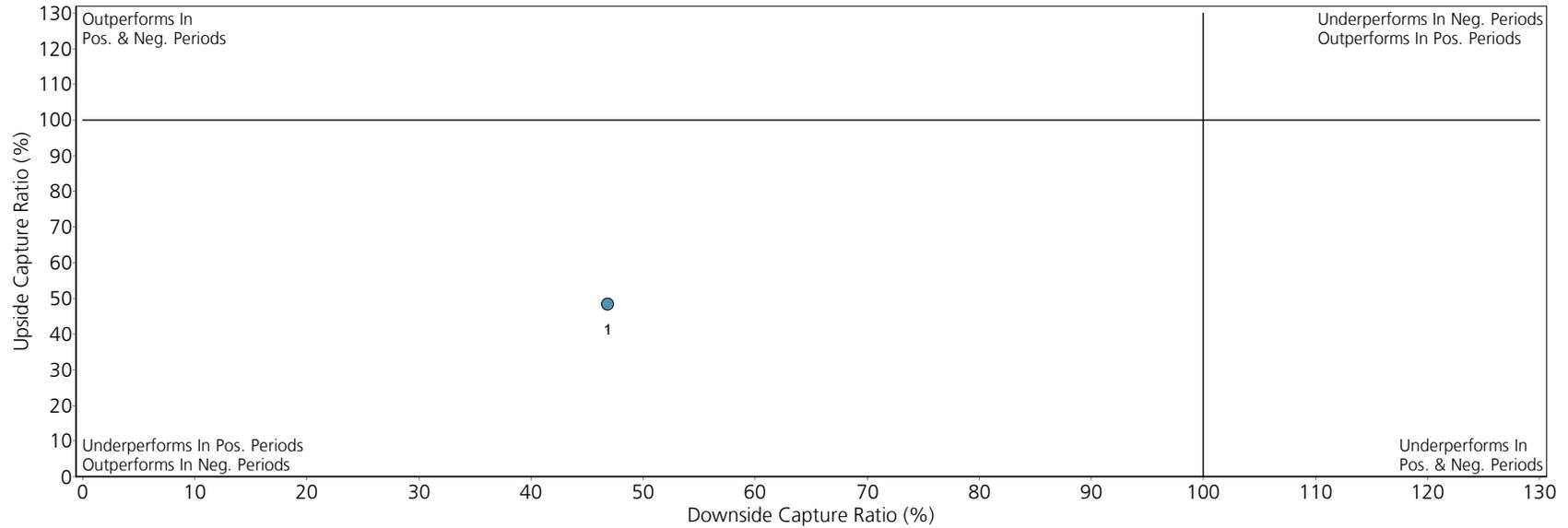
	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	-0.53	-0.09
First Quartile	-1.19	-0.81
Median Value	-1.41	-1.09
Third Quartile	-1.57	-1.32
Lowest Value	-1.84	-1.74
Mean	-1.36	-1.06

- ▲ Delaware Diversified Income I
- BB Agg Bond

Return	Rank	Return	Rank
-1.05	15	-0.48	7
-1.46	58	-1.08	48

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	3.00
Upside Capture ROR	0.56
BB Agg Bond	1.16
% Of Capture	48.25
Down Periods	3.00
Downside Capture ROR	-1.04
BB Agg Bond	-2.21
% Of Capture	46.84

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Eagle Capital Large Value

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Performance Analysis

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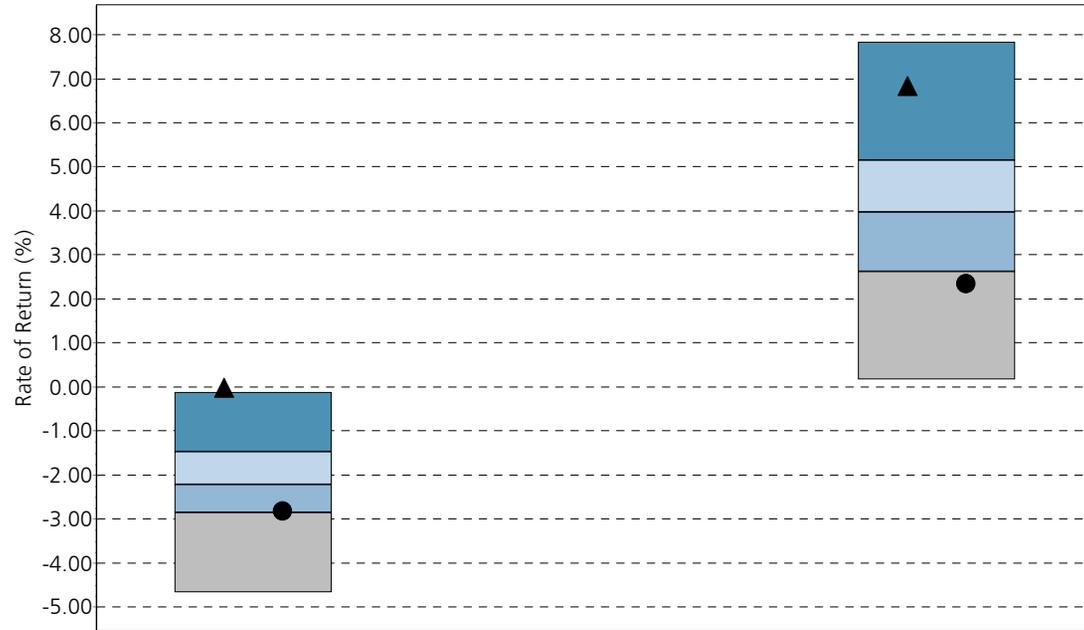
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Russell 1000 Value

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TOTAL FUND versus Large Cap Value Managers
September 30, 2017 Through March 31, 2018

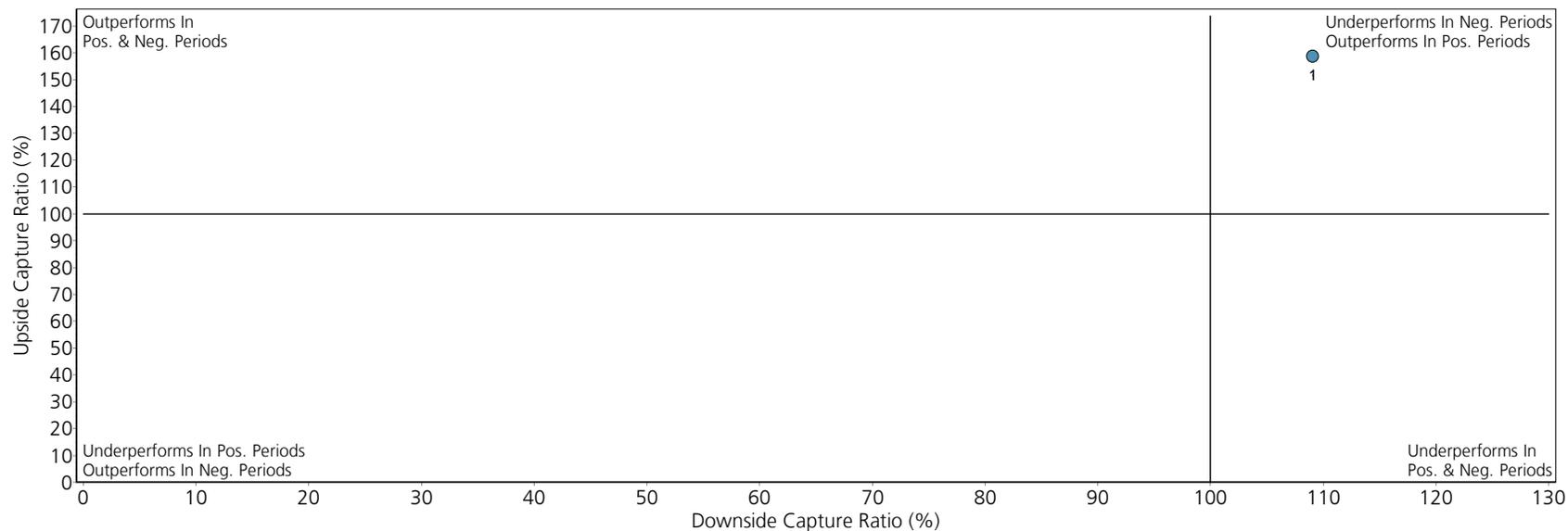


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	-0.13	7.83
First Quartile	-1.48	5.15
Median Value	-2.22	3.97
Third Quartile	-2.86	2.62
Lowest Value	-4.67	0.17
Mean	-2.22	3.88

	Return	Rank	Return	Rank
▲ Eagle Capital Large Value	-0.01	1	6.83	4
● Russell 1000 Value	-2.83	74	2.34	79

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	14.92
Russell 1000 Value	9.40
% Of Capture	158.73
Down Periods	2.00
Downside Capture ROR	-7.04
Russell 1000 Value	-6.45
% Of Capture	109.07

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard 500 Index

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Performance Analysis

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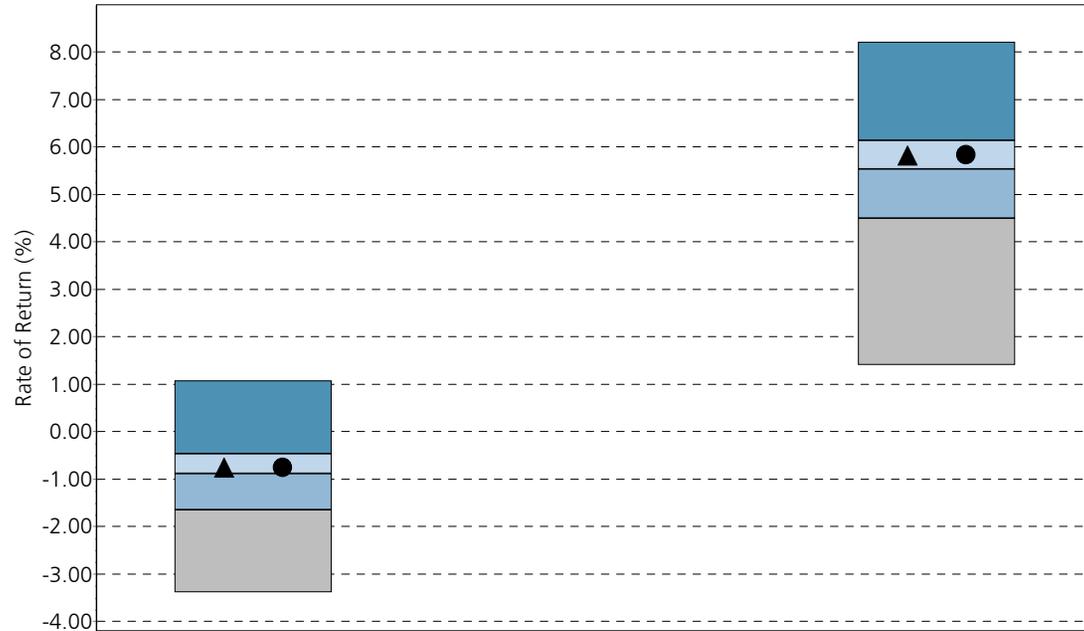
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% S&P 500 Index

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TOTAL FUND versus Large Blend Managers
September 30, 2017 Through March 31, 2018

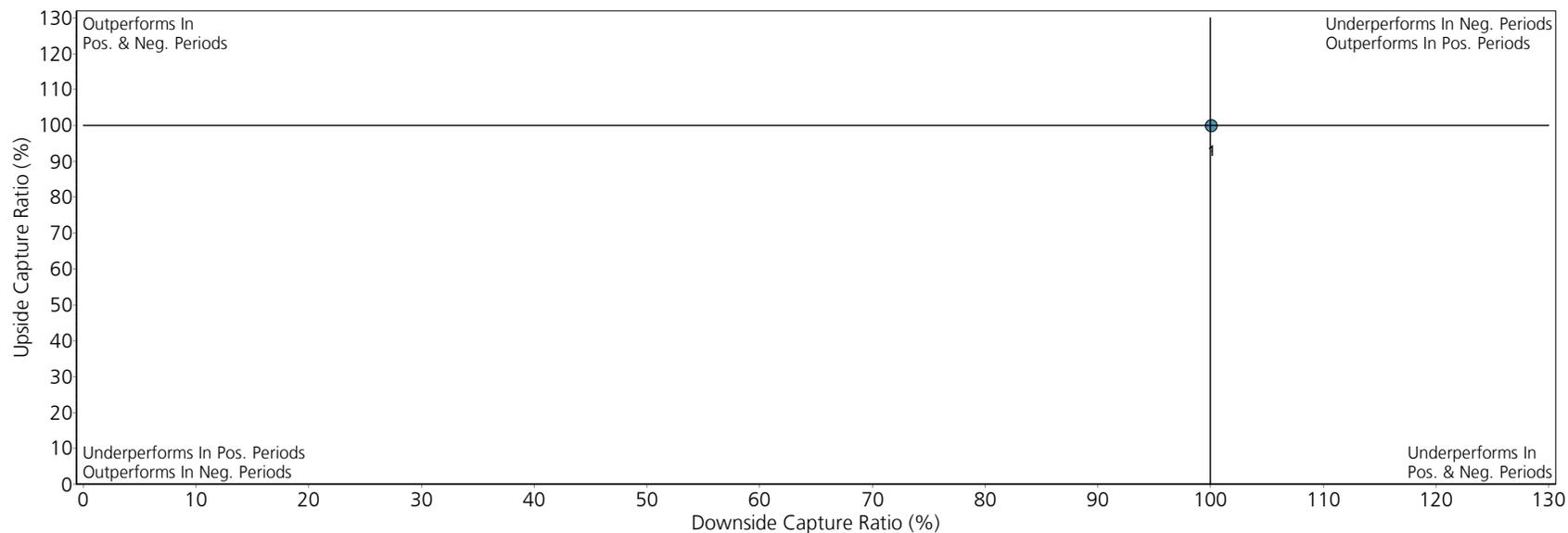


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	1.06	8.20
First Quartile	-0.48	6.13
Median Value	-0.89	5.53
Third Quartile	-1.65	4.49
Lowest Value	-3.39	1.40
Mean	-1.06	5.24

	Return	Rank	Return	Rank
▲ Vanguard 500 Index	-0.77	39	5.82	34
● S&P 500 Index	-0.76	38	5.84	33

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	12.73
S&P 500 Index	12.75
% Of Capture	99.88
Down Periods	2.00
Downside Capture ROR	-6.14
S&P 500 Index	-6.13
% Of Capture	100.08

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

TCW Large Cap Growth

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

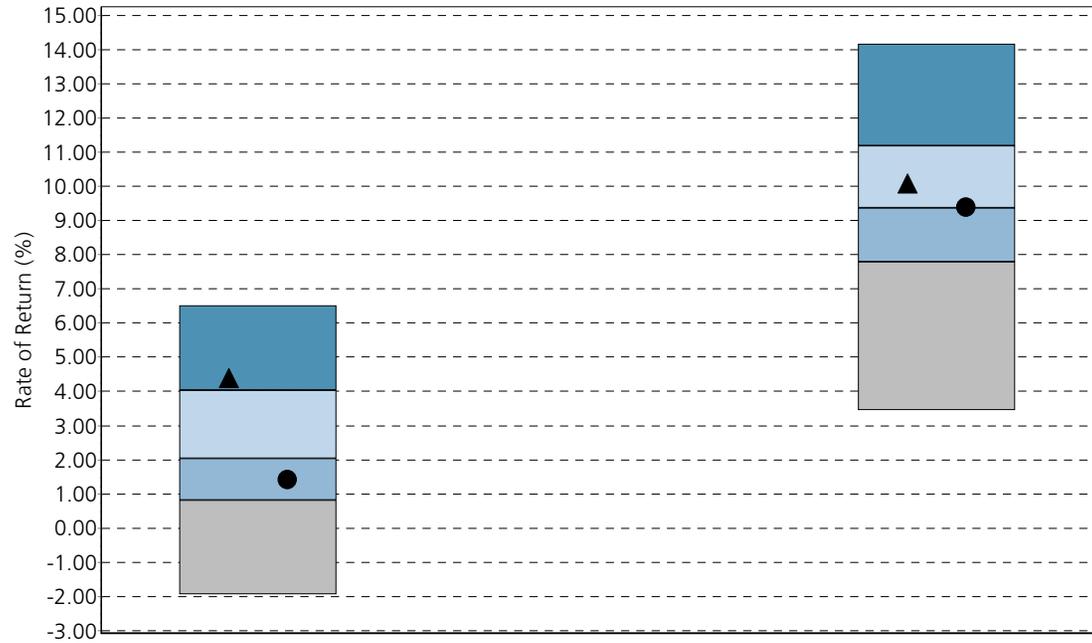
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Russell 1000 Growth

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TOTAL FUND versus Large Cap Growth Managers
September 30, 2017 Through March 31, 2018

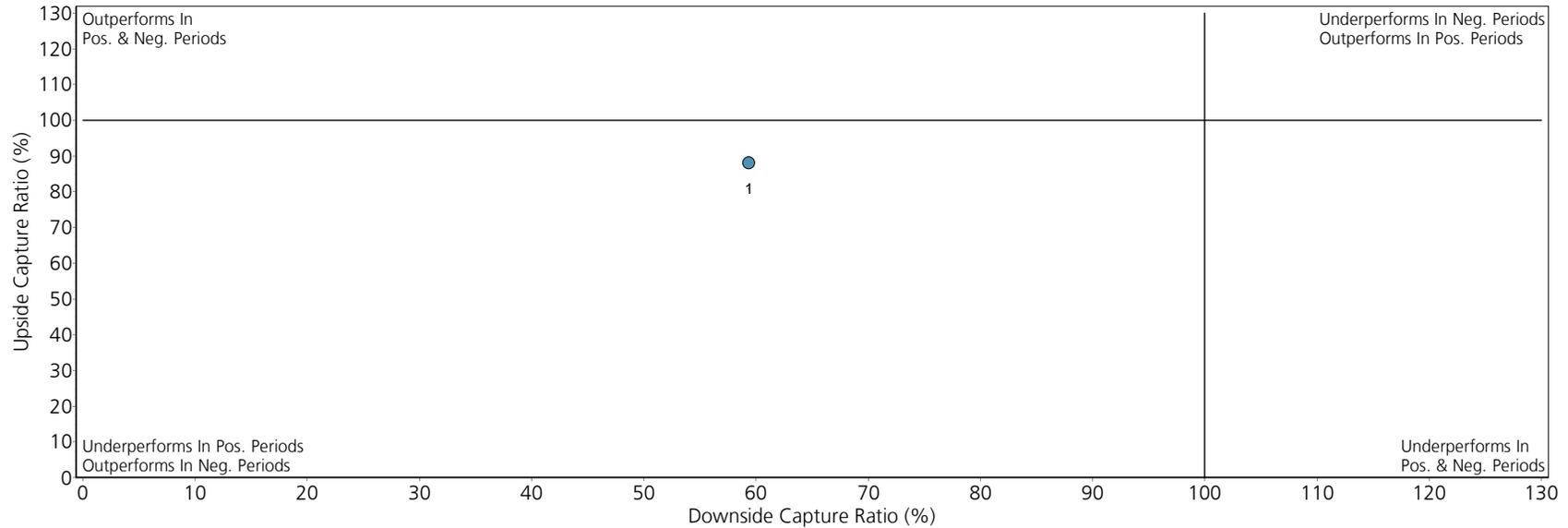


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	6.50	14.16
First Quartile	4.02	11.19
Median Value	2.03	9.37
Third Quartile	0.80	7.80
Lowest Value	-1.94	3.44
Mean	2.28	9.37

	Return	Rank	Return	Rank
▲ TCW Large Cap Growth	4.39	20	10.08	36
● Russell 1000 Growth	1.42	61	9.39	49

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	13.65
Russell 1000 Growth	15.50
% Of Capture	88.03
Down Periods	2.00
Downside Capture ROR	-3.14
Russell 1000 Growth	-5.29
% Of Capture	59.34

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Westfield Capital Large Growth

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Performance Analysis

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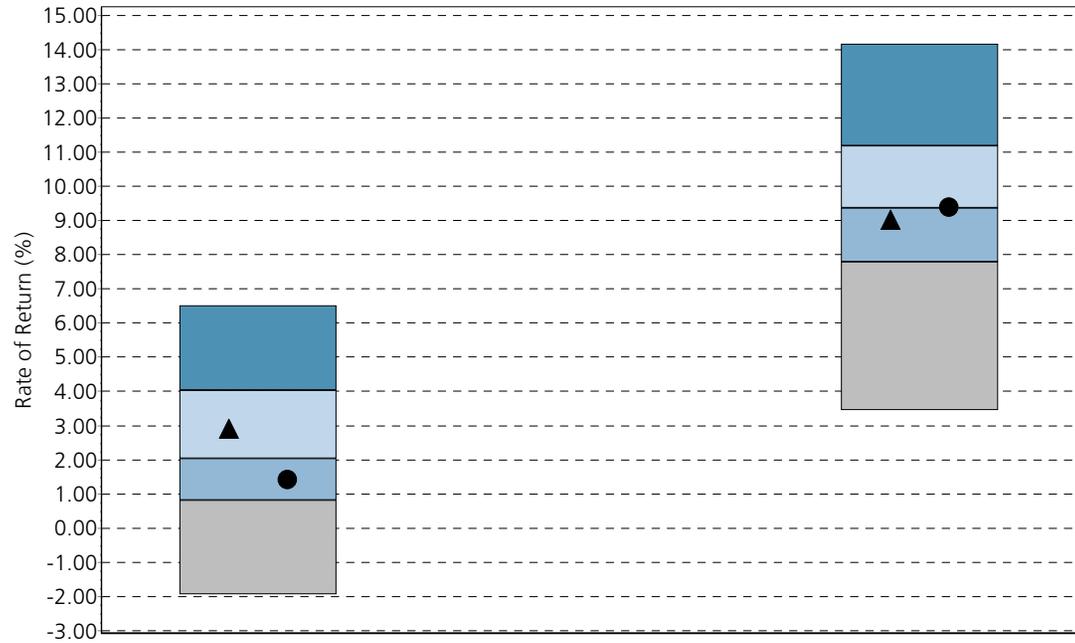
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Russell 1000 Growth

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TOTAL FUND versus Large Cap Growth Managers
September 30, 2017 Through March 31, 2018

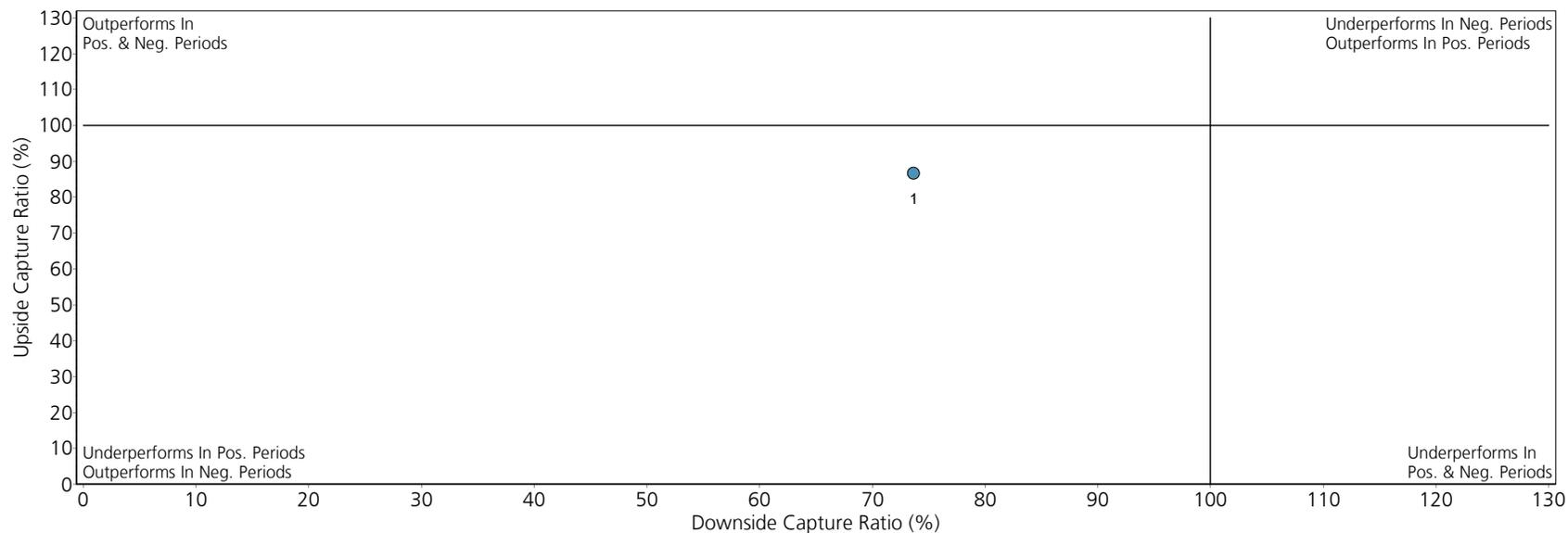


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	6.50	14.16
First Quartile	4.02	11.19
Median Value	2.03	9.37
Third Quartile	0.80	7.80
Lowest Value	-1.94	3.44
Mean	2.28	9.37

	Return	Rank	Return	Rank
▲ Westfield Capital Large Growth	2.91	40	9.02	55
● Russell 1000 Growth	1.42	61	9.39	49

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	13.44
Russell 1000 Growth	15.50
% Of Capture	86.69
Down Periods	2.00
Downside Capture ROR	-3.90
Russell 1000 Growth	-5.29
% Of Capture	73.65

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard Mid-Cap Index Fund Admiral

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

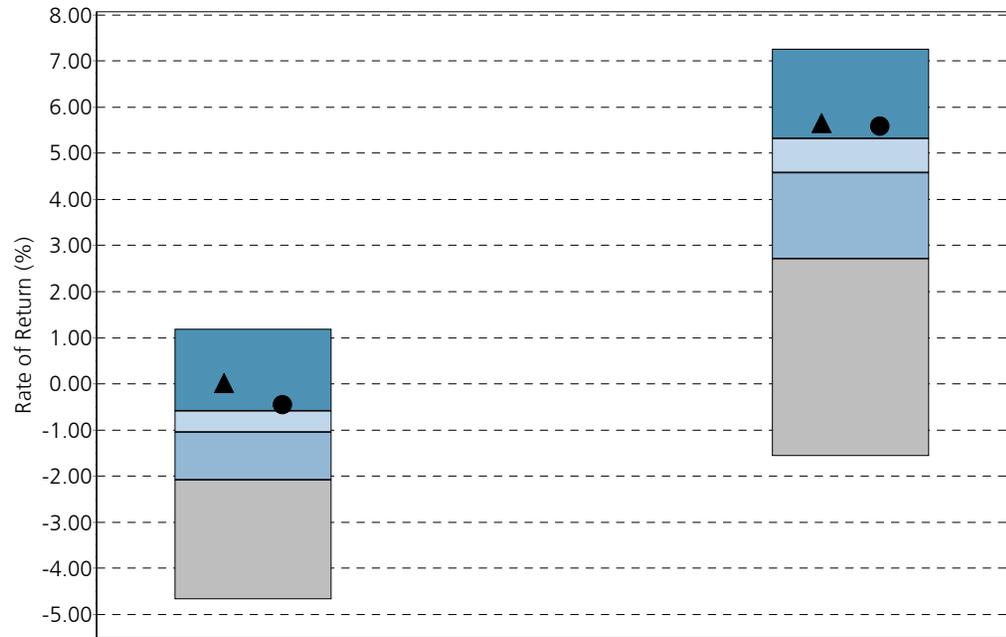
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Russell Midcap

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TOTAL FUND versus Mid Cap Blend Managers
September 30, 2017 Through March 31, 2018



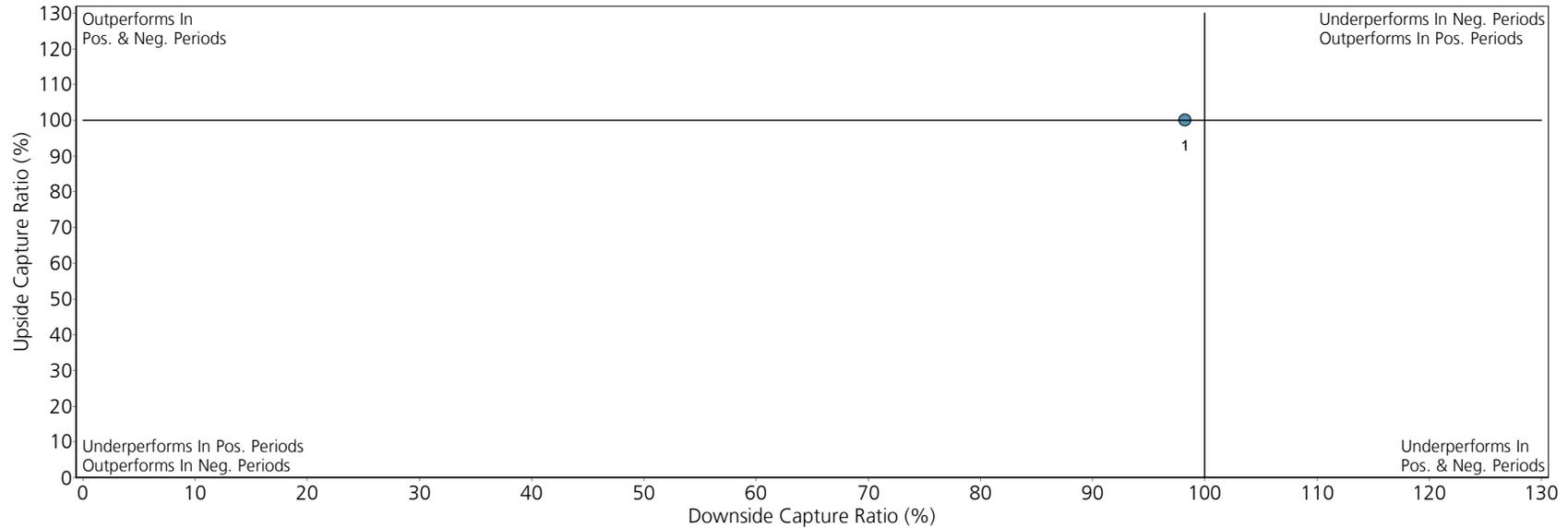
	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	1.19	7.25
First Quartile	-0.59	5.31
Median Value	-1.05	4.57
Third Quartile	-2.08	2.72
Lowest Value	-4.67	-1.57
Mean	-1.28	3.99

▲ Vanguard Mid-Cap Index Fund Admiral
● Russell Midcap

Return	Rank	Return	Rank
0.01	11	5.66	12
-0.46	18	5.58	13

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	5.00
Upside Capture ROR	10.12
Russell Midcap	10.13
% Of Capture	99.95
Down Periods	1.00
Downside Capture ROR	-4.06
Russell Midcap	-4.13
% Of Capture	98.22

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vaughan Nelson

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Russell 2000 Value

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TOTAL FUND versus Small Cap Value Managers
September 30, 2017 Through March 31, 2018

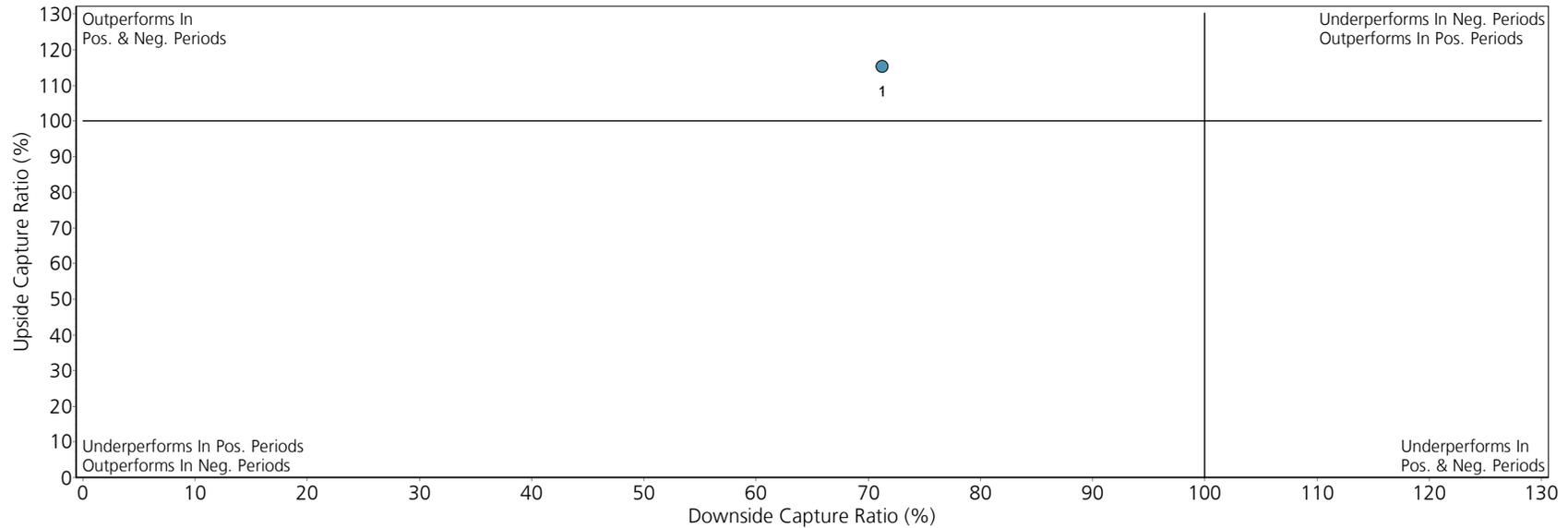


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	1.25	6.57
First Quartile	-1.06	3.03
Median Value	-2.06	1.46
Third Quartile	-3.06	0.19
Lowest Value	-4.71	-2.62
Mean	-2.01	1.64

	Return	Rank	Return	Rank
▲ Vaughan Nelson	-1.76	42	1.96	42
● Russell 2000 Value	-2.64	62	-0.65	88

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	6.44
Russell 2000 Value	5.59
% Of Capture	115.24
Down Periods	2.00
Downside Capture ROR	-4.21
Russell 2000 Value	-5.91
% Of Capture	71.26

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Eagle Small Cap Growth Fund

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Performance Analysis

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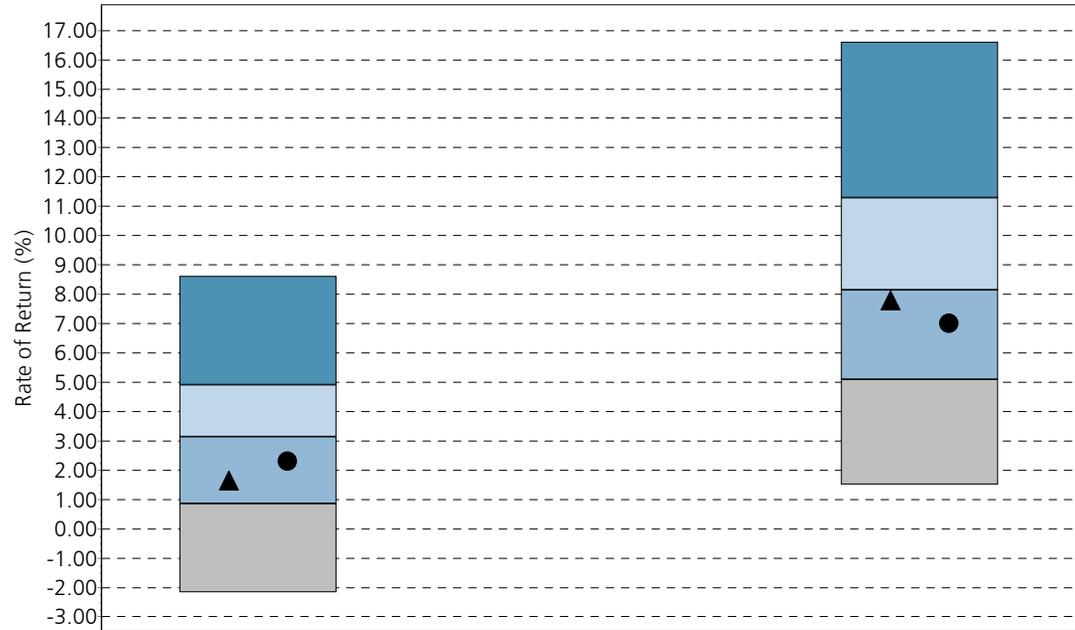
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% Russell 2000 Growth

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TOTAL FUND versus Small Cap Growth Managers
September 30, 2017 Through March 31, 2018

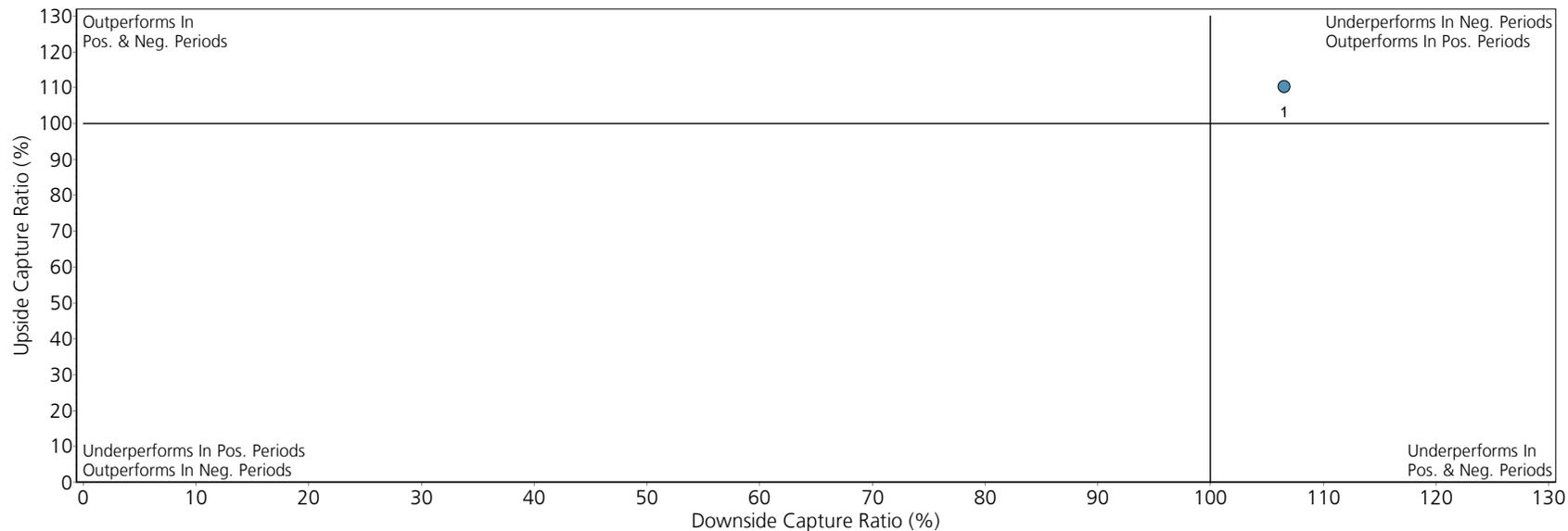


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	8.61	16.59
First Quartile	4.92	11.29
Median Value	3.14	8.14
Third Quartile	0.86	5.09
Lowest Value	-2.17	1.50
Mean	3.13	8.10

	Return	Rank	Return	Rank
▲ Eagle Small Cap Growth Fund	1.64	71	7.80	51
● Russell 2000 Growth	2.30	60	6.99	55

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	5.00
Upside Capture ROR	11.17
Russell 2000 Growth	10.13
% Of Capture	110.29
Down Periods	1.00
Downside Capture ROR	-3.03
Russell 2000 Growth	-2.85
% Of Capture	106.54

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Vanguard Total International Stock Fund

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Performance Analysis

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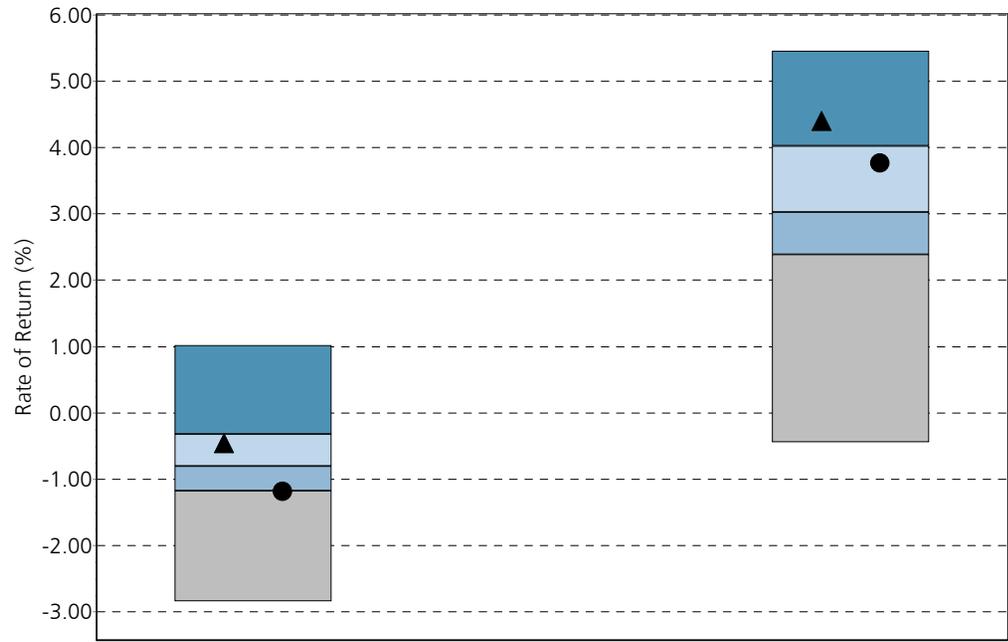
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% MSCI ACWI ex US Net

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TOTAL FUND versus Foreign Large Blend Managers
September 30, 2017 Through March 31, 2018



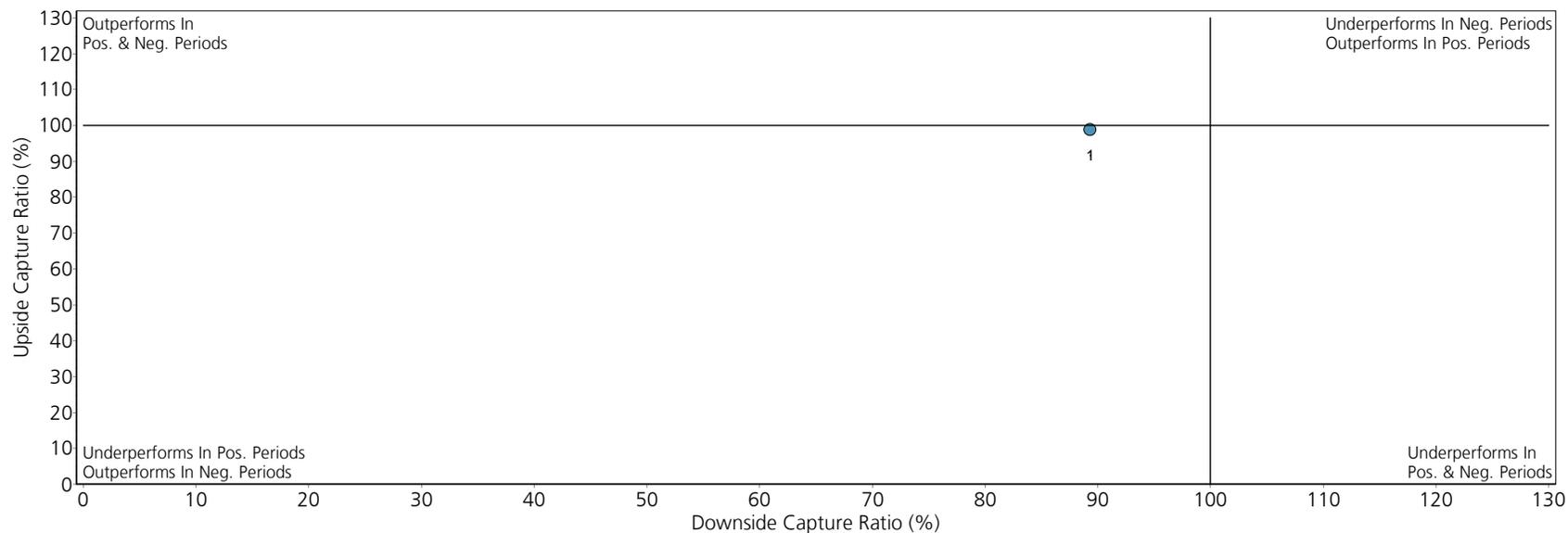
	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	1.01	5.45
First Quartile	-0.32	4.02
Median Value	-0.81	3.02
Third Quartile	-1.18	2.39
Lowest Value	-2.84	-0.45
Mean	-0.78	3.09

▲ Vanguard Total International Stock Fund
● MSCI ACWI ex US Net

	Return	Rank	Return	Rank
	-0.45	29	4.40	14
	-1.18	75	3.76	27

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	10.72
MSCI ACWI ex US Net	10.85
% Of Capture	98.80
Down Periods	2.00
Downside Capture ROR	-5.71
MSCI ACWI ex US Net	-6.40
% Of Capture	89.31

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Dodge & Cox International Stock Fund

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Performance Analysis

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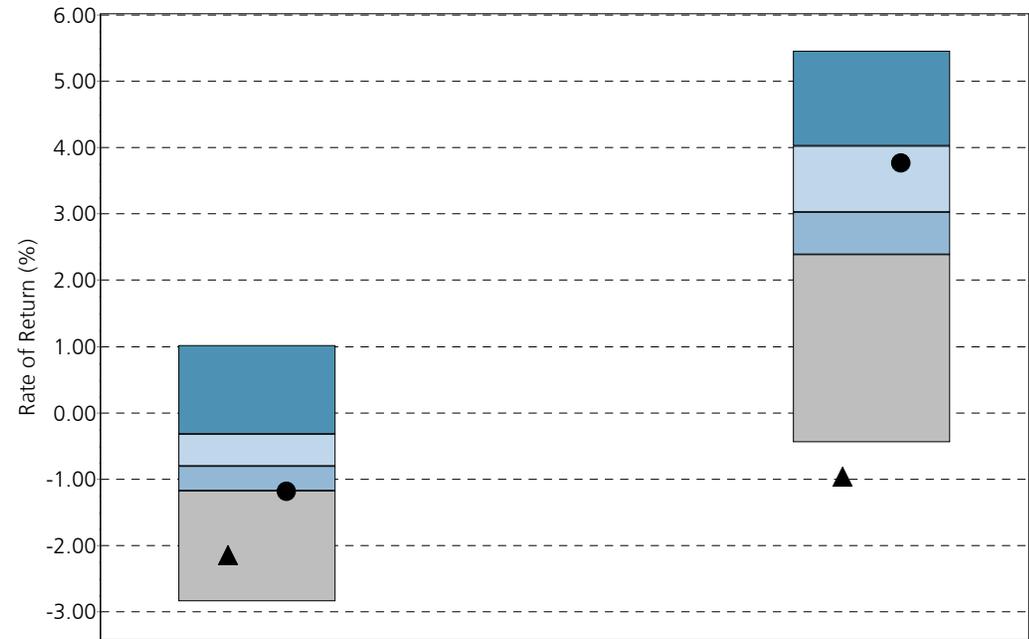
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% MSCI ACWI ex US Net

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TOTAL FUND versus Foreign Large Blend Managers
September 30, 2017 Through March 31, 2018



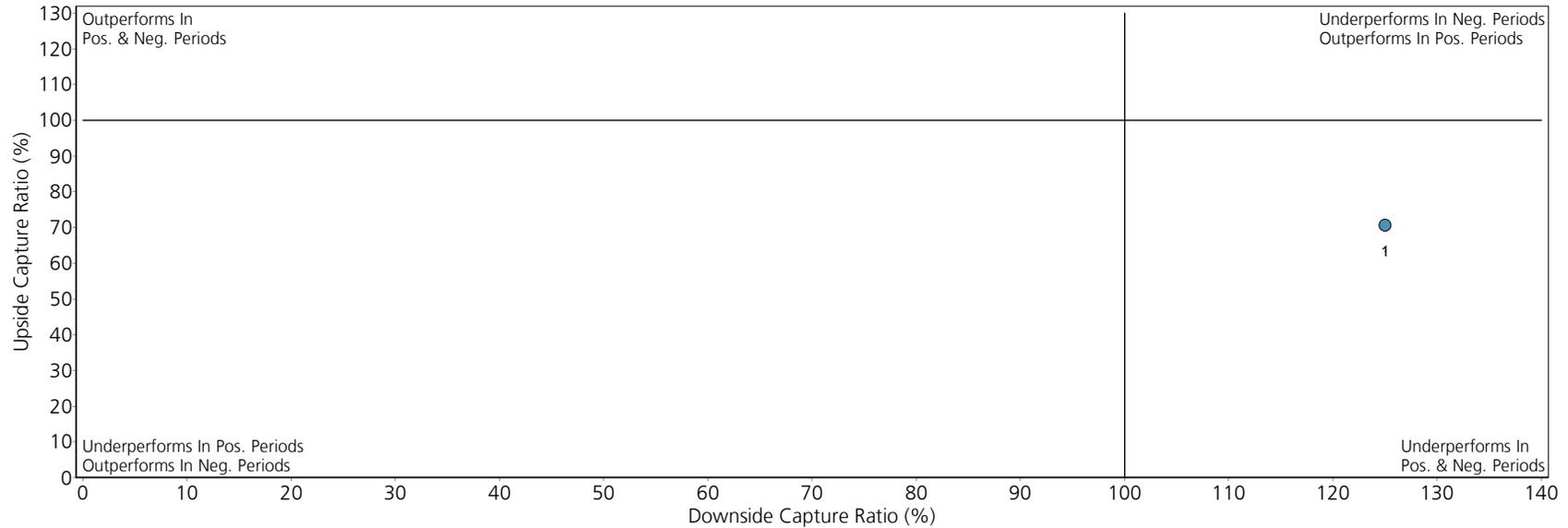
	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	1.01	5.45
First Quartile	-0.32	4.02
Median Value	-0.81	3.02
Third Quartile	-1.18	2.39
Lowest Value	-2.84	-0.45
Mean	-0.78	3.09

▲ Dodge & Cox International Stock Fund
 ● MSCI ACWI ex US Net

Return	Rank	Return	Rank
-2.14	94	-0.96	99
-1.18	75	3.76	27

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	7.65
MSCI ACWI ex US Net	10.85
% Of Capture	70.50
Down Periods	2.00
Downside Capture ROR	-8.00
MSCI ACWI ex US Net	-6.40
% Of Capture	125.01

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Oppenheimer International Growth

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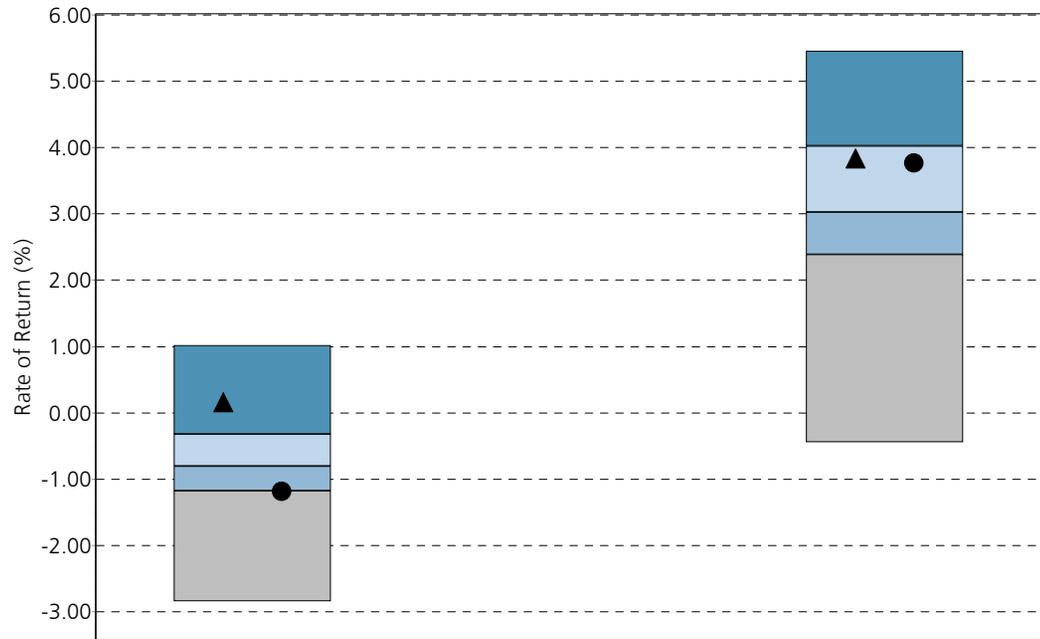
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% MSCI ACWI ex US Net

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TOTAL FUND versus Foreign Large Blend Managers
September 30, 2017 Through March 31, 2018

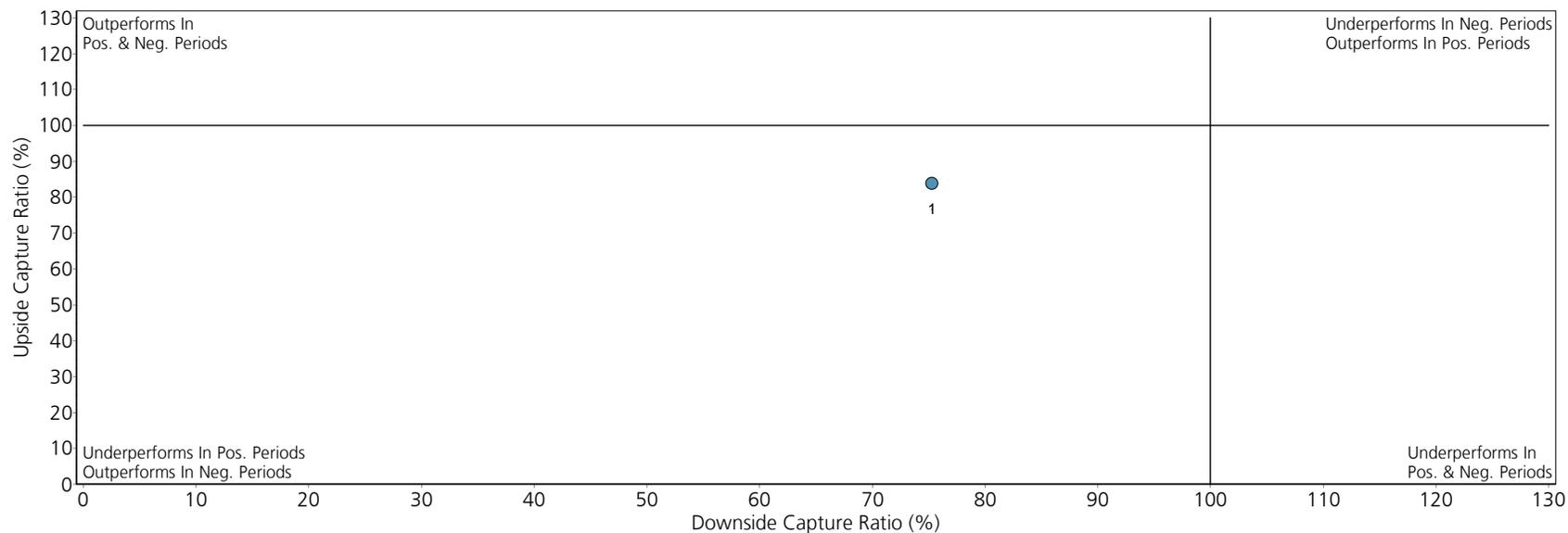


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	1.01	5.45
First Quartile	-0.32	4.02
Median Value	-0.81	3.02
Third Quartile	-1.18	2.39
Lowest Value	-2.84	-0.45
Mean	-0.78	3.09

	Return	Rank	Return	Rank
▲ Oppenheimer International Growth	0.16	11	3.84	26
● MSCI ACWI ex US Net	-1.18	75	3.76	27

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Capture Ratio
September 30, 2017 Through December 31, 2017



1
 9/2017-3/2018

Up Periods	4.00
Upside Capture ROR	9.09
MSCI ACWI ex US Net	10.85
% Of Capture	83.73
Down Periods	2.00
Downside Capture ROR	-4.81
MSCI ACWI ex US Net	-6.40
% Of Capture	75.27

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Loomis Sayles Global Equity and Income Fund

Please contact your UBS Institutional Consultant if you have any questions regarding this report, if your financial situation, individual needs or investment objectives have changed, or if you would like to initiate or modify any investment restrictions on this account. Please note that you are also required to inform your Institutional Consultant, directly, of any changes in your financial condition, investment objectives or investment restrictions on your account.

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

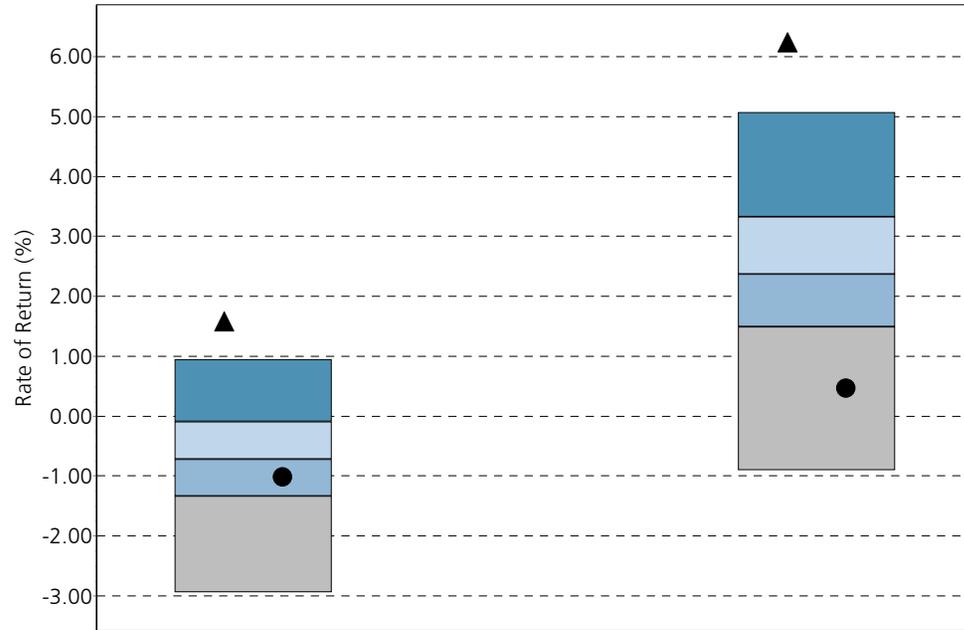
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% HFRX Global Hedge Fund Index

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TOTAL FUND versus World Allocation Managers
September 30, 2017 Through March 31, 2018

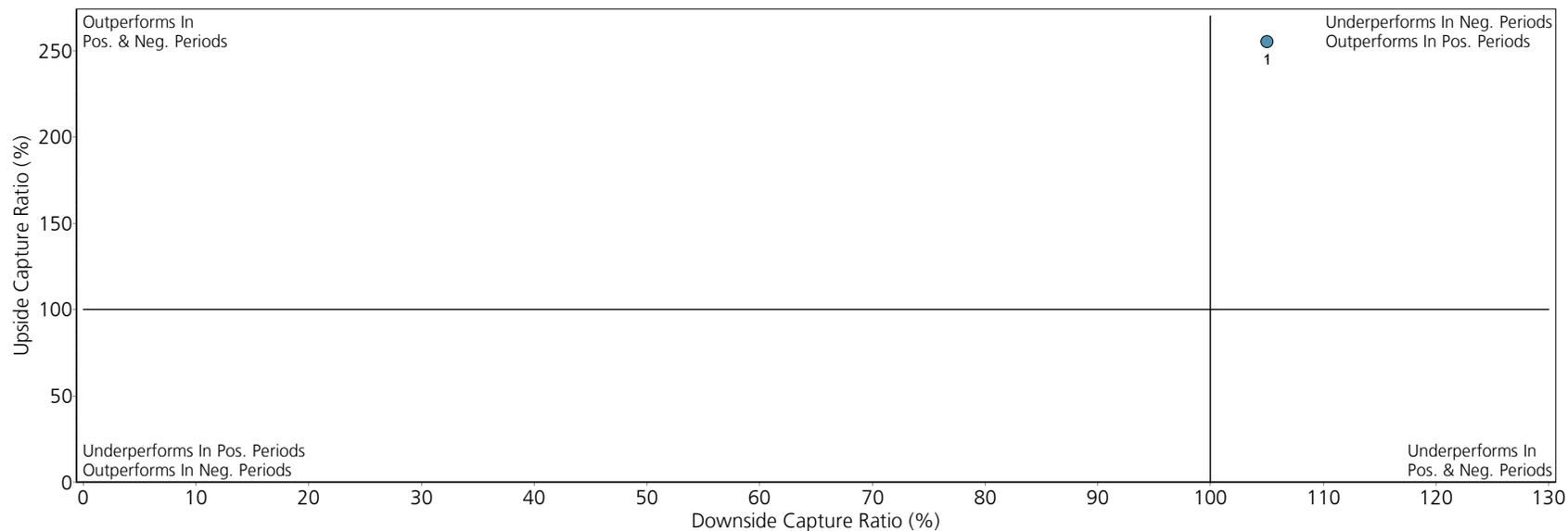


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	0.94	5.06
First Quartile	-0.10	3.32
Median Value	-0.72	2.36
Third Quartile	-1.33	1.49
Lowest Value	-2.94	-0.91
Mean	-0.79	2.38

	Return	Rank	Return	Rank
▲ Loomis Sayles Global Equity and Income Fund	1.58	1	6.24	1
● HFRX Global Hedge	-1.02	61	0.47	92

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	10.15
HFRX Global Hedge	3.98
% Of Capture	254.97
Down Periods	2.00
Downside Capture ROR	-3.55
HFRX Global Hedge	-3.38
% Of Capture	105.01

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

First Eagle Global Funds Class I

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

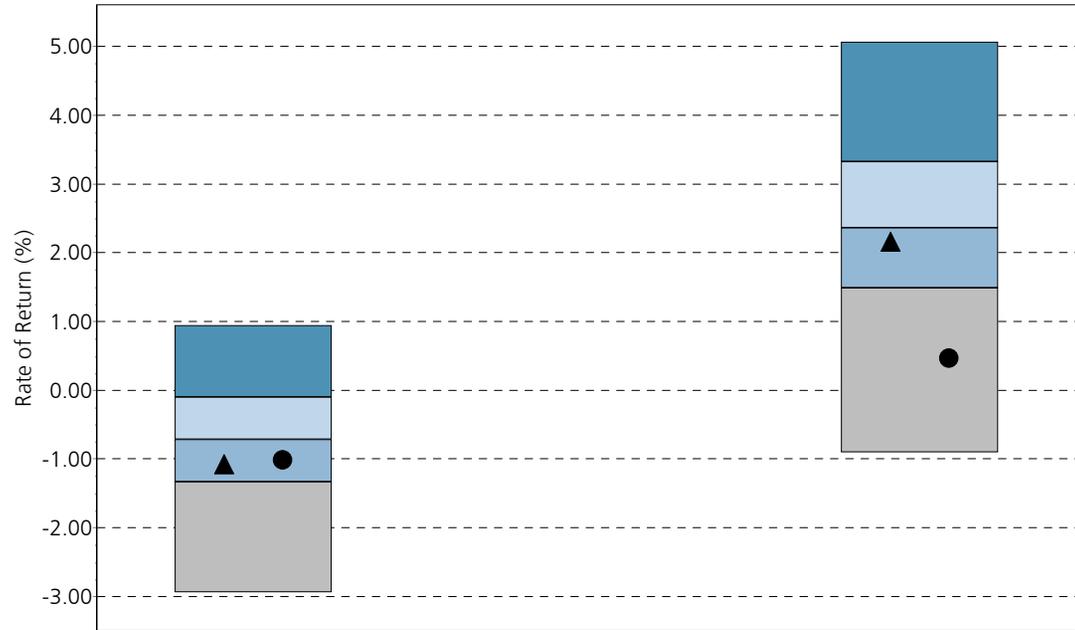
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% HFRX Global Hedge Fund Index

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TOTAL FUND versus World Allocation Managers
September 30, 2017 Through March 31, 2018

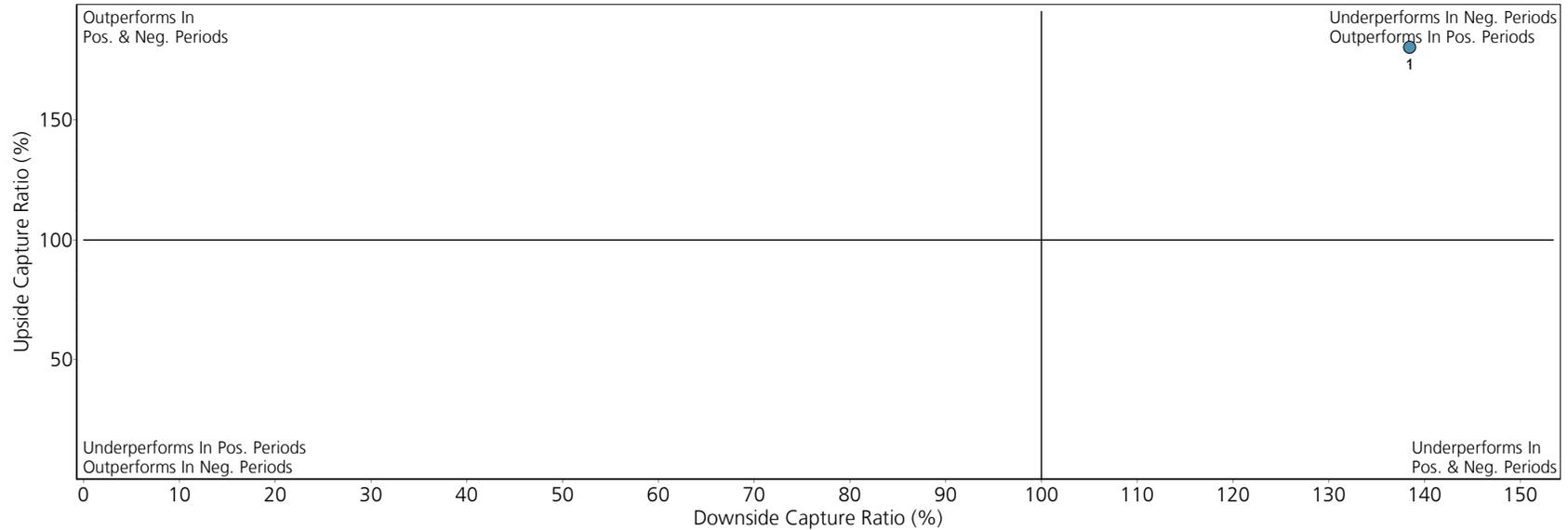


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	0.94	5.06
First Quartile	-0.10	3.32
Median Value	-0.72	2.36
Third Quartile	-1.33	1.49
Lowest Value	-2.94	-0.91
Mean	-0.79	2.38

	Return	Rank	Return	Rank
▲ First Eagle Global Funds Class I	-1.08	65	2.17	55
● HFRX Global Hedge	-1.02	61	0.47	92

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	7.18
HFRX Global Hedge	3.98
% Of Capture	180.45
Down Periods	2.00
Downside Capture ROR	-4.68
HFRX Global Hedge	-3.38
% Of Capture	138.47

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Investment Performance

Period Ending March 31, 2018

Prepared for:
Cobb OPEB
May 10, 2018

Prepared by:
Earle Dodd, Van Price, Allen Wright

Blackrock Global Allocation Fund

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Performance Analysis

The primary index comparison for your portfolio and each of its asset classes is listed below.

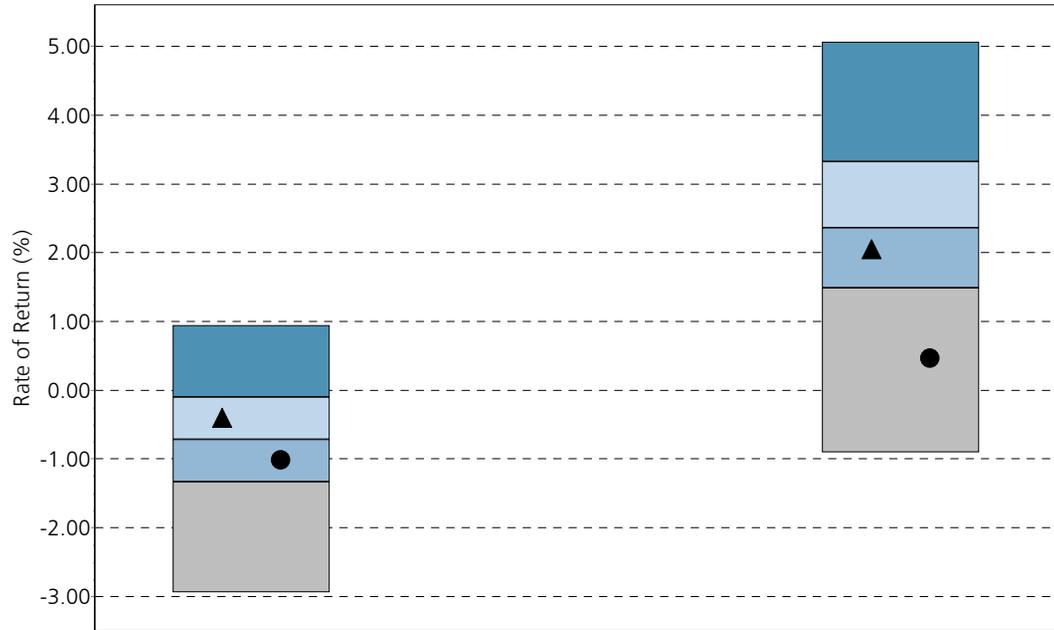
TOTAL FUND BENCHMARK

9/30/2017 - Present

100% HFRX Global Hedge Fund Index

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TOTAL FUND versus World Allocation Managers
September 30, 2017 Through March 31, 2018

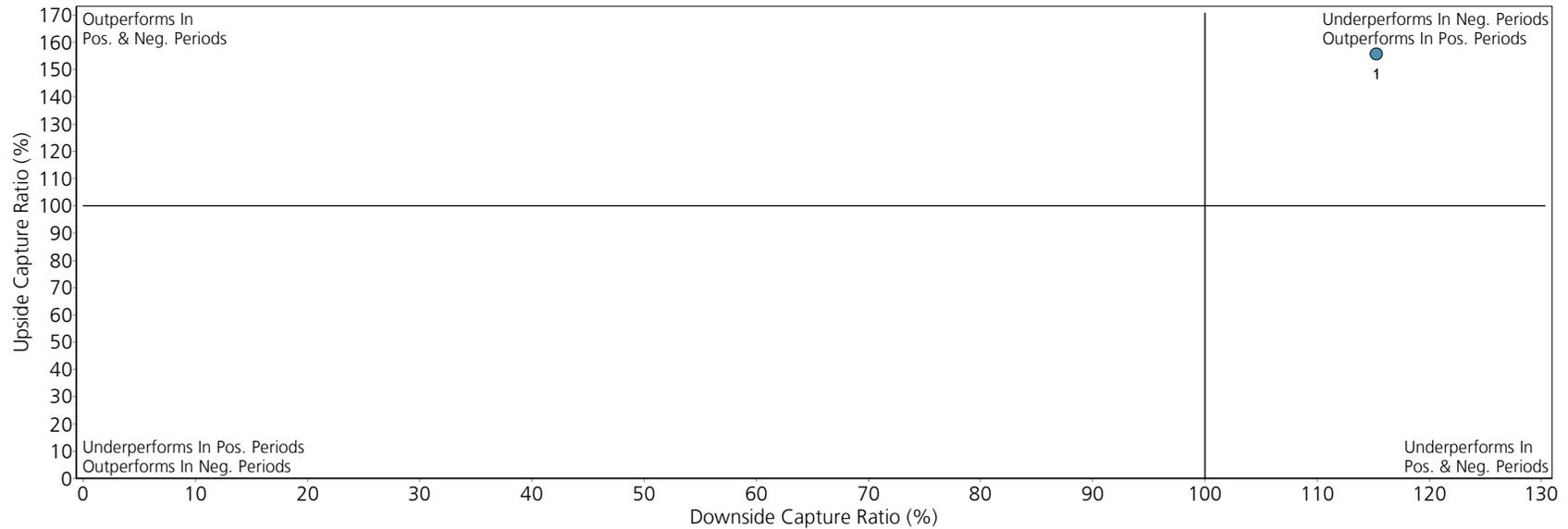


	<u>Latest Quarter</u>	<u>Since Inception</u>
Highest Value	0.94	5.06
First Quartile	-0.10	3.32
Median Value	-0.72	2.36
Third Quartile	-1.33	1.49
Lowest Value	-2.94	-0.91
Mean	-0.79	2.38

	Return	Rank	Return	Rank
▲ Blackrock Global Allocation Fund	-0.40	33	2.06	58
● HFRX Global Hedge	-1.02	61	0.47	92

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Capture Ratio
September 30, 2017 Through December 31, 2017



	1
	9/2017-3/2018
Up Periods	4.00
Upside Capture ROR	6.19
HFRX Global Hedge	3.98
% Of Capture	155.67
Down Periods	2.00
Downside Capture ROR	-3.90
HFRX Global Hedge	-3.38
% Of Capture	115.31

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Cobb OPEB - Investments Not Reviewed by UBS

The firm (UBS) does not currently conduct due diligence and has not otherwise reviewed the following investments or strategies, which are included in this report at your request. The inclusion does not constitute an endorsement that you continue to hold these investments. Please see "Important Information" for additional details.

At the time of report creation, all investments in your portfolio are reviewed.

Cash and Money Market Funds are not included in this analysis. UBS does not research any money market mutual funds, other than those offered by UBS and its affiliates.

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Performance Reconciliation Adjustments

This section provides a record of differences between information reported by your custodian and information used to create this performance report, whether at your direction or as prescribed by your Institutional Consultant on your behalf.

Scenario	Description	Net Adjustment (+/-)
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No differences in information were used in the creation of this performance report.

IMPORTANT INFORMATION

This report is provided for informational purposes only, does not constitute an offer to buy or sell securities or investment products, does not constitute a recommendation that you buy, sell or hold securities or investment products, and is current as of the date shown. It may include information regarding your Institutional Consulting accounts held at various UBS entities including UBS Financial Services Inc., UBS Securities LLC and UBS AG (collectively, "UBS" or "UBS entities"), as well as accounts you hold at other financial institutions. Accounts included in this report are identified at the beginning of the report. Also, information may be shown for individual accounts or as one or more combined portfolios; the accounts included in each portfolio are also identified at the beginning of the report.

Investment Monitoring: Neither UBS nor any of its employees will track or monitor specific investments you make to determine whether they complement your Investment Policy, unless the Plan has engaged UBS for such services.

Accounts and Assets Included: UBS account statements provide the official records of holdings, balances, transactions, and security values of assets held in UBS accounts and are not replaced, amended or superseded by any of the information presented in this report. If assets that you hold at other financial institutions are included in this report, they are being provided as part of your UBS IC Consulting Services Agreement or you have asked us to include those assets as an accommodation, but they are not included as part of your UBS IC Consulting Services Agreement with us. In either situation, the inclusion of those assets is based on information, including pricing and transactional information, furnished to UBS. You should review the account statements and other documentation provided by other financial institutions for their record of holdings, balances, transactions, and security values of assets held in those accounts, as well as notices, disclosures and other information important to you, and may also serve as a reference should questions arise regarding the accuracy of the information in this report. UBS Financial Services Inc. SIPC coverage would only apply to those assets respectively held at UBS Financial Services Inc. You should contact your financial representative at any other financial institution where you hold an account to determine the availability of SIPC coverage, if any. UBS has not verified and is not responsible for the accuracy or completeness of information regarding assets held at other financial institutions.

We require that you hold and purchase only eligible managed assets in your UBS advisory accounts. Please contact your UBS Institutional Consultant for a list of the eligible assets in your program. These reports may provide performance information for eligible and ineligible assets in a fee-based program. Since ineligible assets are not considered fee-based program assets, the inclusion of such securities will distort the actual performance of your advisory assets. As a result, the performance reflected in this report can vary substantially from the individual account performance reflected in the performance reports provided to you as part of those programs. For fee-based programs, fees are charged on the market value of eligible assets in the accounts and assessed quarterly in advance, prorated according to the number of calendar days in the billing period. Neither UBS nor your UBS Institutional Consultant will act as your investment adviser with respect to ineligible assets. The investment advisory programs and brokerage accounts we offer are separate and distinct and each is governed by different laws and separate contracts with you.

Pricing of Securities: All securities held in UBS accounts are priced as of the end of the period shown unless otherwise noted and reflect the last recorded transaction of all listed securities, options and OTC NASDAQ securities, when available. Less actively traded securities may be priced using a computerized valuation model and may not reflect an actual market price or value. To obtain current quotations, when available, contact your Institutional Consultant. CD prices may be derived using a computerized valuation model and therefore represent an estimated market value. Deposits or securities denominated in currencies other than U.S. dollars may be reflected at the exchange rate as of the date of these reports. To obtain precise U.S. dollar values for these deposits or securities at a time before the date of these reports, contact your Institutional Consultant. Prices may or may not represent current or future market value. Every reasonable attempt has been made to accurately price securities; however, no warranty is made with respect to any security's price. Securities that have no readily available market value are displayed at the most recently obtainable price. Such pricing may affect the performance information provided in these reports. The services UBS provides to you may be based on and/or include information obtained from third-party sources. Assets held at other financial institutions reflect the price provided by the respective institution or you. UBS will not independently verify pricing information obtained from third-party sources and cannot guarantee the accuracy of such third-party information. If pricing is indicated as "NA", the required data for that field was not provided by the other financial institution or you; this will affect the performance information provided in these reports.

Performance Analytics: Unless otherwise noted, performance shown is based on Time Weighted Rate of Return. Periods greater than one year have been annualized, but annual performance may not represent a full calendar year depending on the inception date of the first account included in these reports. Standard deviations are shown only for periods of 12 months or longer. This report may reflect performance before the deduction of manager fees and it does reflect performance before the deduction of your UBS Institutional Consulting advisory fees. The payment of fees and expenses will reduce the performance of the account and the reduction in performance will have a cumulative effect over time. The net effect of the payment of fees on the annualized performance, and the compounded or cumulative effect over time, is dependent on the amount of the fee and the account's investment performance. For example, an account that experiences an annual gross performance of 10% but incurs a 2.8% annual fee that is deducted quarterly on a prorated basis, will experience net annual performance of 7.1%, a reduction of 2.9% per year. Compounding will similarly affect the account's performance on a cumulative basis.

Performance information incorporates data as of the date your accounts became available for these reports, not as of your initial acquisition of a particular investment unless performance history is imported at client's request. For reports that reflect combined account information, the Performance Start Date will be the earliest performance start date of any of the individual accounts selected for the consolidation time period. If an individual account's performance information is not available for a full reporting time period (month to date, quarter to date, year to date or performance to date), that account's information will only be included for the period when available. For consolidated accounts that include different account Performance Start Dates, the consolidated Additions/Withdrawals, Income Earned and Investment Appreciation/ Depreciation will include all activity that occurred during the consolidated reporting time period. Accounts that hold or held insurance products will be reported on from the month end date of when insurance and annuity activity could be obtained from the carrier. To the extent that your historical data contains a mixture of net and gross performance history related to manager or advisory fees, those distinctions will impact your performance reports to the extent that the different methods of reporting are blended.

Note that various factors, including unpriced securities and certain holdings, adjustments or activity may cause the results shown in this report to differ from actual performance (see the Performance Reconciliation Adjustments section for detail on differences between your Custodial statement and information used to create this performance report). Note that these results may differ from other performance reports provided to you by UBS. Performance information may be impacted by the different ways each UBS entity or third party financial institution respectively records trade executions. Past performance is no guarantee of future results. Neither the UBS entities nor any of their respective representatives provide tax or legal advice. You must consult with your legal or tax advisors regarding your personal circumstances.

You have discussed the receipt of this individually customized report with your Financial Advisor. Your UBS account statements and trade confirmation are the official records of your accounts at UBS. We assign index benchmarks to our asset allocations, strategies in our separately managed accounts and discretionary programs based on our understanding of the allocation, strategy, the investment style and our research. The benchmarks included in this report can differ from those assigned through our research process. As a result, you may find that the performance comparisons may differ, sometimes significantly, from that presented in performance reports and other materials that are prepared and delivered centrally by the Firm. Depending upon the composition of your portfolio and your investment objectives, the indexes used in this report may not be an appropriate measure for comparison purposes, and as such, are represented for illustration only. Your portfolio holdings and performance may vary significantly from the index. Your financial advisor can provide additional information about how benchmarks within this report were selected.

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The ACCESS, Strategic Wealth Portfolio ("SWP"), Managed Accounts Consulting ("MAC") and Institutional Consulting ("IC") programs offer some of the same Separately Managed Account ("SMA") Managers for different SMA Manager fees. The amount of the fee paid to each SMA Manager is a function of that SMA Manager's investment style and the fee negotiated with the SMA Manager either by UBS (in ACCESS, SWP) and by you in the MAC or IC Program. Depending on your asset level and ability to negotiate the investment management fee with the SMA Manager in the dual-contract structure of the MAC or IC program, you may find that the single-contract structure in ACCESS and SWP provides a more cost-effective option or vice versa. In addition, based on the combination of our fees and your SMA Manager's fees, the overall fee for your SMA account in ACCESS, SWP, MAC or IC may exceed 3% of the account value. Please review your options and overall costs carefully with your Financial Advisor.

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Benchmark Index Information:

For comparison purposes, these reports may contain a number of general broad market indices, which were selected to demonstrate the performance of broad market indicators that are readily recognized, rather than for direct performance comparisons, and do not reflect the performance of actual investments. The selection and use of benchmarks is not a promise or guarantee that your accounts will meet or exceed the stated benchmarks. Benchmark information is illustrative and relates to historical performance of market indexes and not the performance of actual investments. Indexes are not available for direct investment and reflect an unmanaged universe of securities. Indices assume no management, custody, transaction fees or expenses that would lower the performance results, and assume reinvestment of dividends and capital gains. Information about indices is based on information obtained from sources believed to be reliable, but no independent verification has been made. UBS does not guarantee the accuracy or completeness of any index information presented. Market index data is subject to review and revision, and UBS reserves the right to substitute indices or display only those indices for which current updated information is available. Information regarding the indexes shown in this report can be found at the end of this report.

Risk Considerations: Some of the general risk considerations associated with the investment options included in this report are described below. The descriptions are not meant to be a complete list of all investment risks. For more complete information regarding fees, expenses, risks and restrictions associated with these investments please review the offering documents and marketing materials. Investors should consult their tax advisor about their specific tax situation before investing in any securities. In addition, clients should familiarize themselves with the particular market risks and the other risks associated with the specific investment. All investments contain risk and may lose value.

Offshore Funds: Offshore mutual funds are not registered with the Securities and Exchange Commission and may not be sold to any person who is a citizen or resident of the United States.

Alternative Investments: Non-traditional asset classes are alternative investments that include hedge funds, private equity, and private real estate (collectively, non-traditional or alternative investments). These investments can be subject to substantial risks (including the risks associated with limited liquidity, the use of leverage, short-sales and concentrated positions), may involve complex tax structures and strategies, and may not be easily valued. The risks of alternative investments should be carefully considered in light of your investment objectives, risk tolerance and net worth. Alternative investments are speculative and entail substantial risks, which may place your capital at risk. Alternative investments may not have been registered with the Securities and Exchange Commission or under any state securities laws. The market for such investments may be highly illiquid and subjectively valued, and these reports provide values for informational purposes only. Accuracy is not guaranteed. These values may differ substantially from prices, if any, at which a unit may be bought or sold and do not necessarily represent the value you would receive from the issuer upon liquidation. Issuer estimated values, if any, are generally updated on a regular (annual or semi-annual) basis and are supplied to us by the issuer, but may be calculated based on different information from what is used by third parties to derive their estimated values.

Fixed Income: Investing in the fixed income market is subject to risks including market, interest rate, issuer, credit, default and inflation risk. An investment in a portfolio may be worth more or less than its original cost when redeemed. Derivatives may involve certain costs and risks such as liquidity, interest rate, market, credit, management, default risk, and the risk that the position could not be closed when most advantageous. Investing in derivatives could lose more than the amount invested.

Variable Annuities: A variable deferred annuity is a long-term financial product designed for retirement purposes. It is a contractual agreement in which payment(s) are made to an insurance company, which agrees to pay out an income or a lump sum amount at a later date. There are fees and charges associated with a variable annuity contract, which include, but are not limited to, operations charges, sales and surrender charges, administrative fees, and additional charges for optional benefits. Variable annuities are sold by prospectus and you should carefully consider important information on the subaccounts's investment objectives, risk, charges and expenses. Please read the prospectus and offering documents carefully before you invest. Your Financial Advisor can provide a copy of the prospectus. For current month-end returns: <http://advisor.morningstar.com/familyinfo.asp>.

Withdrawals from an annuity contract are taxable as ordinary income, not as capital gains and, if made prior to age 59 and 1/2, may be subject to an additional 10% federal income tax penalty. Withdrawals may also be subject to surrender charges. Withdrawals will reduce the death benefit, living benefits and cash surrender value. For tax purposes, withdrawals will come from any gain in the contract first. Please see the prospectus for complete details. Amounts in the annuity's variable investment portfolios are subject to fluctuation in value and market risk, including loss of principal.

Unregistered group variable annuities and registered group variable annuities that are solely available for use in qualified plans are rated and ranked based on their position within the bell curve of the open end fund peer group (a.k.a. category), rather than the variable annuity subaccount peer group. These ratings and ranks are calculated by using an overlay of the open end fund peer group break points and therefore do not contribute to the category average or number of funds within the peer group.

For variable annuity subaccounts, standardized return is total return based on its inception date within the separate account and is adjusted to reflect recurring and non-recurring charges such as surrender fees, contract charges, maximum front-end load, maximum deferred load, maximum M&E risk charge, administration fees, and actual ongoing fund-level expenses. The benchmark used for each individual subaccount performance is an index that has been assigned to the particular manager or fund.

Mutual Fund Performance Information: Mutual Funds are sold by prospectus and you should carefully consider important information on the fund's investment objectives, risk, charges and expenses. Please read the prospectus and offering documents carefully before you invest. Your UBS Institutional Consultant can provide a copy of the prospectus. For current month-end returns: <http://advisor.morningstar.com/familyinfo.asp>.

This analysis may incorporate mutual fund and exchange traded fund performance results. Analytics shown are calculated based on the fund's Net Asset Value, which may reflect the reinvestment of dividends and capital gains, as well as the deduction of 12b-1 fees and fund internal expenses (e.g. fund management fees). The analytics do not reflect the deduction of the sales load, where applicable, the UBS Consulting fee(s), where applicable, or the impact of taxes. Had the sales load, fee or taxes been included, the results used in this analysis would have been reduced.

Wilshire Trust Universe Comparison Service Information: These reports may contain comparative peer performance data provided by Wilshire Associates Incorporated (Wilshire®), entitled "Quartile Ranking Comparison." Output will be presented as a universe organized by asset type, plan type, plan size or other basis. Wilshire®, the Wilshire Trust Universe Comparison Service® and TUCS® are service marks of Wilshire Associates Incorporated and have been licensed for use by UBS Financial Services Inc. All content of TUCS is ©2016 Wilshire Associates Incorporated, all rights reserved.

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Policy Index: A point of reference for evaluating a portfolio's investment performance. A policy Index can be comprised of single or multiple benchmarks (weighted blend). Portfolios with multiple benchmarks will be depicted with a description of benchmarks and weights that comprise the policy.

Gain/(Loss) Information: When data is available from UBS, estimated unrealized gains/losses are calculated for individual security lots. For assets transferred from another financial institution, gain/loss information will be reflected only for the period of time the assets have been held at UBS entities. For assets held at other financial institutions, information provided by that entity, if any, is reflected. Total realized gain/loss information may include calculations based upon non-UBS entities cost basis information. UBS Financial Services Inc. does not independently verify or guarantee the accuracy or validity of any information provided by sources other than UBS Financial Services Inc. When original cost information is unavailable, gain/loss amounts will represent current market value and total gains/losses may be inaccurate. Date information for when a particular security was acquired, when available, appears on these reports. When no acquisition date is provided for a security, these reports reflect "N/A" and omit this information. As a result, these figures may not be accurate and are provided for informational purposes only.

Interest and Dividend Income: When shown on this report, information does not reflect your account's tax status or reporting requirements. You should use only official IRS forms for tax reporting purposes. The classification of private investment distributions can only be determined by referring to the official year-end tax-reporting document provided by the issuer.

Contributions and Withdrawals: When shown on a report, information regarding contributions and withdrawals may represent the net value of all cash and securities contributions and withdrawals, and may include program fees (including wrap fees) and other fees added to or subtracted from your accounts from the first day to the last day of the period covered by these reports. Program fees may be separately identified or included in withdrawals except when paid via an invoice or through a separate account billing arrangement.

Cash Flow: Cash Flow analysis is based on the historical dividend, coupon and interest payments you have received as of the Record Date in connection with the securities listed and assumes that you will continue to hold the securities for the periods for which cash flows are projected. This may or may not include principal paybacks for the securities listed. These potential cash flows are subject to change due to a variety of reasons, including but not limited to, contractual provisions, changes in corporate policies, changes in the value of the underlying securities and interest rate fluctuations. The effect of a call on any security(s) and the consequential impact on its potential cash flow(s) is not reflected in this report. Payments that occur in the same month in which the report is generated -- but prior to the report run ("As of") date -- are not reflected in this report. In determining the potential cash flows, UBS relies on information obtained from third party services it believes to be reliable but does not independently verify or guarantee the accuracy or validity of any information provided by third parties. Cash flows for mortgage-backed, asset-backed, factored, and other pass-through securities are based on the assumptions that the current face amount, principal pay-down, interest payment and payment frequency remain constant. Calculations may include principal payments, are intended to be an estimate of future projected interest cash flows and do not in any way guarantee accuracy.

Important information about advisory & brokerage services: As a firm providing wealth management services to clients, we offer both investment advisory and brokerage services. These services are separate and distinct, differ in material ways and are governed by different laws and separate contracts. For more information on the distinctions between our brokerage and investment advisory services, please speak with your Financial Advisor or visit our website at <<http://ubs.com/workingwithus>>.

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The ACCESS, SWP, MAC and Institutional Consulting ("IC") programs offer some of the same Separately Manage Account ("SMA") Managers for different SMA Manager fees. The amount of the fee paid to each SMA Manager is a function of that SMA Manager's investment style and the fee negotiated with the SMA Manager either by UBS (in ACCESS, SWP) and by you in the MAC or IC Program. Depending on your asset level and ability to negotiate the investment management fee with the SMA Manager in the dual-contract structure of the MAC or IC program, you may find that the single-contract structure in ACCESS and SWP provides a more cost-effective option or vice versa. In addition, based on the combination of our fees and your SMA Manager's fees, the overall fee for your SMA account in ACCESS, SWP, MAC or IC may exceed 3% of the account value. Please review your options and overall costs carefully with your Financial Advisor before investing.

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Calculation Definitions

Alpha: Alpha measures the difference between an investment's actual performance, and its expected performance as indicated by the returns of a selected market index. A positive Alpha indicates the risk-adjusted performance is above that index. In calculating Alpha, Standard Deviation (total risk) is used as risk measure. Alpha is often used to judge the value added or subtracted by a manager.

Appreciation/Depreciation: Appreciation or Depreciation is the change in market value minus net cash flows. The value indicates by how much the portfolio value has changed due to changes in asset values. Appreciation would be an increase, Depreciation would be a decrease.

Average Exposure: Average Exposure is generally, the average allocation to a segment or an asset. Calculated as the beginning market value plus the weighted net cash flows as a percentage of the total portfolio market value.

Beta: Beta is defined as a Manager's sensitivity to market movements and is used to evaluate market related, or systematic risk. Beta is a measure of the linear relationship, over time, of the Manager's returns and those of the Benchmark. Beta is computed by regressing the Manager's excess returns over the risk free rate (cash proxy) against the excess returns of the Benchmark over the risk free rate. An investment that is as equally volatile as the market will have a Beta of 1.0; an investment half as volatile as the market will have a Beta of 0.5; and so on. Thus, Betas higher than 1.0 indicate that the fund is more volatile than the market.

Composite Benchmark: The Composite Benchmark is a weighted average benchmark based on the allocation of funds within each of the portfolios in the composite and the risk index assigned to each portfolio.

Correlation (R): The Correlation represents the degree to which investments move in tandem with one another and is a critical component of diversified portfolio construction. The Correlation varies between a minimum of -1 (move in opposite direction) and a maximum of 1 (completely correlated). Lower Correlations enhance diversification and lead to better risk-adjusted returns within diversified portfolios. An R of less than 0.3 is often considered low Correlation.

Current Yield: This measure looks at the current price of a bond instead of its face value and represents the return an investor would expect if he or she purchased the bond and held it for a year. This measure is not an accurate reflection of the actual return that an investor will receive in all cases because bond and stock prices are constantly changing due to market factors.

Distribution of Excess Returns: Distribution of Excess Returns displays an arrangement of statistical data that exhibits the frequency of occurrence of the investment's returns in excess of the selected Market Index.

Down Market (Mkt) Capture Ratio: Down Market Capture Ratio is a measure of an investment's performance in down markets relative to the market itself. A down market is one in which the market's return is less than zero. The lower the investment's Down Market Capture Ratio, the better the investment protected capital during a market decline. A negative Down Market Capture Ratio indicates that an investment's returns rose while the market declined.

Downside Capture Return: The downside capture return is the cumulative performance of the portfolio in all periods during which the risk benchmark posted a negative return.

Downside Probability: The downside probability is the ratio of the number of periods during which the portfolio posted a negative return to the total number of periods under study. If, for example, during a 12 month span, the portfolio realized 5 months of negative returns, the downside probability would be equal to 5/12 or 42 percent. The sum of the downside and upside probabilities must equal 1.0. The downside probability does not consider the extent to which the portfolio will fail to exceed the target index. It merely considers the likelihood that the target will not be exceeded. It is important to bear in mind this point when comparing the downside probabilities of more than one portfolio. It is not necessarily correct, for example, to deem portfolio A riskier than portfolio B simply because A has a higher downside probability.

Downside Risk (Semi Standard Deviation, Semi Std Dev, or Downside Deviation): Downside Risk only identifies volatility on the down side. Downside Risk measures the variability of returns below zero, whereas Standard Deviation attributes volatility in either direction to risk. The Downside Risk method calculates the deviations below zero for each observed return. Each time a return falls below zero, the sum is divided by the number of observations and the square root is taken. This result is then shown on an annualized basis.

Dynamic Index: A weighted average blended benchmark of the risk indices assigned to each asset class, based on the asset allocation of the portfolio for a given period. The benchmark index weighting adjusts with changes to the asset allocation. A Dynamic Index should not be used when measuring against the client's *Investment Policy Statement*.

Effective Duration: A duration calculation for bonds with embedded options. Effective duration takes into account that expected cash flows will fluctuate as interest rates change.

Excess: Denotes that a statistic is being measured relative to the Market Index selected. The data set analyzed consists of the periodic differences between the investment's measure and the selected Market Index's definition.

Expense Ratio: Often referred to as the Net Expense Ratio, Morningstar pulls the net annual expense ratio from the fund's audited annual report. Annual-report expense ratios reflect the actual fees charged during a particular fiscal year. The annual report expense ratio for a fund of funds is the wrap or sponsor fee only. The expense ratio expresses the percentage of assets deducted each fiscal year for fund expenses, including 12b-1 fees, management fees, administrative fees, operating costs, and all other asset-based costs incurred by the fund. Portfolio transaction fees, or brokerage costs, as well as initial or deferred sales charges are not included in the expense ratio. The expense ratio, which is deducted from the fund's average net assets, is accrued on a daily basis. If the fund's assets are small, its expense ratio can be quite high because the fund must meet its expenses from a restricted asset base. Conversely, as the net assets of the fund grow, the expense percentage should ideally diminish as expenses are spread across the wider base. Funds may also opt to waive all or a portion of the expenses that make up their overall expense ratio.

Gross Dollar Weighted Return: Gross Dollar Weighted Return is the internal rate of return, excluding money manager fees.

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The Gross Expense Ratio: Represents the total gross expenses (net expenses with waivers added back in) divided by the fund's average net assets. If it is not equal to the net expense ratio, the gross expense ratio portrays the fund's expenses had the fund not waived a portion, or all, of its fees. Thus, to some degree, it is an indication of fee contracts. Some fee waivers have an expiration date; other waivers are in place indefinitely.

Gross Time Weighted Return: Gross Time Weighted Return is the Modified Dietz return, excluding money manager fees.

Index Value: Index Value is the unit value series based on the return stream. It can be used to calculate rates of return between any two dates in the report.

Information Ratio: The Information Ratio is a measure of value added by an investment manager. It is the ratio of (annualized) excess return above the selected Market Index to (annualized) Tracking Error. Excess return is calculated by linking the difference of the manager's return for each period minus the selected Market Index return for each period, then annualizing the result.

Manager Capture Ratio: The Manager Capture Ratio is manager return divided by the selected Market Index return. It shows what portion of the market performance was captured by the manager under certain market conditions: up market, down market, or both.

Market Experience: Market Experience is the presumable market value of the portfolio if it and its cash flows had grown at the policy index rate of return. It lets the reader know if active management has aided or hurt the portfolio.

Net Cash Flow: For the total portfolio, net cash flow is aggregate contributions minus aggregate withdrawals. At the asset class level, net cash flow is aggregate purchases minus aggregate sales minus aggregate income. It is used in the numerator of the Modified Dietz return calculation. It is the same as "New Money" and "Flow".

Net Dollar Weighted Return: Net Dollar Weighted Returns is the internal rate of return, including money manager fees.

Net Time Weighted Return: Net Time Weighted Return is the Modified Dietz return, including money manager fees.

New Money: For the total portfolio, New Money is aggregate contributions minus aggregate withdrawals. At the asset class level, New Money is aggregate purchases minus aggregate sales minus aggregate income. It is used in the numerator of the Modified Dietz return calculation. It is the same as "Net Cash Flow" and "Flow".

Policy Index: A point of reference for evaluating a portfolio's investment performance. A policy Index can be comprised of single or multiple benchmarks (weighted blend). Portfolios with multiple benchmarks will be depicted with a description of benchmarks and weights that comprise the policy.

Rate of Return, ROR, Return %, ROI: All Return terms refer to the Modified Dietz return.

Relative Risk: Relative risk is simply the ratio of the standard deviation of the portfolio to the standard deviation of the risk index. The statistic reveals how much of the variation of the risk index is "shared" by the portfolio. A relative risk of 1.0 indicates that the portfolio has the same level of return variability as the risk index. A relative risk of less than 1.0 indicates that the portfolio has shown a lower dispersion of returns than the index. A relative risk in excess of 1.0 indicates that the portfolio returns have been more dispersed than those of the index.

Riskless Index: The theoretical rate of return of an investment with zero risk. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time. The 3 month T-Bill is the usual index used for riskless.

R-Squared (R2): The diversification measure R2 indicates the percentage of volatility in portfolio returns which can be "explained" by market volatility. This statistic indicates the degree to which the observed values of one variable, such as the returns of a managed portfolio, can be explained by, or are associated with the values of another variable, such as a Market Index. It is especially helpful in assessing how likely it is that Alpha and Beta are statistically significant. The R2 values generally range from 0.0 to 1.0. An investment with an R2 of 1.0 is perfectly correlated with the market whereas an investment with an R2 of 0.0 will behave independently of the market. An R2 of 0.95, for example, implies that 95% of the fluctuations in a portfolio are explained by fluctuations in the market.

Sector Allocations: The percentage a manager has allocated to specific economic sectors.

Sharpe Ratio: The Sharpe Ratio indicates the excess return per unit of total risk as measured by Standard Deviation. It is a ratio of the arithmetic average of excess returns over the risk free rate to the Standard Deviation. The Sharpe Ratio is a measure of the premium earned for the risk incurred by the portfolio.

Sortino Ratio: The Sortino Ratio is a measure of reward per unit of risk. With Sortino, the numerator (i.e., reward) is defined as the incremental compounded average return over the minimum acceptable return (MAR). The denominator (i.e., risk) is defined as the downside deviation of the returns below the MAR. Since the downside deviation is the standard deviation of those returns which fail to exceed the MAR, the result of the Sortino Ratio is a measure of the average reward per unit of loss. As with Sharpe and Treynor, the Sortino Ratio only has value when it is used as the basis of comparison between portfolios. The higher the Sortino Ratio, the better.

Standard Deviation: A measure of the extent to which observations in a series vary from the arithmetic mean of the series. The Standard Deviation of a series of asset returns is a measure of volatility or risk of the asset.

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Target Allocation: The Target Allocation is the allocation goal of the portfolio.

Tracking Error (Excess Standard Deviation): Tracking Error is a measure of how closely an investment's returns track the returns of the selected Market Index. It is the annualized Standard Deviation of the differences between the investment's and the associated index's returns. If an investment tracks its associated index closely, then Tracking Error will be low. If an investment tracks its associated index perfectly, then Tracking Error will be zero.

Treynor Ratio: The Treynor Ratio is defined as the ratio of the manager's excess geometrically annualized return over the portfolio Beta. Excess returns are computed versus the cash index.

Up Market (Mkt) Capture Ratio: Up Market Capture Ratio is a measure of a product's performance in up markets relative to the market itself. An up market is one in which the market's return is greater than or equal to zero. The higher the investment's Up Market Capture Ratio, the better the investment capitalized on a rising market.

Upside Capture Return: The upside capture return is the cumulative performance of the portfolio in all periods during which the risk benchmark posted a positive return.

Upside Probability: The upside probability is the ratio of the number of periods during which the portfolio posted a positive return to the total number of periods under study. If, for example, during a 12 month span, the portfolio realized 7 months of positive returns, the upside probability would be equal to 7/12 or 58 percent. The sum of upside and downside probabilities must equal 1.0.

Upside Uncertainty: Upside uncertainty measures the variability of portfolio returns that exceed a minimum acceptable return (MAR). Risk, in this instance, is defined as the likelihood that the MAR will not be achieved. Since the statistic is defined as the variability of returns greater than the MAR, risk is not an issue. Thus, variability on the upside is referred to as uncertainty, not risk. The upside uncertainty is simply the standard deviation of those portfolio returns that exceed the MAR. The larger the upside uncertainty, the better.

Weighted Average: This is a calculation that looks at the average for the statistic for each security weighted by the allocation by market value for each security.

Weighted Flow: The net cash flows weighted for the duration of the month during which the money manager had access to the funds. It is used in the denominator of the Modified Dietz rate of return calculation.

Yield: Yield refers to the yield to maturity.

YTD: Year to Date.

Index Definitions

10-Year U.S. Treasury Index: A debt obligation issued by the U.S. Treasury with a term of 10 years.

Barclays Capital Global Aggregate X U.S.: An index consisting of all investment grade securities issued in different currencies and combining the Barclays Aggregate, Barclays Pan-European Aggregate and Barclays Global Treasury indexes. The index also includes Eurodollar and Euro-Yen corporate bonds, Canadian government, agency and corporate securities and U.S. dollar investment grade, 144A securities.

Barclays Capital Global Emerging Markets: Tracks total returns of external-currency-denominated debt instruments of the emerging markets: Brady bonds, loans, Eurobonds, and U.S. dollar-denominated local market instruments. The index covers five regions: Americas, Europe, Asia, Middle East and Africa.

Barclays Capital Muni Bond Index: A capitalization-weighted bond index created by Barclays intended to be a representative of major municipal bonds of all quality ratings.

Barclays Capital U.S. Aggregate Index: Covers the U.S. dollar-denominated, investment grade, fixed rate, taxable bond market segment of SEC-registered securities and includes bonds from the U.S. Treasury, government-related, corporate, mortgage- and asset-backed and commercial mortgage-backed securities.

Barclays Capital U.S. Aggregate Government: Composed of the Barclays U.S. Treasury Bond Index (all public obligations of the U.S. Treasury, excluding flower bonds and foreign-targeted issues) and the Agency Bond Index (all publicly issued debt of U.S. government agencies, quasi-federal corporations, and corporate debt guaranteed by the U.S. government).

Barclays Capital U.S. Aggregate High Yield: Covers the universe of fixed-rate, dollar-denominated, non-convertible, publicly issued, non-investment grade debt. Pay-in-kind (PIK) bonds, Eurobonds and debt issues from countries designated as emerging markets (e.g., Argentina, Brazil, Venezuela, etc.) are excluded but Canadian bonds and SEC-registered global bonds of issuers in non-emerging countries are included. Original issue zeroes, step-up coupon structures and 144As are also included. Bonds must have at least one year to final maturity, at least \$150 million par amount outstanding and be rated Ba1 or lower.

Barclays Capital U.S. Aggregate Investment Grade: Covers all publicly issued, fixed-rate, nonconvertible, investment grade corporate debt. Issues are rated at least Baa by Moody's Investors Service or BBB by Standard & Poor's. Total return comprises price appreciation / depreciation and income as a percentage of the original investment.

Barclays Capital U.S. Convertibles Composite: The Barclays Capital U.S. Convertible Bond Index represents the market of U.S. convertible bonds. Convertible bonds are bonds that can be exchanged, at the option of the holder, for a specific number of shares of the issuer's preferred stock or common stock.

Barclays Capital U.S. Treasury - Bills (1-3 months): Is a market value-weighted index of investment-grade fixed-rate public obligations of the U.S. Treasury with maturities of three months, excluding zero coupon strips.

Cambridge U.S. Private Equity: Based on returns data compiled on funds representing more than 70% of the total dollars raised by U.S. leveraged buyout funds, subordinated debt and special situation managers between 1986-2008.

Cambridge U.S. Venture Capital Index: Based on returns data compiled for more than 75% of U.S., institutional venture capital assets between 1990-2008.

Dow Jones AIG Commodity Index: Composed of futures contracts on 20 physical commodities. It is composed of commodities traded on U.S. exchanges with the exception of nickel, aluminum and zinc. The Index relies primarily on liquidity data or the relative amount of trading activity to determine its weightings. All data used for both liquidity and production calculations are averaged for a five-year period.

HFRI Distressed & Restructuring: Equally weighted index of investment managers who employ an investment process focused on corporate fixed income instruments, primarily on corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceeding or financial market perception of near-term proceedings. Distressed strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

HFRI Equity Hedge: Equally weighted index of investment managers who employ equity hedge strategies, maintaining both long and short positions primarily in equity and equity derivative securities. Equity hedge managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities both long and short.

HFRI Event Driven: Equally weighted index of investment managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated, and frequently involve additional derivative securities.

HFRI Fund of Funds Index: Fund of funds invested with multiple managers through funds or managed accounts. The strategy accesses a diversified pool of managers with the objective of lowering the risk of investing in one single manager. The fund of funds manager has discretion in choosing which strategies and managers to invest in the fund.

HFRI Fund Weighted Composite: An equally weighted return of all funds net of fees in the HFRI monthly indexes. Fund strategies include, but are not limited to: convertible arbitrage, distressed securities, emerging markets, equity hedge, equity market neutral, statistical arbitrage, event driven, macro, market timing, merger and risk arbitrage, relative value, short selling and sector funds.

HFRI Macro: Equally weighted index of investment managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top down and bottom up theses, quantitative and fundamental

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approaches and long- and short-term holding periods.

HFRI Relative Value: Equally weighted index of investment managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish investment theses, and security types range broadly across equity, fixed income, derivative or other security types.

JP Morgan Global Ex-U.S. Bond Index: Consists of regularly traded, fixed-rate domestic government debt instruments from 12 international bond markets. Countries included are Austria, Belgium, Canada, Denmark, France, Germany, Italy, Japan, the Netherlands, Spain, Sweden and the United Kingdom.

MSCI AC World Index ex USA: Consists of approximately 2,000 securities across 47 markets, with emerging markets representing approximately 18%. MSCI attempts to capture approximately 85% of the market capitalization in each country.

MSCI EAFE Index (Europe, Australasia, Far East): A free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. As of June 2007, the MSCI EAFE Index consisted of the following 21 developed market country indexes: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland and the United Kingdom.

MSCI Emerging Markets Index: A free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. As of November 2008, the MSCI Emerging Markets Index consisted of the following 24 emerging market country indexes: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand and Turkey.

MSCI Europe Index: A free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of the developed markets in Europe. As of June 2007, the MSCI Europe Index consisted of the following 16 developed market country indexes: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

MSCI Japan Index: A free float-adjusted market capitalization-weighted index that is designed to measure the equity market performance of Japan.

NAREIT Index: Benchmarks the performance of the REIT industry since its inception in 1972. It was designed to provide a comprehensive assessment of overall industry performance. Some REITs available from over-the-counter markets are not included due to the lack of real-time pricing.

NCREIF Property Index (NPI): A quarterly time series composite total rate of return measure of investment performance of a large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the NPI have been acquired, at least in part, on behalf of tax-exempt institutional investors - the great majority being pension funds. As such, all properties are held in a fiduciary environment.

Russell 1000® Index: Measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000® Index and includes approximately 1000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market.

Russell 1000® Growth Index: Measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

Russell 1000® Value Index: Measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values.

Russell 2000® Growth Index: Measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

Russell 2000® Value Index: Measures the performance of the small-cap value segment of the U.S. equity universe. It includes those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

Russell Mid-Cap® Growth Index: Measures the performance of the mid-cap growth segment of the U.S. equity universe. It includes those Russell mid-cap companies with higher price-to-book ratios and higher forecasted growth values.

Russell Mid-Cap® Value Index: Measures the performance of the mid-cap value segment of the U.S. equity universe. It includes those Russell mid-cap companies with lower price-to-book ratios and lower forecasted growth values.

S&P 500 Index: Covers 500 large cap industrial, utility, transportation, and financial companies of the US markets. The index represents about 75% of NYSE market capitalization and 30% of NYSE issues. It is a capitalization weighted index calculated on a total return basis with dividends reinvested.

TASS Index of CTAs: Is a dollar-weighted index based on historical managed futures performance of CTAs with established track records.

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Performance Summary - Gross of Fees
Cobb County Employees Retirement System
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	Year	%tile Ranking	Year	%tile Ranking	Year	%tile Ranking	Inception	
Composite	06/30/1994	\$637,538,330	0.04%	17	0.04%	17	11.96%	4	7.11%	27	8.67%	28	8.29%	21
Policy Index			-0.94%	72	-0.94%	72	10.06%	41	6.27%	58	7.74%	57	7.54%	62
Dynamic Index			-0.88%	64	-0.88%	64	9.91%	43	6.20%	62	7.82%	55	7.52%	62
Fixed Income														
Vanguard Intermediate Bond Index Fd	02/28/2005	\$44,378,032	-1.98%	99	-1.98%	99	0.53%	85	1.17%	53	1.78%	46	3.79%	9
Barclays Int Gov/Cr			-0.98%	11	-0.98%	11	0.35%	92	0.94%	70	1.25%	83	2.25%	90
Richmond Capital Management	07/31/2007	\$50,948,453	-1.47%	58	-1.47%	58	1.65%	30	1.73%	20	2.31%	17	3.70%	13
Barclays Govt/Credit			-1.58%	76	-1.58%	76	1.38%	43	1.22%	48	1.84%	42	3.15%	39
Blackrock Strategic Income Opps Fund	05/31/2011	\$24,117,958	0.34%	1	0.34%	1	3.80%	1	2.31%	1	2.91%	1	3.26%	3
Barclays Aggregate			-1.46%	58	-1.46%	58	1.20%	53	1.20%	50	1.82%	43	2.61%	2
Delaware Diversified Income Fund	05/31/2011	\$23,507,918	-0.99%	11	-0.99%	11	2.63%	2	1.67%	23	2.16%	24	2.96%	2
Barclays Aggregate			-1.46%	58	-1.46%	58	1.20%	53	1.20%	50	1.82%	43	2.61%	2
Large Cap Value														
Eagle Capital Large Value	12/31/2002	\$66,764,418	0.53%	1	0.53%	1	17.72%	1	12.25%	1	14.67%	1	14.25%	1
Russell 1000 Value			-2.83%	74	-2.83%	74	6.95%	88	7.88%	64	10.78%	72	11.00%	61
Large Cap Core														
Vanguard 500 Index	05/31/1999	\$75,321,667	-0.75%	38	-0.75%	38	13.96%	32	10.73%	5	13.27%	8	12.67%	5
S&P 500 Index			-0.76%	38	-0.76%	38	13.99%	31	10.78%	4	13.31%	6	12.71%	4
Large Cap Growth														
TCW Large Cap Growth	04/30/2013	\$34,685,019	4.27%	21	4.27%	21	22.15%	39	11.87%	44				13.76%
Russell 1000 Growth			1.42%	61	1.42%	61	21.25%	47	12.90%	27				15.32%
Westfield Capital Large Growth	07/31/2007	\$49,385,857	2.92%	39	2.92%	39	23.51%	30	12.11%	42	15.46%	44	12.79%	65
Russell 1000 Growth			1.42%	61	1.42%	61	21.25%	47	12.90%	27	15.53%	39	14.09%	28
Mid Cap Core														
Vanguard Midcap 400 Index Fund	05/31/2004	\$47,159,716	0.00%	12	0.00%	12	12.34%	19	7.87%	34	12.26%	11	11.31%	11
Russell Midcap			-0.46%	18	-0.46%	18	12.20%	21	8.01%	30	12.09%	12	11.51%	8
Small Cap Value														
Vaughan Nelson	04/30/2009	\$21,444,887	-1.78%	43	-1.78%	43	4.97%	77	6.83%	80	12.20%	29	11.03%	50
Russell 2000 Value			-2.64%	62	-2.64%	62	5.13%	77	7.87%	65	9.96%	79	9.42%	83
Small Cap Growth														
Eagle Small Cap Growth	10/31/2010	\$23,098,967	3.23%	47	3.23%	47	18.56%	58	11.53%	29	12.97%	70	11.81%	65
Russell 2000 Growth			2.30%	60	2.30%	60	18.63%	57	8.77%	70	12.90%	72	11.29%	74

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Performance Summary - Gross of Fees
Cobb County Employees Retirement System
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	1		3		5		7		%tile Ranking Inception	
						Year	%tile Ranking								
International Equity															
Vanguard Total International Stock Fund	11/30/2006	\$39,555,872	-0.45%	29	-0.45%	29	17.10%	25	6.95%	10	6.43%	45	4.67%	60	3.40%
<i>International Index</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32	6.35%	49	5.20%	40	2.74%
Dodge & Cox International Stock Fund	07/31/2007	\$37,596,863	-2.14%	94	-2.14%	94	10.98%	98	3.68%	95	7.19%	20	5.47%	29	2.95%
<i>International Index</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32	6.35%	49	5.20%	40	1.78%
Oppenheimer International Growth	05/31/2014	\$39,163,182	0.18%	10	0.18%	10	18.27%	8	7.33%	7					4.10%
<i>MSCI AC Wld X US Net</i>			-1.18%	75	-1.18%	75	16.53%	36	6.18%	32					3.65%
Global Allocation															
Global Allocation	03/31/2010	\$60,409,520	0.05%	20	0.05%	20	10.57%	22	6.14%	5	6.75%	9	6.31%	23	7.29%
<i>HFRI Global Hedge</i>			-1.02%	61	-1.02%	61	3.21%	99	0.51%	99	1.29%	98	0.47%	99	0.89%

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Performance Summary - Gross of Fees
Cobb OPEB
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	%tile Ranking	1 Year	%tile Ranking	3 Year	%tile Ranking	5 Year	%tile Ranking	7 Year	%tile Ranking
Composite Policy Index	09/30/2016	\$116,003,475	-0.07%	14	-0.07%	14	12.23%	2						
Composite Benchmark Policy Index			-0.94%	57	-0.94%	57	10.00%	25						
			-0.89%	56	-0.89%	56								
Fixed Income														
Vanguard Interm-Term Bond Index	09/30/2017	\$7,797,815	-1.99%	99	-1.99%	99								
BB Int Gov/Cr			-0.98%	11	-0.98%	11								
Richmond Capital Management	09/30/2017	\$9,218,578	-1.52%	67	-1.52%	67								
BB Gov/Cr Bond			-1.58%	76	-1.58%	76								
Blackrock Strategic Income I	09/30/2017	\$4,585,145	0.40%	1	0.40%	1								
BB Agg Bond			-1.46%	58	-1.46%	58								
Delaware Diversified Income I	09/30/2017	\$4,491,555	-1.05%	15	-1.05%	15								
BB Agg Bond			-1.46%	58	-1.46%	58								
Domestic Equity														
Eagle Capital Large Value	09/30/2017	\$12,223,749	-0.01%	1	-0.01%	1								
Russell 1000 Value			-2.83%	74	-2.83%	74								
Vanguard 500 Index	09/30/2017	\$12,642,987	-0.77%	39	-0.77%	39								
S&P 500 Index			-0.76%	38	-0.76%	38								
TCW Large Cap Growth	09/30/2017	\$6,518,282	4.39%	20	4.39%	20								
Russell 1000 Growth			1.42%	61	1.42%	61								
Westfield Capital Large Growth	09/30/2017	\$8,604,590	2.91%	40	2.91%	40								
Russell 1000 Growth			1.42%	61	1.42%	61								
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,044,827	0.01%	11	0.01%	11								
Russell Midcap			-0.46%	18	-0.46%	18								
Vaughan Nelson	09/30/2017	\$3,861,241	-1.76%	42	-1.76%	42								
Russell 2000 Value			-2.64%	62	-2.64%	62								
Eagle Small Cap Growth Fund	09/30/2017	\$4,174,772	1.64%	71	1.64%	71								
Russell 2000 Growth			2.30%	60	2.30%	60								
International Equity														
Vanguard Total International Stock Fund	09/30/2017	\$8,307,843	-0.45%	29	-0.45%	29								
MSCI ACWI ex US Net			-1.18%	75	-1.18%	75								
Dodge & Cox International Stock Fund	09/30/2017	\$7,117,768	-2.14%	94	-2.14%	94								
MSCI ACWI ex US Net			-1.18%	75	-1.18%	75								
Oppenheimer International Growth	09/30/2017	\$7,469,237	0.16%	11	0.16%	11								
MSCI ACWI ex US Net			-1.18%	75	-1.18%	75								

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Performance Summary - Gross of Fees
Cobb OPEB
As of March 31, 2018

Account	Inception Date	03/31/2018 Market Value	Latest QTR	%tile Ranking	YTD	1		3		5		7	
						%tile Ranking	Year						
Global Allocation	09/30/2017	\$11,945,085	0.06%	20	0.06%	20							
Global Allocation			-1.02%	61	-1.02%	61							3.55%
HFRX Global Hedge													0.47%

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UBS House View

Investment Strategy Guide

June 2018

Chief Investment Office
Global Wealth Management
US edition



Volatility is back. Are you prepared?

House View Website: Visit our mobile-friendly website, ubs.com/houseview, to experience our monthly publication online.



Mike Ryan, CFA

Chief Investment Officer Americas,
Global Wealth Management

Dear reader,

This month's **Feature** article outlines five strategies that we recommend for managing risks while participating in still-attractive financial markets. While volatility has returned to normal after an abnormally calm 2017, economic and profit fundamentals remain strong, and we don't believe that a bear market or recession is near. Even so, we do believe we've entered the mid-to-late cycle, and it's time to begin watching for signs of overheating. With this in mind, our **In context** introduces a new **Bull market monitor** to help us keep an eye on potential risks to the bull market.

Our **Top themes** section highlights a new theme in our Longer Term Investment series, focused on **Enabling technologies**, which include artificial intelligence, augmented/virtual reality, big data, cloud computing, and 5G. These five powerful technologies are paving the way for numerous applications that are disrupting almost every major industry. Investors likely will be best rewarded by taking diversified exposure to companies involved in areas like software and semiconductors – especially where there is superior pricing power and a high barrier to entry.

With the bull market still poised to continue – and even accelerate – we continue to recommend an overweight to global and emerging market stocks over US government bonds. But risks remain, and diversification is going to be even more important in the coming years. Investors should use the most recent volatility as a relatively painless opportunity to re-assess risk tolerance, identify and address portfolio blind spots, and make sure that they've taken steps to reduce the role of luck in their investment success.

Regards,

Mike Ryan



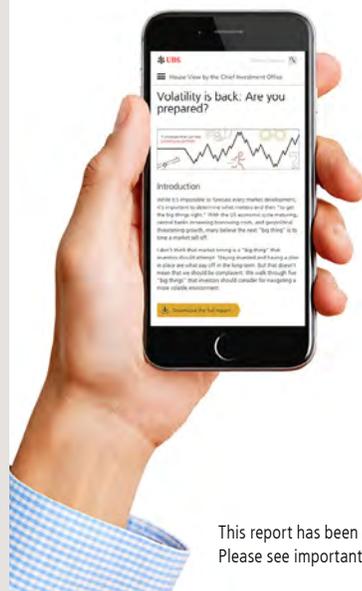
This pivot to planning symbol throughout the report and our website will lead you to related guidance based on our Liquidity. Longevity. Legacy. framework.

For more, please visit [our website](#).

Monthly House
View client call:

June 7, 2018
1:00 PM ET

Dial In: 1-877-200-4456
Passcode: 46502#



Access our report in a monthly email or on our new House View website at ubs.com/houseview

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CIO Preferences

	underweight	neutral	overweight
Equities - page 16			
Total equities			+
Global			+
US large-cap growth	-		
US large-cap value			+
US mid-cap		=	
US small-cap		=	
Int'l developed market		=	
Emerging market			+
Bonds - page 18			
Total fixed income	-		
US government	-		
10-year Treasury			+
US municipal		=	
US investment grade corporate		=	
US high yield		=	
Int'l developed market		=	
Emerging market		=	
EM hard currency			+

This is a visual summary of our preferences. For the full detailed asset allocations see page 23.

+ Overweight

Tactical recommendation to hold more of the asset class than specified in the moderate risk strategic asset allocation (see page 23).

- Underweight

Tactical recommendation to hold less of the asset class than specified in the moderate risk strategic asset allocation (see page 23).

= Neutral

Tactical recommendation to hold the asset class in line with its weight in the moderate risk strategic asset allocation (see page 23).

Also in this report

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12 Themes

14 Global outlook

22 Key forecasts

23 Asset allocation

Volatility is back. Are you prepared?



Mark Haefele

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Wealth Management

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Pivot to planning

Does your portfolio have a
Liquidity buffer?

Former CIA Director and commander of US forces in Afghanistan, David Petraeus, recently spoke with some of our clients about the strategic importance of “getting the big things right.” He made a powerful point. But while nobody would disagree with his idea, implementing it is far from straightforward. First, you have to know what the big things are. Then you also have to know which ones you stand a chance of getting right before planning your work and working your plan.

After many years of a bull market, many clients are asking about timing their exit from equities. Some have already done so. While I agree that market timing is a “big thing,” I always question if, realistically, these clients are focusing on the most effective way to protect and grow their wealth.

What if you had a crystal ball and knew with 100% certainty that the bull market would end in the next 12 months? Would you still be skilled enough to achieve higher returns than a buy-and-hold investor? Markets are volatile around turning points, so the risk of a costly mistake by exiting them too early is high. Since 1928, average returns in the final year of a bull market have been 22%. Average annualized drawdowns in a bear market have been 30%. And the average rally in the first year of a bull market has been 40%. Since 1936, an investor with relatively good market timing, able to consistently sell 10 months before a market peak and buy back 10 months after a trough, would still have ended up worse off than the investor who remained invested throughout the period, even before taxes and trading costs.

Over the course of a lifetime of financial cycles, I don’t think that market timing is the “big thing” that investors should attempt, given the risks of getting it wrong. Staying invested pays off in the long term. Furthermore, we believe that global economic expansion, strong corporate profit growth, and reasonable valuations should support equities over the shorter term. But, as I discuss in greater detail in this letter, there are a number of “big things” that investors can implement right now, which stand a good chance of helping prepare portfolios for a more volatile investment environment.

First, diversify portfolios beyond a passive equity and bond strategy. Bonds and equities can rise and fall together at turning points in monetary policy, so this is a time when adding exposure to alternatives, like hedge funds or private markets, can help reduce portfolio volatility. Second, add protection against falling markets. Drawdowns will be larger and more frequent in 2018 than in 2017. Third, improve credit quality. “High yield” as a category no longer compensates for the risks, in our view. The recent rise in high-quality bond yields offers a potentially good replacement. Fourth, diversify country and sector risks. Fifth, invest over the long term in companies, sectors, and themes exposed to secular growth drivers, such as urbanization, population growth, and aging.

In our FX strategy, we make a number of changes this month to manage risk in our portfolio. Near-term uncertainty over US interest rates and Eurozone growth prompted us to close our overweight position in the euro relative to the US dollar (USD) and wait for a better entry point. Additionally, we close our overweight in the Brazilian real (BRL) relative to the US dollar, and our overweight position in the Japanese yen (JPY) relative to the New Zealand dollar (NZD). Within international developed equities, we also introduce a new tactical overweight to Canadian equities relative to Swiss equities.



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Volatility is most likely here to stay and we recommend five strategies to prepare portfolios.

Hedge funds have historically outperformed in periods of rising rates and during the later stages of economic cycles.

As downside risks mount, we believe investors should consider taking out insurance against market falls.

Five strategies to prepare for a choppy bull market

We don't believe that the equity bull market is over. But we are unlikely to return to the era of low volatility since policy uncertainty has increased as the economic cycle has matured. Investors should adopt a number of strategies to ensure they are well-prepared for this new environment.

Looking beyond passive approaches

Ordinarily, equities and bonds can be expected to move in opposing directions on a day-to-day basis. But during periods of market uncertainty over monetary policy, the two asset classes can rise and fall together, increasing the volatility of traditional equity-bond portfolios. We have seen this dynamic at work already this year, most notably in February, when equities dropped alongside bonds. Looking ahead, upward surprises in inflation or changes to the US Federal Reserve's estimate of long-term real interest rates could lead to a repeat of this dynamic. While we believe that a negative correlation between bonds and equities will likely hold over the medium to long term, investors holding only passive bond and equity indexes should expect to see higher volatility in the short term. This makes exposure to less-correlated strategies important in stabilizing portfolios.

One option is for investors to look to hedge funds, which have historically outperformed during periods of rising US interest rates and in the later stages of the economic cycle (see Fig. 1).

Investors can also look to strategies that invest in stocks based on factors such as momentum, quality, size, volatility, value, and dividends. Such "smart beta" strategies have been shown to outperform standard equity indexes, and can be less correlated to broader market moves.

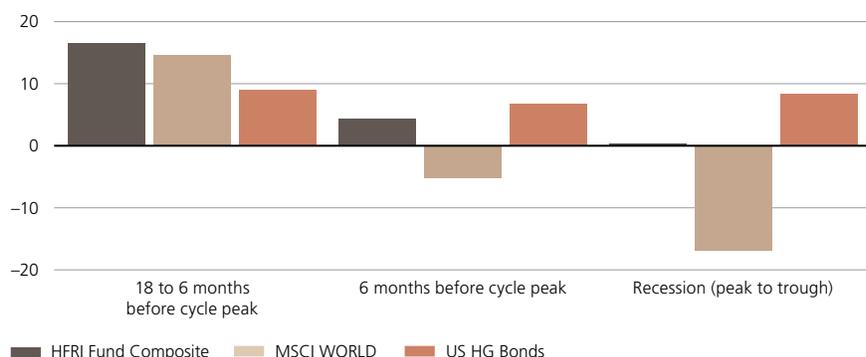
Building in downside protection

In 2017, global equities did not fall by more than 2% at any point. But within the first two months of 2018, we already had a drawdown of 9% (see Fig. 2). Daily

Figure 1

Hedge funds perform well in more advanced stages of the cycle

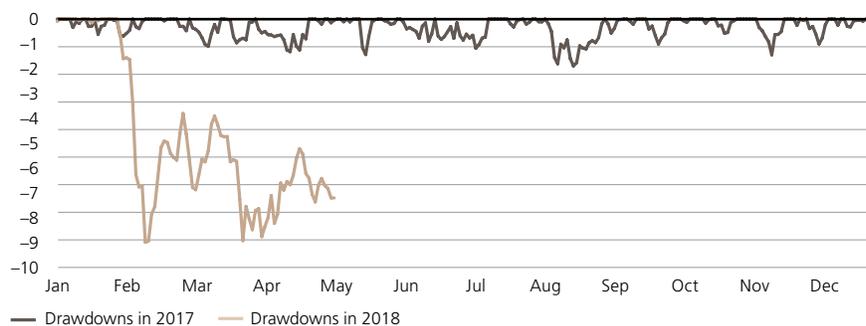
Late-cycle performance of hedge funds versus other asset classes (considering US recessions of 1990, 2001, and 2007), in %



Source: Bloomberg, HFR, NBER, UBS, as of March 2018

Figure 2

The maximum peak-to-trough drawdown in 2017 was unusually low
2018 marks a return to a more normal level of realized volatility (MSCI ACWI)



Source: Bloomberg, UBS, as of May 2018

volatility has also increased: 2018 has already seen 11 days with drawdowns in excess of 1%, compared to just two days in all of 2017. We believe it remains important to retain exposure to market upside, given strong economic and earnings growth. But in a year with greater downside risk, it is also valuable for investors to insure portfolios against market falls.

Investors can consider put options, subject to cost and appropriateness, to protect against downside risks.

For those investors who can use options, put strategies can help mitigate downside risk. However, it is important to be selective because insurance can be costly. In some cases, less-known markets (Eurozone, Italian, or Hong Kong equity indexes) could provide more “bang for your buck” than options on the S&P 500. We would recommend against taking out insurance on more than a small part of the portfolio, since we still advise a risk-on stance tactically.

Improving credit quality

Over close to a decade of near-zero (or sub-zero) interest rates, many investors have tried to earn higher yields by investing in riskier companies. During periods of low volatility and infrequent corporate defaults, such strategies can work well. Since the end of December 2009, US high yield credit delivered annualized returns of 7.5%.

Many investors have taken on too much credit risk, which could be costly as the cycle matures.

But at times of higher volatility such positions are potentially risky. Yields on “high-yield” credit are no longer high: If they were to increase by just 1.1%, a full year’s worth of return on US dollar-denominated BB-rated bonds would be erased.

Higher-quality, longer-duration bonds offer a superior risk-return outlook at present.

The good news is that yields on higher-quality bonds have recently been increasing, and can provide an effective substitute for high-yield credit in a portfolio context (see Fig. 3). Ten-year US high-grade bonds currently yield around 3.3%, and should be expected to rally if global growth disappoints or geopolitics produces a shock. We are currently overweight 10-year US Treasuries in our global tactical asset allocation.

Diversifying concentrated holdings

In my October 2017 letter, *Dealing with Disaster*, I looked through various historical examples of wealth destruction, ranging from hyperinflations, to wars, revolutions, and government defaults. Each of these disasters proved to be local, or at most regional, in nature. Investors able to diversify assets globally would have been able to avoid the worst.

Diversification can help reduce the impact of idiosyncratic risks.

While we are not forecasting any of the above, holding a globally diversified portfolio still makes sense as it reduces exposure to specific risks at a time when different

regions are at different stages of their economic, monetary policy, and debt cycles. The portfolios of investors with more globally diversified holdings also tend to be more stable. Since the start of 2018, the S&P 500 has endured 32 daily moves of greater than 1%. The MSCI AC World Index has seen 40% fewer.

Thinking long term

At a time of heightened uncertainty about the economic cycle, buying assets with exposure to secular growth drivers can help improve portfolio performance and reduce risk. This includes buying companies that benefit from trends like urbanization, population growth, and aging. We expect such firms to generate above-average revenue growth through an economic cycle. Companies exposed to these growth drivers might also be expected to perform better in the event of a downturn. The Longer Term Investments (LTI) series outlines investment strategies that can allow investors to tap into these opportunities.

Investors can earn an illiquidity premium outside of public markets.

Looking outside of public markets and gaining exposure to private equity and debt can also enable investors to capture different sources of return. Private markets compensate investors for tying up their money for longer time periods – we estimate the “illiquidity premium” is worth 2–4% per annum. Locking money away can also help reduce the temptation for investors to sell during periods of volatility. Behavioral finance studies show that panic selling is an important source of the long-term underperformance of private investors relative to market benchmarks.

We also believe that investing in a way that has a positive impact on society and the environment need not cost investors returns and can even enhance them.

Global tactical asset allocation

“I used to think if there was reincarnation, I wanted to come back as the president, or the pope, or a .400 baseball hitter. But now I want to come back as the bond market. You can intimidate everybody.”

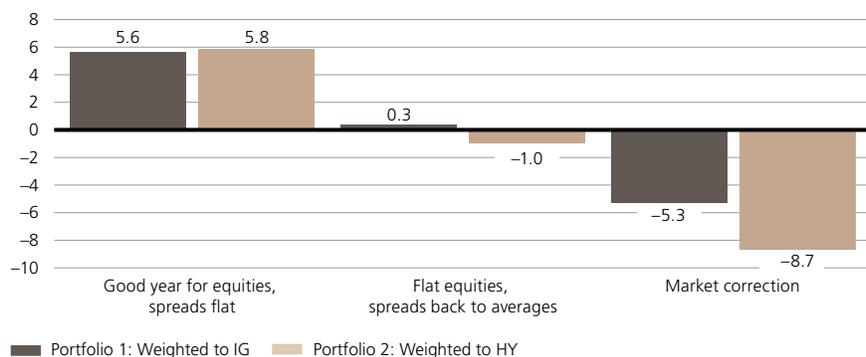
James Carville, former US President Bill Clinton’s campaign strategist

Over our six-month tactical investment horizon few numbers are more important than the US Treasury yield, and, by extension, few things are more important than the factors that influence it – US inflation and estimates of long-term US real interest rates.

Figure 3

High allocation to high yield adds little upside but much downside risk

Expected total returns of portfolios in different scenarios, in %



Source: UBS, as of May 2018

Our base case is for US inflation to rise, but only at a modest pace. While it is getting more difficult for companies to hire workers, the labor market has more slack than originally thought. Given this, along with stable long-term inflation expectations and persistent global demand for safe assets, we do not expect US 10-year yields to rise much higher. Our 12-month forecast for US 10-year yields is 3.0%. Instead, we expect continued Fed tightening to be reflected in a rise in the two-year Treasury yield, producing a flatter yield curve.

However, in the past month the risks to our base case have risen. Mechanical factors will boost inflation in the months ahead, which could spook markets, particularly given the recent increase in oil prices. And real 10-year yields have risen by 19 basis points (bps) in the second quarter alone. The US Treasury has increased issuance to fund the fiscal deficit, and the debate at the Fed about the right “neutral” level for interest rates is intensifying. New governor Randal Quarles has suggested that the Fed’s estimate of the neutral level of rates could be revised higher if productivity improves.

To prepare for the possibility that US inflation exceeds our expectations and leads to an overshooting in US yields, we have made a number of adjustments to our portfolios:

In our FX strategy, we close our overweight euro vs. the US dollar.

- *Close FX strategy overweight euro vs. US dollar.* Recent Eurozone flash PMI data and the prospect of an anti-establishment government in Italy have added enough additional near-term risk for us to take action by closing this position and waiting for a better entry point. The risk for the euro is that the rise in US dollar real yields and the unwinding of short US dollar positions have further to run. Over the longer term, we will be looking to re-enter the position because the gap between Eurozone and US current account balances is close to record levels, valuations still favor the euro, and institutional investors hold higher allocations to the US dollar than are justified by the US share of global financial assets.

In our FX strategy, we close our overweight to the Brazilian real vs. the US dollar.

- *Close FX strategy overweight in the Brazilian real vs. the US dollar.* Along with many other emerging market (EM) currencies, the real has come under pressure due to broad US dollar strength. It remains unclear whether the recent pause in rate cuts will be enough to stabilize the currency. In addition, political uncertainty is building ahead of October’s election, and the most market-friendly candidate, Geraldo Alckmin, has been losing ground in the polls.

We also make two further changes:

In our FX strategy, we close our overweight in the Japanese yen vs. the New Zealand dollar and add an overweight in the Japanese yen vs. the US dollar.

- *Within our FX strategy, we close our overweight in the Japanese yen vs. the New Zealand dollar and add an overweight in the Japanese yen vs. the US dollar.* We are taking profit on our NZDJPY position. We adopted this trade in mid-February when NZDJPY was trading at 78.6. Since New Zealand is more advanced in its economic cycle than most other developed nations, we expected the currency to depreciate as growth momentum faded. This expectation was borne out. With the pair now trading at 76, we believe there is little further upside and so remove the position. However, we are adding an overweight in the yen vs. the US dollar. USDJPY is vulnerable at 111, with the yen likely to appreciate as inflation starts to rise. We are already seeing signs of faster wage growth which should allow the Bank of Japan (BoJ) to relax its control of yields. Finally, this position has a dual function, promising alpha if the global economy improves and a hedge character in “flight to safety” periods of volatility.

Within non-US developed stocks, we add an overweight in Canadian equities relative to Swiss equities.

- *Add overweight in Canadian equities relative to Swiss equities within our international developed equity allocation.* We expect Canadian equities to see good earnings momentum in the months ahead thanks to the recent increase in oil prices

and fixed mortgage rates, which should benefit the energy and financial sectors. These two industries comprise more than 60% of the Canadian market. In contrast, the Swiss market has no oil and gas producers, and only a modest exposure to the sector via industrial component makers. Swiss firms are trading at a 7% premium to their average 12-month trailing PE since 1987. And the market is also skewed toward defensive stocks, which can cause it to lag in times of strong global growth.

These changes create the following overall global tactical asset allocation:

We are overweight global equities relative to US government bonds.

- *Overweight global equities relative to US government bonds.* We expect synchronized economic expansion and strong earnings growth to support global equities relative to US government bonds. We are becoming less pessimistic on the outlook for US government bonds, given that the rate hiking cycle in the US is now advanced. In contrast, as monetary policy starts to normalize outside the US, we expect the greatest downside in non-US bonds. This is reflected in the following position:

We are overweight 10-year US Treasuries relative to cash.

- *Overweight 10-year US Treasuries relative to cash.* We do not expect US yields to move higher in our base case, and see yields of 3.1% as attractive, especially given that Treasuries could provide a valuable hedge to portfolio positions in equities in the event of a negative growth surprise.

We are overweight EM equities relative to US government bonds.

- *Overweight Canadian equities relative to Swiss equities.* As above.
- *Overweight EM equities relative to US government bonds.* The positive outlook for global growth should continue to support EM equities. They also offer the lowest valuations and highest potential growth of any regional market. Although short-term headwinds are coming from the recent strength in the US dollar, the increase in US yields, and idiosyncratic risks in countries such as Brazil and Turkey, the medium-term outlook remains encouraging. We expect earnings growth of around 15% for EM stocks this year.

We are overweight EM dollar-denominated sovereign bonds relative to US government bonds.

- *Overweight EM dollar-denominated sovereign bonds relative to US government bonds.* EM debt markets offer higher credit rating-equivalent yields than developed markets. We believe that the yield pickup is still attractive.

In our FX strategy, we overweight the Canadian dollar vs. the US dollar.

- *Overweight CAD vs USD.* The recent increase in the oil price, the strong global growth environment, and attractive valuations should support the CAD vs the USD in the months ahead, although we acknowledge the possibility of short-term volatility due to ongoing NAFTA negotiations.

In our FX strategy, we are overweight the Indian rupee versus the Taiwan dollar.

- *Overweight JPY vs USD.* As above.
- *Overweight INR vs TWD.* India's improving economic outlook is attracting increased foreign direct investment, while Taiwan could suffer in the event of a re-escalation in trade tensions between the US and China. The position also has an attractive carry of 7.3% per annum.



Mark Haefele
Chief Investment Officer
Global Wealth Management

How much longer? Bulls still on parade



Jason Draho, PhD

Head of Tactical Asset
Allocation Americas,
Global Wealth Management



Mike Ryan, CFA

Chief Investment Officer Americas,
Global Wealth Management



Pivot to planning

Are you trying to time markets,
or investing strategically to meet
your objectives?

Over the past year a new dynamic has unfolded within financial markets: The longer the bull market goes on, the more our investors ask when it will end. This may be proof that markets do indeed climb a wall of worry. But it's a perfectly reasonable question with major investment implications. It's also not easy to answer. To start, it helps to focus on the business cycle rather than equity markets. Why? Because in the past 70 years sustained US equity bear markets have been rare without a recession also occurring. Unfortunately, it's not so simple to identify cyclical trends and turning points in real time, especially this business cycle.

That's why we created our new Bull Market Monitor to track the US economic expansion. History tells us that recessions don't usually begin unless two conditions hold. One, the economy is overheating and exhibits some sort of excess, such as the housing market in the 2000s. Two, interest rates are rising and credit conditions are getting tight. Of course, those aren't the only reasons why recessions occur; oil price shocks, geopolitical conflict, bloated private sector debt, and the bursting of valuation bubbles, to name a few, are also catalysts.

Yet the business cycle is the one constant that always plays a role in the evolution of bull – and bear – markets, and thus deserves our closest attention. Hence, the Bull Market Monitor is based on indicators (growth, the labor market, and inflation) that gauge whether the economy is overheating and if financial conditions (monetary policy, yield curve, and credit) are becoming restrictive for

growth. The good news is that our assessment of these indicators suggests the US expansion is likely to continue for a while.

The US economy is warm, but not overheating ... yet

After disappointing data in the late winter, the US economy appears to be accelerating. We expect GDP growth to average over 3% through year-end based on rebounding consumer spending, increased capital spending, and the full effect of tax reform and government spending hitting the economy. Faster growth and a strong labor market are positives that keep the risk of a recession over the next 12 months very low (see Fig. 1), but they do raise the risk of an overheating economy.

For now the economy is in a slow simmer, but it may not take much to turn that into a boil. The latest core Personal Consumption Expenditures (PCE), the Federal Reserve's preferred inflation measure, is 1.9%, just below the 2% target. We expect that to rise gradually, with a low risk of significantly overshooting 2% in the near term. But GDP growth is well above the long-term trend growth rate of about 1.5% and the output gap relative to potential has closed. In other words, there isn't much slack left in the economy, especially in the labor market. Consequently, wage growth and inflation could both reach inflection points by next year that turn the simmer into a boil.

Rates are rising, but financial conditions remain loose

The more pressing concern for investors of late isn't an overheating economy,



Watch the In Context video on ubs.com/houseview

but instead higher interest rates - especially after the yield on the 10-year Treasury bond surpassed 3% for the first time in over four years. While certainly eye-catching, 3% is a psychological barrier, not an economic one. Rates remain very low by historical standards and we estimate that the 10-year yield would have to get to close to 4% before having a materially negative impact on growth.

The bigger point is that monetary policy and financial conditions are still accommodative and supportive of growth. Yes, the Fed is raising rates, but the Fed Funds rate is still below the inflation rate. While we expect the Fed to hike rates another six times over the next six quarters, this would bring monetary policy barely into restrictive territory. The flattening yield curve is another focal point since an inverted curve has been a very good predictor of recessions, but that's often been with a multi-year lag. The Fed is also aware of this and will be more reluctant to hike rates if the yield curve threatens to become inverted. Meanwhile, credit conditions are good: Spreads are not far above their cycle lows, bank lending standards – one of the best leading indicators for the cycle – are easing, and credit markets are open for issuers.

It's only mid-to-late cycle, so stay invested

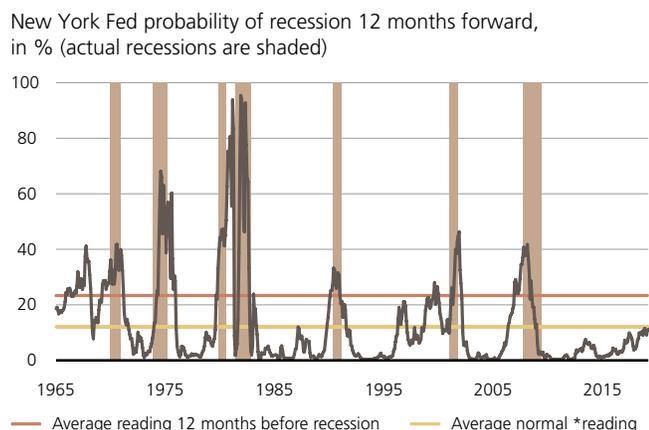
With an economy that's warm but not hot and aggregate

financial conditions that remain broadly accommodative, it's hard to see the expansion ending any time soon. Yet the US economy may well be on a path to overheating and more restrictive policy, which will become even more apparent in 2019. How soon the economy will slide into a recession is harder to say, other than it's even further out than many commonly believe. Consequently, in our Bull Market Monitor we characterize the US economy as being in mid-to-late cycle. This matters, because the last stretch of a bull market often provides some of the best returns during the cycle.

The reflationary growth environment that we expect for the rest of this year supports our tactical global equity overweight, as well as our preference for Value over Growth among US large-cap equities, led by Financials and Energy. Our recent upgrade of S&P 500 earnings per share, going from USD 154 to USD 158 in 2018, and USD 162 to USD 167 in 2019 reinforces this view (Fig. 2).

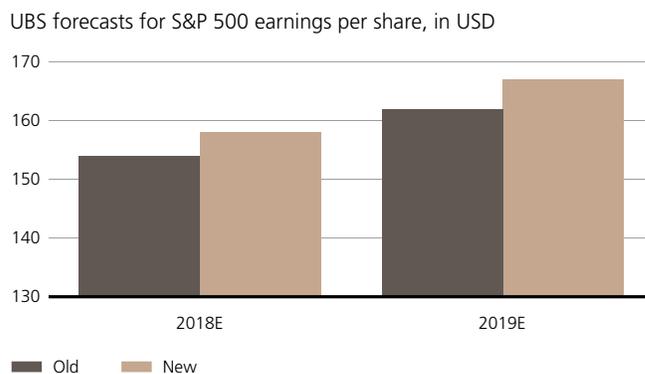
But staying invested won't be a breeze. After an exceptionally calm 2017, volatility has returned and it's unlikely to abate at this stage in the cycle. Making sure your portfolio is globally diversified, not exposed to excessive risks, and aligned with your goals will help. So too should watching our Bull Market Monitor for updates.

Fig. 1: An imminent recession remains very unlikely



* Average level when there isn't a recession in the next 12 months
Source: Bloomberg, UBS, as of 24 May 2018

Fig. 2: Earnings growth is even faster than we expected



Source: UBS, as of 24 May 2018

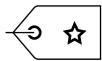
Bull market monitor

Equity bull markets rarely end without a recession occurring. Consequently, it's necessary to track key attributes of the business cycle to gauge how the expansion is evolving and the risks of a recession.



Cycle status

We characterize the US business cycle as currently in the mid-to-late cycle stage. Growth is likely to exceed 3% through year-end, but it's also above potential. The labor market is tight, though wage growth is moderate and inflation is right near the Fed's 2% target. Thus, the economy is warm but not hot. Meanwhile, financial conditions remain accommodative: Monetary policy rates are still below neutral, credit conditions are relatively loose, and the yield curve is flattening, but not yet worrying. Overall, it's hard to see the expansion ending any time soon, though the US economy appears to be on a path to overheating and more restrictive policy.



What's new?

Recent data suggests that US growth is re-accelerating after disappointing results in the first quarter: April retail sales were solid, regional manufacturing surveys beat expectations, and Q2 GDP growth is tracking between 3-4%. April inflation data were slightly below expectations, but were still consistent with inflation trending gradually toward the 2% target. Financial conditions have tightened a little bit because of the rise in rates and the US dollar, but are still quite loose.



What are we watching?

We're watching for more evidence of growth stabilizing around 3% and confirmation that Q1 data was anomalous. This applies to international data as well, where the slowdown was more notable. Our main focus is inflation and any signs that it may start to overshoot 2%, possibly because of an inflection point due to capacity constraints in the economy. At the next FOMC meeting the Fed may raise its forecast for the number of rate hikes this year from three to four, in line with our expectations.



What are the investment implications?

The reflationary growth environment that we expect for the rest of this year supports our tactical global equity overweight, as well as our preference for Value over Growth within US large-cap equities. The last stretch of a bull market often provides some of the best returns during the cycle, so we recommend that investors stay invested. But they should prepare their portfolios for volatility, which is unlikely to abate at this stage of the cycle.

For information on the methodology behind the bull market monitor, see the report *How much longer? Introducing the Bull Market Monitor* published 25 May 2018

Key cycle indicators

The cycle indicators are evaluated to gauge whether the economy is overheating and if financial conditions are becoming restrictive for growth. These determine our overall assessment of where we are in the cycle.

Overall: mid-to-late cycle



Overheating indicators

Growth (relative to potential)



Labor market



Inflation (relative to 2%)



Financial indicators

Monetary policy



Yield curve



Credit conditions



These indicators are assessed relative to a neutral level that is sustainable over time in order to determine whether the economy is at risk of overheating or if financial conditions will start to restrict growth.

Questions we're tracking

Are you prepared for the return of volatility?

The VIX index of implied volatility has moved back below its 200-day moving average, and markets have remained calm in reaction to President Trump's decision to exit the Iran nuclear deal. Even so, we don't expect a return to the ultra-low volatility that prevailed last year. A wide range of risks—from a global trade war to rising US inflation—is likely to ensure choppier markets, but investors should not retreat to cash. Instead, we recommend staying invested while managing risks.

 **Pivot to planning** What could a bear market, at the wrong time, do to your financial plan?

Are US yields at 3% a cause for concern?

The 10-year US Treasury yield recently traded above the 3% psychological threshold. Rising yields could add to concerns about future economic growth and the relative attractiveness of stocks, but so far their impact on businesses and households has been muted, and equities still look attractive relative to bonds.

 **Pivot to planning** Are you overexposed to fixed income?

What does Trump's Iran pact exit mean for oil?

President Trump's Iran pact withdrawal has complicated oil's price outlook. Risks now appear skewed to the upside, and we lift our six- and 12-month forecasts to USD 80 and USD 75 per barrel, respectively. While non-OPEC supply growth has exceeded our expectations, we believe renewed Iran restrictions may result in a slight oil deficit this year of 0.2–0.4mbpd.

 **Pivot to planning** How can I position my assets in the face of uncertainty?

Will the threat of a trade war derail markets?

The Trump administration has followed tariffs on steel and aluminum imports with trade action against China, who announced retaliatory tariffs of their own. Beijing and officials in Washington have traded jabs even as they've expressed openness to negotiations. While US actions have reawakened fears of a global trade war, we believe the US and China will reach a resolution before tariffs are set to go into effect in several months' time. While we are watchful for signs of escalation, our base case is that simmering trade frictions won't boil over into a full trade war.

 **Pivot to planning** What is your investment horizon?

Can emerging markets power ahead in 2018?

Emerging markets (EM) are under pressure. EM equities have also fallen nearly 10% from their all-time high in January. But the long-term outlook for emerging markets remains positive. We expect GDP growth to rise from 5.2% in 2017 to 5.4% in 2018, and inflation remains relatively subdued, meaning that growth-harming rate rises can be avoided in many cases. Profit growth remains solid and valuations look attractive versus developed markets. But as long as a rising USD and US yields persist, emerging markets may face headwinds in the short term.

 **Pivot to planning** Is your portfolio well diversified?



Month in review

Volatility eased as the month progressed, with the VIX index of implied volatility settling below 13 for the first time since January. Global stocks rallied, and the S&P 500 advanced 2.4%, but emerging market stocks came under pressure from a strengthening dollar and rising US yields, resulting in a 3% loss for the MSCI EM index. The 10-year US Treasury yield is relatively unchanged at 2.9% after rising as high as 3.1% on 17 May, as inflation concerns eased somewhat.

In minutes from their May meeting, the Federal Open Market Committee confirmed that they would be comfortable with a modest "overshoot" of their 2% inflation target, which "could be helpful in anchoring longer-run inflation expectations at a level consistent with that objective."

The US dollar continued to rally this month, rising another 4% to its highest level in six months. The rally has been fueled by economic and political pressure that have weakened the euro and emerging market currencies.

Despite calmer markets, political and geopolitical headlines remained. On May 8, President Trump announced his decision to pull the United States out of the Iran nuclear deal. With the prospect of US sanctions taking Iran crude supply offline, Brent crude prices surged as high as USD 80.5 per barrel – its highest level since 2014.

Tensions between the US and North Korea also reemerged toward the end of the month, culminating President Trump's decision to cancel the planned 12 June summit with Kim Jong Un.

But not all geopolitical developments were negative, as the US-China trade dispute de-escalated and formal trade negotiations began.



Technological change makers



Laura Kane,
CFA, CPA

Head of Investment
Themes Americas

In our latest Longer Term Investment report, we discuss the key enabling technologies that are powering innovation across multiple industries.

Close your eyes and envision the world ten years from now. What do you see? Some of the first images that come to mind may include driverless cars, robots, and drones. Yet these technologies are mere applications and embodiments of a set of five powerful technologies that are invisibly disrupting nearly every sector of the economy. These so-called “enabling” technologies include: Artificial intelligence, augmented reality/virtual reality, big data, cloud computing, and 5G. Today, these technologies, combined, represent about a mid-teens share of overall global IT spending. We expect the amount of dollars devoted to them to rise from USD 420bn last year to USD 1.1tr in 2025, which equates to a 12.8% average annual growth rate over that time horizon. Technological advances, changing consumer lifestyles, and the need for enterprise productivity will support demand for these enabling technologies, which will give way to a vast array of previously out-of-reach applications.

Technological advances have the power to dislocate markets in a short time span. The proliferation of e-commerce and the share shifts to online from brick-and-mortar retail is a well-known example. However, despite its seemingly meteoric rise, e-commerce penetration has just crossed 10% in a few markets, meaning that the potential for growth has not been completely usurped by dominant players. As a result, we expect major technology companies to continue to focus on investing in the enabling technologies powering e-commerce, while at the same time traditional retailers will invest in building out their online channels. This line of reasoning applies to several other disruptive trends, such as fintech and automation, where we expect investments in enabling technologies from both tech disruptors as well as incumbents who fear to be left behind.

The second trend driving demand for enabling technologies is consumers’ constant thirst for connectivity. While the Millennials may have

been at the forefront of the shift to digital lifestyles, the need to be plugged-in and able to multitask has infiltrated other generations as well. In an average week, two billion messages are exchanged between businesses and customers on Facebook Messenger (big data), according to Facebook; 14 billion minutes of video and voice calls take place on Whatsapp (which eventually will use 5G), according to Facebook; 800,000 smart speakers (which utilize artificial intelligence (AI)) are shipped in the US, and 500 million users visit app stores (housed in the cloud), according to Apple; and 200,000 virtual reality devices are sold, according to IDC and Bloomberg Intelligence.

Finally, technology has boosted economic growth via productivity improvements (personal computers, office automation, etc.) in a low-growth environment, and the need to raise productivity further has only increased. As a result, an incremental shift is occurring in the nature of enterprise spending away from merely maintaining legacy technologies and toward introducing emerging technologies, with cloud, big data and AI as the key beneficiaries. Thanks to the disruptive nature of many of these enabling technologies, we see significant economic value being added globally over the next few years through efficiency gains. For example, an AI-powered chatbot can help both a bank and a tech disruptor to improve their fintech offerings, while augmented and virtual reality (AR/VR) can aid a retailer and a tech company in bettering their e-commerce offerings.

Looking forward, we see enabling technologies as one of the best ways to invest in technological advances. Investors likely will be best rewarded by taking diversified exposure to companies involved in enabling technologies. Software and semiconductor companies with superior pricing power and high entry barriers should fare particularly well, in our view.



Kevin Dennean, CFA

Technology and Telecom
Equity Sector Strategist
Americas



Themes universe

For guidance on how to invest in each of the themes on this page, please contact your Financial Advisor.

Technology

Automation and robotics

A fourth industrial revolution is underway, which we believe will transform the future of manufacturing.

Digital data

Companies that both enable digital data and invest its infrastructure will likely continue strong earnings growth over the coming years.

E-commerce

E-commerce is altering the retail landscape and omnichannel companies should lead the way forward.

New Enabling technologies

We identify five enabling technologies that should offer solid long-term growth amid irreversible technological disruption.

Fintech

The global fintech industry is at an inflection point and set to drive a major digital transformation in the financial services industry.

Mass transit rail

Rapid urbanization in Asia will strain mass transit systems, providing opportunities for infrastructure investment over the long term.

Medical devices

The medical device industry has matured but opportunities exist for increased penetration in emerging markets (EMs) where affordability is on the rise.

Oncology

Advances in cancer therapeutics will create new multi-billion dollar opportunities for successful drugs.

Security and safety

Growing trends such as urbanization, digital data growth, and increased regulation support demand for security and safety.

Smart Mobility

Global urbanization will call for structural changes in technology that will alter the way we "consume" mobility in the coming decades.

Transformational technologies

Digital data, automation, cyber security, and wireless innovation are disruptive forces that are transforming the economy.

Resources

Agricultural yield

The world faces a growing food production crisis as the global population increases. Companies that help to boost agricultural yields stand to benefit.

Clean air and carbon reduction

Rising populations and urbanization are fueling the need for clean-air technologies. Solution providers targeting emissions reductions stand to benefit.

Energy efficiency

Stricter regulation and corporate competition to improve product efficiency are driving demand for energy-efficiency solutions.

North American energy independence

As North America trends toward energy independence, we believe certain energy-related sectors stand to benefit.

Renewables

Increasing energy demand from urbanization and population growth will benefit renewable energy as lower costs drive competitiveness with fossil fuels.

Waste management and recycling

Low waste treatment rates in EMs offer big catch-up potential that could lead to extraordinary growth rates.

Water scarcity

Water scarcity is one of the biggest risks to mankind. If limited water resources can be better harnessed, the benefits could be enormous.

Society

Education services

With limits to many governments' education resources, there is increased opportunity for the private education market.

Emerging market healthcare

An aging EM population requires stepped-up investment in healthcare. We believe global healthcare companies can benefit.

Emerging market infrastructure

Growing urbanization and high economic growth rates will drive demand for infrastructure investment in EMs.

Generics

As healthcare costs grow, government policy and demographics will be important drivers of increased generic drug sales.

Obesity

Urbanization and rising per-capita GDP in EMs will contribute to an ever-greater prevalence of global obesity.

Retirement homes

A larger population of seniors and evolving social trends support opportunity in retirement homes investment.

Retirement planning

Changing demographics are increasing demand for retirement planning, benefiting wealth and asset managers.

Silver spending

As the global population ages, those 55 and older are expected to account for an ever-increasing proportion of consumer spending.

Fixed income

Beyond benchmark

By diversifying fixed-income exposure investors can avoid the shortcomings of heavily government-weighted taxable fixed-income benchmarks.

MLP bonds

Master limited partnership bonds offer attractive coupon income relative to other investment-grade sectors.

Mortgage IOs

Mortgage Interest only (MIOs) offer the opportunity to benefit from rising interest rates along with attractive yields and high credit quality.

US senior loans

Senior loans offer attractive floating-rate coupons with low correlation to other asset classes and lower volatility than high-yield bonds.

Yield for the short end

Short-end corporate bonds offer attractive current yield without taking on excessive credit or interest-rate risk.

Equity

Business spending rebound

After a prolonged period of muted investment spending, catalysts are in place for a rebound in business spending over the coming quarters.

Rewarding experiences

Consumers are increasingly spending more on experiences vs. goods.

Event-driven strategies

Equity-driven strategies can represent attractive ways to capitalize on companies' corporate actions.

Finding value in EM

Recovering EM economic growth and higher commodity prices should support EM value outperformance.

Restructuring and turnarounds

Certain companies undergoing restructuring may outperform the broader market in the coming years.

Equity-ESG

Gender lens

Evidence suggests that gender-diverse companies are more profitable and tend to outperform their less-diverse peers.

Sustainable value creation in EM

Incorporating environmental, social, and corporate governance considerations into EM equity investment decisions may provide a competitive edge.

Commodities

A precious basket

Amid market volatility, a weaker US dollar, and accelerating economic activity we advise investors to hold real assets such as precious metals.

KEY

- Sustainable longer-term investment theme
- Longer-term investments = Multi-business cycle
- Shorter-term investments = Current business cycle

Global economic outlook

In most major economies, conditions are stronger than at any point since the global financial crisis. First-quarter growth was somewhat softer than expected in many countries, including the US, but we expect this to prove temporary. The strong US labor market will support consumer spending, businesses should increase investment spending, and government spending will also rise. Inflation has risen to the Fed's 2% target and we expect the Fed to continue gradually hiking rates in the quarters ahead.

Global growth in 2018 expected to be **4.1 %**

	Real GDP growth in %			Inflation in %		
	2017F	2018F	2019F	2017F	2018F	2019F
US	2.3	2.8	3.0	2.1	2.7	2.2
Canada	3.0	3.2	3.7	1.6	2.2	2.2
Brazil	0.9	2.7	2.7	3.4	3.3	4.0
Japan	1.7	1.7	1.1	0.5	1.3	2.1
Australia	2.3	2.8	2.8	1.9	2.0	2.1
China	6.9	6.6	6.4	1.6	2.4	2.2
India	6.6	7.4	7.7	3.6	4.7	4.4
Eurozone	2.5	2.2	2.0	1.5	1.6	1.6
Germany	2.5	2.2	2.1	1.7	1.8	1.6
France	2.0	1.9	2.0	1.2	1.9	1.6
Italy	1.6	1.4	1.2	1.3	1.1	1.0
Spain	3.0	2.8	2.3	2.0	1.5	1.5
UK	1.8	1.4	1.2	2.7	2.4	2.3
Switzerland	1.1	2.4	1.9	0.5	0.6	0.9
Russia	1.5	1.7	1.8	3.7	2.7	4.1
World	3.9	4.1	4.1	2.7	3.0	2.9

Source: Reuters EcoWin, IMF, UBS, as of 23 May 2018

Note: In developing the CIO economic forecasts, CIO economists work in collaboration with economists employed by UBS Investment Research. Forecasts and estimates are current only as of the date of this publication, and may change without notice.

Central bank policy

Brian Rose, PhD
Senior Economist Americas

Ricardo Garcia-Schildknecht
Economist

House View

Probability: 75%

Policies tighten gradually

Statements from the Federal Reserve suggest three further interest-rate hikes this year, to take the Federal Funds rate to 2.5%. The language around the next rate increase, expected in June, will be a crucial guide for market expectations. Additional fiscal stimulus at a time of full employment is a concern for the medium-term interest-rate outlook. The Fed continues to reduce liquidity supply, with the intention of matching a decline in liquidity demand in the economy. The ECB is still buying bonds in spite of rising economic growth, employment, inflation, and bank lending. Its current asset purchases of EUR 30bn a month should end by the end of this year. The Bank of England (BoE) did not raise rates in May, but its language does not remove the possibility of an increase later this year.

➤ Positive scenario

Probability: 10%

Policy remains accommodative

The Fed falls further behind the curve as US inflation surprises higher, with real interest rates slipping more rapidly. The ECB reverses its tone and puts a stronger emphasis on the potential to ease policy further. The BoJ comes under pressure to engineer currency depreciation.

➤ Negative scenario

Probability: 15%

More rapid policy tightening

The inflationary effect of a tighter US labor market and fiscal stimulus leads to a stronger Fed response and a combination of tight monetary policy and loose fiscal policy. Increased labor costs and commodity price pressures lead to higher European inflation, signaling a more rapid monetary policy tightening.

Political risks

Paul Donovan

Global Chief Economist, WM

House View

Probability: 70%

Trade concerns are likely to be the main political focus in the near term. US trade rhetoric may be seen as being tied to the midterm election cycle. The costs of trade protection so far are not especially visible to US consumers. However, extending trade protection into a trade war would be a more obvious tax on US consumers and have domestic political implications. The trade negotiations of the EU and the UK are likely to be complex and lengthy—investors will not pay much attention to the details, but may react to the headlines. A “soft” exit still seems the most likely. The oil market has reacted to the US withdrawing from the Iranian nuclear deal. Uncertainty now lies in how US sanctions may be applied against companies from the EU (and elsewhere)—and whether this escalates trade tensions for different reasons.

↗ Positive scenario

Probability: 10%

The sharp improvement in labor market conditions for low-skilled workers leads to wage hikes that either are accompanied by better credit access or compensate for the loss of credit access since 2008; this eases income and consumption inequality. Governments and economists successfully communicate the net economic benefits of global trade and diversity.

↘ Negative scenario

Probability: 20%

Nationalist tendencies appear encouraged by single-issue politics and social media. Traditional party structures fail to address the demands of large sections of the electorate, encouraging populism. Political outcomes are increasingly unpredictable as opinion polls offer even less guidance. Trade protectionism escalates as political nationalism is prioritized over economic benefit. Lower-income groups’ standards of living are hurt by populist policies and rising food and energy prices, fueling further demands for radical and unpredictable change.

US profit growth remains robust

Jeremy Zirin, CFA

Head, Investment Strategy, WMA

David Lefkowitz, CFA

Senior Equity Strategist

House View

Probability: 60%

Earnings growth on solid footing

The US earnings growth outlook remains healthy, driven by solid US consumer spending, secular growth drivers in tech, steady gains in US manufacturing activity, higher oil prices (which support the energy sector), and a more favorable environment for financials. Leading indicators of profit growth, such as bank lending standards and capital spending intentions, remain supportive. The tax reform package is icing on the cake on top of this favorable backdrop. We now expect S&P 500 EPS to rise 19% to USD 158 in 2018 (up from USD 154). We forecast 6% growth to USD 167 in 2019 (up from USD 162).

↗ Positive scenario

Probability: 20%

Fiscal policy boosts earnings more than expected

Corporate tax reform and increased government spending generate even faster-than-expected profit growth. Higher interest rates and deregulation further boost financial sector earnings. Investment spending picks up.

↘ Negative scenario

Probability: 20%

Downturn in sentiment

Trade and geopolitical tensions flare up, depressing business and consumer sentiment. Wage pressures, without improving consumer and business demand, hurt profit margins and earnings growth rates. Declines in long-term interest rates pressure financial sector earnings.

Key dates

31 May 2018

Personal income and spending for April

The improving labor market and tax cuts support income. Spending appears to be picking up after softness early in the year. The core personal consumption expenditures deflator, the Fed’s preferred inflation measure, should be near the Fed’s 2% target.

1 June 2018

Labor report for May

While the market tends to focus on the headline increase in nonfarm payrolls, we are more interested in measures such as the unemployment rate and earnings to gauge how much slack is left in the labor market.

1 June 2018

ISM Manufacturing for May

The ISM Manufacturing PMI continues to indicate strength even after slipping the previous two months. Worries over trade policy have been a negative, but there could be a rebound following an apparent truce in the US-China trade war.

12 June 2018

CPI for May

In recent months, inflation data has been running in line with the Federal Reserve’s target. A modest overshoot of the target is acceptable, but signs of overheating could prompt an acceleration of rate hikes.

13 June 2018

FOMC rate decision

The market is fully pricing in a 25 basis point rate hike at this meeting. Market reaction will depend on the wording of the FOMC statement, changes to the economic projections, and comments made during Fed Chair Powell’s news conference.

Equities

Jeremy Zirin, CFA; David Lefkowitz, CFA; Markus Irngartinger, PhD, CFA; Edmund Tran

Global equity markets have generally risen over the past month, with the notable exception of emerging markets (EM), which traded down about 3%. Earnings trends are relatively strong and economic activity is still buoyant, so we continue to believe that equity markets can continue to trend higher. We remain overweight global and emerging market equities vs. US government bonds. However, with the Federal Reserve raising interest rates, inflation likely to continue trending higher, and ongoing risks to global trade, equities could experience greater market volatility.

Eurozone

⊖ neutral

We are neutral on Eurozone equities. Although economic growth in the region has softened in recent months, we expect it to remain solid. However, the strong momentum seems to have passed, as leading indicators suggest growth will remain solid but no longer accelerate. Some weakness in the euro exchange rate has supported Eurozone stocks in the short term, but trade disputes and a lack of political clarity in Italy remain important risks to consider. Our most preferred sectors are energy, industrials, and consumer discretionary.

EURO STOXX (index points, current: 393)	Six-month target
House view	410
↗ Positive scenario	450
↘ Negative scenario	325

Japan

⊖ neutral

We are neutral on Japanese equities. Despite better-than-expected FY17 earnings, Japan has been underperforming global equity markets this year due to concerns about JPY appreciation, the political scandal involving Prime Minister Shinzo Abe, and US-China trade friction. Because of a stronger JPY and a high base of comparison, we expect FY18 (ending in March 2019) earnings to decline by 3% after rising 21% in FY17. But because the sell-off earlier this year has pushed valuations down to an attractive level near 14x P/E, we still see investment opportunities in the near term. We prefer banks, high-dividend stocks and companies that benefit from higher inflation.

TOPIX (index points, current: 1797)	Six-month target
House view	1850
↗ Positive scenario	2000
↘ Negative scenario	1550

Emerging markets

⊕ overweight

We are overweight emerging market (EM) equities in our global portfolio. Potential trade frictions, rising US bond yields, and USD strength are straining the short-term outlook. Eventually, solid economic activity combined with robust earnings growth should lead EM equities higher in the second half of the year. EM equities are trading close to fair value at 13.3x 12-month-trailing P/E, a 7% premium to their 10-year average but about a 25% discount to their developed market counterparts. Our most preferred markets are China, South Africa, and Brazil; our least preferred market is Taiwan. We remain neutral on Mexico, Russia, and Turkey.

MSCI EM (index points, current: 1133)	Six-month target
House view	1200
↗ Positive scenario	1300
↘ Negative scenario	1000

UK

⊖ neutral

We are neutral on UK equities. Given that forward valuation is broadly in line with the long-term average, performance should be driven by earnings growth rather than valuation change. The consensus forecast is 8% earnings growth for MSCI UK in 2018. Due to base effects, UK equities no longer benefit from the weak GBP, despite the recent weakening, but they may enjoy a boost from recovering oil prices. A small further upside is possible if commodity prices stay at current levels for the rest of the year. The 30% of the FTSE 100 that is exposed to the UK may continue to be hampered by the slower domestic economy.

FTSE 100 (index points, current: 7788)	Six-month target
House view	8050
↗ Positive scenario	8750
↘ Negative scenario	6500

Note: Current values as of 23 May 2018

US equities

The S&P 500 is sitting near the middle of its year-to-date range. Markets continue to be caught in a tug of war between robust corporate fundamentals and concerns about rising inflation, higher interest rates and potential trade frictions. Ultimately, we believe these potential threats will not reach levels acute enough to derail the bull market. We favor the energy, materials and financials sectors—which should benefit from resilient growth dynamics—and value over growth stocks.

US equities overview

☰ neutral

While interest rates have continued to climb, our work suggests that US equities typically continue to advance when interest rates normalize from very low levels. In fact, stocks have rebounded thus far in the second quarter as several concerns that have recently weighed on equities have eased. Trade frictions have not intensified, economic growth appears to have accelerated from softer Q1 readings, and inflation data have softened. Over the next six months, we expect the market to once again focus on robust corporate profit growth. We forecast 2018 S&P 500 EPS of USD 158 (up 19%) and 2019 EPS of USD 167 (up 6%). Our six-month S&P 500 price target is 2,875.

US equities – sectors

We prefer cyclical over defensive sectors. We are overweight energy, materials, and financials as beneficiaries of rising interest rates and solid global growth. Oil supply/demand dynamics are getting into balance and energy sector valuations still appear attractive. Materials should benefit from solid global industrial demand. In addition to rising interest rates, financials should see tailwinds from both improving capital market activities and increased flexibility to return capital to shareholders. We are underweight consumer staples, health care, and utilities.

Forward oil prices are starting to rise, benefiting energy stocks



Source: Bloomberg, UBS, as of 23 May 2018

US equities – size

Underscoring the improved tone in markets this past month, small-caps have rallied to new all-time highs, outperforming mid- and large-caps. The rising dollar and stronger relative growth momentum favoring the domestic economy have supported small-caps. However, small-cap outperformance may not be sustained should the dollar weaken and trade tensions to ease, as we expect. We remain neutral on small- and mid-caps.

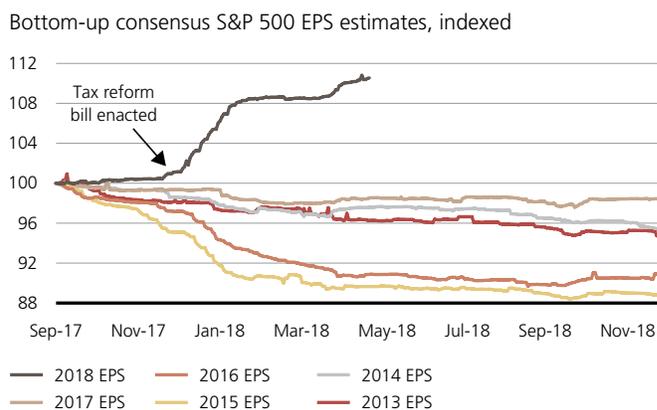
US equities – style

Despite supportive fundamental drivers for value-oriented segments of the US equity market, growth stocks have continued to outperform value stocks year-to-date. Accelerating global economic growth, rising interest rates, and higher oil prices should benefit value segments of the equity market, specifically financials and energy—the largest sectors in the value index benchmark. Further, relative valuations favor value stocks. We overweight value over growth.

S&P 500 (index points, current: 2733)	Six-month target
House view	2875
▲ Positive scenario	3175
▼ Negative scenario	2325

Note: Current values as of 23 May 2018

Unlike most years, 2018 consensus estimates are rising



Source: FactSet, UBS, as of 23 May 2018

Bonds

Leslie Falconio; Kathleen McNamara, CFA, CFP; Barry McAlinden, CFA; Philipp Schoettler; Frank Sileo, CFA

After surging early this year, bond yields have slowed their ascent while interest rate volatility has subsided. Inflation has risen close to the Fed's target but is not accelerating in a way that would cause it to be a concern. Capacity constraints mean that the Fed will continue its gradual hiking cycle as long as the economic outlook remains healthy. We believe the US rate cycle has largely been priced and think the US 10-year yield is attractive. Upside risks include higher inflation while downside risks include escalating trade tensions and a slowing economy.

Government bonds

⊖ underweight

In the US Treasury market, 10-year yields in May reached levels not seen since 2011 of 3.1%. The initial driver of the rise in interest rates was a bearish move in the 10-year German government bond. CIO recently increased its 12-month Treasury yield forecast to 3.0% and does not view inflation or growth as likely to run at an overly accelerated path for the next several months. With the market mostly pricing in the three additional rate hikes that CIO expects from the Fed in 2018, we believe the 10-year Treasury yield will remain range-bound.

US 10-YEAR YIELD (current: 3.0%)	Six-month target
House view	2.9%
↗ Positive scenario	2.0-2.2%
↘ Negative scenario	3.2-3.3%

US high-yield corporate bonds

⊖ neutral

HY bonds have benefitted from a 20% decline in gross issuance year to date. We think improving fundamentals have been priced in and we see limited potential for further spread tightening from their current level of 348 basis points (bps). The yield that HY bonds offer stands at 6.3%, solidly above the post-crisis low of 4.8% in 2014. The trailing 12-month default rate was 1.4% in April, well below the long-term average of 4.0%. We expect the default rate to remain broadly steady over the next 12 months. We continue to favor senior loans that should benefit as coupon income increases due to rising LIBOR levels.

USD HY SPREAD (current: 348bps*)	Six-month target
House view	380-420bps
↗ Positive scenario	300bps
↘ Negative scenario	1,100bps

*Data based on ICE BAML High Yield indices

Note: Current values as of 18 April 2018

US investment-grade corporate bonds

⊖ neutral

Rising Treasury yields and slightly wider credit spreads have resulted in a -3.4% year-to-date return comprising a 4.9% price loss plus 1.5% of coupons accrued. IG index spreads at 115bps stand in the middle of our 100bps-to-120bps target range, while IG yields at 4.1% are at their highest since 2011. We continue to favor financials (US banks) over non-financials due to their strong credit profiles and shorter duration. IG corporates with short maturities (1-3 years) provide attractive yield of 3.2% relative to their short duration of only 1.9 years.

US IG SPREAD (current: 115bps*)	Six-month target
House view	100-120bps
↗ Positive scenario	90bps
↘ Negative scenario	275bps

*Data based on ICE BAML IG corporate index

Emerging market bonds

⊕ overweight¹

EM credit has been negatively affected by broad USD strength, higher Treasury rates, and rising concerns about external vulnerabilities in select countries. Year-to-date, the asset class posted low-to-mid negative single-digit returns as spreads widened. Over the next six months, our base case calls for tighter spreads on the back of stable EM fundamentals, higher commodity prices, and a still-benign external backdrop. We advise investors to be overweight in EM sovereign credit and neutral in EM corporate credit in globally diversified portfolios.

EMBIG div / CEMBI div SPREAD*	Six-month target
(current: 328bps / 288bps)	
House view	290bps / 265bps
↗ Positive scenario	240bps / 230bps
↘ Negative scenario	450bps / 480bps

*JPMorgan Emerging Market Bond Index Global / JPMorgan Corporate Emerging Bond Index

¹ Our emerging market bond overweight is to EM hard-currency bonds.

Municipal bonds

neutral

Tight new issue supply continues to represent an important tailwind for the muni market. Year to date, the pace of new municipal bond sales (USD 116.2bn) is down 23% compared to volume seen at the same time in 2017 (USD 149.4bn). Thus far in 2018, tax-exempt paper (-1.0%) has held up better than US Treasury securities (-2.2%) and investment-grade corporate debt (-3.4%). We favor investment-grade munis over lower-rated bonds based on tight credit quality spreads. Current AAA 10-year muni-to-Treasury yield ratio: 83.2% (last month: 85.2%).

Additional US taxable fixed income (TFI) segments

Agency bonds

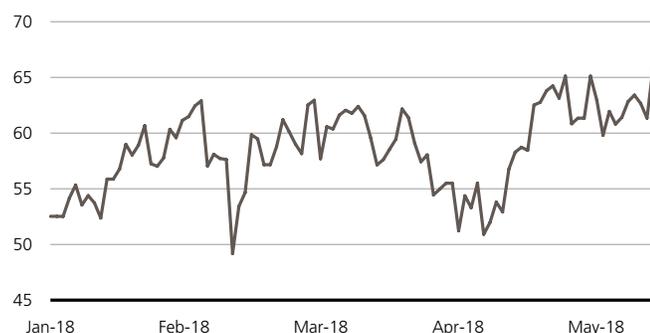
Given the rise in short-end Treasury yields, asset classes such as short-end Agency bonds appear attractive with the yield-to-maturity (YTM) of the Agency index reaching 2.8%. This is very close to the yield on the US Treasury index. As issuance within the Agency bond market has slowed post-recession, the duration of the index has shortened. At first glance, earning this type of yield for only 3.7-year duration may appear attractive to investors. However, we believe better value can be found in short-end mortgage backed securities (MBS) or IG corporates and we remain underweight Agencies. Current spread is +5bps to the 5-year (vs. +7bps last month).

Mortgage-backed securities

MBS have remained in a very tight range since the beginning of April, only rising or falling a few basis points. With liquidity a major positive for this AAA asset class, many investors are contemplating a shift vs. IG corporates the later the credit cycle evolves. Although IG is cheap to MBS, the large BBB weighting in IG has investors wondering whether the incremental yield is enough vs. its MBS counterparts. At 78bps to the Treasury curve, CIO does not view large relative value within MBS, but will await a better entry point and continue to monitor the maturing credit cycle. Current spread is +78bps to the 5-year and 10-year Treasury blend (vs. +76bps last publication).

The market anticipates a 66bp move higher (2.5 rate hikes) in fed funds by YE

lhs projected fed fund move (bp)



Source: Bloomberg, UBS, as of 23 May 2018

Non-US developed fixed income

neutral

A strengthening USD represented a significant headwind for the asset class over the past month—for example, the euro fell nearly 5% against the dollar. So while interest rates remained relatively unchanged, the asset class saw modestly negative returns over the month. Yields are likely to stay in a range in the near term, and we expect the USD to resume weakening, but non-US bond yields remain at unattractive levels and we do not recommend a strategic asset allocation position on the asset class.

Preferred securities

Higher rates have weighed on preferreds. For USD 25 pars, ETF outflows have added pressure, but a redemption wave has been supportive. For USD 1,000 pars, the prevalence of fixed-to-floating rate (F2F) coupons has helped, but added supply has been a drag. The sector's duration requires caution as we do not expect rates to experience a sustained or material decline from here. We expect preferreds to track a "two steps forward, one step back" performance pattern. F2F preferreds can help mitigate interest rate risk. We favor those with near-dated calls as well as those with high reset spreads.

Treasury inflation-protected securities (TIPS)

Last month's CPI data may have been slightly under the market's expectation; however, that was of no consequence to the TIPS market. The rise in commodity prices combined with the expectation of a stronger CPI in the months ahead pushed the break-even inflation rate in the 5-year and 10-year area to multi-year high levels. CIO remains underweight US Treasury securities and neutral on TIPS, which implies an overweight to TIPS vs. Treasuries. With a -1.1% return in 5-7 year TIPS vs. a -2.6% in 5-7 year Treasuries, we still prefer TIPS over Treasuries. Current 5-year breakeven inflation rate of 2.1% (2.1% last month).

Note: Current values as of 18 April 2018

UBS CIO interest rate forecasts

Americas	18-May-18	UBS 6m	Forward curve 6m	UBS 12m	Forward curve 12m
USD 3M Libor	2.33	2.60	2.58	3.10	3.00
USD 2Y Treas.	2.59	2.80	2.81	2.90	2.93
USD 5Y Treas.	2.90	2.80	3.03	2.90	3.10
USD 10Y Treas.	3.06	2.90	3.13	3.00	3.17
USD 30Y Treas.	3.20	3.20	3.22	3.20	3.25
Curve: 2y/10y spread (bp)	0.47	0.10	0.32	0.10	0.24

Source: UBS, as of 18 May 2018

Commodities and other asset classes

Dominic Schnider, CFA, CAIA; Giovanni Staunovo; Thomas Veraguth; Wayne Gordon

Broadly diversified commodity indices have seen a solid move higher since the beginning of 2Q. Energy and industrial metals have driven this rise while precious metals, agriculture, and livestock came under pressure. Commodities with the strongest performance lately, such as crude oil, oil-related products, aluminum or nickel, have been positively impacted by Trump's trade and foreign policies. But for all other commodities, a stronger USD has been a key headwind. In terms of price outlook, we believe investors need to be ready for another move higher in commodity prices during the summer. Over the next three to six months, we expect a mid-single-digit return, with the risks skewed to the upside.

Commodities

neutral

Precious metals Gold is broadly flat for the year, as early gains have been eroded by unexpected broad US dollar strength and higher US interest rates. However, over the long term, we maintain gold will be a valuable portfolio hedge. For investors with an affinity for real assets and an ability to cope with gold's volatility of 10–20%, our analysis shows that adding the yellow metal helps reduce portfolio volatility. We expect gold to trade around USD 1,375/oz over six and 12 months.

GOLD (current: USD 1293/oz) Six-month target

House view	USD 1375/oz
Positive scenario	USD 1475/oz
Negative scenario	USD 1250/oz

Crude oil US President Donald Trump's decision to withdraw from the Iran nuclear deal is likely to curb global oil supply. With supply risks already high in Venezuela, where oil production has been in free fall, the oil market is likely to remain in deficit this year. Falling oil inventories and limited available spare capacity are putting upward pressure on crude prices. Investors with a high risk tolerance may continue to sell the downside risks in crude oil prices or add long oil exposure to benefit from the current price uptrend and positive roll yields.

BRENT (current: USD 80/bbl) Six-month target

House view	USD 80/bbl
Positive scenario	USD 90-100/bbl
Negative scenario	USD 60-65/bbl

Base metals Base metals have produced mixed returns so far in 2Q, with nickel and aluminum being the strongest performers. Base metal markets in general should be in deficit this year, favoring higher or at least stable prices in the coming three to six months.

Behind our favorable price outlook stands a global economy that should expand by 4% or more in 2018. Supply-wise, aluminum supply growth is constrained while copper supply has room to disappoint rather favorable supply estimates.

Agriculture The long-awaited USDA World Agricultural Supply & Demand Estimates (WASDE) containing the base-line for 2018-19 were broadly constructive for grains, in our view. Crop losses in Brazil and Argentina clearly weighed on global 2018-19 beginning stocks, and we think next year's South American production forecasts by the USDA are optimistic, but we see upside potential to US crop production from the USDA's base case. We have also witnessed a complete reversal of speculator positioning, from extreme net shorts to an elevated net-long position now.

Other asset classes

Listed real estate We see earnings growth of 6.1% p.a. (excluding EM), fueled by internal growth and weak but positive rental reversion. Companies focus on portfolio optimization, repositioning, and financing costs. Earnings growth in 2019 will likely weaken. The cycle is maturing since peaking in 2015, based on transaction volumes and a halt in cap-rate compression. Higher capitalization rates may hurt capital values if they are not met with faster rental growth, which we do not expect.

RUGL Index (current: USD 4900) Six-month target

House view	USD 4700
Positive scenario	USD 4900
Negative scenario	USD 4400

Note: Current values as of 23 May 2018

Foreign exchange

Thomas Flury, Strategist

We close our long EUR vs. short USD position, and our short NZD position, which was held against a long JPY. We keep the long JPY, but let it run against a short USD. We maintain our long CAD vs. short USD.

USD

⊖ **underweight** The USD is still fundamentally weak, but challenges and risks to our view have risen. There are positive and negative factors affecting the greenback. The positive factors have gained traction in recent months, particularly the rising US yields and the discussion of whether the global trade dispute can strengthen the USD. The negative factors, namely the rising US trade and fiscal deficits, continue to weigh on the USD.

EUR

⊖ **neutral** We close our long EUR vs. short USD position. Rising yields in the US and softer data in Europe have strengthened the USD in recent months. Eventually, however, a ballooning twin deficit in the US and record-high export activity in the Eurozone should underpin euro strength. We expect EURUSD to resume its rising path, which dominated in 2017 and early 2018.

GBP

⊖ **neutral** The March agreement on a draft Brexit transition deal should keep GBPUSD on an uptrend. However, a reduced probability of Bank of England rate hikes lowers this upside somewhat. Still, we expect GBPUSD to rise to 1.46 in six months on the back of US budget and trade deficits and investors to gradually return to the undervalued sterling.

CHF

⊖ **neutral** USDCHF has risen rapidly with US interest rates surprising to the upside. We expect the heat on the US rates market to calm down soon and this should also make the CHF stronger again. CHF should gain in our main scenario of European economic recovery but should also gain in an alternative scenario of global risk aversion.

JPY

⊕ **overweight** The Bank of Japan will likely lean toward policy normalization in 2H18, laying the foundations for further JPY recovery. The conditions for JPY strength in 2018 are similar to those seen in the EUR in 2017, when the currency saw a large rebound despite the central bank being at an early stage of tightening. We expect USDJPY to test the 2018 low around 105 in the coming months.

Other developed market currencies

⊕ **overweight** The CAD is supported by higher oil prices. This may continue over six months. The Canadian economy is showing signs of resurgent strength, fueling rate hikes expectations. NAFTA negotiations remain a risk: News coverage has been optimistic lately but a crowded political calendar in the US and Mexico makes an agreement difficult to ratify by end-2018. We expect USDCAD to fall to 1.23 over six months.

UBS CIO FX forecasts

	3M	6M	12M	PPP*
EURUSD	1.20	1.25	1.30	1.29
USDJPY	107	103	100	74
USDCAD	1.25	1.23	1.22	1.19
AUDUSD	0.79	0.79	0.79	0.71
GBPUSD	1.36	1.42	1.48	1.62
NZDUSD	0.71	0.71	0.71	0.58
USDCHF	0.98	0.96	0.94	0.94
EURCHF	1.17	1.20	1.22	1.21
GBPCHF	1.33	1.36	1.39	1.52
EURJPY	128	129	130	96
EURGBP	0.88	0.88	0.88	0.80
EURSEK	10.20	10.20	10.20	9.33
EURNOK	9.40	9.40	9.60	10.22

Source: Thomson Reuters, UBS, as of 24 May 2018

Note: Past performance is not an indication of future returns.

*PPP = Purchasing Power Parity

Key forecasts

As of 23 May 2018

- + Overweight
- = Neutral
- Underweight

Asset class	TAA ¹	Change this month	Benchmark	Value	m/m perf. in % ²	6-month forecast		
						House View	Positive scenario	Negative scenario
EQUITIES								
US	=	–	S&P 500	2733	2.4%	2875	3175	2325
Eurozone	=	–	Euro Stoxx	393	1.4%	410	450	325
UK	=	–	FTSE 100	7788	5.7%	8050	8750	6500
Japan	=	–	Topix	1797	2.6%	1850	2000	1550
Switzerland	-	↘	SMI	8795	-0.1%	9150	9800	8000
Emerging Markets	+	–	MSCI EM	1133	-3.0%	1200	1300	1000
BONDS								
US Government bonds	-	–	10yr Treasury yield	3.0%	0.0%	2.9%	2.0-2.2%	3.2-3.3%
US Corporate bonds	=	–	BAML IG spread	115 bps	-0.4%	100-120 bps	90 bps	275 bps
US High-yield bonds	=	–	BAML US HY spread	348 bps	-0.4%	380-420 bps	300 bps	1100 bps
EM Sovereign	+	–	EMBI Diversified spread	328 bps	-1.4%	290 bps	240 bps	450 bps
EM Corporate	=	–	CEMBI Diversified spread	288 bps	-5.0%	265 bps	230 bps	480 bps
OTHER ASSET CLASSES								
Gold	=	–	Spot price	1293 /oz.	-3.2%	1375/ oz.	1475/ oz.	1250/ oz.
Brent crude oil	=	–	Spot price	79.8 /bbl.	7.8%	80.0 /bbl.	90-100 /bbl.	60-65 /bbl.
Listed real estate	=	–	RUGL Index	4900	3.0%	4700	4900	4400
CURRENCIES								
USD	-	↗	Currency pair	NA	NA	NA	NA	NA
EUR	=	↘	EURUSD	1.17	-4.8%	1.25	NA	NA
GBP	=	–	GBPUSD	1.33	-4.7%	1.42	NA	NA
JPY	+	↘	USDJPY	110	2.2%	103	NA	NA
CHF	=	–	USDCHF	1.00	2.2%	0.96	NA	NA

Source: Bloomberg, UBS

¹ TAA = Tactical asset allocation, ² Month over month

Note: Current values as of 23 May 2018.

Past performance is no indication of future performance. Forecasts are not a reliable indicator of future performance.

Taxable investor

with non-traditional assets

Investor risk profile	Conservative				Moderately conservative				Moderate				Moderately aggressive				Aggressive			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
Directional change	All figures in %																			
Cash	5.0	-1.0		4.0	5.0	-1.5		3.5	5.0	-2.0		3.0	5.0	-2.0		3.0	5.0	-2.0		3.0
Fixed Income	69.0	-0.5		68.5	50.0	-1.0		49.0	33.0	-1.0		32.0	17.0	-1.0		16.0	5.0	-1.0		4.0
US Fixed Income	67.0	-2.5		64.5	48.0	-3.5		44.5	31.0	-4.0		27.0	15.0	-4.0		11.0	5.0	-4.0		1.0
US Gov't	17.0	-3.5		13.5	2.0	-2.0		0.0	2.0	-2.0		0.0	2.0	-2.0		0.0	2.0	-2.0		0.0
US Gov't 10 year ³	0.0	+1.0		1.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Municipal	46.0	+0.0		46.0	42.0	-1.5		40.5	27.0	-2.0		25.0	11.0	-2.0		9.0	3.0	-2.0		1.0
US IG Corp	4.0	+0.0		4.0	2.0	+0.0		2.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US HY Corp	0.0	+0.0		0.0	2.0	+0.0		2.0	2.0	+0.0		2.0	2.0	+0.0		2.0	0.0	+0.0		0.0
Int'l Fixed Income	2.0	+2.0		4.0	2.0	+2.5		4.5	2.0	+3.0		5.0	2.0	+3.0		5.0	0.0	+3.0		3.0
Int'l Developed Markets	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets ⁴	2.0	+0.0		2.0	2.0	+0.0		2.0	2.0	+0.0		2.0	2.0	+0.0		2.0	0.0	+0.0		0.0
EM Hard Currency ⁴	0.0	+2.0		2.0	0.0	+2.5		2.5	0.0	+3.0		3.0	0.0	+3.0		3.0	0.0	+3.0		3.0
Equity	13.0	+1.5		14.5	27.0	+2.5		29.5	44.0	+3.0		47.0	64.0	+3.0		67.0	85.0	+3.0		88.0
Global Equity⁵	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+2.0		2.0
US Equity	8.0	+0.0		8.0	16.0	+0.0		16.0	25.0	+0.0		25.0	37.0	+0.0		37.0	46.0	+0.0		46.0
US Large cap Growth	2.5	-0.5		2.0	5.5	-1.0		4.5	8.5	-1.0		7.5	13.0	-1.0		12.0	16.0	-1.0		15.0
US Large cap Value	2.5	+0.5		3.0	5.5	+1.0		6.5	8.5	+1.0		9.5	13.0	+1.0		14.0	16.0	+1.0		17.0
US Mid cap	2.0	+0.0		2.0	3.0	+0.0		3.0	5.0	+0.0		5.0	7.0	+0.0		7.0	9.0	+0.0		9.0
US Small cap	1.0	+0.0		1.0	2.0	+0.0		2.0	3.0	+0.0		3.0	4.0	+0.0		4.0	5.0	+0.0		5.0
International Equity	5.0	+0.5		5.5	11.0	+1.0		12.0	19.0	+1.0		20.0	27.0	+1.0		28.0	39.0	+1.0		40.0
Int'l Developed Markets	5.0	+0.0		5.0	8.0	+0.0		8.0	13.0	+0.0		13.0	19.0	+0.0		19.0	28.0	+0.0		28.0
Emerging Markets	0.0	+0.5		0.5	3.0	+1.0		4.0	6.0	+1.0		7.0	8.0	+1.0		9.0	11.0	+1.0		12.0
Commodities	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Non-traditional	13.0	+0.0		13.0	18.0	+0.0		18.0	18.0	+0.0		18.0	14.0	+0.0		14.0	5.0	+0.0		5.0
Hedge Funds	13.0	+0.0		13.0	18.0	+0.0		18.0	18.0	+0.0		18.0	14.0	+0.0		14.0	5.0	+0.0		5.0
Private Equity	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Private Real Estate	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0

WMR tactical deviation legend: **Overweight** **Underweight** Neutral. Change legend: ▲ Upgrade ▼ Downgrade for moderate risk profile

¹ Change is the difference between the tactical deviation column in the previous month and the current month.

² The current allocation column is the sum of the strategic asset allocation and the tactical deviation columns.

³ The Bloomberg Barclays US Treasury Bellwethers 10 Year Total Return Index will be used as the benchmark for US government 10-year bonds.

⁴ The Bloomberg Barclays EM Hard Currency Aggregate TR Index USD is used as the benchmark for EM Hard Currency FI.

Our SAA allocation to EM Fixed Income is a blend of local currency (50%) and hard currency (50%) bonds.

⁵ The MSCI All Country World Index is used as the benchmark for global equity.

Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Taxable investor without non-traditional assets

Investor risk profile	Conservative				Moderately conservative				Moderate				Moderately aggressive				Aggressive			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
All figures in %																				
Directional change																				
Cash	5.0	-1.0		4.0	5.0	-1.5		3.5	5.0	-2.0		3.0	5.0	-2.0		3.0	5.0	-2.0		3.0
Fixed Income	79.0	-0.5		78.5	63.0	-1.0		62.0	46.0	-1.0		45.0	27.0	-1.0		26.0	10.0	-1.0		9.0
US Fixed Income	77.0	-2.5		74.5	61.0	-3.5		57.5	44.0	-4.0		40.0	25.0	-4.0		21.0	10.0	-4.0		6.0
US Gov't	17.0	-3.5		13.5	2.0	-2.0		0.0	2.0	-2.0		0.0	2.0	-2.0		0.0	5.0	-5.0		0.0
US Gov't 10 year ³	0.0	+1.0		1.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+1.0		1.0
US Municipal	56.0	+0.0		56.0	55.0	-1.5		53.5	40.0	-2.0		38.0	21.0	-2.0		19.0	5.0	+0.0		5.0
US IG Corp	4.0	+0.0		4.0	2.0	+0.0		2.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US HY Corp	0.0	+0.0		0.0	2.0	+0.0		2.0	2.0	+0.0		2.0	2.0	+0.0		2.0	0.0	+0.0		0.0
Int'l Fixed Income	2.0	+2.0		4.0	2.0	+2.5		4.5	2.0	+3.0		5.0	2.0	+3.0		5.0	0.0	+3.0		3.0
Int'l Developed Markets	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets ⁴	2.0	+0.0		2.0	2.0	+0.0		2.0	2.0	+0.0		2.0	2.0	+0.0		2.0	0.0	+0.0		0.0
EM Hard Currency ⁴	0.0	+2.0		2.0	0.0	+2.5		2.5	0.0	+3.0		3.0	0.0	+3.0		3.0	0.0	+3.0		3.0
Equity	16.0	+1.5		17.5	32.0	+2.5		34.5	49.0	+3.0		52.0	68.0	+3.0		71.0	85.0	+3.0		88.0
Global Equity⁵	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+2.0		2.0
US Equity	10.0	+0.0		10.0	20.0	+0.0		20.0	28.0	+0.0		28.0	40.0	+0.0		40.0	46.0	+0.0		46.0
US Large cap Growth	3.5	-0.5		3.0	7.0	-1.0		6.0	10.0	-1.0		9.0	14.0	-1.0		13.0	16.0	-1.0		15.0
US Large cap Value	3.5	+0.5		4.0	7.0	+1.0		8.0	10.0	+1.0		11.0	14.0	+1.0		15.0	16.0	+1.0		17.0
US Mid cap	2.0	+0.0		2.0	4.0	+0.0		4.0	5.0	+0.0		5.0	8.0	+0.0		8.0	9.0	+0.0		9.0
US Small cap	1.0	+0.0		1.0	2.0	+0.0		2.0	3.0	+0.0		3.0	4.0	+0.0		4.0	5.0	+0.0		5.0
International Equity	6.0	+0.5		6.5	12.0	+1.0		13.0	21.0	+1.0		22.0	28.0	+1.0		29.0	39.0	+1.0		40.0
Int'l Developed Markets	6.0	+0.0		6.0	9.0	+0.0		9.0	15.0	+0.0		15.0	20.0	+0.0		20.0	28.0	+0.0		28.0
Emerging Markets	0.0	+0.5		0.5	3.0	+1.0		4.0	6.0	+1.0		7.0	8.0	+1.0		9.0	11.0	+1.0		12.0
Commodities	0.0	+0.0		0.0																

WMR tactical deviation legend: **Overweight** **Underweight** Neutral. Change legend: ▲ Upgrade ▼ Downgrade for moderate risk profile

¹ Change is the difference between the tactical deviation column in the previous month and the current month.

² The current allocation column is the sum of the strategic asset allocation and the tactical deviation columns.

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Our SAA allocation to EM Fixed Income is a blend of local currency (50%) and hard currency (50%) bonds.

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Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Taxable investor yield-focused

Investor risk profile	Conservative				Moderately conservative				Moderate				Moderately aggressive				Aggressive			
Directional change	All figures in %																			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
Cash	3.0	-1.0		2.0																
Fixed Income	65.0	-0.5		64.5	56.0	-1.5		54.5	43.0	-2.0		41.0	30.0	-2.0		28.0	12.0	-2.0		10.0
US Fixed Income	61.0	-2.5		58.5	48.0	-4.0		44.0	32.0	-5.0		27.0	22.0	-5.0		17.0	10.0	-5.0		5.0
US Gov't	25.0	-3.5		21.5	15.0	-5.0		10.0	6.0	-6.0		0.0	3.0	-3.0		0.0	3.0	-3.0		0.0
US Gov't 10 year ³	0.0	+1.0		1.0	0.0	+1.0		1.0	0.0	+1.0		1.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Municipal	23.0	+0.0		23.0	14.0	+0.0		14.0	6.0	+0.0		6.0	3.0	-2.0		1.0	3.0	-2.0		1.0
US IG Corp	4.0	+0.0		4.0	4.0	+0.0		4.0	4.0	+0.0		4.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US HY Corp	9.0	+0.0		9.0	15.0	+0.0		15.0	16.0	+0.0		16.0	16.0	+0.0		16.0	4.0	+0.0		4.0
Int'l Fixed Income	4.0	+2.0		6.0	8.0	+2.5		10.5	11.0	+3.0		14.0	8.0	+3.0		11.0	2.0	+3.0		5.0
EM Local Currency ⁴	0.0	+0.0		0.0	3.0	+0.0		3.0	6.0	+0.0		6.0	6.0	+0.0		6.0	2.0	+0.0		2.0
EM Hard Currency ⁴	4.0	+2.0		6.0	5.0	+2.5		7.5	5.0	+3.0		8.0	2.0	+3.0		5.0	0.0	+3.0		3.0
Equity	12.0	+1.5		13.5	21.0	+2.5		23.5	34.0	+3.0		37.0	47.0	+3.0		50.0	62.0	+3.0		65.0
Global Equity⁵	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+2.0		2.0
US Equity	6.0	+0.0		6.0	11.0	+0.0		11.0	16.0	+0.0		16.0	21.0	+0.0		21.0	24.0	+0.0		24.0
US Large cap Growth	2.0	-0.5		1.5	3.0	-1.0		2.0	4.0	-1.0		3.0	6.0	-1.0		5.0	6.0	-1.0		5.0
US Large cap Value	4.0	+0.5		4.5	8.0	+1.0		9.0	12.0	+1.0		13.0	15.0	+1.0		16.0	18.0	+1.0		19.0
International Equity	6.0	+0.5		6.5	10.0	+1.0		11.0	18.0	+1.0		19.0	26.0	+1.0		27.0	38.0	+1.0		39.0
Int'l Developed Value	6.0	+0.0		6.0	10.0	+0.0		10.0	15.0	+0.0		15.0	21.0	+0.0		21.0	29.0	+0.0		29.0
Emerging Markets	0.0	+0.5		0.5	0.0	+1.0		1.0	3.0	+1.0		4.0	5.0	+1.0		6.0	9.0	+1.0		10.0
Yield Assets	20.0	+0.0		20.0	23.0	+0.0		23.0												
Senior Loans	6.0	+0.0		6.0	4.0	+0.0		4.0	2.0	+0.0		2.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Preferreds	10.0	+0.0		10.0	7.0	+0.0		7.0	7.0	+0.0		7.0	5.0	+0.0		5.0	2.0	+0.0		2.0
MLPs	4.0	+0.0		4.0	7.0	+0.0		7.0	9.0	+0.0		9.0	12.0	+0.0		12.0	16.0	+0.0		16.0
US Real Estate	0.0	+0.0		0.0	2.0	+0.0		2.0	2.0	+0.0		2.0	3.0	+0.0		3.0	5.0	+0.0		5.0

WMR tactical deviation legend: **Overweight** **Underweight** Neutral. Change legend: ▲ Upgrade ▼ Downgrade for moderate risk profile

¹ Change is the difference between the tactical deviation column in the previous month and the current month.

² The current allocation column is the sum of the strategic asset allocation and the tactical deviation columns.

³ The Bloomberg Barclays US Treasury Bellwethers 10 Year Total Return Index will be used as the benchmark for US government 10-year bonds.

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The Bloomberg Barclays EM Hard Currency Aggregate TR Index USD is used as the benchmark for EM Hard Currency FI.

⁵ The MSCI All Country World Index is used as the benchmark for global equity.

Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Non-taxable investor with non-traditional assets

Investor risk profile	Conservative				Moderately conservative				Moderate				Moderately aggressive				Aggressive			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
All figures in %																				
Directional change																				
Cash	5.0	-1.0		4.0	5.0	-1.5		3.5	5.0	-2.0		3.0	5.0	-2.0		3.0	5.0	-2.0		3.0
Fixed Income	69.0	-0.5		68.5	50.0	-1.0		49.0	33.0	-1.0		32.0	17.0	-1.0		16.0	5.0	-1.0		4.0
US Fixed Income	64.0	-2.5		61.5	45.0	-3.5		41.5	29.0	-4.0		25.0	14.0	-4.0		10.0	5.0	-4.0		1.0
US Gov't	35.0	-3.5		31.5	25.0	-5.0		20.0	16.0	-6.0		10.0	7.0	-6.0		1.0	5.0	-5.0		0.0
US Gov't 10 year ³	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+1.0		1.0
US Municipal	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US IG Corp	24.0	+0.0		24.0	15.0	+0.0		15.0	8.0	+0.0		8.0	2.0	+0.0		2.0	0.0	+0.0		0.0
US HY Corp	5.0	+0.0		5.0	5.0	+0.0		5.0	5.0	+0.0		5.0	5.0	+0.0		5.0	0.0	+0.0		0.0
Int'l Fixed Income	5.0	+2.0		7.0	5.0	+2.5		7.5	4.0	+3.0		7.0	3.0	+3.0		6.0	0.0	+3.0		3.0
Int'l Developed Markets	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets ⁴	5.0	+0.0		5.0	5.0	+0.0		5.0	4.0	+0.0		4.0	3.0	+0.0		3.0	0.0	+0.0		0.0
EM Hard Currency ⁴	0.0	+2.0		2.0	0.0	+2.5		2.5	0.0	+3.0		3.0	0.0	+3.0		3.0	0.0	+3.0		3.0
Equity	10.0	+1.5		11.5	25.0	+2.5		27.5	42.0	+3.0		45.0	62.0	+3.0		65.0	85.0	+3.0		88.0
Global Equity⁵	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+2.0		2.0
US Equity	6.0	+0.0		6.0	14.0	+0.0		14.0	22.0	+0.0		22.0	33.0	+0.0		33.0	45.0	+0.0		45.0
US Large cap Growth	2.0	-0.5		1.5	5.0	-1.0		4.0	8.0	-1.0		7.0	12.0	-1.0		11.0	16.0	-1.0		15.0
US Large cap Value	2.0	+0.5		2.5	5.0	+1.0		6.0	8.0	+1.0		9.0	12.0	+1.0		13.0	16.0	+1.0		17.0
US Mid cap	1.0	+0.0		1.0	3.0	+0.0		3.0	4.0	+0.0		4.0	6.0	+0.0		6.0	8.0	+0.0		8.0
US Small cap	1.0	+0.0		1.0	1.0	+0.0		1.0	2.0	+0.0		2.0	3.0	+0.0		3.0	5.0	+0.0		5.0
International Equity	4.0	+0.5		4.5	11.0	+1.0		12.0	20.0	+1.0		21.0	29.0	+1.0		30.0	40.0	+1.0		41.0
Int'l Developed Markets	4.0	+0.0		4.0	8.0	+0.0		8.0	14.0	+0.0		14.0	21.0	+0.0		21.0	29.0	+0.0		29.0
Emerging Markets	0.0	+0.5		0.5	3.0	+1.0		4.0	6.0	+1.0		7.0	8.0	+1.0		9.0	11.0	+1.0		12.0
Commodities	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Non-traditional	16.0	+0.0		16.0	20.0	+0.0		20.0	20.0	+0.0		20.0	16.0	+0.0		16.0	5.0	+0.0		5.0
Hedge Funds	16.0	+0.0		16.0	20.0	+0.0		20.0	20.0	+0.0		20.0	16.0	+0.0		16.0	5.0	+0.0		5.0
Private Equity	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Private Real Estate	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0

WMR tactical deviation legend: **Overweight** **Underweight** Neutral. Change legend: ▲ Upgrade ▼ Downgrade for moderate risk profile

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Our SAA allocation to EM Fixed Income is a blend of local currency (50%) and hard currency (50%) bonds.

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Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Non-taxable investor without non-traditional assets

Investor risk profile	Conservative				Moderately conservative				Moderate				Moderately aggressive				Aggressive			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
All figures in %																				
Directional change																				
Cash	5.0	-1.0		4.0	5.0	-1.5		3.5	5.0	-2.0		3.0	5.0	-2.0		3.0	5.0	-2.0		3.0
Fixed Income	79.0	-0.5		78.5	63.0	-1.0		62.0	46.0	-1.0		45.0	27.0	-1.0		26.0	10.0	-1.0		9.0
US Fixed Income	74.0	-2.5		71.5	58.0	-3.5		54.5	42.0	-4.0		38.0	24.0	-4.0		20.0	10.0	-4.0		6.0
US Gov't	35.0	-3.5		31.5	25.0	-5.0		20.0	16.0	-6.0		10.0	7.0	-6.0		1.0	5.0	-5.0		0.0
US Gov't 10 year ³	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+1.0		1.0
US Municipal	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US IG Corp	34.0	+0.0		34.0	28.0	+0.0		28.0	21.0	+0.0		21.0	12.0	+0.0		12.0	5.0	+0.0		5.0
US HY Corp	5.0	+0.0		5.0	5.0	+0.0		5.0	5.0	+0.0		5.0	5.0	+0.0		5.0	0.0	+0.0		0.0
Int'l Fixed Income	5.0	+2.0		7.0	5.0	+2.5		7.5	4.0	+3.0		7.0	3.0	+3.0		6.0	0.0	+3.0		3.0
Int'l Developed Markets	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets ⁴	5.0	+0.0		5.0	5.0	+0.0		5.0	4.0	+0.0		4.0	3.0	+0.0		3.0	0.0	+0.0		0.0
EM Hard Currency ⁴	0.0	+2.0		2.0	0.0	+2.5		2.5	0.0	+3.0		3.0	0.0	+3.0		3.0	0.0	+3.0		3.0
Equity	16.0	+1.5		17.5	32.0	+2.5		34.5	49.0	+3.0		52.0	68.0	+3.0		71.0	85.0	+3.0		88.0
Global Equity⁵	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+2.0		2.0
US Equity	10.0	+0.0		10.0	18.0	+0.0		18.0	26.0	+0.0		26.0	35.0	+0.0		35.0	45.0	+0.0		45.0
US Large cap Growth	3.5	-0.5		3.0	6.5	-1.0		5.5	9.0	-1.0		8.0	12.0	-1.0		11.0	16.0	-1.0		15.0
US Large cap Value	3.5	+0.5		4.0	6.5	+1.0		7.5	9.0	+1.0		10.0	12.0	+1.0		13.0	16.0	+1.0		17.0
US Mid cap	2.0	+0.0		2.0	3.0	+0.0		3.0	5.0	+0.0		5.0	7.0	+0.0		7.0	8.0	+0.0		8.0
US Small cap	1.0	+0.0		1.0	2.0	+0.0		2.0	3.0	+0.0		3.0	4.0	+0.0		4.0	5.0	+0.0		5.0
International Equity	6.0	+0.5		6.5	14.0	+1.0		15.0	23.0	+1.0		24.0	33.0	+1.0		34.0	40.0	+1.0		41.0
Int'l Developed Markets	6.0	+0.0		6.0	10.0	+0.0		10.0	17.0	+0.0		17.0	24.0	+0.0		24.0	29.0	+0.0		29.0
Emerging Markets	0.0	+0.5		0.5	4.0	+1.0		5.0	6.0	+1.0		7.0	9.0	+1.0		10.0	11.0	+1.0		12.0
Commodities	0.0	+0.0		0.0																

WMR tactical deviation legend: **Overweight** **Underweight** Neutral. Change legend: ▲ Upgrade ▼ Downgrade for moderate risk profile

¹ Change is the difference between the tactical deviation column in the previous month and the current month.

² The current allocation column is the sum of the strategic asset allocation and the tactical deviation columns.

³ The Bloomberg Barclays US Treasury Bellwethers 10 Year Total Return Index will be used as the benchmark for US government 10-year bonds.

⁴ The Bloomberg Barclays EM Hard Currency Aggregate TR Index USD is used as the benchmark for EM Hard Currency FI.

Our SAA allocation to EM Fixed Income is a blend of local currency (50%) and hard currency (50%) bonds.

⁵ The MSCI All Country World Index is used as the benchmark for global equity.

Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Non-taxable investor yield-focused

Investor risk profile	Conservative				Moderately conservative				Moderate				Moderately aggressive				Aggressive			
Directional change	All figures in %																			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
Cash	3.0	-1.0		2.0																
Fixed Income	65.0	-0.5		64.5	56.0	-1.5		54.5	43.0	-2.0		41.0	30.0	-2.0		28.0	12.0	-2.0		10.0
US Fixed Income	60.0	-2.5		57.5	46.0	-4.0		42.0	32.0	-5.0		27.0	22.0	-5.0		17.0	10.0	-5.0		5.0
US Gov't	30.0	-3.5		26.5	16.0	-5.0		11.0	10.0	-6.0		4.0	5.0	-5.0		0.0	5.0	-5.0		0.0
US Gov't 10 year ³	0.0	+1.0		1.0	0.0	+1.0		1.0	0.0	+1.0		1.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Municipal	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US IG Corp	18.0	+0.0		18.0	16.0	+0.0		16.0	6.0	+0.0		6.0	2.0	+0.0		2.0	0.0	+0.0		0.0
US HY Corp	12.0	+0.0		12.0	14.0	+0.0		14.0	16.0	+0.0		16.0	15.0	+0.0		15.0	5.0	+0.0		5.0
Int'l Fixed Income	5.0	+2.0		7.0	10.0	+2.5		12.5	11.0	+3.0		14.0	8.0	+3.0		11.0	2.0	+3.0		5.0
EM Local Currency ⁴	2.0	+0.0		2.0	5.0	+0.0		5.0	6.0	+0.0		6.0	6.0	+0.0		6.0	2.0	+0.0		2.0
EM Hard Currency ⁴	3.0	+2.0		5.0	5.0	+2.5		7.5	5.0	+3.0		8.0	2.0	+3.0		5.0	0.0	+3.0		3.0
Equity	12.0	+1.5		13.5	21.0	+2.5		23.5	34.0	+3.0		37.0	47.0	+3.0		50.0	62.0	+3.0		65.0
Global Equity⁵	0.0	+1.0		1.0	0.0	+1.5		1.5	0.0	+2.0		2.0	0.0	+2.0		2.0	0.0	+2.0		2.0
US Equity	6.0	+0.0		6.0	10.0	+0.0		10.0	15.0	+0.0		15.0	19.0	+0.0		19.0	24.0	+0.0		24.0
US Large cap Growth	2.0	-0.5		1.5	3.0	-1.0		2.0	4.0	-1.0		3.0	5.0	-1.0		4.0	6.0	-1.0		5.0
US Large cap Value	4.0	+0.5		4.5	7.0	+1.0		8.0	11.0	+1.0		12.0	14.0	+1.0		15.0	18.0	+1.0		19.0
International Equity	6.0	+0.5		6.5	11.0	+1.0		12.0	19.0	+1.0		20.0	28.0	+1.0		29.0	38.0	+1.0		39.0
Int'l Developed Value	6.0	+0.0		6.0	11.0	+0.0		11.0	16.0	+0.0		16.0	22.0	+0.0		22.0	29.0	+0.0		29.0
Emerging Markets	0.0	+0.5		0.5	0.0	+1.0		1.0	3.0	+1.0		4.0	6.0	+1.0		7.0	9.0	+1.0		10.0
Yield Assets	20.0	+0.0		20.0	23.0	+0.0		23.0												
Senior Loans	6.0	+0.0		6.0	4.0	+0.0		4.0	2.0	+0.0		2.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Preferreds	10.0	+0.0		10.0	7.0	+0.0		7.0	6.0	+0.0		6.0	4.0	+0.0		4.0	2.0	+0.0		2.0
MLPs	4.0	+0.0		4.0	7.0	+0.0		7.0	10.0	+0.0		10.0	13.0	+0.0		13.0	16.0	+0.0		16.0
US Real Estate	0.0	+0.0		0.0	2.0	+0.0		2.0	2.0	+0.0		2.0	3.0	+0.0		3.0	5.0	+0.0		5.0

WMR tactical deviation legend: **Overweight** **Underweight** Neutral. Change legend: ▲ Upgrade ▼ Downgrade for moderate risk profile

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⁴ The Bloomberg Barclays EM Local Currency Government TR Index Unhedged USD is used as the benchmark for EM Local Currency FI.

The Bloomberg Barclays EM Hard Currency Aggregate TR Index USD is used as the benchmark for EM Hard Currency FI.

⁵ The MSCI All Country World Index is used as the benchmark for global equity.

Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

All equity and all fixed income models

	All equity				All fixed income, taxable				All fixed income, non-taxable			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
All figures in %												
Cash	5.0	-3.0		2.0	5.0	-3.0		2.0	5.0	-3.0		2.0
Fixed Income	0.0	+0.0		0.0	95.0	+3.0		98.0	95.0	+3.0		98.0
US Fixed Income	0.0	+0.0		0.0	92.5	-3.0		89.5	89.0	-3.0		86.0
US Gov't	0.0	+0.0		0.0	19.0	-6.0		13.0	33.0	-6.0		27.0
US Gov't 10 year ³	0.0	+0.0		0.0	0.0	+3.0		3.0	0.0	+3.0		3.0
US MBS	0.0	+0.0		0.0	0.0	+0.0		0.0	9.0	+0.0		9.0
US Municipal	0.0	+0.0		0.0	71.0	+0.0		71.0	0.0	+0.0		0.0
US IG Corp	0.0	+0.0		0.0	0.0	+0.0		0.0	41.0	+0.0		41.0
US HY Corp	0.0	+0.0		0.0	2.5	+0.0		2.5	6.0	+0.0		6.0
Int'l Fixed Income	0.0	+0.0		0.0	2.5	+6.0		8.5	6.0	+6.0		12.0
Int'l Developed Markets	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets ⁴	0.0	+0.0		0.0	2.5	+0.0		2.5	6.0	+0.0		6.0
EM Hard Currency ⁴	0.0	+0.0		0.0	0.0	+6.0		6.0	0.0	+6.0		6.0
Equity	95.0	+3.0		98.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Global Equity⁵	0.0	+2.0		2.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Equity	53.0	+0.0		53.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Large cap Growth	7.0	-1.0		6.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Large cap Value	7.0	+1.0		8.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Large-cap total market	23.0	+0.0		23.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Mid cap	10.0	+0.0		10.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Small cap	6.0	+0.0		6.0	0.0	+0.0		0.0	0.0	+0.0		0.0
International Equity	42.0	+1.0		43.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Int'l Developed Markets	30.0	+0.0		30.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets	12.0	-5.0		7.0	0.0	+0.0		0.0	0.0	+0.0		0.0
China	0.0	+3.0		3.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Brazil	0.0	+3.0		3.0	0.0	+0.0		0.0	0.0	+0.0		0.0

WMR tactical deviation legend: **Overweight** **Underweight** Neutral.

¹ Change is the difference between the tactical deviation column in the previous month and the current month.

² The current allocation column is the sum of the strategic asset allocation and the tactical deviation columns.

³ The Bloomberg Barclays US Treasury Bellwethers 10 Year Total Return Index will be used as the benchmark for US government 10-year bonds.

⁴ The Bloomberg Barclays EM Hard Currency Aggregate TR Index USD is used as the benchmark for EM Hard Currency FI. Our SAA allocation to EM Fixed Income is a blend of local currency (50%) and hard currency (50%) bonds.

⁵ The MSCI All Country World Index is used as the benchmark for global equity.

Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Publication note

The All Equity and All Fixed Income portfolios complement our balanced portfolios and offer more granular implementation of our House View. While we generally do not recommend that investors hold portfolios consisting of only stocks or only bonds, the All Equity and All Fixed Income portfolios can be used by investors who want to complement their existing holdings.

In the All Equity portfolio, tactical tilts will be based on the corresponding tilts to the Equity asset classes in our balanced portfolio (moderate risk profile, taxable without alternative investments). The amount of cash in the All Equity portfolio will vary one-for-one with the overall overweight/underweight on equities in the balanced portfolio, subject to a 3% maximum tilt from the 5% cash allocation. This allows us to use the cash allocation to express a tactical preference between stocks and fixed income. A special feature of the All Equity portfolio is that it includes "carveouts": 3% allocations to our preferred sectors within US large-caps as well as our preferred countries within both international developed markets and the emerging markets. A maximum of two sectors/countries of each type may be selected for carve-outs.

The All Fixed Income portfolios include both taxable and non-taxable versions. In addition to the fixed income asset classes in the balanced portfolios, the non-taxable version incorporates an additional allocation to Mortgage Backed Securities. Tactical tilts will be based on the corresponding tilts to the Fixed Income asset classes in our balanced portfolios (moderate risk profile without alternative investments, taxable or non-taxable respectively), but only when there is a preference between the fixed income asset classes. For example, an overweight on high-yield corporate bonds offset by an underweight on government bonds in the balanced portfolio would be applied to the All Fixed Income portfolios. However, an overweight on US equities vs. US government bonds in the balanced portfolio would not be reflected in the All Fixed Income portfolios. Further, the tilts in the All Fixed Income portfolios will typically be scaled up to twice the size of the tilts in the balanced portfolio.

All equity and all income, yield-focused

	All equity				All income, taxable				All income, non-taxable			
	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²	Strategic asset allocation	Tactical deviation	Change ¹	Current allocation ²
All figures in %												
Cash	3.0	-1.0		2.0	3.0	-1.0		2.0	3.0	-1.0		2.0
Fixed Income	0.0	+0.0		0.0	77.0	+1.0		78.0	77.0	+1.0		78.0
US Fixed Income	0.0	+0.0		0.0	58.0	-5.0		53.0	58.0	-5.0		53.0
US Gov't	0.0	+0.0		0.0	13.0	-8.0		5.0	18.0	-8.0		10.0
US Gov't 10 year ³	0.0	+0.0		0.0	0.0	+3.0		3.0	0.0	+3.0		3.0
US MBS	0.0	+0.0		0.0	0.0	+0.0		0.0	5.0	+0.0		5.0
US Municipal	0.0	+0.0		0.0	30.0	+0.0		30.0	0.0	+0.0		0.0
US IG Corp	0.0	+0.0		0.0	0.0	+0.0		0.0	20.0	+0.0		20.0
US HY Corp	0.0	+0.0		0.0	15.0	+0.0		15.0	15.0	+0.0		15.0
Int'l Fixed Income	0.0	+0.0		0.0	19.0	+6.0		25.0	19.0	+6.0		25.0
EM Local Currency ⁴	0.0	+0.0		0.0	10.0	+0.0		10.0	11.0	+0.0		11.0
EM Hard Currency ⁴	0.0	+0.0		0.0	9.0	+6.0		15.0	8.0	+6.0		14.0
Equity	77.0	+1.0		78.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Global Equity⁵	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Equity	39.0	+0.0		39.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Large cap Growth	7.0	-1.0		6.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Large cap Value	32.0	+1.0		33.0	0.0	+0.0		0.0	0.0	+0.0		0.0
International Equity	38.0	+1.0		39.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Int'l Developed Value	28.0	+0.0		28.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Emerging Markets	10.0	-5.0		5.0	0.0	+0.0		0.0	0.0	+0.0		0.0
China	0.0	+3.0		3.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Brazil	0.0	+3.0		3.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Commodities	0.0	+0.0		0.0	0.0	+0.0		0.0	0.0	+0.0		0.0
Yield Assets	20.0	+0.0		20.0	20.0	+0.0		20.0	20.0	+0.0		20.0
Senior Loans	0.0	+0.0		0.0	15.0	+0.0		15.0	15.0	+0.0		15.0
Preferreds	0.0	+0.0		0.0	5.0	+0.0		5.0	5.0	+0.0		5.0
MLPs	16.0	+0.0		16.0	0.0	+0.0		0.0	0.0	+0.0		0.0
US Real Estate	4.0	+0.0		4.0	0.0	+0.0		0.0	0.0	+0.0		0.0

Publication note

The All Equity and All Income portfolios complement our balanced portfolios and offer more granular implementation of our House View yield-focused portfolios. While we generally do not recommend that investors hold portfolios consisting of only stocks or only bonds, the All Equity and All Income portfolios can be used by investors who want to complement their existing holdings.

In the All Equity portfolio, tactical tilts will be based on the corresponding tilts to the Equity asset classes in our balanced portfolio (moderate risk profile, taxable yield-focused). The amount of cash in the All Equity portfolio will vary one-for-one with the overall overweight/underweight on equities in the balanced portfolio, subject to a 1% maximum tilt from the 3% cash allocation. This allows us to use the cash allocation to express a tactical preference between stocks and fixed income. A special feature of the All Equity portfolio is that it includes "carveouts": 3% allocations to our preferred sectors within US large-caps as well as our preferred countries within both international developed markets and the emerging markets. A maximum of two sectors/countries of each type may be selected for carve-outs.

The All Income portfolios include both taxable and non-taxable versions. In addition to the fixed income asset classes in the balanced portfolios, the non-taxable version incorporates an additional allocation to Mortgage Backed Securities. Tactical tilts will be based on the corresponding tilts to the Fixed Income asset classes in our balanced portfolios (moderate risk profile yield-focused, taxable or non-taxable respectively), but only when there is a preference between the fixed income asset classes. For example, an overweight on high-yield corporate bonds offset by an underweight on government bonds in the balanced portfolio would be applied to the All Income portfolios. However, an overweight on US equities vs. US government bonds in the balanced portfolio would not be reflected in the All Income portfolios. Further, the tilts in the All Income portfolios will typically be scaled up to twice the size of the tilts in the balanced portfolio.

WMR tactical deviation legend: **Overweight** **Underweight** Neutral.

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⁵ The MSCI All Country World Index is used as the benchmark for global equity.

Source: UBS and WMA AAC, 24 May 2018. See appendix for information regarding sources of strategic asset allocations and their suitability, investor risk profiles, and the interpretation of the suggested tactical deviations from the strategic asset allocations.

Portfolio analytics

The portfolio analytics shown for each risk profile's benchmark allocations are based on estimated forward-looking return and standard deviation assumptions (capital market assumptions), which are based on UBS proprietary research. The development process includes a review of a variety of factors, including the return, risk, correlations and historical performance of various asset classes, inflation and risk premium. These capital market assumptions do not assume any particular investment time horizon. Please note that these assumptions are not guarantees and are subject to change. UBS has changed its risk and return assumptions in the past and may do so in the future. Neither UBS nor your Financial Advisor is required to provide you with an updated analysis based upon changes to these or other underlying assumptions.

In order to create the analysis shown, the rates of return for each asset class are combined in the same proportion as the asset allocations illustrated (e.g., if the asset allocation indicates 40% equities, then 40% of the results shown for the allocation will be based upon the estimated hypothetical return and standard deviation assumptions shown below).

You should understand that the analysis shown and assumptions used are hypothetical estimates provided for your general information. The results are not guarantees and pertain to the asset allocation and/or asset class in general, not the performance of specific securities or investments. Your actual results may vary significantly from the results shown in this report, as can the performance of any individual security or investment.

Risk Profile ==>> Conservative	Moderately conservative	Moderate	Moderately aggressive	Aggressive	
Taxable with non-traditional assets					
Estimated Return	3.2%	4.3%	5.4%	6.5%	7.4%
Estimated Risk	3.9%	6.1%	8.6%	11.3%	13.9%
Taxable without non-traditional assets					
Estimated Return	2.9%	3.9%	5.0%	6.2%	7.2%
Estimated Risk	4.0%	6.1%	8.5%	11.2%	13.6%
Non-taxable with non-traditional assets					
Estimated Return	3.6%	4.6%	5.6%	6.6%	7.4%
Estimated Risk	4.2%	6.1%	8.6%	11.3%	13.8%
Non-taxable without non-traditional assets					
Estimated Return	3.5%	4.4%	5.4%	6.5%	7.3%
Estimated Risk	4.5%	6.5%	8.8%	11.6%	13.6%

Asset Class Capital Market Assumptions		
	Annual total return	Annual risk
US Cash	2.1%	0.5%
US Government Fixed Income	1.9%	4.0%
US Municipal Fixed Income	1.8%	4.1%
US Corporate Investment-Grade Fixed Income	2.8%	5.0%
US Corporate High-Yield Fixed Income	4.8%	9.2%
International Developed Markets Fixed Income	1.8%	7.9%
Emerging Markets Fixed Income	4.2%	10.5%
US Large-cap Equity	7.1%	15.7%
US Mid-cap Equity	7.6%	18.3%
US Small-cap Equity	7.8%	20.1%
International Developed Markets Equity	9.4%	16.5%
Emerging Markets Equity	8.8%	24.1%
Commodities	4.4%	19.2%
Hedge Funds	5.5%	6.7%
Private Equity	12.0%	12.7%
Private Real Estate	9.8%	10.5%

Additional asset allocation models

US equity sector allocation, in %

For US equity subsector recommendations please see the "Equity Preference List" for each sector. These reports are published on a monthly basis and can be found on the Online Services website in the Research > Equities section.

	S&P 500 Benchmark allocation ¹	CIO Americas, WM tactical deviation ²				Current allocation ³
		Numeric		Symbol		
		Previous	Current	Previous	Current	
Consumer Discretionary	12.8	+0.0	+0.0	n	n	12.8
Consumer Staples	6.7	-1.0	-1.0	-	-	5.7
Energy	6.3	+1.0	+1.0	+	+	7.3
Financials	14.5	+1.0	+1.0	+	+	15.5
Healthcare	14.0	-1.0	-1.0	-	-	13.0
Industrials	10.0	+0.0	+0.0	n	n	10.0
Information Technology	25.6	+0.0	+0.0	n	n	25.6
Materials	2.9	+1.0	+1.0	+	+	3.9
Real Estate	2.7	+0.0	+0.0	n	n	2.7
Telecom	1.8	+0.0	+0.0	n	n	1.8
Utilities	2.7	-1.0	-1.0	-	-	1.7

NOTE: The benchmark allocations, as well as the tactical deviations, are intended to be applicable to the US equity portion of a portfolio across investor risk profiles.
Source: UBS, as of 23 May 2018.

International developed markets (non-US) equity module, in %

	Benchmark allocation ¹	CIO Americas, WM tactical deviation ²		Current allocation ³
		Previous	Current	
EMU / Eurozone	28.0	+0.0	+0.0	28.0
UK	17.0	+0.0	+0.0	17.0
Japan	22.0	+0.0	+0.0	22.0
Australia	7.0	+0.0	+0.0	7.0
Canada	9.0	+0.0	+8.0	17.0
Switzerland	8.0	+0.0	-8.0	0.0
Other	9.0	+0.0	+0.0	9.0

Source: UBS, as of 24 May 2018.

International developed markets (non-US) fixed income module, in %

	Benchmark allocation ¹	CIO Americas, WM tactical deviation ²		Current allocation ³
		Previous	Current	
EMU / Eurozone	42.0	+10.0	+0.0	42.0
UK	9.0	+0.0	+0.0	9.0
Japan	32.0	+0.0	+0.0	32.0
Other	17.0	-10.0	+0.0	17.0

Source: UBS, as of 24 May 2018.

Footnotes

¹For the first table on this page, the benchmark allocation is based on S&P 500 weights. For the second and third tables on this page, the benchmark allocation refers to a moderate risk profile and represents the relative market capitalization weights of each country or region.

²See "Deviations from strategic asset allocation or benchmark allocation" in the appendix for an explanation regarding the interpretation of the suggested tactical deviations from benchmark. The "current" column refers to the tactical deviation that applies as of the date of this publication. The "previous" column refers to the tactical deviation that was in place at the date of the previous edition of UBS House View or the last UBS House View Update.

³The current allocation column is the sum of the CIO Americas, WM tactical deviation columns and (the S&P 500 benchmark allocation for the first table on this page) (the benchmark allocation for the second and third tables on this page).

Tactical asset allocation performance measurement

The performance calculations shown in Table A commence on 25 January 2013, the first date upon which the Investment Strategy Guide was published following the release of the new UBS WMA strategic asset allocation (SAA) models. The performance is based on the SAA without non-traditional assets for a moderate risk profile investor, and the SAA with the tactical shift (see detailed asset allocation tables where the SAA with the tactical shift is referred to as “current allocation”). Performance is calculated utilizing the returns of the indices identified in Table B as applied to the respective allocations in the SAA and the SAA with the tactical shift. For example, if US mid-cap equity is allocated 10% in the SAA and 12% in the SAA with the tactical shift, the US mid-cap equity index respectively contributed to 10% and 12% of the results shown. Prior to 25 January 2013, CIO Wealth Management published tactical asset allocation recommendations in the *Investment Strategy Guide* using a different set of asset classes and sectors. The performance of these tactical recommendations is reflected in Table C of the February 2017 House View *Investment Strategy Guide*.

The performance attributable to the CIO Americas, WM tactical deviations is reflected in the column in Table A labeled “Excess

return,” which shows the difference between the performance of the SAA and the performance of the SAA with the tactical shift. The “Information ratio” is a risk-adjusted performance measure, which adjusts the excess returns for the tracking error risk of the tactical deviations. Specifically the information ratio is calculated as the ratio of the annualized excess return over a given time period and the annualized standard deviation of daily excess returns over the same period. Additional background information regarding the computation of the information ratio figures provided below are available upon request.

The calculations assume that the portfolios are rebalanced upon publication of the models in the CIO Letter or House View Update. The computations assume portfolio rebalancing upon such intra-month changes as well. Performance shown is based on total returns, but does not include transaction costs, such as commissions, fees, margin interest, and interest charges. Actual total returns adjusted for such transaction costs will be reduced. A complete record of all the recommendations upon which this performance report is based is available from UBS Financial Services Inc. upon written request. Past performance is not an indication of future results.

Table A: Moderate taxable risk profile performance measurement (25 January 2013 to present) – See NOTE next page

	SAA	SAA with tactical shift	Excess return	Information ratio (annualized)	Russell 3000 stock index (total return)	Barclays Capital US Aggregate bond index (total return)
25 January 2013 to 31 March 2013	0.79%	0.83%	0.04%	0.9	5.59%	0.11%
2Q 2013	-2.18%	-2.14%	0.04%	0.3	2.69%	-2.33%
3Q 2013	3.60%	3.86%	0.26%	2.4	6.35%	0.57%
4Q 2013	3.05%	3.23%	0.18%	2.9	10.10%	-0.14%
1Q 2014	2.56%	2.53%	-0.03%	-0.2	1.97%	1.84%
2Q 2014	3.44%	3.49%	0.05%	0.3	4.87%	2.04%
3Q 2014	-1.54%	-1.71%	-0.16%	-1.2	0.01%	0.17%
4Q 2014	0.47%	0.73%	0.26%	1.3	5.24%	1.79%
1Q 2015	1.38%	1.69%	0.31%	2.1	1.80%	1.61%
2Q 2015	-0.18%	-0.19%	-0.01%	-0.1	0.14%	-1.68%
3Q 2015	-4.67%	-5.08%	-0.41%	-2.4	-7.25%	1.23%
4Q 2015	1.61%	1.67%	0.06%	0.5	6.27%	-0.57%
1Q 2016	2.11%	1.72%	-0.39%	-3.7	0.97%	3.03%
2Q 2016	2.81%	2.88%	0.08%	1.1	2.63%	2.21%
3Q 2016	2.50%	2.60%	0.10%	1.5	4.40%	0.46%
4Q 2016	-1.33%	-1.13%	0.21%	3.4	4.21%	-2.98%
1Q 2017	3.93%	4.07%	0.14%	2.5	5.74%	0.82%
2Q 2017	3.01%	3.11%	0.10%	1.6	3.02%	1.45%
3Q 2017	3.07%	3.18%	0.11%	2.1	4.57%	0.85%
4Q 2017	3.14%	3.25%	0.12%	3.3	6.34%	0.39%
2018 year to date	0.48%	0.40%	-0.08%	-0.5	3.34%	-2.39%
Since inception (25 January 2013)	31.44%	32.63%	1.20%	0.5	102.62%	8.55%

Source: UBS, as of 23 May 2018

Note: Performance after 27 February 2017 based on updated SAA weights as shown in Table B

Tactical asset allocation performance measurement

Table B: SAA for moderate risk profile investor, and underlying indices (all figures in %)

25 Jan 2013 to present	Previous SAA weights (25 Jan 2013 – 27 Feb 2017)	New SAA weights (27 Feb 2017 onward)
US cash (Barclays Capital US Treasury – Bills [1–3 M])	0.0	5.0
US Large-Cap Growth (Russell 1000 Growth)	7.0	10.0
US Large-Cap Value (Russell 1000 Value)	7.0	10.0
US Mid-Cap (Russell Mid Cap)	6.0	5.0
US Small-Cap (Russell 2000)	3.0	3.0
International Dev. Equities (MSCI EAFE)	10.0	15.0
Emerging Markets Equities (MSCI EMF)	7.5	6.0
US Government Fixed Income (BarCap US Agg Government)	5.0	2.0
US Municipal Fixed Income (BarCap Municipal Bond)	35.0	40.0
US Investment-Grade Fixed Income (BarCap US Agg Credit)	3.0	0.0
US Corporate High-Yield Fixed Income (BarCap US Agg Corp HY)	4.0	2.0
International Dev. Fixed Income (BarCap Global Agg xUS)	4.0	0.0
Emerging Markets Fixed Income (50% BarCap EM Gov and 50% BarCap Global EM (USD))	3.5	2.0
Commodities (Dow Jones-UBS Commodity Index)	5.0	0.0

Additional indices

US Gov't 10 year (Bloomberg Barclays US Treasury Bellwethers 10 Year)
US TIPS (Bloomberg Barclays US Inflation Linked Bonds 1-10 Year)
US MBS (Bloomberg Barclays US MBS)
EM Local Currency FI (Bloomberg Barclays Emerging Markets Local Currency)
EM Hard Currency FI (Bloomberg Barclays EM Hard Currency Aggregate)
Global Equity (MSCI All Country World)
Int'l Developed Value (MSCI EAFE Value)
Senior Loans (S&P/LSTA U.S. Leveraged Loan 100)
Preferreds (BofA Merrill Lynch Fixed Rate Preferred Securities)
MLPs (Alerian MLP)
US Real Estate (FTSE NAREIT Equity REIT)
International Dev. Fixed Income (BarCap Global Agg xUS)
Emerging Markets Fixed Income (50% BarCap EM Gov and 50% BarCap Global EM (USD))
Commodities (Dow Jones-UBS Commodity Index)

Table A NOTE

Historical performance measurement

Prior to 25 January 2013, CIO Americas, WM published tactical asset allocation recommendations in the *Investment Strategy Guide* using a different set of asset classes and sectors. The performance of these tactical recommendations is reflected in Table C of the February 2017 House View *Investment Strategy Guide*. You can obtain a copy of the February 2017 House View from Online Services, or from your UBSFS financial advisor.

Investment committee

Global Investment Process and Committee description

The UBS investment process is designed to achieve replicable, high-quality results through applying intellectual rigor, strong process governance, clear responsibility, and a culture of challenge.

Based on the analyses and assessments conducted and vetted throughout the investment process, the Chief Investment Officer (CIO) formulates the UBS Wealth Management Investment House View (e.g., overweight, neutral, underweight stances for asset classes and market segments relative to their benchmark allocation) at the Global Investment Committee (GIC). Senior investment professionals from across UBS, complemented by selected external experts, debate and rigorously challenge the investment strategy to ensure consistency and risk control.

Global Investment Committee composition

The GIC comprises nine members, representing top market and investment expertise from across all divisions of UBS:

- Mark Haefele (Chair)
- Jorge Mariscal
- Mike Ryan
- Simon Smiles
- Min Lan Tan
- Themis Themistocleous
- Paul Donovan
- Bruno Marxer (*)
- Andreas Koester

WMA Asset Allocation Committee description

We recognize that a globally derived house view is most effective when complemented by local perspective and application. As such, UBS has formed a Wealth Management Americas Asset Allocation Committee (WMA AAC). WMA AAC is responsible for the development and monitoring of UBS WMA's strategic asset allocation models and capital market assumptions. The WMA AAC sets parameters for the CIO Americas, WM Investment Strategy Group to follow during the translation process of the GIC's House Views and the incorporation of US-specific asset class views into the US-specific tactical asset allocation models.

WMA Asset Allocation Committee composition

The WMA Asset Allocation Committee comprises nine members:

- Mike Ryan
- Michael Crook
- Brian Rose
- Jeremy Zirin
- Jason Draho
- Tom McLoughlin
- Leslie Falconio
- Laura Kane
- David Lefkowitz

*Business area outside of the Chief Investment Office

Cautionary statement regarding forward-looking statements

This report contains statements that constitute "forward-looking statements," including but not limited to statements relating to the current and expected state of the securities market and capital market assumptions. While these forward-looking statements represent our judgments and future expectations concerning the matters discussed in this document, a number of risks, uncertainties, changes in the market, and other important factors could cause actual developments and results to differ materially from our expectations. These factors include, but are not limited to (1) the extent and nature of future developments in the US market and in other market segments; (2) other market and macro-economic developments,

including movements in local and international securities markets, credit spreads, currency exchange rates and interest rates, whether or not arising directly or indirectly from the current market crisis; (3) the impact of these developments on other markets and asset classes. UBS is not under any obligation to (and expressly disclaims any such obligation to) update or alter its forward-looking statements whether as a result of new information, future events, or otherwise.

Explanations about asset classes

Sources of strategic asset allocations and investor risk profiles

Strategic asset allocations represent the longer-term allocation of assets that is deemed suitable for a particular investor. The strategic asset allocation models discussed in this publication, and the capital market assumptions used for the strategic asset allocations, were developed and approved by the WMA AAC.

The strategic asset allocations are provided for illustrative purposes only and were designed by the WMA AAC for hypothetical US investors with a total return objective under five different Investor Risk Profiles ranging from conservative to aggressive. In general, strategic asset allocations will differ among investors according to their individual circumstances, risk tolerance, return objectives and time horizon. Therefore, the strategic asset allocations in this publication may not be suitable for all investors or investment goals and should not be used as the sole basis of any investment decision. Minimum net worth requirements may apply to allocations to non-traditional assets. As always, please consult your UBS Financial Advisor to see how these weightings should be applied or modified according to your individual profile and investment goals.

The process by which the strategic asset allocations were derived is described in detail in the publication entitled "Strategic Asset Allocation (SAA) Methodology and Portfolios." Your Financial Advisor can provide you with a copy.

Deviations from strategic asset allocation or benchmark allocation

The recommended tactical deviations from the strategic asset allocation or benchmark allocation are provided by the Global Investment Committee and the Investment Strategy Group within CIO Americas, Wealth Management. They reflect the short- to medium-term assessment of market opportunities and risks in the respective asset classes and market segments. Positive/zero/negative tactical deviations correspond to an overweight/neutral/underweight stance for each respective asset class and market segment relative to their strategic allocation. The current allocation is the sum of the strategic asset allocation and the tactical deviation.

Note that the regional allocations on the Equities and Bonds pages in *UBS House View* are provided on an unhedged basis (i.e., it is assumed that investors carry the underlying currency risk of such investments) unless otherwise stated. Thus, the deviations from the strategic asset allocation reflect the views of the underlying equity and bond markets in combination with the assessment of the associated currencies. The detailed asset allocation tables integrate the country preferences within each asset class with the asset class preferences in *UBS House View*.

Asset allocation does not assure profits or prevent against losses from an investment portfolio or accounts in a declining market.

Scale for tactical deviation charts

Symbol	Description/Definition	Symbol	Description/Definition	Symbol	Description/Definition
+	moderate overweight vs. benchmark	-	moderate underweight vs. benchmark	n	neutral, i.e., on benchmark
++	overweight vs. benchmark	--	underweight vs. benchmark	n/a	not applicable
+++	strong overweight vs. benchmark	---	strong underweight vs. benchmark		

Source: UBS

Statement of risk

Equities - Stock market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables.

Fixed income - Bond market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables. Corporate bonds are subject to a number of risks, including credit risk, interest rate risk, liquidity risk, and event risk. Though historical default rates are low on investment grade corporate bonds, perceived adverse changes in the credit quality of an issuer may negatively affect the market value of securities. As interest rates rise, the value of a fixed coupon security will likely decline. Bonds are subject to market value fluctuations, given changes in the level of risk-free interest rates. Not all bonds can be sold quickly or easily on the open market. Prospective investors should consult their tax advisors concerning the federal, state, local, and non-U.S. tax consequences of owning any securities referenced in this report.

Preferred securities - Prospective investors should consult their tax advisors concerning the federal, state, local, and non-U.S. tax consequences of owning preferred stocks. Preferred stocks are subject to market value

fluctuations, given changes in the level of interest rates. For example, if interest rates rise, the value of these securities could decline. If preferred stocks are sold prior to maturity, price and yield may vary. Adverse changes in the credit quality of the issuer may negatively affect the market value of the securities. Most preferred securities may be redeemed at par after five years. If this occurs, holders of the securities may be faced with a reinvestment decision at lower future rates. Preferred stocks are also subject to other risks, including illiquidity and certain special redemption provisions.

Municipal bonds - Although historical default rates are very low, all municipal bonds carry credit risk, with the degree of risk largely following the particular bond's sector. Additionally, all municipal bonds feature valuation, return, and liquidity risk. Valuation tends to follow internal and external factors, including the level of interest rates, bond ratings, supply factors, and media reporting. These can be difficult or impossible to project accurately. Also, most municipal bonds are callable and/or subject to earlier than expected redemption, which can reduce an investor's total return. Because of the large number of municipal issuers and credit structures, not all bonds can be easily or quickly sold on the open market.

Appendix

Emerging Market Investments

Investors should be aware that Emerging Market assets are subject to, among others, potential risks linked to currency volatility, abrupt changes in the cost of capital and the economic growth outlook, as well as regulatory and sociopolitical risk, interest rate risk and higher credit risk. Assets can sometimes be very illiquid and liquidity conditions can abruptly worsen. CIO Americas, WM generally recommends only those securities it believes have been registered under Federal US registration rules (Section 12 of the Securities Exchange Act of 1934) and individual State registration rules (commonly known as “Blue Sky” laws). Prospective investors should be aware that to the extent permitted under US law, CIO Americas, WM may from time to time recommend bonds that are not registered under US or State securities laws. These bonds may be issued in jurisdictions where the level of required disclosures to be made by issuers is not as frequent or complete as that required by US laws.

For more background on emerging markets generally, see the CIO Americas, WM Education Notes “Investing in Emerging Markets (Part 1): Equities,” 27 August 2007, “Emerging Market Bonds: Understanding Emerging Market Bonds,” 12 August 2009 and “Emerging Markets Bonds: Understanding Sovereign Risk,” 17 December 2009.

Investors interested in holding bonds for a longer period are advised to select the bonds of those sovereigns with the highest credit ratings (in the investment-grade band). Such an approach should decrease the risk that an investor could end up holding bonds on which the sovereign has defaulted. Subinvestment-grade bonds are recommended only for clients with a higher risk tolerance and who seek to hold higher-yielding bonds for shorter periods only.

Nontraditional Assets

Nontraditional asset classes are alternative investments that include hedge funds, private equity, real estate, and managed futures (collectively, alternative investments).

Interests of alternative investment funds are sold only to qualified investors, and only by means of offering documents that include information about the risks, performance and expenses of alternative investment funds, and which clients are urged to read carefully before subscribing and retain. An investment in an alternative investment fund is speculative and involves significant risks. Specifically, these investments (1) are not mutual funds and are not subject to the same regulatory requirements as mutual funds; (2) may have performance that is volatile, and investors may lose all or a substantial amount of their investment; (3) may engage in leverage and other speculative investment practices that may increase the risk of investment loss; (4) are long-term, illiquid investments; there is generally no secondary market for the interests of a fund, and none is expected to develop; (5) interests of alternative investment funds typically will be illiquid and subject to restrictions on transfer; (6) may not be required to provide periodic pricing or valuation information to investors; (7) generally involve complex tax strategies

and there may be delays in distributing tax information to investors; (8) are subject to high fees, including management fees and other fees and expenses, all of which will reduce profits.

Interests in alternative investment funds are not deposits or obligations of, or guaranteed or endorsed by, any bank or other insured depository institution, and are not federally insured by the Federal Deposit Insurance Corporation, the Federal Reserve Board, or any other governmental agency. Prospective investors should understand these risks and have the financial ability and willingness to accept them for an extended period of time before making an investment in an alternative investment fund, and should consider an alternative investment fund as a supplement to an overall investment program.

In addition to the risks that apply to alternative investments generally, the following are additional risks related to an investment in these strategies:

- **Hedge Fund Risk:** There are risks specifically associated with investing in hedge funds, which may include risks associated with investing in short sales, options, small-cap stocks, “junk bonds,” derivatives, distressed securities, non-US securities and illiquid investments.
- **Managed Futures:** There are risks specifically associated with investing in managed futures programs. For example, not all managers focus on all strategies at all times, and managed futures strategies may have material directional elements.
- **Real Estate:** There are risks specifically associated with investing in real estate products and real estate investment trusts. They involve risks associated with debt, adverse changes in general economic or local market conditions, changes in governmental, tax, real estate and zoning laws or regulations, risks associated with capital calls and, for some real estate products, the risks associated with the ability to qualify for favorable treatment under the federal tax laws.
- **Private Equity:** There are risks specifically associated with investing in private equity. Capital calls can be made on short notice, and the failure to meet capital calls can result in significant adverse consequences including, but not limited to, a total loss of investment.
- **Foreign Exchange/Currency Risk:** Investors in securities of issuers located outside of the United States should be aware that even for securities denominated in US dollars, changes in the exchange rate between the US dollar and the issuer’s “home” currency can have unexpected effects on the market value and liquidity of those securities. Those securities may also be affected by other risks (such as political, economic or regulatory changes) that may not be readily known to a US investor.

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Global Investment Committee

The House View Investment Strategy guide reflects the views of the UBS Global Investment committee (GIC). The GIC is comprised of 9 members, representing top market and investment expertise from across all divisions of UBS:



Global Investment Committee (GIC)

Paul Donovan	Jorge Mariscal
Mark Haefele (Chair)	Bruno Marxer*
Andreas Koester	Simon Smiles
Min Lan Tan	Themis Themistocleous
Mike Ryan	

*Business areas distinct from Chief Investment Office

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Cobb County Government Employees' Pension Plan
Asset Class Summary

Style Analysis

As of March 31, 2018

Manager/Accounts	Account #:	% Assets	Large Cap Growth	Large Cap Blend	Large Cap Value	Mid Cap Blend	Small Cap Growth	Small Cap Value	Global	International	Fixed Income	Cash	Total Portfolio
TCW	XXXXX76	5.4%	\$ 34,685,019										\$ 34,685,019
Westfield Capital Management	XXXXX32	7.7%	\$ 49,385,857										\$ 49,385,857
Vanguard S&P 500 (VINIX)	XXXXX66	11.8%		\$ 75,321,667									\$ 75,321,667
Eagle Capital	XXXXX85	10.5%			\$ 66,764,418								\$ 66,764,418
Vanguard Mid Cap (VMCIX)	XXXXX66	7.4%				\$ 47,159,716							\$ 47,159,716
Eagle Asset Management	XXXXX85	3.6%					\$ 23,098,967						\$ 23,098,967
Vaughan Nelson	XXXXX49	3.4%						\$ 21,444,887					\$ 21,444,887
BlackRock Global Allocation (MALOX)	XXXXX66	2.9%							\$ 18,410,406				\$ 18,410,406
First Eagle Global (SGIIX)	XXXXX66	3.4%							\$ 21,588,964				\$ 21,588,964
Loomis Sayles Global Equity & Income (LSWWX)	XXXXX66	3.2%							\$ 20,410,150				\$ 20,410,150
Vanguard Total Int'l Stock (VTSNX)	XXXXX66	6.2%								\$ 39,555,872			\$ 39,555,872
Oppenheimer International Growth (OIGIX)	XXXXX66	6.1%								\$ 39,163,182			\$ 39,163,182
Dodge & Cox Int'l (DODFX)	XXXXX66	5.9%								\$ 37,596,863			\$ 37,596,863
Vanguard Int Bond (VBIMX)	XXXXX66	7.0%									\$ 44,378,032		\$ 44,378,032
Richmond	XXXXX37	8.0%									\$ 50,948,453		\$ 50,948,453
BlackRock Strategic Income Opps (BSIIX)	XXXXX66	3.8%									\$ 24,117,958		\$ 24,117,958
Delaware Diversified Income (CIT)	XXXXX84	3.7%									\$ 23,507,918		\$ 23,507,918
Total		100%	\$ 84,070,876	\$ 75,321,667	\$ 66,764,418	\$ 47,159,716	\$ 23,098,967	\$ 21,444,887	\$ 60,409,520	\$ 116,315,917	\$ 142,952,361	\$ -	\$ 637,538,329
Current Allocation			13.19%	11.81%	10.47%	7.40%	3.62%	3.36%	9.48%	18.24%	22.42%	0.00%	100%
Target Allocation			11.00%	11.00%	11.00%	6.00%	3.00%	3.00%	10.00%	20.00%	25.00%		100%
Difference in %			2.19%	0.81%	-0.53%	1.40%	0.62%	0.36%	-0.52%	-1.76%	-2.58%		

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Dollar values above are rounded to the nearest dollar.

Cobb County Government Employees' Pension Plan
Asset Class Summary
Market Value As of: March 31, 2018

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Review code: IS1602740

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Cobb County OPEB
Asset Class Summary

Style Analysis

As of March 31, 2018

Manager/Accounts	Account #:	% Assets	Large Cap Growth	Large Cap Blend	Large Cap Value	Mid Cap Blend	Small Cap Growth	Small Cap Value	Global	International	Fixed Income	Cash	Total Portfolio
TCW	XXXXX93	5.6%	\$ 6,518,282										\$ 6,518,282
Westfield Capital Management	XXXXX91	7.4%	\$ 8,604,590										\$ 8,604,590
Vanguard S&P 500 (VINIX)	XXXXX57	10.9%		\$ 12,642,987									\$ 12,642,987
Eagle Capital	XXXXX00	10.5%			\$ 12,223,749								\$ 12,223,749
Vanguard Mid Cap (VIMAX)	XXXXX57	6.1%				\$ 7,044,827							\$ 7,044,827
Eagle Asset Management (HSRUX)	XXXXX57	3.6%					\$ 4,174,772						\$ 4,174,772
Vaughan Nelson	XXXXX94	3.3%						\$ 3,861,241					\$ 3,861,241
BlackRock Global Allocation (MALOX)	XXXXX57	3.1%							\$ 3,568,435				\$ 3,568,435
First Eagle Global (SGHX)	XXXXX57	3.5%							\$ 4,101,377				\$ 4,101,377
Loomis Sayles Global Equity & Income (LSWWX)	XXXXX57	3.7%							\$ 4,275,273				\$ 4,275,273
Vanguard Total Int'l Stock (VTSNX)	XXXXX57	7.2%								\$ 8,307,843			\$ 8,307,843
Oppenheimer International Growth (OIGYX)	XXXXX57	6.4%								\$ 7,469,237			\$ 7,469,237
Dodge & Cox Int'l (DODFX)	XXXXX57	6.1%								\$ 7,117,768			\$ 7,117,768
Vanguard Int Bond (VBILX)	XXXXX57	6.7%									\$ 7,797,815		\$ 7,797,815
Richmond	XXXXX92	7.9%									\$ 9,218,578		\$ 9,218,578
BlackRock Strategic Income Opps (BSIIX)	XXXXX57	4.0%									\$ 4,585,145		\$ 4,585,145
Delaware Diversified Income (DPFFX)	XXXXX57	3.9%									\$ 4,491,555		\$ 4,491,555
Total		100%	\$ 15,122,872	\$ 12,642,987	\$ 12,223,749	\$ 7,044,827	\$ 4,174,772	\$ 3,861,241	\$ 11,945,085	\$ 22,894,848	\$ 26,093,093	\$ -	\$ 116,003,474
Current Allocation			13.04%	10.90%	10.54%	6.07%	3.60%	3.33%	10.30%	19.74%	22.49%	0.00%	100%
Target Allocation			11.00%	11.00%	11.00%	6.00%	3.00%	3.00%	10.00%	20.00%	25.00%		100%
Difference in %			2.04%	-0.10%	-0.46%	0.07%	0.60%	0.33%	0.30%	-0.26%	-2.51%		

Allen Wright, Earle Dodd, Vandyke Price
Senior Institutional Consultant
Senior Vice President - Wealth Management
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Dollar values above are rounded to the nearest dollar.

Cobb County OPEB
Asset Class Summary
Market Value As of: March 31, 2018

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UBS Financial Services Inc.

Index Flash Report

March 31, 2018

Created on 04/03/2018 INDEX	THRU 3/31/18		2018 QUARTERLY RETURNS				ANNUALIZED RETURNS ENDING 3/31/2018										CALENDAR YEAR RETURNS							
	MONTH	YTD	Q1	Q2	Q3	Q4	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs	20 Yrs	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	
S&P 500	(2.54)	(0.76)	(0.76)				13.99	10.78	13.31	12.71	9.49	10.10	6.46	21.83	11.96	1.38	13.69	32.39	16.00	2.11	15.06	26.46	(37.00)	
S&P Mid Cap	0.93	(0.77)	(0.77)				10.97	8.96	11.97	11.29	10.90	12.29	9.96	16.24	20.74	(2.18)	9.77	33.50	17.88	(1.73)	26.64	37.38	(36.23)	
S&P 500 Growth	(2.98)	1.93	1.93				19.69	12.66	15.37	14.32	11.35	10.47	6.46	27.44	6.89	5.52	14.89	32.75	14.61	4.65	15.05	31.57	(34.92)	
S&P 500 Value	(2.04)	(3.57)	(3.57)				7.69	8.40	10.87	10.85	7.42	9.58	5.97	15.36	17.40	(3.13)	12.36	31.99	17.68	(0.48)	15.10	21.18	(39.22)	
S&P 500 Equal Weighted	(0.93)	(1.01)	(1.01)				11.65	9.08	12.86	12.33	11.03	12.31	8.82	18.90	14.80	(2.20)	14.49	36.16	17.65	(0.11)	21.91	46.31	(39.72)	
DJIA	(3.59)	(1.96)	(1.96)				19.39	13.48	13.32	12.87	9.86	10.38	7.64	28.11	16.50	0.21	10.04	29.65	10.24	8.38	14.06	22.68	(31.93)	
NASDAQ Comp	(2.79)	2.59	2.59				20.76	14.27	18.07	15.61	13.24	12.80	7.84	29.64	8.87	6.96	14.75	40.12	17.45	(0.83)	18.02	45.36	(39.98)	
Wilshire 5000	(2.10)	(0.76)	(0.76)				13.69	10.48	13.13	12.41	9.65	10.57	6.76	20.99	13.37	0.67	12.71	33.06	16.06	0.98	17.16	28.30	(37.23)	
Russell 3000	(2.01)	(0.64)	(0.64)				13.81	10.22	13.03	12.39	9.62	10.43	6.71	21.13	12.74	0.48	12.56	33.55	16.42	1.03	16.93	28.34	(37.31)	
Russell 3000G	(2.44)	1.48	1.48				21.06	12.57	15.32	13.86	11.31	10.96	6.18	29.59	7.39	5.09	12.44	34.23	15.21	2.18	17.64	37.01	(38.44)	
Russell 3000V	(1.54)	(2.82)	(2.82)				6.81	7.87	10.71	10.87	7.84	9.79	6.73	13.19	18.40	(4.13)	12.70	32.69	17.55	(0.10)	16.23	19.76	(36.25)	
Russell 1000	(2.27)	(0.69)	(0.69)				13.98	10.39	13.17	12.57	9.61	10.35	6.68	21.69	12.05	0.92	13.24	33.11	16.42	1.50	16.10	28.43	(37.60)	
Russell 1000G	(2.74)	1.42	1.42				21.25	12.90	15.53	14.09	11.34	10.88	6.19	30.21	7.08	5.67	13.05	33.48	15.26	2.64	16.71	37.21	(38.44)	
Russell 1000V	(1.76)	(2.83)	(2.83)				6.95	7.88	10.78	11.00	7.78	9.71	6.65	13.66	17.34	(3.83)	13.45	32.53	17.51	0.39	15.51	19.69	(36.85)	
Russell 2000	1.29	(0.08)	(0.08)				11.79	8.39	11.47	10.39	9.84	11.50	7.37	14.65	21.31	(4.41)	4.89	38.82	16.35	(4.18)	26.85	27.16	(33.79)	
Russell 2000G	1.35	2.30	2.30				18.63	8.77	12.90	11.29	10.95	12.04	6.25	22.17	11.32	(1.38)	5.60	43.30	14.59	(2.91)	29.09	34.47	(38.54)	
Russell 2000V	1.24	(2.64)	(2.64)				5.13	7.87	9.96	9.42	8.61	10.84	8.04	7.84	31.74	(7.47)	4.22	34.52	18.05	(5.50)	24.50	20.55	(28.92)	
Russell 2500	0.96	(0.24)	(0.24)				12.31	8.15	11.55	10.88	10.28	12.05	8.57	16.81	17.59	(2.90)	7.07	36.80	17.88	(2.51)	26.71	34.38	(36.79)	
Russell 2500G	0.82	2.38	2.38				19.92	9.11	13.37	11.83	11.17	12.58	7.67	24.46	9.73	(0.19)	7.05	40.65	16.13	(1.57)	28.86	41.65	(41.50)	
Russell 2500V	1.10	(2.65)	(2.65)				5.72	7.26	9.88	9.95	9.34	11.38	8.60	10.36	25.20	(5.49)	7.11	33.32	19.21	(3.36)	24.82	27.67	(31.99)	
Russell Mid Cap	0.06	(0.46)	(0.46)				12.20	8.01	12.09	11.51	10.21	12.21	8.93	18.52	13.80	(2.44)	13.22	34.76	17.28	(1.55)	25.47	40.48	(41.46)	
Russell Mid CapG	(0.16)	2.17	2.17				19.74	9.17	13.31	11.92	10.61	12.12	7.85	25.27	7.33	(0.20)	11.90	35.74	15.81	(1.65)	26.38	46.29	(44.32)	
Russell Mid CapV	0.25	(2.50)	(2.50)				6.50	7.23	11.11	11.21	9.81	12.08	8.98	13.34	20.00	(4.78)	14.75	33.46	18.51	(1.38)	24.75	34.21	(38.44)	
EAFE	(1.70)	(1.41)	(1.41)				15.32	6.05	6.98	5.80	3.23	9.11	4.88	25.62	1.51	(0.39)	(4.48)	23.29	17.90	(11.73)	8.21	32.46	(43.06)	
EAFE Net	(1.80)	(1.53)	(1.53)				14.80	5.55	6.50	5.31	2.74	8.62	4.45	25.03	1.00	(0.81)	(4.90)	22.78	17.32	(12.14)	7.75	31.78	(43.38)	
EAFE Ex-Japan	(1.62)	(2.17)	(2.17)				13.85	5.23	6.30	5.19	2.90	9.47	5.14	25.98	1.11	(3.18)	(4.71)	22.29	20.54	(11.04)	6.28	41.33	(46.58)	
MSCI World	(2.11)	(1.15)	(1.15)				14.20	8.58	10.32	9.27	6.51	9.74	5.76	23.07	8.15	(0.32)	5.50	27.37	16.54	(5.02)	12.34	30.79	(40.33)	
MSCI World Net	(2.18)	(1.28)	(1.28)				13.59	7.97	9.70	8.65	5.90	9.15	5.24	22.40	7.51	(0.87)	4.94	26.68	15.83	(5.54)	11.76	29.99	(40.71)	
MSCI World xUS Net	(1.73)	(2.04)	(2.04)				13.92	5.30	6.04	4.73	2.59	8.63	4.54	24.21	2.75	(3.04)	(4.32)	21.02	16.41	(12.21)	8.95	33.67	(43.56)	
MSCI Emerging Mkts	(1.83)	1.47	1.47				25.37	9.21	5.37	2.83	3.36	13.25	7.85	37.75	11.60	(14.60)	(1.82)	(2.27)	18.64	(18.17)	19.20	79.02	(53.18)	
MSCI Emerging Mkts Net	(1.86)	1.42	1.42				24.93	8.81	4.99	2.47	3.02	12.88	#N/A	37.28	11.19	(14.92)	(2.19)	(2.60)	18.23	(18.42)	18.88	78.51	(53.34)	
MSCI ACWI	(2.08)	(0.84)	(0.84)				15.44	8.71	9.79	8.50	6.15	9.88	5.84	24.62	8.48	(1.84)	4.71	23.44	16.80	(6.86)	13.21	35.41	(41.85)	
MSCI ACWI Net	(2.14)	(0.96)	(0.96)				14.85	8.12	9.20	7.91	5.57	9.31	#N/A	23.97	7.86	(2.36)	4.16	22.80	16.13	(7.35)	12.67	34.63	(42.19)	
MSCI ACWI xUS	(1.69)	(1.08)	(1.08)				17.05	6.68	6.37	4.73	3.17	9.71	5.40	27.77	5.01	(5.25)	(3.44)	15.78	17.39	(13.33)	11.60	42.14	(45.24)	
MSCI ACWI xUS Net	(1.76)	(1.18)	(1.18)				16.53	6.18	5.89	4.26	2.70	9.22	#N/A	27.19	4.50	(5.66)	(3.87)	15.29	16.83	(13.71)	11.15	41.45	(45.52)	
EURO STOXX 50	(1.36)	(1.47)	(1.47)				13.03	4.04	7.03	3.03	(0.19)	7.28	3.60	24.27	0.70	(4.47)	(8.66)	26.99	19.90	(16.88)	(9.13)	29.69	(45.24)	
Barclay CTA Index	0.04	(0.00)	(0.00)				1.62	(1.79)	0.60	(0.04)	1.24	2.87	3.49	0.80	(1.23)	(1.50)	7.61	(1.42)	(1.70)	(3.09)	7.05	(0.10)	14.09	
Alerian MLP	(6.94)	(11.12)	(11.12)				(20.07)	(11.24)	(5.85)	(0.04)	5.60	9.32	10.30	(6.52)	18.31	(32.59)	4.80	27.58	4.80	13.88	35.85	76.41	(36.91)	
HFRI Equity Hedge (Total) Index	#N/A	#N/A	#N/A				#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	13.27	5.47	(0.97)	1.81	14.28	7.41	(8.38)	10.45	24.57	(26.65)
HFRI Fund of Funds Composite Index	#N/A	#N/A	#N/A				#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	7.77	0.51	(0.27)	3.37	8.96	4.79	(5.72)	5.70	11.47	(21.37)
HFRI Fund Weighted Composite Index	#N/A	#N/A	#N/A				#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	8.58	5.44	(1.12)	2.98	9.13	6.36	(5.25)	10.25	19.98	(19.03)

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UBS Financial Services Inc.
Index Flash Report
March 31, 2018

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	MONTH	YTD	Q1	Q2	Q3	Q4	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs	20 Yrs	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
ML Preferred Stock Fixed Rate	0.28	(1.00)	(1.00)				4.06	5.24	5.45	6.27	4.37	3.84	4.69	10.58	2.32	7.58	15.44	(3.65)	13.60	4.11	13.66	20.07	(25.20)
BoA-ML All Convertible x-144a	0.36	2.26	2.26				10.40	6.78	9.66	8.45	8.01	#N/A	#N/A	13.77	11.04	(3.37)	9.70	24.26	14.88	(5.53)	15.81	48.22	(35.78)
NAREIT (EQ)	3.71	(6.66)	(6.66)				(1.09)	2.90	6.66	8.75	6.88	10.57	8.77	8.67	8.63	2.83	28.03	2.86	19.70	8.28	27.95	27.99	(37.73)
DJ US Select REIT	3.88	(7.43)	(7.43)				(3.68)	0.74	5.97	8.03	6.02	10.02	8.68	3.76	6.68	4.48	32.00	1.22	17.12	9.37	28.07	28.46	(39.20)
BC Aggregate	0.64	(1.46)	(1.46)				1.20	1.20	1.82	2.92	3.63	3.95	4.83	3.54	2.65	0.55	5.97	(2.02)	4.21	7.84	6.54	5.93	5.24
BC Int Aggregate	0.45	(1.05)	(1.05)				0.51	1.02	1.45	2.34	3.18	3.60	4.54	2.27	1.97	1.21	4.12	(1.02)	3.56	5.97	6.15	6.46	4.86
CG Broad Inv Grd	0.64	(1.48)	(1.48)				1.21	1.20	1.83	2.93	3.65	4.03	4.88	3.60	2.66	0.53	5.91	(2.04)	4.23	7.85	6.30	5.06	7.02
BoA-ML C/G 1-3 yr	0.15	(0.19)	(0.19)				0.28	0.68	0.78	0.99	1.57	2.28	3.31	0.86	1.29	0.67	0.78	0.70	1.48	1.56	2.82	3.84	4.68
BC Int G/C	0.36	(1.00)	(1.00)				0.32	0.95	1.25	2.25	2.92	3.40	4.40	2.10	2.08	1.14	3.10	(0.84)	3.79	5.91	5.89	5.24	5.08
BC Gov Int	0.52	(0.73)	(0.73)				(0.14)	0.46	0.75	1.65	2.21	2.92	4.00	1.14	1.05	1.18	2.52	(1.25)	1.73	6.08	4.98	(0.32)	10.43
BC GC	0.65	(1.58)	(1.58)				1.38	1.22	1.84	3.15	3.65	3.97	4.88	4.00	3.05	0.15	6.01	(2.35)	4.82	8.74	6.59	4.52	5.70
BC US Tips	1.05	(0.79)	(0.79)				0.92	1.30	0.05	2.50	2.93	4.19	5.42	3.01	4.68	(1.44)	3.64	(8.61)	6.98	13.56	6.31	11.41	(2.35)
BC US Treasury	0.94	(1.18)	(1.18)				0.43	0.45	1.07	2.40	2.74	3.43	4.47	2.31	1.04	0.84	5.05	(2.75)	1.99	9.81	5.87	(3.57)	13.74
BC Gov	0.93	(1.15)	(1.15)				0.44	0.48	1.07	2.30	2.70	3.37	4.43	2.30	1.05	0.86	4.92	(2.60)	2.02	9.02	5.52	(2.20)	12.39
BC US Credit	0.31	(2.13)	(2.13)				2.59	2.16	2.83	4.36	5.15	4.91	5.54	6.18	5.63	(0.77)	7.53	(2.01)	9.37	8.35	8.47	16.04	(3.08)
BC Global Aggregate xUS	1.43	3.62	3.62				11.75	4.63	1.23	1.30	1.85	4.24	4.36	10.51	1.49	(6.02)	(3.08)	(3.08)	4.09	4.36	4.95	7.53	4.40
BC Global Aggregate	1.06	1.36	1.36				6.97	3.14	1.49	1.99	2.57	4.13	4.58	7.39	2.09	(3.15)	0.59	(2.60)	4.32	5.64	5.54	6.93	4.79
BC EM Sovereign	0.34	(1.84)	(1.84)				3.33	5.14	4.06	6.15	6.89	8.63	8.40	9.23	9.24	1.29	7.12	(6.34)	18.32	8.80	12.12	27.59	(9.15)
BC Muni	0.37	(1.11)	(1.11)				2.66	2.25	2.73	4.38	4.40	4.24	4.70	5.45	0.25	3.30	9.05	(2.55)	6.78	10.70	2.38	12.91	(2.47)
BC 3 yr Muni	(0.07)	0.11	0.11				0.40	0.84	0.98	1.43	2.15	2.41	3.13	1.56	0.08	1.18	1.22	1.33	1.86	3.46	1.81	5.78	5.53
BC 5 yr Muni	(0.04)	(0.57)	(0.57)				0.65	1.27	1.54	2.53	3.28	3.33	3.97	3.14	(0.39)	2.43	3.19	0.81	2.96	6.93	3.40	7.40	5.78
BC 7 yr Muni	0.11	(1.20)	(1.20)				1.26	1.62	2.10	3.49	4.04	4.00	4.51	4.49	(0.50)	3.26	6.09	(0.97)	4.20	10.14	4.63	7.61	4.59
BC 10 yr Muni	0.35	(1.61)	(1.61)				2.31	2.14	2.72	4.41	4.66	4.48	4.90	5.83	(0.12)	3.76	8.72	(2.17)	5.70	12.32	4.05	9.85	1.52
BC HY Muni	1.46	0.58	0.58				6.03	4.59	4.06	7.05	5.61	6.31	5.37	9.69	2.99	1.81	13.84	(5.51)	18.14	9.25	7.79	32.74	(27.01)
BC Agency	0.56	(0.53)	(0.53)				0.75	0.92	1.20	1.82	2.47	3.14	4.26	2.06	1.39	1.01	3.58	(1.38)	2.16	4.82	4.36	1.53	9.26
BC Mortgages	0.64	(1.19)	(1.19)				0.77	1.12	1.80	2.44	3.46	3.91	4.72	2.47	1.67	1.51	6.08	(1.41)	2.59	6.23	5.37	5.89	8.34
BC ABS	0.18	(0.39)	(0.39)				0.62	1.18	1.15	1.97	3.16	2.76	2.06	1.55	2.03	1.25	1.85	(0.51)	3.34	5.26	5.61	20.92	(8.58)
BC HY	(0.60)	(0.86)	(0.86)				3.78	5.17	4.99	6.33	8.27	8.39	6.54	7.50	17.13	(4.47)	2.45	7.44	15.81	4.98	15.12	58.21	(26.16)
BoA-ML High Yield	(0.63)	(0.94)	(0.94)				3.67	5.17	4.98	6.20	8.04	8.18	6.61	7.48	17.34	(4.55)	2.45	7.38	15.44	4.50	15.24	56.28	(26.23)
BoA-ML Treasury 1-5 yr	0.32	(0.38)	(0.38)				(0.10)	0.47	0.65	1.08	1.62	#N/A	#N/A	0.65	1.09	0.98	1.24	(0.19)	0.91	3.36	3.61	0.23	8.73
CG T-Bill (90 Day)	0.13	0.35	0.35				1.07	0.49	0.31	0.24	0.31	1.21	1.92	0.84	0.27	0.03	0.03	0.05	0.07	0.08	0.13	0.16	1.80
IFC Invest Comp	(1.83)	1.28	1.28				24.49	9.89	6.10	3.37	3.86	14.01	8.83	37.89	10.78	(12.38)	(1.12)	(0.58)	18.89	(19.03)	20.64	81.03	(53.74)
CG Wld Gov Bond	1.54	2.50	2.50				8.49	3.45	1.18	1.47	1.97	3.99	4.56	7.49	1.60	(3.57)	(0.48)	(4.00)	1.65	6.35	5.17	2.55	10.89
CG Wld Gov Bond xUS	1.84	4.42	4.42				12.93	5.02	1.36	1.21	1.82	4.16	4.56	10.33	1.81	(5.54)	(2.68)	(4.56)	1.51	5.17	5.21	4.38	10.11
Bloomberg Commodity Total Return	(0.62)	(0.40)	(0.40)				3.71	(3.21)	(8.33)	(8.80)	(7.85)	(1.59)	(0.90)	1.70	11.77	(24.67)	(17.04)	(9.58)	(1.14)	(13.37)	16.67	18.72	(36.61)

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UBS Financial Services Inc.

Index Flash Report

March 31, 2018

Created on 04/03/2018 INDEX	THRU 3/31/18		2018 QUARTERLY RETURNS				ANNUALIZED RETURNS ENDING 3/31/2018							CALENDAR YEAR RETURNS									
	MONTH	YTD	Q1	Q2	Q3	Q4	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs	20 Yrs	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
70S&P/30BCAGG	(1.59)	(0.90)	(0.90)				10.10	7.95	9.86	9.84	7.97	8.44	6.24	16.08	9.23	1.34	11.39	21.12	12.49	4.08	12.92	20.44	(26.03)
70S&P/30BCIGC	(1.67)	(0.76)	(0.76)				9.82	7.86	9.68	9.62	7.75	8.26	6.11	15.61	9.04	1.49	10.49	21.54	12.37	3.46	12.70	20.22	(26.03)
60S&P/40BCIGC	(1.38)	(0.78)	(0.78)				8.43	6.89	8.47	8.58	7.12	7.62	5.94	13.58	8.06	1.52	9.41	18.11	11.12	3.91	11.84	18.11	(22.08)
50S&P/50BCIGC	(1.09)	(0.80)	(0.80)				7.06	5.91	7.26	7.54	6.47	6.95	5.75	11.59	7.08	1.51	8.35	14.75	9.89	4.30	10.93	15.98	(17.96)
40S&P/60BCIGC	(0.80)	(0.83)	(0.83)				5.70	4.92	6.06	6.49	5.80	6.27	5.53	9.64	6.08	1.47	7.30	11.48	8.67	4.67	9.99	13.85	(13.69)
60S&P/40 BCAGG	(1.27)	(0.97)	(0.97)				8.81	6.99	8.72	8.87	7.42	7.85	6.11	14.21	8.31	1.28	10.62	17.56	11.31	4.69	12.13	18.40	(22.06)
50S&P/20EAFE (net)/30BC AGG	(1.44)	(1.06)	(1.06)				10.26	6.94	8.55	8.41	6.67	8.21	5.89	16.70	7.06	0.92	7.52	19.36	12.84	1.08	11.54	21.53	(27.46)
70 MSCI ACWI(net) / 30 Citi WBIG	(1.14)	(0.27)	(0.27)				12.60	6.73	6.97	6.26	4.91	7.96	#N/A	18.79	6.20	(2.44)	3.21	14.87	12.56	(3.37)	10.47	25.74	(29.78)
60 MSCI ACWI(net) / 40 Citi WBIG	(0.81)	(0.04)	(0.04)				11.85	6.25	6.21	5.69	4.64	7.48	#N/A	17.11	5.63	(2.50)	2.88	12.32	11.36	(2.05)	9.68	22.81	(25.23)
50 MSCI ACWI(net) / 50 Citi WBIG	(0.48)	0.18	0.18				11.10	5.75	5.45	5.11	4.35	6.97	#N/A	15.45	5.04	(2.58)	2.55	9.82	10.16	(0.75)	8.86	19.91	(20.44)
70 MSCI ACWI(net) / 30 BC AGG	(1.31)	(1.05)	(1.05)				10.67	6.13	7.06	6.57	5.30	7.94	#N/A	17.50	6.42	(1.30)	4.77	14.87	12.66	(2.67)	11.31	25.93	(30.17)
60 MSCI ACWI(net) / 40 BC AGG	(1.03)	(1.09)	(1.09)				9.29	5.45	6.33	6.10	5.15	7.43	#N/A	15.41	5.92	(0.98)	4.96	12.32	11.48	(1.13)	10.77	23.03	(25.77)
S&P Target Risk Aggressive	(0.76)	(0.52)	(0.52)				12.82	7.52	9.15	8.64	7.01	#N/A	#N/A	20.06	7.66	(0.79)	6.11	22.52	15.19	(1.58)	17.08	26.48	(35.12)
S&P Target Risk Conservative	0.19	(0.82)	(0.82)				5.90	3.71	4.19	4.60	4.02	#N/A	#N/A	9.70	5.09	(1.06)	3.97	6.71	6.59	4.35	7.28	9.38	(9.28)
S&P Target Risk Growth	(0.38)	(0.64)	(0.64)				10.09	6.03	7.36	7.25	5.74	#N/A	#N/A	15.93	6.67	(0.94)	6.30	16.03	11.44	1.30	11.18	19.15	(26.33)
S&P Target Risk Moderate	(0.00)	(0.76)	(0.76)				7.31	4.49	5.27	5.45	4.49	#N/A	#N/A	11.78	5.63	(1.06)	4.49	10.47	8.59	2.26	8.22	13.81	(17.58)

CPI (1 month lag, Seasonally Adjusted)	THRU 2/28/18		2018 QUARTERLY RETURNS				ANNUALIZED RETURNS ENDING 2/28/2018							CALENDAR YEAR RETURNS									
	MONTH	YTD	Q1	Q2	Q3	Q4	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs	15 Yrs	20 Yrs	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008
CPI (1 month lag, Seasonally Adjusted)	0.15	0.67					2.11	2.01	1.41	1.57	1.61	2.07	2.19	2.03	2.18	0.67	1.49	1.76	3.02	1.43	2.82	(0.02)	4.11

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COBB COUNTY GOVERNMENT EMPLOYEES' PENSION PLAN

Trust Report: March 1, 2018 - April 30, 2018

June 5, 2018



Lisa Allen
Institutional Advisory Services
Vice President & Client Mgr.
Atlanta, GA
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III. Plan Contacts

- Board of Trustees
- Staff
- Professional Contacts
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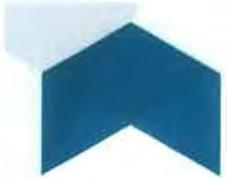
IV. Disclosures

- Important Disclosures



**I. MARKET VALUE UPDATE
- MARCH 2018**





PORTFOLIO ALLOCATION BY INVESTMENT MANAGER - MARCH 2018

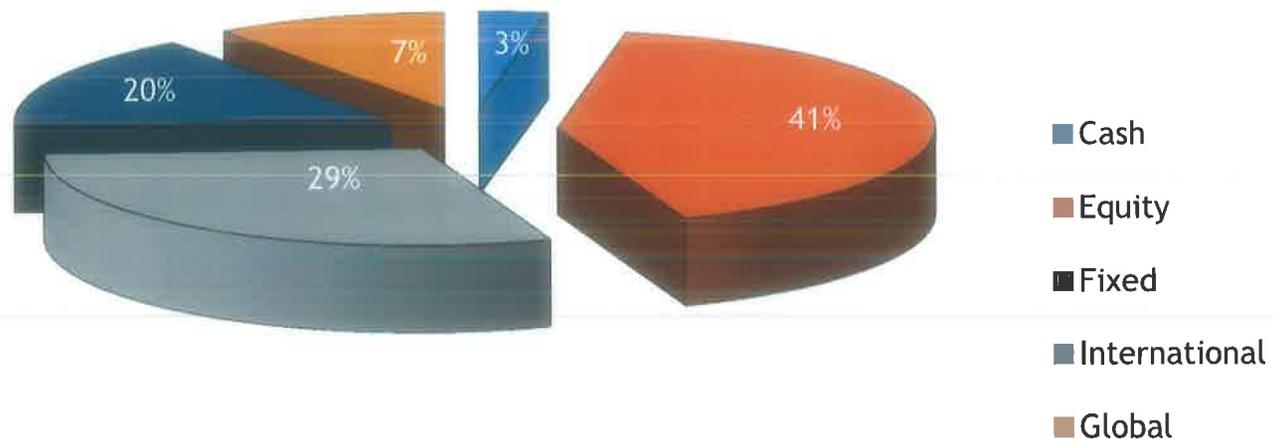
INVESTMENT MANAGER	ASSET CLASS	ASSET STYLE	9/30/2017 MARKET VALUE	%	3/31/2018 MARKET VALUE
Westfield Capital Mgt	Equity	Large Cap Growth	45,454,610	7.3%	49,406,186
Vanguard S&P 500 *	Equity	Large Cap Blend	72,568,707	11.6%	75,324,346
TCW Asset Mgt	Equity	Large Cap Growth	31,565,604	5.1%	34,695,636
Eagle Capital	Equity	Large Cap Value	61,953,551	9.9%	66,790,801
Equity Investment Co	Equity	Large Cap Value	10,343	0.0%	0
Vanguard Mid Cap	Equity	Mid Cap Value	44,632,637	7.1%	47,159,716
Eagle Asset Mgt	Equity	Small Cap Growth	21,232,156	3.4%	23,108,398
Vaughan Nelson	Equity	Small Cap Value	21,159,360	3.4%	21,469,647
Total Equity			298,576,968	47.8%	317,954,731
Blackrock Global	Global	World Allocation	18,031,538	2.9%	18,410,406
First Eagle Global	Global	World Allocation	21,122,879	3.4%	21,588,964
Natixis Loomis Sayles Global	Global	World Allocation	19,201,311	3.1%	20,410,150
Total Global			58,355,728	9.3%	60,409,520
Vanguard Total Int'l Stock	International	Non-US Equity	37,889,779	6.1%	39,555,872
Dodge & Cox Int'l	International	Non-US Equity	37,960,174	6.1%	37,596,863
Oppenheimer Int'l	International	Non-US Equity	37,685,297	6.0%	39,163,182
Total International			113,535,250	18.2%	116,315,918
Vanguard Int Bond	Fixed	Intermediate Bond	45,243,060	7.2%	44,378,032
MacQuarie Diversified	Fixed	Intermediate Bond	23,664,986	3.8%	23,547,185
Blackrock Strategic	Fixed	Multi Sector Bond	23,827,185	3.8%	24,117,958
CIGNA	Fixed	Stable Value	1,600,000	0.3%	1,400,000
Richmond	Fixed	Short-Term Bond	51,422,770	8.2%	50,947,078
Total Fixed			145,758,001	23.3%	144,390,253
Committee Directed	Cash		8,420,845	1.3%	7,474,836
TOTAL TRUST			\$624,646,792	100%	\$646,545,257

* Market Value includes \$2,676 cash in Mutual Fund account 1138666



HISTORICAL COST OF ASSETS - MARCH 2018

\$488,095,032.56





SUMMARY REPORT - MARCH 2018

	MONTH <u>3/01/18 - 3/31/18</u>	CALENDAR YTD <u>1/01/18 - 3/31/18</u>	FISCAL YTD <u>10/01/17 - 3/31/18</u>
Beginning Market Value			
Plus Accrued Income	652,508,856	647,395,635	624,646,791
Administrative Receipts/Disbursements			
Employer Contributions	5,420,023	12,677,348	23,709,614
Employee Contributions	1,554,597	3,579,684	7,203,538
Inter-Account Transfers	0	0	0
Benefit Payments	-5,590,665	-16,803,636	-33,166,848
Other Cash Receipts/Disbursements	1,383	10,899	13,970
Administrative Expenses	-127,628	-388,939	-857,491
Sub-Total	1,257,710	-924,643	-3,097,218
Investment Results			
Non-Cash Receipts/Disbursements	0	-200,000	-200,000
Income Earned	1,108,943	2,080,804	6,361,378
Gain/Loss on Assets Disposed/Sold	2,321,466	7,351,797	11,012,604
Change In Unrealized Gain/Loss	-10,651,718	-9,158,336	7,821,702
Sub-Total	-7,221,309	74,265	24,995,683
Ending Market Value			
Plus Accrued Income	646,545,257	646,545,257	646,545,257
Market Value Growth			
Percent Change	-0.91%	-0.13%	3.51%
Market Value as of 3/31/17		583,819,032	
Annual Percent Change		10.74%	
Market Value as of 4/19/18		655,633,255	
Percent Change Since 3/31/18		1.41%	



ADMINISTRATIVE EXPENSES - MARCH 2018

	MONTH 3/01/18 - 3/31/18	CALENDAR YTD 1/01/18 - 3/31/18	FISCAL YTD 10/01/17 - 3/31/18
Investment Management Fees:			
Westfield Capital Mgt	-68,042	-68,042	-134,206
TCW Asset Management	0	0	0
Eagle Asset Mgt	0	-42,049	-81,866
Equity Investment Company	0	0	0
Vaughan Nelson	0	-54,489	-107,386
Eagle Capital	0	-127,427	-246,226
Richmond	0	-28,293	-56,468
LGIP Fee	-67	-306	-756
Sub-Total	-68,109	-320,606	-626,908
Inv. Mgt. Fees as a % of Assets	0.01%	0.05%	0.10%
Trust Fees:			
SunTrust	-41,893	-41,893	-86,218
Asset Consulting Fees:			
UBS Financial Services	0	0	-58,395
Cavanaugh MacDonald Consulting	-17,626	-26,439	-79,979
Legal & Other Services:			
Troutman Sanders	0	0	-5,991
Cobb County (GAPPT)	0	0	0
TOTAL ADMINISTRATIVE EXPENSES	-127,628	-388,939	-857,491
Total Admin. Exp. As a % of Assets	0.02%	0.06%	0.13%
Reimbursement of Expenses:			
Class Actions Proceeds	1,383	6,376	9,446
Sub-Total	1,383	6,376	9,446
NET ADMINISTRATIVE EXPENSES*	-126,245	-382,562	-848,045
Net Admin. Exp. As a % of Assets	0.02%	0.06%	0.13%

* reflects disbursements made from the Trust only and excludes implicit mutual fund expenses



CLASS ACTION PROCEEDS - MARCH 2018

CLAIMS PAID

<u>2018 Payors</u>	<u>Class Period</u>	<u>Amount</u>	<u>Date Paid</u>	<u>Company</u>
HCA Holdings	1/12/05-7/12/05	4993	1/22/2018	Key Energy Services
JP Morgan Chase	10/1/1998-7/1/04	1383	3/19/2018	HCA Holdings
				Martek Bioscience
				Vitesse Semiconductor
				Genesis Microchip Inc
				EDS
				Regeneron Pharm Inc
				CV Therapeutics
				Helen of Troy
				Viisage Technology
				Buca
				Bisys
				Coca Cola
				Netopia
				Motorola
				Level 3
				Carrier Access Corp
				Alliance Gaming
				American Italian Pasta
				KVH Industries
				McKesson/HBOC
				Red Robin Gourmet
				Charlotte Russe
				LHC Group
				DFC Global
				MCSI
				Xerox

CLAIMS PAID SUMMARY

2002 - 2005	40,569
2006 - 2010	371,842
2011 - 2015	118,589
2016	1,394
2017	34,902
2018	6376
Total	573,672

OUTSTANDING CLAIMS

<u>Add Date</u>	<u>Company</u>	<u>Add Date</u>
Mar-08	Lehman Brothers	May-12
	Wyeth	Mar-13
	Northwest Pipe	Mar-13
Apr-08	Pharmacia Corp	Mar-13
Apr-08	Citigroup	Feb-14
	Diebold	Jun-14
	GMX Resources	Sep-14
	Weatherford International	Sep-14
	Biolase	Sep-15
	Delcath Systems	Nov-15
	Intralinks Holdings	Nov-15
Oct-08	MF Global	Dec-15
	Tower Group	Dec-15
Jan-09	Invacare Corp	Dec-15
	CVS	May-16
Jun-09	Bioscrip	Jul-16
	JP Morgan Chase	Jul-16
	Barrick Gold	Oct-16
	Elan Corp	17-Aug
	PTC Inc.	17-Aug
	Harman International	Sep-17
	Home Loan Servicing	Nov-17
	Aegerion Pharm	Nov-17
	CTI BIOPHARMA	Feb-18
Sep-17	TANGO INC	Feb-18
	IMPERVA	Feb-18



MARKET TO MARKET SUMMARY - MONTH ENDING MARCH 31, 2018

	Westfield	TCW	Eagle	Equity	Eagle	Vaughan	MacQuarie			Mutual	Committee	Combined	
	Capital Mgt	Asset Mgt	Capital	Investment	Asset Mgt	Nelson	Diversified	CIGNA	Richmond	Funds	Directed	Account	
Market Value													
Plus Accrued Income As Of 3/01/2018	50,570,818	35,002,196	69,264,456		0	22,973,718	21,414,298	23,481,740	1,400,000	50,631,058	371,623,420	6,147,151	652,508,856
Administrative Receipts/Disbursements													
Employer Contributions	0	0	0	0	0	0	0	0	0	0	5,420,023	5,420,023	
Employee Contributions	0	0	0	0	0	0	0	0	0	0	1,554,597	1,554,597	
Inter-Account Transfers	0	0	0	0	0	0	0	0	0	0	0	0	
Benefit Payments	0	0	0	0	0	0	0	0	0	0	-5,590,665	-5,590,665	
Other Cash Receipts/Disbursements	1,383	0	0	0	0	0	0	0	0	0	0	1,383	
Administrative Expenses	-68,042	0	0	0	0	0	0	0	0	0	-59,586	-127,628	
Sub-Total	-66,659	0	0	0	0	0	0	0	0	0	1,324,369	1,257,710	
Investment Results													
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0	
Income Earned	47,330	15,589	67,503	0	11,626	47,654	0	0	165,999	749,928	3,315	1,108,943	
Gain/Loss On Assets Disposed/Sold	1,427,003	803,301	389,485	0	-99,789	37,591	0	0	-236,124	0	0	2,321,466	
Change In Unrealized Gain/Loss	-2,572,305	-1,125,449	-2,930,643	0	222,842	-29,896	65,445	0	386,145	-4,667,857	0	-10,651,718	
Sub-Total	-1,097,973	-306,560	-2,473,656	0	134,679	55,349	65,445	0	316,020	-3,917,929	3,315	-7,221,309	
Market Value													
Plus Accrued Income As Of 3/31/2018	49,406,186	34,695,636	66,790,801		0	23,108,397	21,469,647	23,547,185	1,400,000	50,947,078	367,705,491	7,474,836	646,545,257
Cash Balance													
Cash Balance at SunTrust on 3/31/2018	269,122	1,103,670	2,058,078	0	255,511	1,048,542	37	0	46,607	2,676	7,473,423	12,257,665	
Cash Balance at LGIP on 3/31/2018	0	0	0	0	0	0	0	0	0	0	0	0	
Total Cash As Of 3/31/2018	269,122	1,103,670	2,058,078	0	255,511	1,048,542	37	0	46,607	2,676	7,473,423	12,257,665	
Most Recent Cash Balance as of 4/19/18													
Most Recent Cash Balance as of 4/19/18	619,376	951,694	660,944	0	581,156	354,444	38	0	183,255	2,679	149,300	3,502,886	
Federated Treasury Obligations [Monthly]	0.12%												
Georgia Fund 1* [Monthly]	1.51%												

As published on <https://otfs.georgia.gov>



MARKET TO MARKET SUMMARY - FISCAL YTD AS OF MARCH 31, 2018

	Westfield	TCW	Eagle	Equity	Eagle	Vaughan	MacQuarie			Mutual	Committee	Combined	
	Capital Mgt	Asset Mgt	Capital	Investment	Asset Mgt	Nelson	Diversified	CIGNA	Richmond	Funds	Directed	Account	
Market Value													
Plus Accrued Income As Of 3/01/2018	50,570,818	35,002,196	69,264,456		0	22,973,718	21,414,298	23,481,740	1,400,000	50,631,058	371,623,420	6,147,151	652,508,856
Administrative Receipts/Disbursements													
Employer Contributions		0	0	0	0	0	0	0	0	0	0	5,420,023	5,420,023
Employee Contributions		0	0	0	0	0	0	0	0	0	0	1,554,597	1,554,597
Inter-Account Transfers		0	0	0	0	0	0	0	0	0	0	0	0
Benefit Payments		0	0	0	0	0	0	0	0	0	0	-5,590,665	-5,590,665
Other Cash Receipts/Disbursements	1,383	0	0	0	0	0	0	0	0	0	0	0	1,383
Administrative Expenses	-68,042	0	0	0	0	0	0	0	0	0	0	-59,586	-127,628
Sub-Total	-66,659	0	0	0	0	0	0	0	0	0	0	1,324,369	1,257,710
Investment Results													
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0	0
Income Earned	47,330	15,589	67,503	0	11,626	47,654	0	0	165,999	749,928	3,315	0	1,108,943
Gain/Loss On Assets Disposed/Sold	1,427,003	803,301	389,485	0	-99,789	37,591	0	0	-236,124	0	0	0	2,321,466
Change In Unrealized Gain/Loss	-2,572,305	-1,125,449	-2,930,643	0	222,842	-29,896	65,445	0	386,145	-4,667,857	0	0	-10,651,718
Sub-Total	-1,097,973	-306,560	-2,473,656	0	134,679	55,349	65,445	0	316,020	-3,917,929	3,315	0	-7,221,309
Market Value													
Plus Accrued Income As Of 3/31/2018	49,406,186	34,695,636	66,790,801		0	23,108,397	21,469,647	23,547,185	1,400,000	50,947,078	367,705,491	7,474,836	646,545,257

II. MARKET VALUE UPDATE - APRIL 2018

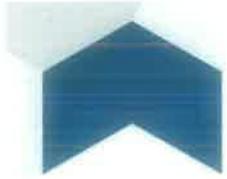




PORTFOLIO ALLOCATION BY INVESTMENT MANAGER - APRIL 2018

INVESTMENT MANAGER	ASSET CLASS	ASSET STYLE	9/30/2017		4/30/2018	
			MARKET VALUE	%	MARKET VALUE	%
Westfield Capital Mgt	Equity	Large Cap Growth	45,454,610	7.3%	49,647,181	7.7%
Vanguard S&P 500 *	Equity	Large Cap Blend	72,568,707	11.6%	74,124,523	11.5%
TCW Asset Mgt	Equity	Large Cap Growth	31,565,604	5.1%	35,611,362	5.5%
Eagle Capital	Equity	Large Cap Value	61,953,551	9.9%	67,038,443	10.4%
Equity Investment Co	Equity	Large Cap Value	10,343	0.0%	0	0.0%
Vanguard Mid Cap	Equity	Mid Cap Value	44,632,637	7.1%	47,092,633	7.3%
Eagle Asset Mgt	Equity	Small Cap Growth	21,232,156	3.4%	23,213,300	3.6%
Vaughan Nelson	Equity	Small Cap Value	21,159,360	3.4%	21,572,936	3.3%
Total Equity			298,576,968	47.8%	318,300,376	49.3%
Blackrock Global	Global	World Allocation	18,031,538	2.9%	18,326,425	2.8%
First Eagle Global	Global	World Allocation	21,122,879	3.4%	21,699,337	3.4%
Natixis Loomis Sayles Global	Global	World Allocation	19,201,311	3.1%	20,410,150	3.2%
Total Global			58,355,728	9.3%	60,435,912	9.4%
Vanguard Total Int'l Stock	International	Non-US Equity	37,889,779	6.1%	39,872,554	6.2%
Dodge & Cox Int'l	International	Non-US Equity	37,960,174	6.1%	38,144,270	5.9%
Oppenheimer Int'l	International	Non-US Equity	37,685,297	6.0%	39,136,303	6.1%
Total International			113,535,250	18.2%	117,153,127	18.2%
Vanguard Int Bond	Fixed	Intermediate Bond	45,243,060	7.2%	43,959,977	3.6%
MacQuarie Diversified	Fixed	Intermediate Bond	23,664,986	3.8%	23,377,028	6.8%
Blackrock Strategic	Fixed	Multi Sector Bond	23,827,185	3.8%	24,065,952	3.7%
CIGNA	Fixed	Stable Value	1,600,000	0.3%	1,400,000	0.2%
Richmond	Fixed	Short-Term Bond	51,422,770	8.2%	50,604,278	7.8%
Total Fixed			145,758,001	23.3%	143,407,235	22.2%
Committee Directed	Cash		8,420,845	1.3%	6,159,697	1.0%
TOTAL TRUST			\$624,646,792	100%	\$645,456,345	100%

* Market Value includes \$2,679 cash in Mutual Fund account 1138666



HISTORICAL COST OF ASSETS - APRIL 2018

\$489,006,938.19





SUMMARY REPORT - APRIL 2018

	MONTH <u>4/01/18 - 4/30/18</u>	CALENDAR YTD <u>1/01/18 -4/30/18</u>	FISCAL YTD <u>10/01/17 - 4/30/18</u>
Beginning Market Value			
Plus Accrued Income	646,545,257	647,395,635	624,646,791
Administrative Receipts/Disbursements			
Employer Contributions	1,830,107	14,507,456	25,539,721
Employee Contributions	1,043,071	4,622,755	8,246,609
Inter-Account Transfers	0	0	0
Benefit Payments	-5,692,330	-22,495,967	-38,859,178
Other Cash Receipts/Disbursements	0	10,899	13,970
Administrative Expenses	-708	-389,646	-858,199
Sub-Total	<u>-2,819,859</u>	<u>-3,744,503</u>	<u>-5,917,077</u>
Investment Results			
Non-Cash Receipts/Disbursements	0	-200,000	-200,000
Income Earned	445,611	2,526,416	6,806,989
Gain/Loss on Assets Disposed/Sold	2,816,310	10,168,107	13,828,914
Change In Unrealized Gain/Loss	-1,530,973	-10,689,309	6,290,728
Sub-Total	<u>1,730,948</u>	<u>1,805,213</u>	<u>26,726,631</u>
Ending Market Value			
Plus Accrued Income	645,456,345	645,456,345	645,456,345
Market Value Growth			
Percent Change	-0.17%	-0.30%	3.33%
Market Value as of 4/30/17		591,923,735	
Annual Percent Change		9.04%	
Market Value as of 5/22/18		655,895,514	
Percent Change Since 4/30/18		1.62%	



ADMINISTRATIVE EXPENSES - APRIL 2018

	MONTH 4/01/18 - 4/30/18	CALENDAR YTD 1/01/18 - 4/30/18	FISCAL YTD 10/01/17 - 4/30/18
Investment Management Fees:			
Westfield Capital Mgt	0	-68,042	-134,206
TCW Asset Management	0	0	0
Eagle Asset Mgt	0	-42,049	-81,866
Equity Investment Company	0	0	0
Vaughan Nelson	0	-54,489	-107,386
Eagle Capital	0	-127,427	-246,226
Richmond	0	-28,293	-56,468
LGIP Fee	-118	-424	-874
Sub-Total	-118	-320,724	-627,026
Inv. Mgt. Fees as a % of Assets	0.00%	0.05%	0.10%
Trust Fees:			
SunTrust	0	-41,893	-86,218
Asset Consulting Fees:			
UBS Financial Services	0	0	-58,395
Cavanaugh MacDonald Consulting	0	-26,439	-79,979
Legal & Other Services:			
Troutman Sanders	-490	-490	-6,481
Cobb County (GAPPT)	-100	-100	-100
TOTAL ADMINISTRATIVE EXPENSES	-708	-389,646	-858,199
Total Admin. Exp. As a % of Assets	0.00%	0.06%	0.13%
Reimbursement of Expenses:			
Class Actions Proceeds	0	6,376	9,446
Sub-Total	0	6,376	9,446
NET ADMINISTRATIVE EXPENSES*	-708	-383,270	-848,752
Net Admin. Exp. As a % of Assets	0.00%	0.06%	0.13%

* reflects disbursements made from the Trust only and excludes implicit mutual fund expenses



CLASS ACTION PROCEEDS - APRIL 2018

CLAIMS PAID

<u>2018 Payors</u>	<u>Class Period</u>	<u>Amount</u>	<u>Date Paid</u>	<u>Company</u>
HCA Holdings	1/12/05-7/12/05	4,993	1/22/2018	Key Energy Services
JP Morgan Chase	10/1/1998-7/1/04	1,383	3/19/2018	HCA Holdings
				Martek Bioscience
				Vitesse Semiconductor
				Genesis Microchip Inc
				EDS
				Regeneron Pharm Inc
				CV Therapeutics
				Helen of Troy
				Viisage Technology
				Buca
				Bisys
				Coca Cola
				Netopia
				Motorola
				Level 3
				Carrier Access Corp
				Alliance Gaming
				American Italian Pasta
				KVH Industries
				McKesson/HBOC
				Red Robin Gourmet
				Charlotte Russe
				LHC Group
				DFC Global
				MCSI
				Xerox

CLAIMS PAID SUMMARY

2002 - 2005	40,569
2006 - 2010	371,842
2011 - 2015	118,589
2016	1,394
2017	34,902
2018	6,376
Total	573,672

OUTSTANDING CLAIMS

<u>Add Date</u>	<u>Company</u>	<u>Add Date</u>
Mar-08	Lehman Brothers	May-12
	Wyeth	Mar-13
	Northwest Pipe	Mar-13
Apr-08	Pharmacia Corp	Mar-13
Apr-08	Citigroup	Feb-14
	Diebold	Jun-14
	GMX Resources	Sep-14
	Weatherford International	Sep-14
	Biolase	Sep-15
	Delcath Systems	Nov-15
	Intralinks Holdings	Nov-15
Oct-08	MF Global	Dec-15
	Tower Group	Dec-15
Jan-09	Invacare Corp	Dec-15
	CVS	May-16
Jun-09	Bioscrip	Jul-16
	JP Morgan Chase	Jul-16
	Barrick Gold	Oct-16
	Elan Corp	17-Aug
	PTC Inc.	17-Aug
	Harman International	Sep-17
	Home Loan Servicing	Nov-17
	Aegerion Pharm	Nov-17
	CTI Biopharma	Feb-18
Sep-17	Tangoe Inc	Feb-18
	Imperva	Feb-18
	Ariad Pharmaceuticals	18-Apr



MARKET TO MARKET SUMMARY - MONTH ENDING APRIL 30, 2018

	Westfield Capital Mgt	TCW Asset Mgt	Eagle Capital	Equity Investment	Eagle Asset Mgt	Vaughan Nelson	MacQuarie Diversified	CIGNA	Richmond	Mutual Funds	Committee Directed	Combined Account
Market Value												
Plus Accrued Income As Of 4/01/2018	49,406,186	34,695,636	66,790,801	0	23,108,397	21,469,647	23,547,185	1,400,000	50,947,078	367,705,491	7,474,836	646,545,257
Administrative Receipts/Disbursements												
Employer Contributions	0	0	0	0	0	0	0	0	0	0	1,830,107	1,830,107
Employee Contributions	0	0	0	0	0	0	0	0	0	0	1,043,071	1,043,071
Inter-Account Transfers	0	0	0	0	0	0	0	0	0	-1,500,000	1,500,000	0
Benefit Payments	0	0	0	0	0	0	0	0	0	0	-5,692,330	-5,692,330
Other Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0
Administrative Expenses	0	0	0	0	0	0	0	0	0	0	-708	-708
Sub-Total	0	0	0	0	0	0	0	0	0	-1,500,000	-1,319,859	-2,819,859
Investment Results												
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0
Income Earned	20,159	17,378	46,987	0	4,657	12,175	0	0	166,406	173,127	4,721	445,611
Gain/Loss On Assets Disposed/Sold	218,562	74,832	1,057,619	0	388,609	343,484	0	0	-38,102	771,306	0	2,816,310
Change In Unrealized Gain/Loss	2,273	823,516	-856,964	0	-288,364	-252,371	-170,157	0	-471,104	-317,800	0	-1,530,973
Sub-Total	240,994	915,726	247,642	0	104,902	103,288	-170,157	0	-342,800	626,633	4,721	1,730,948
Market Value												
Plus Accrued Income As Of 4/30/2018	49,647,181	35,611,362	67,038,443	0	23,213,299	21,572,936	23,377,028	1,400,000	50,604,278	366,832,124	6,159,697	645,456,345
Cash Balance at SunTrust on 4/30/2018	512,370	820,670	1,432,423	0	543,338	592,602	37	0	80,488	2,679	6,158,652	10,143,260
Cash Balance at LGIP on 4/30/2018	0	0	0	0	0	0	0	0	0	0	0	0
Total Cash As Of 4/30/2018	512,370	820,670	1,432,423	0	543,338	592,602	37	0	80,488	2,679	6,158,652	10,143,260
Most Recent Cash Balance as of 5/22/18	322,685	979,801	168,338	0	697,405	499,646	38	0	1,484,778	2,683	152,636	4,308,009
Federated Treasury Obligations												
[Monthly]	0.13%											
Georgia Fund 1* [Monthly]	1.65%											

As published on <https://otfs.georgia.gov>



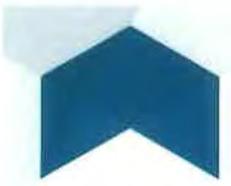
MARKET TO MARKET SUMMARY - FISCAL YTD AS OF APRIL 30, 2018

	Westfield Capital Mgt	TCW Asset Mgt	Eagle Capital	Equity Investment	Eagle Asset Mgt	Vaughan Nelson	MacQuarie Diversified	CIGNA	Richmond	Mutual Funds	Committee Directed	Combined Account	
Market Value													
Plus Accrued Income As Of 4/01/2018	49,406,186	34,695,636	66,790,801		0	23,108,397	21,469,647	23,547,185	1,400,000	50,947,078	367,705,491	7,474,836	646,545,257
Administrative Receipts/Disbursements													
Employer Contributions	0	0	0	0	0	0	0	0	0	0	1,830,107	1,830,107	
Employee Contributions	0	0	0	0	0	0	0	0	0	0	1,043,071	1,043,071	
Inter-Account Transfers	0	0	0	0	0	0	0	0	0	-1,500,000	1,500,000	0	
Benefit Payments	0	0	0	0	0	0	0	0	0	0	-5,692,330	-5,692,330	
Other Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0	
Administrative Expenses	0	0	0	0	0	0	0	0	0	0	-708	-708	
Sub-Total	0	0	0	0	0	0	0	0	0	-1,500,000	-1,319,859	-2,819,859	
Investment Results													
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0	
Income Earned	20,159	17,378	46,987	0	4,657	12,175	0	0	166,406	173,127	4,721	445,611	
Gain/Loss On Assets Disposed/Sold	218,562	74,832	1,057,619	0	388,609	343,484	0	0	-38,102	771,306	0	2,816,310	
Change In Unrealized Gain/Loss	2,273	823,516	-856,964	0	-288,364	-252,371	-170,157	0	-471,104	-317,800	0	-1,530,973	
Sub-Total	240,994	915,726	247,642	0	104,902	103,288	-170,157	0	-342,800	626,633	4,721	1,730,948	
Market Value													
Plus Accrued Income As Of 4/30/2018	49,647,181	35,611,362	67,038,443		0	23,213,299	21,572,936	23,377,028	1,400,000	50,604,278	366,832,124	6,159,697	645,456,345



BENEFIT PAYMENTS - JANUARY 1, 2018 to APRIL 30, 2018

	CALENDAR YTD <u>01/01/18 - 04/30/18</u>	FISCAL YTD <u>10/01/17 - 04/30/18</u>	FISCAL YTD <u>MONTHLY AVERAGE</u>
Monthly Checks	447	726	104
Monthly Direct Deposit	<u>9,622</u>	<u>16,728</u>	<u>2390</u>
Total Monthly Payments	10,069	17,454	2,493
Lump Sum Payments	<u>85</u>	<u>153</u>	<u>22</u>
Total Benefit Payments	10,154	17,607	2,503



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IV. PLAN CONTACTS





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INVESTMENT UPDATE

to

COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLANS

on

Tuesday, June 5, 2018

by

Beth L. Baron, CFA, CFP®
*Managing Director
Portfolio Manager*

Howard K. Bos, CFA
*President
Portfolio Manager*



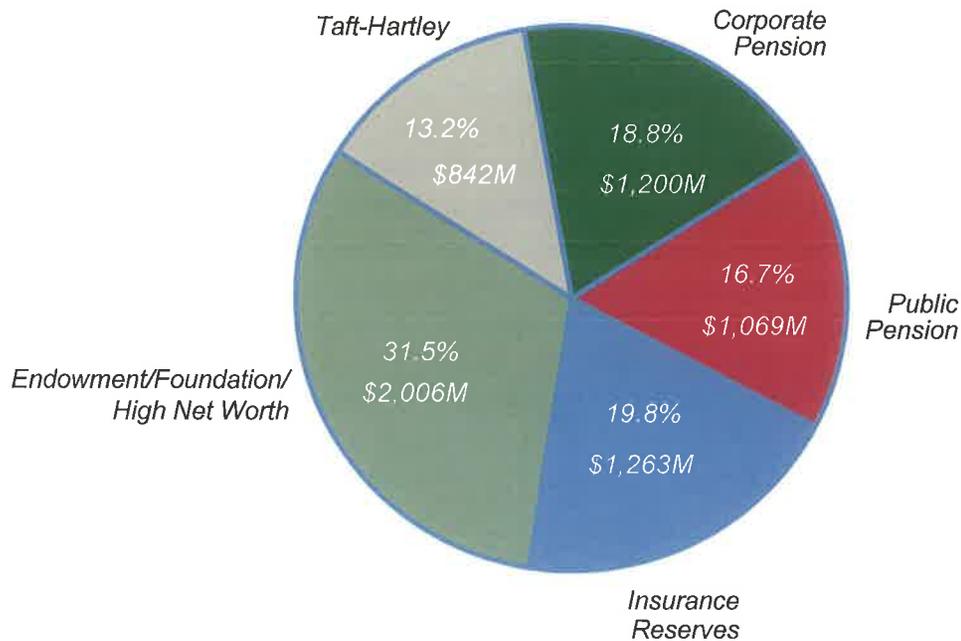
RICHMOND CAPITAL MANAGEMENT
Experience, Knowledge, Service

ORGANIZATION

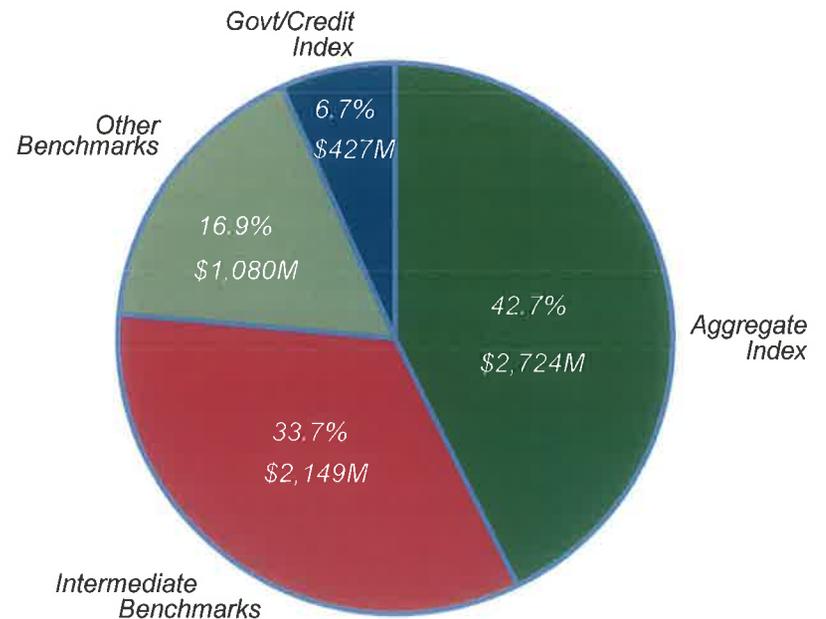
As of March 31, 2018

- » Independent Investment Advisor since 1987
- » 100% Employee Owned
- » Seasoned Professionals: 29 Years Average Bond Experience
- » \$6.4 Billion Under Management

Assets by Client Type



Assets by Benchmark



PROFESSIONALS FOCUSED ON YOUR PORTFOLIO

Portfolio Managers

Senior Investment Team has been together for over 15 years

Client Services, Operations, Business Development, and Compliance

Howard K. Bos, CFA
President, RCM since 1999
32 Years Bond Investment Experience
Prior Experience: Key Capital Partners
B.A. College of William & Mary, 1985

Mark J. Walker, CFA
Managing Director, RCM since 1989
33 Years Bond Investment Experience
Prior Experience: First Boston, Price Waterhouse
M.B.A. Wharton School, Univ. of Pennsylvania, 1985
B.S. Duke University, 1980

Beth L. Baron, CFA, CFP®
Managing Director, RCM since 2000
33 Years Bond Investment Experience
Prior Experience: Banc of America Investment Svcs.
B.S. University of Virginia, 1983

Patton H. Roark, Jr., CFA
Managing Director, RCM since 2003
25 Years Bond Investment Experience
Prior Experience: AFL-CIO Housing Invest. Trust
B.S. Shepherd University, 1989

William H. Schultz, CFA
Managing Director, RCM since 1991
40 Years Bond Investment Experience
Prior Experience: Sovran Capital Management
M.S. University of Wisconsin, 1978
B.B.A. University of Wisconsin, 1975

R. Wheatley McDowell, CFA
Managing Director, RCM since 2001
31 Years Bond Investment Experience
Prior Experience: Lehman Brothers
M.B.A. University of Virginia, 1987
B.A. University of Virginia, 1982

Paul H. Lundmark, CFA
Managing Director, RCM since 2003
31 Years Bond Investment Experience
Prior Experience: USAA Investment Management
M.B.A. University of Minnesota, 1987
B.S. University of Minnesota, 1983

David W. Schultz, CFA
Investment Officer, RCM since 2017
5 Years Bond Investment Experience
Prior Experience: Virginia Retirement System
M.S. Sloan School, Mass. Institute of Technology, 2014
B.S. University of Virginia, 2011

Elizabeth M. Harris
Managing Director, Client Services, RCM since 1984
34 Years Client Service Experience
B.S. Virginia Commonwealth University, 1984

Janis H. Warren
Managing Director, Operations, RCM since 1987
31 Years Client Service Experience
B.S. Bob Jones University, 1979

Gregory Glatt
Vice President, Business Development, RCM since 2018
22 Years Investment Experience
Prior Experience: Thompson Davis, BB&T
B.A. Albright College, 1993

Geoffrey B. Sale
Chief Compliance Officer, RCM since 2002
26 Years Compliance Experience
Prior Experience: Wachovia Securities
M.B.A. University of Richmond, 1996
B.S. Clemson University, 1988



COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLANS

Performance Review

As of March 31, 2018

	Cobb County Employees Pension Plan	Cobb County Employees Pension - OPEB	Barclays Government/Credit Index
1st Quarter, 2018	-1.45%	-1.54%	-1.58%
12 Months to Date	1.68%	-	1.38%
Annualized: 3 Years	1.74%	-	1.22%
5 Years	2.31%	-	1.84%
10 Years	4.49%	-	3.65%
Annualized Since Inception (8/1/2007)	4.84%	-	4.15%
Since Inception (11/1/2017)	-	-1.08%	-1.19%



COBB COUNTY EMPLOYEES PENSION PLANS

Portfolio Review

As of March 31, 2018

Cash Flows Since Inception	Cobb County Employees Pension Plan (8/1/2007)	Cobb County Employees Pension Plan – OPEB (11/1/2017)
Market Value	\$34,821,507	\$9,326,000
Change in Market Value of Holdings	(1,424,524)	(276,095)
Interest Earned	20,175,963	176,080
Net Contributions/ Withdrawals	(2,610,932)	(5,765)
Total	\$50,962,014	\$9,220,220

	Cobb County Employees Pension Plan	Cobb County Employees Pension Plan - OPEB	Barclays Govt/Credit Index
Average Maturity	8.40 Years	8.28 Years	8.89 Years
Portfolio Duration	6.34 Years	6.34 Years	6.56 Years
Average Yield to Maturity	3.17%	3.14%	3.05%
Average Quality	AA-	A+	AA

Statistics in this report are calculated by Bloomberg PORT Fixed Income Analytic models.

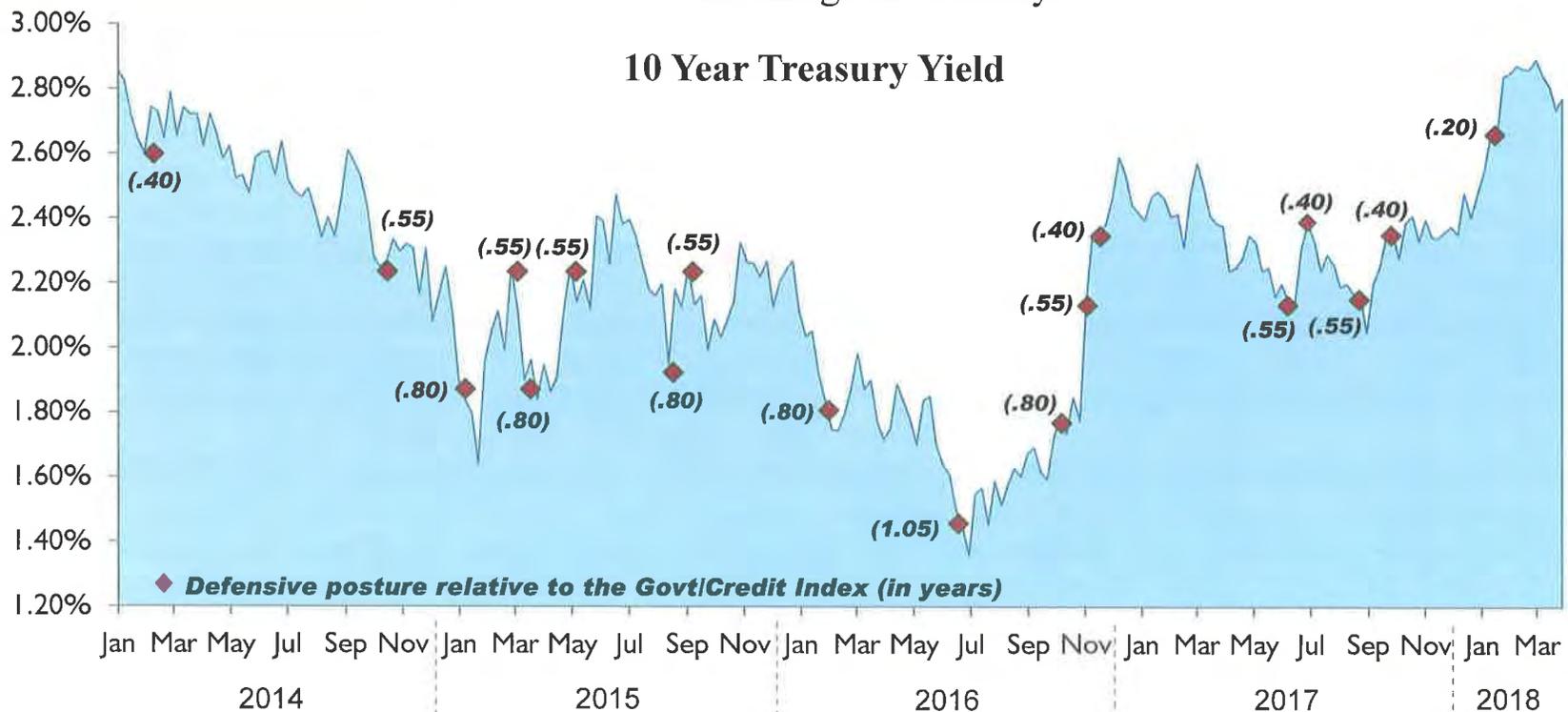


INVESTMENT THEME: INTEREST RATES

Concern About Higher Interest Rates

Action:
Defensive Duration

- Do not fight the Federal Reserve: balance sheet reduction & short-term rate adjustments will continue to pressure interest rates higher.
- Supply from U.S. Treasury will continue due to budget deficits and social security funding.
- Employ an “emotion-less” duration schedule to take advantage of volatility.



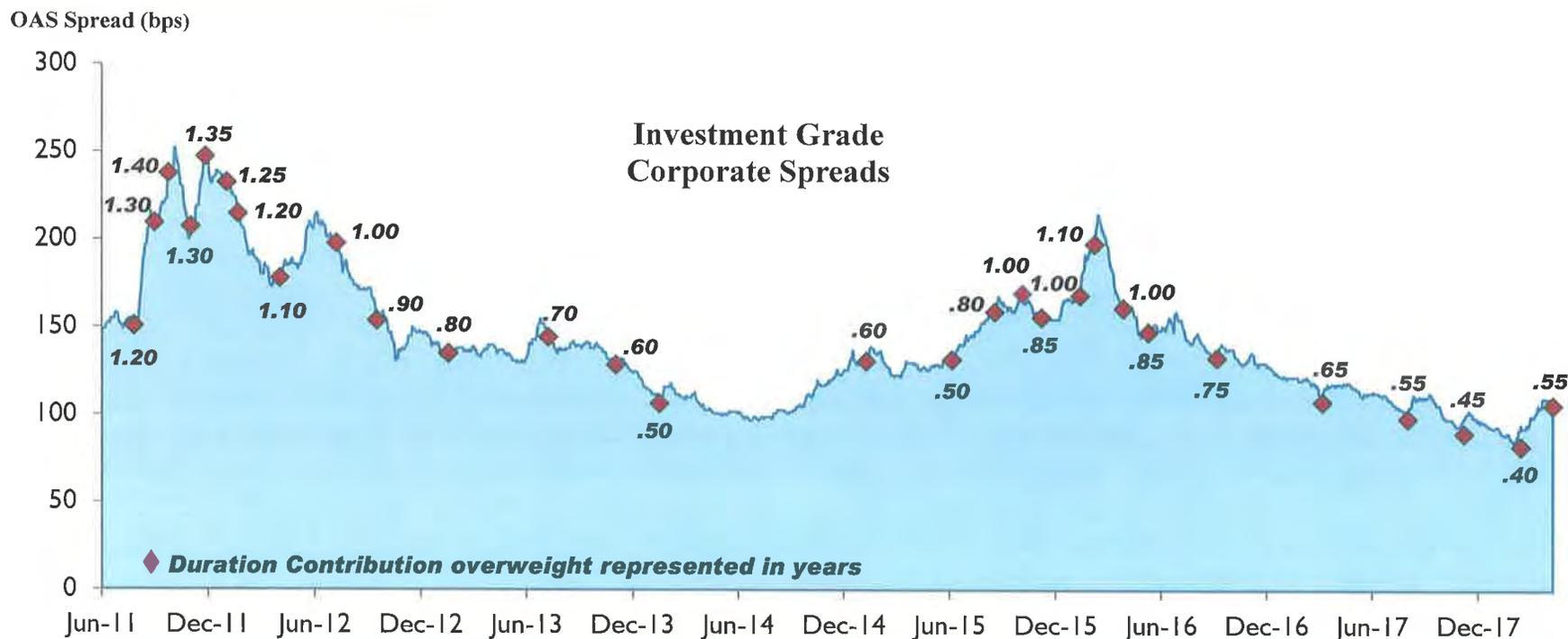
Source: Bloomberg

INVESTMENT THEME: OPPORTUNISTIC CORPORATE BOND ALLOCATION

Spread Product is Historically Tight

Action:
Reduce Risk

- We are very disciplined in our approach to overweighting the corporate sector.
- In response to a continued tightening of corporate spreads in 2017 and the start of 2018, we allowed our risk to decline.
- With current spread widening, we have increased our allocation to the corporate sector.



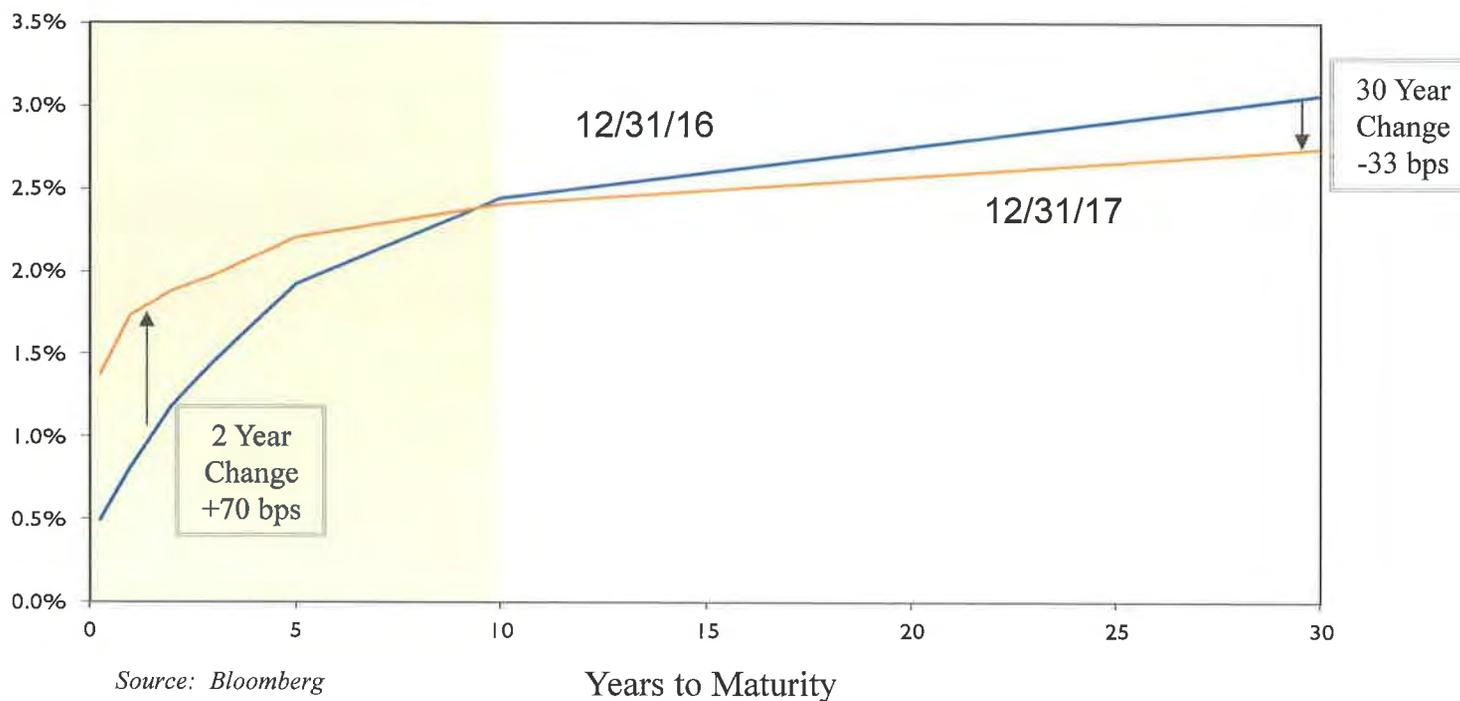
Source: Bloomberg Barclays

INVESTMENT THEME: FLATTER YIELD CURVE

Yield Curve Flatter

Action:
Even Yield Curve
Distribution

- As the yield curve has flattened, we have reduced our underweight to the front end of the yield curve.
- We are currently yield curve agnostic.



Source: Bloomberg

Years to Maturity

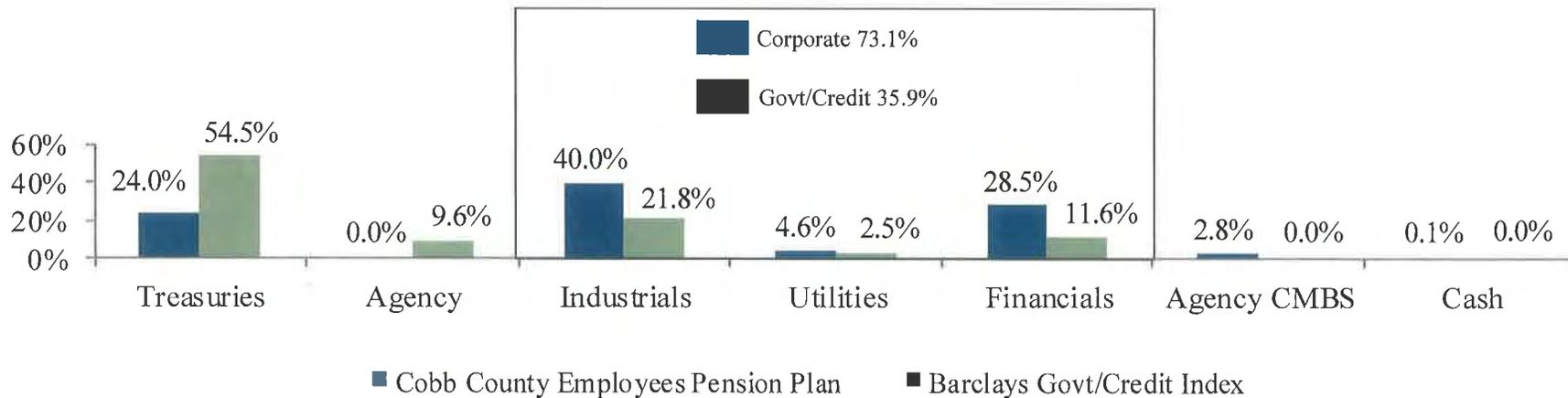


COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLAN

Market Value: \$50,962,014

As of March 31, 2018

Quality Distribution		
	Cobb County Employees Pension Plan	Barclays Govt/Credit Index
AAA	29.6%	59.4%
AA	7.3%	5.2%
A	48.5%	16.0%
BAA	14.6%	19.4%



Statistics in this report are calculated by Bloomberg PORT Fixed Income Analytic models.

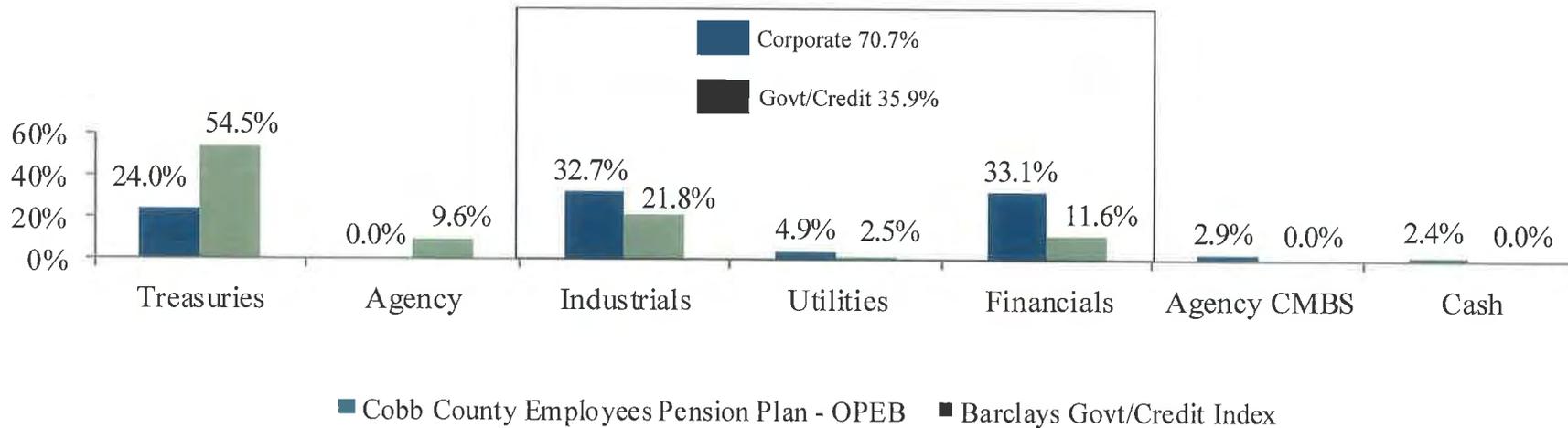


COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLAN - OPEB

Market Value: \$9,220,220

As of March 31, 2018

Quality Distribution		
	Cobb County Employees Pension Plan - OPEB	Barclays Govt/Credit Index
AAA	29.7%	59.4%
AA	2.5%	5.2%
A	47.2%	16.0%
BAA	20.6%	19.4%



Statistics in this report are calculated by Bloomberg PORT Fixed Income Analytic models.



STRATEGY FOR 2018

- » **We still expect interest rates to move higher** and have positioned the portfolio modestly shorter than the benchmark. As interest rates moved higher at the end of 2017 and offered better value, we extended the portfolios.
- » **Corporate bond spreads narrowed significantly in 2017.** “BBB” rated corporates, in particular, produced outstanding performance as well as longer maturity corporates. We still remain overweight corporates on a diversified basis especially in the front end of the yield curve. However, as spreads continued to tighten throughout 2017 and the start of 2018, we reduced our overweight to the corporate sector. Spreads then started to widen at the end of the first quarter, and we have been swapping Treasuries for corporates, increasing our corporate overweight.
- » Overall, we are in **“patient” mode.** We reduced credit risk and interest rate risk as we await opportunity. Our yield curve positioning is neutral.

2018 Cobb County
Retirement Activity Report thru March 2018

Active Retirees	Quarter 1 2018	Year End 2017	Year End 2016	Year End 2015	Year End 2014	Year End 2013	Year End 2012	Year End 2011	Year End 2010
SunTrust Retirees	2,419	2,375	2,162	2,017	1,938	1,789	1,608	1,531	1,494
SunTrust Beneficiaries	171	169	168	155	147	150	150	145	138
CIGNA Retirees	32	33	37	41	46	48	56	63	72
CIGNA Beneficiaries	18	18	20	23	26	26	27	25	25
Retirement Payment Amount Totals	\$18,022,432	\$70,192,268	\$67,932,325	\$60,771,504	\$53,500,938	47,176,313	\$41,666,992	\$40,334,913	\$37,398,392
Average Monthly Benefit Payment	\$2,325	\$2,286	\$2,163	\$2,095	\$2,093	\$2,095	\$1,936	\$1,925	\$1,881
Lowest Monthly Payment	\$22	\$22	\$22	\$22	\$22	\$19	\$27	\$27	\$27
Highest Monthly Payment	\$23,892	\$23,892	\$10,991	\$10,991	\$10,991	\$10,991	\$10,339	\$9,564	\$9,564
Median Payment	\$1,958	\$1,951	\$1,846	1,732	1,730	\$ 1,697	\$1,698	\$1,625	\$1,617
Traditional Plan Total Enrollment (Active)	2,185	2,243	2,431	2,613	2,725	3086	3327	3544	3734
Vested Active Employees	2,185	2,243	2,427	2,526	2,423				
Non Vested Active Employees	0	0	4	186	302				
Vested Terminations	1018	1007	1000	941	839	876	819	800	795
Hybrid Plan Total Enrollment (Active)	1,890	1,830	1,625	1,497	1,230	955	712	505	354
Vested Active	33	35	12	2	2				
Non Vested Active	1,857	1,795	1,637	1,495	1,228				
Vested Terminations	2	2	0	0	0				
Defined Contribution Enrollment (Active)	1,684	1,580	1,277	1,025	766	533	235	137	108
Enrollment %	89.10%	86.34%	78.58%	68.47%	62.28%	55.81%	33.01%	27.13%	30.51%
# Emp. Enrollment @ 1%	297	286	254	152	108	86	19	7	7
# Emp. Enrolled @ 2%	253	236	205	158	136	93	31	18	16
# Emp. Enrolled @ 3%	94	88	75	54	35	15	6	5	7
#Emp. Enrolled @ 4%	886	864	743	661	487	339	179	107	78
Contribution refunds - Non vested	80	260	264	233	228	269	248	276	239
Contribution Refund Payments	78	232	233	210	200	163	204	229	192
Contribution IRA Rollovers	2	28	31	23	28	35	44	47	47
Contribution Disbursement Amount Total	\$250,728	\$812,600	\$1,125,784	\$1,017,613	\$939,836	\$1,288,609	\$1,289,297	\$1,163,648	\$829,188
Average Amount of Contribution Payments	\$3,752	\$4,577	\$4,695	\$4,587	\$4,271	\$3,392	\$5,199	\$4,216	\$3,469
Deferred Comp Enrollment (Traditional)	1,129	1,176	1,165	1,347	1,362	1,235	1,317	1,428	1,498
Total in Deferred Comp (Traditional/Non DC)	\$138,966,392	\$135,428,065	\$119,927,958	\$114,083,472	\$115,450,059	\$111,489,820	\$96,128,376	\$89,039,114	\$89,342,309
Deferred Comp Enrollment (DC) (Active/Inactive)	2,223	2,150							
Total in Deferred Comp (Defined Contribution)	\$9,250,209	\$8,800,772							
Retiree Healthcare									
Pre-65 in group healthcare	735	740	744	721	729				
Spouse in group healthcare	307	302	292	262	284				
Post 65 - Medicare Exchange	856	848	754	817	785				
Post 65 - Medicare Exchange Spouse	388	382	350	384	323				

REGULAR MEETING for June 5, 2018

PURPOSE

To seek authorization from the Board of Trustees of the Cobb County Employees Retirement Plan to ratify the following invoices which have already been processed for payment;

1	TCW Asset Management Company	\$50,027.41
2	TCW Asset Management Company	\$52,685.99
3	TCW Asset Management Company	\$55,228.76
4	Eagle Capital Mangement LLC	\$127,867.44
5	Troutman Sanders LLP	\$612.00
6	UBS Financial Services Inc	\$66,895.97
7	Cavanaugh Macdonald Consulting LLC	\$11,315.00
8	Eagle Asset Management LLC	\$44,334.18
9	Vaughan Nelson Investment Management LP	\$53,564.60
10	Richmond Capital Management Inc	\$28,002.00
11		
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	TOTAL	\$490,533.35

APPROVAL

[Handwritten signature]
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REGULAR MEETING for June 5, 2018

PURPOSE

To seek authorization from the Board of Trustees of the Cobb County Employees Retirement Plan to ratify the following invoices which have already been processed for payment;

1	TCW Investment Management Company	\$10,384.72
2	Eagle Capital Management LLC	\$23,421.27
3	Vaughan Nelson Investment Management, LP	\$9,647.69
4	Richmond Capital Management, Inc	\$5,066.00
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TOTAL \$48,519.68

APPROVAL

[Handwritten signatures in blue and black ink over horizontal lines]



Hagler, Tony

From: Flattich, Art <AFlattich@icmarc.org>
Sent: Sunday, June 03, 2018 10:44 PM
To: Hagler, Tony
Subject: ICMA-RC Retirement Plans Service Commitment and Proposal

Tony, on behalf of the ICMA Retirement Corporation, I want to thank you and the Board of Trustees again for your continued support. We take seriously the trust that the Board has given to us and are very appreciative of the opportunity to further help Cobb County employees build their retirement security.

As we discussed, ICMA Retirement Corporation is proposing to double the number of current on-site representative service days in year one of the renewal agreement and to triple the number of the current on-site service days by year three. This is a significant increase in the on-site presence of our representatives and fulfills our goal of helping more non-participating hybrid plan employees sign up for the plan. This increase will make available additional time for office days, ensuring more individual meeting opportunities, and continues our strong departmental outreach efforts ensuring employees who are not located at the main County building also have an opportunity to meet with their representatives. Of course, we will continue to participate in new employee orientations and have your assigned Certified Financial Planner (CFP), Mark Huston, continue to participate in your bi-monthly "near-retirement" seminars as well. Please see the specific proposal below and note that this will all be done without increasing any costs to the plan or participants.

Year 1 = 80 Representative Days, 6 CFP Days
Year 2 = 100 Representative Days, 6 CFP Days
Year 3 = 120 Representative Days, 6 CFP Days
Year 4 = 140 Representative Days, 6 CFP Days
Year 5 = 160 Representative Days, 6 CFP Days

Our proposal to grow the on-site service commitment each year as the number of participants grows, balances a strong on-site service model with a sensitivity toward costs. We want to ensure that County Employees are not paying more for on-site service that is not needed and your plan's representatives are not sitting idle. We look forward to our continued partnership and implementing our enhanced on-site service model once the renewal process is completed. Please do not hesitate to contact me with any questions and I hope you have a great rest of the week.

Sincerely,

Arthur Flattich, *Certified Retirement Counselor®*
Vice President, Southeast Region

ICMA-RC
777 North Capitol Street, NE
Washington, DC 20002
W: 866-630-3039 F: 844-340-9070
E: aflattich@icmarc.org

**Building Public Sector
Retirement Security**

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Cavanaugh Macdonald
CONSULTING, LLC

The experience and dedication you deserve

**Report of the Actuary on the Annual Valuation
of Cobb County Government Employees' Pension Plan**

Prepared as of January 1, 2018



Cobb County...Expect the Best!





Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

May 23, 2018

Board of Trustees
Cobb County Government Employees' Pension Plan
100 Cherokee Street, Suite 200
Marietta, GA 30090-9679

Dear Members of the Board:

We are pleased to submit herewith the results of the annual actuarial valuation of the Cobb County Government Employees' Pension Plan prepared as of January 1, 2018. The purpose of this report is to provide a summary of the funded status of the Plan as of January 1, 2018 and recommend rates of employer contribution. While not verifying the data at source, the actuary performed tests for consistency and reasonability. Separate reports will be prepared to provide accounting information under Governmental Accounting Standards Board Statements No. 67 and 68.

The promised benefits of the Plan are included in the actuarially calculated employer contribution rates which are developed using the projected unit credit cost method. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll over a 25 year period. The assumptions recommended by the actuary are in the aggregate reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan.

The valuation has been prepared in accordance with the parameters set forth in the Plan's funding policy. The annual actuarially determined contribution (ADC) of the County for the year beginning October 1, 2018 is 22.58% of payroll, which is expected to liquidate the unfunded accrued liability over a 25-year period.

Assuming that the annual required employer contributions to the Plan are made by the County from year to year in the future at the rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the retirement fund to provide the benefits called for under the Plan may be safely anticipated.



Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The actuarial computations presented in this report are for purposes of determining the recommended funding amounts for the Plan. Use of these computations for purposes other than meeting these requirements may not be appropriate.

This is to certify that the independent consulting actuaries listed below are Members of the American Academy of Actuaries and have experience in performing valuations for public retirement systems. The valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board and the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the Plan and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan.

We trust that the report will meet the approval of the Board and will furnish the desired information concerning the financial condition of the Plan.

Respectfully submitted,

A handwritten signature in blue ink that reads "John Garrett".

John Garrett, ASA, FCA, MAAA
Principal & Consulting Actuary

A handwritten signature in blue ink that reads "Ben Mobley".

Ben Mobley, ASA, FCA, MAAA
Senior Actuary

A handwritten signature in blue ink that reads "Joseph Walls".

Joseph Walls
Senior Consultant



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Section I - Summary of Principal Results

Summary of Results

For convenience of reference, the principal results of the current valuation are summarized below.

Valuation Date	January 1, 2018	January 1, 2017
Active Participants:		
a. Traditional Plan		
Number	2,299	2,459
Valuation compensation	\$ 151,982,475	\$ 153,757,405
b. Hybrid Plan		
Number	1,916	1,660
Valuation compensation	\$ 87,175,763	\$ 71,033,729
c. Judges Plan		
Number	18	17
Valuation compensation ¹	\$ 2,363,897	\$ 2,184,111
d. Total Active Participants		
Number	4,233	4,136
Valuation compensation	\$ 241,522,135	\$ 226,975,245
Retired Participants and Beneficiaries:²		
a. Number	2,438	2,295
b. Total Annual Benefits	\$ 66,229,538	\$ 61,254,161
Number of Terminated Vested Participants		
	957	995
Assets:³		
a. Market Value	\$ 645,795,635	\$ 554,303,423
b. Actuarial Value	\$ 624,082,110	\$ 579,147,800
Actuarial Accrued Liability	\$ 1,196,925,887	\$ 1,078,943,894
Unfunded actuarial accrued liability	\$ 572,843,777	\$ 499,796,094
Amortization Period	25 years	26 years
Contribution Rates for Year Beginning	October 1, 2018	October 1, 2017
Total Actuarially Determined Contribution (ADC) Rates		
a. Employer Contribution Rate	22.58%	20.14%
b. Employee Contribution Rate	<u>5.78%</u>	<u>5.82%</u>
c. Total Contribution Rate	28.36%	25.96%
County ADC		
a. Net Normal Cost Rate	5.54%	4.64%
b. Unfunded Accrued Liability Rate	<u>17.04%</u>	<u>15.50%</u>
c. Total County ADC	22.58%	20.14%

¹ Valuation compensation includes total salary for State Court Judges, including amounts subject to the State Judge Salary Limit.

² Retirees and beneficiaries covered under an annuity contract with CIGNA are not included above.

³ The assets do not include the CIGNA annuity contract amounts of \$1,600,000 as of December 31, 2017 and \$1,814,527 as of December 31, 2016.

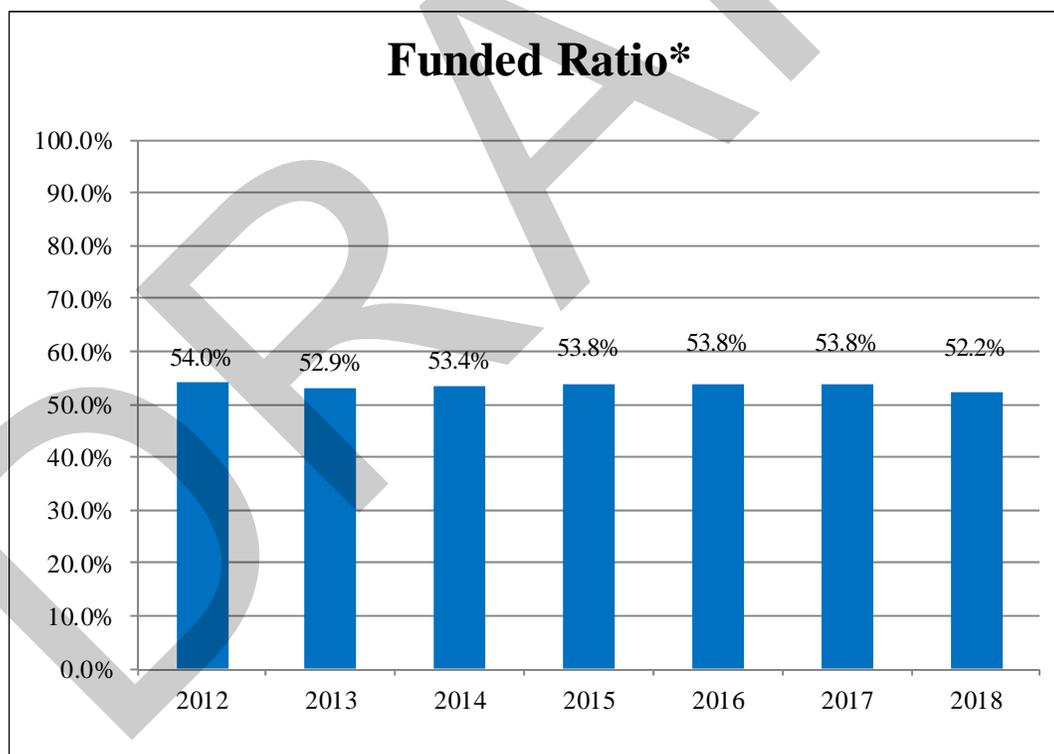


Section I - Summary of Principal Results

- A. The promised benefits of the Cobb County Government Employees' Pension Plan are included in the actuarially calculated contribution rates which are developed using the projected unit credit cost method. Gains and losses are reflected in the unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll over a 25 year period. The assumptions recommended by the actuary are in the aggregate reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan.

The valuation has been prepared in accordance with Georgia funding standards as set forth in Code Section 47-20-10 of the Georgia Public Retirement System Standards and the funding policy adopted by the County. The actuarially determined contribution (ADC) of the County for the year beginning October 1, 2018 is 22.58% of payroll, which is expected to liquidate the unfunded accrued liability over a 25-year period.

The following table represents the County's historical funded ratio for the past seven years. The funded ratio represents the percentage of the plan actuarial accrued liability that is covered by the actuarial value of plan assets as of the valuation date.



* The funded ratios above reflect the CIGNA annuity contract balances.



Section I - Summary of Principal Results

- B.** The major benefit and contribution provisions of the County as reflected in the valuation are summarized in Section VIII. Section IX provides a summary of recent plan provision changes during the last few plan years.

The following plan change was effective January 1, 2018 and are reflected in the current valuation:

- The employee contribution rate will change from 7.25% to 7.50% effective March 2018 for participants in the Traditional Plan. The employee contribution rate will increase over a 13 year period from 5.00% in 2009 to 8.75% in 2023.

The employee contribution rate change increased the member composite contribution rate by 0.14% of pay and decreased the County's contribution by 0.13% of pay.

- C.** Section VI of this report outlines the full set of actuarial assumptions and methods used in the valuation. Section VII provides a summary of recent changes during the last few plan years.

Since the previous valuation, an Experience Study was completed for the 5 year period ending December 31, 2016. As a result of the investigation, the following demographic assumptions were adopted by the Pension Board and changed effective January 1, 2018:

- 1) Pre-Retirement Mortality Table was updated to RP-2000 Employee projected to 2025 using scale BB with No Set back / Set forward
- 2) Post-retirement Mortality Table was updated to RP-2000 Combined projected to 2025 using scale BB; Set forward 2 years for both Male & Female lives
- 3) Retirement rates were updated for Public Safety and General Employees
- 4) Withdrawal rates were modified for both Public Safety and General Employees
- 5) Salary merit scale was updated for all members

The effect of the Experience Study changes resulted in an increase in the actuarial accrued liability of \$59,966,016 and increased the County's contribution rate by 2.93% of payroll.

There have been no other changes in actuarial assumptions and methods since the previous valuation.

- D.** The projected unit credit cost method was used to prepare the valuation. Section VI contains a brief description of the actuarial cost method.
- E.** Comments on the valuation results as of January 1, 2018 are given in Section I and further discussion of the contributions is set out in Section II.



Section I - Summary of Principal Results

Contributions Payable

- A. The Cobb County Government Employees' Pension Plan states that each participant shall contribute an amount equal to the Compensation multiplied by a specified percentage. Effective March 2018 the employee contribution rate will be set at 7.50% of compensation for employees participating in the Traditional Plan. For employees in the Hybrid Plan, the employee contribution rate is 3.00% of pay.
- B. The County contribution consists of two components. The first component is the normal cost. Under the projected unit credit cost method, the normal cost represents benefits that accrue over a one year period. Thus, for this year's valuation, this number represents the value of benefits accruing during the 2018 plan year. The normal cost is 11.32% of covered payroll. Of the 11.32% the employees are expected to pay 5.78% which leaves 5.54% as the employer normal rate.
- C. The second component of the County contribution is the amortization of the unfunded liability. According to the current Official Code of Georgia 47-20-10 the minimum funding standards are deemed to have been met if level percentage amortization is used and the employer contribution is equal to or greater than the annual required contribution as determined in accordance with the provisions of GASB No. 25 and No. 27 as in effect on June 15, 2013. On this basis, the amortization cost for the year beginning October 1, 2018 is 17.04% of covered payroll based on a 25 year amortization.
- D. The total required contribution to the Plan for the year beginning October 1, 2018 is 28.36% of covered payroll. The employee portion of this required contribution is 5.78% of covered payroll, while the County's portion of this required contribution is 22.58% of covered payroll.
- E. The following table summarizes the employer contribution which was determined as of January 1, 2018.

**County Actuarially Determined Contribution (ADC)
For Year Beginning October 1, 2018**

Contribution	Percentage of Active Participants' Compensation
a. Net Normal Cost Rate	5.54%
b. Unfunded Accrued Liability Rate	<u>17.04%</u>
c. Total County Contribution Rate	22.58%



Section I - Summary of Principal Results

- F. The employer contribution rate has increased from 20.14% in last year's valuation to 22.58% in the current valuation. The principal reason for the contribution rate increase was the Experience Study investigation for the 5 year period ending December 31, 2016.

Assets

- A. As of January 1, 2018 the total market value of assets amounted to \$645,795,635. The actuarial value of assets used for the current valuation was \$624,082,110. Section IV shows the development of the actuarial value of assets as of January 1, 2018. The method for determining the Actuarial Value of Assets recognizes investment gains and losses over a five year period. The Plan assets exclude the value of the CIGNA annuity contract of \$1,600,000 as of January 1, 2018. Asset information was provided by the Plan's Custodian.

Comments on the Valuation

- A. Section II of this report contains the valuation balance sheet which shows the present assets and liabilities of the Plan as of January 1, 2018. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method set forth in Section VI. The valuation balance sheet shows that the Plan has a total actuarial accrued liability of \$1,196,925,887. The liability on account of present retired participants and beneficiaries of deceased participants is \$660,279,214. Terminated participants account for \$41,149,949 of the liability and \$495,496,724 of the actuarial accrued liability is associated with the active participants. Against these liabilities, the Plan has actuarial value of assets of \$624,082,110 as of January 1, 2018.

There remains \$572,843,777 as the amount of unfunded accrued liability. The amount necessary to fully amortize the unfunded liability over a 25 year period is 17.04% of payroll. The development of the unfunded accrued liability is shown in Section II.

The normal cost contribution rate is equal to the actuarial present value of benefits accruing during the current year divided by the annual active participant's payroll. For the 2018 plan year the total normal cost contribution rate is determined to be 11.32% of payroll and is determined under the projected unit credit method.

- B. The valuation does not included actuarial liabilities or assets with respect to retiree and beneficiary benefits payable from a CIGNA annuity contract. The valuation does include cost-of-living increases payable from the Plan with respect to these retirees and beneficiaries.



Section II - Plan Contribution Development

Normal Cost

The Normal Cost component of the contribution represents active participant benefits accruing during the 2018 plan year. The following tables show the Normal Cost attributable to plan benefits under the current plan.

	January 1, 2018	January 1, 2017
1. Normal Cost (End of Year)		
a. Retirement Benefits	\$ 25,416,356	\$ 21,627,145
b. Termination Benefits	1,467,548	1,578,741
c. Death Benefits	<u>463,916</u>	<u>519,976</u>
d. Total	\$ 27,347,820	\$ 23,725,862
2. Valuation Payroll	\$241,522,135	\$ 226,975,245
3. Normal Cost as a Percent of Payroll (1) ÷ (2)	11.32%	10.46%

Normal Cost by Employee/Employer and Plan Type			
	Total	Employee	Employer
1. Normal Cost Dollar Amount (End of Year)			
a. Traditional Plan	\$24,543,264	\$11,335,360	\$13,207,904
b. Hybrid Plan	2,777,842	2,615,273	162,569
c. Judges Plan	<u>26,714</u>	<u>0</u>	<u>26,714</u>
d. Total	\$27,347,820	\$13,950,633	\$13,397,187
2. Valuation Payroll			
a. Traditional Plan	\$151,982,475	\$151,982,475	\$151,982,475
b. Hybrid Plan	87,175,763	87,175,763	87,175,763
c. Judges Plan	<u>2,363,897</u>	<u>2,363,897</u>	<u>2,363,897</u>
d. Total	\$241,522,135	\$241,522,135	\$241,522,135
3. Normal Cost as a Percent of Payroll			
a. Traditional Plan [1(a) / 2(a)]	16.15%	7.46%	8.69%
b. Hybrid Plan [1(b) / 2(b)]	3.19%	3.00%	0.19%
c. Judges Plan [1(c) / 2(c)]	<u>1.13%</u>	<u>0.00%</u>	<u>1.13%</u>
d. Total [1(d) / 2(d)]	11.32%	5.78%	5.54%



Section II - Plan Contribution Development

Actuarial Accrued Liability

The Actuarial Accrued Liability represents the obligations of the plan as of the valuation date for active and inactive participant benefits. The following table shows the components of the liability.

	January 1, 2018	January 1, 2017
1. Actuarial Accrued Liability		
a. Inactive Participants		
i. Retired Participants and Beneficiaries	\$ 660,279,214	\$ 601,688,031
ii. Terminated Vested Participants Deferred	41,149,949	39,203,674
iii. Total Inactive	<u>701,429,163</u>	<u>640,891,705</u>
b. Active Participants		
i. Traditional & Judges Plan	\$ 484,824,793	\$ 430,308,977
ii. Hybrid Plan	10,671,931	7,743,212
iii. Total Active	<u>495,496,724</u>	<u>438,052,189</u>
2. Total Actuarial Accrued Liability	\$ 1,196,925,887	\$ 1,078,943,894



Section II - Plan Contribution Development

Development of the Unfunded Actuarial Accrued Liability

The Unfunded Actuarial Accrued Liability represents the Actuarial Accrued Liability less the Actuarial Value of Assets. The Unfunded Accrued Liability as of January 1, 2018 is \$572,843,777. In other words, the plan liabilities exceed the plan assets by this amount as of the valuation date. The following table shows the components of the Unfunded Actuarial Accrued Liability of the plan.

	January 1, 2018	January 1, 2017
1. Actuarial Accrued Liability		
a. Present Active Participants	\$ 495,496,724	\$ 438,052,189
b. Present retired participants, beneficiaries and terminated participants entitled to deferred vested benefits	<u>701,429,163</u>	<u>640,891,705</u>
c. Total	\$1,196,925,887	\$1,078,943,894
2. Actuarial Value of Assets	\$ 624,082,110	\$ 579,147,800
3. Unfunded Actuarial Accrued Liability (1c.) - (2)	\$572,843,777	\$499,796,094



Section II - Plan Contribution Development

Development of the Unfunded Actuarial Accrued Liability *(Continued)*

(1) Unfunded Accrued Liability (UAL) as of January 1, 2017	\$ 499,796,094
(2) Interest at 7.50%	37,484,707
(3) Expected unfunded accrued liability contribution at end of year	35,190,371
(4) Expected UAL at January 1, 2018 (1) + (2) - (3)	502,090,430
(5) Actual UAL at January 1, 2018	572,843,777
(6) Total Gain / (Loss) (4) - (5)	(70,753,347)
(7) Actuarial Asset Gain / (Loss)	7,379,365
(8) Contribution Surplus / (Shortfall)	2,121,177
(9) Plan Changes	1,360
(10) Assumption and Method Changes	(59,966,016)
(11) Liability Gain / (Loss) * (6) - (7) - (8) - (9) - (10)	\$ (20,289,233)

* 1.7% of total actuarial accrued liability



Section II - Plan Contribution Development

Analysis of Total Gain / (Loss) January 1, 2017 to January 1, 2018 (\$ Millions)

(1)	Actuarial assets (return of 8.78%)	\$ 7.4
(2)	Contribution surplus (shortfall) due to timing	2.1
(3) a.	Salary less (more) than expected	(9.1)
b.	Retirements and benefits different than expected	(5.6)
c.	New Plan participants	(0.6)
d.	Mortality	(2.7)
e.	Termination	(2.7)
f.	Data changes	0.0
g.	Rehires	0.8
h.	Miscellaneous	<u>(0.4)</u>
i.	Liability Gain/(Loss)	(20.3)
(4)	Plan changes	0.0
(5)	Assumption and method changes	(60.0)
(6)	Total Gain/(Loss) [item (1) + (2) + (3)i. + (4) + (5)]	<u>\$ (70.8)</u>



Section II - Plan Contribution Development

Development of the Annual Contribution

The following exhibits show the development of the annual contribution. This contribution was developed using level percent of pay amortization of the unfunded liability with a closed amortization period.

	January 1, 2018	January 1, 2017
1. Actuarial Accrued Liability		
a. Active Participants	\$ 495,496,724	\$ 438,052,189
b. Retirees & Beneficiaries	660,279,214	601,688,031
c. Deferred Vested	<u>41,149,949</u>	<u>39,203,674</u>
d. Total	\$ 1,196,925,887	\$ 1,078,943,894
2. Covered Compensation for Active Participants	\$ 241,522,135	\$ 226,975,245
3. Actuarial Value of Assets	\$ 624,082,110	\$ 579,147,800
4. Unfunded Actuarial Accrued Liability	\$ 572,843,777	\$ 499,796,094
5. Amortization of Item (4) as a Percent of Covered Payroll	17.04%	15.50%
6. Normal Cost as a Percent of Covered Payroll	11.32%	10.46%
7. Total Contribution Rates		
a. Employer Contribution Rate	22.58%	20.14%
b. Estimated Employee Contribution Rate	<u>5.78%</u>	<u>5.82%</u>
c. Total Contribution Rate to the Plan	28.36%	25.96%
8. County ADC		
a. Net Normal Cost Rate	5.54%	4.64%
b. Unfunded Accrued Liability Rate	<u>17.04%</u>	<u>15.50%</u>
c. Total County ADC	22.58%	20.14%



Section II - Plan Contribution Development

Valuation Balance Sheet

The actuarial value of assets and actuarial accrued liabilities of the Plan as of January 1, 2018.

1. Actuarial Accrued Liabilities		
Active Participants		
a. Retirement	\$ 476,705,209	
b. Termination	12,342,545	
c. Death	<u>6,448,970</u>	
d. Total		\$ 495,496,724
Inactive Participants		
a. Retiree	\$ 637,101,990	
b. Deferred Vested	41,149,949	
c. Survivor	<u>23,177,224</u>	
d. Total		\$ 701,429,163
Total Actuarial Accrued Liabilities		\$ 1,196,925,887
2. Assets		
Actuarial Value of Assets		\$ 624,082,110
3. Unfunded Actuarial Accrued Liability		
(item 1 - item 2)		\$ 572,843,777



Section III – Additional Disclosures

Governmental Accounting Standards Board (GASB) sets forth certain items of required supplementary information and notes to be disclosed in the financial statements of the employer. The following exhibits are necessary for public sector defined benefit plans financial statements:

A. Plan Description:

The Cobb County Government Employees’ Pension Plan is a single-employer defined benefit plan and the contributing entity is Cobb County. The employees covered are general employees and public safety employees. The Plan provides retirement benefits to participants according to provisions of the plan document normally in the form of a life annuity. The Plan may be amended at any time, at the sole discretion of the County.

The distribution of the number of employees by type of membership is as follows:

Number of Participants as of January 1, 2018	
1. Retired participants and beneficiaries currently receiving benefits*	2,438
2. Terminated participants entitled to benefits but not yet receiving benefits	957
3. Active Participants	<u>4,233</u>
4. Total	<u>7,628</u>

* Retirees and beneficiaries as of January 1, 2018 covered under an annuity contract with CIGNA are not included in the above counts.

B. Actuarial Methods and Assumptions are as follows:

Valuation date	January 1, 2018
Actuarial cost method	Projected Unit Credit
Amortization method	Level Percent of Pay – Closed
Remaining amortization period	25 years
Asset valuation method	Five-year smoothed market value
Actuarial assumptions:	
Investment rate of return (includes inflation)	7.50%
Projected salary increases (includes inflation)	3.00-4.00% depending on age
Inflation	2.50%



Section III – Additional Disclosures

C. Required Supplemental Information for the purpose of Financial Statements as of January 1, 2018

Schedule of Funding Progress

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
January 1, 2018	\$ 625,682,110	\$ 1,198,525,887	\$ 572,843,777	52.2%	\$ 241,522,135	237.2%
January 1, 2017	580,962,327	1,080,758,421	499,796,094	53.8%	226,975,245	220.2%
January 1, 2016	543,806,316	1,011,120,170	467,313,854	53.8%	220,949,172	211.5%
January 1, 2015	509,457,081	947,634,599	438,177,518	53.8%	214,354,687	204.4%
January 1, 2014	466,937,665	873,883,393	406,945,728	53.4%	208,332,028	195.3%
January 1, 2013	415,560,738	785,084,489	369,523,751	52.9%	207,329,285	178.2%
January 1, 2012	395,959,512	733,366,015	337,406,503	54.0%	203,902,310	165.5%

The actuarial value of assets and the actuarial accrued liability above include the following CIGNA annuity contract balances:

Actuarial Valuation Date	CIGNA Annuity Contract Balances
January 1, 2018	\$ 1,600,000
January 1, 2017	1,814,527
January 1, 2016	2,069,526
January 1, 2015	2,346,370
January 1, 2014	2,644,766
January 1, 2013	2,964,130
January 1, 2012	3,303,601



Section IV – Assets

Reconciliation of Market Value of Assets*

1. Market Value of Assets as of January 1, 2017	\$	554,303,423
2. Expenditures		
a. Benefit Payments	\$	(64,200,296)
b. Administrative Expenses		(299,512)
c. Total	\$	(64,499,808)
3. Income		
a. Employer Contributions	\$	45,631,887
b. Employee Contributions		13,153,585
c. Other Receipts		45,767
d. Total	\$	58,831,239
4. Investment Income		
a. Investment gains/losses	\$	98,693,046
b. Investment expense		(1,532,265)
c. Total	\$	97,160,781
5. Asset Adjustment		0
6. Market Value of Assets as of January 1, 2018	\$	645,795,635
7. Estimated Rate of Return on Market Value of Assets [(2 x 4.c.) / (1. + 6. - 4.c.)]		17.62%

* The amounts above do not include the CIGNA annuity contract amounts of \$1,600,000 as of December 31, 2017 and \$1,814,527 as of December 31, 2016.



Section IV - Assets

Development of Actuarial Value of Assets

The actuarial value of assets recognizes assumed investment income (line 5c) fully each year. Differences between actual and assumed investment income (line 5d) are phased in over a closed 5 year period. During periods when investment performance exceeds the assumed rate, the actuarial value will tend to be less than market value. During periods when investment performance is less than assumed, the actuarial value will tend to be greater than the market value.

Valuation Date January 1:		2017	2018	2019	2020	2021	2022
1.	Actuarial Value Beginning of Year	\$ 541,736,790	\$ 579,147,800				
2.	Market Value End of Year	\$ 554,303,423	\$ 645,795,635				
3.	Market Value Beginning of Year	\$ 526,392,135	\$ 554,303,423				
4.	Cash Flow						
	a. Contributions	\$ 55,360,114	\$ 58,785,472				
	b. Other Revenue	256,222	45,767				
	c. Benefit Payments	(59,257,197)	(64,200,296)				
	d. Administrative Expenses	(238,018)	(299,512)				
	e. Investment Expenses	(1,475,841)	(1,532,265)				
	f. Net	\$ (5,354,720)	\$ (7,200,834)				
5.	Investment Income						
	a. Market Total	\$ 33,266,008	\$ 98,693,046				
	b. Assumed Rate	7.60%	7.50%				
	c. Amount for Immediate Recognition	41,334,246	42,892,450				
	d. Amount for Phased-In Recognition	\$ (8,068,238)	\$ 55,800,596				
6.	Phased-In Recognition of Investment Income						
	a. Current Year: 0.20 *5.d.	\$ (1,613,648)	\$ 11,160,119	\$ 0	\$ 0	\$ 0	\$ 0
	b. First Prior Year	(8,385,613)	(1,613,648)	11,160,119	0	0	0
	c. Second Prior Year	(1,314,780)	(8,385,613)	(1,613,648)	11,160,119	0	0
	d. Third Prior Year	9,396,616	(1,314,780)	(8,385,613)	(1,613,648)	11,160,119	0
	e. Fourth Prior Year	3,348,909	9,396,616	(1,314,780)	(8,385,613)	(1,613,648)	11,160,119
	f. Total Recognized Investment Gain	\$ 1,431,484	\$ 9,242,694	\$ (153,922)	\$ 1,160,858	\$ 9,546,471	\$ 11,160,119
7.	Preliminary Actuarial Value End of Year	\$ 579,147,800	\$ 624,082,110				
8.	Actuarial Value Corridor						
	a. 80% of Market Value End of Year	\$ 443,442,738	\$ 516,636,508				
	b. 120% of Market Value End of Year	\$ 665,164,108	\$ 774,954,762				
9.	Final Actuarial Value End of Year [7. not less than 8.a. or greater than 8.b.]	\$ 579,147,800	\$ 624,082,110				
10.	Difference Between Market & Actuarial Values	\$ (24,844,377)	\$ 21,713,525	\$ 21,867,448	\$ 20,706,590	\$ 11,160,119	\$ -
11.	Rate of Return on Actuarial Value	7.65%	8.78%				



Section V - Data

- A. Data regarding the participants in the Plan for use as a basis of the valuation were furnished by the County and plan administrator. The valuation included active participants with annualized compensation totaling \$241,522,135.
- B. The following table shows the number of retired participants and beneficiaries as of January 1, 2018 together with the amount of their annual retirement benefits payable under the Plan as of that date.

**The Number and Average Annual Benefits of
Retired Participants and Beneficiaries
as of January 1, 2018**

Group	Number*	Average Annual Benefits*
Service Retirements	2,254	\$ 28,291
Beneficiaries of Deceased Members	<u>184</u>	<u>13,378</u>
Total	2,438	\$ 27,166

* Retirees and beneficiaries as of January 1, 2018 covered under an annuity contract with CIGNA are not included in the above.

- C. Table 1 on the next page shows the distribution by age and years of service of the number of active participants included in the valuation, while Table 2 shows the number and annual benefits of retired participants and beneficiaries included in the valuation, distributed by age. Table 3 shows the reconciliation of valuation data from last year's valuation carried forward to this year's valuation. Table 4 provides a breakdown of vested and non-vested active participants as of the valuation date.



Section V - Data

Table 1: Distribution of Active Participants by Age and Service Groups as of January 1, 2018

Attained Age	Completed Years of Service									
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 or More	Total
Under 25	106	95	2							203
Average Pay	37,712	39,030	32,985							38,282
25 to 29	128	313	70	3						514
Average Pay	38,658	42,945	48,764	53,810						42,734
30 to 34	73	205	148	84	3					513
Average Pay	39,774	45,634	51,632	55,997	53,181					48,272
35 to 39	48	126	119	152	67	1				513
Average Pay	40,187	47,754	53,036	61,626	67,525	93,019				55,052
40 to 44	30	90	74	131	159	58				542
Average Pay	45,872	47,810	54,538	62,655	68,208	75,668				61,174
45 to 49	27	81	65	119	190	144	71	3		700
Average Pay	40,010	57,197	54,990	61,709	69,307	76,551	81,658	62,424		66,868
50 to 54	19	55	76	84	112	94	113	20	1	574
Average Pay	44,159	48,140	51,345	62,873	62,203	72,344	86,529	80,016	119,943	66,090
55 to 59	20	51	46	76	82	48	29	9	5	366
Average Pay	55,070	43,726	49,476	58,198	66,236	65,105	84,105	93,430	70,879	60,713
60 to 64	11	23	42	47	53	29	13	5	3	226
Average Pay	40,103	44,700	52,385	58,433	57,151	74,858	70,042	70,146	85,822	58,117
65 to 69	2	5	10	17	13	12	5	2	1	67
Average Pay	133,003	73,231	46,649	61,964	66,523	82,950	66,638	113,178	62,974	69,175
70 & up	1	1	3	5	3		1		1	15
Average Pay	82,675	34,974	40,550	50,538	56,194		64,473		165,995	59,402
Total Count	465	1,045	655	718	682	386	232	39	11	4,233
Average Pay	40,785	45,708	51,922	60,641	66,214	74,085	83,288	82,194	87,343	57,057



Section V - Data

Table 2: Number of Retired Participants and Beneficiaries and their Benefits as of January 1, 2018

Attained Age	Number of Members	Total Annual Benefits	Average Annual Benefit
50 & Under	24	\$ 740,156	\$ 30,840
51 – 55	231	10,041,944	43,472
56 – 60	351	13,589,849	38,718
61 – 65	487	14,491,542	29,757
66 – 70	532	13,261,925	24,928
71 – 75	379	8,032,708	21,194
76 – 80	244	3,851,373	15,784
Over 80	190	2,220,041	11,684
Total	2,438	\$ 66,229,538	\$ 27,166

* Retirees and beneficiaries as of January 1, 2018 covered under an annuity contract with CIGNA are not included in the above.



Section V - Data

Table 3: Reconciliation of Plan Participants as of January 1, 2018

	Active Participants	Inactive Participants with Deferred Benefits	Inactive Participants Receiving Benefits	Total
January 1, 2017	4,136	995	2,295	7,426
Retirements	(125)	(34)	159	
Deaths	(5)		(19)	(24)
Terminations (Refunded)	(208)	(34)		(242)
Non-Vested Terminations (Not Refunded)	(1)	1		
Vested Terminations (Not Refunded)	(37)	37		
Rehires	25	(9)	(1)	15
Benefits Expired			(1)	(1)
New Entrants	448			448
New Beneficiaries			5	5
Data Adjustments		1		1
Net Change	97	(38)	143	202
January 1, 2018	4,233	957	2,438	7,628



Section V - Data

Table 4: Number of Vested and Non-Vested Plan Participants as of January 1, 2018

Number of Vested & Non-Vested Participants as of January 1, 2018			
	Vested	Non-Vested	Totals
Traditional Plan	2,198	101	2,299
Hybrid Plan	35	1,881	1,916
Judges	<u>13</u>	<u>5</u>	<u>18</u>
Totals	2,246	1,987	4,233

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Section VI - Actuarial Assumptions and Methods

A. Investment Return:

7.50% per year, compounded annually, net of expenses paid by trust.

B. Salary Increases:

- Representative values of the assumed annual rates of salary increases for Public Safety and General Employees are shown in the following table.

Age	Annual Increase*
20	4.00%
25	4.00
30	4.00
35	3.50
40	3.25
45	3.25
50 & Over	3.00

* Includes allowance for inflation of 2.5% per year

- Salary increases for Superior Court and State Court Judges are assumed to be 4.5% annually

C. Mortality:

Pre-retirement mortality:

RP-2000 Employee projected to 2025 using scale BB, sex distinct
No Set back / Set forward

Post-retirement mortality:

RP-2000 Combined projected to 2025 using scale BB, sex distinct
Set forward 2 years for both Male & Female lives



Section VI - Actuarial Assumptions and Methods

D. Separation From Active Service:

Representative values of the assumed annual rates of withdrawal are shown in the following tables.

General Employees – Male

Age	Years of Service											
	< 1	1	2	3	4	5	6	7	8	9	10	11+
20	30.00%	25.00%	20.00%	13.00%	12.00%	12.00%	10.00%	10.00%	6.00%	6.00%	6.00%	4.00%
25	27.00	25.00	20.00	13.00	12.00	12.00	10.00	10.00	6.00	6.00	6.00	4.00
30	26.00	25.00	20.00	13.00	12.00	12.00	10.00	10.00	6.00	6.00	6.00	4.00
35	25.00	20.00	15.00	13.00	12.00	10.50	10.00	10.00	6.00	6.00	6.00	3.00
40	24.00	17.50	13.00	13.00	12.00	9.00	9.00	9.00	5.00	5.00	5.00	2.00
45	20.00	15.00	10.00	9.00	7.00	6.00	8.00	8.00	4.00	4.00	4.00	2.00
50	15.00	12.50	8.00	8.00	5.00	3.00	5.00	5.00	3.00	3.00	3.00	2.00
55	7.50	8.00	6.00	7.00	5.00	2.00	3.00	3.00	2.00	2.00	2.00	1.50
60	2.50	4.00	3.00	6.00	5.00	1.50	1.50	1.50	1.00	1.00	1.00	1.00
65	0.00	0.00	0.00	5.00	5.00	1.00	1.00	1.00	0.50	0.50	0.50	0.25

General Employees – Female

Age	Years of Service											
	< 1	1	2	3	4	5	6	7	8	9	10	11+
20	30.00%	22.50%	17.00%	17.00%	14.00%	12.00%	9.00%	9.00%	9.00%	7.00%	6.00%	4.50%
25	30.00	22.50	17.00	17.00	14.00	12.00	9.00	9.00	9.00	7.00	6.00	4.50
30	30.00	22.50	17.00	17.00	13.00	12.00	9.00	8.00	8.50	7.00	6.00	4.50
35	30.00	22.50	13.00	15.00	9.00	12.00	7.50	7.00	7.50	7.00	6.00	3.75
40	25.00	22.50	9.00	9.00	7.00	10.50	6.50	6.00	6.00	6.00	5.00	2.75
45	20.00	16.00	9.00	7.00	7.00	7.00	5.50	4.50	4.50	4.50	4.00	2.00
50	15.00	12.00	9.00	6.00	6.00	6.00	4.50	3.00	3.50	3.50	3.00	1.50
55	15.00	8.00	9.00	5.00	5.00	5.00	3.50	2.00	2.00	2.00	2.00	1.00
60	15.00	8.00	9.00	4.00	4.00	4.00	2.50	1.00	1.50	1.50	1.00	0.75
65	15.00	8.00	9.00	4.00	4.00	4.00	1.50	0.50	0.50	0.50	0.50	0.50



Section VI - Actuarial Assumptions and Methods

Public Safety

Age	Years of Service											
	< 1	1	2	3	4	5	6	7	8	9	10	11+
20	15.00%	8.00%	10.00%	8.00%	7.50%	5.00%	6.50%	6.00%	2.50%	3.50%	2.50%	2.50%
25	15.00	8.00	10.00	8.00	7.50	5.00	6.50	6.00	2.50	3.50	2.50	2.50
30	15.00	8.00	10.00	8.00	7.50	5.00	6.50	5.00	2.50	3.50	2.50	2.50
35	15.00	8.00	10.00	8.00	7.50	5.00	6.50	4.00	2.50	3.50	2.50	2.35
40	15.00	8.00	10.00	8.00	7.50	5.00	6.50	3.00	2.50	3.50	2.50	1.25
45	15.00	8.00	10.00	8.00	7.50	5.00	6.50	2.00	2.50	3.50	2.50	0.85
50	15.00	8.00	10.00	8.00	7.50	5.00	6.50	1.00	2.50	3.50	2.50	0.25

Superior Court and State Court Judges

Age	Rate
20	4.0%
25	4.0
30	4.0
35	4.0
40	6.0
45	4.0
50	3.0
55	2.5
60	2.5
65	2.5



Section VI - Actuarial Assumptions and Methods

Representative values of the assumed annual rates of retirement are shown in the following tables.

Traditional & Hybrid Plan General Employees hired prior to January 1, 2007

Age	Years of Service				
	10	15	20	25	30
50	0.0%	0.0%	0.0%	0.0%	60.0%
55	5.0	5.0	5.0	35.0	20.0
60	5.0	5.0	35.0	5.0	5.0
65	35.0	35.0	35.0	35.0	35.0
66	31.0	31.0	31.0	31.0	31.0
67	27.5	27.5	27.5	27.5	27.5
68	27.5	27.5	27.5	27.5	27.5
69	27.5	27.5	27.5	27.5	27.5
70	100.0	100.0	100.0	100.0	100.0

Traditional & Hybrid Plan General Employees hired on or after January 1, 2007

Age	Years of Service				
	10	15	20	25	30
55	5.0%	5.0%	5.0%	35.0%	35.0%
60	5.0	5.0	35.0	5.0	5.0
65	35.0	35.0	35.0	35.0	35.0
66	31.0	31.0	31.0	31.0	31.0
67	27.5	27.5	27.5	27.5	27.5
68	27.5	27.5	27.5	27.5	27.5
69	27.5	27.5	27.5	27.5	27.5
70	100.0	100.0	100.0	100.0	100.0



Section VI - Actuarial Assumptions and Methods

Traditional & Hybrid Plan Public Safety Employees hired prior to January 1, 2007

Age	Years of Service				
	10	15	20	25	30
50	0.0%	0.0%	0.0%	0.0%	70.0%
55	7.5	7.5	7.5	50.0	25.0
60	3.5	3.5	45.0	25.0	25.0
65	50.0	50.0	50.0	50.0	50.0
66	50.0	50.0	50.0	50.0	50.0
67	100.0	100.0	100.0	100.0	100.0

Traditional & Hybrid Plan Public Safety hired on or after January 1, 2007

Age	Years of Service				
	10	15	20	25	30
55	7.5%	7.5%	7.5%	50.0%	50.0%
60	3.5	3.5	45.0	25.0	25.0
65	50.0	50.0	50.0	50.0	50.0
66	50.0	50.0	50.0	50.0	50.0
67	100.0	100.0	100.0	100.0	100.0



Section VI - Actuarial Assumptions and Methods

Superior Court and State Court Judges

Age	Rate
60	15%
61	10
62	12
63-64	10
65-69	15
70-74	25
75	100

E. Actuarial Value of Assets:

The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected market value of assets, based on the assumed valuation rate. The amount recognized each year is 20% of the difference between market value and expected market value. The actuarial value of assets cannot be less than 80% or greater than 120% of market value.

F. Actuarial Cost Method:

Projected Unit Credit. This cost method measures past service liabilities as the actuarial present value of benefits accrued for service up to the valuation date, but based on salaries projected to the date of assumed retirement for the plan.

Effective January 1, 2013, the unfunded actuarial accrued liabilities are amortized over a closed 30-year period assuming annual total payroll growth of 2.5%.

G. Percent Married:

For the purposes of valuing the spouse pre-retirement survivor annuity, 90% of the plan participants are assumed married with males three years older than females.



Section VII - Actuarial Assumption & Method Changes

The following assumptions have been changed during the last few plan years:

1. Effective January 1, 2007:
 - a. Inflation rate was changed from 4% to 3%.
 - b. Salary merit scale was changed to 0-2% depending on age of participant
2. Effective January 1, 2008:
 - a. The actuarial value of assets method was changed to recognize the difference between actual and expected market value of assets over a five year period.
 - b. The mortality table was updated to RP 2000.
 - c. Rates of retirement were increased.
 - d. The unfunded actuarial accrued liability was consolidated and will be amortized over an open 30-year period.
3. Effective January 1, 2011:
 - a. Inflation rate was changed from 3% to 2.5% per year.
 - b. Annual rates of salary increases were decreased by 1%, with a minimum salary increase of 2.5% per year.
 - c. Payroll growth assumption used to amortize the unfunded actuarial accrued liability was changed from 3% to 2.5% per year.
4. Effective January 1, 2013:
 - a. The investment return assumption was decreased from 8% to 7.9% per year. The investment return assumption will be decreased by 0.1% per year until reaching 7.5% effective with the January 1, 2017 valuation.
 - b. The method to amortize the unfunded actuarial accrued liability was changed from an open 30 year period to a closed 30 year period effective January 1, 2013.
5. Effective January 1, 2014:
 - a. As a result of the Experience Study for the 5 year period ending December 31, 2012, the following assumptions were changed:
 - 1) Pre-retirement Mortality Table was updated to RP-2000 Employee projected to 2013 with set forward 4 years for Male Lives and set back 2 years for Female Lives
 - 2) Retirement rates were updated for Public Safety and General Employees
 - 3) Withdrawal rates were modified for both Public Safety and General Employees



Section VII - Actuarial Assumption & Method Changes

6. Effective January 1, 2018:
 - a. As a result of the Experience Study for the 5 year period ending December 31, 2016, the following assumptions were changed:
 - 1) Pre-Retirement Mortality Table was updated to RP-2000 Employee projected to 2025 using scale BB with No Set back / Set forward
 - 2) Post-retirement Mortality Table was updated to RP-2000 Combined projected to 2025 using scale BB; Set forward 2 years for both Male & Female lives
 - 3) Retirement rates were updated for Public Safety and General Employees
 - 4) Withdrawal rates were modified for both Public Safety and General Employees
 - 5) Salary merit scale was updated for all members

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Section VIII – Plan Provisions

A. Effective Date

January 1, 1971

B. Participation

Any Employee who is employed in the Eligible Class shall be a participant in this plan. An individual is in the Eligible Class at any time if he or she is an Employee and:

- a) does not participate in any retirement plan sponsored by the State of Georgia under which contributions are made in his/her behalf; or
- b) is an elected Commissioner of Cobb County; or
- c) is employed by the Cobb County District Attorney's Office.

C. Accrued Benefit

The pension payable at normal retirement based on the Participant's Final Average Compensation and Credited Service at the date of determination.

D. Credited Service

The period of a Participant's service that is used to determine his/her eligibility for benefits under the Plan and the amount of benefits payable, excluding service in excess of 35 years. Service prior to December 16, 1984 is excluded for employees employed by Marietta-Cobb Community Service Center prior to that date. Service prior to February 1, 1997 is excluded for former employees of the City of Marietta 911 Services who had already vested with the City's retirement plan prior to that date. Service prior to January 1, 2005 is excluded for former employees of the City of Kennesaw Water and Sewer Department who had already vested with the City's retirement plan prior to that date. A Participant will be granted Credited Service for unused Sick Leave after reaching the retirement eligibility (Normal, Early, Late, or Rule of 80) at the time of retirement in accordance with the following schedule, provided they have made contributions for at least one year.

Unused Hours of Sick Leave

<u>40 Hour</u>	<u>56 Hour</u>	<u>Credited Service</u>
Less than 173 hours	Less than 242 hours	0
173-345	243-484	1/12
346-519	485-727	2/12
520-692	728-969	3/12
693-865	970-1,212	4/12
866-1,039	1,213-1,455	5/12
1,040 or more hours	1,456 or more hours	6/12



Section VIII – Plan Provisions

E. Compensation

The Participant's W-2 earnings including salary reduction amounts.

F. Final Average Compensation (FAC)

For participants hired before January 1, 2009, the average of the 5 highest consecutive years of compensation out of the last 10 years, provided that the final average compensation used shall not be less than the 3 year final average compensation calculated as of December 31, 2008. However, any participant who has met all of the requirements to be eligible to retire under the Normal Retirement or Rule of 80 provisions as of December 31, 2008 shall always be calculated using the 3 highest consecutive years of compensation.

For employees hired on or after January 1, 2009, the final average compensation will consist of the average of the 5 highest consecutive years of compensation out of the last 10 years.

For employees hired on or after January 1, 2010 and any employee hired prior to this date who elected to enter the Hybrid Plan, no overtime will be used in the final average compensation calculation.

G. Normal Retirement Pension

Eligibility

For employees hired before January 1, 2009, the first day of the calendar month coinciding with or next following the participant's 65th birthday, or if later, the day the participant completes 7 years of service. However, for any participant who has met all of the requirements to be eligible to retire under the Normal Retirement or Rule of 80 provisions as of December 31, 2008, the Normal Retirement Date shall remain the later of age 65 and the completion of 5 years of service.

For employees hired on or after January 1, 2009, the later of age 65 or 10 years of service.

For employees hired on or after January 1, 2010, the later of Social Security Normal Retirement Age or 10 years of service.



Section VIII – Plan Provisions

Benefit Amount

For employees hired before January 1, 2010, 2.5% of a participant's FAC multiplied by years of Credited Service.

For employees hired before January 1, 2010 who elected to enter the Hybrid Plan, 2.5% of FAC multiplied by years of Credited Service up to December 31, 2009 plus 1.0% of FAC multiplied by years of Credit Service accrued after December 31, 2009.

For employees hired on or after January 1, 2010, 1.0% of FAC multiplied by years of Credited Service.

Credited service cannot exceed 35 years for all Participants. A Participant's benefit shall not be less than \$76 multiplied by the Participant's total years of Credited Service.

H. Rule of 80 Retirement

Eligibility

For employees hired before January 1, 2007, age and service must total 80.

Employees hired on or after January 1, 2007 will only qualify for the Rule of 80 if they reach a minimum of age 55 or 35 years of service in addition to satisfying the other requirements.

Benefit Amount

Normal Retirement Pension

I. Early Retirement Pension

Eligibility

For employees hired before January 1, 2009, age 55 and 7 years of service.

For employees hired on or after January 1, 2009, age 55 and 10 years of service.

Benefit Amount

Normal Retirement Pension accrued to Early Retirement Date, reduced for the number of years the Early Retirement Date precedes the Normal Retirement Date.



Section VIII – Plan Provisions

J. Late Retirement Pension

Eligibility

Date participant actually retires from employment with the County after his/her Normal Retirement Date.

Benefit Amount

Computed as the sum of:

- a) The Participant's Accrued Benefit as of the Participant's Retirement Date based only upon the Credited Service and Final Average Compensation as of their Normal Retirement Date.
- b) The sum of the greater, determined for each Plan Year (or portion thereof) ending after the Participant's Normal Retirement Date:
 - i. The excess, if any, of (a) the Accrued Benefit as of the end of such Plan Year over (b) the Accrued Benefit as of the immediately preceding Plan Year, but with such excess being reduced (but not below zero) by (c) the actuarial value of any benefit payments made or due to be made from the Plan during such Plan Year, or
 - ii. The excess, if any, of (a) the Accrued Benefit as of the end of the immediately preceding Plan Year adjusted by the applicable late retirement Adjustment Factor over (b) the Accrued Benefit as of the immediately preceding Plan Year.



Section VIII – Plan Provisions

K. Pre-Retirement Spouse Death Benefit

Active Employees

Eligibility

Seven years of service (or 10 depending on date of hire) and has been married one full year prior to death. If the Participant was killed in the line of duty, there is no minimum service requirement.

Benefit Amount

45% of the Participant's Accrued Benefit determined as if death had occurred at their Normal Retirement Date, assuming Credited Service continued until Normal Retirement Date and Compensation remained the same. The benefit commences immediately and is reduced if the spouse is more than 10 years younger than the Participant.

L. Terminated Vested Participants

Eligibility

Terminated Participant who is entitled to a Deferred Vested Benefit and has been married one full year prior to death.

Benefit Amount

If the Participant has less than 15 years of service, the benefit is 30% of the Accrued Benefit payable when the Participant could have first retired.

If the Participant has 15 or more years of service, the benefit is 45% of the Accrued Benefit payable when the Participant could have first retired.



Section VIII – Plan Provisions

M. Vested Termination

Eligibility

For employees hired before January 1, 2009, 7 years of service.

For employees hired on or after January 1, 2009, 10 years of service.

Benefit Amount

Accrued Benefit as of the date of termination payable at the Normal Retirement Date.

N. Non-Vested Termination

A participant terminating from the plan who is not 100% vested in the Accrued Benefit is entitled to a refund of their employee contributions with interest. The annual interest crediting rate for Employee Contributions changed from 5% to 2.5% for periods on or after January 1, 2013. Interest is compounded annually from the end of the Plan Year to which such Employee Contributions are attributable through the month preceding distribution.

O. Cost-of-Living Adjustments

As approved by the Board.

P. Normal Form of Benefit

Single Life Annuity



Section VIII – Plan Provisions

Q. Optional Forms of Benefit

In lieu of the Normal Form of benefit, a participant may elect to receive one of the following optional forms of payment:

- **Contingent Pensioner Option** – Participant receives a reduced pension during their lifetime so that after their death, 100%, 66-2/3%, or 50% of the Participant's benefit will be paid for the life of the surviving Contingent Pensioner designated by the Participant.
- **Years Certain and Life Option** – Participant receives a reduced Pension during their lifetime so that if their death occurs within the years certain period (5, 10, or 15 years), the pension will continue to the Beneficiary for the balance of the period.
- **Social Security Option** – Participant receives an increased pension before Social Security commences and a reduced pension thereafter, so that the total benefit under this Plan and the Social Security Act will be paid in a generally level amount throughout retirement.

R. Employee Contributions

Effective March 2018, the employee contribution rate will increase from 7.25% to 7.50% of compensation for employees participating in the Traditional Plan. For employees in the Hybrid Plan, the employee contribution rate is 3.00% of pay.



Section VIII – Plan Provisions

S. Superior Court and State Court Judge Supplemental Retirement Benefit

These benefit provisions described below apply only to Superior and State Court Judges eligible for membership in the Plan:

- Credited Service includes the service recognized by the Georgia Judicial Retirement System, not to exceed 24 years.
- Final Salary equals the annual amount of the salary supplement paid by Cobb County in excess of the state salary cap for Judges.
- Normal Retirement Date is the later of age 60 or the completion of 10 years of service.
- Vesting requires 10 years of completed service.
- Supplemental Retirement Benefit is calculated as 4.167% of Final Salary for Credited Service up to 16 years, plus 1% for each additional year of Credited Service, up to a maximum of 24 years.
- The Supplemental Retirement Benefit is paid as a single life annuity.
- Late retirement increases are applied if the Judge continues employment after his/her Normal Retirement Date.
- No benefit is payable upon the death of the Judge, whether such death occurs before or after commencement of the Supplemental Retirement Benefit.
- The Judge is not required or permitted to make contributions to the Plan.



Section IX – Plan Provision Changes

The following plan amendments have been adopted within the past few plan years:

1. Effective January 1, 2007:

Employees hired on or after this date will only qualify for the Rule of 80 retirement provision if they reached a minimum of age 55 or 35 years of service.
2. Effective January 1, 2009:
 - a. Employees hired before January 1, 2009:
 - i. For benefit calculation purposes the final average compensation will consist of the average of the 5 highest consecutive years of compensation out of the last 10 years, provided that the final average compensation used shall not be less than the 3 year final average compensation calculated as of December 31, 2008. However, any participant who has met all of the requirements to be eligible to retire under the Normal Retirement or Rule of 80 provisions as of December 31, 2008 shall always be calculated using the 3 highest consecutive years of compensation.
 - ii. The Normal Retirement Date is redefined as the first day of the calendar month coinciding with or next following the participant's 65th birthday, or if later, the day the participant completes 7 years of service. However, for any participant who has met all of the requirements to be eligible to retire under the Normal Retirement or Rule of 80 provisions as of December 31, 2008, the Normal Retirement Date shall remain the later of age 65 and the completion of 5 years of service.
 - b. Employees hired on or after January 1, 2009:
 - i. The final average compensation will consist of the average of the 5 highest consecutive years of compensation out of the last 10 years.
 - ii. 10 years shall be required to be vested in the pension plan.
 - iii. The Normal Retirement Date is defined as the first day of the calendar month coinciding with or next following the participant's 65th birthday, or if later, the day the participant completes 10 years of service.
3. Effective January 1, 2010
 - a. Employees hired before January 1, 2010:
 - i. The employee contribution rate changed from 5.00% to 5.50% effective February 2010. The employee contribution rate will also increase over a 13 year period from 5.00% in 2009 to 8.75% in 2023.
 - ii. Current non-vested employees as of December 31, 2009 were given the option to converting to the new Hybrid Defined Benefit/Defined Contribution Plan (see 3(b) below).



Section IX – Plan Provision Changes

- b. Employees hired on or after January 1, 2010 and any employees not vested as of January 1, 2010 who chose to enter the new Hybrid Plan:

Defined Benefit Component

- i. The employee contribution rate will be 5.00% of earnings and should not increase over time. No employee contributions will be based on overtime earnings.
- ii. The final average compensation will consist of the average of the 5 highest consecutive years of compensation out of the last 10 years. No overtime will be used in the final average compensation calculation.
- iii. 10 years shall be required to be vested in the pension plan. (7 years is required for employees hired before January 1, 2009 and elect to enter the Hybrid Plan.)
- iv. Employees hired before January 1, 2007 are eligible for Rule of 80 unreduced early retirement. If hired on or after January 1, 2007, employees are eligible for Rule of 80 unreduced early retirement with a minimum of 35 years of service or attainment of age 55.
- v. The Normal Retirement Date is defined as the first day of the calendar month coinciding with or next following the participant's 65th birthday for non-vested members transferring to the Hybrid Plan and Social Security Normal Retirement Age for employees hired on or after January 1, 2010, or if later, the day the participant completes 10 (or 7) years of service.
- vi. Employees are eligible for reduced early retirement on the first day of the calendar month coinciding with or next following the participant's 55th birthday, or if later, the day the participant completes 10 (or 7) years of service.
- vii. The benefit multiplier will be 1% times final average compensation times years of service.
- viii. A current non-vested employee who chooses the new Hybrid Plan will receive a benefit that is equal to the greater of:
 1. Current benefit (2.5% multiplier) for years up to the change to the new plan plus new plan benefit (1.0% multiplier) for remaining years or,
 2. New Plan benefit (1.0% multiplier) for entire period of service.
- ix. Military service prior to employment will no longer count as service time. Only service and benefits required to be granted under applicable federal law will be provided.



Section IX – Plan Provision Changes

Defined Contribution Component (Presented for information purposes only. Does not impact actuarial valuation of Pension Plan.)

- i. In addition to the 5.00% employee contribution rate for the Defined Benefit Plan, employees may contribute a portion of their salary each year into the Defined Contribution Plan up to the maximum amount permitted by the IRS. The employee's contribution will be incorporated into the County's current 457 Deferred Compensation Plan and the County's contribution will go to a new 401(a) Plan per IRS rules.
 - ii. The County will make a 50% matching contribution up to maximum of 2%. Employees will be required to contribute at least 4% of earnings to receive the maximum 2% matching contribution.
 - iii. Vesting will be a graduated schedule of 20% vesting per year of service with 100% vested after 5 years of service.
 - iv. Current non-vested employees who elect to move to the new Hybrid Plan will be vested in the Defined Contribution component based on the graduated vesting schedule above based on their years of service as of January 1, 2010. However, employer contributions to the Defined Contribution component will not be retroactive.
4. Reflected January 1, 2011 valuation:
Members eligible to retire by the end of 2011 were offered an opportunity to retire in 2010 and receive a lump sum benefit of 2% of pay times years of service in addition to their accrued Pension Plan benefit. The lump sum benefit was not payable from the Pension Plan.
5. Effective January 1, 2013:
The annual interest crediting rate for Employee Contributions changed from 5% to 2.5% for periods on or after January 1, 2013. Interest is compounded annually from the end of the Plan Year to which such Employee Contributions are attributable through the month preceding distribution.
6. Effective January 1, 2014:
The employee contribution rate for Hybrid Plan Participants decreased from 5.00% to 3.00%.



Section IX – Plan Provision Changes

7. Effective January 1, 2017:
- a. The benefits provided under Appendix A for Superior Court Judges were extended to certain State Court Judges. The benefits for these Judges are outlined in Appendix B.
 - i. Credited Service includes the service recognized by the Georgia Judicial Retirement System, not to exceed 24 years.
 - ii. Final Salary equals the annual amount of the salary supplement paid by Cobb County in excess of the state salary cap for Judges.
 - iii. Normal Retirement Date is the later of age 60 or the completion of 10 years of service.
 - iv. Vesting requires 10 years of completed service.
 - v. Supplemental Retirement Benefit is calculated as 4.167% of Final Salary for Credited Service up to 16 years, plus 1% for each additional year of Credited Service, up to a maximum of 24 years.
 - vi. The Supplemental Retirement Benefit is paid as a single life annuity.
 - vii. Late retirement increases are applied if the Judge continues employment after his/her Normal Retirement Date.
 - viii. No benefit is payable upon the death of the Judge, whether such death occurs before or after commencement of the Supplemental Retirement Benefit.
 - ix. The Judge is not required or permitted to make contributions to the Plan.



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Cobb County Government Employees Pension Plan & Retiree Health Benefit Plan (OPEB)

January 1, 2018 Valuation Results

June 5, 2018 Board Meeting

John Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

Joseph Walls
Senior Consultant



Benefit Financing



➤ Basic Retirement Funding Equation

$$C + I = B + E$$

C = Contributions

I = Investment Income

B = Benefits Paid

E = Expenses (administration)

Comments on Pension Plan Valuation

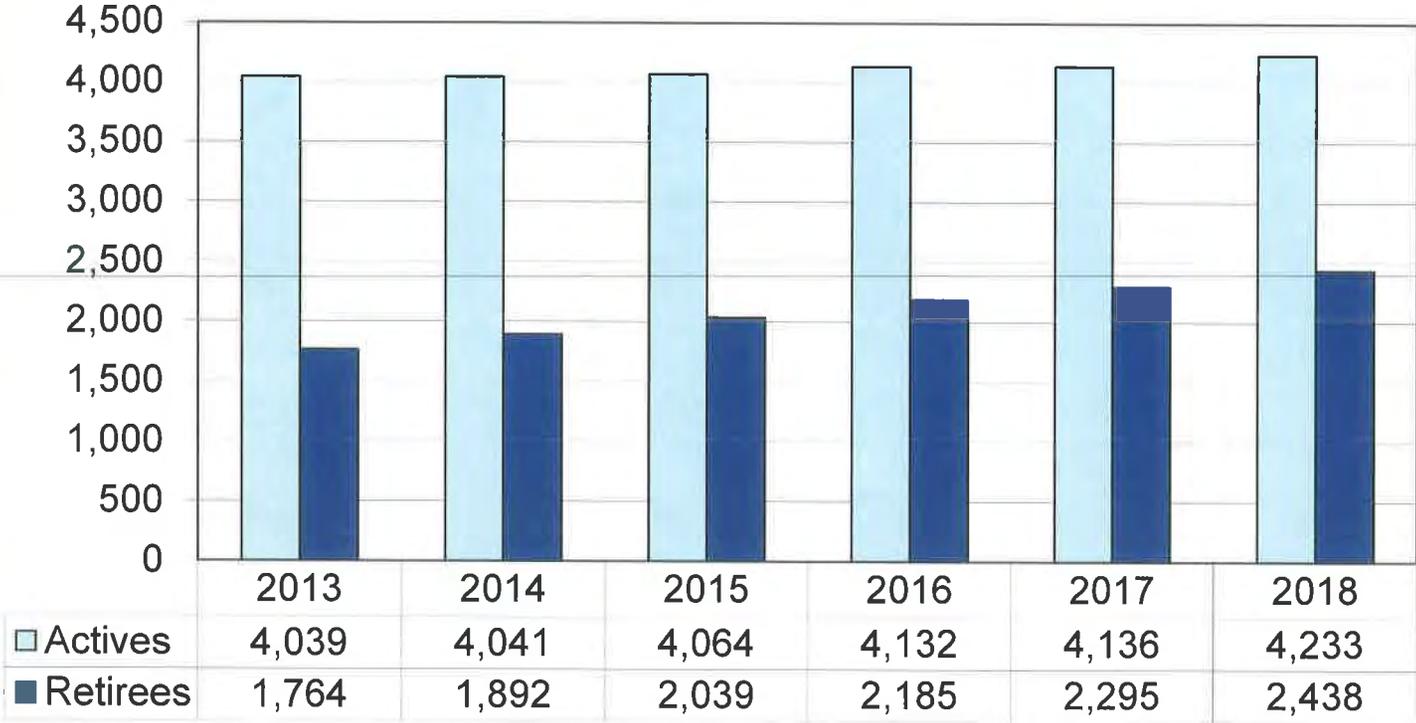


- Asset returns
 - Market asset return 17.62% vs. 7.50% expected return (10.12% more than expected).
 - Actuarial asset return 8.78% vs. 7.50% expected (1.28% greater than expected).
- Pay increases
 - Compensation and Pay Study completed since prior valuation
 - Individual pay increases average 7.25% vs. 3.41% expected.
 - Total valuation payroll increased 6.41%.
- Since the previous valuation, an Experience Study was completed for the 5 year period ending December 31, 2016.
 - Increased the Unfunded Actuarial Accrued Liability (UAAL) by \$60 million and increased the County's contribution rate by 2.93% of payroll.
- Employee contribution rate for participants in traditional plan increased from 7.25% to 7.50% in March 2018



Pension Plan Membership Data

Active and Retired Membership

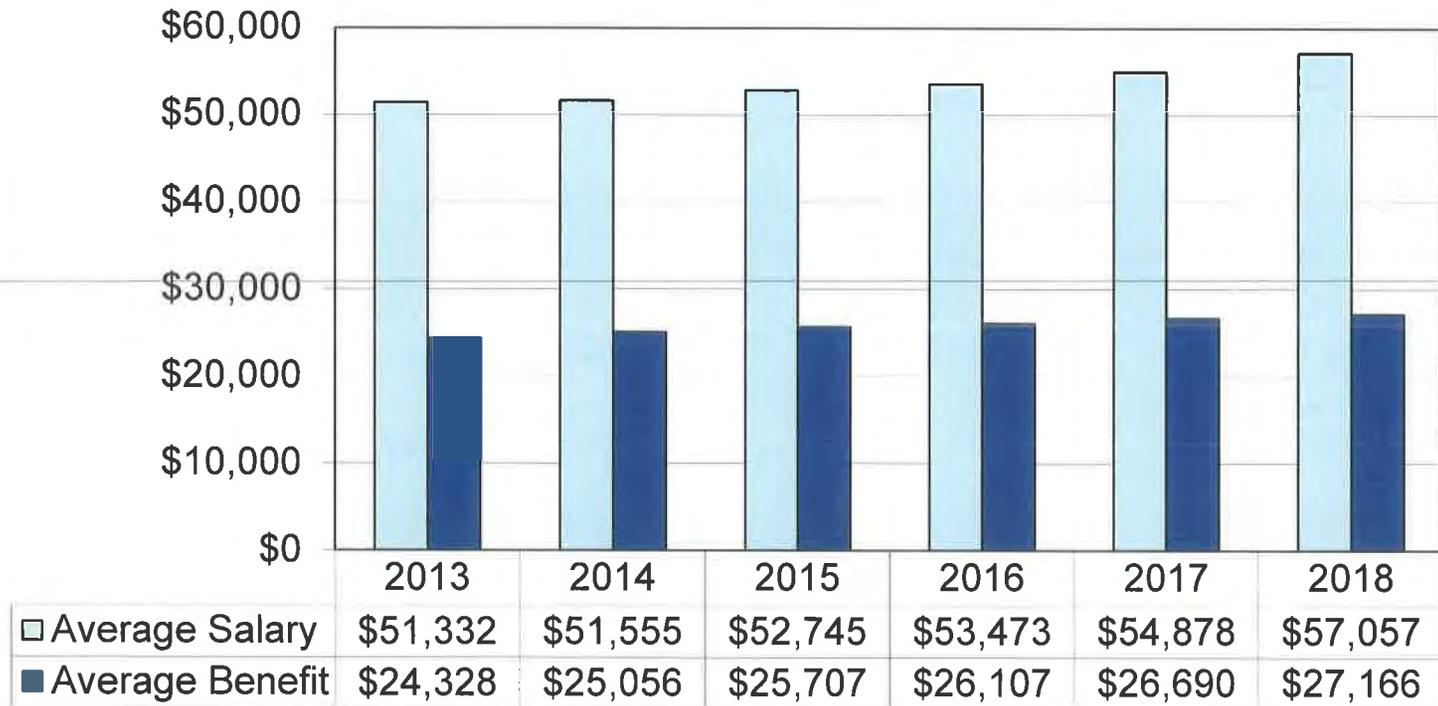


0.9% annual increase for active members since 2013; 2.3% increase for 2018.

6.7% annual increase for retired members since 2013; 6.2% increase for 2018.

0.4 retirees per active 5 years ago; 0.6 retirees per active now.

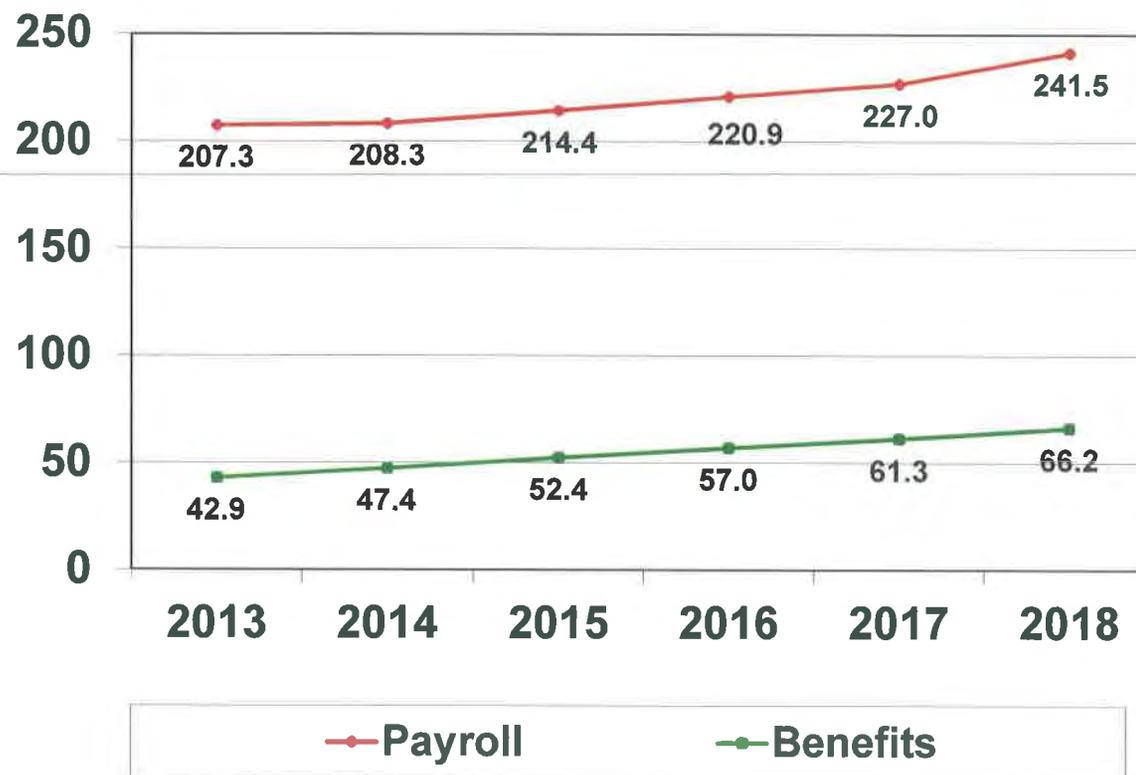
Average Salary and Benefits



2.1% annual increase for average salary since 2013; 4.0% increase for 2018.

2.2% annual increase for average benefits since 2013; 1.8% increase for 2018.

Payroll & Benefits (\$ Millions)



Average Age & Service

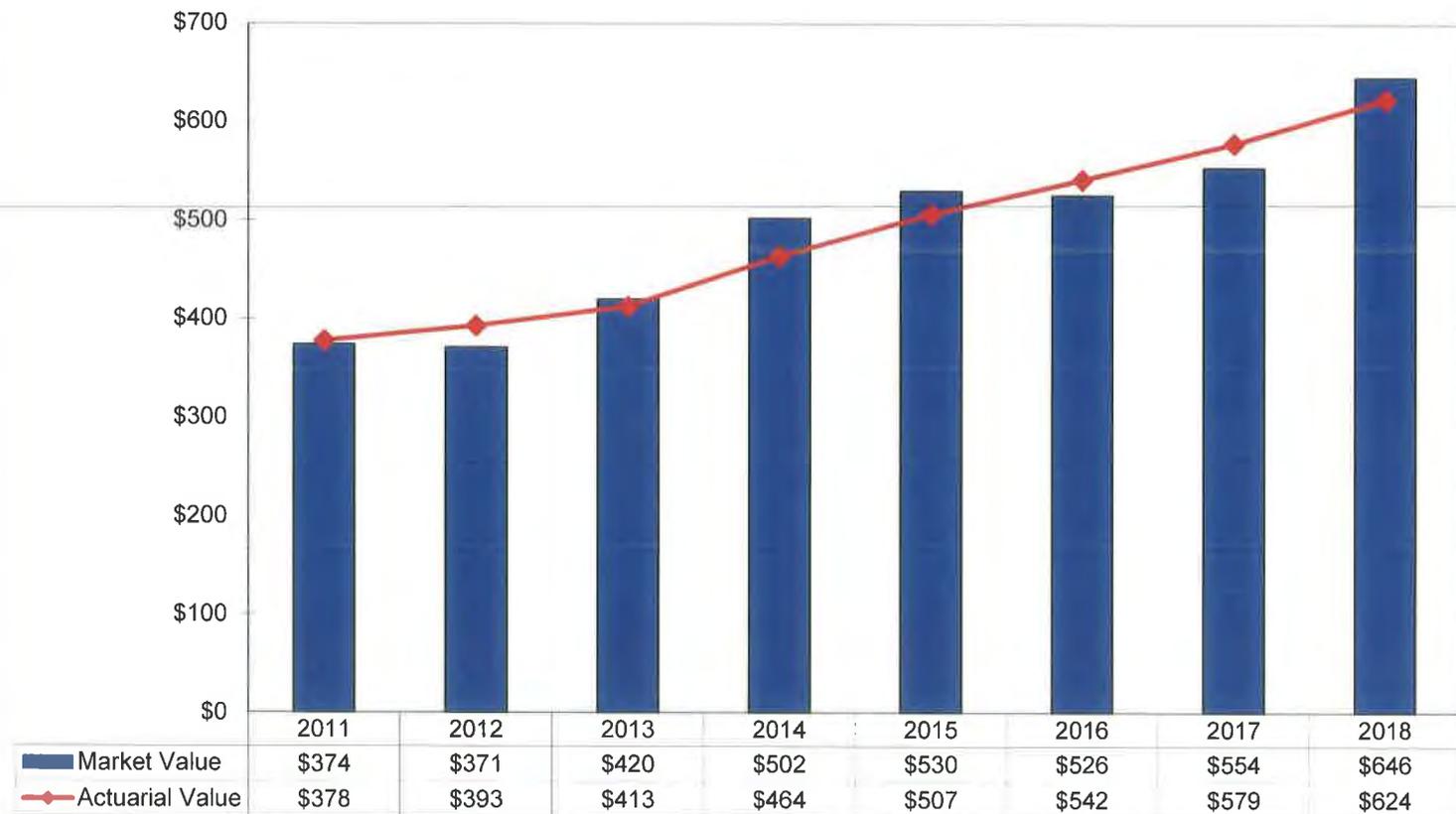


	January 1, 2017	January 1, 2018
Active Average Age	42.6	42.9
Active Average Service	10.8	10.9
Average Age Retirees	67.6	67.9
Average Age Beneficiaries	68.6	69.4



Pension Plan Market and Actuarial Value of Assets

Pension Assets (excluding CIGNA) (\$ Millions)



Asset Returns (excluding CIGNA)



	2011	2012	2013	2014	2015	2016	2017	2018
Market Return	13.1%	(0.9)%	12.5%	19.1%	6.5%	(0.2)%	6.1%	17.6%
Actuarial Return	3.5%	3.9%	4.5%	12.1%	10.2%	7.3%	7.6%	8.8%



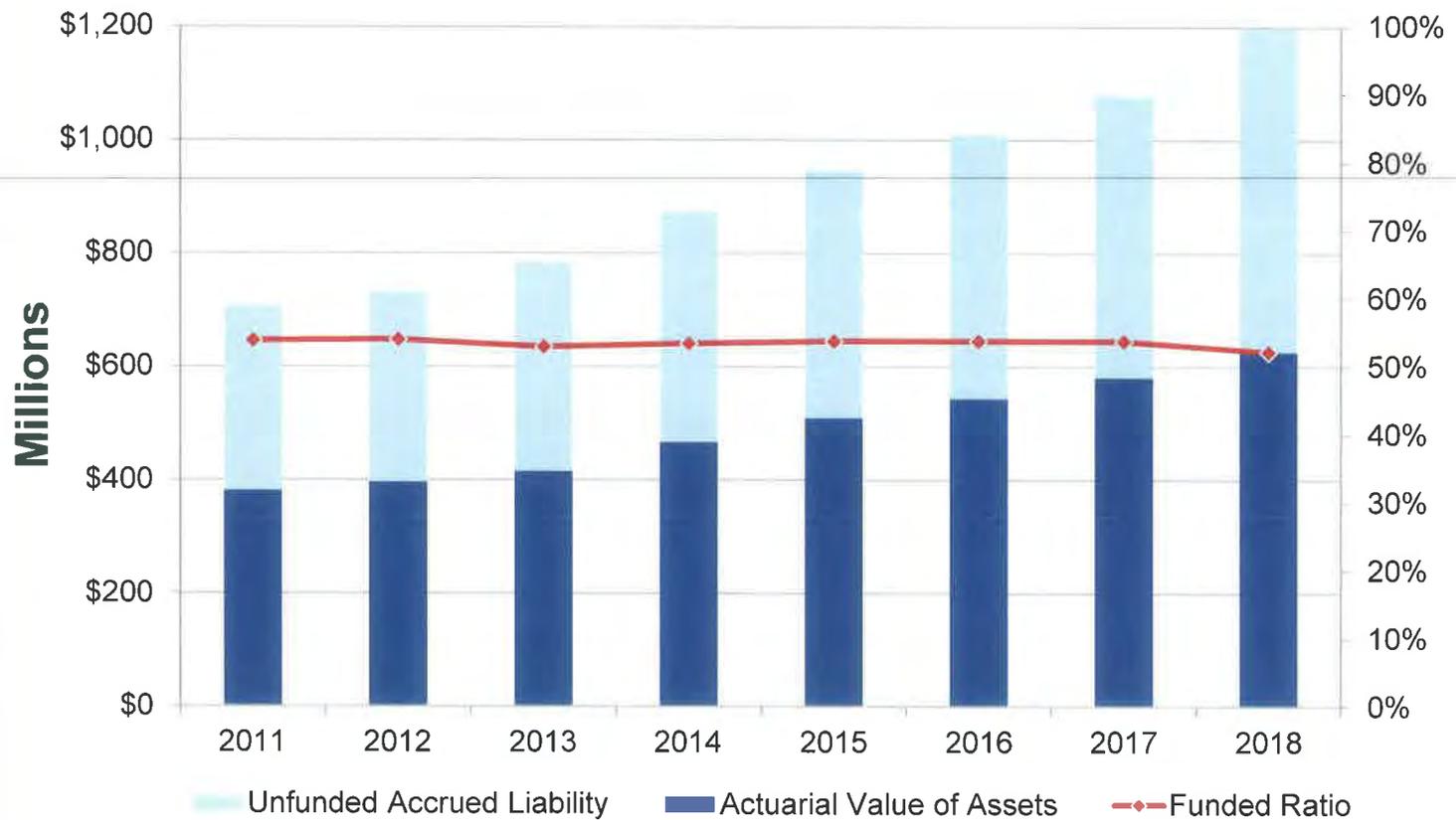
Pension Plan Funding Results

Results of Pension Plan Valuation



	January 1, 2017 Valuation (Fiscal Year 2017/2018 Contributions)	January 1, 2018 Valuation (Fiscal Year 2018/2019 Contributions)
(1) Covered Compensation for Active Participants	\$226,975,245	\$241,522,135
(2) Actuarial Accrued Liability (AAL)	\$1,078,943,894	\$1,196,925,887
(3) Actuarial Value of Assets	<u>\$579,147,800</u>	<u>\$624,082,110</u>
(4) Unfunded Actuarial Accrued Liability (UAAL) [(2) - (3)]	\$499,796,094	\$572,843,777
(5) Amortization of UAAL as % of Covered Payroll	15.50%	17.04%
(6) Normal Cost as % of Covered Payroll	10.46%	11.32%
(7) Expected Employee Contribution Rate	<u>5.82%</u>	<u>5.78%</u>
(8) Net Normal Cost Rate [(6) - (7)]	4.64%	5.54%
(9) Total County Actuarially Determined Contribution (ADEC) [(5) + (8)]	20.14%	22.58%
(10) Funded Ratio (including CIGNA)	53.8%	52.2%
(11) UAAL Amortization Period	26 years	25 years

Historical Accrued Liability and Funded Ratio (including CIGNA)



Changes In Actuarial Unfunded Accrued Liability (UAAL) (\$ Millions)



Gains

Losses



Source

- Salary
- Investments
- Turnover
- Mortality
- Retirements
- New Hires
- Contributions
- Misc
- Assumptions



Health Benefit Plan Funding Results

Comments on OPEB Valuation



- OPEB valuation includes 116 active employees eligible for health but not pension whose compensation totals \$7.0 million.
- UAL amortization period 25 years, closed.
- UAL amortized as a level percentage of pay. Total payroll assumed to increase by 2.5% per year.
- Projected Unit Credit cost method used for funding. GASB 74/75 will require Entry Age Normal (EAN) funding method, similar to GASB 67/68.

Comments on OPEB Valuation



- Market value of assets used for valuation purposes. As assets accumulate, may consider changing to an asset smoothing method to reduce volatility.
- \$7 million investment gain was all recognized in this valuation.
- \$26 million loss due to experience study.
- Almost \$9 million gain due to favorable claims experience.

OPEB Valuation Headcounts and Liabilities



Active Headcounts and Liabilities

Service needed for benefit	Grandfathered		Non-Grandfathered		Total	
	Number	Liability	Number	Liability	Number	Liability
10	47	\$2,931,884	856	\$82,521,723	903	\$85,453,607
15	2	75,175	854	37,431,257	856	37,506,432
20	0	0	515	10,052,220	515	10,052,220
30	0	0	2,075	3,213,676	2,075	3,213,676
TOTAL	49	\$3,007,059	4,300	\$133,218,876	4,349	\$136,225,935

1,632 retirees with liability totaling \$163,222,235.

Results of Health Benefit Plan Valuation



	January 1, 2018 Valuation (Fiscal Year 2018/2019 Contributions)	January 1, 2017 Valuation (Fiscal Year 2017/2018 Contributions)
(1) Covered Compensation for Active Participants	\$248,606,290	\$232,958,602
(2) Actuarial Accrued Liability (AAL)	\$299,448,170	\$271,992,978
(3) Actuarial Value of Assets	<u>\$117,114,714</u>	<u>\$98,362,896</u>
(4) Unfunded Actuarial Accrued Liability (UAAL) [(2) - (3)]	\$182,333,456	\$173,630,082
(5) Amortization of UAAL as % of Covered Payroll	4.90%	4.88%
(6) Normal Cost as % of Covered Payroll	2.93%	2.62%
(7) Expected Employee Contribution Rate	<u>0.00%</u>	<u>0.00%</u>
(8) Net Normal Cost Rate [(6) - (7)]	2.93%	2.62%
(9) Total County Annual Required Contribution (ARC) [(5) + (8)]	7.83%	7.50%
(10) Funded Ratio	39.1%	36.2%
(11) UAAL Amortization Period	25 years	26 years

DEVELOPMENT OF THE ACTUARIAL (GAIN)/LOSS



1. UNFUNDED ACCRUED LIABILITY (UAL) 1/1/2017	\$	173,630,082
2. NORMAL COST 1/1/2017	\$	6,109,886
3. EXPECTED EMPLOYER CONTRIBUTIONS (Beginning of Year) (ARC calculated in 1/1/2017 valuation)	\$	17,482,165
4. INTEREST ACCRUAL [[1] + (2) - (3)] x .075	\$	<u>12,169,335</u>
5. EXPECTED UAL 1/1/2018 [(1) + (2) - (3) + (4)]	\$	174,427,138
6. GAIN DUE TO CLAIMS AND PREMIUM EXPERIENCE	\$	(8,732,088)
7. LOSS DUE TO EXPERIENCE STUDY	\$	26,466,924
8. GAIN DUE TO ASSET EXPERIENCE	\$	<u>(7,084,760)</u>
9. EXPECTED UAL 1/1/2018 AFTER CHANGES (5) + (6) + (7) + (8)	\$	185,077,214
10. ACTUAL UAL AS OF 1/1/2018	\$	<u>182,333,456</u>
11. EXPERIENCE (GAIN)/LOSS (10) - (9)	\$	(2,743,758)
12. GAIN AS A % OF LY AL		(1.01%)

Additional Items for Discussion



- 30 year Projections



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**Cobb County Government
Health Benefit Plan
Report of Actuary on the Other Post-Employment
Benefit Valuation**

Prepared as of January 1, 2018



Cobb County...Expect the Best!





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June 5, 2018

Mr. Tony Hagler
Human Resources Director
Cobb County
Human Resources Department
100 Cherokee Street
Marietta, GA 30090-9679

Dear Mr. Hagler:

We are pleased to submit the results of the annual actuarial valuation of the Cobb County Government Health Benefit Plan prepared as of January 1, 2018. The purpose of this report is to provide a summary of the funded status of the Plan as of January 1, 2018 and recommend rates of employer contribution. While not verifying the data at source, the actuary performed tests for consistency and reasonability. Separate reports will be prepared to provide accounting information under Governmental Accounting Standards Board Statements No. 74 and 75 when applicable.

As a result of the Experience Study for the 5 year period ending December 31, 2016, the following assumptions were changed:

- 1) Pre-Retirement Mortality Table was updated to RP-2000 Employee projected to 2025 using scale BB with No Set back / Set forward
- 2) Post-retirement Mortality Table was updated to RP-2000 Combined projected to 2025 using scale BB; Set forward 2 years for both Male & Female lives
- 3) Retirement rates were updated for Public Safety and General Employees
- 4) Withdrawal rates were modified for both Public Safety and General Employees
- 5) Salary merit scale was updated for all members

The amortization period was closed at 30 years as of January 1, 2013. For the current valuation, the amortization period used is therefore 25 years.

The medical and drug benefits of the current Plan as of January 1, 2018 are included in the actuarially calculated contribution rates which are developed using the unit credit actuarial cost method with projected benefits. The annual actuarially determined employer contribution (ADC) of the County for the year beginning October 1, 2018 is 7.83% of payroll, which is expected to liquidate the unfunded accrued liability over a 25-year period.

As of January 1, 2018, the Plan has assets in trust solely to provide benefits to retirees and their beneficiaries. It is our understanding that trust contributions will be greater than or equal to the ADC each year. Since the asset allocation for the OPEB trust is similar to the asset allocation for the pension trust, the discount rate remains 7.50% to match the discount rate used in the pension valuation. Gains and losses are reflected in the unfunded accrued liability that is assumed amortized by regular annual contributions as a level percentage of payroll within a closed 30-year period (25 years for the current valuation), on the assumption that payroll will increase by 2.50% annually. Based on our understanding that it is the policy of Cobb County to make annual contributions at least equal to the ADC, the assumptions recommended by the actuary are, individually and in the aggregate, reasonably related to the experience under the Plan and to reasonable expectations of anticipated experience under the Plan.



Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

The impact of the Affordable Care Act (ACA) was addressed in this valuation. Review of the information currently available did not identify any specific provisions of the ACA that are anticipated to significantly impact results. While the impact of certain provisions such as the potential future application of the excise tax on high-value health insurance plans, mandated benefits and participation changes due to the individual mandate should be recognized in the determination of liabilities, overall future plan costs and the resulting liabilities are driven by amounts employers and retirees can afford (i.e., trend). The trend assumption forecasts the anticipated increase to initial per capita costs, taking into account health care cost inflation, increases in benefit utilization, plan changes, government-mandated benefits, and technological advances. Given the uncertainty regarding the ACA's implementation (e.g., the impact of excise tax on high-value health insurance plans, changes in participation resulting from the implementation of state-based health insurance exchanges), continued monitoring of the ACA's impact on the Plan's liability will be required. Plan design changes mandated by the ACA and incorporated in the plan designs are included in the current baseline claims costs.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the medical plans and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the Plan.

The current assets and future anticipated contributions are in our opinion sufficient to meet all the benefit obligations of the plan for current active and retired members

Sincerely yours,

A handwritten signature in blue ink that reads 'Alisa Bennett'.

Alisa Bennett, FSA, EA, FCA, MAAA
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'John Garrett'.

John Garrett, ASA, FCA, MAAA
Principal and Consulting Actuary



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**COBB COUNTY GOVERNMENT
HEALTH BENEFIT PLAN
REPORT OF ACTUARY ON THE OTHER POST-EMPLOYMENT BENEFIT VALUATION
PREPARED AS OF JANUARY 1, 2018**

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation are summarized below:

Valuation Date	1/1/2018	1/1/2017
Discount Rate	7.50%	7.50%
Number Active*	4,349	4,246
Number Retired	1,632	1,646
Total	5,981	5,892
Annual Salaries**	\$ 248,606,290	\$ 232,958,602
Assets:		
Market Value	\$ 117,114,714	\$ 98,362,896
Unfunded Actuarial Accrued Liability	\$ 182,333,456	\$ 173,630,082
Amortization Period (Years)	25	26
Fiscal Year	2019	2018
Actuarially Determined Contribution (ADC) in dollars:		
Normal	\$ 7,286,442	\$ 6,109,886
Accrued Liability***	12,184,948	11,372,279
Total	\$ 19,471,390	\$ 17,482,165
Annual Required Contribution as a Percent of Active Payroll		
Normal	2.93%	2.62%
Accrued Liability	4.90%	4.88%
Total	7.83%	7.50%
Discount Rate	7.50%	7.50%

- * Before participation assumption is applied. The 2017 number includes 4,136 active in the pension plan and 110 actives who could potentially receive post-employment health benefits but who are not in the pension plan. The 2018 number includes 4,233 active in the pension plan and 116 actives who could potentially receive post-employment health benefits but who are not in the pension plan.
- ** Before participation assumption is applied. The 2017 number includes \$226,975,245 for the 4,136 active in the pension plan and \$5,983,357 for the 110 actives who could potentially receive post-employment health benefits but who are not in the pension plan. The 2018 number includes \$241,522,135 for the 4,233 active in the pension plan and \$7,084,155 for the 116 actives who could potentially receive post-employment health benefits but who are not in the pension plan.
- *** Calculated using an annual increasing payroll assumption of 2.50%.



The table below shows the active headcounts and liabilities broken down by grandfathered status and service needed to receive health benefits, which is based on date of hire.

ACTIVE HEADCOUNTS AND LIABILITIES

Service needed for benefit	Grandfathered		Non-Grandfathered			Total	
	Number	Liability	Number	Liability	Number	Liability	
10	47	\$2,931,884	856	\$82,521,723	903	\$85,453,607	
15	2	75,175	854	37,431,257	856	37,506,432	
20	0	0	515	10,052,220	515	10,052,220	
30	0	0	2,075	3,213,676	2,075	3,213,676	
TOTAL	49	\$3,007,059	4,300	\$133,218,876	4,349	\$136,225,935	

2. The valuation indicates that the Actuarially Determined Contribution (ADC) is 7.83% of active payroll payable for the fiscal year 2019. Any employer claims or premiums paid for retiree health care in the current year are considered contributions toward the ADC. Comments on the valuation results as of January 1, 2018 are given in Section IV and further discussion of the contribution levels is set out in Sections V and VI.
3. Since the asset allocation for the OPEB trust is similar to the asset allocation for the pension trust, the discount rate remains 7.50% to match the discount rate used in the pension valuation. Schedule D of this report outlines the full set of actuarial assumptions and methods employed in the current valuation. As a result of the Experience Study for the 5 year period ending December 31, 2016, the following assumptions were changed:
 - 1) Pre-Retirement Mortality Table was updated to RP-2000 Employee projected to 2025 using scale BB with No Set back / Set forward
 - 2) Post-retirement Mortality Table was updated to RP-2000 Combined projected to 2025 using scale BB; Set forward 2 years for both Male & Female lives
 - 3) Retirement rates were updated for Public Safety and General Employees
 - 4) Withdrawal rates were modified for both Public Safety and General Employees
 - 5) Salary merit scale was updated for all members



SECTION II - MEMBERSHIP DATA

Data regarding the membership of the Plan for use as a basis of the valuation were furnished by Cobb County. The following table summarizes the members' age and service.

Active Employees*								
Service								
Age	< 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	> 29	Total
< 25	201	2						203
25 to	444	71	3					518
30 to	283	150	85	3				521
35 to	180	112	158	70	1			521
40 to	127	74	127	162	65			555
45 to	111	64	118	174	157	78	5	707
50 to	81	72	86	114	88	119	28	588
55 to	75	47	76	85	54	31	20	388
60 to	37	42	57	54	35	14	11	250
> 64	10	14	27	20	16	7	4	98
Total	1,549	648	737	682	416	249	68	4,349

*Before participation assumption is applied. Includes 4,233 active in the pension plan and 116 actives who could potentially receive post-employment health benefits but who are not in the pension plan.

SECTION III - ASSETS

Schedule C shows information regarding assets for valuation purposes. As of January 1, 2018, the plan has \$117,114,714 in assets held in trust solely to provide benefits to retirees and their beneficiaries in accordance with the terms of the plan.



SECTION IV - COMMENTS ON THE VALUATION

1. Schedule A of this report outlines the results of the actuarial valuation. The results are shown based on a discount rate of 7.50%. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule D.
2. As a result of the Experience Study for the 5 year period ending December 31, 2016, the following assumptions were changed:
 1. Pre-Retirement Mortality Table was updated to RP-2000 Employee projected to 2025 using scale BB with No Set back / Set forward
 2. Post-retirement Mortality Table was updated to RP-2000 Combined projected to 2025 using scale BB; Set forward 2 years for both Male & Female lives
 3. Retirement rates were updated for Public Safety and General Employees
 4. Withdrawal rates were modified for both Public Safety and General Employees
 5. Salary merit scale was updated for all members
3. Effective January 1, 2014 the investment return assumption was decreased from 7.9% to 7.8%. The investment return assumption was decreased by 0.1% per year until reaching 7.5% effective with the January 1, 2017 valuation.
4. Based on the 7.50% discount rate, the valuation shows that the Plan has an actuarial accrued liability of \$136,225,935 for benefits expected to be paid on account of the present active membership, based on service to the valuation date. The liability on account of benefits payable to retirees and covered spouses amounts to \$163,222,235. The total actuarial accrued liability of the Plan amounts to \$299,448,170. Against these liabilities, the Plan has present assets for valuation purposes of \$117,114,714. Therefore, the unfunded actuarial accrued liability is equal to \$182,333,456.
5. The normal contribution is equal to the actuarial present value of benefits accruing during the current year. The normal contribution is determined to be 2.93% of total active payroll.
6. The amortization period was closed at 30 years as of January 1, 2013. The amortization period as of January 1, 2018 is 25 years.



SECTION V - CONTRIBUTIONS PAYABLE UNDER THE PLAN

**ACTUARIALLY DETERMINED CONTRIBUTION
For 2019 Fiscal Year**

Actuarially Determined Contribution (ADC) As a Percentage of Total Active Payroll:	
Normal	2.93%
Accrued Liability	4.90%
Total	7.83%

1. The valuation indicates that a normal contribution of 2.93% of total active payroll is required to meet the cost of benefits currently accruing.
2. The unfunded actuarial accrued liability amounts to \$182,333,456 as of the valuation date. An accrued liability contribution of 4.90% of total active payroll is sufficient to amortize the unfunded actuarial accrued liability over a 25-year period, based on a 7.50% investment rate of return and the assumption that the payroll will increase by 2.50% annually.
3. The total Annual Required Contribution is, therefore, 7.83% of total active payroll.



SECTION VI - COMMENTS ON LEVEL OF FUNDING

1. The monthly contribution for retirees to opt into the medical plan is based on plan and tier election and tobacco use.
2. The valuation indicates that a recommended employer contribution rate of 7.83% of payroll is required to fund the plan. This corresponds to a contribution required to meet the cost of benefits currently accruing and provide for the amortization of the unfunded actuarial accrued liability over a period of 25 years.

SECTION VII – ADDITIONAL DISCLOSURES

1. Below is a chart showing the Schedule of Funding Progress.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) Projected Unit Credit (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
1/1/2012	46,486,981	247,611,907	201,124,926	18.8%	208,621,922	96.4%
1/1/2013*	58,975,301	186,733,213	127,757,912	31.6%	211,553,134	60.4%
1/1/2014^	84,726,947	200,118,641	115,391,694	42.3%	212,799,730	54.2%
1/1/2015^^	91,440,896	224,352,661	132,911,765	40.8%	218,979,561	60.7%
1/1/2016^^^	91,619,032	245,265,481	153,646,449	37.4%	227,955,687	67.4%
1/1/2017^^^^	98,362,896	271,992,978	173,630,082	36.2%	232,958,602	74.5%
1/1/2018**	117,114,714	299,448,170	182,333,456	39.1%	248,606,290	73.3%

* Includes plan changes effective January 1, 2013 and change in discount rate to 7.90%.

^ In 2014, the discount rate was changed from 7.9% to 7.8%, as well as demographic assumptions for pre-retirement mortality, withdrawal and retirement.

^^ In 2015, the discount rate was changed from 7.8% to 7.7%.

^^^ In 2016, the discount rate was changed from 7.7% to 7.6%.

^^^^ In 2017, the discount rate was changed from 7.6% to 7.5%.

** In 2018, decrements were changed due to an experience study.



2. The information presented was determined as part of the actuarial valuation at January 1, 2018.

Additional information as of the latest actuarial valuation follows.

Valuation date	1/1/2018
Actuarial cost method	Projected unit credit
Amortization method	Level percent of pay, closed
Remaining amortization period	25 years
Asset valuation method	Market Value of Assets
Actuarial assumptions	
Investment Rate of Return*	7.50%
Medical cost trend rate*	
Pre-Medicare	7.00%
Medicare Eligible	5.00%
Ultimate trend rate*	
Pre-Medicare	5.00%
Medicare Eligible	5.00%
Year of Ultimate trend rate	2023
*Includes inflation at	2.50%

* Since the asset allocation for the OPEB trust is similar to the asset allocation for the pension trust, the annual investment rate of return is assumed to be 7.50%, which is the assumption used for the pension valuation. This rate reflects the County's establishment of an OPEB trust and intent to fully pre-fund OPEB benefits.



SCHEDULE A

RESULTS OF THE VALUATION
PREPARED AS OF JANUARY 1, 2018

		7.50%
		Discount Rate
1.	PAYROLL	\$ 248,606,290
2.	ACTUARIAL ACCRUED LIABILITY	
	(a) Present active members:	\$ 136,225,935
	(b) Present retired members and surviving spouses:	<u>163,222,235</u>
	(c) Total actuarial accrued liability	\$ 299,448,170
3.	PRESENT ASSETS FOR VALUATION PURPOSES	<u>\$ 117,114,714</u>
4.	UNFUNDED ACTUARIAL ACCRUED LIABILITY [(2)(C) minus (3)]	\$ 182,333,456
5.	AMORTIZATION PERIOD	25
6.	NORMAL CONTRIBUTION	\$ 7,286,442
7.	ACCRUED LIABILITY CONTRIBUTION	<u>12,184,948</u>
8.	TOTAL CONTRIBUTION (6) + (7)	\$ 19,471,390
9.	NORMAL CONTRIBUTION AS A PERCENT OF PAYROLL (6) ÷ (1)	2.93%
10.	ACCRUED LIABILITY CONTRIBUTION AS A PERCENT OF PAYROLL (7) ÷ (1)	<u>4.90%</u>
11.	TOTAL CONTRIBUTION AS A PERCENT OF PAYROLL (9) + (10)	7.83%



The chart below shows the projected benefit payments for current retirees and for future payments to current active employees after retirement. The chart does not take into account future entrants to the plan.

Projected Benefit Payments

	Current Retirees	Grandfathered Actives	Non-Grandfathered Actives	Total
2018	13,911,808	66,839	417,964	14,396,611
2019	14,371,964	160,083	1,391,834	15,923,881
2020	14,649,899	213,315	2,561,049	17,424,263
2021	14,809,230	239,946	3,759,454	18,808,630
2022	14,896,822	244,497	5,047,667	20,188,986
2023	14,770,531	270,551	6,552,704	21,593,786
2024	14,600,752	297,212	8,160,164	23,058,128
2025	14,448,132	297,120	9,933,406	24,678,658
2026	14,211,840	306,135	11,932,355	26,450,330
2027	13,815,092	314,224	13,945,120	28,074,436
2028	13,373,722	321,447	16,166,864	29,862,033
2029	12,950,210	327,758	18,375,009	31,652,977
2030	12,271,629	333,716	20,196,068	32,801,413
2031	11,824,829	337,641	22,132,402	34,294,872
2032	11,333,205	340,266	23,735,137	35,408,608
2033	11,080,211	341,388	25,034,013	36,455,612
2034	10,952,020	340,830	26,046,902	37,339,752
2035	10,799,311	338,431	26,677,995	37,815,737
2036	10,586,064	334,063	27,094,858	38,014,985
2037	10,380,570	327,582	27,428,497	38,136,649
2038	10,112,705	318,858	27,514,106	37,945,669
2039	9,768,383	307,770	27,430,821	37,506,974
2040	9,460,282	294,277	27,782,169	37,536,728
2041	9,120,333	278,501	27,989,894	37,388,728
2042	8,750,735	260,689	28,298,689	37,310,113
2043	8,354,843	241,159	28,944,280	37,540,282
2044	7,936,023	220,328	29,701,778	37,858,129
2045	7,497,727	198,685	30,276,766	37,973,178
2046	7,043,986	176,738	31,257,351	38,478,075
2047	6,538,009	155,072	32,595,424	39,288,505

**SCHEDULE B****DEVELOPMENT OF THE ACTUARIAL (GAIN)/LOSS**

1. UNFUNDED ACCRUED LIABILITY (UAL) 1/1/2017	\$ 173,630,082
2. NORMAL COST 1/1/2017	\$ 6,109,886
3. EXPECTED EMPLOYER CONTRIBUTIONS (Beginning of Year) (ARC calculated in 1/1/2017 valuation)	\$ 17,482,165
4. INTEREST ACCRUAL [(1) + (2) - (3)] x .075	\$ 12,169,335
5. EXPECTED UAL 1/1/2018 [(1) + (2) - (3) + (4)]	\$ 174,427,138
6. GAIN DUE TO CLAIMS AND PREMIUM EXPERIENCE	\$ (8,732,088)
7. LOSS DUE TO EXPERIENCE STUDY	\$ 26,466,924
8. GAIN DUE TO ASSET EXPERIENCE	\$ (7,084,760)
9. EXPECTED UAL 1/1/2018 AFTER CHANGES (5) + (6) + (7) + (8)	\$ 185,077,214
10. ACTUAL UAL AS OF 1/1/2018	\$ 182,333,456
11. EXPERIENCE (GAIN)/LOSS (10) - (9)	\$ (2,743,758)
12. LOSS AS A % OF LY AL	(1.01%)



SCHEDULE C

PLAN ASSETS

GASB defines plan assets as resources, usually in the form of stocks, bonds, and other classes of investments, that have been segregated and restricted in a trust, or equivalent arrangement, in which (a) employer contributions to the plan are irrevocable, (b) assets are dedicated to providing benefits to retirees and their beneficiaries, and (c) assets are legally protected from creditors of the employers or plan administrator, for the payment of benefits in accordance with the terms of the plan.

As of January 1, 2018, the plan has \$117,144,714 in assets held in trust solely to provide benefits to retirees and their beneficiaries in accordance with the terms of the plan. It is our understanding that trust contributions will be greater than or equal to the ADC each year. Since the asset allocation for the OPEB trust is similar to the asset allocation for the pension trust, the annual discount rate remains 7.50% to match the discount rate used in the pension valuation.



SCHEDULE D

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

VALUATION DATE: January 1, 2018

DISCOUNT RATE: 7.50% per annum, compounded annually.

HEALTH CARE COST TREND RATES: Following is a chart detailing trend assumptions.

Year	Pre-Medicare Medical Trend	Medicare-Eligible Medical Trend
2018	7.00%	5.00%
2019	6.50%	5.00%
2020	6.00%	5.00%
2021	5.50%	5.00%
2022	5.25%	5.00%
2023 and beyond	5.00%	5.00%

AGING ADJUSTMENT: Per capita pre-Medicare eligible costs are adjusted to reflect expected cost changes related to age. Following is a chart detailing the assumed increase to the net incurred claims.

Participant Age	Annual Increase
< 50	0.0%
50 – 54	3.3
55 – 59	3.6
60 – 64	4.2



FUTURE PARTICIPATION AND COVERAGE ELECTIONS

Current inactive are assumed to maintain current plan and coverage tier elections. Current active employees are assumed to make the following plan, coverage tier and participation elections:

Future Retiree Plan Election

Pre-Medicare	Medicare Eligible
65% HMO	100% Extend Health
15% PPO	
5% OAP	
15% Kaiser	

Future Retiree Participation: (If currently electing coverage, 0% if currently waiving coverage)

Grandfathered Future Retirees 95%

Non - Grandfathered Future Retirees	Based on service at retirement	
	10 – 14 years service at retirement	60%
	15 – 19 years service at retirement	70%
	20 – 24 years service at retirement	80%
	25 – 29 years service at retirement	90%
	30+ years service at retirement	95%

Future Retiree Spouse Coverage 70% for Males
25% for Females

Wives are assumed to be 3 years younger than their husbands.

MONTHLY MEDICAL/RX CLAIMS (HMO, PPO, OAP, MA): Following is a chart detailing expected claims for pre Medicare for the year following the valuation date. Claims are age-adjusted to age 65.

	Medical/Rx HMO	Medical/Rx PPO	Medical/Rx OAP	Medical/Rx Kaiser
Pre-65	\$ 1,263.40	\$ 1,328.67	\$ 1,057.4	\$ 868.4

In 2018 the monthly stipend was \$348.40 for retirees and \$265.20 for spouses. We have assumed a 5% increase each year in the monthly stipend amount going forward.



MONTHLY MEDICAL/RX CONTRIBUTIONS: Following is a chart detailing expected premium or stipend amounts upon which the service based contributions will be based for the year following the valuation date. Amounts shown are for Single coverage as of January 1, 2018.

Medical/Rx Kaiser	Medical/Rx HMO	Medical/Rx PPO	Medical/Rx OAP	Medicare Eligible
\$535.55	\$662.46	\$822.39	\$677.50	\$348.40

Effective January 1, 2012, a spousal surcharge of \$100 per month will be charged to all employees who elect spousal coverage if the spouse has coverage available. It is assumed that 5% of pre-Medicare eligible retirees who cover spouses pay the spousal surcharge. The spousal surcharge is not assumed to increase.

ACTUARIAL METHOD: Costs were determined using the Projected Unit Credit Actuarial Cost Method. The annual service cost is the present value of the portion of the projected benefit attributable to participation service during the upcoming year, and the Actuarial Accrued Liability (AAL) is equal to the present value of the portion of the projected benefit attributable to service before the valuation date. Service from hire date through full retirement eligibility date was used in allocating costs.

MORTALITY: Pre-retirement mortality:

RP-2000 Employee projected to 2025 using scale BB, sex distinct
No Set back / Set forward

Post-retirement mortality:

RP-2000 Combined projected to 2025 using scale BB, sex distinct
Set forward 2 years for both Male & Female lives



Representative values of the assumed annual rates of withdrawal are shown in the following tables.

General Employees – Male

Age	Years of Service											
	< 1	1	2	3	4	5	6	7	8	9	10	11+
20	30.00%	25.00%	20.00%	13.00%	12.00%	12.00%	10.00%	10.00%	6.00%	6.00%	6.00%	4.00%
25	27.00	25.00	20.00	13.00	12.00	12.00	10.00	10.00	6.00	6.00	6.00	4.00
30	26.00	25.00	20.00	13.00	12.00	12.00	10.00	10.00	6.00	6.00	6.00	4.00
35	25.00	20.00	15.00	13.00	12.00	10.50	10.00	10.00	6.00	6.00	6.00	3.00
40	24.00	17.50	13.00	13.00	12.00	9.00	9.00	9.00	5.00	5.00	5.00	2.00
45	20.00	15.00	10.00	9.00	7.00	6.00	8.00	8.00	4.00	4.00	4.00	2.00
50	15.00	12.50	8.00	8.00	5.00	3.00	5.00	5.00	3.00	3.00	3.00	2.00
55	7.50	8.00	6.00	7.00	5.00	2.00	3.00	3.00	2.00	2.00	2.00	1.50
60	2.50	4.00	3.00	6.00	5.00	1.50	1.50	1.50	1.00	1.00	1.00	1.00
65	0.00	0.00	0.00	5.00	5.00	1.00	1.00	1.00	0.50	0.50	0.50	0.25

General Employees – Female

Age	Years of Service											
	< 1	1	2	3	4	5	6	7	8	9	10	11+
20	30.00%	22.50%	17.00%	17.00%	14.00%	12.00%	9.00%	9.00%	9.00%	7.00%	6.00%	4.50%
25	30.00	22.50	17.00	17.00	14.00	12.00	9.00	9.00	9.00	7.00	6.00	4.50
30	30.00	22.50	17.00	17.00	13.00	12.00	9.00	8.00	8.50	7.00	6.00	4.50
35	30.00	22.50	13.00	15.00	9.00	12.00	7.50	7.00	7.50	7.00	6.00	3.75
40	25.00	22.50	9.00	9.00	7.00	10.50	6.50	6.00	6.00	6.00	5.00	2.75
45	20.00	16.00	9.00	7.00	7.00	7.00	5.50	4.50	4.50	4.50	4.00	2.00
50	15.00	12.00	9.00	6.00	6.00	6.00	4.50	3.00	3.50	3.50	3.00	1.50
55	15.00	8.00	9.00	5.00	5.00	5.00	3.50	2.00	2.00	2.00	2.00	1.00
60	15.00	8.00	9.00	4.00	4.00	4.00	2.50	1.00	1.50	1.50	1.00	0.75
65	15.00	8.00	9.00	4.00	4.00	4.00	1.50	0.50	0.50	0.50	0.50	0.50



Public Safety

Age	Years of Service											
	< 1	1	2	3	4	5	6	7	8	9	10	11+
20	15.00%	8.00%	10.00%	8.00%	7.50%	5.00%	6.50%	6.00%	2.50%	3.50%	2.50%	2.50%
25	15.00	8.00	10.00	8.00	7.50	5.00	6.50	6.00	2.50	3.50	2.50	2.50
30	15.00	8.00	10.00	8.00	7.50	5.00	6.50	5.00	2.50	3.50	2.50	2.50
35	15.00	8.00	10.00	8.00	7.50	5.00	6.50	4.00	2.50	3.50	2.50	2.35
40	15.00	8.00	10.00	8.00	7.50	5.00	6.50	3.00	2.50	3.50	2.50	1.25
45	15.00	8.00	10.00	8.00	7.50	5.00	6.50	2.00	2.50	3.50	2.50	0.85
50	15.00	8.00	10.00	8.00	7.50	5.00	6.50	1.00	2.50	3.50	2.50	0.25

Superior Court and State Court Judges

Age	Rate
20	4.0%
25	4.0
30	4.0
35	4.0
40	6.0
45	4.0
50	3.0
55	2.5
60	2.5
65	2.5



Representative values of the assumed annual rates of retirement are shown in the following tables.

Traditional & Hybrid Plan General Employees hired prior to January 1, 2007

Age	Years of Service					
	10	15	20	25	30	
50	0.0%	0.0%	0.0%	0.0%	60.0%	
55	5.0	5.0	5.0	35.0	20.0	
60	5.0	5.0	35.0	5.0	5.0	
65	35.0	35.0	35.0	35.0	35.0	
66	31.0	31.0	31.0	31.0	31.0	
67	27.5	27.5	27.5	27.5	27.5	
68	27.5	27.5	27.5	27.5	27.5	
69	27.5	27.5	27.5	27.5	27.5	
70	100.0	100.0	100.0	100.0	100.0	

Traditional & Hybrid Plan General Employees hired on or after January 1, 2007

Age	Years of Service					
	10	15	20	25	30	
55	5.0%	5.0%	5.0%	35.0%	35.0%	
60	5.0	5.0	35.0	5.0	5.0	
65	35.0	35.0	35.0	35.0	35.0	
66	31.0	31.0	31.0	31.0	31.0	
67	27.5	27.5	27.5	27.5	27.5	
68	27.5	27.5	27.5	27.5	27.5	
69	27.5	27.5	27.5	27.5	27.5	
70	100.0	100.0	100.0	100.0	100.0	



Traditional & Hybrid Plan Public Safety Employees hired prior to January 1, 2007

Age	Years of Service			
	10	15	20	25
50	0.0%	0.0%	0.0%	0.0%
55	7.5	7.5	7.5	50.0
60	3.5	3.5	45.0	25.0
65	50.0	50.0	50.0	50.0
66	50.0	50.0	50.0	50.0
67	100.0	100.0	100.0	100.0

Traditional & Hybrid Plan Public Safety hired on or after January 1, 2007

Age	Years of Service			
	10	15	20	25
55	7.5%	7.5%	7.5%	50.0%
60	3.5	3.5	45.0	25.0
65	50.0	50.0	50.0	50.0
66	50.0	50.0	50.0	50.0
67	100.0	100.0	100.0	100.0

Superior Court and State Court Judges

Age	Rate
60	15%
61	10
62	12
63-64	10
65-69	15
70-74	25
75	100



SCHEDULE E

SUMMARY OF MAIN PLAN PROVISIONS AS INTERPRETED FOR VALUATION PURPOSES

ELIGIBILITY: Eligible employees will include employees retiring from Cobb County and electing medical coverage at retiree rates.

RETIREMENT:

Normal Retirement

For employees hired before January 1, 2009, the first day of the calendar month coinciding with or next following the participant's 65th birthday, or if later, the day the participant completes 7 years of service. However, for any participant who has met all of the requirements to be eligible to retire under the Normal Retirement or Rule of 80 provisions as of December 31, 2008, the Normal Retirement Date shall remain the later of age 65 and the completion of 5 years of service.

For employees hired on or after January 1, 2009, the later of age 65 or 10 years of service.

For employees hired on or after January 1, 2010, the later of Social Security Normal Retirement Age or 10 years of service.

Rule of 80 Retirement

For employees hired before January 1, 2007, age and service must total 80.

Employees hired on or after January 1, 2007 will only qualify for the Rule of 80 if they reach a minimum of age 55 or 35 years of service in addition to satisfying the other requirements.

Early Retirement

For employees hired before January 1, 2009: 55 with 7 years of service

For employees hired on or after January 1, 2009: 55 with 10 years of service

Disability

10 years of service

ELIGIBILITY FOR HEALTH BENEFITS:

Effective January 1, 2007 (for Employees hired prior to January 1, 2006):

- All full-time employees with seven (7) or more years of service as of the effective date will be eligible to continue medical coverage with ten (10) years of service at termination of employment immediately before commencement of retirement benefits.
- All full-time employees with less than seven (7) years of service as of the effective date will be eligible to continue medical coverage with fifteen (15) years of service at termination of employment immediately before commencement of retirement benefits.



- Effective January 1, 2010 – Employees within this definition of eligibility who elect to retire prior to age 65 and prior to 15 years of service may participate in the health benefit until the end of the month of their 65th birthday. Cobb County will contribute 2.5 percent of health premium cost for each full year of service up to a maximum of 30 years of service (75%).

Effective January 1, 2006 (Employees hired on or after January 1, 2006):

- All full-time new hires will be eligible to continue medical coverage with twenty (20) years of service at termination of employment to immediately commence retirement.

Effective January 1, 2009:

- All full-time new hires or rehires will be eligible to continue medical coverage with thirty (30) years of service at termination of employment to immediately commence retirement.

Effective January 1, 2010:

- Cobb County will continue 2.5 percent of health premium cost for each year of service up to a maximum of 30 years of service (75%). Those employees meeting eligibility requirements for retiree health coverage prior to January 1, 2010 will not be subject to this provision.
- All disabled Employees of Cobb County Government if:
 - They were disabled on or after November 1, 1998;
 - They are eligible and receive monthly compensation benefits from the Cobb County Government Board of Commissioners group Long Term Disability Plan; and
 - They have been continuously covered for medical care benefits for at least ten years as an Employee (or as his Spouse's dependent) under the Health Benefit Plan or under any other policy or plan sponsored or arranged by the sponsor, just before the date of his disability.

RETIREE CONTRIBUTIONS: Effective January 1, 2013, Cobb County Medicare Eligible retirees will no longer be covered under the Cobb County Group Plan and instead will be extended coverage through individual health insurance policies administered by Extend Health. Premiums will be reimbursed by Cobb County through a stipend into a non-taxable HRA (health reimbursement account). In 2013 the monthly stipend was \$335 for retirees and \$255 for spouses. This amount remained level for 2014 and increased 4% for 2015 to \$348.40 for retirees and \$265.20 for spouses. The amount has remained level through 2018. We have assumed a 5% increase each year in the monthly stipend amount starting in 2018. Pre-Medicare eligible retiree premiums are determined based on a cost-sharing arrangement and, therefore, increase with medical trend as claims costs increase.

Effective January 1, 2010, Cobb County will contribute 2.5% of the health premium cost or stipend for each year of service up to a maximum of 30 years of service. Therefore, Cobb County will pay a portion of the retiree health premium or stipend, up to a maximum of 75%, with the retiree paying the remaining premium amount. Current retirees or those eligible to retire by January 1, 2010 with at least 10 years of service are not impacted by the change.

Effective January 1, 2012, a spousal surcharge of \$100 per month will be charged to all employees who elect spousal coverage if the spouse has coverage available. The spousal surcharge is not assumed to increase.