

"

**DQCTF 'QHVTWUVGGU'**

**Eqdd'Eqwpv{ 'I qxgt po gpv'Go r nq{ ggu'Rgpukqp'Rncp'Vt wuv''**

**Qvj gt 'Rquw/Go r nq{ o gpv'Dgpglku'QRGD+'Vt wuv'**

**O ggvkpi 'qhl'Cwi wuv'9.'423: "**

**5<sup>pf</sup> 'H0DQE'O ggvkpi 'Tqqo '!: <22'C00 0'**

"

"

Rtgugpv<"" Tqi gt 'Vwugtqy .'Ej ckt'"  
.....Xkti khl'O qqp.'Vtwugg.....  
Vqp{ 'J ci rgt.'VtwugglUgetgvct{ ""  
Dkml'Xqreno cpp.'Vtwugg" " .....

"

C'uej gf wrgf "o ggvkpi 'qhl'y g'Dqctf 'qhl'Vtwuggu'qhl'y g'Eqdd'Eqwpv{ 'Go r nq{ ggu'Tgvt go gpv'Rncp'y cu'ecmgf "vq"  
qtf gt 'd{ 'Tqi gt 'Vwugtqy 'cv': <27'c00 0kp'y g'5<sup>tf</sup> 'Hqqd'Dqctf 'qhl'Ego o kuukpvtu'Dqctf 'Tqqo .'322'Ej gtqngg"  
Utggv.'O ctkgwc.'I ggti k0Vj g'hqmy kpi 'kgo u'qhl'dwukpguu'y gtg'f kuewugf <

"

**K0 Kpxkcvkqp'hqt 'Rwdrlk'Ego o gpv'**

Eqo o gpw'y gtg'tgegkxgf 'ltqo 'O cwj gy 'Dcdeqem'qhl'y g'Eqdd'Eqwpv{ 'Hktg'F gr ctvo gpv'tgi ctf kpi "  
xctkqwu'Rgpukqp'Rncp'eqpegtpu0"

"

**K0 Cr r t q x c n l q h 'O k p w g u'**

""

C'o qvkqp'y cu'o cf g'd{ 'Xkti khl'O qqp'cpf 'ugeqpf gf 'd{ 'Dkml'Xqreno cpp'vq'cr r tqxg'y g'o kpwgu'qhl'y g'"

"

Lxpg'7.'423: 'o ggvkpi 0'

"

Xqvg<6"/'2.'kp'hcxqt.'Uj gt khl'P gkl'Y cttgp'cdugpv'

"

**K0 Tcvll' 'cr r t q x c n l q h 'Kpxqlcg'Rc{ o gpw' "**

.....

C'o qvkqp'y cu'o cf g'd{ 'Xkti khl'O qqp'cpf 'ugeqpf gf 'd{ 'Vqp{ 'J ci rgt'vq'cr r tqxg'p kpg'kpxqlcg'u'qvcrkpi '"

"

&342.5: 306; 'hqt'y g'QRGD'Rncp.'cpf 'qpg'kpxqlcg'qvcrkpi "&38.: ; 908'hqt'y g'F ghkpgf 'Eqpvtkdwkqp'Rncp'"

"

cpf 'gpxgp'kpxqlcg'u'qvcrkpi "&645.9; 5089'hqt'y g'Go r nq{ ggu'Tgvt go gpv'Rncp0'

"

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"

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**X0 O cpci gt u'Tgr qt w'**

c0 Gci ng'Ecr ken'o'Lqj p'Lqj puqp"

d0 DrenT qen'o'Lqj p'Dtqi cp"

.....

"

**XK0 Cf xluqt 'Tgr qt v'o'WU'E qpuwnkpi 'o'F qf f.'Rt leg'('Y tli j v'**

c0 Uwv'Vt wuv'Tgr qt v'

d0 Rgpukqp"

e0 F ghkpgf'Eqp wkdwkqp"

f0 QRGD"

"

Hqm y kpi 'y g'tgeqo o gpf c'kqp'qh'WU'E qpuwnkpi .'c'o q'kqp'y cu'o cf g'd{ 'Xki ki'O qqp'cpf 'ugeqpf gf "  
d{ 'Dkn'Xqren o cpp'v'q'cr r tqxg'y g'tgdcrcpekpi 'tgeqo o gpf c'kqp'qh'y g'Rgpukqp'Rcp'kpxguo gpw0'  
"

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- /3' "qt"&8.722.222'htqo "Y guv hgrf "
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- /3' "qt"&8.722.222'htqo "Gci ng'Uo cm'Ecr "I tqy yj "
- - 30' "qt"&.972.222"v'DrenT qen'Utcvgi le "kpeqo g'Qr r qtwpkkgu"
- - 30' "qt"&.972.222"v'F gny ctg'F kxgtuk hgf "kpeqo g"
- "

Hqm y kpi 'y g'tgeqo o gpf c'kqp'qh'WU'E qpuwnkpi .'C'o q'kqp'y cu'o cf g'd{ 'Xki ki'O qqp'cpf 'ugeqpf gf "  
d{ 'Dkn'Xqren o cpp'v'q'cr r tqxg'y g'tgdcrcpekpi 'tgeqo o gpf c'kqp'qh'y g'QRGD'r rcp'kpxguo gpw0'  
"

Xqvg<6"/2.'k'p'hc xqt.'Uj gt k h'P gki'Y cttgp'cdugpv'

"

"

- /3' "qt"&3.422.222'htqo "Y guv hgrf "
- /3' "qt"&3.422.222'htqo "Gci ng'Uo cm'Ecr "I tqy yj "
- - 3' "qt"&3.422.222"v'DrenT qen'Utcvgi le "kpeqo g'Qr r qtwpkkgu"
- - 3' "qt"&3.422.222"v'F gny ctg'F kxgtuk hgf "kpeqo g"

"

**XK0 P gy 'Dwlp gu'""**

c0 CppwenTgr qt v'v'q'y g'Dqctf "qh'E qo o ku kqpgtu"

"

Vj gtg'y kn'dg'cp'gpf "qh">{ gct'o gg v kpi 'uej gf wrgf 'k p'Hgdtwct{ "v'tgxkgy "y g'CppwenTgr qt v0"

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XKK0 Cf lqwt pgf 'cv', 47" c0 0'  
"

C"o qkqp"y cu"o cf g"d{ "Tqi gt "Vwgtqy "cpf "ugeqpf gf "d{ "Vqp{ "J ci rgt "q"cf lqwt p0'  
"

Xqvg<6"6"2."lp"hcxt"

Vj g'pgzv'uej gf wrf "o ggkpi "y km'dg"qp"Oevqdg"33."423: "cv": <22" c0 0lp"vj g"5<sup>tf</sup>"Hqqt"Dqctf "qh"  
Eqo o kulkqpgtu"Dqctf "Tqqo ."322"Ej gtqngg"Utggv"Dnf i 0C0'O ctkgwc."I gqti kc0'  
"  
"  
"

EGTVKIGF "EQTTGEV<"

aaaaaaaaaaaaaaaaaaaaaaaa	"	"	aaaaaaaaaaaaaaaaaaaaaaaa
Cpj qp{ "D0J ci rgt"	"	"	Tqi gt "Vwgtqy "
Ugetgct{ "	"	"	Ej ck"



## Cobb County Government Employees' Pension Plan

### Asset Class Summary

#### Style Analysis

As of June 30, 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	5.8%	\$ 37,148,096										\$ 37,148,096
Westfield Capital Management	XXXXX32	8.0%	\$ 51,843,271										\$ 51,843,271
Vanguard S&P 500 (VINIX)	XXXXX66	11.8%		\$ 76,365,448									\$ 76,365,448
Eagle Capital	XXXXX85	10.7%			\$ 68,897,469								\$ 68,897,469
Vanguard Mid Cap (VMCIX)	XXXXX66	7.5%				\$ 48,369,633							\$ 48,369,633
Eagle Asset Management	XXXXX85	3.9%					\$ 25,167,982						\$ 25,167,982
Vaughan Nelson	XXXXX49	3.4%						\$ 22,193,904					\$ 22,193,904
BlackRock Global Allocation (MALOX)	XXXXX66	2.8%							\$ 18,195,789				\$ 18,195,789
First Eagle Global (SGIIX)	XXXXX66	3.3%							\$ 21,570,569				\$ 21,570,569
Loomis Sayles Global Equity & Income(LSWWX)	XXXXX66	3.2%							\$ 20,717,886				\$ 20,717,886
Vanguard Total Int'l Stock (VTSNX)	XXXXX66	5.9%								\$ 38,301,575			\$ 38,301,575
Oppenheimer International Growth (OIGIX)	XXXXX66	5.9%								\$ 37,980,491			\$ 37,980,491
Dodge & Cox Int'l (DODFX)	XXXXX66	5.5%								\$ 35,672,647			\$ 35,672,647
Vanguard Int Bond (VBIMX)	XXXXX66	0.0%									\$ -		\$ -
Richmond	XXXXX37	11.3%									\$ 72,859,131		\$ 72,859,131
BlackRock Strategic Income Opps (BSIIX)	XXXXX66	5.4%									\$ 34,904,994		\$ 34,904,994
Delaware Diversified Income (CIT)	XXXXX84	5.3%									\$ 34,266,132		\$ 34,266,132
<b>Total</b>		<b>100%</b>	<b>\$ 88,991,368</b>	<b>\$ 76,365,448</b>	<b>\$ 68,897,469</b>	<b>\$ 48,369,633</b>	<b>\$ 25,167,982</b>	<b>\$ 22,193,904</b>	<b>\$ 60,484,244</b>	<b>\$ 111,954,713</b>	<b>\$ 142,030,257</b>	<b>\$ -</b>	<b>\$ 644,455,019</b>
<b>Current Allocation</b>			<b>13.81%</b>	<b>11.85%</b>	<b>10.69%</b>	<b>7.51%</b>	<b>3.91%</b>	<b>3.44%</b>	<b>9.39%</b>	<b>17.37%</b>	<b>22.04%</b>	<b>0.00%</b>	<b>100%</b>
<b>Target Allocation</b>			<b>11.00%</b>	<b>11.00%</b>	<b>11.00%</b>	<b>6.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>10.00%</b>	<b>20.00%</b>	<b>25.00%</b>		<b>100%</b>
<b>Difference in %</b>			<b>2.81%</b>	<b>0.85%</b>	<b>-0.31%</b>	<b>1.51%</b>	<b>0.91%</b>	<b>0.44%</b>	<b>-0.61%</b>	<b>-2.63%</b>	<b>-2.96%</b>		

Allen Wright, Earle Dodd, Vandyke Price  
Senior Institutional Consultant  
Senior Vice President - Wealth Management  
(404)760-3000

Dollar values above are rounded to the nearest dollar.



**Cobb County Government Employees' Pension Plan**  
**Asset Class Summary**  
**Market Value As of: June 30, 2018**

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The target allocation is based on the client's most recent IPS that UBSFS has on file.

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The investment return and principal value of an investment will fluctuate so that your investment, when redeemed, may be worth more or less than your original cost of investing.

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Sources: Custodial Statement; IPS; Client Request or Advisor Recommendation

Review code: IS1602740

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**Performance Summary - Gross of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$644,455,019	1.42%		1.46%		9.64%		7.63%		8.96%		8.37%		8.31%
Policy Index			1.20%		0.24%		8.18%		6.80%		7.92%		7.62%		7.78%
Dynamic Index			1.54%		0.65%		8.57%		6.92%		8.05%		7.67%		
<b>Fixed Income</b>															
Vanguard Intermediate Bond Index Fd	02/28/2005	\$0													
Barclays Int Govt/Cr															
Richmond Capital Management	07/31/2007	\$72,859,131	-0.17%	33	-1.63%	43	-0.17%	30	2.30%	14	2.76%	18	3.36%	12	4.54%
Barclays Govt/Credit			-0.33%	61	-1.90%	71	-0.63%	59	1.83%	38	2.29%	45	2.77%	44	4.02%
Blackrock Strategic Income Opps Fund	05/31/2011	\$34,904,994	-0.79%	97	-0.45%	1	2.27%	1	2.30%	14	2.88%	12	3.19%	20	3.03%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
Delaware Diversified Income Fund	05/31/2011	\$34,266,132	-1.04%	99	-2.02%	80	-0.48%	49	1.77%	41	2.66%	23	2.82%	40	2.70%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
<b>Large Cap Value</b>															
Eagle Capital Large Value	12/31/2002	\$68,897,469	3.39%	13	3.94%	1	16.31%	1	12.78%	1	14.50%	1	14.36%	1	13.49%
Russell 1000 Value			1.18%	65	-1.69%	72	6.77%	83	8.26%	67	10.34%	76	11.27%	67	9.11%
<b>Large Cap Core</b>															
Vanguard 500 Index	05/31/1999	\$76,365,448	3.44%	18	2.66%	19	14.36%	22	11.90%	3	13.38%	5	13.20%	4	6.05%
S&P 500 Index			3.43%	19	2.65%	19	14.37%	21	11.93%	2	13.42%	4	13.23%	3	5.94%
<b>Large Cap Growth</b>															
TCW Large Cap Growth	04/30/2013	\$37,148,096	7.57%	10	12.17%	16	24.60%	30	14.00%	46	15.53%	52			14.66%
Russell 1000 Growth			5.76%	39	7.25%	50	22.51%	48	14.98%	21	16.36%	36			15.78%
Westfield Capital Large Growth	07/31/2007	\$51,843,271	5.12%	52	8.19%	42	21.35%	55	14.02%	46	16.09%	42	13.91%	47	9.33%
Russell 1000 Growth			5.76%	39	7.25%	50	22.51%	48	14.98%	21	16.36%	36	14.88%	23	10.32%
<b>Mid Cap Core</b>															
Vanguard Midcap 400 Index Fund	05/31/2004	\$48,369,633	2.57%	53	2.56%	30	12.10%	35	9.22%	28	12.31%	13	11.73%	14	10.41%
Russell Midcap			2.82%	42	2.35%	33	12.33%	32	9.58%	24	12.22%	16	11.89%	8	10.12%
<b>Small Cap Value</b>															
Vaughan Nelson	04/30/2009	\$22,193,904	3.75%	85	1.90%	81	10.50%	77	7.37%	92	12.18%	50	11.97%	61	15.94%
Russell 2000 Value			8.30%	11	5.44%	20	13.10%	48	11.22%	40	11.18%	72	11.10%	82	14.63%
<b>Small Cap Growth</b>															
Eagle Small Cap Growth	10/31/2010	\$25,167,982	9.16%	47	12.68%	47	24.43%	52	13.20%	42	14.25%	66	12.52%	79	15.16%
Russell 2000 Growth			7.23%	75	9.70%	69	21.86%	65	10.60%	77	13.65%	77	12.50%	80	14.27%

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**Performance Summary - Gross of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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
<b>International Equity</b>															
Vanguard Total International Stock Fund	11/30/2006	\$38,301,575	-3.17%	67	-3.61%	60	7.14%	20	5.36%	16	6.45%	31	4.11%	59	3.04%
<i>International Index</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	2.45%
Dodge & Cox International Stock Fund	07/31/2007	\$35,672,647	-5.12%	99	-7.15%	99	0.52%	99	2.07%	95	5.71%	58	4.61%	37	2.39%
<i>International Index</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	1.50%
Oppenheimer International Growth	05/31/2014	\$37,980,491	-3.02%	62	-2.84%	35	6.68%	30	5.52%	14					3.07%
<i>MSCI AC Wld X US Net</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25					2.75%
<b>Global Allocation</b>															
Global Allocation	03/31/2010	\$60,484,244	0.12%	26	0.17%	12	7.03%	18	6.22%	2	6.83%	9	6.18%	19	7.08%
<i>HFRX Global Hedge</i>			0.17%	25	-0.85%	33	2.47%	92	0.83%	99	1.32%	99	0.86%	99	0.88%

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## Cobb County OPEB

### Asset Class Summary

#### Style Analysis

As of June 30, 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	6.0%	\$ 6,999,979										\$ 6,999,979
Westfield Capital Management	XXXXX91	7.7%	\$ 9,045,859										\$ 9,045,859
Vanguard S&P 500 (VINIX)	XXXXX57	11.1%		\$ 13,075,481									\$ 13,075,481
Eagle Capital	XXXXX00	10.7%			\$ 12,561,451								\$ 12,561,451
Vanguard Mid Cap (VIMAX)	XXXXX57	6.1%				\$ 7,225,741							\$ 7,225,741
Eagle Asset Management (HSRUX)	XXXXX57	3.8%					\$ 4,413,256						\$ 4,413,256
Vaughan Nelson	XXXXX94	3.4%						\$ 3,985,225					\$ 3,985,225
BlackRock Global Allocation (MALOX)	XXXXX57	3.0%							\$ 3,526,836				\$ 3,526,836
First Eagle Global (SGIIX)	XXXXX57	3.5%							\$ 4,097,882				\$ 4,097,882
Loomis Sayles Global Equity & Income (LSWVX)	XXXXX57	3.7%							\$ 4,339,705				\$ 4,339,705
Vanguard Total Int'l Stock (VTSNX)	XXXXX57	6.8%								\$ 8,044,406			\$ 8,044,406
Oppenheimer International Growth (OIGYX)	XXXXX57	6.2%								\$ 7,240,151			\$ 7,240,151
Dodge & Cox Int'l (DODFX)	XXXXX57	5.7%								\$ 6,753,479			\$ 6,753,479
Vanguard Int Bond (VBILX)	XXXXX57	0.0%									\$ -		\$ -
Richmond	XXXXX92	11.2%									\$ 13,206,870		\$ 13,206,870
BlackRock Strategic Income Opps (BSIIX)	XXXXX57	5.6%									\$ 6,543,483		\$ 6,543,483
Delaware Diversified Income (DPFFX)	XXXXX57	5.5%									\$ 6,434,089		\$ 6,434,089
<b>Total</b>		<b>100%</b>	<b>\$ 16,045,839</b>	<b>\$ 13,075,481</b>	<b>\$ 12,561,451</b>	<b>\$ 7,225,741</b>	<b>\$ 4,413,256</b>	<b>\$ 3,985,225</b>	<b>\$ 11,964,423</b>	<b>\$ 22,038,036</b>	<b>\$ 26,184,442</b>	<b>\$ -</b>	<b>\$ 117,493,895</b>
<b>Current Allocation</b>			<b>13.66%</b>	<b>11.13%</b>	<b>10.69%</b>	<b>6.15%</b>	<b>3.76%</b>	<b>3.39%</b>	<b>10.18%</b>	<b>18.76%</b>	<b>22.29%</b>	<b>0.00%</b>	<b>100%</b>
<b>Target Allocation</b>			<u>11.00%</u>	<u>11.00%</u>	<u>11.00%</u>	<u>6.00%</u>	<u>3.00%</u>	<u>3.00%</u>	<u>10.00%</u>	<u>20.00%</u>	<u>25.00%</u>		<u>100%</u>
<b>Difference in %</b>			<b>2.66%</b>	<b>0.13%</b>	<b>-0.31%</b>	<b>0.15%</b>	<b>0.76%</b>	<b>0.39%</b>	<b>0.18%</b>	<b>-1.24%</b>	<b>-2.71%</b>		

Allen Wright, Earle Dodd, Vandyke Price  
Senior Institutional Consultant

Senior Vice President - Wealth Management  
(404)760-3000

Dollar values above are rounded to the nearest dollar.

**Cobb County OPEB  
Asset Class Summary  
Market Value As of: June 30, 2018**

**Disclosures:**

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Sources: Custodial Statement; IPS; Client Request or Advisor Recommendation

Review code: IS1602740

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**Performance Summary - Gross of Fees**  
**Cobb OPEB**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$117,493,895	1.13%		1.05%		9.52%								11.07%
Policy Index			1.20%		0.25%		8.12%								9.67%
Composite Benchmark Policy Index			1.43%		0.52%										
<b>Fixed Income</b>															
Vanguard Inter-Term Bond Index	09/30/2017	\$0													
BB Int Gov/Cr															
Richmond Capital Management	09/30/2017	\$13,206,870	-0.07%	21	-1.59%	40									-0.89%
BB Gov/Cr Bond			-0.33%	61	-1.90%	71									-1.42%
Blackrock Strategic Income I	09/30/2017	\$6,543,483	-0.82%	98	-0.43%	1									0.42%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
Delaware Diversified Income I	09/30/2017	\$6,434,089	-1.24%	99	-2.28%	93									-1.72%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
<b>Domestic Equity</b>															
Eagle Capital Large Value	09/30/2017	\$12,561,451	2.96%	21	2.95%	1									9.99%
Russell 1000 Value			1.18%	65	-1.69%	72									3.54%
Vanguard 500 Index	09/30/2017	\$13,075,481	3.42%	20	2.63%	20									9.44%
S&P 500 Index			3.43%	19	2.65%	19									9.47%
TCW Large Cap Growth	09/30/2017	\$6,999,979	7.57%	10	12.29%	15									18.41%
Russell 1000 Growth			5.76%	39	7.25%	50									15.69%
Westfield Capital Large Growth	09/30/2017	\$9,045,859	5.13%	52	8.18%	42									14.61%
Russell 1000 Growth			5.76%	39	7.25%	50									15.69%
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,225,741	2.57%	53	2.58%	29									8.37%
Russell Midcap			2.82%	42	2.35%	33									8.56%
Vaughan Nelson	09/30/2017	\$3,985,225	3.46%	89	1.65%	84									5.49%
Russell 2000 Value			8.30%	11	5.44%	20									7.60%
Eagle Small Cap Growth Fund	09/30/2017	\$4,413,256	5.71%	90	7.45%	87									13.95%
Russell 2000 Growth			7.23%	75	9.70%	69									14.73%
<b>International Equity</b>															
Vanguard Total International Stock Fund	09/30/2017	\$8,044,406	-3.17%	67	-3.61%	60									1.09%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Dodge & Cox International Stock Fund	09/30/2017	\$6,753,479	-5.12%	99	-7.15%	99									-6.03%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Oppenheimer International Growth	09/30/2017	\$7,240,151	-3.07%	63	-2.91%	37									0.65%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%

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**Performance Summary - Gross of Fees**  
**Cobb OPEB**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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
<b>Global Allocation</b>															
Global Allocation	09/30/2017	\$11,964,423	0.16%	25	0.22%	11									3.72%
HFRX Global Hedge			0.17%	25	-0.85%	33									0.64%

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# COBB COUNTY GOVERNMENT EMPLOYEES' PENSION PLAN

Trust Report: May 1, 2018 - June 30, 2018

August 7, 2018



Lisa Allen  
Institutional Advisory Services  
Vice President & Client Mgr.  
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- Class Action Proceeds
- Benefit Payments
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- Staff
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# **I. MARKET VALUE UPDATE - MAY 2018**



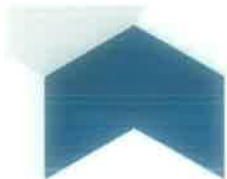


## PORTFOLIO ALLOCATION BY INVESTMENT MANAGER - MAY 2018

INVESTMENT MANAGER	ASSET CLASS	ASSET STYLE	9/30/2017 MARKET VALUE	%	5/31/2018 MARKET VALUE	%
Westfield Capital Mgt	Equity	Large Cap Growth	45,454,610	7.3%	51,787,641	7.9%
Vanguard S&P 500 *	Equity	Large Cap Blend	72,568,707	11.6%	75,907,378	11.6%
TCW Asset Mgt	Equity	Large Cap Growth	31,565,604	5.1%	36,745,666	5.6%
Eagle Capital	Equity	Large Cap Value	61,953,551	9.9%	68,251,635	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%	47,931,177	7.3%
Eagle Asset Mgt	Equity	Small Cap Growth	21,232,156	3.4%	24,585,251	3.8%
Vaughan Nelson	Equity	Small Cap Value	21,159,360	3.4%	22,312,366	3.4%
Total Equity			298,576,968	47.8%	327,521,114	50.1%
Blackrock Global	Global	World Allocation	18,031,538	2.9%	18,307,763	2.8%
First Eagle Global	Global	World Allocation	21,122,879	3.4%	21,780,277	3.3%
Natixis Loomis Sayles Global	Global	World Allocation	19,201,311	3.1%	20,726,937	3.2%
Total Global			58,355,728	9.3%	60,814,977	9.3%
Vanguard Total Int'l Stock	International	Non-US Equity	37,889,779	6.1%	39,108,600	6.0%
Dodge & Cox Int'l	International	Non-US Equity	37,960,174	6.1%	36,311,288	5.6%
Oppenheimer Int'l	International	Non-US Equity	37,685,297	6.0%	39,172,141	6.0%
Total International			113,535,250	18.2%	114,592,029	17.5%
Vanguard Int Bond	Fixed	Intermediate Bond	45,243,060	7.2%	44,268,779	3.6%
MacQuarie Diversified	Fixed	Intermediate Bond	23,664,986	3.8%	23,363,939	6.8%
Blackrock Strategic	Fixed	Multi Sector Bond	23,827,185	3.8%	23,987,265	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%	50,970,835	7.8%
Total Fixed			145,758,001	23.3%	143,990,818	22.0%
Committee Directed	Cash		8,420,845	1.3%	6,922,609	1.1%
TOTAL TRUST			\$624,646,792	100%	\$653,841,546	100%

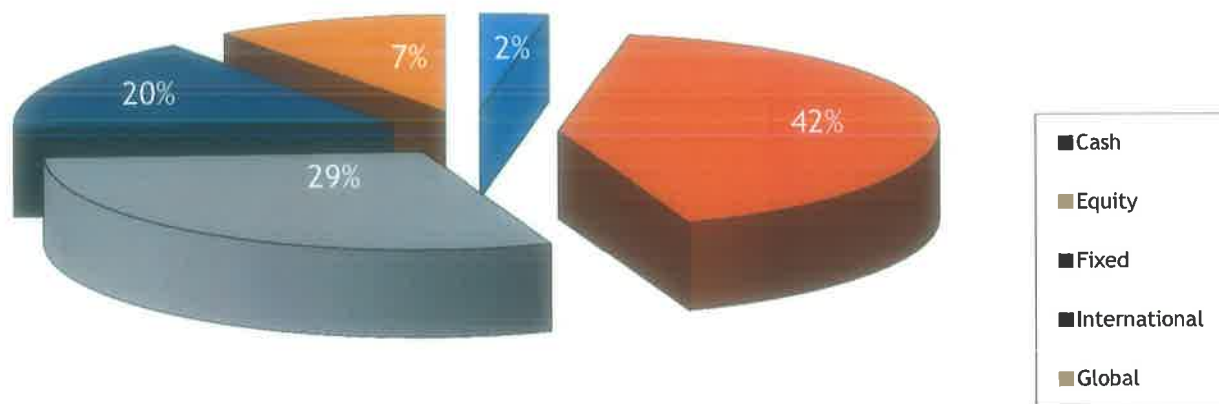
\* Market Value includes \$2,683 cash in Mutual Fund account 1138666





## HISTORICAL COST OF ASSETS - MAY 2018

\$491,333,786.32





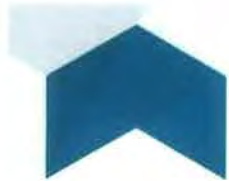
# SUMMARY REPORT - MAY 2018

	<u>MONTH</u> <u>5/01/18 - 5/31/18</u>	<u>CALENDAR YTD</u> <u>1/01/18 - 5/31/18</u>	<u>FISCAL YTD</u> <u>10/01/17 - 5/31/18</u>
Beginning Market Value			
Plus Accrued Income	645,456,345	647,395,635	624,646,791
Administrative Receipts/Disbursements			
Employer Contributions	5,504,633	20,012,089	31,044,354
Employee Contributions	1,037,012	5,659,767	9,283,621
Inter-Account Transfers	0	0	0
Benefit Payments	-5,704,346	-28,200,312	-44,563,524
Other Cash Receipts/Disbursements	-2	10,898	13,968
Administrative Expenses	-489,637	-879,283	-1,347,836
Sub-Total	347,661	-3,396,842	-5,569,417
Investment Results			
Non-Cash Receipts/Disbursements	0	-200,000	-200,000
Income Earned	577,872	3,104,288	7,384,861
Gain/Loss on Assets Disposed/Sold	1,694,675	11,862,782	15,523,589
Change In Unrealized Gain/Loss	5,764,993	-4,924,316	12,055,722
Sub-Total	8,037,541	9,842,754	34,764,172
Ending Market Value			
Plus Accrued Income	653,841,546	653,841,546	653,841,546
Market Value Growth			
Percent Change	1.30%	1.00%	4.67%
Market Value as of 5/31/17		599,402,741	
Annual Percent Change		9.08%	
Market Value as of 6/14/18		661,241,463	
Percent Change Since 5/31/18		1.13%	



## ADMINISTRATIVE EXPENSES - MARCH 2018

	MONTH <u>5/01/18 - 5/31/18</u>	CALENDAR YTD <u>1/01/18 -5/31/18</u>	FISCAL YTD <u>10/01/17 - 5/31/18</u>
Beginning Market Value			
Plus Accrued Income	645,456,345	647,395,635	624,646,791
Administrative Receipts/Disbursements			
Employer Contributions	5,504,633	20,012,089	31,044,354
Employee Contributions	1,037,012	5,659,767	9,283,621
Inter-Account Transfers	0	0	0
Benefit Payments	-5,704,346	-28,200,312	-44,563,524
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Annual Percent Change		9.08%	
Market Value as of 6/14/18		661,241,463	
Percent Change Since 5/31/18		1.13%	



## 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	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
				Regeneron Pharm Inc
				CV Therapeutics
				Helen of Troy
				Viisage Technology
				Buca
				Bisys
				Coca Cola
				Netopia
				Level 3
				Carrier Access Corp
				Alliance Gaming

### CLAIMS PAID SUMMARY

2002 - 2005	40,569
2006 - 2010	371,842
2011 - 2015	118,589
2016	1,394
2017	34,902
2018	6,376
<b>Total</b>	<b>573,672</b>

### OUTSTANDING CLAIMS

<u>Add Date</u>	<u>Company</u>	<u>Add Date</u>
Mar-08	Wyeth	Mar-13
	Northwest Pipe	Mar-13
	Pharmacia Corp	Mar-13
Apr-08	Citigroup	Feb-14
Apr-08	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
Jun-09	CVS	May-16
	Bioscrip	Jul-16
	JP Morgan Chase	Jul-16
	Barrick Gold	Oct-16
	Elan Corp	Aug-17
	PTC Inc.	Aug-17
	Harman International	Sep-17
	Home Loan Servicing	Nov-17
	Aegerion Pharm	Nov-17
Sep-17	CTI Biopharma	Feb-18
	Tangoe Inc	Feb-18
	Imperva	Feb-18
May-12	Ariad Pharmaceuticals	Apr-18
	Commvault Systems	May-18



## MARKET TO MARKET SUMMARY - MONTH ENDING MAY 31, 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 5/01/2018	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
Administrative Receipts/Disbursements												
Employer Contributions	0	0	0	0	0	0	0	0	0	0	5,504,633	5,504,633
Employee Contributions	0	0	0	0	0	0	0	0	0	0	1,037,012	1,037,012
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	-5,704,346	-5,704,346
Other Cash Receipts/Disbursements	-2	0	0	0	0	0	0	0	0	0	0	-2
Administrative Expenses	0	-157,942	-127,867	0	-43,334	-53,565	0	0	-28,002	0	-78,926	-489,637
Sub-Total	-2	-157,942	-127,867	0	-43,334	-53,565	0	0	-28,002	0	758,373	347,661
Investment Results												
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0
Income Earned	73,792	30,980	90,212	0	11,106	26,828	0	0	165,094	175,318	4,540	577,872
Gain/Loss On Assets Disposed/Sold	645,538	29,687	756,280	0	161,585	190,492	0	0	-88,908	0	0	1,694,675
Change In Unrealized Gain/Loss	1,421,132	1,231,580	494,566	0	1,242,594	575,674	-13,089	0	318,372	494,164	0	5,764,993
Sub-Total	2,140,462	1,292,247	1,341,059	0	1,415,286	792,995	-13,089	0	394,559	669,482	4,540	8,037,541
Market Value												
Plus Accrued Income As Of 5/31/2018	51,787,641	36,745,666	68,251,635		0 24,585,250	22,312,366	23,363,939	1,400,000	50,970,835	367,501,606	6,922,609	653,841,546
Cash Balance at SunTrust on 5/31/2018	287,429	1,045,617	184,626	0	260,614	717,443	38	0	947,977	2,683	5,781,540	9,227,965
Cash Balance at LGIP on 5/31/2018	0	0	0	0	0	0	0	0	0	0	1,140,048	1,140,048
Total Cash As Of 5/31/2018	287,429	1,045,617	184,626	0	260,614	717,443	38	0	947,977	2,683	6,921,588	10,368,014
Most Recent Cash Balance as of 6/14/18	745,010	1,528,608	1,004,316 168,338	0	80,514	538,100	38	0	2,655,427	0	119,641	6,671,652
Federated Treasury Obligations [Monthly]	0.14%											
Georgia Fund 1* [Monthly]	1.72%											

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## MARKET TO MARKET SUMMARY - FISCAL YTD AS OF MAY 31, 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
<b>Market Value</b>												
Plus Accrued Income As Of 10/01/17	45,454,610	31,565,604	61,953,551	10,343	21,232,156	21,159,360	23,664,986	1,600,000	51,422,770	358,162,566	8,420,845	624,646,791
<b>Administrative Receipts/Disbursements</b>												
Employer Contributions	0	0	0	0	0	0	0	0	0	0	31,044,354	31,044,354
Employee Contributions	0	0	0	0	0	0	0	0	0	0	9,283,621	9,283,621
Inter-Account Transfers	0	0	0	-10,352	0	0	0	0	0	-3,000,000	3,010,352	0
Benefit Payments	0	0	0	0	0	0	0	0	0	0	-44,563,524	-44,563,524
Other Cash Receipts/Disbursements	9,322	0	0	0	0	63	0	0	0	0	4,583	13,968
Administrative Expenses	-134,206	-157,942	-374,093	0	-125,200	-160,951	0	0	-84,470	0	-310,973	-1,347,836
<b>Sub-Total</b>	<b>-124,885</b>	<b>-157,942</b>	<b>-374,093</b>	<b>-10,352</b>	<b>-125,200</b>	<b>-160,887</b>	<b>0</b>	<b>0</b>	<b>-84,470</b>	<b>-3,000,000</b>	<b>-1,531,587</b>	<b>-5,569,417</b>
<b>Investment Results</b>												
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	-200,000	0	0	0	-200,000
Income Collected	355,990	151,775	520,837	9	73,806	197,709	0	0	1,344,293	4,707,092	33,351	7,384,861
Gain/Loss On Assets Sold	4,462,986	801,587	5,651,896	0	872,031	1,096,391	0	0	-570,829	3,209,526	0	15,523,589
Change In Unrealized Gain/Loss	1,638,940	4,384,642	499,444	0	2,532,457	19,793	-301,047	0	-1,140,929	4,422,421	0	12,055,722
	0			#REF!	#REF!	#REF!	0					
<b>Sub-Total</b>	<b>6,457,916</b>	<b>5,338,004</b>	<b>6,672,177</b>	<b>9</b>	<b>3,478,294</b>	<b>1,313,893</b>	<b>-301,047</b>	<b>-200,000</b>	<b>-367,465</b>	<b>12,339,040</b>	<b>33,351</b>	<b>34,764,172</b>
<b>Market Value</b>												
Plus Accrued Income As Of 5/31/2018	51,787,641	36,745,666	68,251,635	0	24,585,250	22,312,366	23,363,939	1,400,000	50,970,835	367,501,606	6,922,609	653,841,546

## **II. MARKET VALUE UPDATE - JUNE 2018**





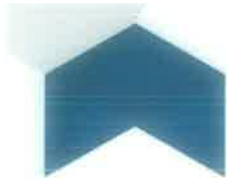


## PORTFOLIO ALLOCATION BY INVESTMENT MANAGER - JUNE 2018

INVESTMENT MANAGER	ASSET CLASS	ASSET STYLE	9/30/2017	%	6/30/2018	%
			MARKET VALUE		MARKET VALUE	
Westfield Capital Mgt	Equity	Large Cap Growth	45,454,610	7.3%	51,857,426	8.0%
Vanguard S&P 500 *	Equity	Large Cap Blend	72,568,707	11.6%	76,365,939	11.7%
TCW Asset Mgt	Equity	Large Cap Growth	31,565,604	5.1%	37,166,925	5.7%
Eagle Capital	Equity	Large Cap Value	61,953,551	9.9%	68,906,684	10.6%
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%	48,369,633	7.4%
Eagle Asset Mgt	Equity	Small Cap Growth	21,232,156	3.4%	25,177,682	3.9%
Vaughan Nelson	Equity	Small Cap Value	21,159,360	3.4%	22,222,394	3.4%
<b>Total Equity</b>			<b>298,576,968</b>	<b>47.8%</b>	<b>330,066,683</b>	<b>50.6%</b>
Blackrock Global	Global	World Allocation	18,031,538	2.9%	18,195,789	2.8%
First Eagle Global	Global	World Allocation	21,122,879	3.4%	21,570,568	3.3%
Natixis Loomis Sayles Global	Global	World Allocation	19,201,311	3.1%	20,717,886	3.2%
<b>Total Global</b>			<b>58,355,728</b>	<b>9.3%</b>	<b>60,484,243</b>	<b>9.3%</b>
Vanguard Total Int'l Stock	International	Non-US Equity	37,889,779	6.1%	38,301,575	5.9%
Dodge & Cox Int'l	International	Non-US Equity	37,960,174	6.1%	35,672,647	5.5%
Oppenheimer Int'l	International	Non-US Equity	37,685,297	6.0%	37,980,491	5.8%
<b>Total International</b>			<b>113,535,250</b>	<b>18.2%</b>	<b>111,954,714</b>	<b>17.2%</b>
Vanguard Int Bond	Fixed	Intermediate Bond	45,243,060	7.2%	21,128	5.3%
MacQuarie Diversified	Fixed	Intermediate Bond	23,664,986	3.8%	34,266,623	0.0%
Blackrock Strategic	Fixed	Multi Sector Bond	23,827,185	3.8%	34,904,994	5.4%
CIGNA	Fixed	Stable Value	1,600,000	0.3%	1,400,000	0.2%
Richmond	Fixed	Short-Term Bond	51,422,770	8.2%	72,874,527	11.2%
<b>Total Fixed</b>			<b>145,758,001</b>	<b>23.3%</b>	<b>143,467,271</b>	<b>22.0%</b>
<b>Committee Directed</b>	Cash		<b>8,420,845</b>	<b>1.3%</b>	<b>5,858,417</b>	<b>0.9%</b>
<b>TOTAL TRUST</b>			<b>\$624,646,792</b>	<b>100%</b>	<b>\$651,831,328</b>	<b>100%</b>

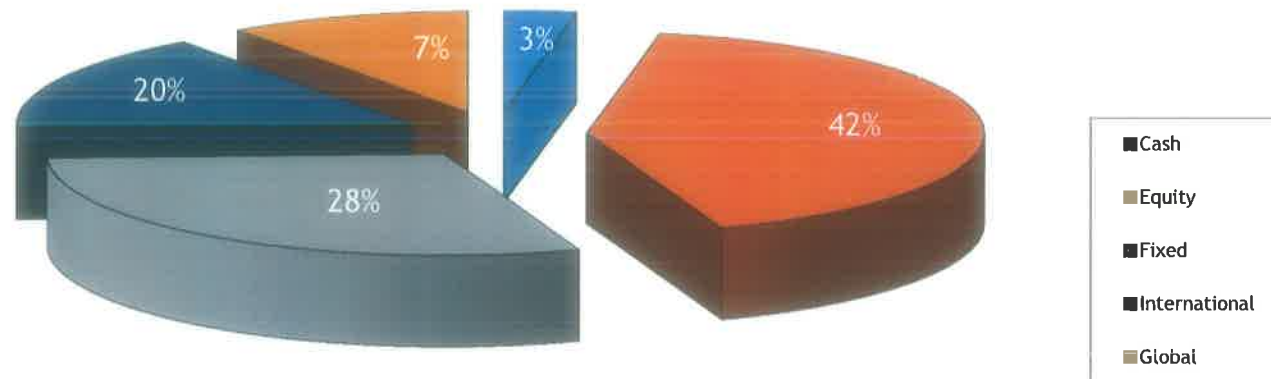
\* Market Value includes \$2,683 cash in Mutual Fund account 1138666





## HISTORICAL COST OF ASSETS - JUNE 2018

**\$493,327,743.54**





## SUMMARY REPORT - JUNE 2018

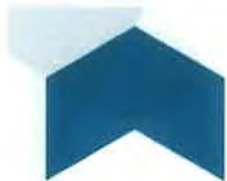
	<u>MONTH</u> <u>6/01/18 - 6/30/18</u>	<u>CALENDAR YTD</u> <u>1/01/18 - 6/30/18</u>	<u>FISCAL YTD</u> <u>10/01/17 - 6/30/18</u>
<b>Beginning Market Value</b>			
<b>Plus Accrued Income</b>	<b>653,841,546</b>	<b>647,395,635</b>	<b>624,646,791</b>
<b>Administrative Receipts/Disbursements</b>			
Employer Contributions	3,670,005	23,682,094	34,714,360
Employee Contributions	1,039,464	6,699,231	10,323,085
Inter-Account Transfers	0	0	0
Benefit Payments	-5,719,846	-33,920,159	-50,283,370
Other Cash Receipts/Disbursements	0	10,898	13,968
Administrative Expenses	-129,846	-1,009,128	-1,477,681
<b>Sub-Total</b>	<b>-1,140,223</b>	<b>-4,537,064</b>	<b>-6,709,639</b>
<b>Investment Results</b>			
Non-Cash Receipts/Disbursements	0	-200,000	-200,000
Income Earned	1,421,323	4,525,611	8,806,184
Gain/Loss on Assets Disposed/Sold	1,316,394	13,179,176	16,839,983
Change In Unrealized Gain/Loss	-3,607,712	-8,532,028	8,448,009
<b>Sub-Total</b>	<b>-869,995</b>	<b>8,972,759</b>	<b>33,894,176</b>
<b>Ending Market Value</b>			
<b>Plus Accrued Income</b>	<b>651,831,329</b>	<b>651,831,329</b>	<b>651,831,329</b>
<b>Market Value Growth</b>			
<b>Percent Change</b>	<b>-0.31%</b>	<b>0.69%</b>	<b>4.35%</b>
<b>Market Value as of 6/30/17</b>		<b>603,073,295</b>	
<b>Annual Percent Change</b>		<b>8.08%</b>	
<b>Market Value as of 7/17/18</b>		<b>661,521,299</b>	
<b>Percent Change Since 6/30/18</b>		<b>1.49%</b>	



## ADMINISTRATIVE EXPENSES - JUNE 2018

	MONTH 6/01/18 - 6/30/18	CALENDAR YTD 1/01/18 - 6/30/18	FISCAL YTD 10/01/17 - 6/30/18
<b>Investment Management Fees:</b>			
Westfield Capital Mgt	-69,723	-137,765	-203,929
TCW Asset Management	0	-157,942	-157,942
Eagle Asset Mgt	0	-85,383	-125,200
Equity Investment Company	0	0	0
Vaughan Nelson	0	-108,053	-160,951
Eagle Capital	0	-255,294	-374,093
Richmond	0	-56,295	-84,470
LGIP Fee	-137	-665	-1,115
<b>Sub-Total</b>	<b>-69,860</b>	<b>-801,399</b>	<b>-1,107,701</b>
<b>Inv. Mgt. Fees as a % of Assets</b>	<b>0.01%</b>	<b>0.12%</b>	<b>0.17%</b>
<b>Trust Fees:</b>			
SunTrust	-43,953	-85,847	-130,172
<b>Asset Consulting Fees:</b>			
UBS Financial Services	0	-66,896	-125,290
Cavanaugh MacDonald Consulting	-16,032	-53,786	-107,326
<b>Legal &amp; Other Services:</b>			
Troutman Sanders	0	-1,102	-7,093
Cobb County (GAPPT)	0	-100	-100
<b>TOTAL ADMINISTRATIVE EXPENSES</b>	<b>-129,846</b>	<b>-1,009,128</b>	<b>-1,477,681</b>
<b>Total Admin. Exp. As a % of Assets</b>	<b>0.02%</b>	<b>0.15%</b>	<b>0.23%</b>
<b>Reimbursement of Expenses:</b>			
Class Actions Proceeds	0	6,376	9,446
<b>Sub-Total</b>	<b>0</b>	<b>6,376</b>	<b>9,446</b>
<b>NET ADMINISTRATIVE EXPENSES*</b>	<b>-129,846</b>	<b>-1,002,752</b>	<b>-1,468,235</b>
<b>Net Admin. Exp. As a % of Assets</b>	<b>0.02%</b>	<b>0.15%</b>	<b>0.23%</b>

\* reflects disbursements made from the Trust only and excludes implicit mutual fund expenses



## CLASS ACTION PROCEEDS - JUNE 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
				Regeneron Pharm Inc
				CV Therapeutics
				Helen of Troy
				Viisage Technology
				Buca
				Bisys
				Coca Cola
				Netopia
				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
				Lehman Brothers

### CLAIMS PAID SUMMARY

2002 - 2005	40,569
2006 - 2010	371,842
2011 - 2015	118,589
2016	1,394
2017	34,902
2018	6,376
<b>Total</b>	<b>573,672</b>

### OUTSTANDING CLAIMS

<u>Add Date</u>	<u>Company</u>	<u>Add Date</u>
Mar-08	Wyeth	Mar-13
	Northwest Pipe	Mar-13
	Pharmacia Corp	Mar-13
Apr-08	Citigroup	Feb-14
Apr-08	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
Jun-09	CVS	May-16
	Bioscrip	Jul-16
	JP Morgan Chase	Jul-16
	Barrick Gold	Oct-16
	Elan Corp	Aug-17
	PTC Inc.	Aug-17
	Harman International	Sep-17
	Home Loan Servicing	Nov-17
	Aegerion Pharm	Nov-17
Sep-17	CTI Biopharma	Feb-18
	Tangoe Inc	Feb-18
	Imperva	Feb-18
May-12	Ariad Pharmaceuticals	Apr-18
	Commvault Systems	May-18



## MARKET TO MARKET SUMMARY - MONTH ENDING JUNE 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
<b>Market Value</b>												
Plus Accrued Income As Of 6/01/2018	51,787,641	36,745,666	68,251,635	0	24,585,250	22,312,366	23,363,939	1,400,000	50,970,835	367,501,606	6,922,609	653,841,546
<b>Administrative Receipts/Disbursements</b>												
Employer Contributions	0	0	0	0	0	0	0	0	0	0	3,670,005	3,670,005
Employee Contributions	0	0	0	0	0	0	0	0	0	0	1,039,464	1,039,464
Inter-Account Transfers	0	0	0	0	0	0	11,000,000	0	21,948,924	-32,948,924	0	0
Benefit Payments	0	0	0	0	0	0	0	0	0	0	-5,719,846	-5,719,846
Other Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0
Administrative Expenses	-69,723	0	0	0	0	0	0	0	0	0	-60,123	-129,846
<b>Sub-Total</b>	-69,723	0	0	0	0	0	11,000,000	0	21,948,924	-32,948,924	-1,070,500	-1,140,223
<b>Investment Results</b>												
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	0	0	0	0	0
Income Earned	35,525	18,825	49,083	0	10,811	43,238	490	0	210,868	1,046,174	6,308	1,421,323
Gain/Loss On Assets Disposed/Sold	430,564	43,133	1,084,684	0	607,308	208,910	0	0	-425	-1,057,780	0	1,316,394
Change In Unrealized Gain/Loss	-326,582	359,300	-478,718	0	-25,688	-342,120	-97,806	0	-255,674	-2,440,424	0	-3,607,712
<b>Sub-Total</b>	139,508	421,259	655,050	0	592,431	-89,972	-97,316	0	-45,231	-2,452,031	6,308	-869,995
<b>Market Value</b>												
Plus Accrued Income As Of 6/30/2018	51,857,426	37,166,925	68,906,684	0	25,177,681	22,222,394	34,266,623	1,400,000	72,874,527	332,100,652	5,858,417	651,831,329
<b>Cash Balance at SunTrust on 6/30/2018</b>	754,598	1,535,055	679,230	0	553,782	310,808	38	0	2,461,404	0	5,790,410	12,085,324
<b>Cash Balance at LGIP on 6/30/2018</b>	0	0	0	0	0	0	0	0	0	0	66,565	66,565
<b>Total Cash As Of 6/30/2018</b>	754,598	1,535,055	679,230	0	553,782	310,808	38	0	2,461,404	0	5,856,975	12,151,890
<b>Most Recent Cash Balance as of 7/17/18</b>	1,285,057	1,739,454	688,445	0	488,193	509,418	528	0	2,516,206	21,618	69,416	7,318,336

Federated Treasury Obligations [Monthly] 0.14%  
Georgia Fund 1\* [Monthly] 1.86%

As published on <https://otfs.georgia.gov>



# MARKET TO MARKET SUMMARY - FISCAL YTD AS OF JUNE 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
<b>Market Value</b>												
Plus Accrued Income As Of 10/01/17	45,454,610	31,565,604	61,953,551	10,343	21,232,156	21,159,360	23,664,986	1,600,000	51,422,770	358,162,566	8,420,845	624,646,791
<b>Administrative Receipts/Disbursements</b>												
Employer Contributions	0	0	0	0	0	0	0	0	0	0	34,714,360	34,714,360
Employee Contributions	0	0	0	0	0	0	0	0	0	0	10,323,085	10,323,085
Inter-Account Transfers	0	0	0	-10,352	0	0	11,000,000	0	21,948,924	-35,948,924	3,010,352	0
Benefit Payments	0	0	0	0	0	0	0	0	0	0	-50,283,370	-50,283,370
Other Cash Receipts/Disbursements	9,322	0	0	0	0	63	0	0	0	0	4,583	13,968
Administrative Expenses	-203,929	-157,942	-374,093	0	-125,200	-160,951	0	0	-84,470	0	-371,096	-1,477,681
<b>Sub-Total</b>	<b>-194,607</b>	<b>-157,942</b>	<b>-374,093</b>	<b>-10,352</b>	<b>-125,200</b>	<b>-160,887</b>	<b>11,000,000</b>	<b>0</b>	<b>21,864,454</b>	<b>-35,948,924</b>	<b>-2,602,087</b>	<b>-6,709,639</b>
<b>Investment Results</b>												
Non-Cash Receipts/Disbursements	0	0	0	0	0	0	0	-200,000	0	0	0	-200,000
Income Collected	391,515	170,600	569,920	9	84,617	240,947	490	0	1,555,160	5,753,266	39,659	8,806,184
Gain/Loss On Assets Sold	4,893,550	844,720	6,736,581	0	1,479,339	1,305,301	0	0	-571,254	2,151,746	0	16,839,983
Change In Unrealized Gain/Loss	1,312,358	4,743,942	20,725	0	2,506,770	-322,327	-398,854	0	-1,396,603	1,981,997	0	8,448,009
<b>Sub-Total</b>	<b>6,597,423</b>	<b>5,759,263</b>	<b>7,327,227</b>	<b>9</b>	<b>4,070,726</b>	<b>1,223,921</b>	<b>-398,364</b>	<b>-200,000</b>	<b>-412,696</b>	<b>9,887,009</b>	<b>39,659</b>	<b>33,894,176</b>
<b>Market Value</b>												
Plus Accrued Income As Of 6/30/2018	51,857,426	37,166,925	68,906,684	0	25,177,681	22,222,394	34,266,623	1,400,000	72,874,527	332,100,652	5,858,417	651,831,329



## BENEFIT PAYMENTS - JANUARY 1, 2018 to APRIL 30, 2018

	CALENDAR YTD	FISCAL YTD	FISCAL YTD
	<u>01/01/18 - 04/30/18</u>	<u>10/01/17 - 04/30/18</u>	<u>MONTHLY AVERAGE</u>
Monthly Checks	447	726	104
Monthly Direct Deposit	<u>9,622</u>	<u>16,728</u>	<u>2390</u>
<b>Total Monthly Payments</b>	<b>10,069</b>	<b>17,454</b>	<b>2,493</b>
Lump Sum Payments	<u>85</u>	<u>153</u>	<u>22</u>
<b>Total Benefit Payments</b>	<b>10,154</b>	<b>17,607</b>	<b>2,503</b>



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## IV. PLAN CONTACTS





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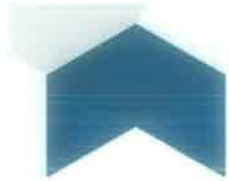
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# Quarterly Market Review

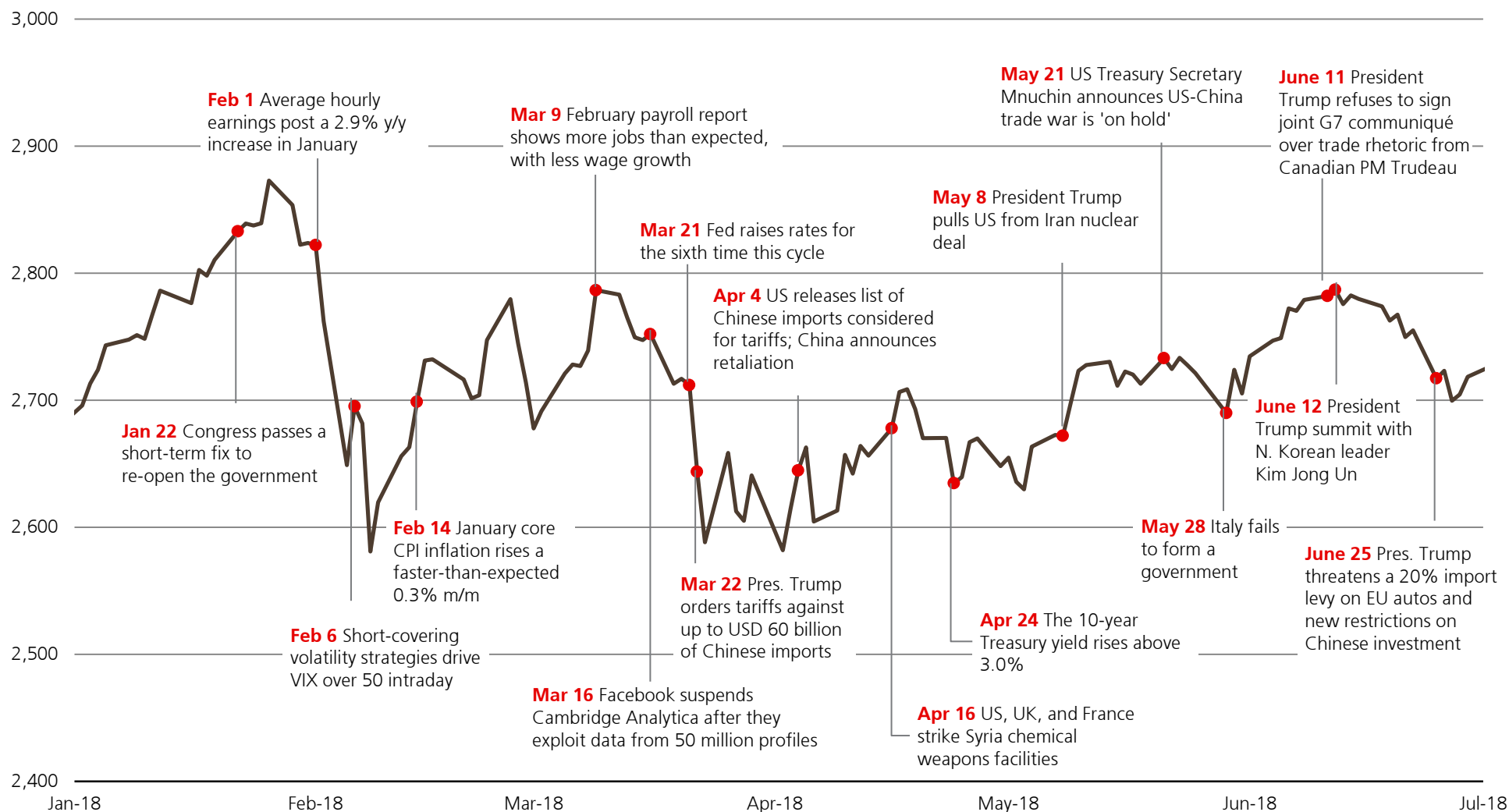
2<sup>nd</sup> Quarter 2018

This report has been prepared by UBS Financial Services Inc. ("UBS FS").  
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# Growing pains, trade fears have unsettled markets

## S&P 500 Index price level, with callouts for newsworthy events



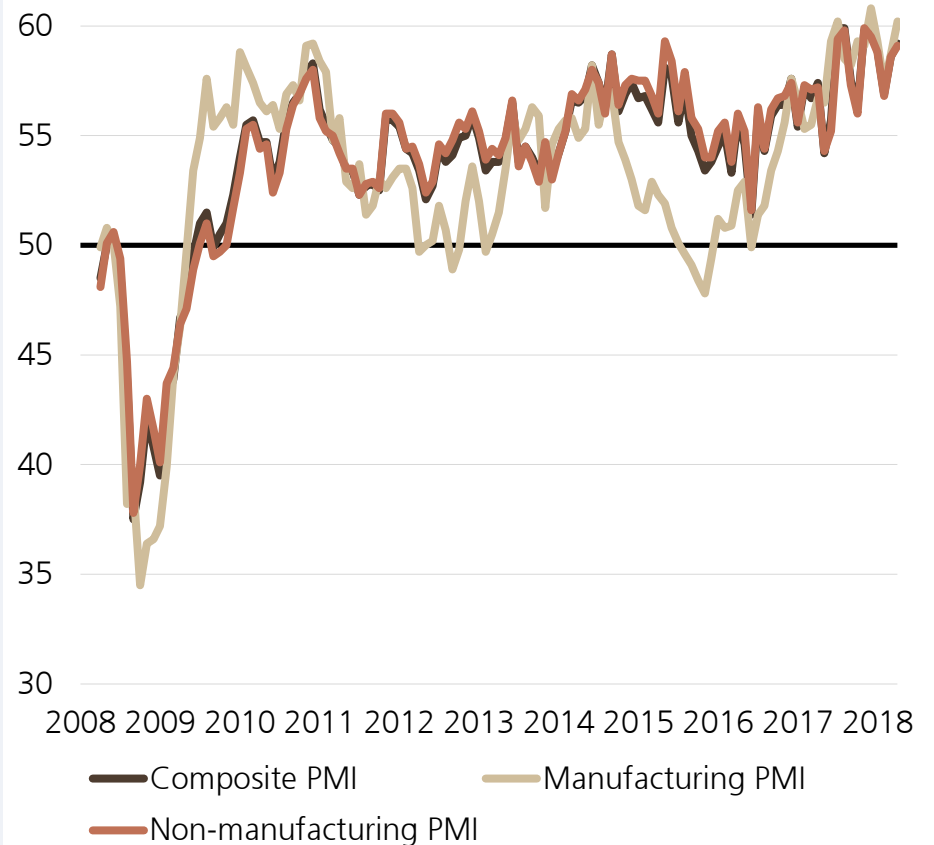
Source: Bloomberg, UBS, as of 29 June 2018

# 2Q 2018 economic review

## Macroeconomic indicators and reactions

- **Economic data** were positive for the US in 2Q. The ISM manufacturing and non-manufacturing PMI readings remained in expansion territory (above 50), and even approached record levels. Similarly, consumer sentiment readings have remained near post-crisis highs. Although US real GDP registered a weaker-than-expected 2% quarter-over-quarter reading in 1Q18, the St. Louis Fed GDP tracker points to 3.5% growth for 2Q18.
- The **US labor market** has remained robust. US nonfarm payrolls grew 223k in May, and unemployment has fallen to 3.8%. But while the increasingly tight labor market has helped boost wage pressure – average hourly earnings now run at a 2.7% year-over-year pace – we haven't seen it translate into runaway inflation. Meanwhile, **inflation** is running roughly in line with the Fed's 2% target, and we expect it to modestly overshoot in the coming months, but it doesn't look likely to breach the 2.5% rate that would cause the Fed to accelerate its rate hikes.
- On 13 June, the Federal Reserve raised its target rate range for the seventh time since 2015. We expect two more hikes in 2018, followed by three hikes in 2019. The European Central Bank plans to end its bond-buying program this year, but won't end its negative interest rate policy until next summer at the earliest.

### US PMIs are consistent with moderate growth ISM Purchasing Managers' Indices



Source: Bloomberg, UBS, as of 5 July 2018.

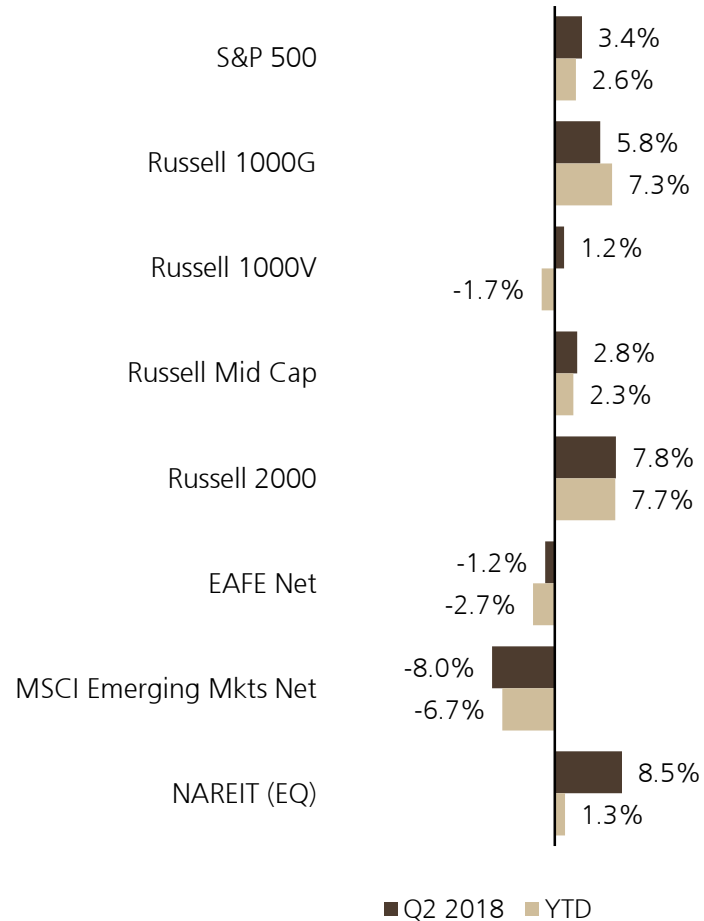
# 2Q 2018 equity review

## Volatility persisted, especially weighing on international equities

- Following the swift return of volatility in the first quarter – which had impacted most equity markets equally – the second quarter saw strong divergence. In the end, US stocks came out ahead for the quarter, with strong performance for growth stocks and smaller-cap firms that are relatively protected against the effects of trade frictions and a stronger US dollar.
- By contrast, 2Q was much more volatile for international and emerging market equities, which gave up their first-quarter gains. Meanwhile, we also saw a strong rally in energy and MLP sectors, which were buoyed by rising oil prices.

### Markets have stumbled after a strong 2017

Total return for select asset classes



Source: Bloomberg, UBS, as of 29 June 2018

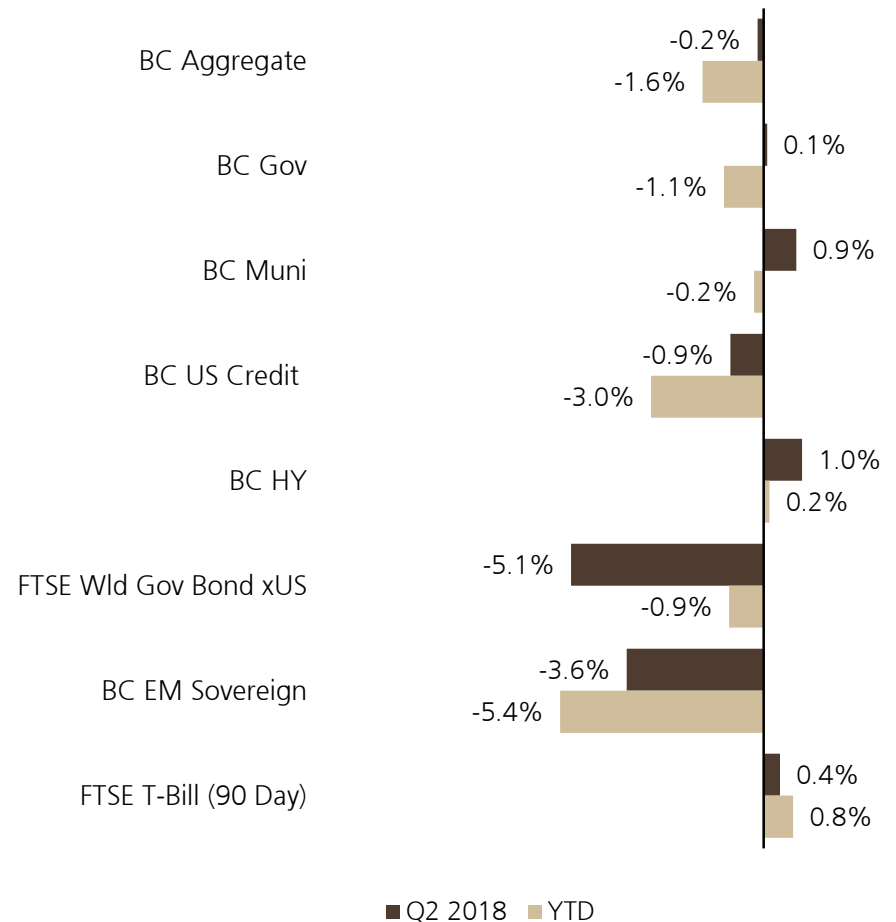
# 2Q 2018 fixed income review

## Interest rates calmed, but international bonds faced higher volatility

- Interest rate volatility fell somewhat during the second quarter. Although the 10-year US Treasury yield rose as high as 3.1% in May, it then settled back into a 2.75–3% range for the remainder of the quarter.
- Corporate bonds have remained relatively stable, though spreads widened somewhat from their first-quarter lows.
- Currency volatility weighed on international bonds, especially on emerging markets, which faced idiosyncratic credit concerns in Argentina and Turkey.

### Relatively weak performance across the board

Total return for select asset classes



Source: Bloomberg, UBS, as of 29 June 2018



# Domestic Equity Style & Market Capitalization

## Annualized return, select time periods, in %

### Q2-2018

LARGE	1.2	3.6	5.8
MID CAP	2.4	2.8	3.2
SMALL	8.3	7.8	7.2
	VALUE	BLEND	GROWTH

### 1-Year

LARGE	6.8	14.5	22.5
MID CAP	7.6	12.3	18.5
SMALL	13.1	17.6	21.9
	VALUE	BLEND	GROWTH

### 3-Year

LARGE	8.3	11.6	15.0
MID CAP	8.8	9.6	10.7
SMALL	11.2	11.0	10.6
	VALUE	BLEND	GROWTH

### 5-Year

LARGE	10.3	13.4	16.4
MID CAP	11.3	12.2	13.4
SMALL	11.2	12.5	13.6
	VALUE	BLEND	GROWTH

Source: Morningstar, as of 29 June 2018

### Representative Indices Used in Style Grid:

**Large Cap Value:** Russell 1000 Value Index  
**Large Cap Blend:** Russell 1000 Index  
**Large Cap Growth:** Russell 1000 Growth Index

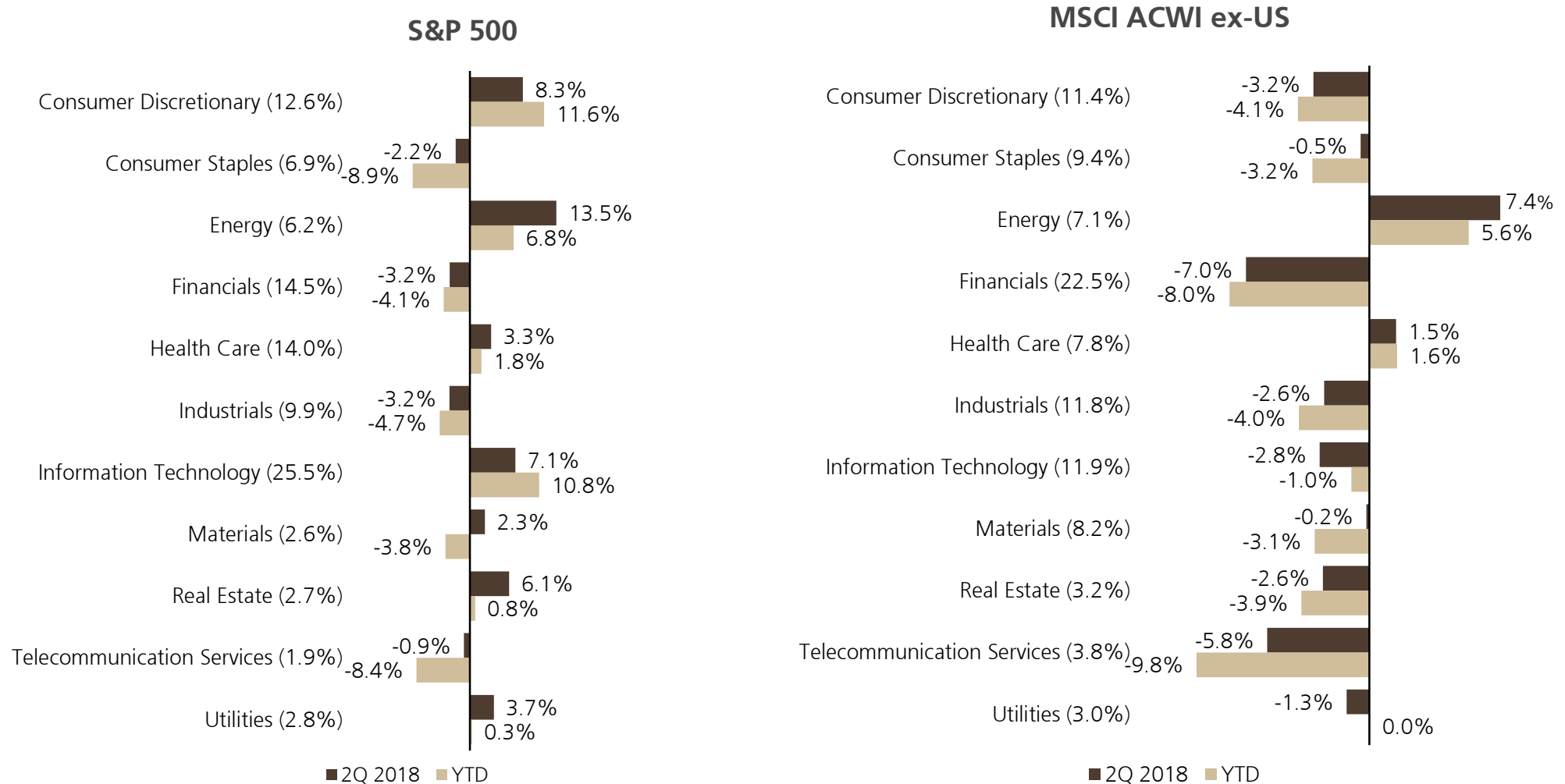
**Mid Cap Value:** Russell MidCap Value Index  
**Mid Cap Blend:** Russell MidCap Index  
**Mid Cap Growth:** Russell MidCap Growth Index

**Small Cap Value:** Russell 2000 Value Index  
**Small Cap Blend:** Russell 2000 Index  
**Small Cap Growth:** Russell 2000 Growth Index

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# Sector Performance S&P 500 and MSCI ACWI ex-US

## Sector performance (weight)



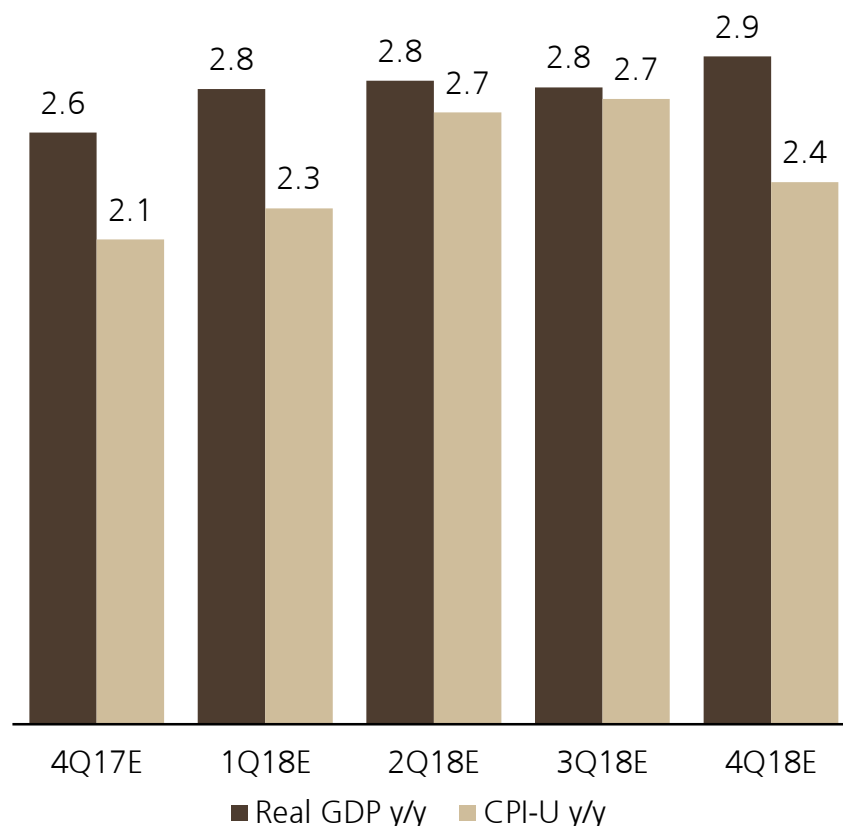
Source: FactSet, UBS, as of 29 June 2018

# 3Q 2018 economic & market outlook

## The US continues to lead a global growth reacceleration

- **Central bank policy** – Global monetary policy remains accommodative, but is moving slowly toward "neutral." The US has already implemented seven rate hikes, and begun to shrink its balance sheet. Meanwhile, the European Central Bank is slowing its own bond-buying program and intends to shut it down by the end of 2018, leaving the Bank of Japan as the only major central bank adding to its balance sheet. As a result, the aggregate global central bank balance sheet is expected to begin shrinking in just a few months – the beginning of the end of the extraordinarily accommodative policies put into place during the Global Financial Crisis.
- **Earnings** – Boosted by tax reform benefits, the 1Q earnings season saw S&P 500 EPS growth of 24% – a strong start toward our full-year EPS growth estimate of 19%.
- **Markets** – Despite a soft patch in overseas economic growth, fundamentals remain solid, and contained inflation risks should empower central banks to remain supportive. As a result, we continue to recommend a tactical overweight to global equities relative to US government bonds. We also reiterate our overweight to US large-cap value over growth, which should benefit from cyclical acceleration, and recommend a tactical overweight to the 10-year US Treasury, which should also help offset equity market weakness if volatility persists. We expect the 10-year Treasury yield to remain around 2.9–3% as the yield curve gradually flattens.

**We expect solid growth and contained inflation**  
UBS forecasts for US real GDP and CPI inflation, in %



Source: UBS, as of 9 July 2018

# What trends and catalysts are we watching?

Our House View Briefcase reports address questions on the top of investors' minds

Equities

## **Are you prepared for the return of volatility?**

Investors should remain invested, but also manage risks.

Equities

## **Should investors consider portfolio insurance?**

Hedging may help offset risks to our risk-on stance, but insurance can be costly, so it's important to be selective.

Equities

## **Is the worst over for emerging markets?**

Despite short-term headwinds, the fundamental outlook for emerging markets remains positive for the longer term.

Commodities

## **Should high oil prices worry investors?**

Even with an easing of OPEC+ production curbs, the oil market would likely remain in deficit this year, leaving crude prices well supported.

Currencies

## **Are we still in a US dollar bear market?**

Dollar strength may persist in the short term, but we're still in a long-term USD bear market.

Policy

## **Are central banks taking away the punchbowl?**

Central banks won't keep filling the punchbowl, but they're not taking it away completely.

Policy

## **Can a Brexit deal be reached?**

UK-EU talks have been fractious and complicated, but they are ultimately still likely to result in a deal.

Policy

## **Will US protectionism spark a trade war?**

Despite recent tariff actions, trade frictions should not escalate into a full-blown global trade war.

Strategy

## **Is cash the answer to higher volatility?**

Cash may tempt investors spooked by renewed volatility, but history and fundamentals indicate this is poor strategy.

Strategy

## **What are the real risks to the business cycle?**

Faster Fed tightening and rising protectionism pose genuine risks to the global business cycle.

Source: UBS, as of 9 July 2018

# Long-term market view

## Annual and 10-year return statistics for select asset classes

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Cum. 10-year return (ann.)	10-year standard deviation
Highest return	66.5%	13.2%	8.4%	11.5%	55.8%	25.6%	34.0%	32.1%	39.4%	12.4%	78.5%	26.9%	9.0%	18.2%	38.8%	13.2%	0.9%	21.3%	37.3%	7.7%	13.0%	23.2%
	27.0%	11.6%	7.2%	10.3%	47.3%	20.2%	13.5%	26.3%	11.2%	5.2%	58.2%	25.5%	7.8%	17.3%	34.8%	13.2%	0.9%	17.1%	25.0%	2.9%	12.7%	20.9%
	21.3%	8.2%	5.3%	-1.4%	40.1%	20.2%	12.7%	18.4%	8.7%	-21.8%	40.5%	18.9%	5.0%	17.3%	33.1%	6.4%	0.5%	13.8%	21.7%	2.3%	12.6%	19.8%
	20.9%	0.2%	2.5%	-4.2%	38.6%	18.3%	8.0%	15.5%	7.3%	-26.2%	31.8%	16.1%	1.8%	16.4%	22.8%	6.0%	0.1%	12.1%	18.5%	0.2%	12.2%	21.2%
	18.2%	-3.0%	-2.6%	-6.2%	29.9%	11.4%	6.3%	15.3%	7.0%	-33.8%	28.4%	15.1%	1.5%	16.3%	11.8%	4.9%	-0.8%	11.2%	14.6%	-0.1%	10.6%	12.1%
	13.5%	-5.9%	-3.6%	-15.9%	29.0%	11.1%	4.6%	13.0%	5.8%	-37.6%	27.2%	9.2%	-1.5%	15.8%	7.4%	4.9%	-2.4%	5.2%	14.4%	-1.1%	9.5%	3.0%
	2.4%	-7.8%	-5.6%	-16.2%	21.9%	10.8%	2.7%	11.8%	5.6%	-41.5%	24.8%	7.8%	-4.2%	11.7%	-2.0%	2.5%	-4.4%	2.6%	7.5%	-1.6%	9.0%	4.7%
	-0.8%	-14.2%	-12.4%	-20.5%	4.1%	4.3%	2.7%	4.3%	1.9%	-43.4%	5.9%	6.5%	-12.1%	4.2%	-2.6%	-2.2%	-4.5%	1.0%	3.5%	-2.7%	8.3%	22.0%
Lowest return	-2.2%	-30.8%	-21.4%	-21.7%	2.4%	3.5%	2.4%	3.5%	-1.6%	-53.3%	-2.2%	5.5%	-18.4%	2.0%	-2.6%	-4.9%	-14.9%	1.0%	2.3%	-6.7%	8.1%	35.4%
	<div>US Large-cap Equities</div> <div>US Mid-cap Equities</div> <div>US Small-cap Equities</div> <div>Int'l Dev Equities</div> <div>EM Equities</div> <div>Barclays US Agg Bond</div> <div>US Gov Fixed Income</div> <div>US High Yield Credit</div> <div>Moderate Diversified Portfolio</div>																					

Source: Bloomberg, UBS, as of 29 June 2018. 10-year return statistics measured from 12/31/2007-12/31/2017.

Note: The Moderate Diversified Portfolio performance calculations are a hypothetical analysis based on historical asset class returns. This backward-looking illustration assumes an investment in asset class indexes represented by the current Strategic Asset Allocation (SAA) for a moderate risk profile investor in a taxable portfolio without non-traditional assets. Performance calculations assume annual rebalancing, don't take into account any prior SAA for this investor profile, and include time periods before the SAA was created. See the latest UBS House View: Investment Strategy Guide (ISG) for the detailed SAA of the taxable portfolio without non-traditional assets. These calculations will not match the performance measurement published in the ISG, which reflects a monthly rebalancing. For periods prior to 2009, this illustration assumes that the Bloomberg Barclays EM Local Currency Government Total Return Index allocation (inception date of 4 July 2008) was invested fully in the Bloomberg Barclays EM USD Aggregate Total Return Index.

# Index Flash Report – US Equities

Index	Through 29 June 2018			Annualized trailing returns				
	MONTH	YTD	Q12018	1Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
S&P 500	0.6	2.6	(0.8)	14.4	11.9	13.4	13.2	10.2
DJIA	(0.5)	(0.7)	(2.0)	16.3	14.1	13.0	12.8	10.8
NASDAQ Comp	1.0	9.4	2.6	23.6	16.0	18.5	16.7	13.9
Wilshire 5000	0.6	3.0	(0.8)	14.7	11.9	13.4	13.0	10.2
Russell 3000	0.7	3.2	(0.6)	14.8	11.6	13.3	13.0	10.2
Russell 3000G	0.9	7.4	1.5	22.5	14.6	16.1	14.7	11.8
Russell 3000V	0.3	(1.2)	(2.8)	7.3	8.5	10.4	11.2	8.6
Russell 1000	0.6	2.9	(0.7)	14.5	11.6	13.4	13.1	10.2
Russell 1000G	1.0	7.3	1.4	22.5	15.0	16.4	14.9	11.8
Russell 1000V	0.2	(1.7)	(2.8)	6.8	8.3	10.3	11.3	8.5
Russell 2000	0.7	7.7	(0.1)	17.6	11.0	12.5	11.8	10.6
Russell 2000G	0.8	9.7	2.3	21.9	10.6	13.6	12.5	11.2
Russell 2000V	0.6	5.4	(2.6)	13.1	11.2	11.2	11.1	9.9
Russell Mid Cap	0.7	2.3	(0.5)	12.3	9.6	12.2	11.9	10.2
Russell Mid CapG	0.4	5.4	2.2	18.5	10.7	13.4	12.2	10.5
Russell Mid CapV	0.8	(0.2)	(2.5)	7.6	8.8	11.3	11.7	10.1

Source: Morningstar, UBS, as of 29 June 2018

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# Index Flash Report – International Equities

Index	Through 29 June 2018			Annualized trailing returns				
	MONTH	YTD	Q12018	1Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
EAFE	(1.2)	(2.4)	(1.4)	7.4	5.4	6.9	5.4	3.3
EAFE Net	(1.2)	(2.7)	(1.5)	6.8	4.9	6.4	4.9	2.8
EAFE Growth	(1.2)	(0.9)	(1.0)	9.4	6.4	7.4	5.8	3.5
EAFE Value	(1.3)	(4.6)	(2.0)	4.3	3.3	5.4	3.9	2.2
EAFE Ex-Japan	(0.8)	(3.0)	(2.3)	5.7	4.5	6.1	4.3	2.6
MSCI World	(0.0)	0.8	(1.2)	11.7	9.1	10.6	9.5	6.9
MSCI World Net	(0.0)	0.4	(1.3)	11.1	8.5	9.9	8.8	6.3
MSCI World xUS Net	(1.1)	(2.8)	(2.0)	7.0	4.9	6.2	4.5	2.6
MSCI Emerging Mkts	(4.1)	(6.5)	1.5	8.6	6.0	5.4	1.8	2.6
MSCI Emerging Mkts Net	(4.2)	(6.7)	1.4	8.2	5.6	5.0	1.4	2.3
MSCI ACWI	(0.5)	(0.1)	(0.8)	11.3	8.8	10.0	8.5	6.4
MSCI ACWI Net	(0.5)	(0.4)	(1.0)	10.7	8.2	9.4	8.0	5.8
MSCI ACWI xUS	(1.8)	(3.4)	(1.1)	7.8	5.6	6.5	4.3	3.0
MSCI ACWI xUS Net	(1.9)	(3.8)	(1.2)	7.3	5.1	6.0	3.8	2.5
MSCI United Kingdom	(1.0)	(1.0)	(3.9)	10.0	3.1	4.9	4.5	2.7
MSCI Japan	(2.5)	(2.0)	0.8	10.5	6.2	7.4	7.1	3.5
MSCI Germany	(2.4)	(7.4)	(3.6)	2.5	5.3	6.4	4.0	2.5
MSCI France	(1.0)	(0.1)	0.3	9.9	8.7	8.2	4.2	2.3
MSCI China	(5.2)	(1.7)	1.8	21.2	7.1	12.1	6.6	6.0
MSCI India	(1.0)	(7.5)	(7.0)	6.5	5.3	9.0	2.9	5.2
MSCI Korea	(6.7)	(9.6)	(0.5)	3.4	10.4	7.5	3.0	4.9
MSCI Brazil	(8.3)	(17.3)	12.4	(0.3)	3.1	(2.5)	(7.6)	(6.1)
MSCI Mexico	9.2	(2.7)	0.9	(9.3)	(3.7)	(3.3)	(1.4)	0.3
MSCI Russia	0.4	2.8	9.4	26.0	11.0	1.3	(3.4)	(5.6)
EURO STOXX 50	(0.2)	(3.7)	(1.5)	3.7	4.1	6.0	2.4	0.2

Source: Morningstar, UBS, as of 29 June 2018

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# Index Flash Report – Fixed Income

Index	Through 29 June 2018				Annualized trailing returns			
	MONTH	YTD	Q12018	1Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
BC Aggregate	(0.1)	(1.6)	(1.5)	(0.4)	1.7	2.3	2.6	3.7
BC Int Aggregate	(0.0)	(1.0)	(1.1)	(0.3)	1.3	1.8	2.0	3.3
FTSE Broad Inv Grd	(0.2)	(1.7)	(1.5)	(0.4)	1.7	2.3	2.6	3.8
BoA-ML C/G 1-3 yr	0.0	0.1	(0.2)	0.3	0.7	0.9	0.9	1.7
BC Int G/C	(0.1)	(1.0)	(1.0)	(0.6)	1.2	1.6	2.0	3.1
BC GC	(0.2)	(1.9)	(1.6)	(0.6)	1.8	2.3	2.8	3.8
BC US Tips	0.4	(0.0)	(0.8)	2.1	1.9	1.7	2.1	3.0
BC US Treasury	0.0	(1.1)	(1.2)	(0.6)	1.0	1.5	2.1	3.0
BC Gov	0.0	(1.1)	(1.1)	(0.6)	1.0	1.5	2.0	2.9
BC US Credit	(0.5)	(3.0)	(2.1)	(0.6)	2.9	3.4	3.9	5.2
BC Global Aggregate xUS	(0.7)	(1.3)	3.6	2.8	3.2	0.9	0.1	1.8
BC Global Aggregate	(0.4)	(1.5)	1.4	1.4	2.6	1.5	1.1	2.6
BC Muni	0.1	(0.2)	(1.1)	1.6	2.9	3.5	3.9	4.4
BC Agency	(0.0)	(0.5)	(0.5)	(0.1)	1.1	1.5	1.6	2.6
BC Mortgages	0.0	(1.0)	(1.2)	0.1	1.5	2.3	2.2	3.5
BC ABS	0.0	0.0	(0.4)	0.4	1.3	1.4	1.8	3.2
BoA-ML High Yield	0.3	0.1	(0.9)	2.5	5.5	5.5	6.2	8.0
BoA-ML Treasury 1-5 yr	(0.0)	(0.3)	(0.4)	(0.4)	0.5	0.8	0.9	1.8
FTSE T-Bill (90 Day)	0.2	0.8	0.3	1.3	0.6	0.4	0.3	0.3
FTSE Wld Gov Bond	(0.3)	(0.9)	2.5	1.9	2.8	1.1	0.5	2.1
FTSE Wld Gov Bond xUS	(0.5)	(0.9)	4.4	3.2	3.7	1.0	(0.1)	1.8

Source: Morningstar, UBS, as of 29 June 2018

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# Additional Resources

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Visit [ubs.com/cio](https://ubs.com/cio) for the latest insights from the UBS Chief Investment Office



# Statement of Risk

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1. Equity markets are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions, and other important variables.
2. 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.
3. 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.
4. 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

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## Emerging Market Investments

Investors should be aware that Emerging Market assets are subject to, amongst others, potential risks linked to currency volatility, abrupt changes in the cost of capital and the economic growth outlook, as well as regulatory and socio-political risk, interest rate risk and higher credit risk. Assets can sometimes be very illiquid and liquidity conditions can abruptly worsen. WMR generally recommends only those securities it believes have been registered under Federal U.S. 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, WMR 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 WMR 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. Sub-investment grade bonds are recommended only for clients with a higher risk tolerance and who seek to hold higher yielding bonds for shorter periods only.

## Non-Traditional Assets

Non-traditional 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-U.S. 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 no-tice, 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 U.S. dollars, changes in the exchange rate between the U.S. 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 U.S. investor.

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# **Cobb County Government 457 Deferred Compensation Plan**

## UBS DC Report

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June 30, 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 07-09-2018

Name	Performance	Portfolio	Morningstar Category Change	Operations	Prospectus Net Expense Ratio (% Rank in Cat.)
	5 Yr. Total Return (% Rank in Category)	Equity Style Box Change		Manager Change	
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	✓	✓	✓	✓	✓
PGIM High Yield R6	✓	—	✓	✓	✓
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 07-09-2018					
Name	Performance	Portfolio	Morningstar Category Change	Operations	Prospectus Net Expense Ratio (% Rank in Cat.)
	5 Yr. Total Return (% Rank in Category)	Equity Style Box Change		Manager Change	

-  Alerts Triggered
-  Alerts Not Triggered

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# Cobb County Government 457 Deferred Compensation Plan

## Alerts

Portfolio Statistics 07-09-2018

Morningstar Category Change				
Security Name	Initial Trigger Value	Current Trigger Value	Current Comparison Value	Current Comparison Subject
ClearBridge Small Cap I	Small Growth (as of 05-08-2018)	Small Growth	Small Blend	—
Vanguard Treasury Money Market Investor	Money Market-Taxable (as of 06-09-2018)	Money Market - Taxable	Money Market - Taxable	—

Manager Statistics 07-09-2018

Manager Change				
Security Name	Initial Trigger Value	Current Trigger Value	Current Comparison Value	Current Comparison Subject
Vanguard Treasury Money Market Investor	Nafis Smith (as of 07-10-2018)	Nafis Smith	David Glocke	—

All performance rankings are based on each fund's total returns relative to other funds in it's 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.

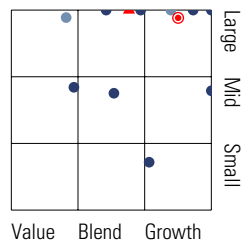
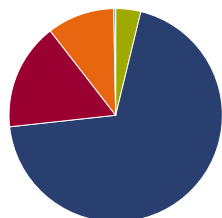
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# Cobb County Government 457 Deferred Compensation Plan

## Plan Summary

### Composition 06-30-2018



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	3.81	0.00
US Stocks	69.46	99.12
Non-US Stocks	16.23	0.88
Bonds	10.20	0.00
Other/Not Clsfd	0.29	0.00

**Equity Ownership Zone™**

- Plan
- Domestic Equity
- International Equity
- Benchmark

### Benchmark

S&P 500 TR USD

### Plan Value

114,435,745.10

### Total Number of Options

24

### Style Analysis 06-30-2018

15	21	43	Large
3	5	7	Mid
2	2	2	Small
Value	Blend	Growth	

0	2	0	High
0	80	0	Med
16	0	0	Low
Ltd	Mod	Ext	

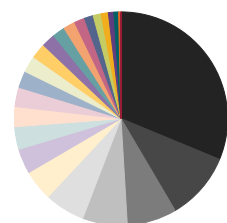
### Equity Investment Style Actual %

Geo Avg Cap Plan (\$Mil)	58,134.09
Geo Avg Cap Bmark (\$Mil)	99,862.04

### Fixed-Income Investment Style Actual %

Avg Effective Duration (Yrs)	5.45
Avg Effective Maturity (Yrs)	12.66
Avg Credit Quality	—

### Composition By Fund 06-30-2018



Fund Name	Ticker	Plan %	Amount \$	Fund Name	Ticker	Plan %	Amount \$
T. Rowe Price Growth Stock I	PRUFX	31.24	35,751,222.77	JHancock Fundamental Large Cap Core R6	JLCWX	10.29	11,772,737.36
American Funds Washington Mutual R6	RWMGX	7.53	8,612,335.85	American Funds New Perspective R6	RNPGX	6.78	7,763,630.69
Harbor Mid Cap Growth Retirement	HNMGX	6.11	6,996,944.61	ClearBridge Small Cap I	LMNSX	4.63	5,293,080.89
American Funds 2030 Trgt Date Retire R6	RFETX	3.77	4,308,980.28	American Funds Europacific Growth R6	RERGX	3.44	3,934,494.15
Western Asset Core Plus Bond IS	WAPXS	3.02	3,456,096.56	American Funds 2020 Trgt Date Retire R6	RRCTX	2.94	3,360,050.99
American Funds 2025 Trgt Date Retire R6	RFDTX	2.53	2,893,532.02	Oakmark International Institutional	OANIX	2.51	2,873,331.43
American Funds 2035 Trgt Date Retire R6	RFETX	2.30	2,635,252.33	Nuveen Real Estate Securities R6	FREGX	2.06	2,359,871.49
American Funds 2015 Trgt Date Retire R6	RFJTX	1.91	2,188,340.50	Victory Sycamore Established Value R6	VEVRX	1.80	2,059,361.82
PGIM High Yield R6	PHYQX	1.59	1,818,687.96	American Funds 2040 Trgt Date Retire R6	RFCTX	1.36	1,555,465.35
American Funds 2045 Trgt Date Retire R6	RFHTX	1.19	1,365,417.66	American Funds 2010 Trgt Date Retire R6	RFTTX	1.10	1,262,195.87
American Funds 2050 Trgt Date Retire R6	RFITX	0.84	957,017.64	Vanguard Treasury Money Market Investor	VUSXX	0.70	803,733.41
American Funds 2055 Trgt Date Retire R6	RFKTX	0.35	397,964.52	American Funds 2060 Trgt Date Retire R6	RFUTX	0.01	15,998.95

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# Cobb County Government 457 Deferred Compensation Plan

## Performance

### Style Count 06-30-2018

#### Equity Investment Style

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

#### Equity Style Options: 10

\* Does not include 11 hybrid funds.

\* Style Count data is not available for 1 holdings.

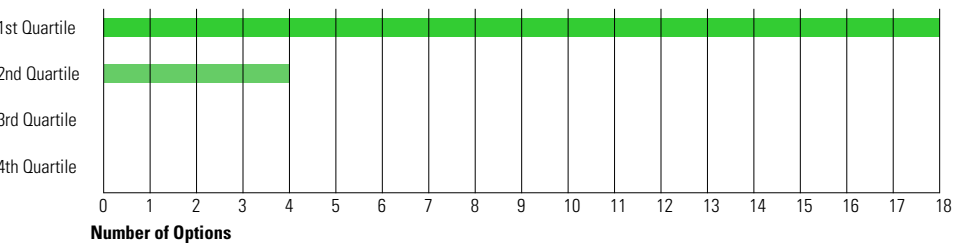
#### Fixed-Income Investment Style

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

#### Fixed-Income Options: 2

### Performance Quartiles 06-30-2018

#### Quartile Rank (Trailing 5 Yr)



\* Category % Rank is not available for 2 holdings.

### Fund Performance 06-30-2018

	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
<b>Large Value(Fds)</b>	<b>Avg</b>	—	<b>-0.95</b>	<b>1.63</b>	<b>9.04</b>	<b>8.35</b>	<b>9.94</b>	<b>8.30</b>	—	<b>1.28</b>	—	—	—	—
American Funds Washington Mutual R6	MF	05-01-2009	1.33	2.69	14.05	11.93	12.30	9.90	14.95	0.29	8(1273)	5(1099)	3(951)	13(686)
<b>Russell 1000 Value TR USD</b>	<b>Idx</b>	<b>12-31-1978</b>	<b>-1.69</b>	<b>1.18</b>	<b>6.77</b>	<b>8.26</b>	<b>10.34</b>	<b>8.49</b>	—	—	—	—	—	—
<b>Large Blend(Fds)</b>	<b>Avg</b>	—	<b>1.58</b>	<b>2.68</b>	<b>12.58</b>	<b>9.93</b>	<b>11.73</b>	<b>9.08</b>	—	<b>2.09</b>	—	—	—	—
JHancock Fundamental Large Cap Core R6	MF	09-01-2011	0.88	2.45	10.49	11.00	12.87	7.31	14.32	0.69	78(1353)	39(1166)	32(1042)	90(776)
<b>Russell 1000 TR USD</b>	<b>Idx</b>	<b>12-31-1978</b>	<b>2.85</b>	<b>3.57</b>	<b>14.54</b>	<b>11.64</b>	<b>13.37</b>	<b>10.20</b>	—	—	—	—	—	—
<b>Large Growth(Fds)</b>	<b>Avg</b>	—	<b>7.51</b>	<b>5.13</b>	<b>20.58</b>	<b>12.21</b>	<b>14.37</b>	<b>10.23</b>	—	<b>1.61</b>	—	—	—	—
T. Rowe Price Growth Stock I	MF	08-28-2015	10.00	5.91	23.10	15.70	17.73	12.26	16.55	0.52	33(1454)	13(1265)	10(1141)	15(825)
<b>Russell 1000 Growth TR USD</b>	<b>Idx</b>	<b>12-31-1978</b>	<b>7.25</b>	<b>5.76</b>	<b>22.51</b>	<b>14.98</b>	<b>16.36</b>	<b>11.83</b>	—	—	—	—	—	—

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

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# Cobb County Government 457 Deferred Compensation Plan

## Performance

### Fund Performance 06-30-2018

	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
<b>Mid-Cap Value(Fds)</b>	<b>Avg</b>	—	<b>0.19</b>	<b>2.55</b>	<b>8.86</b>	<b>7.99</b>	<b>10.12</b>	<b>9.16</b>	—	<b>2.40</b>	—	—	—	—
Victory Sycamore Established Value R6	MF	03-04-2014	1.41	2.52	11.60	11.63	13.87	11.00	11.15	0.54	22(409)	6(365)	2(307)	15(221)
<b>Russell Mid Cap Value TR USD</b>	<b>Idx</b>	<b>12-31-1985</b>	<b>-0.16</b>	<b>2.41</b>	<b>7.60</b>	<b>8.80</b>	<b>11.27</b>	<b>10.06</b>	—	—	—	—	—	—
<b>Mid-Cap Growth(Fds)</b>	<b>Avg</b>	—	<b>6.39</b>	<b>4.16</b>	<b>18.06</b>	<b>9.68</b>	<b>12.31</b>	<b>9.45</b>	—	<b>1.70</b>	—	—	—	—
Harbor Mid Cap Growth Retirement	MF	03-01-2016	12.39	6.42	24.21	12.02	13.86	9.50	24.66	0.81	14(607)	21(541)	24(480)	51(344)
<b>Russell Mid Cap Growth TR USD</b>	<b>Idx</b>	<b>12-31-1985</b>	<b>5.40</b>	<b>3.16</b>	<b>18.52</b>	<b>10.73</b>	<b>13.37</b>	<b>10.45</b>	—	—	—	—	—	—
<b>Small Growth(Fds)</b>	<b>Avg</b>	—	<b>11.05</b>	<b>8.53</b>	<b>22.70</b>	<b>11.04</b>	<b>12.76</b>	<b>10.85</b>	—	<b>4.79</b>	—	—	—	—
ClearBridge Small Cap I	MF	12-01-1994	5.55	6.50	10.92	11.91	12.98	10.52	11.42	0.98	95(701)	36(606)	47(534)	56(404)
<b>Russell 2000 Growth TR USD</b>	<b>Idx</b>	<b>12-31-1978</b>	<b>9.70</b>	<b>7.23</b>	<b>21.86</b>	<b>10.60</b>	<b>13.65</b>	<b>11.24</b>	—	—	—	—	—	—
<b>Real Estate(Fds)</b>	<b>Avg</b>	—	<b>0.54</b>	<b>7.98</b>	<b>3.39</b>	<b>7.22</b>	<b>7.70</b>	<b>7.27</b>	—	<b>2.46</b>	—	—	—	—
Nuveen Real Estate Securities R6	MF	04-30-2013	0.55	8.11	3.53	7.90	8.41	8.63	6.47	0.87	52(259)	33(230)	29(199)	17(143)
<b>S&amp;P United States REIT TR USD</b>	<b>Idx</b>	<b>12-31-1992</b>	<b>1.37</b>	<b>10.37</b>	<b>3.62</b>	<b>7.81</b>	<b>8.08</b>	<b>7.82</b>	—	—	—	—	—	—
<b>Foreign Large Blend(Fds)</b>	<b>Avg</b>	—	<b>-3.06</b>	<b>-2.14</b>	<b>6.08</b>	<b>4.56</b>	<b>5.92</b>	<b>2.61</b>	—	<b>4.02</b>	—	—	—	—
Oakmark International Institutional	MF	11-30-2016	-7.59	-4.96	3.34	5.80	6.90	8.40	14.72	0.82	88(774)	18(623)	21(533)	1(371)
<b>MSCI ACWI Ex USA NR USD</b>	<b>Idx</b>	<b>01-01-2001</b>	<b>-3.77</b>	<b>-2.61</b>	<b>7.28</b>	<b>5.07</b>	<b>5.99</b>	<b>2.54</b>	—	—	—	—	—	—
<b>Foreign Large Growth(Fds)</b>	<b>Avg</b>	—	<b>-0.43</b>	<b>-0.72</b>	<b>10.53</b>	<b>6.62</b>	<b>7.72</b>	<b>3.92</b>	—	<b>3.43</b>	—	—	—	—
American Funds Europacific Growth R6	MF	05-01-2009	-1.82	-2.82	9.35	6.51	8.34	4.82	9.86	0.49	52(423)	44(344)	28(304)	24(218)
<b>MSCI ACWI Ex USA Growth NR USD</b>	<b>Idx</b>	<b>01-01-2001</b>	<b>-2.28</b>	<b>-1.42</b>	<b>9.90</b>	<b>6.56</b>	<b>7.18</b>	<b>3.01</b>	—	—	—	—	—	—
<b>World Large Stock(Fds)</b>	<b>Avg</b>	—	<b>0.18</b>	<b>0.62</b>	<b>10.28</b>	<b>7.91</b>	<b>9.21</b>	<b>6.18</b>	—	<b>2.56</b>	—	—	—	—
American Funds New Perspective R6	MF	05-01-2009	4.63	2.38	15.53	11.39	12.23	8.69	13.91	0.45	14(872)	12(721)	10(596)	7(343)
<b>MSCI ACWI NR USD</b>	<b>Idx</b>	<b>01-01-2001</b>	<b>-0.43</b>	<b>0.53</b>	<b>10.73</b>	<b>8.19</b>	<b>9.41</b>	<b>5.80</b>	—	—	—	—	—	—

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# Cobb County Government 457 Deferred Compensation Plan

## Performance

### Fund Performance 06-30-2018

	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
<b>Intermediate-Term Bond(Fds)</b>	<b>Avg</b>	—	<b>-1.55</b>	<b>-0.24</b>	<b>-0.36</b>	<b>1.68</b>	<b>2.20</b>	<b>3.89</b>	—	<b>1.15</b>	—	—	—	—
Western Asset Core Plus Bond IS	MF	08-04-2008	-2.51	-1.46	-0.43	3.34	3.81	6.12	6.38	0.43	48(999)	2(878)	2(778)	1(563)
<b>BBgBarc US Agg Bond TR USD</b>	<b>Idx</b>	<b>01-01-1976</b>	<b>-1.62</b>	<b>-0.16</b>	<b>-0.40</b>	<b>1.72</b>	<b>2.27</b>	<b>3.72</b>	—	—	—	—	—	—
<b>High Yield Bond(Fds)</b>	<b>Avg</b>	—	<b>-0.16</b>	<b>0.56</b>	<b>2.23</b>	<b>4.20</b>	<b>4.36</b>	<b>6.51</b>	—	<b>1.41</b>	—	—	—	—
PGIM High Yield R6	MF	10-31-2011	0.74	1.21	3.32	5.93	5.87	7.61	6.83	0.41	17(680)	4(575)	6(484)	17(321)
<b>ICE BofAML US High Yield TR USD</b>	<b>Idx</b>	<b>08-29-1986</b>	<b>0.08</b>	<b>1.00</b>	<b>2.53</b>	<b>5.55</b>	<b>5.51</b>	<b>8.03</b>	—	—	—	—	—	—
<b>Target-Date 2000-2010(Fds)</b>	<b>Avg</b>	—	<b>-0.32</b>	<b>0.38</b>	<b>4.37</b>	<b>4.38</b>	<b>5.33</b>	<b>4.88</b>	—	<b>5.92</b>	—	—	—	—
American Funds 2010 Trgt Date Retire R6	MF	07-13-2009	-0.46	0.55	4.37	5.27	6.18	5.56	8.55	0.34	53(135)	7(111)	16(87)	21(76)
<b>Morningstar Lifetime Mod 2010 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.10</b>	<b>0.72</b>	<b>5.44</b>	<b>4.73</b>	<b>5.34</b>	<b>5.39</b>	—	—	—	—	—	—
<b>Target-Date 2015(Fds)</b>	<b>Avg</b>	—	<b>-0.20</b>	<b>0.54</b>	<b>5.14</b>	<b>4.81</b>	<b>5.84</b>	<b>5.22</b>	—	<b>6.26</b>	—	—	—	—
American Funds 2015 Trgt Date Retire R6	MF	07-13-2009	-0.26	0.70	5.04	5.61	6.78	5.87	9.12	0.33	52(138)	11(109)	17(75)	27(49)
<b>Morningstar Lifetime Mod 2015 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>-0.02</b>	<b>0.73</b>	<b>5.91</b>	<b>5.15</b>	<b>5.87</b>	<b>5.68</b>	—	—	—	—	—	—
<b>Target-Date 2020(Fds)</b>	<b>Avg</b>	—	<b>-0.25</b>	<b>0.54</b>	<b>5.65</b>	<b>5.07</b>	<b>6.07</b>	<b>5.33</b>	—	<b>3.68</b>	—	—	—	—
American Funds 2020 Trgt Date Retire R6	MF	07-13-2009	0.32	0.96	6.28	6.23	7.60	6.33	10.00	0.35	28(252)	5(203)	3(160)	13(106)
<b>Morningstar Lifetime Mod 2020 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>-0.07</b>	<b>0.77</b>	<b>6.54</b>	<b>5.65</b>	<b>6.51</b>	<b>5.99</b>	—	—	—	—	—	—
<b>Target-Date 2025(Fds)</b>	<b>Avg</b>	—	<b>-0.10</b>	<b>0.64</b>	<b>6.79</b>	<b>5.83</b>	<b>6.94</b>	<b>5.91</b>	—	<b>2.43</b>	—	—	—	—
American Funds 2025 Trgt Date Retire R6	MF	07-13-2009	0.82	1.12	8.08	7.14	8.75	7.16	11.22	0.37	10(222)	1(178)	1(138)	5(72)
<b>Morningstar Lifetime Mod 2025 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>-0.01</b>	<b>0.87</b>	<b>7.45</b>	<b>6.28</b>	<b>7.33</b>	<b>6.35</b>	—	—	—	—	—	—
<b>Target-Date 2030(Fds)</b>	<b>Avg</b>	—	<b>0.04</b>	<b>0.78</b>	<b>7.88</b>	<b>6.48</b>	<b>7.64</b>	<b>6.06</b>	—	<b>3.47</b>	—	—	—	—
American Funds 2030 Trgt Date Retire R6	MF	07-13-2009	1.38	1.38	10.03	8.16	9.86	7.86	12.10	0.39	1(241)	1(193)	1(150)	1(96)
<b>Morningstar Lifetime Mod 2030 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.15</b>	<b>1.01</b>	<b>8.64</b>	<b>7.02</b>	<b>8.20</b>	<b>6.75</b>	—	—	—	—	—	—

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# Cobb County Government 457 Deferred Compensation Plan

## Performance

Fund Performance 06-30-2018														
	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
<b>Target-Date 2035(Fds)</b>	<b>Avg</b>	—	<b>0.26</b>	<b>0.86</b>	<b>8.94</b>	<b>7.13</b>	<b>8.36</b>	<b>6.55</b>	—	<b>3.44</b>	—	—	—	—
American Funds 2035 Trgt Date Retire R6	MF	07-13-2009	2.02	1.67	11.94	9.19	10.61	8.18	12.53	0.40	1(217)	1(173)	1(133)	1(67)
<b>Morningstar Lifetime Mod 2035 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.33</b>	<b>1.16</b>	<b>9.81</b>	<b>7.70</b>	<b>8.91</b>	<b>7.09</b>	—	—	—	—	—	—
<b>Target-Date 2040(Fds)</b>	<b>Avg</b>	—	<b>0.30</b>	<b>0.95</b>	<b>9.56</b>	<b>7.46</b>	<b>8.73</b>	<b>6.57</b>	—	<b>3.83</b>	—	—	—	—
American Funds 2040 Trgt Date Retire R6	MF	07-27-2009	2.23	1.83	12.67	9.56	10.91	8.37	11.81	0.41	1(241)	1(193)	1(150)	1(96)
<b>Morningstar Lifetime Mod 2040 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.43</b>	<b>1.23</b>	<b>10.62</b>	<b>8.14</b>	<b>9.30</b>	<b>7.27</b>	—	—	—	—	—	—
<b>Target-Date 2045(Fds)</b>	<b>Avg</b>	—	<b>0.45</b>	<b>0.98</b>	<b>10.12</b>	<b>7.79</b>	<b>9.06</b>	<b>6.78</b>	—	<b>3.44</b>	—	—	—	—
American Funds 2045 Trgt Date Retire R6	MF	07-13-2009	2.32	1.86	13.01	9.76	11.06	8.43	12.83	0.41	1(217)	1(173)	1(133)	1(66)
<b>Morningstar Lifetime Mod 2045 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.42</b>	<b>1.22</b>	<b>10.96</b>	<b>8.31</b>	<b>9.39</b>	<b>7.28</b>	—	—	—	—	—	—
<b>Target-Date 2050(Fds)</b>	<b>Avg</b>	—	<b>0.38</b>	<b>0.99</b>	<b>10.22</b>	<b>7.83</b>	<b>9.15</b>	<b>6.82</b>	—	<b>3.47</b>	—	—	—	—
American Funds 2050 Trgt Date Retire R6	MF	07-13-2009	2.44	1.90	13.28	9.88	11.15	8.45	12.87	0.42	1(237)	1(188)	1(145)	1(70)
<b>Morningstar Lifetime Mod 2050 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.36</b>	<b>1.15</b>	<b>11.00</b>	<b>8.30</b>	<b>9.35</b>	<b>7.22</b>	—	—	—	—	—	—
<b>Target-Date 2055(Fds)</b>	<b>Avg</b>	—	<b>0.51</b>	<b>1.02</b>	<b>10.47</b>	<b>7.97</b>	<b>9.38</b>	<b>7.24</b>	—	<b>4.23</b>	—	—	—	—
American Funds 2055 Trgt Date Retire R6	MF	02-01-2010	2.48	1.94	13.28	9.90	11.12	—	11.26	0.42	1(215)	1(171)	1(106)	—
<b>Morningstar Lifetime Mod 2055 TR USD</b>	<b>Idx</b>	<b>02-18-2009</b>	<b>0.28</b>	<b>1.08</b>	<b>10.98</b>	<b>8.26</b>	<b>9.27</b>	<b>7.14</b>	—	—	—	—	—	—
<b>Target-Date 2060+(Fds)</b>	<b>Avg</b>	—	<b>0.53</b>	<b>1.12</b>	<b>10.64</b>	<b>8.29</b>	<b>9.65</b>	—	—	<b>12.82</b>	—	—	—	—
American Funds 2060 Trgt Date Retire R6	MF	03-27-2015	2.50	1.92	13.26	9.89	—	—	9.37	0.49	2(177)	1(65)	—	—
<b>Morningstar Lifetime Mod 2060 TR USD</b>	<b>Idx</b>	<b>06-23-2014</b>	<b>0.21</b>	<b>1.00</b>	<b>10.93</b>	<b>8.19</b>	<b>9.19</b>	<b>7.10</b>	—	—	—	—	—	—
<b>Money Market - Taxable(FM)</b>	<b>Avg</b>	—	<b>0.58</b>	<b>0.34</b>	<b>0.92</b>	<b>0.39</b>	<b>0.24</b>	<b>0.20</b>	—	<b>0.55</b>	—	—	—	—
Vanguard Treasury Money Market Investor	FM	12-14-1992	0.76	0.42	1.26	0.61	0.37	0.29	2.48	0.09	—	—	—	—
<b>ICE BofAML USD 3M Dep OR CM TR USD</b>	<b>Idx</b>	<b>12-30-1994</b>	<b>0.91</b>	<b>0.58</b>	<b>1.53</b>	<b>0.93</b>	<b>0.66</b>	<b>0.73</b>	—	—	—	—	—	—

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# Cobb County Government 457 Deferred Compensation Plan

## Performance

Standard Benchmark Returns 06-30-2018														
	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	—	2.65	3.43	14.37	11.93	13.42	10.17	—	—	—	—	—	—
BBgBarc US Agg Bond TR USD	Idx	—	-1.62	-0.16	-0.40	1.72	2.27	3.72	—	—	—	—	—	—
MSCI EAFE NR USD	Idx	—	-2.75	-1.24	6.84	4.90	6.44	2.84	—	—	—	—	—	—
USTREAS T-Bill Auction Ave 3 Mon	Idx	—	0.88	0.48	1.47	0.75	0.46	0.33	—	—	—	—	—	—

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

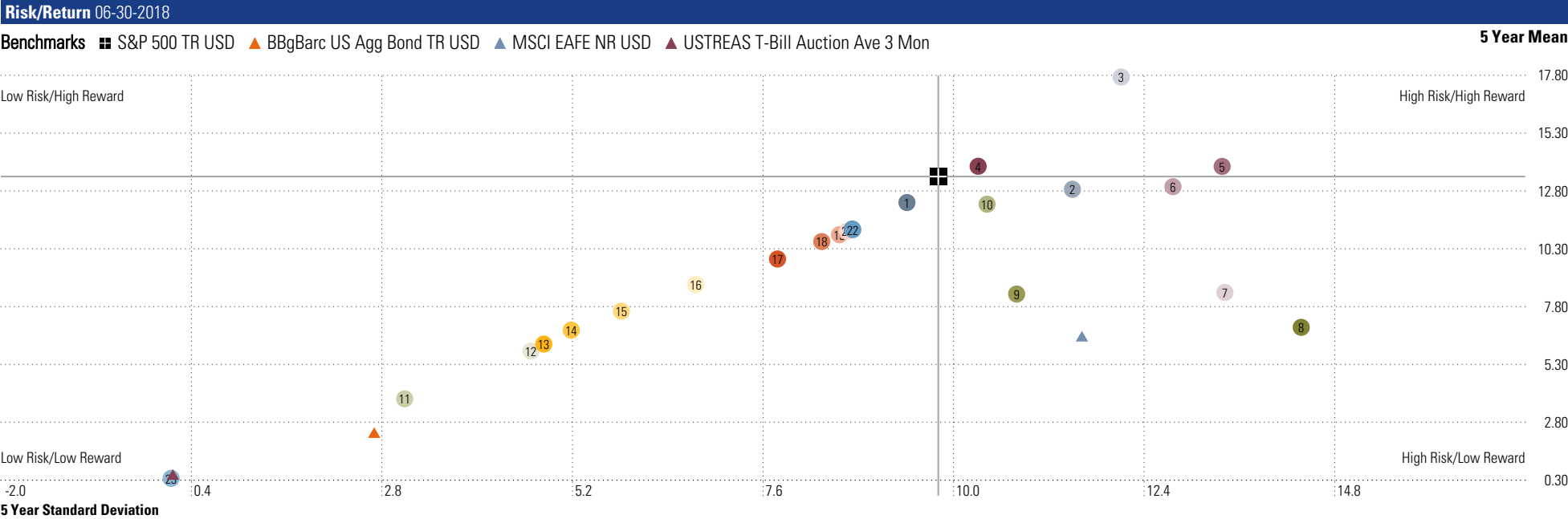
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# Cobb County Government 457 Deferred Compensation Plan

## Risk and Return



\* Data not available for 1 options/funds.

Risk/Return Detail 06-30-2018												
	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	
<b>Large Value(Fds)</b>		<b>Avg</b>	<b>10.33</b>	<b>9.94</b>	<b>-0.09</b>	<b>0.98</b>	<b>89.09</b>	<b>-0.16</b>	<b>9.86</b>	<b>0.94</b>	<b>96.18</b>	<b>96.27</b>
① American Funds Washington Mutual R6	MF	9.41	12.30	2.60	0.91	93.24	0.75	12.99	1.24	98.30	77.82	
<b>Russell 1000 Value TR USD</b>		<b>Idx</b>	<b>9.97</b>	<b>10.34</b>	—	—	—	—	<b>0.99</b>	—	—	—
<b>Large Blend(Fds)</b>		<b>Avg</b>	<b>10.19</b>	<b>11.73</b>	<b>-1.36</b>	<b>0.99</b>	<b>92.30</b>	<b>-0.67</b>	<b>11.40</b>	<b>1.10</b>	<b>94.62</b>	<b>104.63</b>
② JHancock Fundamental Large Cap Core R6	MF	11.50	12.87	-1.61	1.11	89.55	-0.13	11.22	1.07	106.02	120.50	
<b>Russell 1000 TR USD</b>		<b>Idx</b>	<b>9.84</b>	<b>13.37</b>	—	—	—	—	<b>1.28</b>	—	—	—

# Cobb County Government 457 Deferred Compensation Plan

## Risk and Return

### Risk/Return Detail 06-30-2018

	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
<b>Large Growth(Fds)</b>	<b>Avg</b>	<b>11.28</b>	<b>14.37</b>	<b>-1.72</b>	<b>1.00</b>	<b>87.67</b>	<b>-0.61</b>	<b>13.82</b>	<b>1.22</b>	<b>95.11</b>	<b>107.74</b>
3 T. Rowe Price Growth Stock I	MF	12.11	17.73	0.05	1.09	88.24	0.32	15.89	1.38	107.37	106.30
<b>Russell 1000 Growth TR USD</b>	<b>Idx</b>	<b>10.48</b>	<b>16.36</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.46</b>	<b>—</b>	<b>—</b>
<b>Mid-Cap Value(Fds)</b>	<b>Avg</b>	<b>11.20</b>	<b>10.12</b>	<b>-1.14</b>	<b>1.02</b>	<b>86.46</b>	<b>-0.32</b>	<b>9.62</b>	<b>0.89</b>	<b>97.16</b>	<b>105.47</b>
4 Victory Sycamore Established Value R6	MF	10.31	13.87	2.75	0.96	90.76	0.82	13.94	1.27	103.86	83.03
<b>Russell Mid Cap Value TR USD</b>	<b>Idx</b>	<b>10.22</b>	<b>11.27</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.05</b>	<b>—</b>	<b>—</b>
<b>Mid-Cap Growth(Fds)</b>	<b>Avg</b>	<b>11.77</b>	<b>12.31</b>	<b>-0.72</b>	<b>0.99</b>	<b>85.34</b>	<b>-0.36</b>	<b>12.07</b>	<b>1.02</b>	<b>97.25</b>	<b>103.80</b>
5 Harbor Mid Cap Growth Retirement	MF	13.38	13.86	-0.93	1.13	85.58	0.09	11.84	1.01	109.58	117.28
<b>Russell Mid Cap Growth TR USD</b>	<b>Idx</b>	<b>10.93</b>	<b>13.37</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>1.17</b>	<b>—</b>	<b>—</b>
<b>Small Growth(Fds)</b>	<b>Avg</b>	<b>13.85</b>	<b>12.76</b>	<b>0.55</b>	<b>0.89</b>	<b>87.53</b>	<b>-0.16</b>	<b>13.92</b>	<b>0.92</b>	<b>90.59</b>	<b>88.25</b>
6 ClearBridge Small Cap I	MF	12.76	12.98	1.63	0.82	85.69	-0.12	15.33	0.99	90.02	85.65
<b>Russell 2000 Growth TR USD</b>	<b>Idx</b>	<b>14.47</b>	<b>13.65</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.93</b>	<b>—</b>	<b>—</b>
<b>Real Estate(Fds)</b>	<b>Avg</b>	<b>12.95</b>	<b>7.70</b>	<b>0.41</b>	<b>0.89</b>	<b>92.75</b>	<b>-0.22</b>	<b>8.55</b>	<b>0.62</b>	<b>89.43</b>	<b>86.74</b>
7 Nuveen Real Estate Securities R6	MF	13.42	8.41	0.60	0.96	99.14	0.24	8.31	0.64	96.66	93.20
<b>S&amp;P United States REIT TR USD</b>	<b>Idx</b>	<b>13.98</b>	<b>8.08</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.59</b>	<b>—</b>	<b>—</b>
<b>Foreign Large Blend(Fds)</b>	<b>Avg</b>	<b>11.33</b>	<b>5.92</b>	<b>0.37</b>	<b>0.92</b>	<b>89.89</b>	<b>0.00</b>	<b>6.04</b>	<b>0.53</b>	<b>93.03</b>	<b>90.73</b>
8 Oakmark International Institutional	MF	14.38	6.90	0.41	1.13	83.96	0.15	5.69	0.50	113.27	112.20
<b>MSCI ACWI Ex USA NR USD</b>	<b>Idx</b>	<b>11.65</b>	<b>5.99</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.52</b>	<b>—</b>	<b>—</b>
<b>Foreign Large Growth(Fds)</b>	<b>Avg</b>	<b>11.42</b>	<b>7.72</b>	<b>0.84</b>	<b>0.96</b>	<b>87.97</b>	<b>0.09</b>	<b>7.60</b>	<b>0.67</b>	<b>96.76</b>	<b>90.96</b>
9 American Funds Europacific Growth R6	MF	10.80	8.34	1.56	0.93	92.61	0.38	8.50	0.76	97.09	86.53
<b>MSCI ACWI Ex USA Growth NR USD</b>	<b>Idx</b>	<b>11.21</b>	<b>7.18</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.63</b>	<b>—</b>	<b>—</b>
<b>World Large Stock(Fds)</b>	<b>Avg</b>	<b>10.58</b>	<b>9.21</b>	<b>0.25</b>	<b>0.96</b>	<b>85.60</b>	<b>-0.08</b>	<b>9.16</b>	<b>0.84</b>	<b>97.23</b>	<b>96.61</b>
10 American Funds New Perspective R6	MF	10.42	12.23	2.84	0.97	90.69	0.89	12.08	1.12	106.61	86.17
<b>MSCI ACWI NR USD</b>	<b>Idx</b>	<b>10.18</b>	<b>9.41</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>0.89</b>	<b>—</b>	<b>—</b>

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# Cobb County Government 457 Deferred Compensation Plan

## Risk and Return

### Risk/Return Detail 06-30-2018

	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
<b>Intermediate-Term Bond(Fds)</b>	<b>Avg</b>	<b>2.63</b>	<b>2.20</b>	<b>0.14</b>	<b>0.88</b>	<b>85.42</b>	<b>-0.23</b>	<b>2.02</b>	<b>0.67</b>	<b>92.56</b>	<b>88.95</b>
11 Western Asset Core Plus Bond IS	MF	3.09	3.81	1.44	1.04	82.54	1.17	3.23	1.07	122.08	83.73
<b>BBgBarc US Agg Bond TR USD</b>	<b>Idx</b>	<b>2.70</b>	<b>2.27</b>	—	—	—	—	—	<b>0.67</b>	—	—
<b>High Yield Bond(Fds)</b>	<b>Avg</b>	<b>4.75</b>	<b>4.36</b>	<b>-0.46</b>	<b>0.87</b>	<b>87.88</b>	<b>-0.70</b>	<b>4.91</b>	<b>0.90</b>	<b>84.97</b>	<b>91.68</b>
12 PGIM High Yield R6	MF	4.68	5.87	0.75	0.92	97.39	0.42	5.90	1.15	96.42	84.47
<b>ICE BofAML US High Yield TR USD</b>	<b>Idx</b>	<b>5.04</b>	<b>5.51</b>	—	—	—	—	—	<b>1.00</b>	—	—
<b>Target-Date 2000-2010(Fds)</b>	<b>Avg</b>	<b>4.67</b>	<b>5.33</b>	<b>-0.08</b>	<b>1.02</b>	<b>92.85</b>	<b>-0.01</b>	<b>4.77</b>	<b>1.03</b>	<b>98.53</b>	<b>96.93</b>
13 American Funds 2010 Trgt Date Retire R6	MF	4.84	6.18	0.49	1.07	94.79	0.73	5.37	1.17	109.20	101.14
<b>Morningstar Lifetime Mod 2010 TR USD</b>	<b>Idx</b>	<b>4.43</b>	<b>5.34</b>	—	—	—	—	—	<b>1.09</b>	—	—
<b>Target-Date 2015(Fds)</b>	<b>Avg</b>	<b>5.25</b>	<b>5.84</b>	<b>-0.19</b>	<b>1.03</b>	<b>93.40</b>	<b>0.00</b>	<b>5.19</b>	<b>1.02</b>	<b>99.51</b>	<b>99.52</b>
14 American Funds 2015 Trgt Date Retire R6	MF	5.19	6.78	0.72	1.03	94.70	0.76	6.14	1.20	106.99	96.21
<b>Morningstar Lifetime Mod 2015 TR USD</b>	<b>Idx</b>	<b>4.91</b>	<b>5.87</b>	—	—	—	—	—	<b>1.09</b>	—	—
<b>Target-Date 2020(Fds)</b>	<b>Avg</b>	<b>5.55</b>	<b>6.07</b>	<b>-0.22</b>	<b>0.97</b>	<b>92.90</b>	<b>-0.24</b>	<b>5.81</b>	<b>1.01</b>	<b>94.18</b>	<b>95.34</b>
15 American Funds 2020 Trgt Date Retire R6	MF	5.82	7.60	0.89	1.02	94.93	0.82	6.97	1.21	107.26	95.67
<b>Morningstar Lifetime Mod 2020 TR USD</b>	<b>Idx</b>	<b>5.54</b>	<b>6.51</b>	—	—	—	—	—	<b>1.09</b>	—	—
<b>Target-Date 2025(Fds)</b>	<b>Avg</b>	<b>6.51</b>	<b>6.94</b>	<b>-0.32</b>	<b>1.00</b>	<b>95.33</b>	<b>-0.22</b>	<b>6.52</b>	<b>1.00</b>	<b>96.38</b>	<b>98.29</b>
16 American Funds 2025 Trgt Date Retire R6	MF	6.75	8.75	1.14	1.03	95.04	0.94	8.04	1.21	108.89	96.62
<b>Morningstar Lifetime Mod 2025 TR USD</b>	<b>Idx</b>	<b>6.40</b>	<b>7.33</b>	—	—	—	—	—	<b>1.07</b>	—	—
<b>Target-Date 2030(Fds)</b>	<b>Avg</b>	<b>7.30</b>	<b>7.64</b>	<b>-0.24</b>	<b>0.96</b>	<b>94.86</b>	<b>-0.30</b>	<b>7.49</b>	<b>0.99</b>	<b>94.87</b>	<b>96.72</b>
17 American Funds 2030 Trgt Date Retire R6	MF	7.78	9.86	1.30	1.03	96.22	1.08	9.10	1.19	109.21	97.08
<b>Morningstar Lifetime Mod 2030 TR USD</b>	<b>Idx</b>	<b>7.39</b>	<b>8.20</b>	—	—	—	—	—	<b>1.04</b>	—	—
<b>Target-Date 2035(Fds)</b>	<b>Avg</b>	<b>8.14</b>	<b>8.36</b>	<b>-0.25</b>	<b>0.97</b>	<b>96.62</b>	<b>-0.31</b>	<b>8.17</b>	<b>0.97</b>	<b>95.06</b>	<b>96.36</b>
18 American Funds 2035 Trgt Date Retire R6	MF	8.34	10.61	1.65	0.99	96.45	1.08	10.26	1.20	106.09	92.29
<b>Morningstar Lifetime Mod 2035 TR USD</b>	<b>Idx</b>	<b>8.28</b>	<b>8.91</b>	—	—	—	—	—	<b>1.02</b>	—	—

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# Cobb County Government 457 Deferred Compensation Plan

## Risk and Return

### Risk/Return Detail 06-30-2018

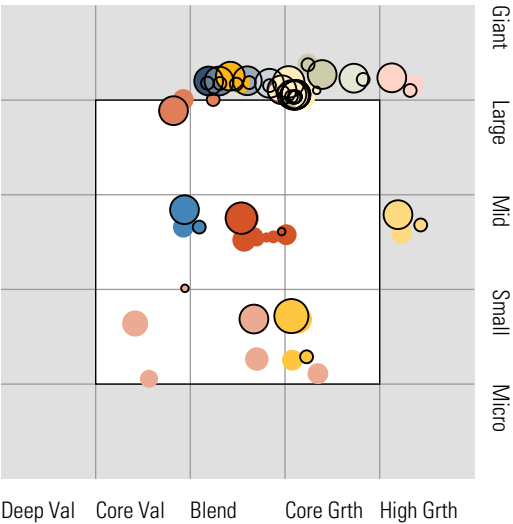
	Type	Std Dev 5 Yr	Mean 5 Yr	Alpha 5 Yr	Beta 5 Yr	R2 5 Yr	Information Ratio 5Yr	Treynor 5 Yr	Sharpe Ratio 5 Yr	Upside Capture 5 Yr	Downside Capture 5 Yr
<b>Target-Date 2040(Fds)</b>	<b>Avg</b>	<b>8.54</b>	<b>8.73</b>	<b>-0.07</b>	<b>0.95</b>	<b>95.30</b>	<b>-0.29</b>	<b>8.79</b>	<b>0.97</b>	<b>93.97</b>	<b>94.03</b>
<sup>19</sup> American Funds 2040 Trgt Date Retire R6	MF	8.56	10.91	1.86	0.95	96.58	0.98	10.96	1.20	103.21	88.61
<b>Morningstar Lifetime Mod 2040 TR USD</b>	<b>Idx</b>	<b>8.83</b>	<b>9.30</b>	—	—	—	—	—	<b>1.00</b>	—	—
<b>Target-Date 2045(Fds)</b>	<b>Avg</b>	<b>8.95</b>	<b>9.06</b>	<b>-0.07</b>	<b>0.97</b>	<b>96.79</b>	<b>-0.18</b>	<b>8.86</b>	<b>0.97</b>	<b>95.46</b>	<b>94.37</b>
<sup>20</sup> American Funds 2045 Trgt Date Retire R6	MF	8.66	11.06	2.04	0.94	96.33	0.95	11.29	1.21	100.93	83.74
<b>Morningstar Lifetime Mod 2045 TR USD</b>	<b>Idx</b>	<b>9.05</b>	<b>9.39</b>	—	—	—	—	—	<b>0.99</b>	—	—
<b>Target-Date 2050(Fds)</b>	<b>Avg</b>	<b>8.99</b>	<b>9.15</b>	<b>0.15</b>	<b>0.96</b>	<b>95.18</b>	<b>-0.08</b>	<b>9.09</b>	<b>0.97</b>	<b>95.48</b>	<b>93.04</b>
<sup>21</sup> American Funds 2050 Trgt Date Retire R6	MF	8.73	11.15	2.17	0.94	96.22	1.01	11.40	1.21	101.23	83.15
<b>Morningstar Lifetime Mod 2050 TR USD</b>	<b>Idx</b>	<b>9.13</b>	<b>9.35</b>	—	—	—	—	—	<b>0.98</b>	—	—
<b>Target-Date 2055(Fds)</b>	<b>Avg</b>	<b>9.12</b>	<b>9.38</b>	<b>0.30</b>	<b>0.98</b>	<b>96.66</b>	<b>0.07</b>	<b>9.14</b>	<b>0.98</b>	<b>97.41</b>	<b>93.67</b>
<sup>22</sup> American Funds 2055 Trgt Date Retire R6	MF	8.73	11.12	2.26	0.93	95.94	0.99	11.45	1.20	101.23	82.71
<b>Morningstar Lifetime Mod 2055 TR USD</b>	<b>Idx</b>	<b>9.18</b>	<b>9.27</b>	—	—	—	—	—	<b>0.96</b>	—	—
<b>Target-Date 2060+(Fds)</b>	<b>Avg</b>	<b>9.01</b>	<b>9.65</b>	<b>0.70</b>	<b>0.97</b>	<b>97.37</b>	<b>0.36</b>	<b>9.51</b>	<b>1.02</b>	<b>97.20</b>	<b>89.61</b>
American Funds 2060 Trgt Date Retire R6	MF	—	—	—	—	—	—	—	—	—	—
<b>Morningstar Lifetime Mod 2060 TR USD</b>	<b>Idx</b>	<b>9.21</b>	<b>9.19</b>	—	—	—	—	—	<b>0.95</b>	—	—
<b>Money Market - Taxable(FM)</b>	<b>Avg</b>	<b>0.11</b>	<b>0.24</b>	<b>-0.30</b>	<b>0.38</b>	<b>12.02</b>	<b>-5.44</b>	<b>-0.60</b>	<b>-3.21</b>	<b>35.85</b>	<b>-189.15</b>
<sup>23</sup> Vanguard Treasury Money Market Investor	FM	0.15	0.37	-0.14	0.23	24.50	-5.61	-0.41	-3.42	55.72	-466.67
<b>ICE BofAML USD 3M Dep OR CM TR USD</b>	<b>Idx</b>	<b>0.16</b>	<b>0.66</b>	—	—	—	—	—	<b>3.31</b>	—	—

# Cobb County Government 457 Deferred Compensation Plan

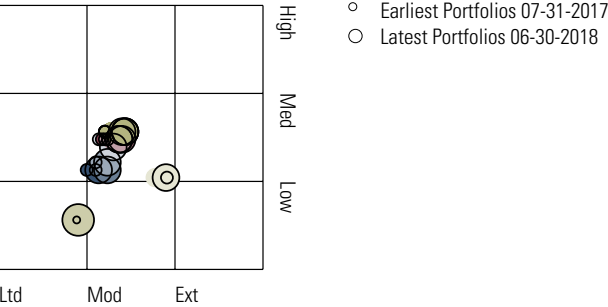
## Style Drift

Style Orientation 06-30-2018

Equity Style Drift - 1 Year



Fixed-Income Style Drift - 1 Year



### 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
- 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
- PGIM High Yield R6
- 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
- PGIM High Yield R6

\*Data not available for 1 options/funds

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

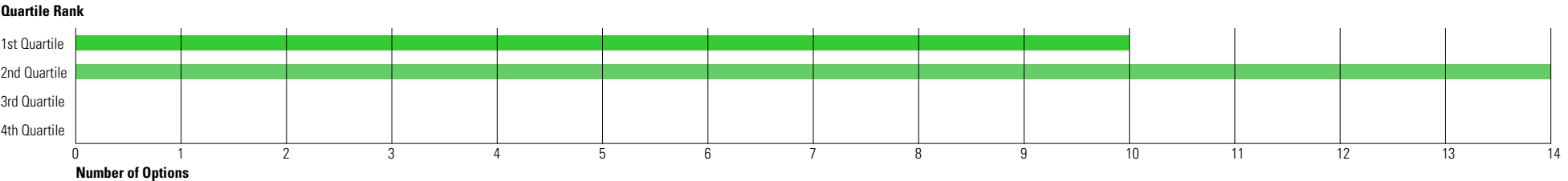
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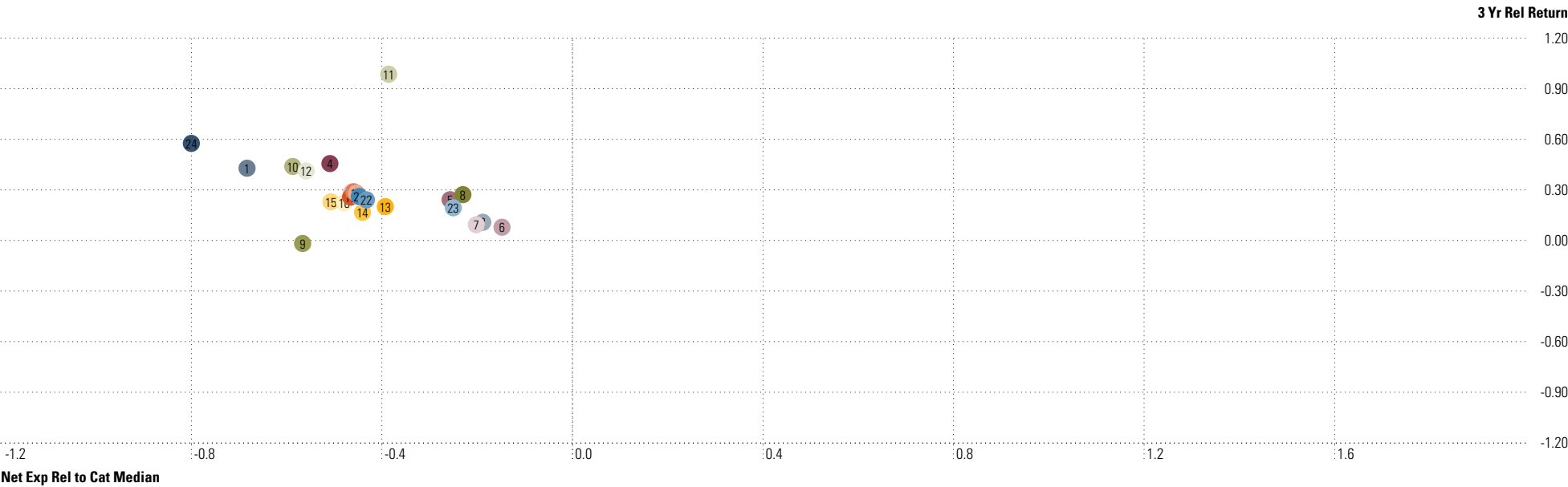
# Cobb County Government 457 Deferred Compensation Plan

## Investment Costs

### Net Expense Ratio Quartiles 06-30-2018



### Expense/Return 06-30-2018



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 06-30-2018

	Type	Market Value \$	% of Portfolio	Gross Exp Ratio %	Net Exp Ratio %	Net Fund Exp \$	Rel to Cat Median	Current 12b-1	Weighted Avg Cost	Net Exp % Rank in Cat
<b>Large Value(Fds)</b>	<b>Med</b>	—	—	<b>0.95</b>	<b>0.92</b>	—	—	<b>0.25</b>	—	—
① American Funds Washington Mutual R6	MF	8,612,335.85	7.53	0.29	0.29	24,975.77	-0.68	—	0.0218	15
<b>Russell 1000 Value TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Large Blend(Fds)</b>	<b>Med</b>	—	—	<b>0.89</b>	<b>0.85</b>	—	—	<b>0.25</b>	—	—
② JHancock Fundamental Large Cap Core R6	MF	11,772,737.36	10.29	0.69	0.69	81,231.89	-0.19	0.00	0.0710	40
<b>Russell 1000 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Large Growth(Fds)</b>	<b>Med</b>	—	—	<b>0.98</b>	<b>0.97</b>	—	—	<b>0.25</b>	—	—
③ T. Rowe Price Growth Stock I	MF	35,751,222.77	31.24	0.52	0.52	185,906.36	-0.46	—	0.1625	23
<b>Russell 1000 Growth TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Mid-Cap Value(Fds)</b>	<b>Med</b>	—	—	<b>1.11</b>	<b>1.10</b>	—	—	<b>0.25</b>	—	—
④ Victory Sycamore Established Value R6	MF	2,059,361.82	1.80	0.54	0.54	11,120.55	-0.51	0.00	0.0097	14
<b>Russell Mid Cap Value TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Mid-Cap Growth(Fds)</b>	<b>Med</b>	—	—	<b>1.12</b>	<b>1.09</b>	—	—	<b>0.25</b>	—	—
⑤ Harbor Mid Cap Growth Retirement	MF	6,996,944.61	6.11	0.81	0.81	56,675.25	-0.26	—	0.0495	29
<b>Russell Mid Cap Growth TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Small Growth(Fds)</b>	<b>Med</b>	—	—	<b>1.19</b>	<b>1.15</b>	—	—	<b>0.25</b>	—	—
⑥ ClearBridge Small Cap I	MF	5,293,080.89	4.63	0.98	0.98	51,872.19	-0.15	—	0.0453	37
<b>Russell 2000 Growth TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Real Estate(Fds)</b>	<b>Med</b>	—	—	<b>1.09</b>	<b>1.09</b>	—	—	<b>0.25</b>	—	—
⑦ Nuveen Real Estate Securities R6	MF	2,359,871.49	2.06	0.87	0.87	20,530.88	-0.20	0.00	0.0179	37
<b>S&amp;P United States REIT TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Foreign Large Blend(Fds)</b>	<b>Med</b>	—	—	<b>1.06</b>	<b>1.00</b>	—	—	<b>0.25</b>	—	—
⑧ Oakmark International Institutional	MF	2,873,331.43	2.51	0.82	0.77 <sup>1</sup>	22,124.65	-0.23	—	0.0193	42
<b>MSCI ACWI Ex USA NR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—

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.

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# Cobb County Government 457 Deferred Compensation Plan

## Investment Costs

### Investment Costs 06-30-2018

	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
<b>Foreign Large Growth(Fds)</b>	<b>Med</b>	—	—	<b>1.13</b>	<b>1.13</b>	—	—	—	<b>0.25</b>	—	—
9 American Funds Europacific Growth R6	MF	3,934,494.15	3.44	0.49	0.49	19,279.02	-0.57	—	—	0.0168	12
<b>MSCI ACWI Ex USA Growth NR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>World Large Stock(Fds)</b>	<b>Med</b>	—	—	<b>1.15</b>	<b>1.09</b>	—	—	—	<b>0.25</b>	—	—
10 American Funds New Perspective R6	MF	7,763,630.69	6.78	0.45	0.45	34,936.34	-0.59	—	—	0.0305	17
<b>MSCI ACWI NR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>Intermediate-Term Bond(Fds)</b>	<b>Med</b>	—	—	<b>0.76</b>	<b>0.70</b>	—	—	—	<b>0.25</b>	—	—
11 Western Asset Core Plus Bond IS	MF	3,456,096.56	3.02	0.43	0.43	14,861.22	-0.39	—	—	0.0130	31
<b>BBgBarc US Agg Bond TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>High Yield Bond(Fds)</b>	<b>Med</b>	—	—	<b>0.98</b>	<b>0.93</b>	—	—	—	<b>0.25</b>	—	—
12 PGIM High Yield R6	MF	1,818,687.96	1.59	0.41	0.41	7,456.62	-0.56	—	—	0.0065	11
<b>ICE BofAML US High Yield TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>Target-Date 2000-2010(Fds)</b>	<b>Med</b>	—	—	<b>0.71</b>	<b>0.56</b>	—	—	—	<b>0.50</b>	—	—
13 American Funds 2010 Trgt Date Retire R6	MF	1,262,195.87	1.10	0.34	0.34	4,291.47	-0.39	—	—	0.0038	24
<b>Morningstar Lifetime Mod 2010 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>Target-Date 2015(Fds)</b>	<b>Med</b>	—	—	<b>0.75</b>	<b>0.59</b>	—	—	—	<b>0.10</b>	—	—
14 American Funds 2015 Trgt Date Retire R6	MF	2,188,340.50	1.91	0.33	0.33	7,221.52	-0.44	—	—	0.0063	24
<b>Morningstar Lifetime Mod 2015 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>Target-Date 2020(Fds)</b>	<b>Med</b>	—	—	<b>0.80</b>	<b>0.71</b>	—	—	—	<b>0.25</b>	—	—
15 American Funds 2020 Trgt Date Retire R6	MF	3,360,050.99	2.94	0.35	0.35	11,760.18	-0.51	—	—	0.0103	23
<b>Morningstar Lifetime Mod 2020 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—
<b>Target-Date 2025(Fds)</b>	<b>Med</b>	—	—	<b>0.83</b>	<b>0.71</b>	—	—	—	<b>0.25</b>	—	—
16 American Funds 2025 Trgt Date Retire R6	MF	2,893,532.02	2.53	0.37	0.37	10,706.07	-0.48	—	—	0.0094	29
<b>Morningstar Lifetime Mod 2025 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—	—

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# Cobb County Government 457 Deferred Compensation Plan

## Investment Costs

### Investment Costs 06-30-2018

	Type	Market Value \$	% of Portfolio	Gross Exp Ratio %	Net Exp Ratio %	Net Fund Exp \$	Rel to Cat Median	Current 12b-1	Weighted Avg Cost	Net Exp % Rank in Cat
<b>Target-Date 2030(Fds)</b>	<b>Med</b>	—	—	<b>0.86</b>	<b>0.73</b>	—	—	<b>0.25</b>	—	—
<b>17</b> American Funds 2030 Trgt Date Retire R6	MF	4,308,980.28	3.77	0.39	0.39	16,805.02	-0.47	—	0.0147	26
<b>Morningstar Lifetime Mod 2030 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Target-Date 2035(Fds)</b>	<b>Med</b>	—	—	<b>0.88</b>	<b>0.74</b>	—	—	<b>0.25</b>	—	—
<b>18</b> American Funds 2035 Trgt Date Retire R6	MF	2,635,252.33	2.30	0.40	0.40	10,541.01	-0.46	—	0.0092	29
<b>Morningstar Lifetime Mod 2035 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Target-Date 2040(Fds)</b>	<b>Med</b>	—	—	<b>0.91</b>	<b>0.75</b>	—	—	<b>0.25</b>	—	—
<b>19</b> American Funds 2040 Trgt Date Retire R6	MF	1,555,465.35	1.36	0.41	0.41	6,377.41	-0.45	—	0.0056	27
<b>Morningstar Lifetime Mod 2040 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Target-Date 2045(Fds)</b>	<b>Med</b>	—	—	<b>0.90</b>	<b>0.74</b>	—	—	<b>0.25</b>	—	—
<b>20</b> American Funds 2045 Trgt Date Retire R6	MF	1,365,417.66	1.19	0.41	0.41	5,598.21	-0.45	—	0.0049	30
<b>Morningstar Lifetime Mod 2045 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Target-Date 2050(Fds)</b>	<b>Med</b>	—	—	<b>0.95</b>	<b>0.76</b>	—	—	<b>0.25</b>	—	—
<b>21</b> American Funds 2050 Trgt Date Retire R6	MF	957,017.64	0.84	0.42	0.42	4,019.47	-0.45	—	0.0035	27
<b>Morningstar Lifetime Mod 2050 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Target-Date 2055(Fds)</b>	<b>Med</b>	—	—	<b>0.99</b>	<b>0.74</b>	—	—	<b>0.25</b>	—	—
<b>22</b> American Funds 2055 Trgt Date Retire R6	MF	397,964.52	0.35	0.42	0.42	1,671.45	-0.43	—	0.0015	31
<b>Morningstar Lifetime Mod 2055 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Target-Date 2060+(Fds)</b>	<b>Med</b>	—	—	<b>1.14</b>	<b>0.60</b>	—	—	<b>0.25</b>	—	—
<b>23</b> American Funds 2060 Trgt Date Retire R6	MF	15,998.95	0.01	0.49	0.45 <sup>2</sup>	72.00	-0.25	—	0.0001	30
<b>Morningstar Lifetime Mod 2060 TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—
<b>Money Market - Taxable(FM)</b>	<b>Med</b>	—	—	<b>0.48</b>	<b>0.45</b>	—	—	<b>0.25</b>	—	—
<b>24</b> Vanguard Treasury Money Market Investor	FM	803,733.41	0.70	0.09	0.09	723.36	-0.80	—	0.0006	5
<b>ICE BofAML USD 3M Dep OR CM TR USD</b>	<b>Idx</b>	—	—	—	—	—	—	—	—	—

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# Cobb County Government 457 Deferred Compensation Plan

## Investment Costs

Investment Costs 06-30-2018											
	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
Total	—	114,435,745.10	100.00	—	—	610,757.92		—	—	0.5300	—

- 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)

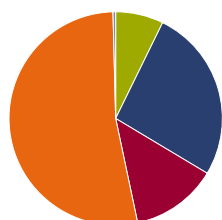
### Details 06-30-2018

Ticker	RFTTX
Gross Expense Ratio %	0.34
Total Assets	\$3,007.21 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★
111 TA	
Standard Deviation 3 Yr	4.79
Mean 3 Yr	5.27
Alpha 3 Yr	0.29
Beta 3 Yr	1.06
R-Squared 3 Yr	94.31
Upside Capture Ratio 3 Yr	103.70
Downside Capture Ratio 3 Yr	94.64
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2010 TR USD

### Composition 03-31-2018

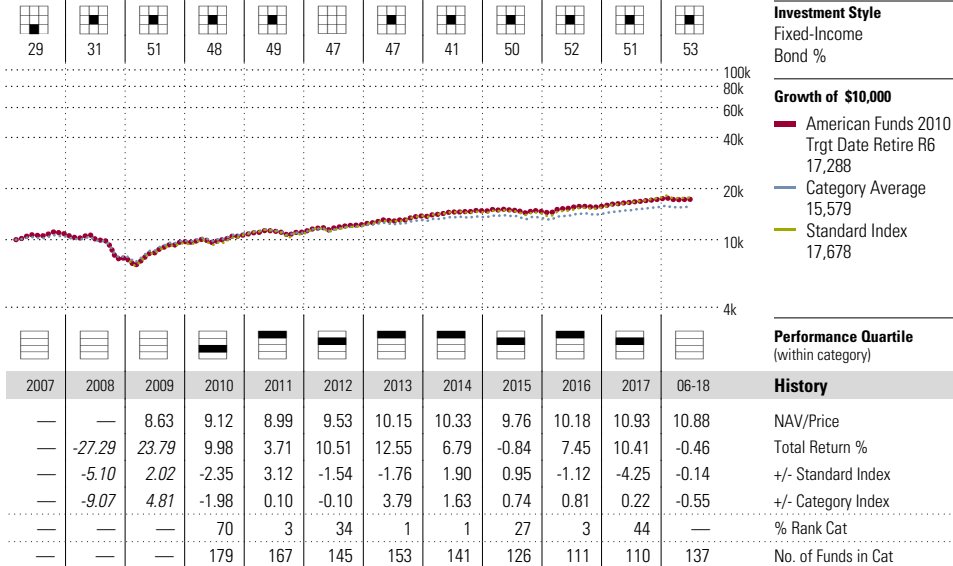


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.25	1.01
US Stocks	26.33	38.24
Non-US Stocks	13.10	21.29
Bonds	52.91	37.36
Other/Not Clsfd	0.40	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>33.0</b>	<b>0.78</b>
Basic Materials	4.3	0.77
Consumer Cyclical	8.9	0.80
Financial Services	16.4	0.93
Real Estate	3.3	0.43
<b>Sensitive</b>	<b>39.0</b>	<b>1.08</b>
Communication Services	5.4	1.66
Energy	9.6	1.51
Industrials	10.0	0.90
Technology	14.0	0.91
<b>Defensive</b>	<b>28.0</b>	<b>1.29</b>
Consumer Defensive	11.0	1.41
Healthcare	12.2	1.16
Utilities	4.7	1.44

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

	Value	Blend	Growth
Large	39	31	24
Mid	3	2	1
Small	0	0	0
Portfolio Statistics			
P/E Ratio TTM	16.8	1.01	0.96
Geo Avg Cap Plan (\$Mil)			80,643
Geo Avg Cap Bmark (\$Mil)			30,743

#### Fixed-Income Investment Style Actual %

	Ltd	Mod	Ext
High	0	0	0
Med	0	100	0
Low	0	0	0
Avg Effective Duration (Yrs)			4.90
Avg Effective Maturity (Yrs)			—
Avg Credit Quality			—
Bond %			
AAA			67.17
AA			4.33
A			9.50
BBB			7.33
BB			4.83
B			4.33
Below B			1.00
NR			1.50

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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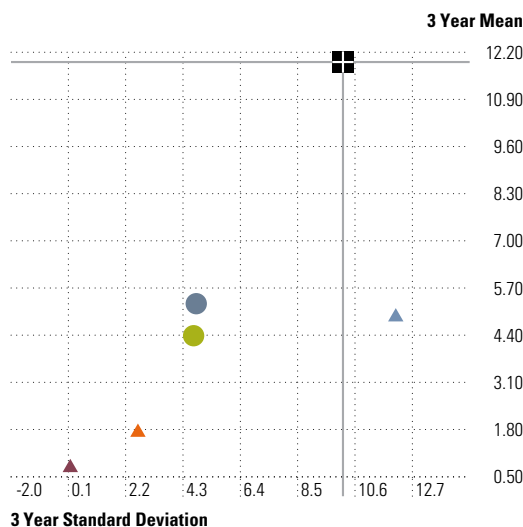
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2010 Trgt Date Retire R6 (USD)

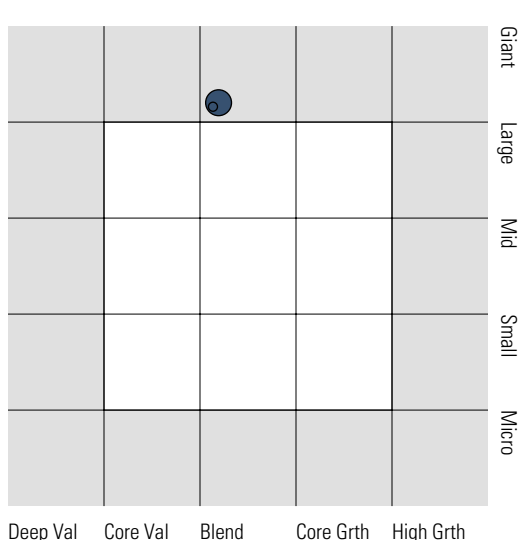
### Risk/Return 06-30-2018



### Benchmarks

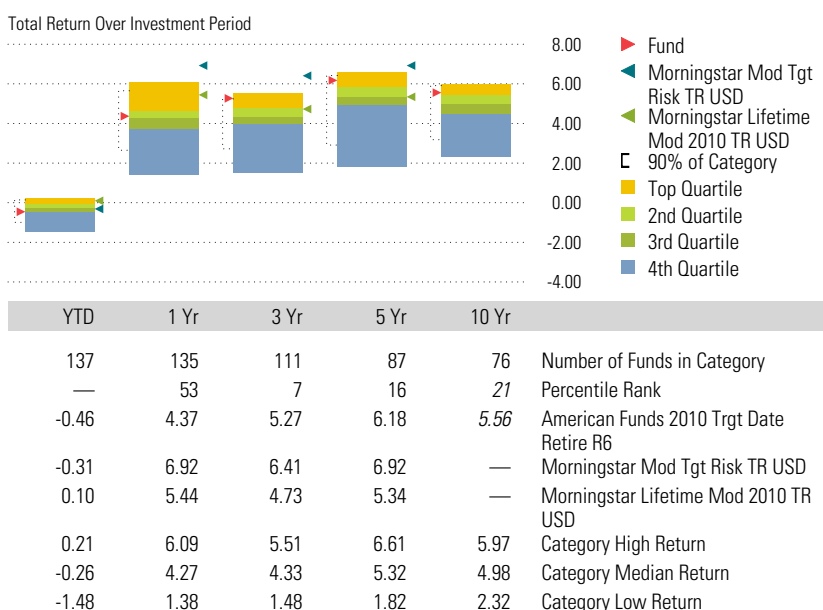
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Interm Bd Fd of Amer R6	12.31
American Funds Income Fund of Amer R6	11.99
American Funds Capital Income Bldr R6	11.93
American Funds Bond Fund of Amer R6	8.09
American Funds Inflation Linked Bd R6	7.08
American Funds Mortgage R6	6.07
American Funds American Mutual R6	5.27
American Funds American High-Inc R6	5.04
American Funds Capital World Bond R6	5.04
American Funds Washington Mutual R6	4.28

### Investment Strategy 06-30-2018

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.

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2015 Trgt Date Retire R6 (USD)

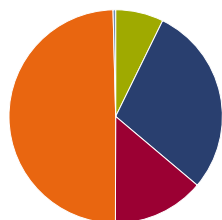
### Details 06-30-2018

Ticker	RFJTX
Gross Expense Ratio %	0.33
Total Assets	\$4,841.48 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★
Standard Deviation 3 Yr	5.00
Mean 3 Yr	5.61
Alpha 3 Yr	0.45
Beta 3 Yr	1.00
R-Squared 3 Yr	95.08
Upside Capture Ratio 3 Yr	99.86
Downside Capture Ratio 3 Yr	89.42
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2015 TR USD

### Composition 03-31-2018

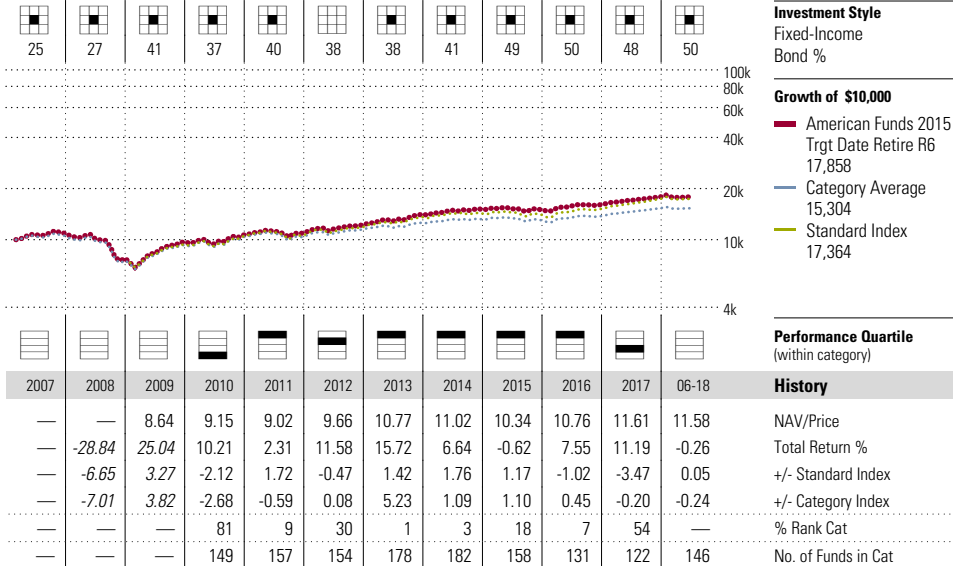


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.26	1.01
US Stocks	28.89	38.24
Non-US Stocks	13.89	21.29
Bonds	49.57	37.36
Other/Not Clsfd	0.40	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>32.9</b>	<b>0.78</b>
Basic Materials	4.3	0.77
Consumer Cyclical	9.3	0.84
Financial Services	16.3	0.93
Real Estate	3.0	0.39
<b>Sensitive</b>	<b>39.6</b>	<b>1.09</b>
Communication Services	5.1	1.59
Energy	9.5	1.49
Industrials	10.1	0.91
Technology	14.9	0.96
<b>Defensive</b>	<b>27.4</b>	<b>1.26</b>
Consumer Defensive	10.6	1.36
Healthcare	12.4	1.17
Utilities	4.4	1.33

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
37	31	26	37	31	26	P/E Ratio TTM	17.0	1.02	0.96
3	2	1				Geo Avg Cap Plan (\$Mil)			80,593
0	0	0				Geo Avg Cap Bmark (\$Mil)			30,743

#### Fixed-Income Investment Style Actual %

	High	Med	Low	Avg Effective Duration (Yrs)	5.20
	0	0	0	Avg Effective Maturity (Yrs)	—
	0	100	0	Avg Credit Quality	—
	0	0	0	Bond %	
Ltd				AAA	68.09
Mod				AA	3.37
Ext				A	9.04
				BBB	7.45
				BB	4.96
				B	4.61
				Below B	1.06
				NR	1.42

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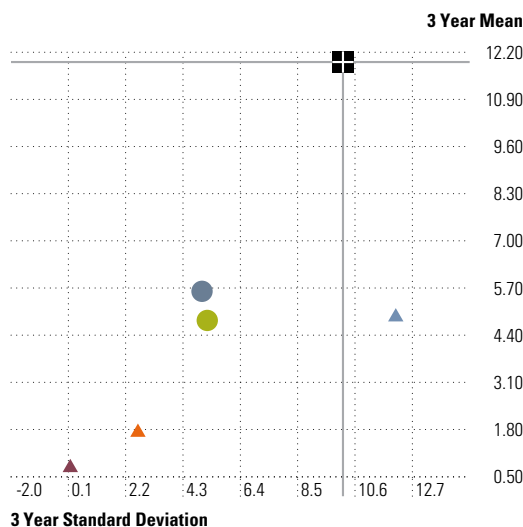
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2015 Trgt Date Retire R6 (USD)

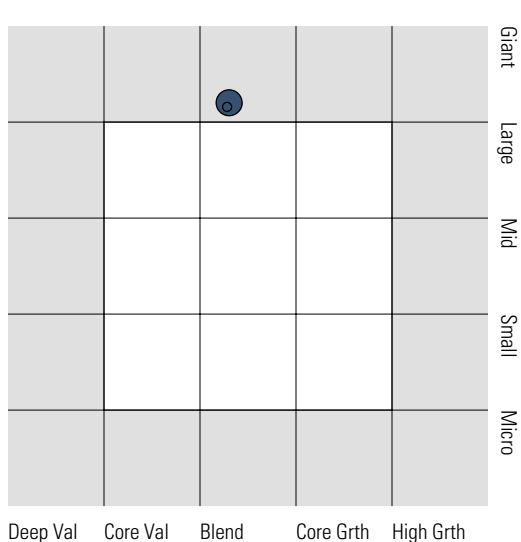
### Risk/Return 06-30-2018



### Benchmarks

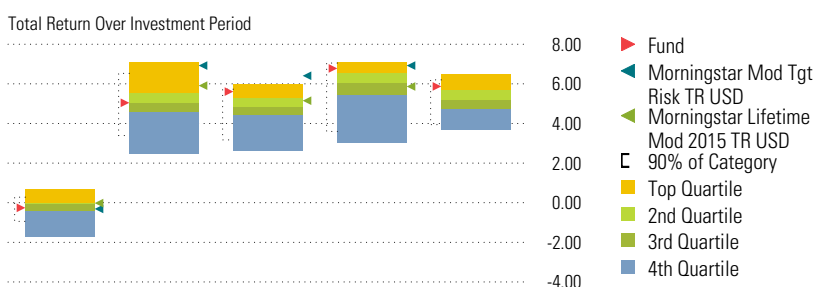
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



YTD	1 Yr	3 Yr	5 Yr	10 Yr	
146	138	109	75	49	Number of Funds in Category
—	52	11	17	27	Percentile Rank
-0.26	5.04	5.61	6.78	5.87	American Funds 2015 Trgt Date Retire R6
-0.31	6.92	6.41	6.92	—	Morningstar Mod Tgt Risk TR USD
-0.02	5.91	5.15	5.87	—	Morningstar Lifetime Mod 2015 TR USD
0.67	7.10	6.01	7.10	6.47	Category High Return
-0.09	5.01	4.84	6.01	5.18	Category Median Return
-1.70	2.46	2.62	3.03	3.65	Category Low Return

### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Income Fund of Amer R6	10.96
American Funds Capital Income Bldr R6	10.90
American Funds Intern Bd Fd of Amer R6	9.08
American Funds Bond Fund of Amer R6	8.08
American Funds Inflation Linked Bd R6	7.08
American Funds Mortgage R6	6.08
American Funds American Mutual R6	5.91
American Funds US Government Sec R6	5.08
American Funds Capital World Bond R6	5.07
American Funds American High-Inc R6	5.06

### Investment Strategy 06-30-2018

The investment seeks growth, income and conservation of capital.

The fund normally invests a greater portion of its assets in bond, equity income and balanced funds as it approaches and passes its target date. The advisor attempts to achieve its 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 funds, growth-and-income funds, equity-income funds and a balanced fund and bond funds. The fund categories represent differing investment objectives.

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2020 Trgt Date Retire R6 (USD)

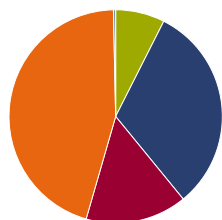
### Details 06-30-2018

Ticker	RRCTX
Gross Expense Ratio %	0.35
Total Assets	\$13,578.15 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
203 TE	
Standard Deviation 3 Yr	5.59
Mean 3 Yr	6.23
Alpha 3 Yr	0.63
Beta 3 Yr	0.98
R-Squared 3 Yr	94.74
Upside Capture Ratio 3 Yr	101.01
Downside Capture Ratio 3 Yr	90.56
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2020 TR USD

### Composition 03-31-2018

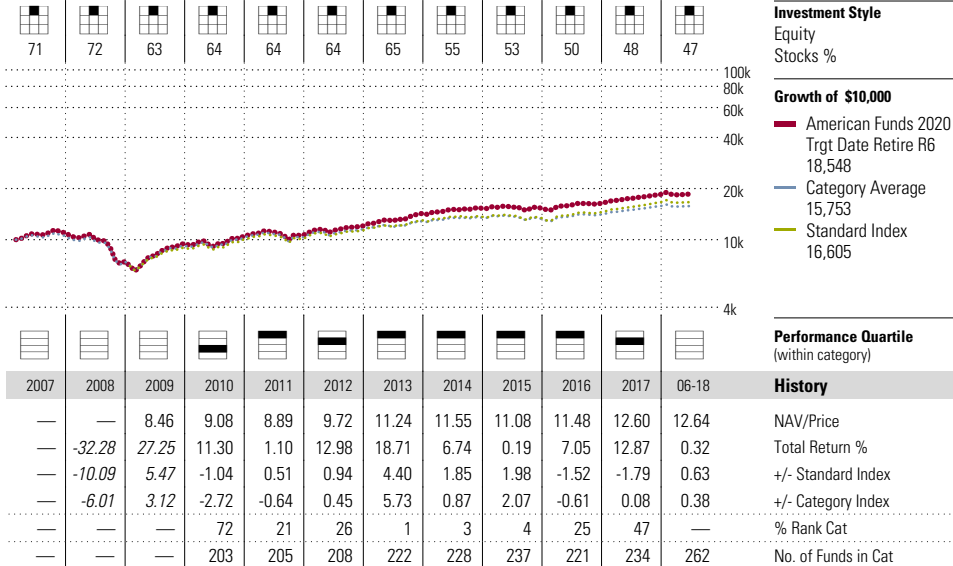


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.45	1.01
US Stocks	31.64	38.24
Non-US Stocks	15.38	21.29
Bonds	45.20	37.36
Other/Not Clsfd	0.33	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>33.1</b>	<b>0.79</b>
Basic Materials	4.3	0.76
Consumer Cyclical	10.6	0.95
Financial Services	16.0	0.91
Real Estate	2.3	0.30
<b>Sensitive</b>	<b>40.8</b>	<b>1.13</b>
Communication Services	4.6	1.41
Energy	9.1	1.42
Industrials	10.2	0.91
Technology	17.0	1.10
<b>Defensive</b>	<b>26.0</b>	<b>1.20</b>
Consumer Defensive	9.8	1.26
Healthcare	12.7	1.20
Utilities	3.5	1.08

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

	Value	Blend	Growth
Large	33	30	30
Mid	3	2	2
Small	0	0	0

#### Fixed-Income Investment Style Actual %

	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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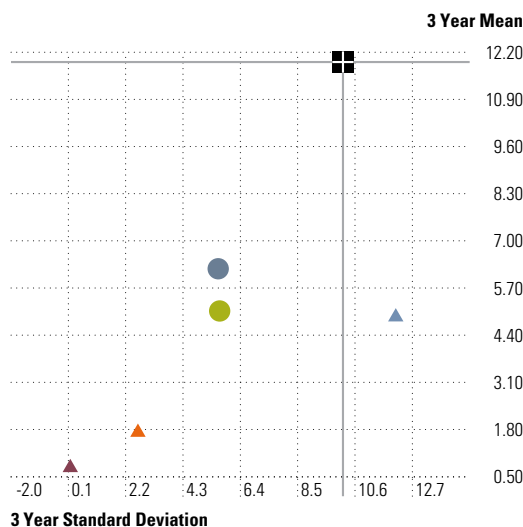
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2020 Trgt Date Retire R6 (USD)

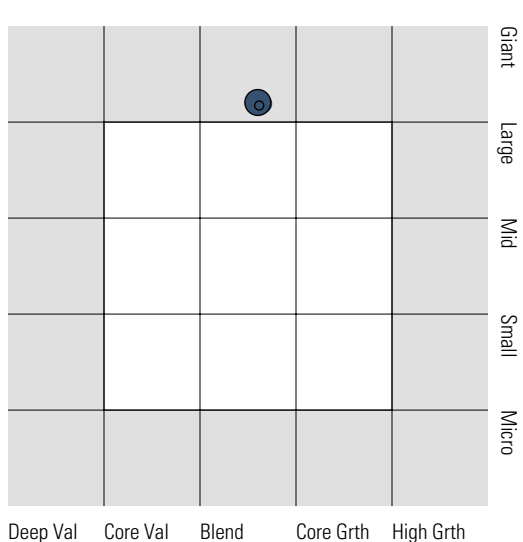
### Risk/Return 06-30-2018



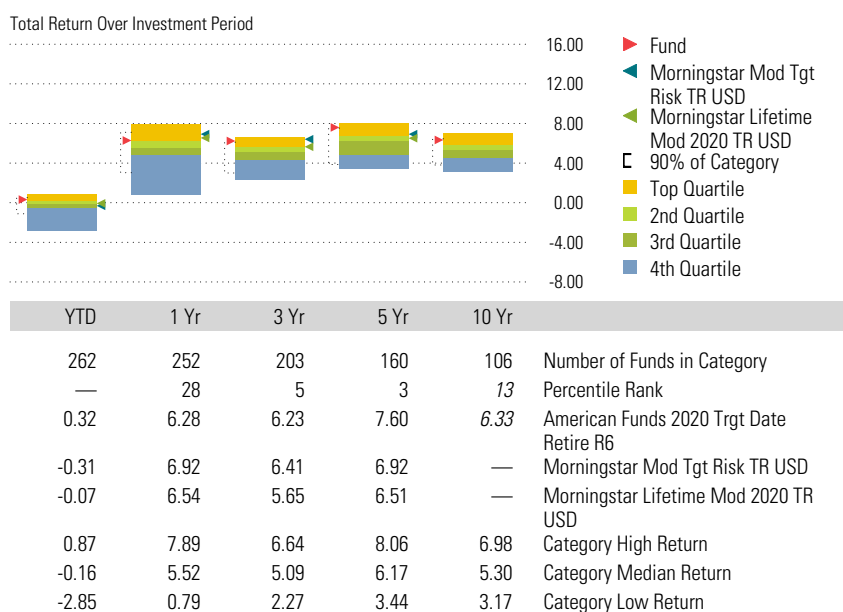
### Benchmarks

- 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 03-31-2018



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Interm Bd Fd of Amer R6	9.09
American Funds Income Fund of Amer R6	7.20
American Funds Capital Income Bldr R6	7.19
American Funds Bond Fund of Amer R6	7.04
American Funds Inflation Linked Bd R6	6.39
American Funds American Mutual R6	5.92
American Funds Mortgage R6	5.70
American Funds US Government Sec R6	5.41
American Funds Washington Mutual R6	5.27
American Funds Invmt Co of Amer R6	5.27

### Investment Strategy 06-30-2018

The investment seeks growth, income and conservation of capital.

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2025 Trgt Date Retire R6 (USD)

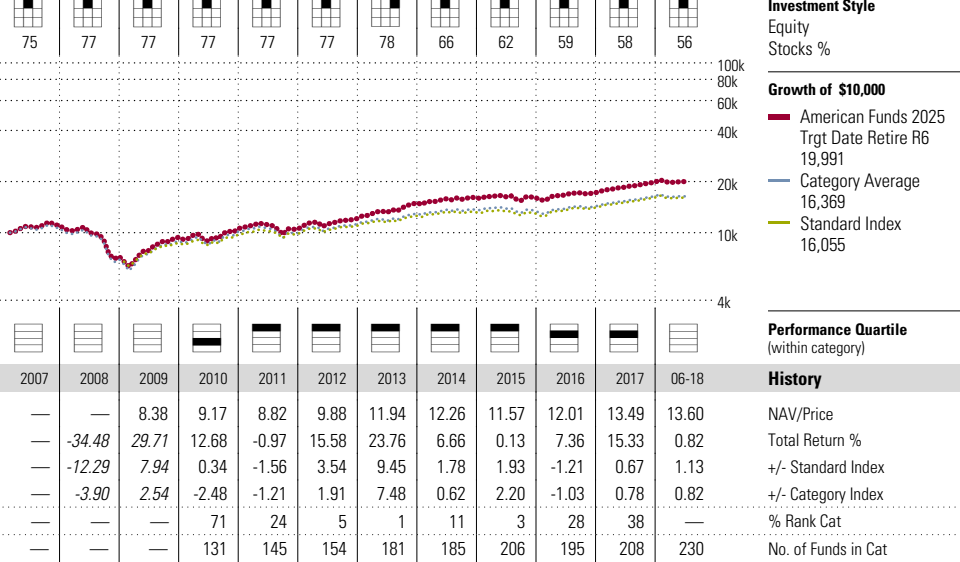
### Details 06-30-2018

Ticker	RFDTX
Gross Expense Ratio %	0.37
Total Assets	\$16,999.02 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

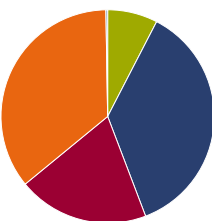
### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
178 TG	
Standard Deviation 3 Yr	6.46
Mean 3 Yr	7.14
Alpha 3 Yr	0.91
Beta 3 Yr	0.98
R-Squared 3 Yr	95.12
Upside Capture Ratio 3 Yr	103.89
Downside Capture Ratio 3 Yr	93.47
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2025 TR USD

### Performance 06-30-2018



### Composition 03-31-2018



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.59	1.01
US Stocks	36.62	38.24
Non-US Stocks	19.85	21.29
Bonds	35.67	37.36
Other/Not Clsfd	0.26	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>33.7</b>	<b>0.80</b>
Basic Materials	4.4	0.79
Consumer Cyclical	11.6	1.04
Financial Services	15.9	0.91
Real Estate	1.8	0.23
<b>Sensitive</b>	<b>41.4</b>	<b>1.14</b>
Communication Services	4.2	1.28
Energy	8.7	1.37
Industrials	10.1	0.91
Technology	18.4	1.19
<b>Defensive</b>	<b>24.9</b>	<b>1.15</b>
Consumer Defensive	9.2	1.18
Healthcare	12.7	1.20
Utilities	3.0	0.90

### Style Analysis 03-31-2018

Equity Investment Style Actual %						Fixed-Income Investment Style Actual %							
29	29	33	Large	Portfolio Statistics	Port Avg	Rel Index	Rel Cat	0	0	0	High	Avg Effective Duration (Yrs)	5.40
				P/E Ratio TTM	17.9	1.08	1.01					Avg Effective Maturity (Yrs)	—
3	3	3	Mid					0	100	0	Med	Avg Credit Quality	—
0	0	0	Small	Geo Avg Cap Plan (\$Mil)	73,344			0	0	0	Low	Bond %	
				Geo Avg Cap Bmark (\$Mil)	30,743							AAA	75.47
Value	Blend	Growth						Ltd	Mod	Ext		AA	3.74
												A	10.28
												BBB	7.01
												BB	1.40
												B	0.70
												Below B	0.00
												NR	1.40

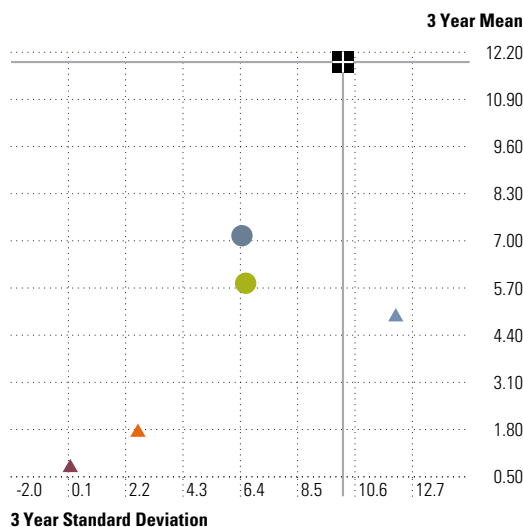
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2025 Trgt Date Retire R6 (USD)

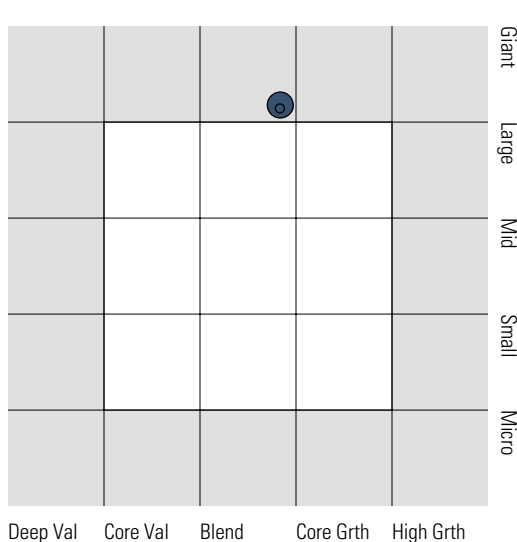
### Risk/Return 06-30-2018



### Benchmarks

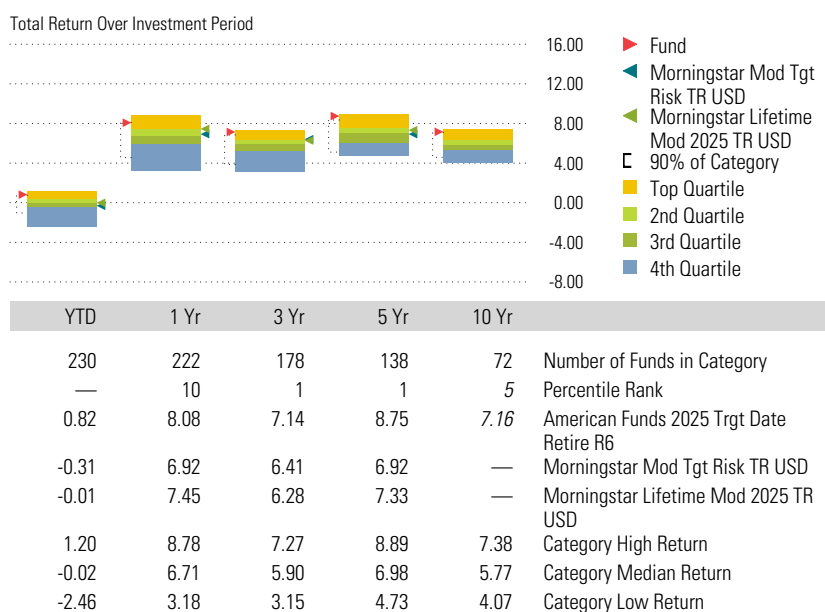
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Interm Bd Fd of Amer R6	7.36
American Funds Washington Mutual R6	6.65
American Funds US Government Sec R6	6.47
American Funds Invmt Co of Amer R6	6.30
American Funds Global Balanced R6	5.99
American Funds American Balanced R6	5.98
American Funds American Mutual R6	5.95
American Funds Fundamental Invs R6	5.30
American Funds Capital World Bond R6	5.09
American Funds Mortgage R6	5.08

### Investment Strategy 06-30-2018

The investment seeks growth, income and conservation of capital. The fund normally invests a greater portion of its assets in bond, equity income and balanced funds as it approaches and passes its target date. The advisor attempts to achieve its 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 funds, growth-and-income funds, equity-income funds and a balanced fund and bond funds. The fund categories represent differing investment objectives.

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2030 Trgt Date Retire R6 (USD)

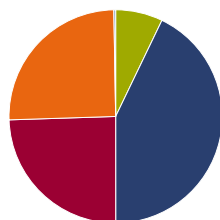
### Details 06-30-2018

Ticker	RFETX
Gross Expense Ratio %	0.39
Total Assets	\$18,200.43 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
	193 TH
Standard Deviation 3 Yr	7.81
Mean 3 Yr	8.16
Alpha 3 Yr	0.93
Beta 3 Yr	1.03
R-Squared 3 Yr	96.01
Upside Capture Ratio 3 Yr	106.84
Downside Capture Ratio 3 Yr	97.57
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2030 TR USD

### Composition 03-31-2018

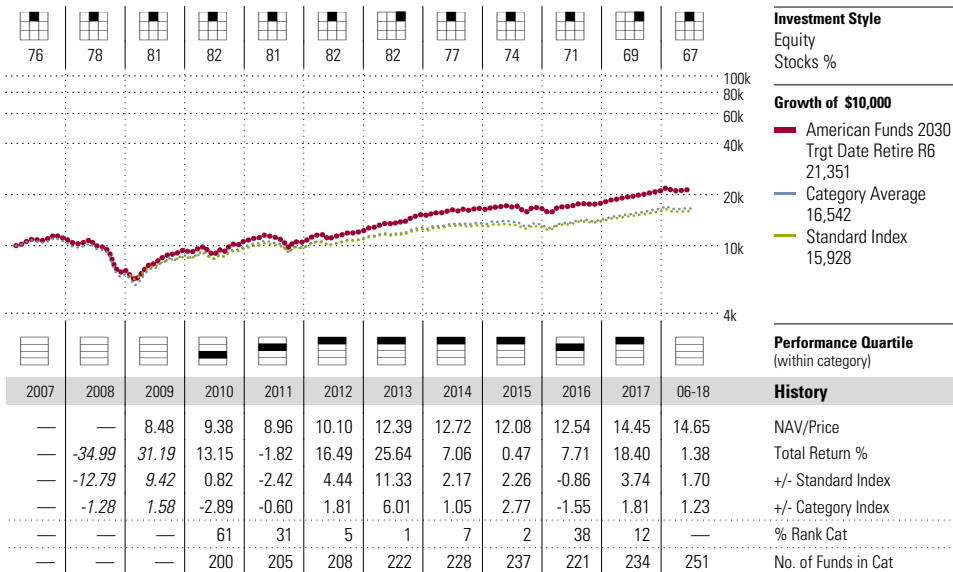


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	7.14	1.01
US Stocks	42.85	38.24
Non-US Stocks	24.49	21.29
Bonds	25.24	37.36
Other/Not Clsfd	0.27	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.3</b>	<b>0.82</b>
Basic Materials	4.5	0.81
Consumer Cyclical	12.3	1.10
Financial Services	15.8	0.90
Real Estate	1.6	0.21
<b>Sensitive</b>	<b>41.2</b>	<b>1.13</b>
Communication Services	3.9	1.20
Energy	8.3	1.30
Industrials	10.1	0.91
Technology	18.9	1.22
<b>Defensive</b>	<b>24.5</b>	<b>1.13</b>
Consumer Defensive	8.9	1.15
Healthcare	12.8	1.21
Utilities	2.8	0.83

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Value	Blend	Growth
26	28	33
3	3	4
1	1	1

Portfolio Statistics: P/E Ratio TTM 18.2, 1.09, 1.03

Geo Avg Cap Plan (\$Mil) 64,349

Geo Avg Cap Bmark (\$Mil) 30,743

#### Fixed-Income Investment Style Actual %

Ltd	Mod	Ext
0	0	0
0	100	0
0	0	0

Avg Effective Duration (Yrs) 5.60

Avg Effective Maturity (Yrs) —

Avg Credit Quality —

Bond %

AAA 79.31

AA 2.82

A 8.46

BBB 5.96

BB 1.57

B 0.63

Below B 0.00

NR 1.25

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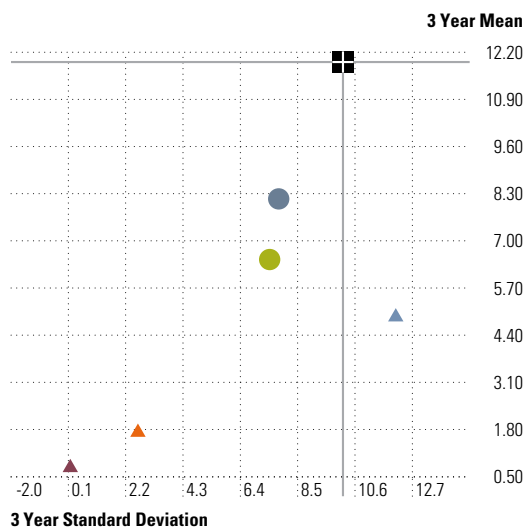
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2030 Trgt Date Retire R6 (USD)

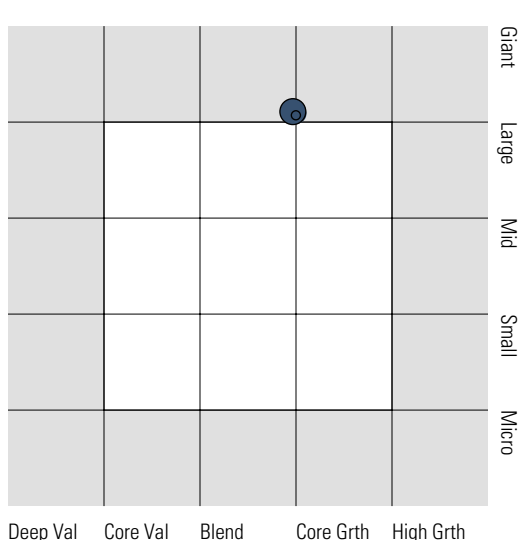
### Risk/Return 06-30-2018



### Benchmarks

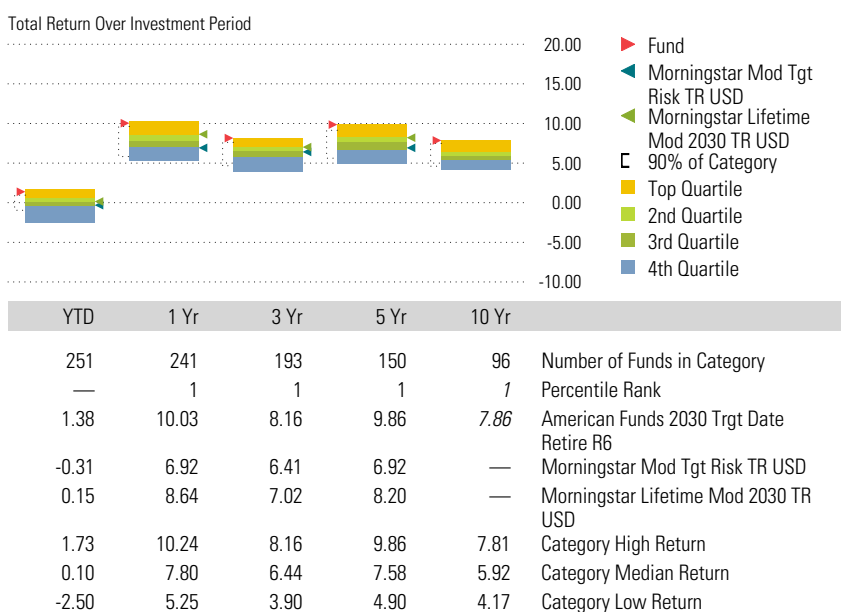
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Washington Mutual R6	7.98
American Funds US Government Sec R6	7.52
American Funds Invmt Co of Amer R6	6.94
American Funds Global Balanced R6	6.02
American Funds American Balanced R6	6.00
American Funds American Mutual R6	5.97
American Funds Fundamental Invs R6	5.94
American Funds New Perspective R6	5.58
American Funds Capital World Gr&Inc R6	4.94
American Funds Growth Fund of Amer R6	4.59

### Investment Strategy 06-30-2018

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2035 Trgt Date Retire R6 (USD)

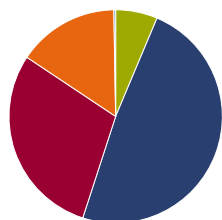
### Details 06-30-2018

Ticker	RFFTX
Gross Expense Ratio %	0.40
Total Assets	\$14,389.49 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	8.58
Mean 3 Yr	9.19
Alpha 3 Yr	1.42
Beta 3 Yr	1.00
R-Squared 3 Yr	96.31
Upside Capture Ratio 3 Yr	106.43
Downside Capture Ratio 3 Yr	94.20
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2035 TR USD

### Composition 03-31-2018

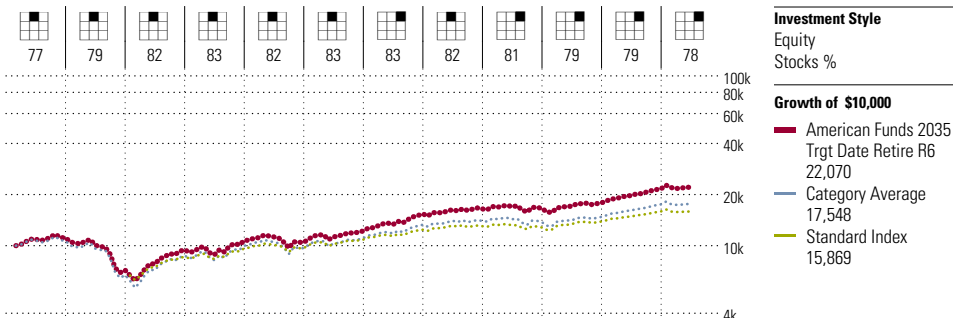


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	6.34	1.01
US Stocks	48.65	38.24
Non-US Stocks	29.37	21.29
Bonds	15.37	37.36
Other/Not Clsfd	0.27	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.8</b>	<b>0.83</b>
Basic Materials	4.5	0.82
Consumer Cyclical	13.1	1.18
Financial Services	15.6	0.89
Real Estate	1.5	0.20
<b>Sensitive</b>	<b>41.0</b>	<b>1.13</b>
Communication Services	3.6	1.10
Energy	7.8	1.23
Industrials	10.0	0.90
Technology	19.5	1.26
<b>Defensive</b>	<b>24.2</b>	<b>1.12</b>
Consumer Defensive	8.6	1.10
Healthcare	13.1	1.23
Utilities	2.5	0.77

### Performance 06-30-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	06-18	History
NAV/Price	—	—	8.48	9.33	8.90	10.07	12.40	12.77	12.13	12.62	14.88	15.18	NAV/Price
Total Return %	—	-35.43	31.81	13.06	-2.13	16.64	25.97	7.02	0.59	8.00	21.04	2.02	Total Return %
+/- Standard Index	—	-13.24	10.03	0.73	-2.72	4.60	11.66	2.13	2.39	-0.57	6.38	2.33	+/- Standard Index
+/- Category Index	—	-0.11	0.73	-3.47	0.14	1.28	3.93	1.22	3.17	-2.06	2.52	1.69	+/- Category Index
% Rank Cat	—	—	—	79	16	8	1	11	1	41	3	—	% Rank Cat
No. of Funds in Cat	—	—	—	125	139	154	181	185	205	195	208	225	No. of Funds in Cat

### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Value	Blend	Growth	Large	Mid	Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
24	27	34	Large	Mid	Small	P/E Ratio TTM	18.5	1.11	1.05
3	4	5				Geo Avg Cap Plan (\$Mil)			58,106
1	1	1				Geo Avg Cap Bmark (\$Mil)			30,743

#### Fixed-Income Investment Style Actual %

Ltd	Mod	Ext	High	Med	Low	Avg Effective Duration (Yrs)	5.70
0	0	0	High	Med	Low	Avg Effective Maturity (Yrs)	—
0	100	0				Avg Credit Quality	—
0	0	0				Bond %	
						AAA	83.96
						AA	1.89
						A	5.66
						BBB	5.19
						BB	1.42
						B	0.94
						Below B	0.00
						NR	0.94

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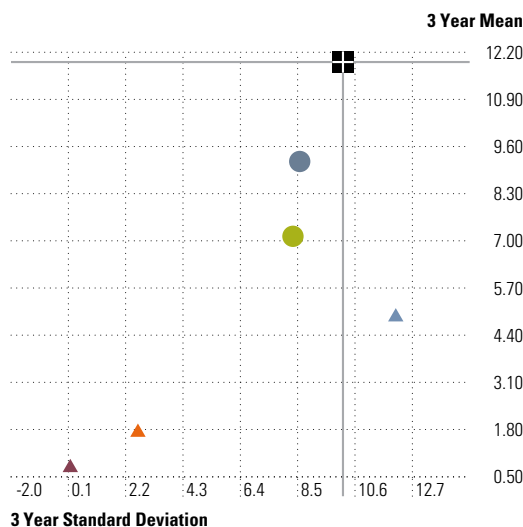
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2035 Trgt Date Retire R6 (USD)

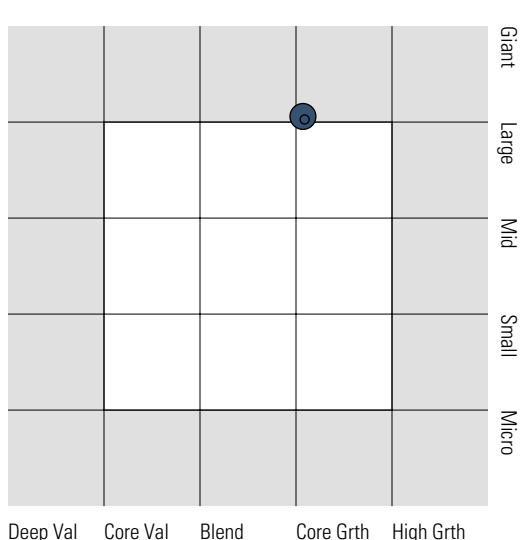
### Risk/Return 06-30-2018



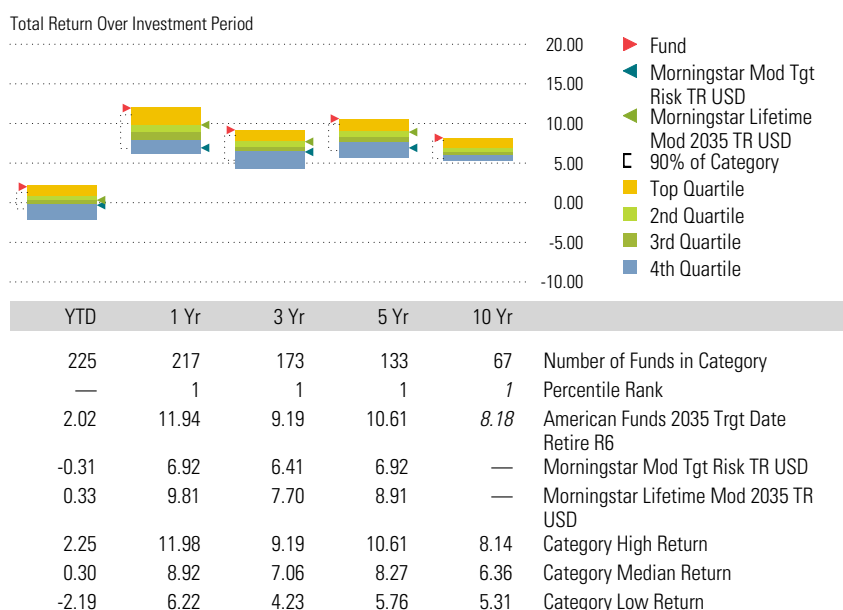
### Benchmarks

- 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 03-31-2018



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Washington Mutual R6	7.99
American Funds US Government Sec R6	7.14
American Funds New Perspective R6	6.97
American Funds Invmt Co of Amer R6	6.96
American Funds SMALLCAP World R6	6.32
American Funds AMCAP R6	6.32
American Funds Growth Fund of Amer R6	6.32
American Funds Global Balanced R6	6.04
American Funds American Balanced R6	6.02
American Funds American Mutual R6	6.00

### Investment Strategy 06-30-2018

The investment seeks growth, income and conservation of capital.

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2040 Trgt Date Retire R6 (USD)

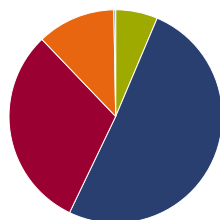
### Details 06-30-2018

Ticker	RFGTX
Gross Expense Ratio %	0.41
Total Assets	\$12,501.54 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
	193 TJ
Standard Deviation 3 Yr	8.87
Mean 3 Yr	9.56
Alpha 3 Yr	1.60
Beta 3 Yr	0.96
R-Squared 3 Yr	96.55
Upside Capture Ratio 3 Yr	103.24
Downside Capture Ratio 3 Yr	90.14
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2040 TR USD

### Composition 03-31-2018

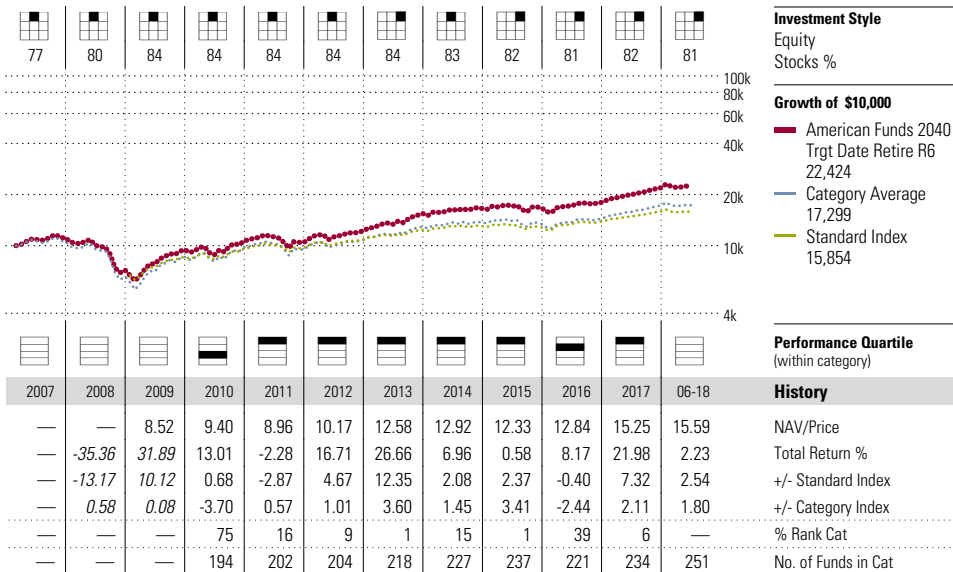


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	6.37	1.01
US Stocks	50.75	38.24
Non-US Stocks	30.74	21.29
Bonds	11.87	37.36
Other/Not Clsfd	0.28	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.9</b>	<b>0.83</b>
Basic Materials	4.5	0.81
Consumer Cyclical	13.3	1.19
Financial Services	15.6	0.89
Real Estate	1.5	0.19
<b>Sensitive</b>	<b>41.0</b>	<b>1.13</b>
Communication Services	3.5	1.07
Energy	7.7	1.21
Industrials	10.0	0.90
Technology	19.8	1.27
<b>Defensive</b>	<b>24.1</b>	<b>1.11</b>
Consumer Defensive	8.5	1.09
Healthcare	13.2	1.24
Utilities	2.5	0.74

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

	23	26	36	Large
Portfolio Statistics				
P/E Ratio TTM	3	4	5	Mid
Geo Avg Cap Plan (\$Mil)	1	1	1	Small
Geo Avg Cap Bmark (\$Mil)				
Value				
Blend				
Growth				

#### Fixed-Income Investment Style Actual %

	0	0	0	High
Avg Effective Duration (Yrs)				5.60
Avg Effective Maturity (Yrs)				—
Avg Credit Quality				—
Bond %				
AAA				83.62
AA				1.69
A				6.21
BBB				5.65
BB				1.69
B				0.56
Below B				0.00
NR				0.57

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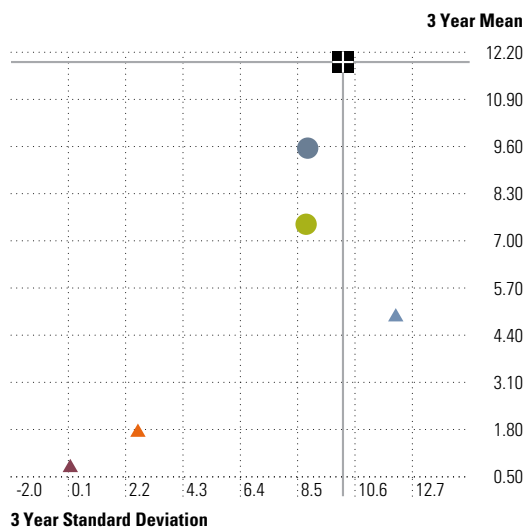
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2040 Trgt Date Retire R6 (USD)

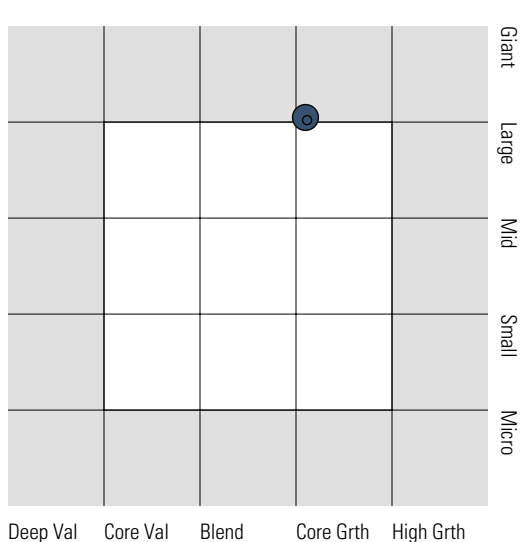
### Risk/Return 06-30-2018



### Benchmarks

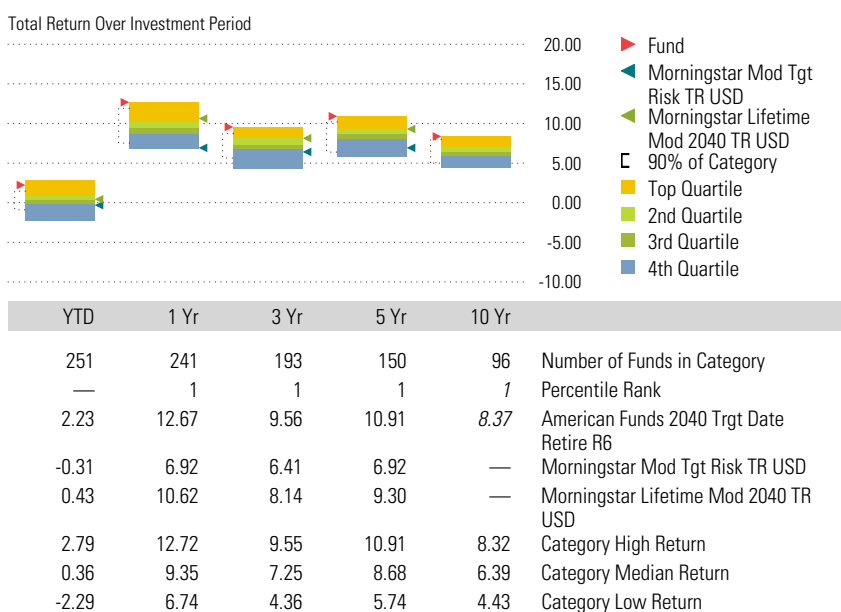
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Washington Mutual R6	8.00
American Funds Invmt Co of Amer R6	7.32
American Funds SMALLCAP World R6	6.98
American Funds AMCAP R6	6.96
American Funds New Perspective R6	6.96
American Funds Growth Fund of Amer R6	6.96
American Funds American Mutual R6	6.35
American Funds Fundamental Invs R6	6.31
American Funds American Balanced R6	6.04
American Funds Global Balanced R6	5.70

### Investment Strategy 06-30-2018

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2045 Trgt Date Retire R6 (USD)

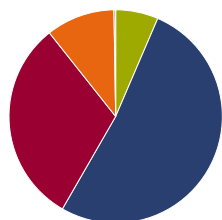
### Details 06-30-2018

Ticker	RFHTX
Gross Expense Ratio %	0.41
Total Assets	\$8,856.47 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
173 TK	
Standard Deviation 3 Yr	9.03
Mean 3 Yr	9.76
Alpha 3 Yr	1.73
Beta 3 Yr	0.95
R-Squared 3 Yr	96.42
Upside Capture Ratio 3 Yr	99.76
Downside Capture Ratio 3 Yr	83.52
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2045 TR USD

### Composition 03-31-2018

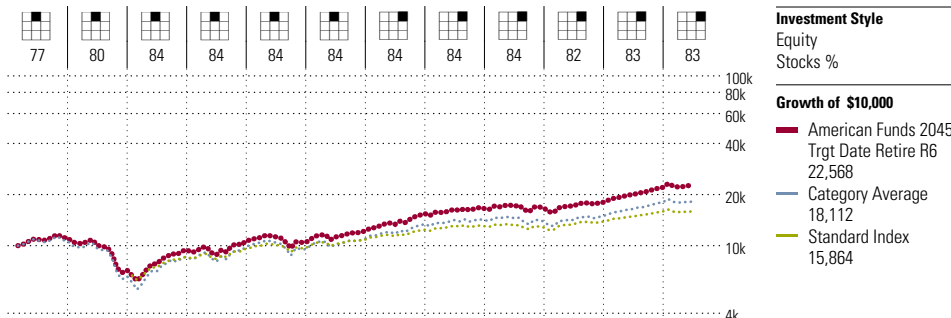


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	6.46	1.01
US Stocks	51.86	38.24
Non-US Stocks	31.01	21.29
Bonds	10.41	37.36
Other/Not Clsfd	0.26	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.8</b>	<b>0.83</b>
Basic Materials	4.5	0.82
Consumer Cyclical	13.3	1.19
Financial Services	15.6	0.89
Real Estate	1.3	0.17
<b>Sensitive</b>	<b>41.3</b>	<b>1.14</b>
Communication Services	3.4	1.06
Energy	7.7	1.21
Industrials	10.1	0.91
Technology	20.0	1.29
<b>Defensive</b>	<b>24.0</b>	<b>1.11</b>
Consumer Defensive	8.4	1.07
Healthcare	13.3	1.25
Utilities	2.3	0.71

### Performance 06-30-2018



Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	06-18	History
NAV/Price	—	—	8.56	9.38	8.95	10.16	12.58	12.98	12.44	12.98	15.49	15.85	NAV/Price
Total Return %	—	-35.46	32.03	12.98	-2.29	16.80	26.51	7.09	0.64	8.27	22.44	2.32	Total Return %
+/- Standard Index	—	-13.26	10.26	0.64	-2.88	4.75	12.20	2.20	2.43	-0.30	7.78	2.64	+/- Standard Index
+/- Category Index	—	0.82	-0.28	-3.79	0.90	0.96	3.44	1.84	3.66	-2.57	1.91	1.90	+/- 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 03-31-2018

#### Equity Investment Style Actual %

23	26	36	Large Mid Small	Portfolio Statistics		Port Avg	Rel Index	Rel Cat
3	4	5		P/E Ratio TTM		18.6	1.12	1.06
1	1	1		Geo Avg Cap Plan (\$Mil)		57,359		
				Geo Avg Cap Bmark (\$Mil)		30,743		
Value	Blend	Growth						

#### Fixed-Income Investment Style Actual %

Ltd	Mod	Ext
0	100	0
0	0	0
0	0	0
Avg Effective Duration (Yrs)	5.70	
Avg Effective Maturity (Yrs)	—	
Avg Credit Quality	—	
Bond %		
AAA	84.76	
AA	1.83	
A	6.10	
BBB	4.88	
BB	1.22	
B	0.61	
Below B	0.00	
NR	0.61	

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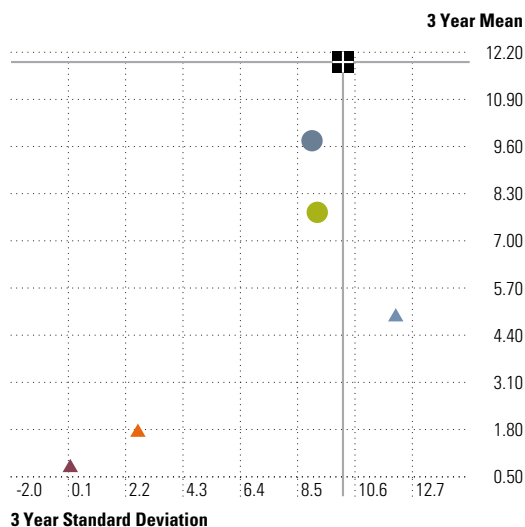
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2045 Trgt Date Retire R6 (USD)

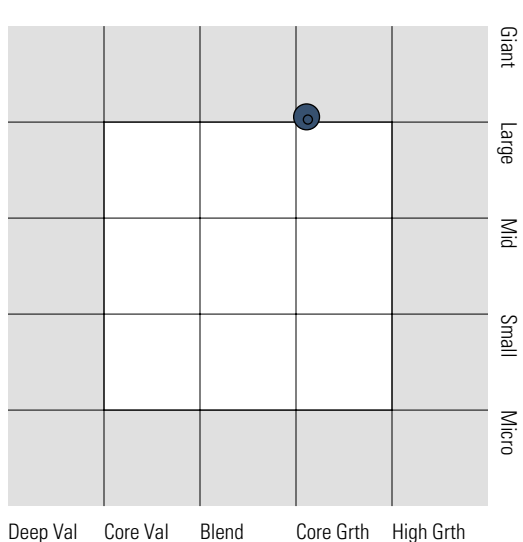
### Risk/Return 06-30-2018



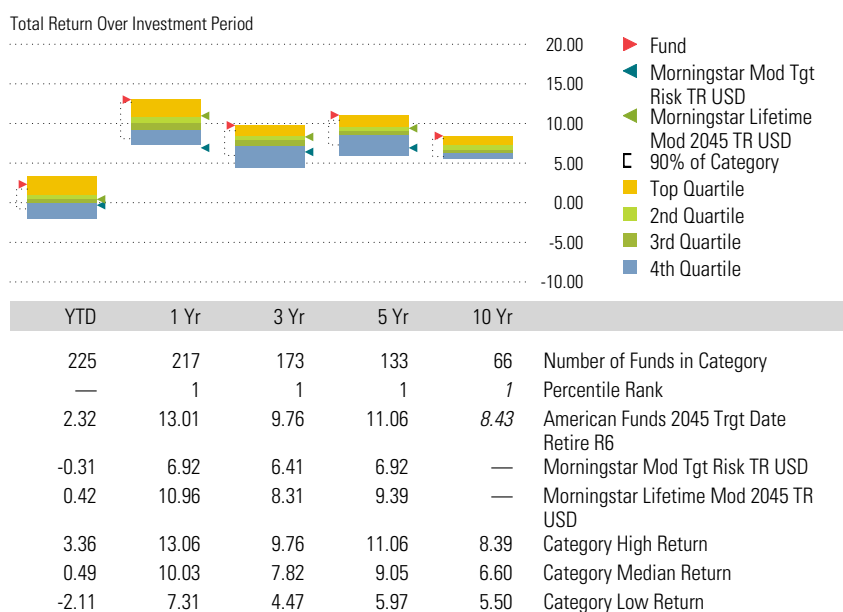
### Benchmarks

- 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 03-31-2018



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Washington Mutual R6	8.35
American Funds Invmt Co of Amer R6	8.31
American Funds American Mutual R6	7.35
American Funds Fundamental Invs R6	7.31
American Funds SMALLCAP World R6	6.98
American Funds AMCAP R6	6.97
American Funds New Perspective R6	6.97
American Funds Growth Fund of Amer R6	6.97
American Funds Capital World Gr&Inc R6	6.31
American Funds American Balanced R6	5.68

### Investment Strategy 06-30-2018

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2050 Trgt Date Retire R6 (USD)

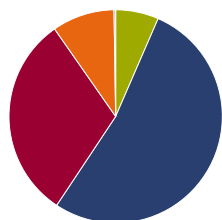
### Details 06-30-2018

Ticker	RFITX
Gross Expense Ratio %	0.42
Total Assets	\$7,222.54 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	11.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
188 TN	
Standard Deviation 3 Yr	9.07
Mean 3 Yr	9.88
Alpha 3 Yr	1.88
Beta 3 Yr	0.94
R-Squared 3 Yr	96.27
Upside Capture Ratio 3 Yr	99.62
Downside Capture Ratio 3 Yr	82.16
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2050 TR USD

### Composition 03-31-2018

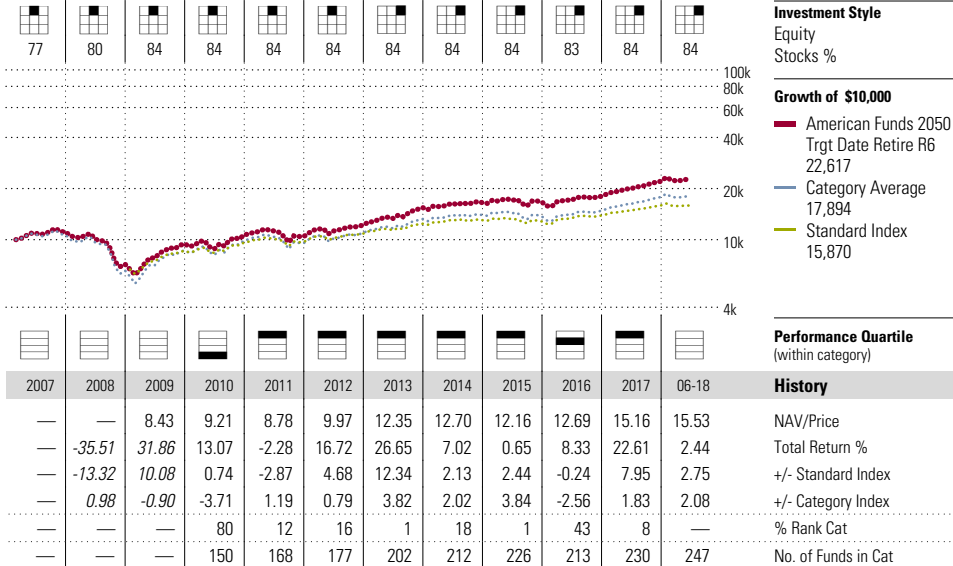


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	6.52	1.01
US Stocks	52.81	38.24
Non-US Stocks	30.97	21.29
Bonds	9.46	37.36
Other/Not Clsfd	0.25	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.6</b>	<b>0.82</b>
Basic Materials	4.5	0.81
Consumer Cyclical	13.3	1.19
Financial Services	15.6	0.89
Real Estate	1.2	0.16
<b>Sensitive</b>	<b>41.4</b>	<b>1.14</b>
Communication Services	3.4	1.05
Energy	7.7	1.21
Industrials	10.2	0.91
Technology	20.1	1.30
<b>Defensive</b>	<b>23.9</b>	<b>1.10</b>
Consumer Defensive	8.3	1.06
Healthcare	13.3	1.26
Utilities	2.3	0.69

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Value	Blend	Growth
23	27	35
3	4	5
1	1	1
Portfolio Statistics	Port Avg	Rel Index
P/E Ratio TTM	18.6	1.12
Geo Avg Cap Plan (\$Mil)	57,885	
Geo Avg Cap Bmark (\$Mil)	30,743	

#### Fixed-Income Investment Style Actual %

Ltd	Mod	Ext
0	100	0
0	0	0
0	0	0
Avg Effective Duration (Yrs)	5.80	
Avg Effective Maturity (Yrs)	—	
Avg Credit Quality	—	
Bond %		
AAA	85.90	
AA	1.28	
A	5.77	
BBB	4.49	
BB	1.28	
B	0.64	
Below B	0.00	
NR	0.64	

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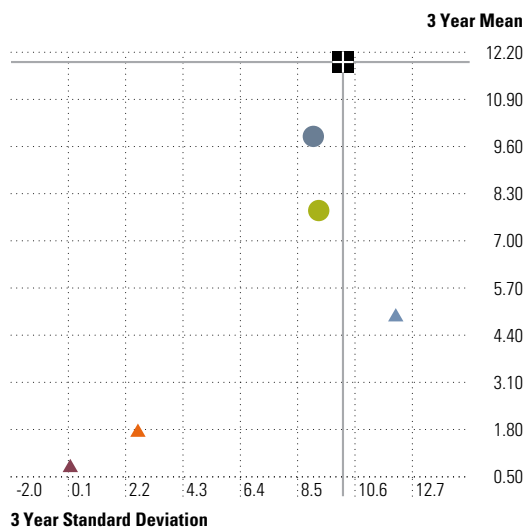
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2050 Trgt Date Retire R6 (USD)

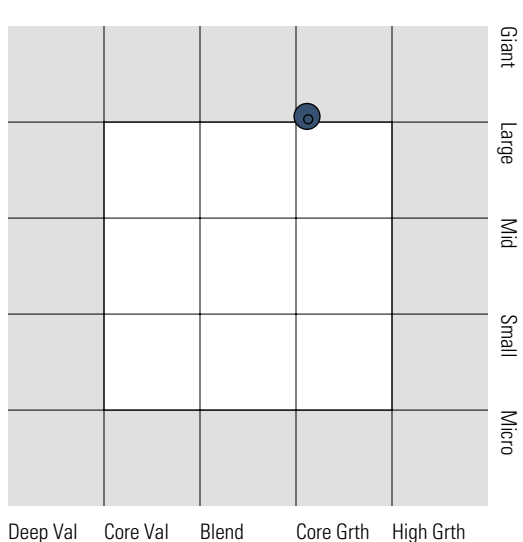
### Risk/Return 06-30-2018



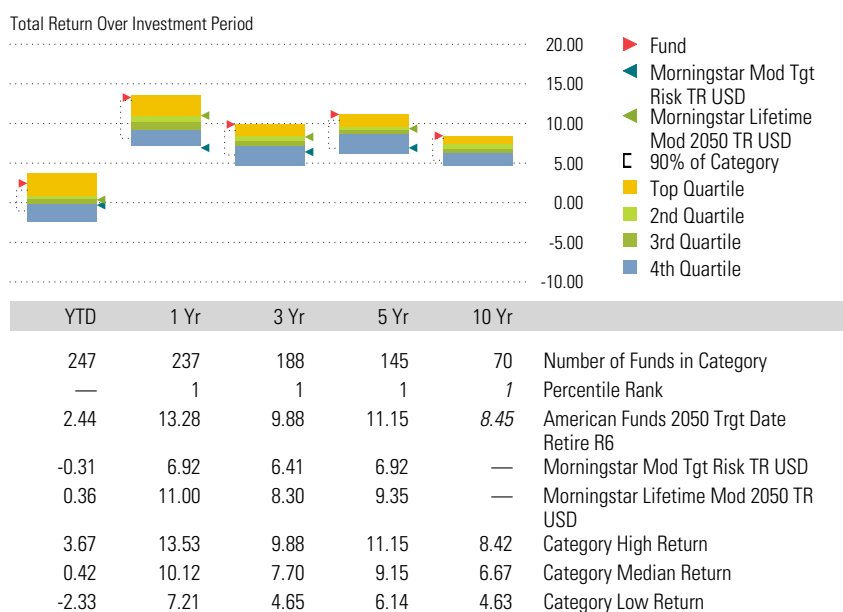
### Benchmarks

- 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 03-31-2018



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Washington Mutual R6	9.01
American Funds Invmt Co of Amer R6	8.96
American Funds American Mutual R6	8.01
American Funds Fundamental Invs R6	7.97
American Funds SMALLCAP World R6	6.98
American Funds AMCAP R6	6.97
American Funds New Perspective R6	6.97
American Funds Growth Fund of Amer R6	6.97
American Funds Capital World Gr&Inc R6	6.96
American Funds US Government Sec R6	5.14

### Investment Strategy 06-30-2018

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2055 Trgt Date Retire R6 (USD)

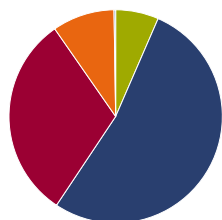
### Details 06-30-2018

Ticker	RFKTX
Gross Expense Ratio %	0.42
Total Assets	\$3,591.55 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro,
Tenure	8.4 Years
Objective	Asset Allocation

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
171 TL	
Standard Deviation 3 Yr	9.08
Mean 3 Yr	9.90
Alpha 3 Yr	1.97
Beta 3 Yr	0.93
R-Squared 3 Yr	96.05
Upside Capture Ratio 3 Yr	99.48
Downside Capture Ratio 3 Yr	81.53
Standard Index	Morningstar Mod Tgt Risk TR USD
Category Index	Morningstar Lifetime Mod 2055 TR USD

### Composition 03-31-2018

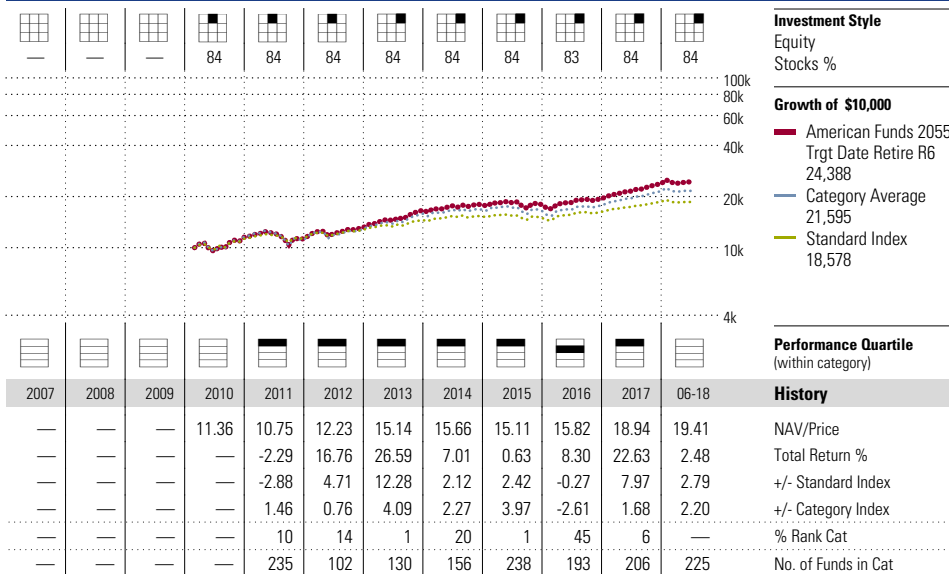


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	6.52	1.01
US Stocks	52.84	38.24
Non-US Stocks	30.97	21.29
Bonds	9.43	37.36
Other/Not Clsfd	0.25	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.6</b>	<b>0.82</b>
Basic Materials	4.5	0.81
Consumer Cyclical	13.3	1.19
Financial Services	15.6	0.89
Real Estate	1.2	0.16
<b>Sensitive</b>	<b>41.4</b>	<b>1.14</b>
Communication Services	3.4	1.05
Energy	7.7	1.21
Industrials	10.2	0.91
Technology	20.1	1.30
<b>Defensive</b>	<b>23.9</b>	<b>1.10</b>
Consumer Defensive	8.3	1.06
Healthcare	13.4	1.26
Utilities	2.3	0.69

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

	23	27	35	Large
Portfolio Statistics				
P/E Ratio TTM	3	4	5	Mid
Geo Avg Cap Plan (\$Mil)	1	1	1	Small
Geo Avg Cap Bmark (\$Mil)				
Value				
Blend				
Growth				

#### Fixed-Income Investment Style Actual %

	0	100	0	High
Avg Effective Duration (Yrs)				5.80
Avg Effective Maturity (Yrs)				—
Avg Credit Quality				—
Bond %				
AAA				85.81
AA				1.29
A				5.81
BBB				4.52
BB				1.29
B				0.65
Below B				0.00
NR				0.65

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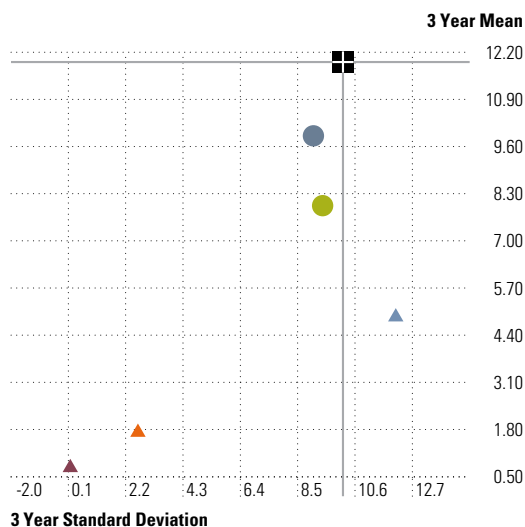
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2055 Trgt Date Retire R6 (USD)

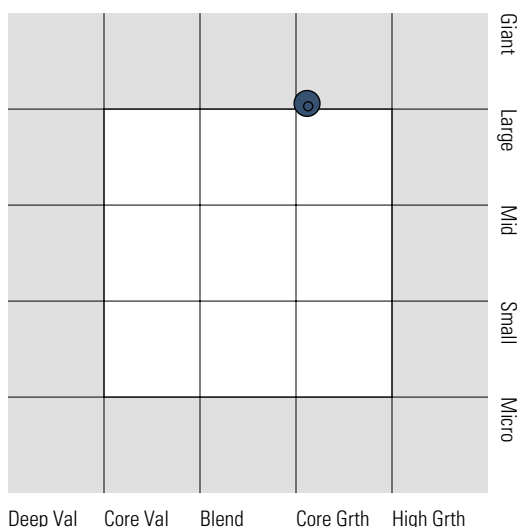
### Risk/Return 06-30-2018



### Benchmarks

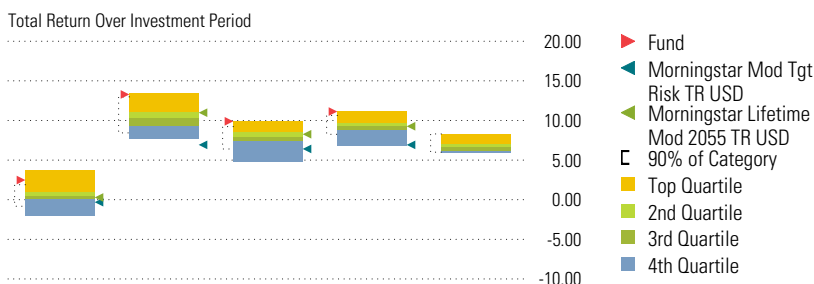
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



YTD	1 Yr	3 Yr	5 Yr	10 Yr	
225	215	171	106	9	Number of Funds in Category
—	1	1	1	—	Percentile Rank
2.48	13.28	9.90	11.12	—	American Funds 2055 Trgt Date Retire R6
-0.31	6.92	6.41	6.92	—	Morningstar Mod Tgt Risk TR USD
0.28	10.98	8.26	9.27	—	Morningstar Lifetime Mod 2055 TR USD
3.63	13.44	9.90	11.12	8.30	Category High Return
0.50	10.27	7.91	9.25	6.54	Category Median Return
-2.04	7.73	4.76	6.89	6.00	Category Low Return

### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Washington Mutual R6	9.00
American Funds Invmt Co of Amer R6	8.97
American Funds American Mutual R6	8.01
American Funds Fundamental Invs R6	7.96
American Funds AMCAP R6	6.99
American Funds Growth Fund of Amer R6	6.99
American Funds New Perspective R6	6.99
American Funds SMALLCAP World R6	6.99
American Funds Capital World Gr&Inc R6	6.96
American Funds US Government Sec R6	5.12

### Investment Strategy 06-30-2018

The investment seeks growth, income and conservation of capital.

The fund normally invests a greater portion of its assets in bond, equity income and balanced funds as it approaches and passes its target date. The advisor attempts to achieve its 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 funds, growth-and-income funds, equity-income funds and a balanced fund and bond funds. The fund categories represent differing investment objectives.

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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2060 Trgt Date Retire R6 (USD)

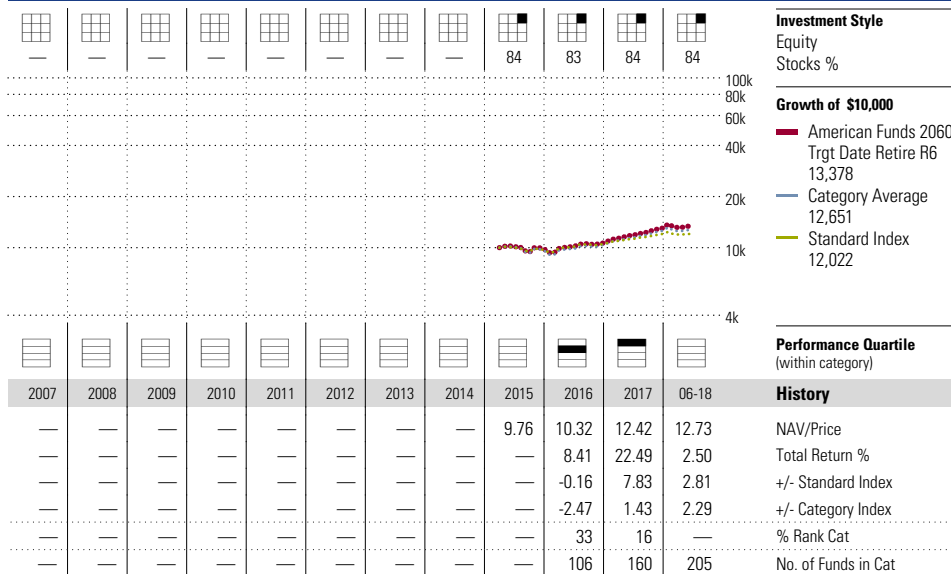
### Details 06-30-2018

Ticker	RFUTX
Gross Expense Ratio %	0.49
Total Assets	\$891.02 mil
Family	American Funds
Manager	James Lovelace, John Smet, Alan Berro, Andrew Suzman, Jody Jonsson, Wesley Phoa, Bradley Vogt, 3.3 Years
Tenure	3.3 Years
Objective	Asset Allocation

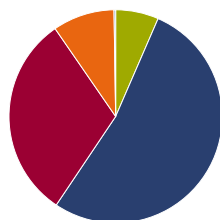
### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	65 XQ
Mean 3 Yr	9.00
Alpha 3 Yr	9.89
Beta 3 Yr	2.11
R-Squared 3 Yr	0.92
Upside Capture Ratio 3 Yr	96.08
Downside Capture Ratio 3 Yr	98.98
Standard Index	80.04
Category Index	Morningstar Mod Tgt Risk TR USD
	Morningstar Lifetime Mod 2060 TR USD

### Performance 06-30-2018



### Composition 03-31-2018



Asset Allocation	Portfolio Net %	Bmark Net %
Cash	6.52	1.01
US Stocks	52.89	38.24
Non-US Stocks	30.98	21.29
Bonds	9.36	37.36
Other/Not Clsfd	0.25	2.10

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>34.6</b>	<b>0.82</b>
Basic Materials	4.5	0.81
Consumer Cyclical	13.3	1.19
Financial Services	15.6	0.89
Real Estate	1.2	0.16
<b>Sensitive</b>	<b>41.4</b>	<b>1.14</b>
Communication Services	3.4	1.05
Energy	7.7	1.20
Industrials	10.2	0.91
Technology	20.2	1.30
<b>Defensive</b>	<b>23.9</b>	<b>1.10</b>
Consumer Defensive	8.3	1.06
Healthcare	13.4	1.26
Utilities	2.3	0.69

### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Value	Blend	Growth
23	27	35
3	4	5
1	1	1
Portfolio Statistics	Port Avg	Rel Index
P/E Ratio TTM	18.6	1.12
Geo Avg Cap Plan (\$Mil)	57,876	1.07
Geo Avg Cap Bmark (\$Mil)	30,743	

#### Fixed-Income Investment Style Actual %

Ltd	Mod	Ext
0	100	0
0	0	0
0	0	0
Avg Effective Duration (Yrs)	5.80	
Avg Effective Maturity (Yrs)	—	
Avg Credit Quality	—	
Bond %		
AAA	85.81	
AA	1.29	
A	5.81	
BBB	4.52	
BB	1.29	
B	0.65	
Below B	0.00	
NR	0.65	

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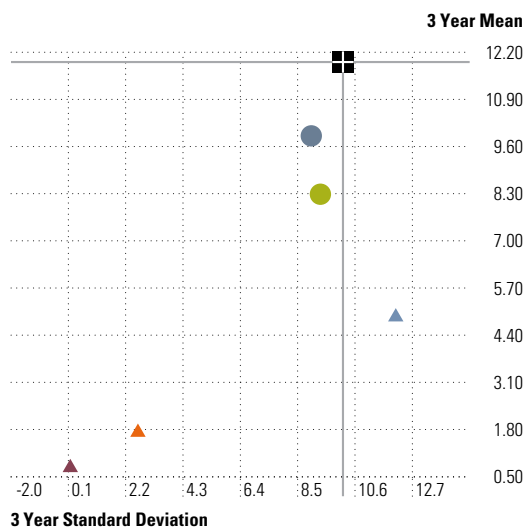
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds 2060 Trgt Date Retire R6 (USD)

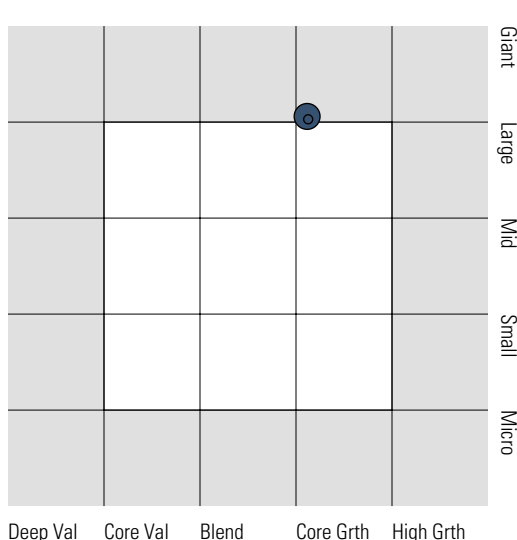
### Risk/Return 06-30-2018



### Benchmarks

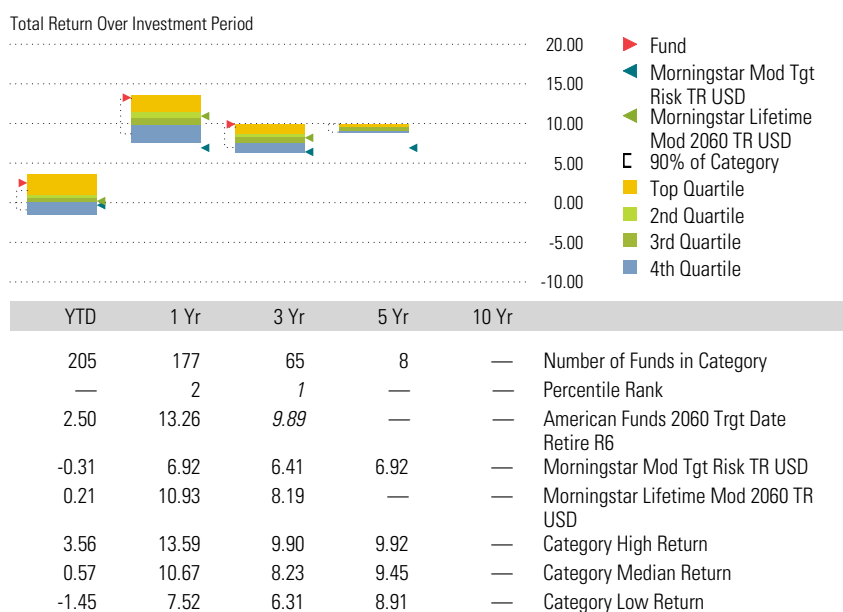
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
American Funds Invmt Co of Amer R6	8.99
American Funds Washington Mutual R6	8.99
American Funds American Mutual R6	8.00
American Funds Fundamental Invs R6	7.99
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 AMCAP R6	6.99
American Funds Capital World Gr&Inc R6	6.99
American Funds US Government Sec R6	5.08

### Investment Strategy 06-30-2018

The investment seeks growth, income and conservation of capital. The fund normally invests a greater portion of its assets in bond, equity income and balanced funds as it approaches and passes its target date. The advisor attempts to achieve its 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 funds, growth-and-income funds, equity-income funds and a balanced fund and bond funds. The fund categories represent differing investment objectives.

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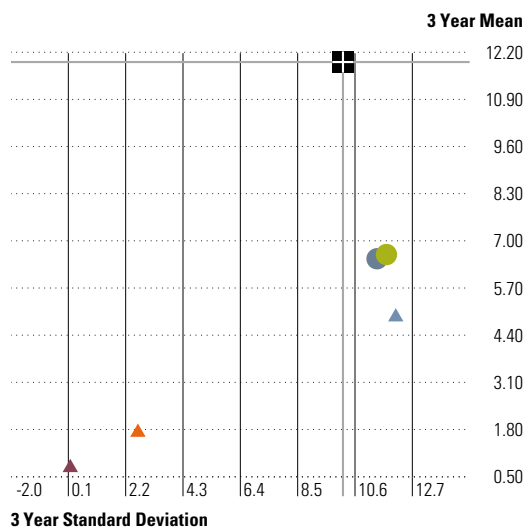
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds Europacific Growth R6 (USD)

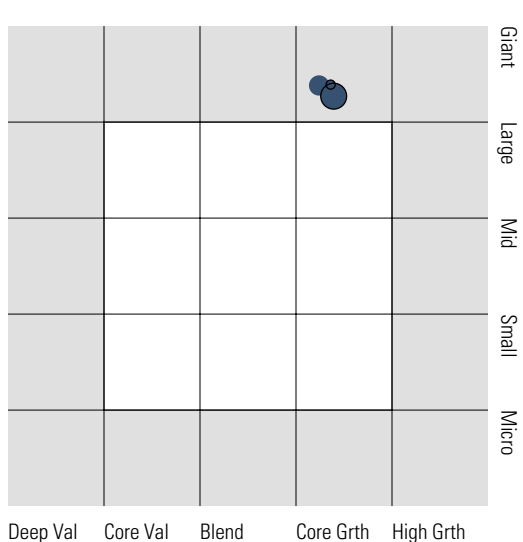
### Risk/Return 06-30-2018



### Benchmarks

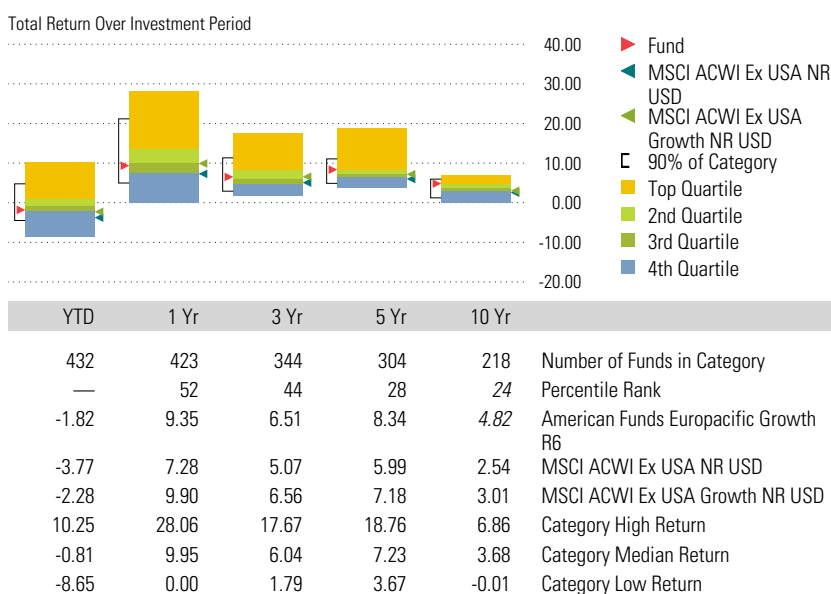
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Samsung Electronics Co Ltd	2.62
AIA Group Ltd	2.59
Airbus SE	2.28
British American Tobacco PLC	2.16
Alibaba Group Holding Ltd ADR	2.11
Taiwan Semiconductor Manufacturing Co Ltd	2.06
Nintendo Co Ltd	1.98
HDFC Bank Ltd	1.92
Reliance Industries Ltd	1.86
ASML Holding NV	1.65

### Investment Strategy 06-30-2018

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)

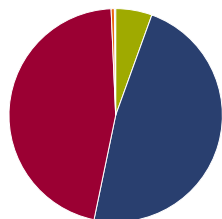
### Details 06-30-2018

Ticker	RNPGX
Gross Expense Ratio %	0.45
Total Assets	\$83,855.24 mil
Family	American Funds
Manager	Robert Lovelace,
Tenure	17.6 Years
Objective	World Stock

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
	721 WS
Standard Deviation 3 Yr	10.84
Mean 3 Yr	11.39
Alpha 3 Yr	3.18
Beta 3 Yr	0.96
R-Squared 3 Yr	90.54
Upside Capture Ratio 3 Yr	109.88
Downside Capture Ratio 3 Yr	88.65
Standard Index	MSCI ACWI Ex USA
	NR USD
Category Index	MSCI ACWI NR USD

### Composition 03-31-2018

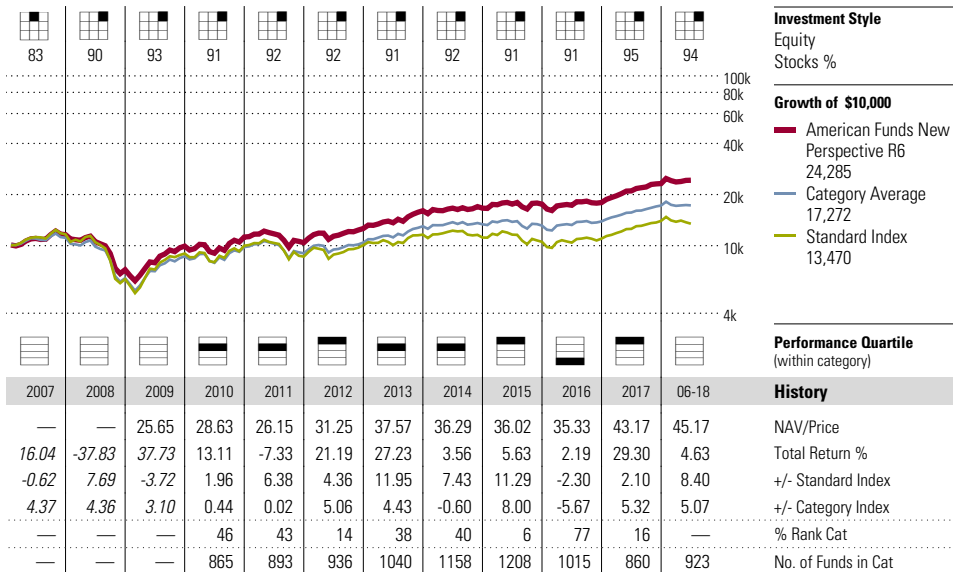


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	5.51	0.01
US Stocks	47.74	0.69
Non-US Stocks	46.06	99.20
Bonds	0.50	0.00
Other/Not Clsfd	0.19	0.09

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>39.6</b>	<b>0.89</b>
Basic Materials	5.9	0.70
Consumer Cyclical	18.4	1.65
Financial Services	15.2	0.70
Real Estate	0.1	0.03
<b>Sensitive</b>	<b>42.6</b>	<b>1.23</b>
Communication Services	1.9	0.48
Energy	4.2	0.56
Industrials	9.2	0.85
Technology	27.3	2.21
<b>Defensive</b>	<b>17.9</b>	<b>0.86</b>
Consumer Defensive	8.9	0.90
Healthcare	7.8	0.98
Utilities	1.2	0.39

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

14	22	55	Large Mid Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
1	3	5		P/E Ratio TTM	19.9	1.38	1.20
0	0	0		Geo Avg Cap Plan (\$Mil)	71,741		
				Geo Avg Cap Bmark (\$Mil)	33,988		
Value	Blend	Growth					

#### 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	—	—

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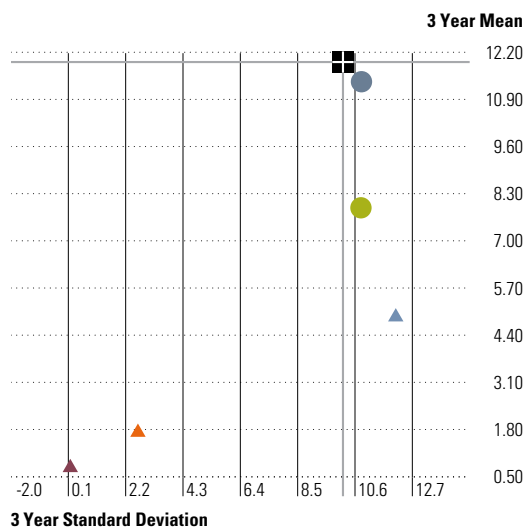
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds New Perspective R6 (USD)

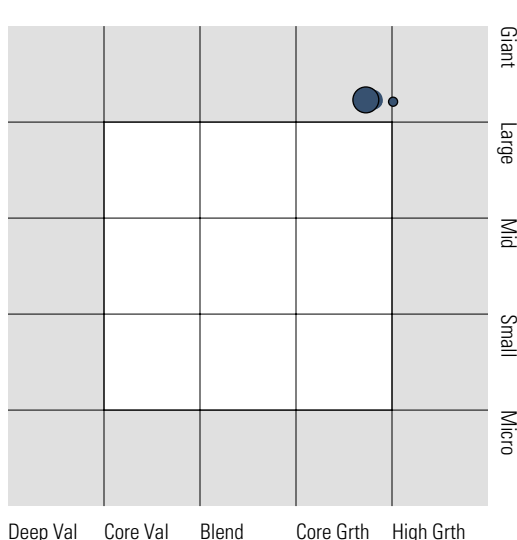
### Risk/Return 06-30-2018



### Benchmarks

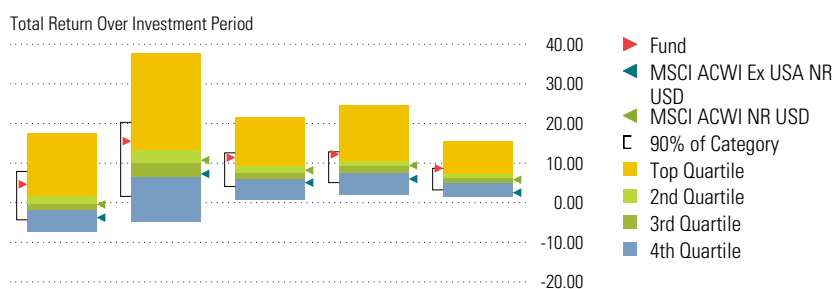
- S&P 500 TR USD
- BBgBarc US Agg Bond TR USD
- MSCI EAFE NR USD
- USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



	YTD	1 Yr	3 Yr	5 Yr	10 Yr	
	923	872	721	596	343	Number of Funds in Category
	—	14	12	10	7	Percentile Rank
	4.63	15.53	11.39	12.23	8.69	American Funds New Perspective R6
	-3.77	7.28	5.07	5.99	2.54	MSCI ACWI Ex USA NR USD
	-0.43	10.73	8.19	9.41	5.80	MSCI ACWI NR USD
	17.53	37.82	21.63	24.57	15.44	Category High Return
	-0.37	9.91	7.41	9.08	6.07	Category Median Return
	-7.48	-4.97	0.67	2.03	1.63	Category Low Return

### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Amazon.com Inc	4.19
Facebook Inc A	2.67
Taiwan Semiconductor Manufacturing Co Ltd	2.25
Microsoft Corp	2.01
JPMorgan Chase & Co	1.86
Naspers Ltd Class N	1.79
ASML Holding NV	1.55
CME Group Inc Class A	1.49
Pernod Ricard SA	1.37
Broadcom Inc	1.33

### Investment Strategy 06-30-2018

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)

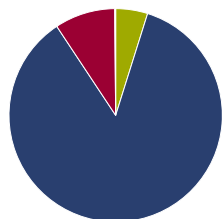
### Details 06-30-2018

Ticker	RWMGX
Gross Expense Ratio %	0.29
Total Assets	\$105,934.47 mil
Family	American Funds
Manager	Alan Berro,
Tenure	21.0 Years
Objective	Growth and Income

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
	1,099 LV
Standard Deviation 3 Yr	9.71
Mean 3 Yr	11.93
Alpha 3 Yr	4.00
Beta 3 Yr	0.91
R-Squared 3 Yr	92.82
Upside Capture Ratio 3 Yr	103.11
Downside Capture Ratio 3 Yr	69.75
Standard Index	S&P 500 TR USD
Category Index	Russell 1000 Value TR USD

### Composition 03-31-2018

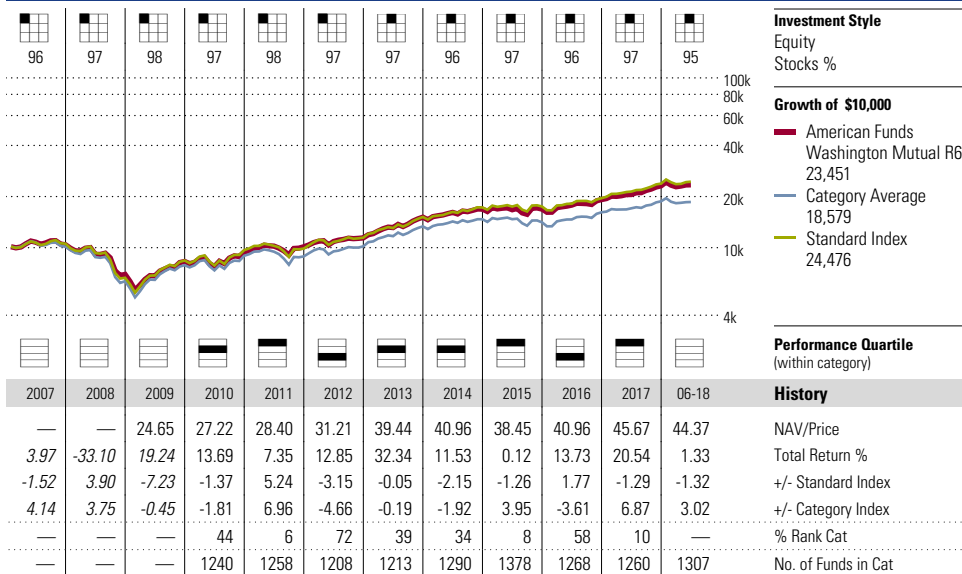


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	4.85	0.00
US Stocks	85.85	99.12
Non-US Stocks	9.16	0.88
Bonds	0.14	0.00
Other/Not Clsfd	0.00	0.00

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>31.2</b>	<b>0.95</b>
Basic Materials	4.0	1.63
Consumer Cyclical	7.6	0.63
Financial Services	18.1	1.12
Real Estate	1.5	0.63
<b>Sensitive</b>	<b>45.5</b>	<b>1.07</b>
Communication Services	4.7	1.43
Energy	10.1	1.60
Industrials	13.1	1.29
Technology	17.5	0.77
<b>Defensive</b>	<b>23.3</b>	<b>0.96</b>
Consumer Defensive	7.6	1.02
Healthcare	13.1	0.94
Utilities	2.7	0.90

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	20.8	1.02	1.28
Geo Avg Cap Plan (\$Mil)	100,845		
Geo Avg Cap Bmark (\$Mil)	99,862		

#### 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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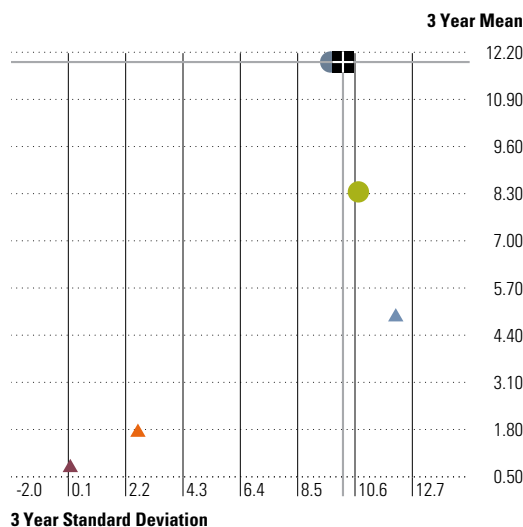
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# Cobb County Government 457 Deferred Compensation Plan

## American Funds Washington Mutual R6 (USD)

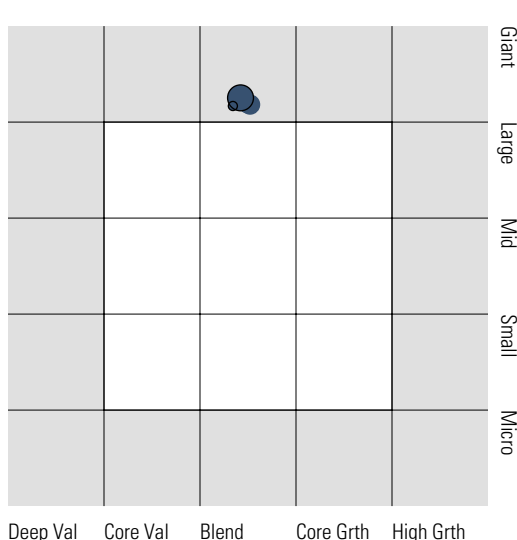
### Risk/Return 06-30-2018



### Benchmarks

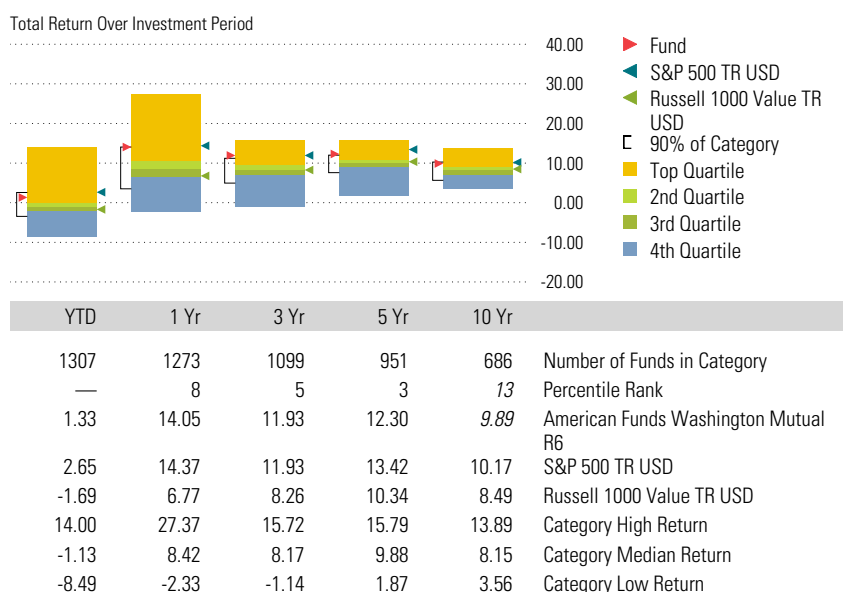
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Microsoft Corp	6.08
The Home Depot Inc	3.19
Intel Corp	3.04
Boeing Co	2.58
Royal Dutch Shell PLC ADR Class B	2.42
Lockheed Martin Corp	2.38
Verizon Communications Inc	2.06
JPMorgan Chase & Co	2.03
Johnson & Johnson	2.00
Comcast Corp Class A	1.95

### Investment Strategy 06-30-2018

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)

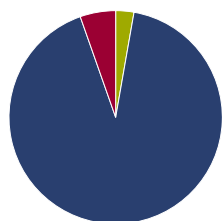
### Details 06-30-2018

Ticker	LMNSX
Gross Expense Ratio %	0.98
Total Assets	\$1,133.01 mil
Family	Legg Mason
Manager	Albert Grosman,
Tenure	6.8 Years
Objective	Small Company

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★
606 SG	
Standard Deviation 3 Yr	12.83
Mean 3 Yr	11.91
Alpha 3 Yr	2.76
Beta 3 Yr	0.83
R-Squared 3 Yr	87.31
Upside Capture Ratio 3 Yr	92.00
Downside Capture Ratio 3 Yr	78.46
Standard Index	S&P 500 TR USD
Category Index	Russell 2000 Growth TR USD

### Composition 05-31-2018

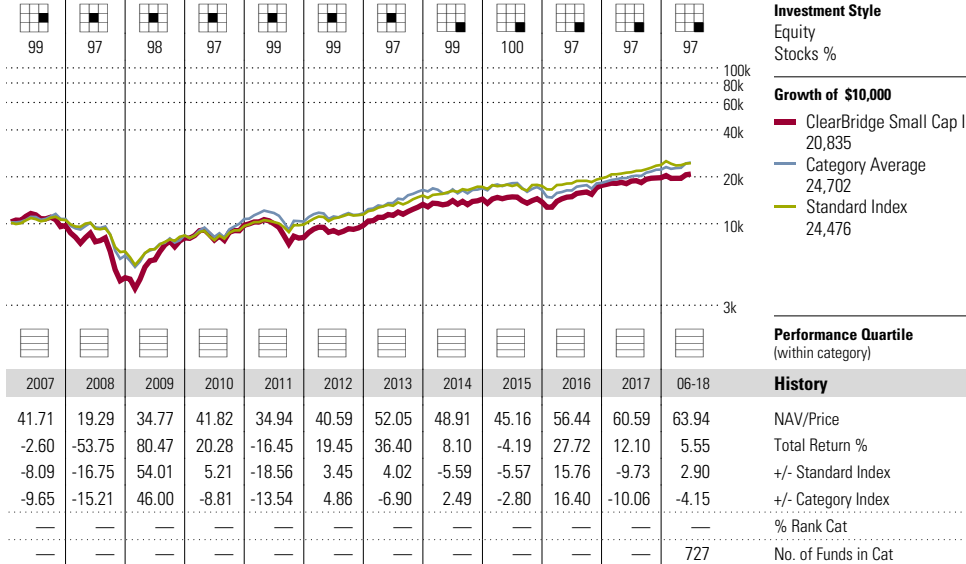


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.76	0.00
US Stocks	91.85	99.12
Non-US Stocks	5.39	0.88
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.00

### Sector Weightings 05-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>41.7</b>	<b>1.26</b>
Basic Materials	4.0	1.62
Consumer Cyclical	10.7	0.89
Financial Services	20.1	1.24
Real Estate	7.0	2.99
<b>Sensitive</b>	<b>43.0</b>	<b>1.01</b>
Communication Services	1.8	0.55
Energy	4.6	0.73
Industrials	15.3	1.50
Technology	21.4	0.93
<b>Defensive</b>	<b>15.3</b>	<b>0.63</b>
Consumer Defensive	2.9	0.39
Healthcare	9.4	0.67
Utilities	3.0	1.03

### Performance 06-30-2018



### Style Analysis 05-31-2018

#### Equity Investment Style Actual %

0	0	0	Large	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
4	5	14		P/E Ratio TTM	14.3	0.70	0.54
24	23	30	Mid				
			Small	Geo Avg Cap Plan (\$Mil)			1,982
				Geo Avg Cap Bmark (\$Mil)			99,862
Value	Blend	Growth					

#### 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	—	—

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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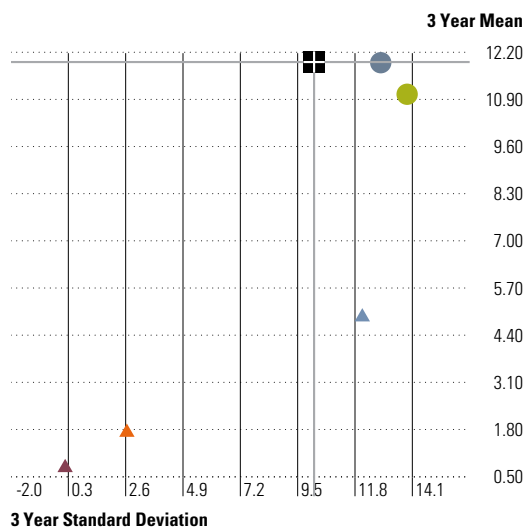
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# Cobb County Government 457 Deferred Compensation Plan

## ClearBridge Small Cap I (USD)

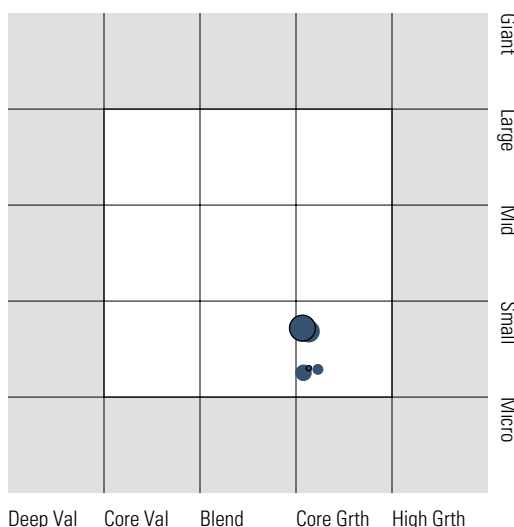
### Risk/Return 06-30-2018



### Benchmarks

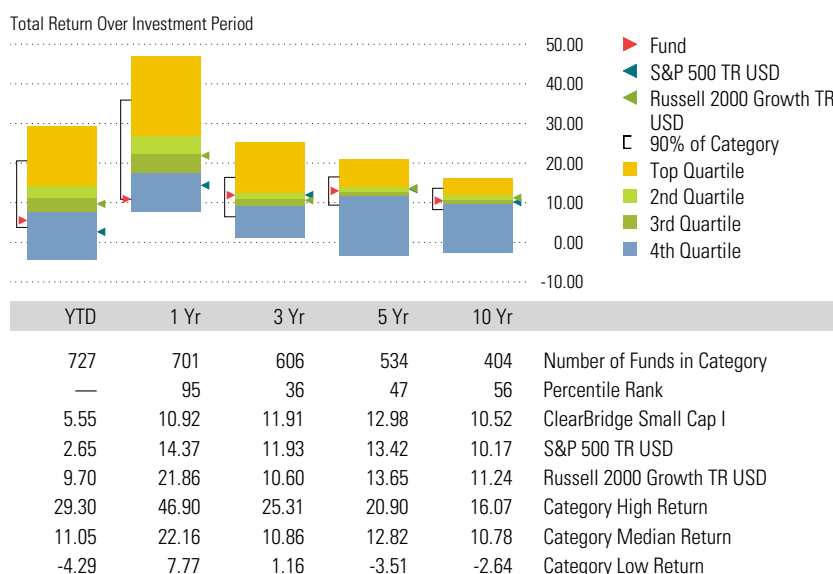
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 05-31-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 05-31-2018

Holding Name	% Net Assets
First Interstate BancSystem Inc	2.16
Cadence Bancorp A	1.99
Gray Television Inc	1.97
HealthEquity Inc	1.93
Aaron's Inc	1.88
Web.com Group Inc	1.83
OneMain Holdings Inc	1.80
Black Hills Corp	1.80
Encompass Health Corp	1.79
Sprouts Farmers Market Inc	1.77

### Investment Strategy 06-30-2018

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.

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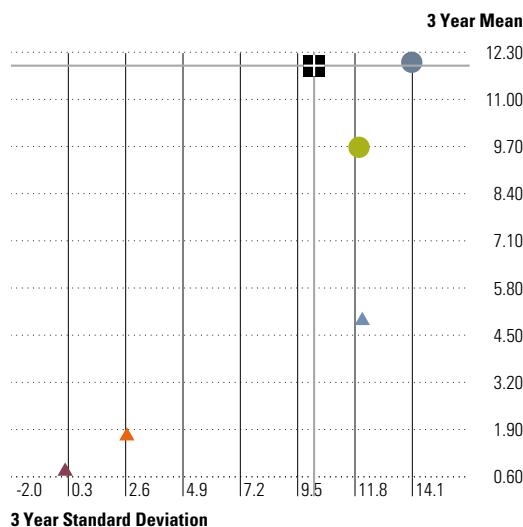
MORNINGSTAR



# Cobb County Government 457 Deferred Compensation Plan

## Harbor Mid Cap Growth Retirement (USD)

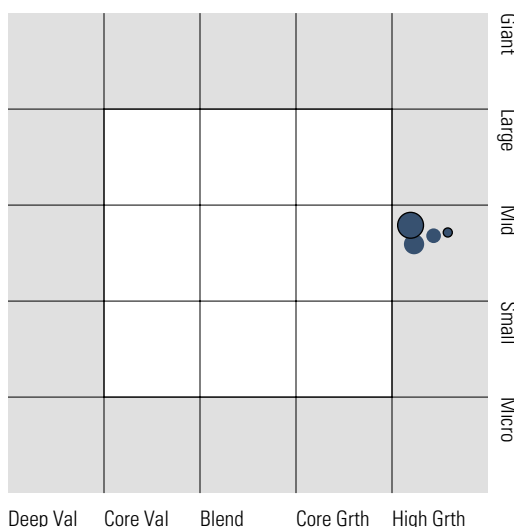
### Risk/Return 06-30-2018



#### Benchmarks

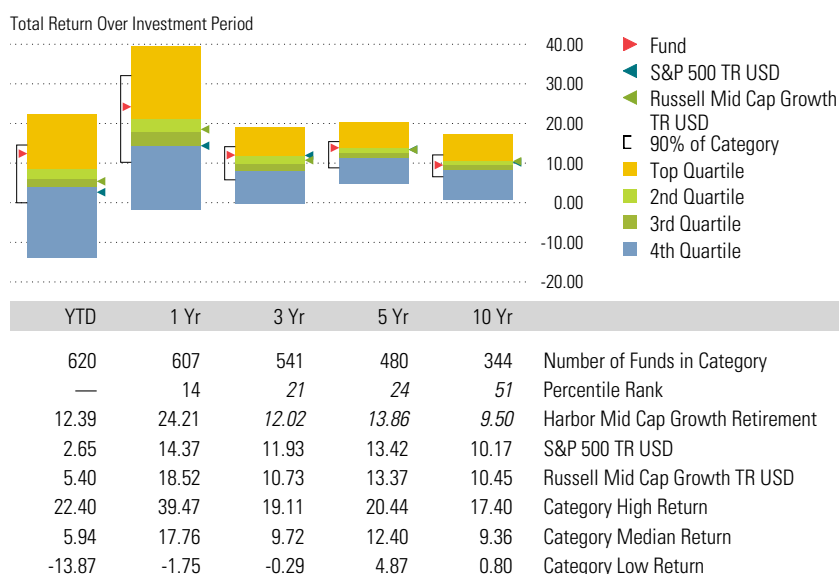
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
ServiceNow Inc	4.43
Workday Inc Class A	4.00
Dollar Tree Inc	3.44
Microchip Technology Inc	3.29
CoStar Group Inc	3.14
TD Ameritrade Holding Corp	3.12
Insulet Corp	2.96
Guidewire Software Inc	2.96
Hilton Worldwide Holdings Inc	2.78
Align Technology Inc	2.17

### Investment Strategy 06-30-2018

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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# Cobb County Government 457 Deferred Compensation Plan

## JHancock Fundamental Large Cap Core R6 (USD)

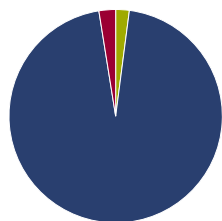
### Details 06-30-2018

Ticker	JLCWX
Gross Expense Ratio %	0.69
Total Assets	\$5,201.95 mil
Family	John Hancock
Manager	Emory (Sandy) Sanders,
Tenure	6.6 Years
Objective	Growth

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★
Standard Deviation 3 Yr	12.34
Mean 3 Yr	11.00
Alpha 3 Yr	-1.91
Beta 3 Yr	1.14
R-Squared 3 Yr	89.37
Upside Capture Ratio 3 Yr	110.68
Downside Capture Ratio 3 Yr	131.35
Standard Index	S&P 500 TR USD
Category Index	Russell 1000 TR USD

### Composition 04-30-2018

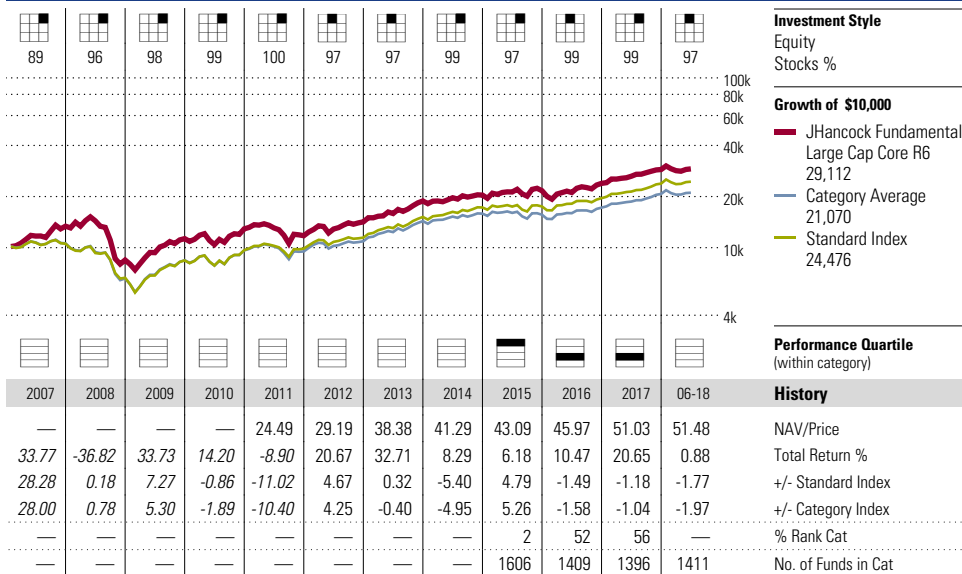


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.06	0.00
US Stocks	95.42	99.12
Non-US Stocks	2.52	0.88
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.00

### Sector Weightings 04-30-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>52.8</b>	<b>1.60</b>
Basic Materials	0.0	0.00
Consumer Cyclical	24.1	2.01
Financial Services	28.7	1.77
Real Estate	0.0	0.00
<b>Sensitive</b>	<b>36.4</b>	<b>0.85</b>
Communication Services	1.6	0.50
Energy	4.7	0.74
Industrials	12.9	1.27
Technology	17.1	0.75
<b>Defensive</b>	<b>10.8</b>	<b>0.45</b>
Consumer Defensive	2.6	0.35
Healthcare	8.3	0.59
Utilities	0.0	0.00

### Performance 06-30-2018



### Style Analysis 04-30-2018

#### Equity Investment Style Actual %

Value	Blend	Growth
33	21	33
0	7	4
0	2	0

#### Fixed-Income Investment Style Actual %

Ltd	Mod	Ext

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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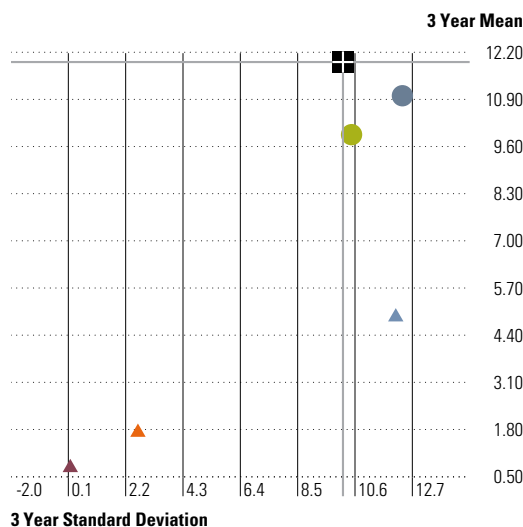
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# Cobb County Government 457 Deferred Compensation Plan

## JHancock Fundamental Large Cap Core R6 (USD)

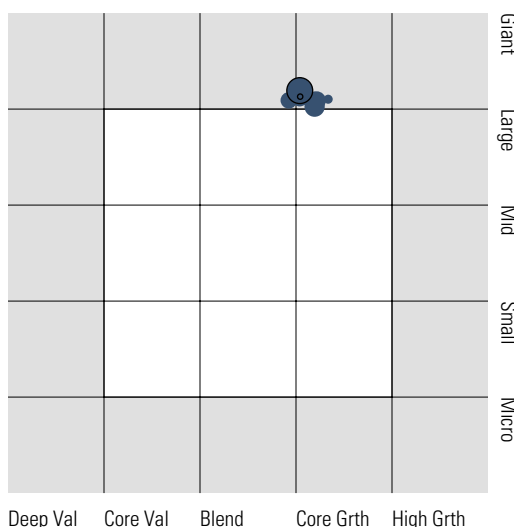
### Risk/Return 06-30-2018



### Benchmarks

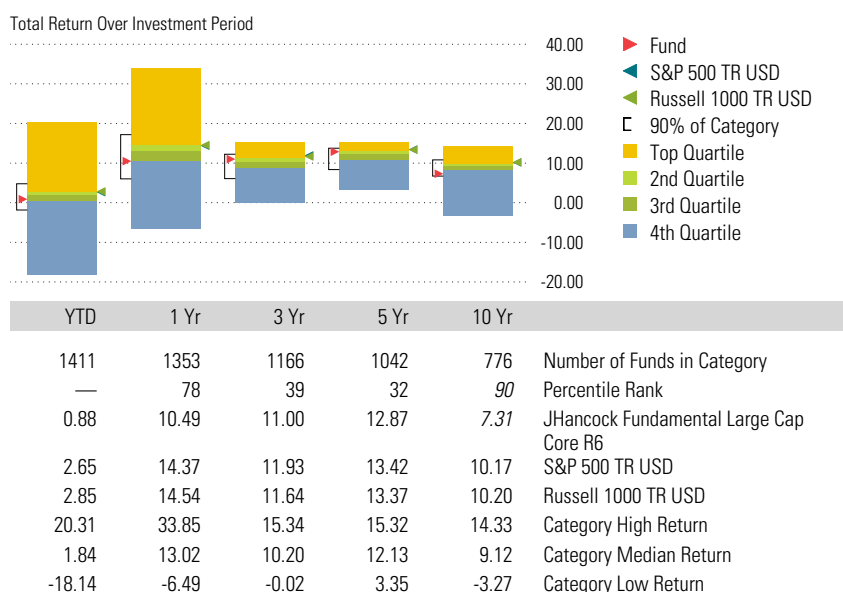
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 04-30-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 04-30-2018

Holding Name	% Net Assets
Amazon.com Inc	7.72
General Electric Co	6.69
Apple Inc	5.97
Bank of America Corporation	4.72
Citigroup Inc	4.13
Alphabet Inc A	4.08
Goldman Sachs Group Inc	4.06
Visa Inc Class A	3.50
Lennar Corp	3.27
Polaris Industries Inc	3.14

### Investment Strategy 06-30-2018

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.

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# Cobb County Government 457 Deferred Compensation Plan

## Nuveen Real Estate Securities R6 (USD)

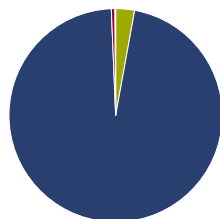
### Details 06-30-2018

Ticker	FREGX
Gross Expense Ratio %	0.87
Total Assets	\$3,630.67 mil
Family	Nuveen
Manager	Jay Rosenberg,
Tenure	13.2 Years
Objective	Specialty - Real Estate

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★
Standard Deviation 3 Yr	13.04
Mean 3 Yr	7.90
Alpha 3 Yr	0.38
Beta 3 Yr	0.95
R-Squared 3 Yr	98.75
Upside Capture Ratio 3 Yr	95.08
Downside Capture Ratio 3 Yr	92.22
Standard Index	MSCI ACWI NR USD
Category Index	S&P United States REIT TR USD

### Composition 04-30-2018

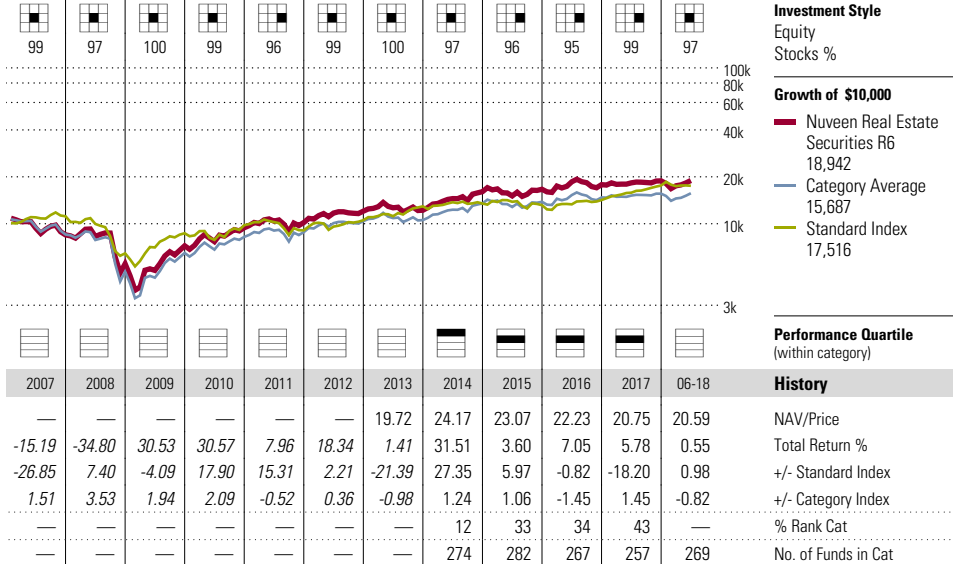


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.86	0.01
US Stocks	96.49	52.97
Non-US Stocks	0.54	46.99
Bonds	0.00	0.00
Other/Not Clsfd	0.11	0.04

### Sector Weightings 04-30-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>98.4</b>	<b>2.55</b>
Basic Materials	0.0	0.00
Consumer Cyclical	2.2	0.18
Financial Services	0.1	0.00
Real Estate	96.2	33.33
<b>Sensitive</b>	<b>1.6</b>	<b>0.04</b>
Communication Services	1.4	0.40
Energy	0.0	0.00
Industrials	0.1	0.01
Technology	0.0	0.00
<b>Defensive</b>	<b>0.0</b>	<b>0.00</b>
Consumer Defensive	0.0	0.00
Healthcare	0.0	0.00
Utilities	0.0	0.00

### Performance 06-30-2018



### Style Analysis 04-30-2018

#### Equity Investment Style Actual %

2	27	7	Large Mid Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
13	36	6		P/E Ratio TTM	30.4	1.78	0.93
4	4	1		Geo Avg Cap Plan (\$Mil)			10,634
				Geo Avg Cap Bmark (\$Mil)			57,231
Value	Blend	Growth					

#### 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	—	—

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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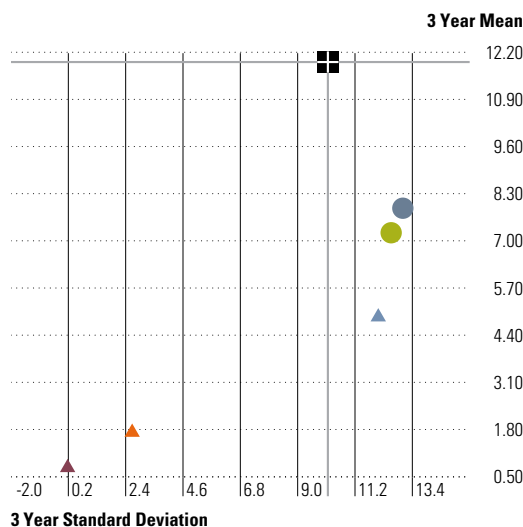
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# Cobb County Government 457 Deferred Compensation Plan

## Nuveen Real Estate Securities R6 (USD)

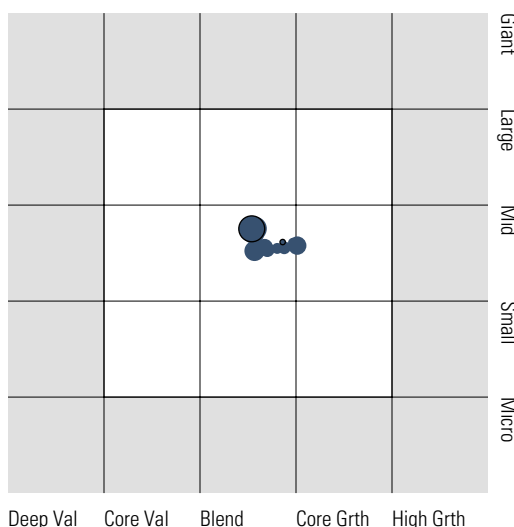
### Risk/Return 06-30-2018



### Benchmarks

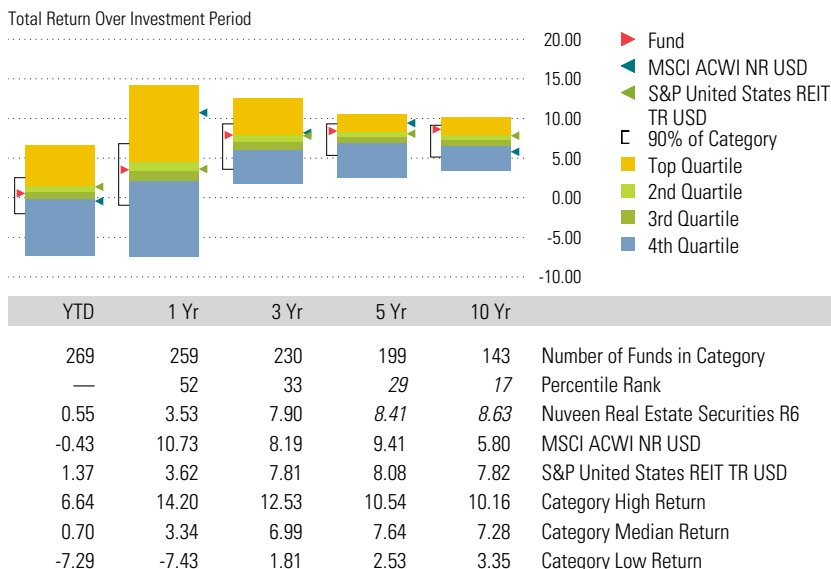
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 04-30-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 04-30-2018

Holding Name	% Net Assets
Simon Property Group Inc	6.13
Duke Realty Corp	4.29
AvalonBay Communities Inc	4.17
Equinix Inc	3.94
Digital Realty Trust Inc	3.73
Prologis Inc	3.70
Public Storage	3.67
Essex Property Trust Inc	3.28
Boston Properties Inc	3.22
Federal Realty Investment Trust	2.71

### Investment Strategy 06-30-2018

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)

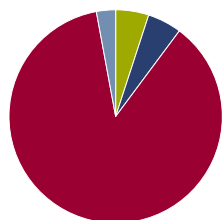
### Details 06-30-2018

Ticker	OANIX
Gross Expense Ratio %	0.82
Total Assets	\$45,673.92 mil
Family	Oakmark
Manager	David Herro,
Tenure	25.8 Years
Objective	Foreign Stock

### Risk and Return 06-30-2018

Overall Morningstar Rating	☆☆☆☆
Standard Deviation 3 Yr	16.15
Mean 3 Yr	5.80
Alpha 3 Yr	0.09
Beta 3 Yr	1.24
R-Squared 3 Yr	86.61
Upside Capture Ratio 3 Yr	123.45
Downside Capture Ratio 3 Yr	125.65
Standard Index	MSCI ACWI Ex USA NR USD
Category Index	MSCI ACWI Ex USA NR USD

### Composition 03-31-2018

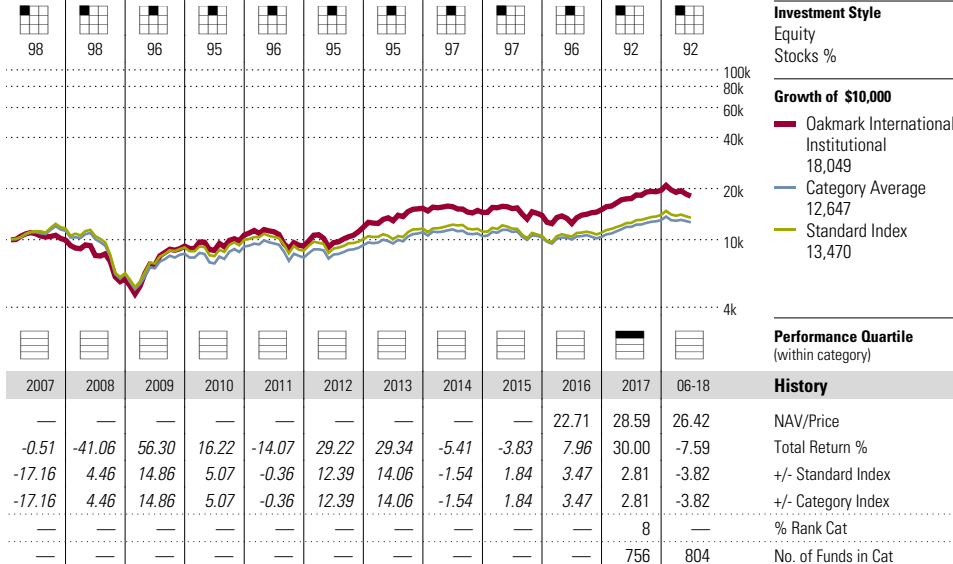


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	5.02	0.01
US Stocks	5.17	0.69
Non-US Stocks	86.91	99.20
Bonds	0.00	0.00
Other/Not Clsfd	2.91	0.09

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>72.7</b>	<b>1.63</b>
Basic Materials	8.3	0.98
Consumer Cyclical	30.9	2.77
Financial Services	33.5	1.53
Real Estate	0.0	0.00
<b>Sensitive</b>	<b>19.1</b>	<b>0.55</b>
Communication Services	2.4	0.61
Energy	0.2	0.02
Industrials	14.1	1.31
Technology	2.4	0.20
<b>Defensive</b>	<b>8.3</b>	<b>0.40</b>
Consumer Defensive	3.5	0.35
Healthcare	4.8	0.60
Utilities	0.0	0.00

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

Portfolio Statistics	Port Avg	Rel Index	Rel Cat
P/E Ratio TTM	12.7	0.88	0.95
Geo Avg Cap Plan (\$Mil)			71,206
Geo Avg Cap Bmark (\$Mil)			33,988

#### 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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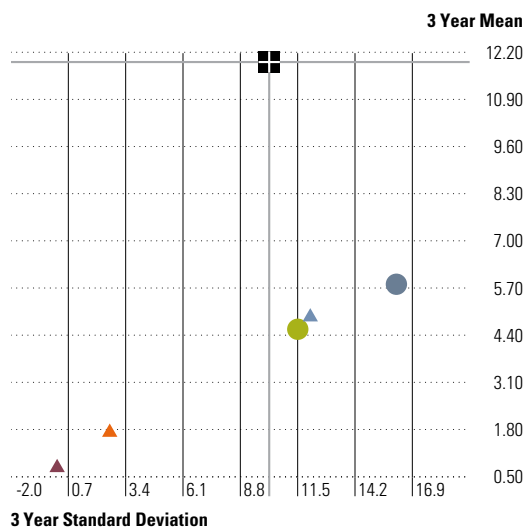
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# Cobb County Government 457 Deferred Compensation Plan

## Oakmark International Institutional (USD)

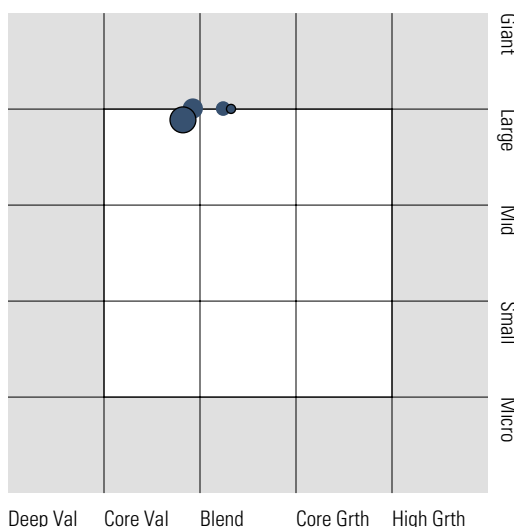
### Risk/Return 06-30-2018



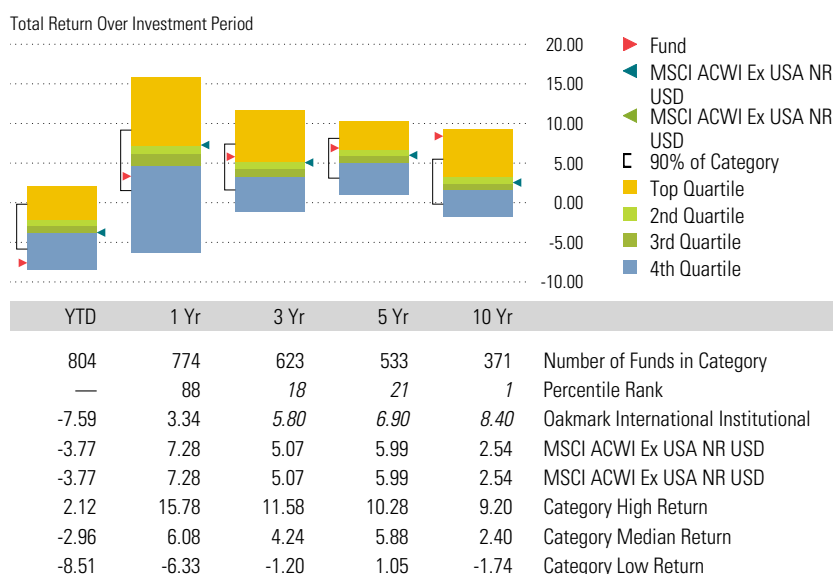
### Benchmarks

- 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 03-31-2018



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Daimler AG	4.96
BNP Paribas	4.69
Allianz SE	4.51
Lloyds Banking Group PLC	4.50
Bayerische Motoren Werke AG	4.50
Credit Suisse Group AG	3.78
Intesa Sanpaolo	3.74
Hennes & Mauritz AB B	3.53
Glencore PLC	3.44
Toyota Motor Corp	3.17

### Investment Strategy 06-30-2018

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.

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

## PGIM High Yield R6 (USD)

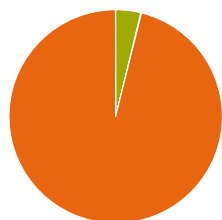
### Details 06-30-2018

Ticker	PHYQX
Gross Expense Ratio %	0.41
Total Assets	\$7,205.09 mil
Family	PGIM Funds (Prudential)
Manager	Terence Wheat,
Tenure	12.6 Years
Objective	Corporate Bond - High Yield

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	5.05
Mean 3 Yr	5.93
Alpha 3 Yr	0.79
Beta 3 Yr	0.91
R-Squared 3 Yr	97.59
Upside Capture Ratio 3 Yr	96.16
Downside Capture Ratio 3 Yr	84.02
Standard Index	BBgBarc US Agg Bond TR USD
Category Index	ICE BofAML US High Yield TR USD

### Composition 05-31-2018

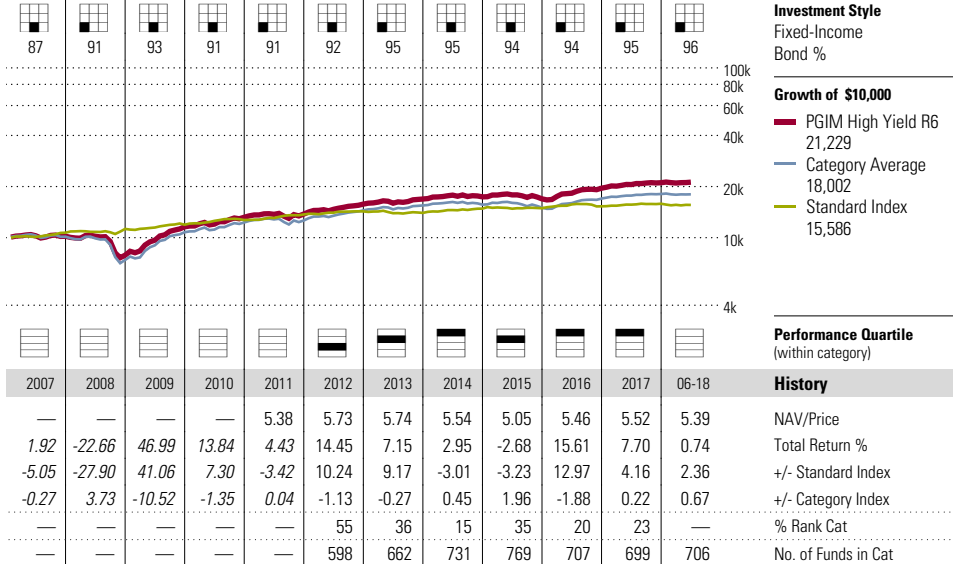


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	3.79	5.31
US Stocks	0.11	0.00
Non-US Stocks	0.01	0.00
Bonds	96.05	94.63
Other/Not Clsfd	0.03	0.06

### Sector Weightings 05-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>1.4</b>	—
Basic Materials	0.0	—
Consumer Cyclical	1.4	—
Financial Services	0.0	—
Real Estate	0.0	—
<b>Sensitive</b>	<b>8.7</b>	—
Communication Services	0.0	—
Energy	8.7	—
Industrials	0.0	—
Technology	0.0	—
<b>Defensive</b>	<b>89.8</b>	—
Consumer Defensive	0.0	—
Healthcare	0.0	—
Utilities	89.8	—

### Performance 06-30-2018



### Style Analysis 05-31-2018

#### Equity Investment Style Actual %

	Value	Blend	Growth
Large			
Mid			
Small			
P/E Ratio TTM	—	—	—
Geo Avg Cap Plan (\$Mil)	10,588		
Geo Avg Cap Bmark (\$Mil)	—		

#### Fixed-Income Investment Style Actual %

	Ltd	Mod	Ext
High	0	0	0
Med	0	0	0
Low	100	0	0
Avg Effective Duration (Yrs)	4.08		
Avg Effective Maturity (Yrs)	—		
Avg Credit Quality	—		
Bond %			
AAA	9.05		
AA	0.00		
A	0.00		
BBB	2.79		
BB	33.01		
B	42.61		
Below B	11.40		
NR	1.14		

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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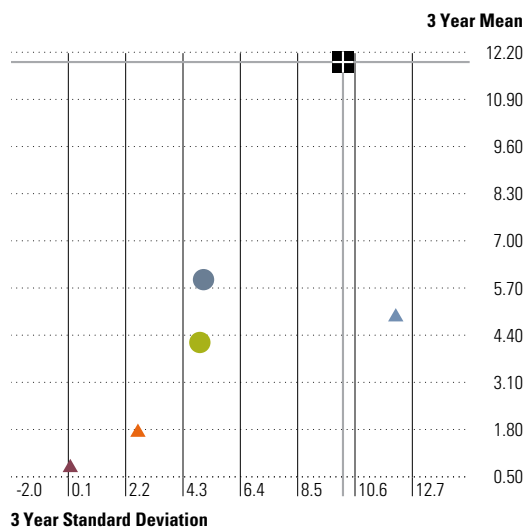
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# Cobb County Government 457 Deferred Compensation Plan

## PGIM High Yield R6 (USD)

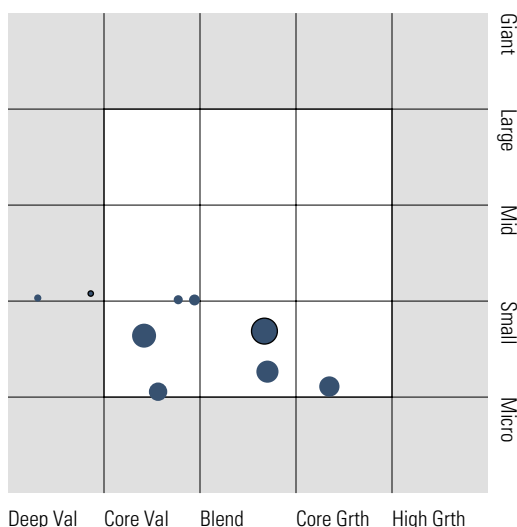
### Risk/Return 06-30-2018



### Benchmarks

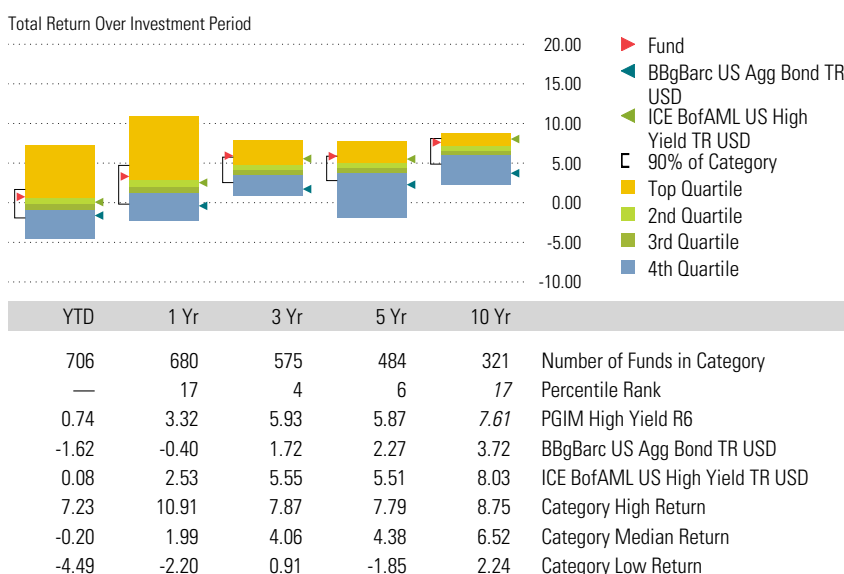
- S&P 500 TR USD
- BBgBarc US Agg Bond TR USD
- MSCI EAFE NR USD
- USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Fund
- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 05-31-2018

Holding Name	% Net Assets
2 Year US Treasury Note Future Sept18	3.62
US 10 Year Note (CBT) Sept18	3.27
DISH DBS Corporation 7.75%	1.43
BMC Software Financial Inc. 8.12%	1.24
First Data Corporation 7%	1.03
Laureate Education, Inc. 8.25%	0.85
Bombardier Inc. 7.5%	0.81
Intelsat Jackson Holdings, Ltd. 9.75%	0.80
US 5 Year Note (CBT) Sept18	0.80
Sprint Capital Corporation 8.75%	0.76

### Investment Strategy 06-30-2018

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)

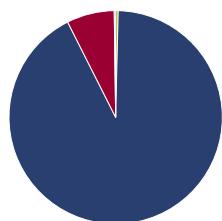
### Details 06-30-2018

Ticker	PRUFX
Gross Expense Ratio %	0.52
Total Assets	\$55,624.13 mil
Family	T. Rowe Price
Manager	Joseph Fath
Tenure	4.5 Years
Objective	Growth

### Risk and Return 06-30-2018

Overall Morningstar Rating	☆☆☆☆
Standard Deviation 3 Yr	12.85
Mean 3 Yr	15.70
Alpha 3 Yr	-0.55
Beta 3 Yr	1.10
R-Squared 3 Yr	89.74
Upside Capture Ratio 3 Yr	108.08
Downside Capture Ratio 3 Yr	113.41
Standard Index	S&P 500 TR USD
Category Index	Russell 1000 Growth TR USD

### Composition 03-31-2018

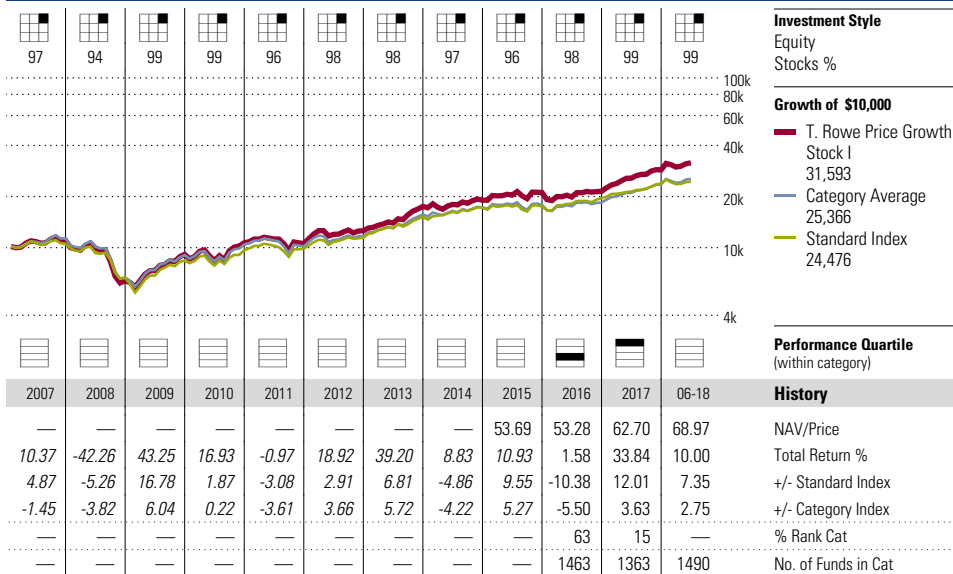


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	0.38	0.00
US Stocks	92.19	99.12
Non-US Stocks	7.22	0.88
Bonds	0.00	0.00
Other/Not Clsfd	0.21	0.00

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>39.5</b>	<b>1.20</b>
Basic Materials	0.6	0.24
Consumer Cyclical	23.9	1.99
Financial Services	13.3	0.82
Real Estate	1.6	0.69
<b>Sensitive</b>	<b>42.7</b>	<b>1.00</b>
Communication Services	0.5	0.15
Energy	0.0	0.00
Industrials	11.3	1.11
Technology	30.8	1.35
<b>Defensive</b>	<b>17.9</b>	<b>0.73</b>
Consumer Defensive	2.5	0.34
Healthcare	13.4	0.96
Utilities	2.0	0.66

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

4	17	72	Large Mid Small	Portfolio Statistics	Port Avg	Rel Index	Rel Cat
2	2	3		P/E Ratio TTM	32.3	1.58	1.21
0	0	0		Geo Avg Cap Plan (\$Mil)			109,821
				Geo Avg Cap Bmark (\$Mil)			99,862
Value	Blend	Growth					

#### 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	—	—

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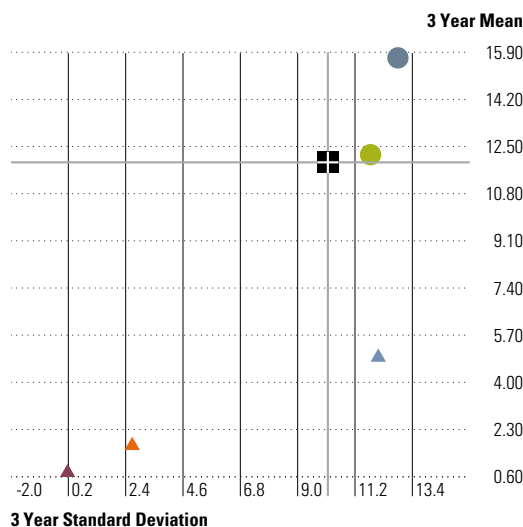
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# Cobb County Government 457 Deferred Compensation Plan

## T. Rowe Price Growth Stock I (USD)

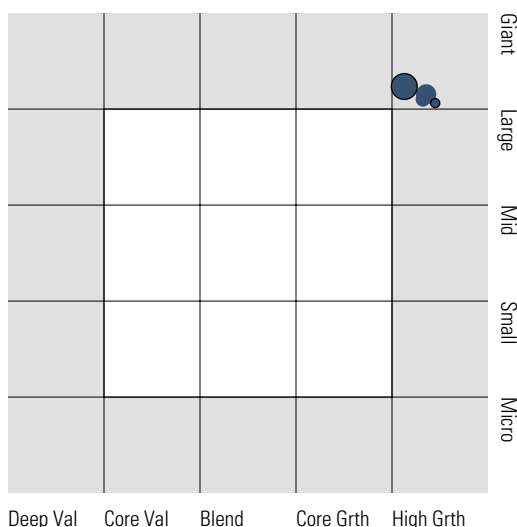
### Risk/Return 06-30-2018



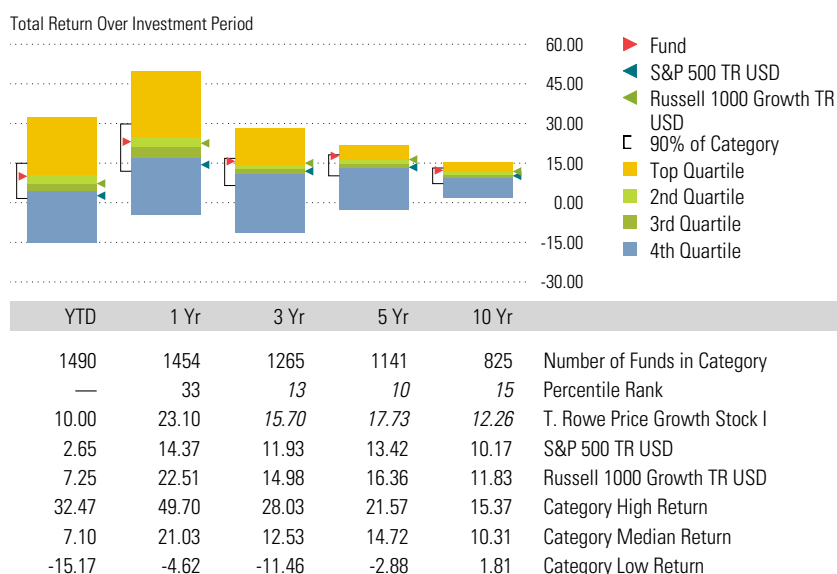
### Benchmarks

- 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 03-31-2018



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Amazon.com Inc	7.02
Booking Holdings Inc	4.88
Microsoft Corp	4.67
Facebook Inc A	3.79
Boeing Co	3.45
Alibaba Group Holding Ltd ADR	2.89
Visa Inc Class A	2.85
Alphabet Inc C	2.62
Alphabet Inc A	2.36
Mastercard Inc A	2.34

### Investment Strategy 06-30-2018

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 objective.

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# Cobb County Government 457 Deferred Compensation Plan

## Victory Sycamore Established Value R6 (USD)

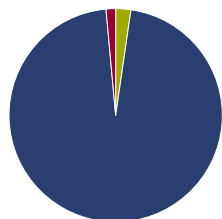
### Details 06-30-2018

Ticker	VEVRX
Gross Expense Ratio %	0.54
Total Assets	\$11,510.07 mil
Family	Victory
Manager	Gary Miller,
Tenure	20.0 Years
Objective	Growth

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
Standard Deviation 3 Yr	10.53
Mean 3 Yr	11.63
Alpha 3 Yr	3.07
Beta 3 Yr	0.94
R-Squared 3 Yr	88.43
Upside Capture Ratio 3 Yr	101.71
Downside Capture Ratio 3 Yr	75.75
Standard Index	S&P 500 TR USD
Category Index	Russell Mid Cap Value TR USD

### Composition 03-31-2018

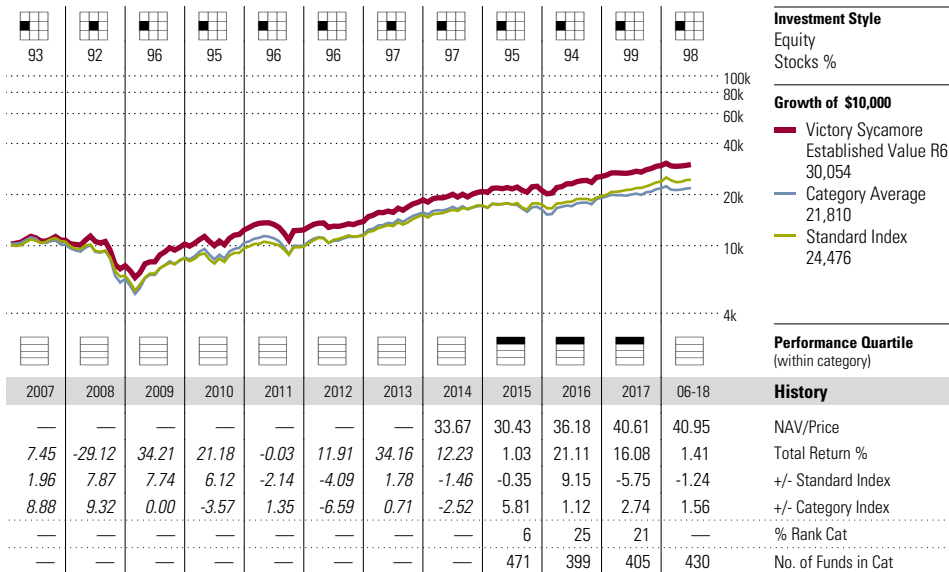


Asset Allocation	Portfolio Net %	Bmark Net %
Cash	2.30	0.00
US Stocks	96.25	99.12
Non-US Stocks	1.45	0.88
Bonds	0.00	0.00
Other/Not Clsfd	0.00	0.00

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	<b>45.2</b>	<b>1.37</b>
Basic Materials	6.7	2.72
Consumer Cyclical	15.4	1.28
Financial Services	19.9	1.23
Real Estate	3.2	1.36
<b>Sensitive</b>	<b>35.5</b>	<b>0.83</b>
Communication Services	0.0	0.00
Energy	6.7	1.06
Industrials	15.8	1.55
Technology	13.0	0.57
<b>Defensive</b>	<b>19.3</b>	<b>0.79</b>
Consumer Defensive	8.7	1.18
Healthcare	7.2	0.51
Utilities	3.4	1.15

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

18	17	2	Large Mid Small	Portfolio Statistics		Port Avg	Rel Index	Rel Cat
24	32	6		P/E Ratio TTM		19.7	0.96	1.29
0	0	1		Geo Avg Cap Plan (\$Mil)				12,223
				Geo Avg Cap Bmark (\$Mil)				99,862
Value	Blend	Growth						

#### 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	—	—

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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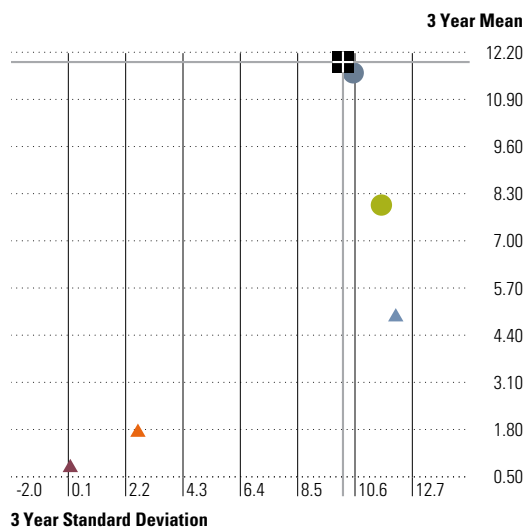
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# Cobb County Government 457 Deferred Compensation Plan

## Victory Sycamore Established Value R6 (USD)

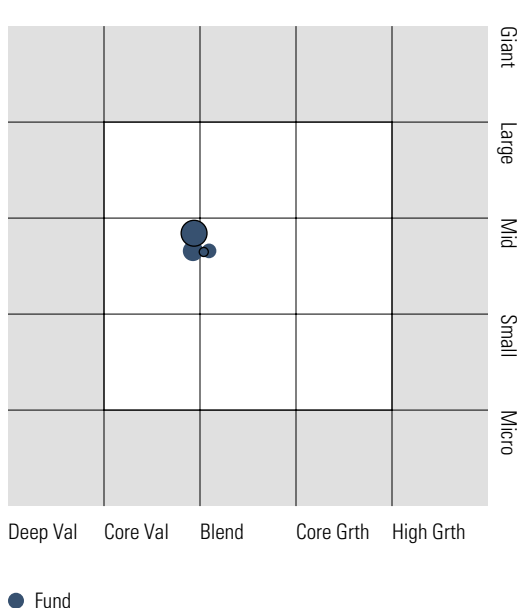
### Risk/Return 06-30-2018



### Benchmarks

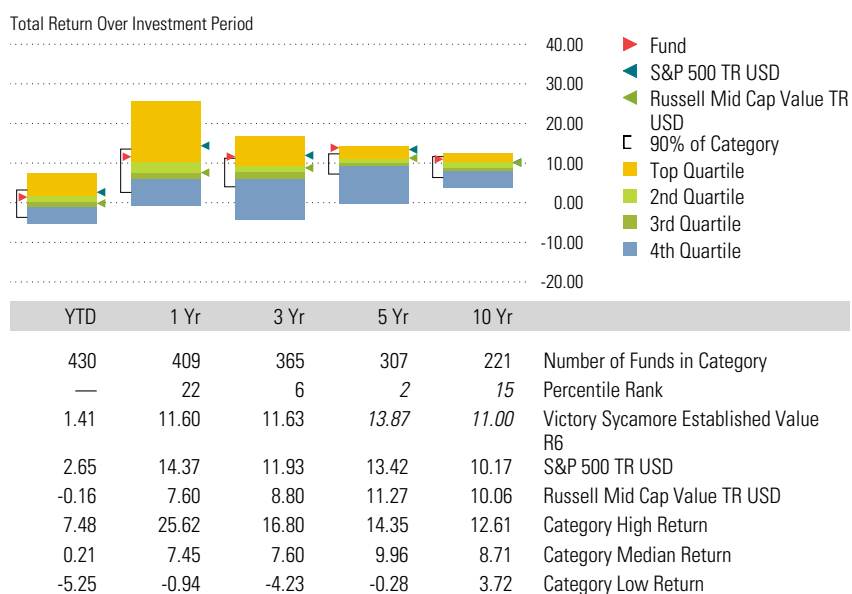
- S&P 500 TR USD
- ▲ BBgBarc US Agg Bond TR USD
- ▲ MSCI EAFE NR USD
- ▲ USTREAS T-Bill Auction Ave 3 Mon

### Equity Style Drift 03-31-2018



- Earliest Portfolios
- Latest Portfolios

### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Archer-Daniels Midland Co	2.88
SunTrust Banks Inc	2.53
Alleghany Corp	2.36
Reliance Steel & Aluminum Co	2.09
WR Berkley Corp	2.07
Textron Inc	1.88
Sysco Corp	1.80
Quest Diagnostics Inc	1.77
Motorola Solutions Inc	1.75
Arthur J. Gallagher & Co	1.65

### Investment Strategy 06-30-2018

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).

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# Cobb County Government 457 Deferred Compensation Plan

## Western Asset Core Plus Bond IS (USD)

### Details 06-30-2018

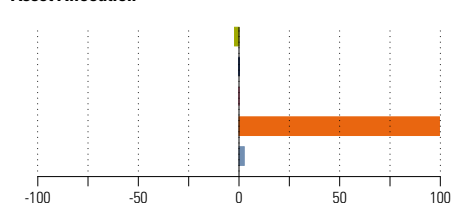
Ticker	WAPXS
Gross Expense Ratio %	0.43
Total Assets	\$23,690.66 mil
Family	Legg Mason
Manager	Carl Eichstaedt,
Tenure	20.0 Years
Objective	Corporate Bond - General

### Risk and Return 06-30-2018

Overall Morningstar Rating	★★★★★
878 CI	
Standard Deviation 3 Yr	3.14
Mean 3 Yr	3.34
Alpha 3 Yr	1.56
Beta 3 Yr	1.04
R-Squared 3 Yr	76.51
Upside Capture Ratio 3 Yr	127.42
Downside Capture Ratio 3 Yr	84.51
Standard Index	BBgBarc US Agg Bond TR USD
Category Index	BBgBarc US Agg Bond TR USD

### Composition 03-31-2018

#### Asset Allocation

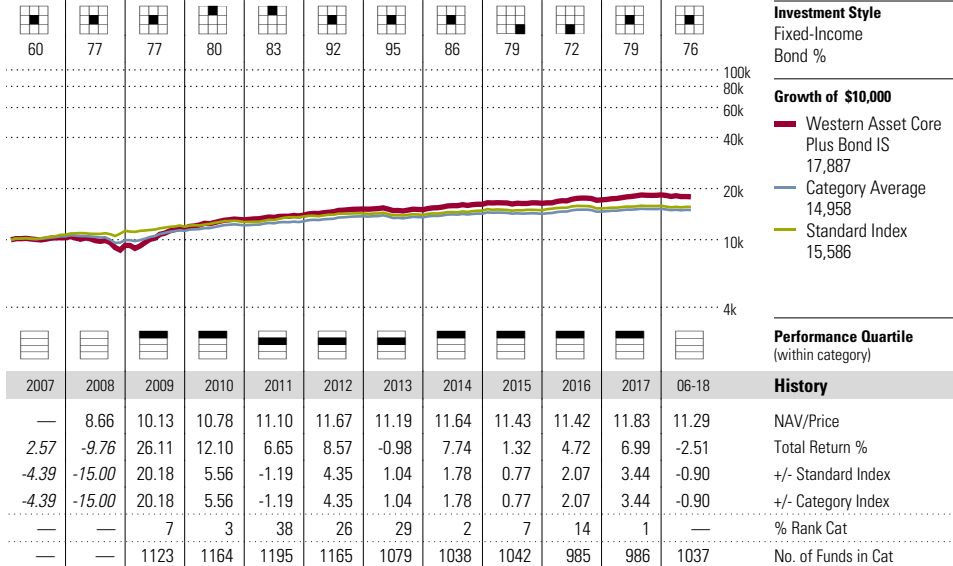


	Portfolio Net %	Benchmark Net %
Cash	-2.21	5.31
US Stocks	0.03	0.00
Non-US Stocks	0.00	0.00
Bonds	99.56	94.63
Other/Not Clsfd	2.61	0.06
Total	100.00	100.00

### Sector Weightings 03-31-2018

	Stocks %	Rel Std Index
<b>Cyclical</b>	—	—
Basic Materials	—	—
Consumer Cyclical	—	—
Financial Services	—	—
Real Estate	—	—
<b>Sensitive</b>	—	—
Communication Services	—	—
Energy	—	—
Industrials	—	—
Technology	—	—
<b>Defensive</b>	—	—
Consumer Defensive	—	—
Healthcare	—	—
Utilities	—	—

### Performance 06-30-2018



### Style Analysis 03-31-2018

#### Equity Investment Style Actual %

	Value	Blend	Growth
Large			
Mid			
Small			
P/E Ratio TTM	—	—	—
Geo Avg Cap Plan (\$Mil)	—	—	—
Geo Avg Cap Bmark (\$Mil)	—	—	—

#### Fixed-Income Investment Style Actual %

	Ltd	Mod	Ext
High	0	0	0
Med	0	100	0
Low	0	0	0
Avg Effective Duration (Yrs)	6.64		
Avg Effective Maturity (Yrs)	12.66		
Avg Credit Quality	—		
Bond %			
AAA	54.93		
AA	2.94		
A	14.54		
BBB	11.76		
BB	7.86		
B	3.36		
Below B	3.62		
NR	0.99		

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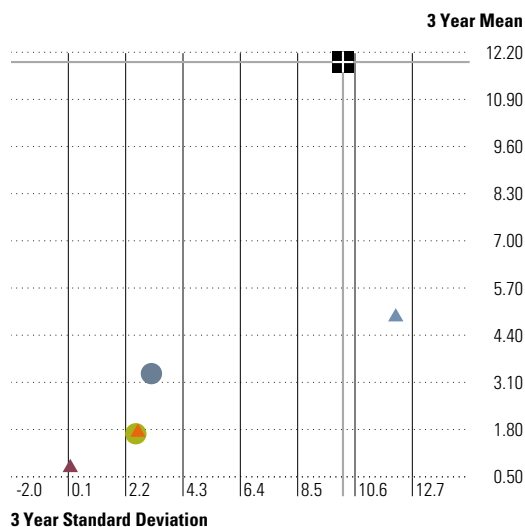
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# Cobb County Government 457 Deferred Compensation Plan

## Western Asset Core Plus Bond IS (USD)

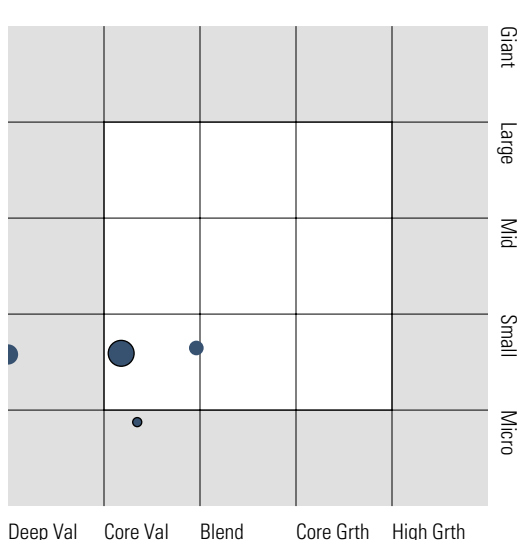
### Risk/Return 06-30-2018



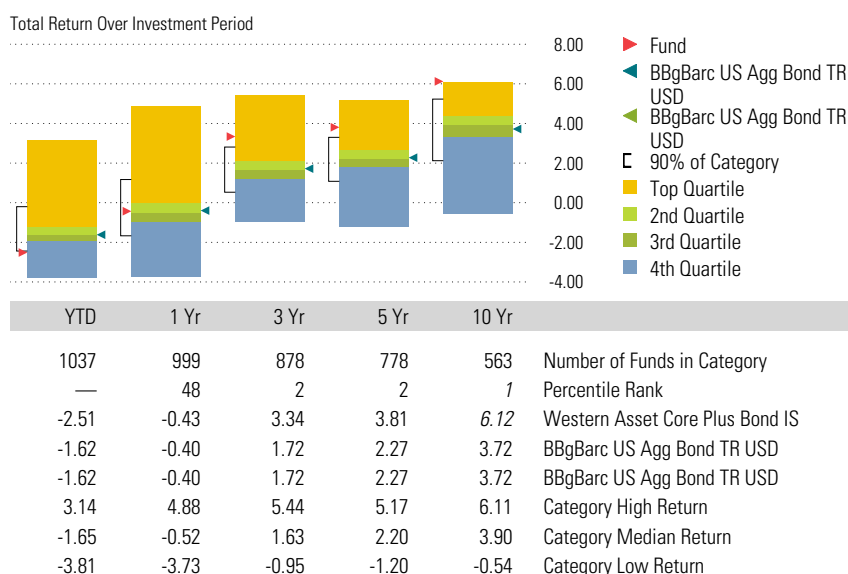
### Benchmarks

- 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 06-30-2017



### Return vs Category Quartiles 06-30-2018



### Top 10 Holdings 03-31-2018

Holding Name	% Net Assets
Ir Swap 1d-Fedl01 35.525 Bps	9.30
Ir Swap 3m-Libor-Bba	-9.30
United States Treasury Bonds 3.75%	5.81
Federal National Mortgage Association 4.5%	3.84
United States Treasury Bonds 3%	3.31
Government National Mortgage Association 4.5%	3.04
United States Treasury Bonds 3%	2.75
Fx Fut Mexican Peso Fut Jun18	-2.23
Fx Fut Mexican Peso Fut Jun18	2.23
Federal National Mortgage Association 3%	1.34

### Investment Strategy 06-30-2018

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.

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# Cobb County Government 457 Deferred Compensation Plan

## 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.

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### 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.

### 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/](http://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

### For Institutional Use Only – Not For Participant Distribution

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.

### See Important Information and Disclosures at the end of this Report

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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 MCB’s average effective duration; funds whose average effective duration is between 75% to 125% of the MCB will be classified as Moderate; and those that are at 125% or greater of the average effective duration of the MCB 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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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 experience 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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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.

# Cobb County Government 457 Deferred Compensation Plan

## Disclosure

**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 declines. 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 is 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

# Cobb County Government 457 Deferred Compensation Plan

## Disclosure

Services Inc.

**UBS Retirement Plan Consulting Services** is an investment advisory program. Details regarding the program, including fees, services, features and suitability are provided in the ADV Disclosure.

This material is not, nor is it intended, to constitute legal, tax or accounting advice. Neither UBS Financial Services Inc. nor its employees (including its Financial Advisors) provide tax or legal advice. Plan Sponsors should consult with legal counsel and/or an accountant or tax professional regarding the legal or tax implications regarding their plans.

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](http://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

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 Growth 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
PGIM High Yield R6	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

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See Important Information and Disclosures at the end of this Report

# Cobb County Government 457 Deferred Compensation Plan

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## Disclosure

Western Asset Core Plus Bond IS      BBgBarc US Agg Bond TR USD

# **FACSIMILE/HAND-DELIVERY/E-MAIL COVER SHEET**

## **PENSION FUND INVOICES FOR APPROVAL**

**COBB COUNTY BOARD OF COMMISSIONERS  
FINANCE DEPARTMENT  
100 CHEROKEE STREET, SUITE 400  
MARIETTA, GA 30090-9610**

TO: Tony Hagler, Director, Human Resources, [thagler@cobbcounty.org](mailto:thagler@cobbcounty.org),  
Bill Volckmann, Interim Director, Finance, [william.volckmann@cobbcounty.org](mailto:william.volckmann@cobbcounty.org),  
Neil Warren, Sheriff, Sheriff's Office, [neilwarren@cobbcounty.org](mailto:neilwarren@cobbcounty.org)  
Roger Tutterow, [rtuttero@kennesaw.edu](mailto:rtuttero@kennesaw.edu)  
Virgil Moon, [jvmoon@dhr.state.ga.us](mailto:jvmoon@dhr.state.ga.us)

DATE: JUNE 21, 2018

FROM: BUDDY TESAR  
ASSOCIATE COMPTROLLER

PHONE: (770)-528-1558  
FAX: (770)-528-8010

NUMBER OF PAGES INCLUDING COVER SHEET: 19

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*THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL, AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT OR THE EMPLOYEE OR AGENT RESPONSIBLE FOR DELIVERING THE MESSAGE TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE, AND RETURN THE ORIGINAL MESSAGE TO US AT THE ABOVE ADDRESS VIA THE U.S. POSTAL SERVICE. THANK YOU.*

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### MESSAGE/COMMENT:

Four invoices are attached for your consideration at this time. Please indicate your approval via return email to my attention or by fax to 770-528-1558. After you all respond I will forward to the Trustee for payment.

- SUNTRUST - \$43,953.47
- CAVANAUGH MACDONALD CONSULTING, LLC - \$11,690.00
- CAVANAUGH MACDONALD CONSULTING, LLC - \$4,342.00
- WESTFIELD CAPITAL MANAGEMENT - \$69,722.90

Any questions, please contact me at 770-528-1558

Attachments:

COBB COUNTY EMPLOYEES RET. SYSTEM  
STATEMENT OF ACCOUNT

Invoice Account 1136362  
Billing Period 01/01/2018 - 03/31/2018  
Invoice Number 283081  
Date Issued 05/02/2018

Mr. Curtis Tesar  
Cobb County  
100 Cherokee Street, Suite 400  
Marietta, GA 30090-9610

*Your contact at SunTrust for this account is*

LISA ALLEN  
GA-ATLANTA-210  
P.O. BOX 4655  
ATLANTA GA 30302  
404-827-6724

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Opening Balance	\$41,893.24
Payments received through 05/02/2018	(\$41,893.24)
Current Period Charges	\$43,953.47
 <b>Current Balance Due</b>	 <b>\$43,953.47**</b>

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*The following is a summary of fees and expenses pertaining to this account*

Administrative/Trustee Services	\$44,569.63
Investment Management Services	\$14,035.00
Miscellaneous	(\$14,651.16)
 <b>Total Current Period Charges</b>	 <b>\$43,953.47</b>



\*\* Payment is due within 30 days of invoice date.  
SunTrust Bank  
P.O. Box 26489  
Richmond, VA 23261-6489



**Administrative/Trustee Services**

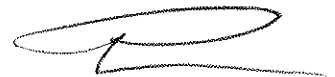
Non-Periodic Payments	63	@	30.00 each	1,890.00
Miscellaneous Checks	2	@	30.00 each	60.00
Periodic Payments (ACH)	7,196	@	2.50 each	17,990.00
Periodic Payments	322	@	3.00 each	966.00
Custody Fee				
50,000,000.00	@	0.0005 each annually x 1/4	6,250.00	
50,000,000.00	@	0.0003 each annually x 1/4	3,750.00	
546,545,256.84	@	0.0001 each annually x 1/4	13,663.63	
646,545,256.84			23,663.63	
Total Administrative/Trustee Services				\$44,569.63

**Investment Management Services**

Security Transactions	1,066	@	10.00 each	10,660.00
Manager Relationship Fee	6	@	2,000.00 each annually x 1/4	3,000.00
NETA Asset Fee	1	@	1,500.00 each annually x 1/4	375.00
<b>Total Investment Management Services</b>				<b>\$14,035.00</b>

**Miscellaneous**

Fee Discount	(14,651.16)
<b>Total Miscellaneous</b>	<b>(\$14,651.16)</b>

**Total Current Period Fees and Expenses** **\$43,953.47**
  
 c/c k. peng

## COBB COUNTY EMPLOYEES RET. SYSTEM

Invoice Number 283081  
 Billing Period 01/01/2018 - 03/31/2018

Account Number	Market Value	% of Total MV	Account Specific Fees	Prorated Fees and Expenses	Total Fees and Expenses
1136362	7,474,835.53	1.15612%		\$15,884.69	\$15,884.69
1137333	1,400,000.01	0.21654%		\$38.43	\$38.43
1138514	66,790,800.89	10.33041%	\$500.00	\$1,880.91	\$2,380.91
1138666	367,705,490.79	56.87235%		\$10,093.54	\$10,093.54
7921932	49,406,186.48	7.64157%	\$500.00	\$3,976.21	\$4,476.21
7921937	50,947,077.86	7.87989%	\$500.00	\$1,475.99	\$1,975.99
7930149	21,469,647.32	3.32067%	\$500.00	\$3,141.85	\$3,641.85
7937085	23,108,396.95	3.57413%	\$500.00	\$1,664.33	\$2,164.33
7941084	23,547,185.04	3.642%	\$375.00	\$552.62	\$927.62
7950876	34,695,635.97	5.36631%	\$500.00	\$1,869.90	\$2,369.90
Total	646,545,256.84	100.00%	\$3,375.00	\$40,578.47	\$43,953.47

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM  
MASTER TRUST CUSTODIAN FEE  
QUARTER ENDING  
3/31/2018**

Total Custody Fee by Function		
I. Trust/Custodial Fee		23,663.63
II. Mutual Fund Fee		0.00
III. Calculation of Asset Transaction Fees		11,035.00
IV. Investment Manager Relationship Fee		3,000.00
V. Distribution of Benefit Payments Fee		20,906.00
VI. Miscellaneous Fee		<u>0.00</u>
SUBTOTAL		58,604.63
Less 25% Discount		(14,651.16)
TOTAL MASTER TRUST CUSTODY FEE		<u><u>43,953.47</u></u>

THANK YOU FOR ALLOWING US TO SERVICE YOU. IF YOU HAVE ANY QUESTIONS PLEASE CONTACT  
LISA ALLEN AT (404) 827-6724

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM**  
**MASTER TRUST CUSTODIAN FEE**  
**QUARTER ENDING**  
**3/31/2018**

Trust Fee by Account By Function

1136362 Cobb County/Committee Directed	
Trust/Custodial Fee	273.58
Asset Transaction Fee	0.00
Distribution of Benefit Payments Fee	20,906.00
Manager Relationship Fee	0.00
Mutual Fund Fee	0.00
Miscellaneous Fee	0.00
	<u>21,179.58</u>
1137333 Cobb County/Cigna	
Trust/Custodial Fee	51.24
Asset Transaction Fee	0.00
Manager Relationship Fee	0.00
Mutual Fund Fee	0.00
	<u>51.24</u>
1138514 Cobb County/Eagle Capital	
Trust/Custodial Fee	2,444.55
Asset Transaction Fee	230.00
Manager Relationship Fee	500.00
Mutual Fund Fee	0.00
	<u>3,174.55</u>
1138666 Cobb County/Transitional Account	
Trust Custodial Fee	13,458.06
Asset Transaction Fee	0.00
Manager Relationship Fee	0.00
Mutual Fund Fee	0.00
	<u>13,458.06</u>
7921932 Cobb County/Westfield Capital Mgmt.	
Trust Custodial Fee	1,808.27
Asset Transaction Fee	3,660.00
Manager Relationship Fee	500.00
Mutual Fund Fee	0.00
	<u>5,968.27</u>
7921937 Cobb County/Richmond Capital	
Trust Custodial Fee	1,864.67
Asset Transaction Fee	270.00
Manager Relationship Fee	500.00
Mutual Fund Fee	0.00
	<u>2,634.67</u>

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**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM**  
**MASTER TRUST CUSTODIAN FEE**  
**QUARTER ENDING**  
**3/31/2018**

7930149 Cobb County/Vaughn Nelson CU	
Trust Custodial Fee	785.79
Asset Transaction Fee	3,570.00
Manager Relationship Fee	500.00
Mutual Fund Fee	0.00
	<hr/>
	4,855.79
7937085 Cobb County/Eagle Asset	
Trust Custodial Fee	845.77
Asset Transaction Fee	1,540.00
Manager Relationship Fee	500.00
Mutual Fund Fee	0.00
	<hr/>
	2,885.77
7941084 Cobb County/Delaware Diversified CU	
Trust Custodial Fee	861.83
Asset Transaction Fee	375.00
Manager Relationship Fee	0.00
Mutual Fund Fee	0.00
	<hr/>
	1,236.83
7950876 Cobb County/TCW CU	
Trust Custodial Fee	1,269.86
Asset Transaction Fee	1,390.00
Manager Relationship Fee	500.00
Mutual Fund Fee	0.00
	<hr/>
	3,159.86
Total Fee	<hr/>
	58,604.63

THANK YOU FOR ALLOWING US TO SERVICE YOU. IF YOU HAVE ANY QUESTIONS PLEASE CONTACT  
LISA ALLEN AT (404) 827-6724

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM  
MASTER TRUST CUSTODIAN FEE  
QUARTER ENDING  
3/31/2018**

I. Calculation of Trust/Custodial Fee

\$ 0.5 per \$ 1,000 first \$ 50,000,000	50,000,000.00 =	25,000.00
\$ 0.3 per \$ 1,000 next \$ 50,000,000	50,000,000.00 =	15,000.00
\$ 0.1 per \$ 1,000 next \$ 100,000,000	<u>546,545,256.84 =</u>	<u>54,654.53</u>
<b>TOTAL</b>	<b>646,545,256.84</b>	<b>94,654.53</b>
Quarterly Fee	94,654.53 x 1/4 =	23,663.63

Allocation of Trust/Custodial Fee

	MARKET VALUE	FACTOR	ALLOCATION
1136362 Cobb County/Committee Directed	7,474,835.53	0.0116	273.58
1137333 Cobb County/Cigna	1,400,000.01	0.0022	51.24
1138514 Cobb County/Eagle Capital	66,790,800.89	0.1033	2,444.55
1138666 Cobb County/Transitional Account	367,705,490.79	0.5687	13,458.06
7921932 Cobb County/Westfield Capital Mgmt.	49,406,186.48	0.0764	1,808.27
7921937 Cobb County/Richmond Capital	50,947,077.86	0.0788	1,864.67
7930149 Cobb County/Vaughn Nelson CU	21,469,647.32	0.0332	785.79
7937085 Cobb County/Eagle Asset	23,108,396.95	0.0357	845.77
7941084 Cobb County/Delaware Diversified CU	23,547,185.04	0.0364	861.83
7950876 Cobb County/TCW CU	<u>34,695,635.97</u>	<u>0.0537</u>	<u>1,269.86</u>
<b>TOTAL</b>	<u><b>646,545,256.84</b></u>	<u><b>1.00000</b></u>	<u><b>23,663.63</b></u>

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM  
MASTER TRUST CUSTODIAN FEE  
QUARTER ENDING  
3/31/2018**

II. Calculation of Mutual Fund Fee

\$1,250.00 per Mutual Fund Annually

1136362 Cobb County/Committee Directed	0	x 1,250.00 /4 =	0.00
1137333 Cobb County/Cigna	0	x 1,250.00 /4 =	0.00
1138514 Cobb County/Eagle Capital	0	x 1,250.00 /4 =	0.00
1138666 Cobb County/Transitional Account	0	x 1,250.00 /4 =	0.00
7921932 Cobb County/Westfield Capital Mgmt.	0	x 1,250.00 /4 =	0.00
7921937 Cobb County/Richmond Capital	0	x 1,250.00 /4 =	0.00
7930149 Cobb County/Vaughn Nelson CU	0	x 1,250.00 /4 =	0.00
7937085 Cobb County/Eagle Asset	0	x 1,250.00 /4 =	0.00
7941084 Cobb County/Delaware Diversified CU	0	x 1,250.00 /4 =	0.00
7950876 Cobb County/TCW CU	0	x 1,250.00 /4 =	0.00
Total Mutual Fund Fee			<u>0.00</u>

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM**  
**MASTER TRUST CUSTODIAN FEE**  
**QUARTER ENDING**  
**3/31/2018**

III. Calculation of Asset Transaction Fees

1136362 Cobb County/Committee Directed		
Number of Security Transactions	0 x 10.00 =	0.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>0.00</u>
1137333 Cobb County/Cigna		
Number of Security Transactions	0 x 10.00 =	0.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>0.00</u>
1138514 Cobb County/Eagle Capital		
Number of Security Transactions	23 x 10.00 =	230.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>230.00</u>
1138666 Cobb County/Transitional Account		
Number of Security Transactions	0 x 10.00 =	0.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>0.00</u>
7921932 Cobb County/Westfield Capital Mgmt.		
Number of Security Transactions	366 x 10.00 =	3,660.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>3,660.00</u>
7921937 Cobb County/Richmond Capital		
Number of Security Transactions	27 x 10.00 =	270.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>270.00</u>

THANK YOU FOR ALLOWING US TO SERVICE YOU. IF YOU HAVE ANY QUESTIONS PLEASE CONTACT  
LISA ALLEN AT (404) 827-6724



**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM**  
**MASTER TRUST CUSTODIAN FEE**  
**QUARTER ENDING**  
**3/31/2018**

7930149 Cobb County/Vaughn Nelson CU		
Number of Security Transactions	357 x 10.00 =	3,570.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>3,570.00</u>
7937085 Cobb County/Eagle Asset		
Number of Security Transactions	154 x 10.00 =	1,540.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>1,540.00</u>
7941084 Cobb County/Delaware Diversified		
Number of Security Transactions	0 x 10.00 =	0.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	1 x 375.00 =	375.00
		<u>375.00</u>
7950876 Cobb County/TCW CU		
Number of Security Transactions	139 x 10.00 =	1,390.00
Number of Option Transactions	0 x 30.00 =	0.00
Number of Mutual Fund Transactions	0 x 30.00 =	0.00
Number of NETA Fees (\$1500 ea. Annually)	0 x 375.00 =	0.00
		<u>1,390.00</u>
Total Asset Transaction Fee		<u><u>11,035.00</u></u>

THANK YOU FOR ALLOWING US TO SERVICE YOU. IF YOU HAVE ANY QUESTIONS PLEASE CONTACT  
LISA ALLEN AT (404) 827-6724

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM**  
**MASTER TRUST CUSTODIAN FEE**  
**QUARTER ENDING**  
**3/31/2018**

IV. Investment Manager Relationship Fee

\$2,000.00 per Investment Manager Annually

1136362 Cobb County/Committee Directed	0.00 x 1/4 =	0.00
1137333 Cobb County/Cigna	0.00 x 1/4 =	0.00
1138514 Cobb County/Eagle Capital	2,000.00 x 1/4 =	500.00
1138666 Cobb County/Transitional Account	0.00 x 1/4 =	0.00
7921932 Cobb County/Westfield Capital Mgmt.	2,000.00 x 1/4 =	500.00
7921937 Cobb County/Richmond Capital	2,000.00 x 1/4 =	500.00
7930149 Cobb County/Vaughn Nelson CU	2,000.00 x 1/4 =	500.00
7937085 Cobb County/Eagle Asset	2,000.00 x 1/4 =	500.00
7941084 Cobb County/Delaware Diversified CU	0.00 x 1/4 =	0.00
7950876 Cobb County/TCW CU	2,000.00 x 1/4 =	500.00
Total Manager Relationship Fee		<u>3,000.00</u>

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM  
MASTER TRUST CUSTODIAN FEE  
QUARTER ENDING  
3/31/2018**

---

V. Distribution of Benefit Payments Fee

1136362 Cobb County/Committee Directed			
Lump Sum Payments	63	@ \$30.00/per	1,890.00
Periodic Payments - ACH	7196	@ \$2.50/per	17,990.00
Periodic Payments - Checks	322	@ \$3.00/per	966.00
Wire Transfers	0	@ \$25.00/per	0.00
Miscellaneous Checks	2	@ 30.00/per	<u>60.00</u>
			20,906.00
Total Distribution of Benefit Payments Fee			<u><u>20,906.00</u></u>

**COBB COUNTY EMPLOYEES RETIREMENT SYSTEM  
MASTER TRUST CUSTODIAN FEE  
QUARTER ENDING  
3/31/2018**

VI. Miscellaneous Fee

Total Miscellaneous Fee

0.00



**Cavanaugh Macdonald**  
CONSULTING, LLC  
*The experience and dedication you deserve*

# Invoice

Date	Invoice #
4/30/2018	17226

**Bill To**

Tony Hagler, Human Resources Director  
Cobb County  
Human Resources Department  
100 Cherokee Street, Suite 350  
Marietta, GA 30090-9679

**Department:**

**Cobb County (GA)**

Billing Period: April 2018

Services Rendered	Staff	Hours	Rate	Amount
Work in connection with the January 1, 2018 actuarial valuation of the Pension Plan	J. Walls	29.75	300.00	8,925.00
Special work in connection with development of new Optional Form, SSA Level Option, and Late Retirement Factors in accordance with revised Mortality and Interest Rate Assumptions adopted in recent Experience Study	J. Walls	3.25	300.00	975.00
	B. Mobley	2.5	320.00	800.00
Preparation of Social Security option calculation for Stephen McGee & Geoffrey Shaw; Submitted April 27	J. Walls	2.5	300.00	750.00
	B. Mobley	0.75	320.00	240.00

**Total** \$11,690.00

Payment due upon receipt.  
Thank you for your business!

Please include your invoice  
number on your check.

TAX ID #: 61-1489078

3550 Buckee Pkwy, Suite 230, Kennesaw, GA 30144  
Phone (678) 388-1700 Fax (678) 388-1730  
www.CavMacConsulting.com



**Cavanaugh Macdonald**  
CONSULTING, LLC  
*The experience and dedication you deserve*

# Invoice

Date	Invoice #
5/31/2018	17468

Bill To
Tony Hagler, Human Resources Director Cobb County Human Resources Department 100 Cherokee Street, Suite 350 Marietta, GA 30090-9679

Department:  
**Cobb County (GA)  
Pension**

Billing Period: May 2018

Services Rendered	Staff	Hours	Rate	Amount
Work in connection with the January 1, 2018 actuarial valuation of the Pension Plan	J. Walls	25.75	300.00	7,725.00
	B. Mobley	10.5	320.00	3,360.00
	J. Garrett	1.5	396.00	594.00
	K. Hodges	4	282.00	1,128.00
(Discount)			-10682.00	-10,682.00
Special work in connection with updating Late Retirement Calculator based on new factors, revised Mortality and Interest Rate Assumptions adopted in recent Experience Study	M. Yonz	2.5	282.00	705.00

**Total**

Payment due upon receipt.  
Thank you for your business!

Please include your invoice  
number on your check.

TAX ID #: 61-1489078

3550 Buckee Pkwy, Suite 350, Marietta, GA 30144  
Phone (678) 388-1700 Fax (678) 388-1730  
www.CavMacConsulting.com



**Cavanaugh Macdonald**  
CONSULTING, LLC  
*The experience and dedication you deserve*

# Invoice

Date	Invoice #
5/31/2018	17468

Bill To

Tony Hagler, Human Resources Director  
Cobb County  
Human Resources Department  
100 Cherokee Street, Suite 350  
Marietta, GA 30090-9679

Department:

**Cobb County (GA)  
Pension**

Billing Period: May 2018

Services Rendered	Staff	Hours	Rate	Amount
Preparation of Social Security option calculation for James Griffin, Submitted May 22; Work in progress on calculations for Anthony Coleman and Frederick Morton	J. Walls	1.75	300.00	525.00
	K. Hodges	3.5	282.00	987.00

**Total** **\$4,342.00**

Payment due upon receipt.  
Thank you for your business!

**Please include your invoice  
number on your check.**

TAX ID #: 61-1489078

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144  
Phone (678) 388-1700 Fax (678) 388-1730  
[www.CavMacConsulting.com](http://www.CavMacConsulting.com)



**Invoice Date:** 04/29/2018  
**Invoice Number:** 20180331-337-A

Mr. John E. Bergey, Treasury Division Manager  
Cobb County Board of Commissioners  
100 Cherokee Street, Suite 500  
Marietta, GA 30090-9612

**Billing Portfolio(s):** 1274 - COBB COUNTY GOVERNMENT EMPLOYEES PENSION  
PLAN  
Custodian Number: 7921932

**Billing Period:** 01/01/2018 to 03/31/2018

STATEMENT OF MANAGEMENT FEES

<b>TOTAL AMOUNT DUE:</b>
--------------------------

<b>\$ 69,722.90</b>
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\* See attached worksheet for details.

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**PAYMENT DUE UPON RECEIPT**

**WIRE / TRANSFER FUNDS TO:**

First Republic Bank; ABA #321081669; ACCT #80001416404

**MAIL REMITTANCES TO:**

Kathy Balestrieri  
Westfield Capital Management Co LP  
One Financial Center, 23rd Floor  
Boston, MA 02111

Should you have any questions regarding this invoice, please call 617-428-7121 or email kbalestrieri@wcmgmt.com. Thank you.



Invoice Date: 04/29/2018  
Invoice Number: 20180331-337-A

### Period Market Values (USD)

COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLAN - 1274

Market Value

Total Adjusted Market Value

THE COBB COUNTY GOVERNMENT EMPLOYEES' PENSION PLAN TRUST -  
OPEB TR - 1774

Market Value

Total Adjusted Market Value

Total Aggregated Adjusted Market Value:

03/31/2018

49,391,085.81

\$ 49,391,085.81

8,604,799.40

\$ 8,604,799.40

\$ 57,995,885.21

### Annual Fee Schedule (Westfield - Base Fee)

0.00 to 25,000,000.00  
25,000,000.01 to 100,000,000.00  
100,000,000.01 and above

65.00 BPS

50.00 BPS

40.00 BPS

### Quarterly Fee Calculation (Westfield - Base Fee)

25,000,000.00	*	65.00 BPS	*	90	/	360	=	40,625.00
32,995,885.21	*	50.00 BPS	*	90	/	360	=	41,244.86

Schedule Total: \$ 81,869.86

### Fee Details:

Total Westfield - Base Fee (1274) 85.2% :

69,722.90

Fee Total:

\$ 69,722.90

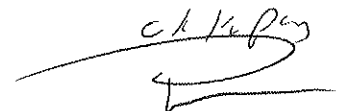
### Invoice Summary Fee Totals:

Fee Total For Westfield - Base Fee:

69,722.90

Total Amount Due:

\$ 69,722.90



# **FACSIMILE/HAND-DELIVERY/E-MAIL COVER SHEET**

## **PENSION FUND INVOICES FOR APPROVAL**

**COBB COUNTY BOARD OF COMMISSIONERS  
FINANCE DEPARTMENT  
100 CHEROKEE STREET, SUITE 400  
MARIETTA, GA 30090-9610**

TO: Tony Hagler, Director, Human Resources, [thagler@cobbcounty.org](mailto:thagler@cobbcounty.org),  
Bill Volckmann, Interim Director, Finance, [william.volckmann@cobbcounty.org](mailto:william.volckmann@cobbcounty.org),  
Neil Warren, Sheriff, Sheriff's Office, [neilwarren@cobbcounty.org](mailto:neilwarren@cobbcounty.org)  
Roger Tutterow, [rtuttero@kennesaw.edu](mailto:rtuttero@kennesaw.edu)  
Virgil Moon, [jvmoon@dhr.state.ga.us](mailto:jvmoon@dhr.state.ga.us)

DATE: JUNE 21, 2018

FROM: BUDDY TESAR  
ASSOCIATE COMPTROLLER

PHONE: (770)-528-1558  
FAX: (770)-528-8010

NUMBER OF PAGES INCLUDING COVER SHEET: 4

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*THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL, AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. IF THE READER OF THIS MESSAGE IS NOT THE INTENDED RECIPIENT OR THE EMPLOYEE OR AGENT RESPONSIBLE FOR DELIVERING THE MESSAGE TO THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE, AND RETURN THE ORIGINAL MESSAGE TO US AT THE ABOVE ADDRESS VIA THE U.S. POSTAL SERVICE. THANK YOU.*

---

### MESSAGE/COMMENT:

Two invoices are attached for your consideration at this time. Please indicate your approval via return email to my attention or by fax to 770-528-1558. After you all respond I will forward to the Trustee for payment.

- CAVANAUGH MACDONALD CONSULTING, LLC - \$7,680.00
- WESTFIELD CAPITAL MANAGEMENT - \$12,146.96

Any questions, please contact me at 770-528-1558

Attachments:



**Cavanaugh Macdonald**  
CONSULTING, LLC  
*The experience and dedication you deserve*

# Invoice

Date	Invoice #
5/31/2018	17365

**Bill To**

Tony Hagler, Human Resources Director  
Cobb County  
Human Resources Department  
100 Cherokee Street, Suite 350  
Marietta, GA 30090-9679

**Department:**

**Cobb County (GA)  
OPEB**

Billing Period: May 2018

Services Rendered	Staff	Hours	Rate	Amount
Work in connection with the January 1, 2018 actuarial valuation of the OPEB Plan	A. Bennett	9.5	396.00	3,762.00
	J. Walls	3.5	300.00	1,050.00
	B. Wild	6	290.00	1,740.00
	K. Hodges	4	282.00	1,128.00

**Total** **\$7,680.00**

Payment due upon receipt.  
Thank you for your business!

**Please include your invoice  
number on your check.**

TAX ID #: 61-1489078

3550 Busbee Pkwy, Suite 250, Kennesaw, GA 30144  
Phone (678) 388-1700 Fax (678) 388-1730  
www.CavMacConsulting.com



**WESTFIELD**  
CAPITAL MANAGEMENT

**Invoice Date:** 04/29/2018  
**Invoice Number:** 20180331-338-A

Mr. John E. Bergey, Treasury Division Manager  
Cobb County Board of Commissioners  
100 Cherokee Street, Suite 500  
Marietta, GA 30090-9612

**Billing Portfolio(s):** 1774 - THE COBB COUNTY GOVERNMENT EMPLOYEES'  
PENSION PLAN TRUST - OPEB TR  
Custodian Number: AXA2991

**Billing Period:** 01/01/2018 to 03/31/2018

#### STATEMENT OF MANAGEMENT FEES

**TOTAL AMOUNT DUE:**

**\$ 12,146.96**

\* See attached worksheet for details.

---

#### PAYMENT DUE UPON RECEIPT

**WIRE / TRANSFER FUNDS TO:**

First Republic Bank; ABA #321081669; ACCT #80001416404

**MAIL REMITTANCES TO:**

Kathy Balestrieri  
Westfield Capital Management Co LP  
One Financial Center, 23rd Floor  
Boston, MA 02111

Should you have any questions regarding this invoice, please call 617-428-7121 or email [kbalestrieri@wcmgmt.com](mailto:kbalestrieri@wcmgmt.com). Thank you.

Invoice Date: 04/29/2018  
Invoice Number: 20180331-338-A

### Period Market Values (USD)

	03/31/2018
COBB COUNTY GOVERNMENT EMPLOYEES PENSION PLAN - 1274	
Market Value	49,391,085.81 <i>Westfield</i>
Total Adjusted Market Value	\$ 49,391,085.81
THE COBB COUNTY GOVERNMENT EMPLOYEES' PENSION PLAN TRUST - OPEB TR - 1774	
Market Value	8,604,799.40 <i>Westfield</i>
Total Adjusted Market Value	\$ 8,604,799.40
Total Aggregated Adjusted Market Value:	\$ 57,995,885.21 ✓

### Annual Fee Schedule (Westfield - Base Fee)

0.00 to	25,000,000.00	65.00 BPS
25,000,000.01 to	100,000,000.00	50.00 BPS
100,000,000.01 and above		40.00 BPS

### Quarterly Fee Calculation (Westfield - Base Fee)

25,000,000.00	*	65.00 BPS	*	90	/	360	=	40,625.00
32,995,885.21	*	50.00 BPS	*	90	/	360	=	41,244.86

Schedule Total: \$ 81,869.86


### Fee Details:

Total Westfield - Base Fee (1774) 14.8% :	12,146.96
<b>Fee Total:</b>	<b>\$ 12,146.96</b>

### Invoice Summary Fee Totals:

Fee Total For Westfield - Base Fee: 12,146.96

**Total Amount Due: \$ 12,146.96**

*ck k pay*  


# **FACSIMILE/HAND-DELIVERY/E-MAIL COVER SHEET**

## **PENSION FUND INVOICES FOR APPROVAL**

**COBB COUNTY BOARD OF COMMISSIONERS  
FINANCE DEPARTMENT  
100 CHEROKEE STREET, SUITE 400  
MARIETTA, GA 30090-9610**

TO: Tony Hagler, Director, Human Resources, [thagler@cobbcounty.org](mailto:thagler@cobbcounty.org),  
Bill Volckmann, Interim Director, Finance, [william.volckmann@cobbcounty.org](mailto:william.volckmann@cobbcounty.org),  
Neil Warren, Sheriff, Sheriff's Office, [neilwarren@cobbcounty.org](mailto:neilwarren@cobbcounty.org)  
Roger Tutterow, [rtuttero@kennesaw.edu](mailto:rtuttero@kennesaw.edu)  
Virgil Moon, [jvmoon@dhr.state.ga.us](mailto:jvmoon@dhr.state.ga.us)

DATE: JUNE 21, 2018

FROM: BUDDY TESAR  
ASSOCIATE COMPTROLLER

PHONE: (770)-528-1558  
FAX: (770)-528-8010

NUMBER OF PAGES INCLUDING COVER SHEET: 3

---

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---

### MESSAGE/COMMENT:

One invoice is attached for your consideration at this time. Please indicate your approval via return email to my attention or by fax to 770-528-1558. After you all respond I will forward to the Trustee for payment.

- UBS FINANCIAL SERVICES, INC. - \$16,897.76

Any questions, please contact me at 770-528-1558

Attachments:



UBS Financial Services Inc.  
1000 Harbor Boulevard, 6th FL.  
Weehawken, NJ 07086-6761

ubs.com/fs

## Invoice

**Date:** 05/22/2018  
**Contract ID:** 4009  
**Invoice No.:** 201803314810A  
**Billing Period:** 01/01/2018 to 03/31/2018  
**Institutional Consultant:** UBS Institutional Consulting

Attn: Tony Hagler  
COBB COUNTY DEFINED  
CONTRIBUTION PLAN  
100 CHEROKEE STREET  
SUITE 400  
MARIETTA GA 30090-7004

### Institutional Consulting

Charges for the period:	\$16,897.76
Fee for AUA: \$146,324,460.00	\$16,897.76
Other Consulting Fees:	\$0.00
Credits for the period:	\$0.00
Prior Balance:	\$0.00
<b>Ending Balance:</b>	<b>\$16,897.76</b>

(PLEASE PAY)

*ck 1/6/18*

### Payment instructions

Full payment must be received within 30 days of the receipt of this invoice. Please reference the Invoice Number with your payment.

### If paying by check, please send to:

3455 Peachtree Rd NE  
Suite 1700  
Atlanta, GA 30326  
Attention: Ryan Cox

### If paying by wire, please remit payment to:

UBS ABA: 026007993  
UBS A/C: 101-WA-258641-000  
Further credit to: YYAX46500070  
Client name: COBB COUNTY DEFINED  
CONTRIBUTION PLAN  
Contract ID: 4009  
Bank address: UBS  
600 Washington Blvd.  
9<sup>th</sup> Floor  
Stamford, CT 06901

**If paying by Direct Debit with your UBS account,** your Institutional Consultant will arrange for your account(s) to be debited.

# Fees and credits for the period

**Fee for Assets Under Advisement (as of 03/31/2018): \$146,324,460.00**

Asset Value	Rate	Fee
From \$0.00 to \$100,000,000.00	0.050%	\$12,328.77
From \$100,000,000.01 to \$200,000,000.00	0.040%	\$4,568.99
Over \$200,000,000.01	0.010%	\$0.00
<b>Total</b>		<b>\$16,897.76</b>





Eagle Capital Management

# CU Cobb County

August 7, 2018

John Johnson

212-293-4022

[jjohnson@eaglecap.com](mailto:jjohnson@eaglecap.com)

**EAGLE CAPITAL MANAGEMENT 499 PARK AVENUE NEW YORK-NY 10022**

*Confidential report prepared upon client request, not for further distribution*

# PHILOSOPHY / DIFFERENTIATING FEATURES

## ***Investment Philosophy:***

Buy undervalued companies with unrecognized growth potential

Seek stocks that are inexpensive relative to both their core earnings power and their long-term prospects

Minimize risk – “Risk is Greatest when Agreement is Greatest”

Avoid high expectation stocks where there is a higher risk of a permanent loss of capital

## ***Differentiating Features:***

Long-term investment horizon allows us to find opportunities in which many investors can't or won't invest

Judgment applied to original research

Culture of intensity combined with emotional calm – “Rigor plus Patience”

Strong relationships with company management derived from diligence and long-term perspective

Team approach to research – different perspectives, insights and expertise factor into portfolio decisions

Focused portfolio of our 25 – 35 best ideas; typically add five new positions per year

Compensation structure that is aligned with our clients' interests

## INVESTMENT MANAGEMENT TEAM

	EXPERIENCE	
	TOTAL	EAGLE
<b>RAVENEL B. CURRY III—CIO</b> Ravenel is a founder and the chief investment officer of Eagle Capital Management, LLC. Formerly a partner at H.C. Wainwright and the portfolio manager of the Duke Endowment, Ravenel began his investment career as a security analyst at Morgan Guaranty Trust Company. He received his Bachelor of Arts degree from Furman University and an M.B.A. from the University of Virginia. Ravenel is a trustee of the Manhattan Institute, the American Enterprise Institute, the New York Hall of Science, the New-York Historical Society, Success Academy, and the Duke Endowment. Ravenel is a former trustee of Furman University and the former chairman of the New Jersey Higher Education Assistance Authority. He is a member of the Council on Foreign Relations.	50	30
<b>R. BOYKIN CURRY IV—DEPUTY CIO</b> Boykin is a deputy CIO and senior research analyst. Formerly a portfolio manager at Kingdon Capital, Boykin began his investment career at Miller Anderson & Sherrerd. At Miller Anderson & Sherrerd/Morgan Stanley Asset Management, he managed an emerging markets fund and co-ran an international equity fund. Prior to business school, he was a strategy consultant at Bain & Company. Boykin graduated from Yale University with a degree in Economics and earned his M.B.A. at Harvard Business School. He is a founding board member of Public Prep, which opens charter schools for children in New York City, and a trustee of the New America Foundation.	25	16
<b>JONATHAN GANDELMAN</b> Jonathan is a senior research analyst. He was formerly a senior analyst at Falcon Edge Capital. Prior to business school, Jonathan worked in private equity at Apax Partners and in mergers & acquisitions at Evercore Partners. Jonathan graduated magna cum laude from the Wharton School at the University of Pennsylvania with a Bachelor of Science degree in Economics and earned his M.B.A. from Harvard Business School.	9	1
<b>ALEC J. HENRY—DEPUTY CIO</b> Alec is a deputy CIO and senior research analyst. He was formerly the Director of Research at Corsair Capital Management. Prior to joining Corsair, Alec worked in corporate strategy at Starwood Hotels and was a strategy consultant at Mercer Management Consulting. Alec received his Bachelor of Science in Commerce with a concentration in Finance from the McIntire School of Commerce at the University of Virginia. He has earned the Chartered Financial Analyst designation.	15	8
<b>STEPHANIE J. LI</b> Stephanie is a research analyst. She formerly worked at Blue Ridge Capital and at Evercore in M&A. Stephanie graduated summa cum laude with a Bachelor of Science degree in Economics from the Wharton School at the University of Pennsylvania.	3	1
<b>ADRIAN V. MELI—DEPUTY CIO</b> Adrian is a deputy CIO and senior research analyst. He formerly worked at Farley Capital. Adrian graduated magna cum laude and Phi Beta Kappa with a Bachelor of Arts degree in Economics and Psychology from Williams College.	16	10
<b>RICHARD R. ONG, CFA</b> Richard is a senior research analyst. He was a principal at McCowan Associates, the former Investment Management Services division of Goldman, Sachs & Co. Richard was an analyst and served on the investment committee. He worked in biomedical research at the University of California, the San Francisco Medical Center and the New York University Medical Center. Richard received his Bachelor of Arts degree in Chemistry from Princeton University and an M.B.A. from Columbia University. He holds the Chartered Financial Analyst designation.	33	21
<b>TOWNSEND WELLS</b> Townsend is a senior research analyst. He was formerly a Partner at Palestra Capital Management, a public equity investment firm he was with since its launch. Prior to Palestra, Townsend worked on private debt and equity investments in the Blackstone Group's credit investment division, GSO Capital, and in investment banking at Credit Suisse. Townsend graduated magna cum laude with a Bachelor of Arts degree from Princeton University.	11	1

All members listed alphabetically after CIO



# PERFORMANCE HISTORY

## *Periods Ending 7/31/2018*

	CU Cobb County Gross	CU Cobb County Net	Russell 1000 Value	S&P 500
<b>Year to Date</b>	<b>8.5%</b>	<b>7.9%</b>	<b>2.2%</b>	<b>6.5%</b>
<b>One Year</b>	<b>18.7%</b>	<b>17.9%</b>	<b>9.5%</b>	<b>16.2%</b>
<b><u>Annualized Returns:</u></b>				
<b>Three Years</b>	<b>13.0%</b>	<b>12.1%</b>	<b>9.5%</b>	<b>12.5%</b>
<b>Five Years</b>	<b>14.5%</b>	<b>13.6%</b>	<b>10.0%</b>	<b>13.1%</b>
<b>Seven Years</b>	<b>15.6%</b>	<b>14.7%</b>	<b>12.4%</b>	<b>14.2%</b>
<b>Ten Years</b>	<b>14.3%</b>	<b>13.4%</b>	<b>9.0%</b>	<b>10.7%</b>
<b>Since Inception (1/13/2003)</b>	<b>13.5%</b>	<b>12.6%</b>	<b>9.0%</b>	<b>9.6%</b>
<b>Cumulative Since Inception</b>	<b>611.5%</b>	<b>534.8%</b>	<b>282.3%</b>	<b>317.8%</b>

	Cobb County Board of Trustees Gross	Cobb County Board of Trustees Net	Russell 1000 Value	S&P 500
<b>Year to Date</b>	<b>7.1%</b>	<b>6.5%</b>	<b>2.2%</b>	<b>6.5%</b>
<b>Since Inception (9/21/2017)</b>	<b>15.3%</b>	<b>14.6%</b>	<b>8.6%</b>	<b>14.4%</b>

Preliminary and unaudited.

The S&P 500 Index includes 500 leading companies and captures more than three quarters of the total market capitalization. It is float-adjusted and based on the market cap weightings of the securities that comprise the index.

Unless specified otherwise by client, performance periods shown may include calendar quarters, year to date, trailing one, three, five, seven and ten years, since inception (cumulative and annualized), and calendar years. Eagle Equity Composite returns may be added for illustration if there is less than one year of available client performance data. Details available upon request. See Footnotes at end of presentation for important disclosures. Past performance is no guarantee of future results. Source of figures: Eagle Capital Management, LLC and International Data Corporation (IDC).

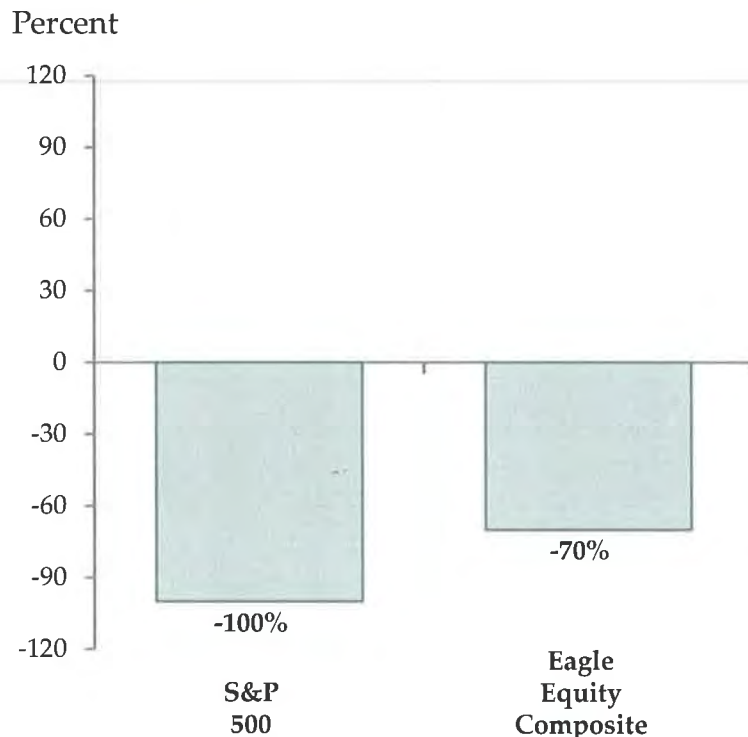


## UP/DOWN MARKET CAPTURE

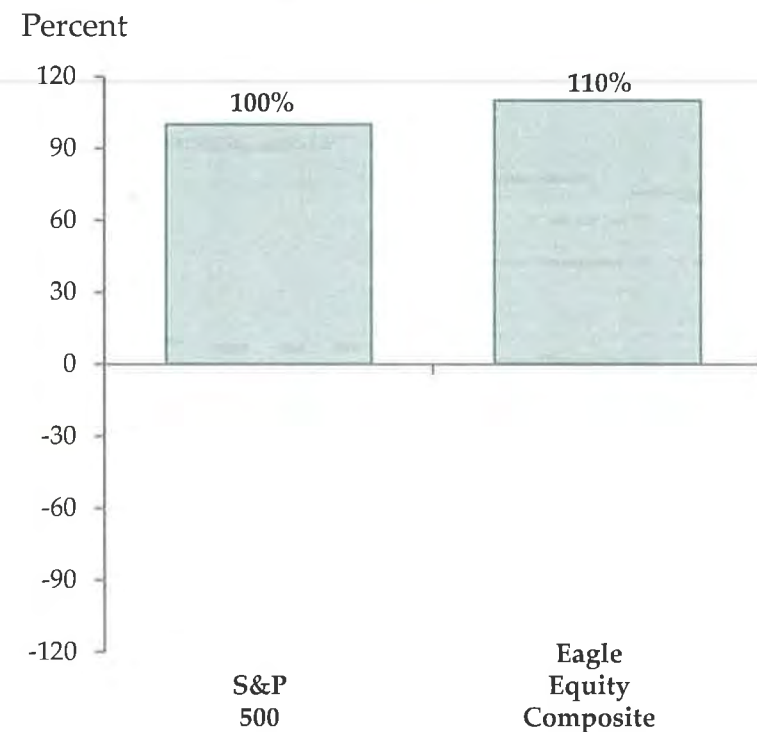
### VALUE FLOOR LIMITS DOWNSIDE

### EARNINGS GROWTH ADDS TO UPSIDE

*Down-Market Capture Ratio  
S&P down quarters, 1989 – Q2 2018*



*Up-Market Capture Ratio  
S&P up quarters, 1989 – Q2 2018*



The up/down-market capture ratio is a statistical measure of an investment manager's overall performance in up/down-markets. The ratio is calculated by dividing Eagle Capital's returns by the returns of the S&P 500 during the up-market or down-market, and multiplying that factor by 100. An up-market capture ratio of 110 indicates that the manager outperformed the market by 10% during the specified period. A down-market capture ratio of 80 indicates that the manager's portfolio declined only 80% as much as the S&P 500 during the specified period. The Eagle strategy is not managed to a benchmark; S&P information is provided for illustrative purposes. The S&P 500 Index includes 500 leading companies and captures more than three quarters of the total market capitalization. It is float-adjusted and based on the market cap weightings of the securities that comprise the index. Above data presented using Gross of Fees returns for the Eagle Equity Composite. Using Net of Fees returns, down-market capture ratio is -72%, and up-market capture ratio is 106%.

Source of Data: Advent APX software and Eagle Capital analysis

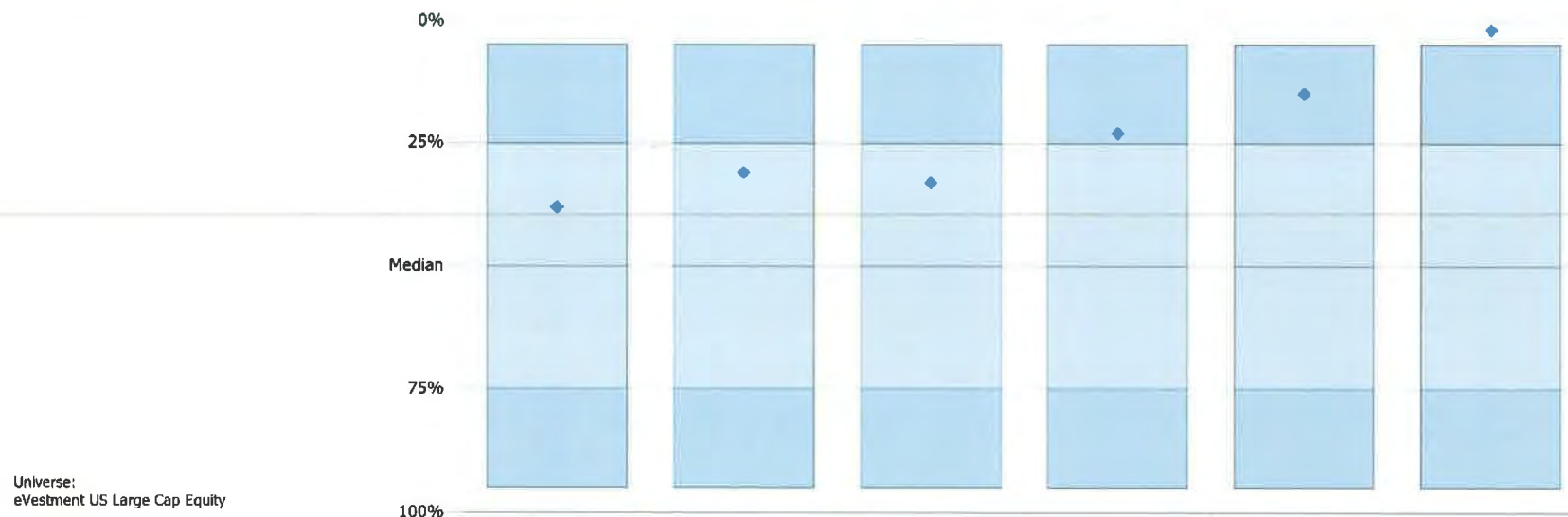
# PEER GROUP RANKING



Eagle Capital Management

◆ Eagle Capital Management, LLC: Eagle Equity

Eagle Capital Management, LLC - Eagle Equity Composite  
Net of Fee Returns as of: June 30, 2018



	1 Year	Rk	3 Years	Rk	5 Years	Rk	7 Years	Rk	10 Years	Rk	Since Inception 29.5 <sup>1</sup>	Rk
5th percentile	28.04		15.52		17.23		15.41		12.79		13.74	
25th percentile	18.70		12.16		14.27		13.28		10.84		11.49	
Median	12.74		10.00		12.13		12.13		9.60		10.58	
75th percentile	9.49		8.42		10.72		10.94		8.56		9.90	
95th percentile	5.59		6.15		8.33		8.71		6.70		9.23	
# of Observations	739		713		672		607		548		56	
◆ Eagle Capital Management, LLC	14.88	38	11.51	31	13.37	33	13.40	23	11.48	15	14.12	2

Results displayed in US Dollar (USD)

<sup>1</sup>1/1989 - 6/2018

Source: Analysis performed utilizing eVestment Alliance analytics tools. Performance figures are based on net returns that in some cases may be preliminary, unaudited and subject to subsequent adjustments. Net returns include management fees which reduce returns. Figures are calculated using Advent APX software and Eagle Capital analysis. Details available upon request. Past performance does not guarantee future results. See "Footnotes" at end of this presentation for additional important disclosures. "Rk" denotes percentile performance relative to peer managers self-reporting to eVestment Alliance.

The eVestment US Large Cap Equity Universe includes US equity products that invest primarily in large capitalization stocks. eVestment universes are maintained and reviewed by eVestment based on manager-reported data and eVestment proprietary analysis. While Eagle Capital pays eVestment for certain analytical services, Eagle Capital does not pay to be included in the US Large Cap Equity Universe (this is independently calculated by eVestment). On an ongoing basis, all eVestment Universes are updated & scrubbed approximately 45 days after quarter-end, where several factors are considered, including analysis of sector allocations vs. existing eVestment style universes and statistical performance and risk screening versus appropriate benchmarks and universe medians. For further information, see [www.evestment.com](#)



**Eagle Capital Management**

# PORTFOLIO COMPOSITION

*CU Cobb County as of July 31, 2018*

Quantity	Security	Unit Cost	Total Cost	Price	Market Value	Pct. Assets	Unit Income	Annual Income	Cur. Yield
<b>ENERGY</b>									
5,600	Anadarko Petroleum Corp	79.16	443,274	73.15	409,640	0.6	1.00	5,600	1.4
33,800	Noble Energy Inc	31.15	<u>1,052,840</u>	36.09	<u>1,219,842</u>	<u>1.7</u>	0.44	<u>14,872</u>	<u>1.2</u>
			1,496,114		1,629,482	2.3		20,472	1.3
<b>MATERIALS</b>									
9,665	Ecolab Inc	30.50	<u>294,783</u>	140.70	<u>1,359,866</u>	<u>1.9</u>	1.64	<u>15,851</u>	<u>1.2</u>
			294,783		1,359,866	1.9		15,851	1.2
<b>INDUSTRIAL</b>									
19,350	AerCap Holdings NV	51.67	999,757	56.13	1,086,116	1.5	-	-	-
12,232	United Parcel Service-Cl B	112.59	<u>1,377,236</u>	119.89	<u>1,466,494</u>	<u>2.0</u>	3.64	<u>44,524</u>	<u>3.0</u>
			2,376,994		2,552,610	3.6		44,524	1.7
<b>CONSUMER DISCRETIONARY</b>									
2,284	Amazon.com Inc	292.62	668,340	1,777.44	4,059,673	5.7	-	-	-
59,229	Comcast Corp-Class A	33.54	1,986,312	35.78	2,119,214	3.0	0.76	45,014	2.1
49,350	Dish Network Corp Cl A	52.88	2,609,582	31.56	1,557,486	2.2	-	-	-
50,900	General Motors Co	34.85	1,773,907	37.91	1,929,619	2.7	1.52	77,368	4.0
35,361	Liberty Broadband-C	74.33	2,628,219	79.47	2,810,139	3.9	-	-	-
89,970	Liberty Global Plc-Series C	18.00	1,619,381	27.14	2,441,786	3.4	-	-	-
10,874	Liberty Latin America-Cl C	11.30	122,925	19.36	210,521	0.3	-	-	-
15,010	Liberty TripAdvisor Hdq-A	8.38	125,845	16.65	249,917	0.3	-	-	-
15,050	Marriott International -Cl A	65.38	983,902	127.84	1,923,992	2.7	1.64	24,682	1.3
6,630	Mohawk Industries Inc	211.20	1,400,231	188.36	1,248,827	1.7	-	-	-
26,600	Tripadvisor Inc	34.85	927,041	57.99	1,542,534	2.1	-	-	-
63,950	Twenty-First Century Fox Cl B	32.78	<u>2,096,079</u>	44.42	<u>2,840,659</u>	<u>4.0</u>	0.36	<u>23,022</u>	<u>0.8</u>
			16,941,766		22,934,365	31.9		170,086	0.7

This report is provided for informational purposes only and the data herein may be unreconciled. The account records maintained by your custodian and your accountant are the legal records for your account, and should be used in the preparation of your tax returns. We advise you to seek advice regarding all tax matters. For reporting purposes, Eagle Capital Management assumes a cash yield of zero. Please refer to your custodian's statement for your cash yield. Differences in accounting methods may cause the cost basis of a security in your custodial records to differ from the one contained in this report.





# PORTFOLIO COMPOSITION

## *CU Cobb County as of July 31, 2018- continued*

Quantity	Security	Unit Cost	Total Cost	Price	Market Value	Pct. Assets	Unit Income	Annual Income	Cur. Yield
<b>HEALTH CARE</b>									
10,000	Thermo Fisher Scientific Inc	34.23	342,314	234.53	2,345,300	3.3	0.68	6,800	0.3
12,404	UnitedHealth Group Inc	19.19	<u>238,082</u>	253.22	<u>3,140,941</u>	<u>4.4</u>	3.60	<u>44,654</u>	<u>1.4</u>
			580,396		5,486,241	7.6		51,454	0.9
<b>FINANCIAL SERVICES</b>									
18,680	Aon PLC	49.05	916,207	143.55	2,681,514	3.7	1.60	29,888	1.1
33,065	Bank of America Corp	15.87	524,837	30.88	1,021,047	1.4	0.60	19,839	1.9
127,780	Barclays PLC-Spons ADR	11.68	1,492,620	10.34	1,321,245	1.8	0.16	20,601	1.6
23,925	Berkshire Hathaway Inc-Cl B	87.07	2,083,139	197.87	4,734,040	6.6	-	-	-
50,900	Citigroup Inc	47.51	2,418,245	71.89	3,659,201	5.1	1.80	91,620	2.5
6,100	Goldman Sachs Group Inc	108.44	661,468	237.43	1,448,323	2.0	3.20	19,520	1.3
15,100	JPMorgan Chase & Co	57.38	866,381	114.95	1,735,745	2.4	2.24	33,824	1.9
14,500	Morgan Stanley	14.65	212,466	50.56	733,120	1.0	1.20	17,400	2.4
15,925	W R Berkley Corp	23.38	372,397	75.81	1,207,274	1.7	0.60	9,555	0.8
50,845	Wells Fargo & Co	55.05	<u>2,799,183</u>	57.29	<u>2,912,910</u>	<u>4.1</u>	1.72	<u>87,453</u>	<u>3.0</u>
			12,346,944		21,454,419	29.9		329,700	1.5
<b>TECHNOLOGY</b>									
1,625	Alphabet Inc Cl A	272.34	442,549	1,227.22	1,994,233	2.8	-	-	-
3,254	Alphabet Inc Cl C	400.60	1,303,541	1,217.26	3,960,964	5.5	-	-	-
59,000	Microsoft Corp	23.67	1,396,260	106.08	6,258,720	8.7	1.68	99,120	1.6
73,480	Oracle Corp	30.07	<u>2,209,552</u>	47.68	<u>3,503,526</u>	<u>4.9</u>	0.76	<u>55,845</u>	<u>1.6</u>
			5,351,903		15,717,443	21.9		154,965	1.0
	COMMON STOCK Total		39,388,898		71,134,426	99.0		787,052	1.1
	CASH AND EQUIVALENTS		687,394		687,394	1.0		-	-
	<b>TOTAL PORTFOLIO</b>		40,076,292		71,821,820	100.0		787,052	1.1

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**Eagle Capital Management**

# PORTFOLIO COMPOSITION

*Cobb County Board of Trustees as of July 31, 2018*

Quantity	Security	Unit Cost	Total Cost	Price	Market Value	Pct. Assets	Unit Income	Annual Income	Cur. Yield
<b>ENERGY</b>									
2,400	Anadarko Petroleum Corp	48.01	<u>115,218</u>	73.15	<u>175,560</u>	<u>1.3</u>	1.00	<u>2,400</u>	<u>1.4</u>
			115,218		175,560	1.3		2,400	1.4
<b>MATERIALS</b>									
2,670	Ecolab Inc	130.87	<u>349,418</u>	140.70	<u>375,669</u>	<u>2.9</u>	1.64	<u>4,379</u>	<u>1.2</u>
			349,418		375,669	2.9		4,379	1.2
<b>INDUSTRIAL</b>									
3,575	AerCap Holdings NV	51.88	185,481	56.13	200,665	1.5	-	-	-
2,250	United Parcel Service-Cl B	112.07	<u>252,161</u>	119.89	<u>269,753</u>	<u>2.1</u>	3.64	<u>8,190</u>	<u>3.0</u>
			437,642		470,417	3.6		8,190	1.7
<b>CONSUMER DISCRETIONARY</b>									
425	Amazon.com Inc	966.85	410,912	1,777.44	755,412	5.8	-	-	-
10,675	Comcast Corp-Class A	33.44	356,984	35.78	381,952	2.9	0.76	8,113	2.1
8,300	Dish Network Corp Cl A	52.80	438,281	31.56	261,948	2.0	-	-	-
8,800	General Motors Co	39.06	343,698	37.91	333,608	2.6	1.52	13,376	4.0
5,320	Liberty Broadband-A	73.40	390,495	79.34	422,089	3.2	-	-	-
22,200	Liberty Global Plc-Series C	32.48	721,000	27.14	602,508	4.6	-	-	-
2,650	Liberty TripAdvisor Hdg-A	9.70	25,693	16.65	44,123	0.3	-	-	-
3,200	Marriott International -Cl A	107.87	345,195	127.84	409,088	3.1	1.64	5,248	1.3
1,200	Mohawk Industries Inc	217.95	261,540	188.36	226,032	1.7	-	-	-
4,925	Tripadvisor Inc	31.66	155,908	57.99	285,601	2.2	-	-	-
13,000	Twenty-First Century Fox Cl B	26.36	<u>342,662</u>	44.42	<u>577,460</u>	<u>4.4</u>	0.36	<u>4,680</u>	<u>0.8</u>
			3,792,367		4,299,820	32.9		31,417	0.7

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**Eagle Capital Management**

# PORTFOLIO COMPOSITION

## *Cobb County Board of Trustees as of July 31, 2018- continued*

Quantity	Security	Unit Cost	Total Cost	Price	Market Value	Pct. Assets	Unit Income	Annual Income	Cur. Yield
<b>HEALTH CARE</b>									
1,350	Thermo Fisher Scientific Inc	188.34	254,261	234.53	316,616	2.4	0.68	918	0.3
2,050	UnitedHealth Group Inc	195.30	<u>400,360</u>	253.22	<u>519,101</u>	<u>4.0</u>	3.60	<u>7,380</u>	<u>1.4</u>
			654,622		835,717	6.4		8,298	1.0
<b>FINANCIAL SERVICES</b>									
3,545	Aon PLC	144.85	513,502	143.55	508,885	3.9	1.60	5,672	1.1
6,085	Bank of America Corp	25.22	153,464	30.88	187,905	1.4	0.60	3,651	1.9
21,100	Barclays PLC-Spons ADR	11.58	244,304	10.34	218,174	1.7	0.16	3,402	1.6
4,315	Berkshire Hathaway Inc-C1 B	183.53	791,941	197.87	853,809	6.5	-	-	-
7,900	Citigroup Inc	71.86	567,691	71.89	567,931	4.4	1.80	14,220	2.5
1,500	Goldman Sachs Group Inc	231.89	347,829	237.43	356,145	2.7	3.20	4,800	1.3
2,800	JPMorgan Chase & Co	95.28	266,778	114.95	321,860	2.5	2.24	6,272	1.9
2,400	Morgan Stanley	48.40	116,160	50.56	121,344	0.9	1.20	2,880	2.4
2,600	W R Berkley Corp	65.20	169,526	75.81	197,106	1.5	0.60	1,560	0.8
9,165	Wells Fargo & Co	54.59	<u>500,316</u>	57.29	<u>525,063</u>	<u>4.0</u>	1.72	<u>15,764</u>	<u>3.0</u>
			3,671,512		3,858,221	29.6		58,221	1.5
<b>TECHNOLOGY</b>									
815	Alphabet Inc Cl C	948.09	772,697	1,217.26	992,067	7.6	-	-	-
9,100	Microsoft Corp	74.65	679,300	106.08	965,328	7.4	1.68	15,288	1.6
13,420	Oracle Corp	48.01	<u>644,251</u>	47.68	<u>639,866</u>	<u>4.9</u>	0.76	<u>10,199</u>	<u>1.6</u>
			2,096,249		2,597,261	19.9		25,487	1.0
<b>COMMON STOCK Total</b>			11,117,027		12,612,664	96.6		138,392	1.1
<b>CASH AND EQUIVALENTS</b>			437,985		437,985	3.4		-	-
<b>TOTAL PORTFOLIO</b>			11,555,012		13,050,649	100.0		138,392	1.1

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# FOOTNOTES

1. Eagle Capital Management, LLC (the "Adviser") is an investment adviser registered with the Securities and Exchange Commission. Eagle Capital Management, LLC has prepared and presented this report in compliance with the Global Investment Performance Standards (GIPS®). Prior to 1/1/93, the returns are equal weighted and after 1/1/93 the returns are asset-weighted.
2. Eagle Capital Management was founded in August 1988 as a corporation. In March 1995, Eagle Capital Management, LLC was formed. Client accounts were transferred at the time of the change and their performance is included in this composite. The Eagle Equity Composite was thus created in August 1988. The Eagle Equity Composite is made up of all fee paying tax-free discretionary institutional accounts over \$1 million.
3. All fee-paying, discretionary portfolios are included in at least one composite. Composite information is not representative of any individual client account. Accounts with restrictions prohibiting the application of an intended investment strategy at a rate greater than 5% of that account's portfolio are excluded from the Eagle Equity Composite. New portfolios are excluded from composites until deemed fully invested. Portfolios no longer under management are included in historical composites for the periods they were under management; they are excluded for all periods after the last full month they were in place. No leveraged and non-fee paying accounts are included in the Eagle Equity Composite. For the quarter ended 12/31/16, the number of portfolios included in the Eagle Equity Composite was 400 and the assets in millions were \$10,917.4. A list of composite descriptions and policies for valuing portfolios, calculating performance and preparing compliant presentations is available upon request. The minimum asset size for a portfolio to be included in the Eagle Equity Composite is \$1,000,000. If withdrawal or performance causes a portfolio included in the Eagle Equity Composite to diminish to a level deemed difficult to implement the intended investment strategy, the portfolio is removed. When taxes are considered, the performance may vary.
4. Do not assume that all transactions will be profitable or that future performance is in any way guaranteed by past results. Performance calculations are on a time-weighted and asset-weighted total return basis and reflect reinvestment of dividends and other earnings. Trade-date accounting valuation is used and income is accrued. Returns from client to client will vary slightly depending on portfolio size, diversification and transaction costs. The equity portion of balanced accounts was included in the Eagle Equity Composite until the first quarter of 1994. In the process of active portfolio management, cash may be held in portfolios pending investment. Product descriptions in this brochure should not be construed to mean that cash is immediately invested.
5. The Firm's standard annual asset based management fee schedule is 1% of the account's total assets on the first \$5,000,000 and 0.75% thereafter. Gross performance results do not reflect the deduction of Eagle's investment advisory fee, which will affect a client's total return. The performance presented does not represent the return of any one individual investor. The current presentation may differ from previous presentation of historical data due to differences in assumptions, material market conditions and estimates used to calculate the performance. An individual client account's net return may differ significantly due to differences in fees, brokerage or other commissions, and/or any other expenses paid and the account's date of inception. Additional information related to the fees charged by Eagle can be found in its Form ADV Part 2 or in the respective Investment Management Agreement.
6. The currency used to express performance is the U.S. dollar.
7. The Eagle Equity strategy is not managed to a benchmark. The benchmarks most commonly chosen by our clients based on our strategy are the S&P 500 and the Russell 1000 Value indices. These are broad market indices containing companies that are representative of our investable universe. Neither the S&P 500 nor the Russell 1000 Value indices are managed by Eagle Capital Management, LLC. The S&P 500 Index consists of 500 stocks and is designed to form a representative sample of the United States stock market. This index is often used as a benchmark for U.S. equity portfolios and includes dividends and distributions, but does not reflect fees, brokerage commissions, or other expenses of investing. The Russell 1000 Value Index is an unmanaged index that measures the performance of those Russell 1000 Index companies with lower price-to-book ratios and lower forecasted growth rates. It includes the reinvestment of dividends and income, but does not reflect fees, brokerage commissions, or other expenses of investing.

## 8. Eagle Equity Composite Detail

Year	Eagle Annual Return		S&P 500	Russell 1000 Value	# of Portfolios	Total Composite Assets (\$ millions)	Composite Dispersion %*	Total Firm Assets (\$ millions)	3-Year Annualized Standard Deviation		
	Gross	Net							Composite	S&P 500	Russell 1000 Value
1989	32.5%	31.8%	31.7%	25.2%	2	3.0	NA	13.5	NA	NA	NA
1990	1.0%	0.2%	-3.1%	-8.1%	2	2.8	NA	16.1	NA	NA	NA
1991	40.7%	39.7%	30.5%	24.6%	2	3.7	NA	54.1	NA	NA	NA
1992	17.1%	16.2%	7.6%	13.8%	3	18.2	NA	52.7	NA	NA	NA
1993	20.4%	19.5%	10.1%	18.1%	7	50.6	3.7	102.6	NA	NA	NA
1994	-1.4%	-2.2%	1.3%	-2.0%	14	143.4	2.5	245.1	NA	NA	NA
1995	34.6%	33.6%	37.6%	38.4%	42	426.0	3.5	492.9	NA	NA	NA
1996	11.3%	10.4%	23.0%	21.6%	48	424.6	2.3	493.3	NA	NA	NA
1997	30.7%	29.9%	33.4%	35.2%	40	284.0	2.5	360.3	NA	NA	NA
1998	4.8%	4.1%	28.6%	15.6%	36	264.1	2.7	343.5	NA	NA	NA
1999	44.4%	43.6%	21.0%	7.4%	27	237.0	3.3	337.0	19.4	16.5	16.0
2000	33.1%	32.5%	-9.1%	7.0%	26	291.8	3.2	440.6	20.8	17.4	17.3
2001	-3.5%	-3.9%	-11.9%	-5.6%	27	358.4	0.8	598.8	17.8	16.7	14.7
2002	-6.5%	-7.0%	-22.1%	-15.5%	29	336.5	1.2	614.8	18.3	18.5	17.0
2003	33.8%	33.0%	28.7%	30.0%	58	797.4	1.1	1,652.3	16.2	18.1	16.0
2004	19.7%	19.2%	10.9%	16.5%	137	1,723.7	1.9	3,061.0	13.6	14.9	14.8
2005	8.4%	7.6%	4.9%	7.1%	202	3,049.6	1.4	5,461.5	9.5	9.0	9.5
2006	12.6%	11.8%	15.8%	22.2%	232	3,692.6	1.3	6,717.0	7.7	6.8	6.7
2007	10.7%	9.9%	5.5%	-0.2%	251	4,041.1	1.1	7,066.5	7.8	7.7	8.1
2008	-35.1%	-35.6%	-37.0%	-36.8%	250	2,643.2	1.5	4,533.8	16.0	15.1	15.4
2009	34.7%	33.7%	26.5%	19.7%	261	3,743.7	2.1	5,890.8	19.8	19.6	21.1
2010	20.8%	20.0%	15.1%	15.5%	242	3,820.0	1.0	7,382.4	21.5	21.9	23.2
2011	5.8%	5.1%	2.1%	0.4%	283	5,033.1	0.6	10,601.6	17.0	18.7	20.7
2012	17.9%	17.0%	16.0%	17.5%	345	7,875.0	0.5	15,098.7	13.4	15.1	15.5
2013	36.7%	35.7%	32.4%	32.5%	432	10,874.6	0.9	23,871.4	10.8	11.9	12.7
2014	13.1%	12.3%	13.7%	13.5%	433	11,013.6	0.4	27,412.6	8.5	9.0	9.2
2015	2.2%	1.4%	1.4%	-3.8%	426	10,989.8	0.6	26,319.7	11.4	10.5	10.7
2016	11.0%	10.1%	12.0%	17.3%	400	10,917.4	0.5	25,053.7	11.8	10.6	10.8

\*Dispersion is calculated using the asset-weighted standard deviation of annual gross returns of those portfolios that were included in the Composite for the entire year.

Internal composite dispersion is calculated using the asset-weighted standard deviation of annual gross returns of those portfolios that were included in the Composite for the entire year.

The three-year annualized standard deviation measures the variability of the composite and benchmark monthly returns over the previous 36-month period.

Eagle Capital Management claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Eagle Capital Management has been independently verified for the periods January 1, 1993 to 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 Eagle Equity Composite has been examined for the periods January 1, 1993 to December 31, 2016. The verification and performance examination reports are available upon request.

A more detailed description of the assumptions utilized in any of the simulations, models, and/or analyses contained in this report is available upon request. Eagle does not represent that the information contained herein is accurate or complete, and it should not be relied upon as such; Eagle does not undertake any obligation to update the information contained herein. Recipients should not rely on this material in making any investment decision. This document does not constitute advice or a recommendation or offer to sell or a solicitation of any offer to buy any security.



## Cobb County Government 457 – 2Q 2018 Alert Summary

The following fund(s) in the DC Plan failed at least one primary alert: 5-Year Total Return (% Rank in Category), Equity Style Box Change, MorningStar Category Change, Manager Change, Prospectus Net Expense Ratio (% Rank in Category) as of 7/9/2018.

1. ClearBridge Small Cap – Recommend no action
  - Trigger: Morningstar Category Change
  - Historically Small Blend, Currently Small Growth
  - 4-Star MorningStar Rating
  - Fund invests at least 80%, and normally substantially all, of its total assets in common stock and other equity securities issued by real estate companies.
2. Vanguard Treasury Money Market – Recommend no action
  - Trigger: Morningstar Category Change, Manager Change
  - Morningstar recording current and historically "Money Market – Taxable"
    - Database nuance, non-event
  - Manager previously recorded as David Glocke, currently Nafis Smith
    - David retired after more than 20 years on June 30, 2018
    - Nafis has been with Vanguard for approximately 15 years
    - Before joining Vanguard's Taxable Money Market Fund team, Nafis was a portfolio manager for the Global Bond Index team.



## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 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.

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**Cobb OPEB**  
**June 30, 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.

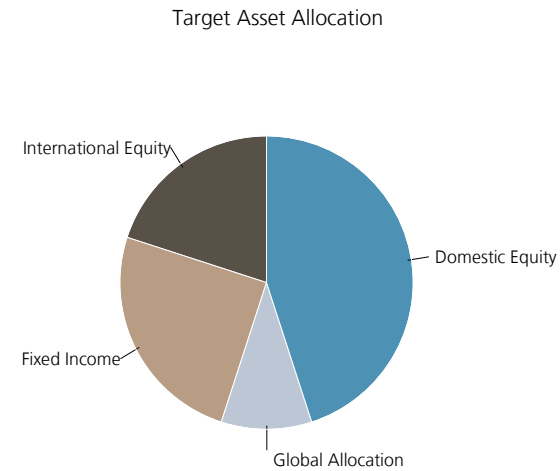
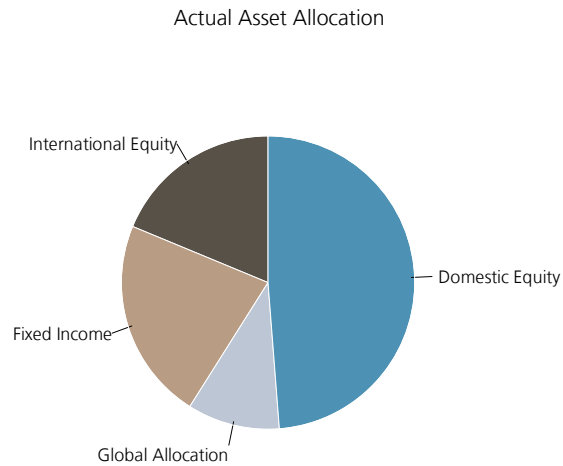
**CONSOLIDATED PORTFOLIO BENCHMARK**

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 June 30, 2018



	Market Value Actual	Percent Actual	Market Value Target	Percent Target	Market Value Difference	Percent Difference
Fixed Income	26,184,442.7	22.3%	29,373,473.8	25.0%	(3,189,031.1)	(2.7%)
Domestic Equity	57,306,993.2	48.8%	52,872,252.8	45.0%	4,434,740.4	3.8%
International Equity	22,038,036.0	18.8%	23,498,779.0	20.0%	(1,460,743.1)	(1.2%)
Global Allocation	11,964,423.3	10.2%	11,749,389.5	10.0%	215,033.8	0.2%
Total Fund	\$117,493,895.2	100.0%	\$117,493,895.2	100.0%	\$0.0	0.0%

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**Performance Summary - Gross of Fees**  
**Cobb OPEB**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$117,493,895	1.13%		1.05%		9.52%								11.07%
Policy Index			1.20%		0.25%		8.12%								9.67%
Composite Benchmark Policy Index			1.43%		0.52%										
<b>Fixed Income</b>															
Vanguard Interm-Term Bond Index	09/30/2017	\$0													
BB Int Gov/Cr															
Richmond Capital Management	09/30/2017	\$13,206,870	-0.07%	21	-1.59%	40									-0.89%
BB Gov/Cr Bond			-0.33%	61	-1.90%	71									-1.42%
Blackrock Strategic Income I	09/30/2017	\$6,543,483	-0.82%	98	-0.43%	1									0.42%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
Delaware Diversified Income I	09/30/2017	\$6,434,089	-1.24%	99	-2.28%	93									-1.72%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
<b>Domestic Equity</b>															
Eagle Capital Large Value	09/30/2017	\$12,561,451	2.96%	21	2.95%	1									9.99%
Russell 1000 Value			1.18%	65	-1.69%	72									3.54%
Vanguard 500 Index	09/30/2017	\$13,075,481	3.42%	20	2.63%	20									9.44%
S&P 500 Index			3.43%	19	2.65%	19									9.47%
TCW Large Cap Growth	09/30/2017	\$6,999,979	7.57%	10	12.29%	15									18.41%
Russell 1000 Growth			5.76%	39	7.25%	50									15.69%
Westfield Capital Large Growth	09/30/2017	\$9,045,859	5.13%	52	8.18%	42									14.61%
Russell 1000 Growth			5.76%	39	7.25%	50									15.69%
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,225,741	2.57%	53	2.58%	29									8.37%
Russell Midcap			2.82%	42	2.35%	33									8.56%
Vaughan Nelson	09/30/2017	\$3,985,225	3.46%	89	1.65%	84									5.49%
Russell 2000 Value			8.30%	11	5.44%	20									7.60%
Eagle Small Cap Growth Fund	09/30/2017	\$4,413,256	5.71%	90	7.45%	87									13.95%
Russell 2000 Growth			7.23%	75	9.70%	69									14.73%
<b>International Equity</b>															
Vanguard Total International Stock Fund	09/30/2017	\$8,044,406	-3.17%	67	-3.61%	60									1.09%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Dodge & Cox International Stock Fund	09/30/2017	\$6,753,479	-5.12%	99	-7.15%	99									-6.03%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Oppenheimer International Growth	09/30/2017	\$7,240,151	-3.07%	63	-2.91%	37									0.65%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%

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**Performance Summary - Gross of Fees**  
**Cobb OPEB**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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
<b>Global Allocation</b>															
Global Allocation	09/30/2017	\$11,964,423	0.16%	25	0.22%	11									3.72%
HFRX Global Hedge			0.17%	25	-0.85%	33									0.64%

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**Performance Summary - Net of Fees**  
**Cobb OPEB**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$117,493,895	1.08%		0.96%		9.38%								10.94%
Policy Index			1.20%		0.25%		8.12%								9.67%
Composite Benchmark Policy Index			1.43%		0.52%										
<b>Fixed Income</b>															
Vanguard Interm-Term Bond Index	09/30/2017	\$0													
BB Int Gov/Cr															
Richmond Capital Management	09/30/2017	\$13,206,870	-0.13%	28	-1.70%	50									-1.00%
BB Gov/Cr Bond			-0.33%	61	-1.90%	71									-1.42%
Blackrock Strategic Income I	09/30/2017	\$6,543,483	-0.82%	98	-0.43%	1									0.42%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
Delaware Diversified Income I	09/30/2017	\$6,434,089	-1.24%	99	-2.28%	93									-1.72%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
<b>Domestic Equity</b>															
Eagle Capital Large Value	09/30/2017	\$12,561,451	2.76%	23	2.57%	2									9.57%
Russell 1000 Value			1.18%	66	-1.69%	66									3.54%
Vanguard 500 Index	09/30/2017	\$13,075,481	3.42%	20	2.63%	20									9.44%
S&P 500 Index			3.43%	19	2.65%	19									9.47%
TCW Large Cap Growth	09/30/2017	\$6,999,979	7.39%	9	11.94%	10									18.04%
Russell 1000 Growth			5.76%	31	7.25%	42									15.69%
Westfield Capital Large Growth	09/30/2017	\$9,045,859	5.13%	47	8.04%	37									14.45%
Russell 1000 Growth			5.76%	31	7.25%	42									15.69%
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,225,741	2.57%	53	2.58%	29									8.37%
Russell Midcap			2.82%	42	2.35%	33									8.56%
Vaughan Nelson	09/30/2017	\$3,985,225	3.21%	87	1.15%	79									4.70%
Russell 2000 Value			8.30%	13	5.44%	19									7.60%
Eagle Small Cap Growth Fund	09/30/2017	\$4,413,256	5.71%	97	7.45%	90									13.95%
Russell 2000 Growth			7.23%	78	9.70%	73									14.73%
<b>International Equity</b>															
Vanguard Total International Stock Fund	09/30/2017	\$8,044,406	-3.17%	67	-3.61%	60									1.09%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Dodge & Cox International Stock Fund	09/30/2017	\$6,753,479	-5.12%	99	-7.15%	99									-6.03%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Oppenheimer International Growth	09/30/2017	\$7,240,151	-3.07%	63	-2.91%	37									0.65%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%

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Performance Summary - Net of Fees  
 Cobb OPEB  
 As of June 30, 2018

Account	Inception Date	06/30/2018 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
<b>Global Allocation</b>															
Global Allocation	09/30/2017	\$11,964,423	0.16%	25	0.22%	11									3.72%
HFRX Global Hedge			0.17%	25	-0.85%	33									0.64%

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
Gross Time Weighted Return	1.13	1.05	9.52	11.07	09/30/2016	\$117,493,895
Universe Median						
Policy Index	1.20	0.25	8.12	9.67		
%-tile						
(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					09/30/2017	\$0
Universe Median	-0.26	-1.70		-1.36		
BB Int Gov/Cr	0.01	-0.97		-1.17		
%-tile						
(100.00% BB Int Gov/Cr; established 9/30/2017)						

#### Richmond Capital Management - (Total Portfolio)

Gross Time Weighted Return	-0.07	-1.59		-0.89	09/30/2017	\$13,206,870
Universe Median	-0.26	-1.70		-1.36		
BB Gov/Cr Bond	-0.33	-1.90		-1.42		
%-tile	21	40		18		
(100.00% BB Gov/Cr Bond; established 9/30/2017)						

#### Blackrock Strategic Income I - (Total Portfolio)

Gross Time Weighted Return	-0.82	-0.43		0.42	09/30/2017	\$6,543,483
Universe Median	-0.26	-1.70		-1.36		
BB Agg Bond	-0.16	-1.62		-1.23		
%-tile	98	1		1		
(100.00% BB Agg Bond; established 9/30/2017)						

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**Total Portfolio**  
**Performance Summary Through June 30, 2018**

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
<b>Delaware Diversified Income I - (Total Portfolio)</b>						
Gross Time Weighted Return	-1.24	-2.28		-1.72	09/30/2017	\$6,434,089
Universe Median	-0.26	-1.70		-1.36		
BB Agg Bond	-0.16	-1.62		-1.23		
%-tile	99	93		76		

(100.00% BB Agg Bond; established 9/30/2017)

**Eagle Capital Large Value - (Total Portfolio)**

Gross Time Weighted Return	2.96	2.95		9.99	09/30/2017	\$12,561,451
Universe Median	1.62	-0.80		5.00		
Russell 1000 Value	1.18	-1.69		3.54		
%-tile	21	1		1		

(100.00% Russell 1000 Value; established 9/30/2017)

**Vanguard 500 Index - (Total Portfolio)**

Gross Time Weighted Return	3.42	2.63		9.44	09/30/2017	\$13,075,481
Universe Median	2.86	1.76		8.36		
S&P 500 Index	3.43	2.65		9.47		
%-tile	20	20		22		

(100.00% S&P 500 Index; established 9/30/2017)

**TCW Large Cap Growth - (Total Portfolio)**

Gross Time Weighted Return	7.57	12.29		18.41	09/30/2017	\$6,999,979
Universe Median	5.46	7.31		14.77		
Russell 1000 Growth	5.76	7.25		15.69		
%-tile	10	15		26		

(100.00% Russell 1000 Growth; established 9/30/2017)

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
<b>Westfield Capital Large Growth - (Total Portfolio)</b>						
Gross Time Weighted Return	5.13	8.18		14.61	09/30/2017	\$9,045,859
Universe Median	5.46	7.31		14.77		
Russell 1000 Growth	5.76	7.25		15.69		
%-tile	52	42		51		
(100.00% Russell 1000 Growth; established 9/30/2017)						
<b>Vanguard Mid-Cap Index Fund Admiral - (Total Portfolio)</b>						
Gross Time Weighted Return	2.57	2.58		8.37	09/30/2017	\$7,225,741
Universe Median	2.62	1.42		7.25		
Russell Midcap	2.82	2.35		8.56		
%-tile	53	29		37		
(100.00% Russell Midcap; established 9/30/2017)						
<b>Vaughan Nelson - (Total Portfolio)</b>						
Gross Time Weighted Return	3.46	1.65		5.49	09/30/2017	\$3,985,225
Universe Median	5.60	3.81		7.66		
Russell 2000 Value	8.30	5.44		7.60		
%-tile	89	84		77		
(100.00% Russell 2000 Value; established 9/30/2017)						
<b>Eagle Small Cap Growth Fund - (Total Portfolio)</b>						
Gross Time Weighted Return	5.71	7.45		13.95	09/30/2017	\$4,413,256
Universe Median	8.86	12.32		16.80		
Russell 2000 Growth	7.23	9.70		14.73		
%-tile	90	87		76		
(100.00% Russell 2000 Growth; established 9/30/2017)						

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
<b>Vanguard Total International Stock Fund - (Total Portfolio)</b>						
Gross Time Weighted Return	-3.17	-3.61		1.09	09/30/2017	\$8,044,406
Universe Median	-2.61	-3.28		0.41		
MSCI ACWI ex US Net	-2.61	-3.77		1.05		
%-tile	67	60		30		

(100.00% MSCI ACWI ex US Net; established 9/30/2017)

#### **Dodge & Cox International Stock Fund - (Total Portfolio)**

Gross Time Weighted Return	-5.12	-7.15		-6.03	09/30/2017	\$6,753,479
Universe Median	-2.61	-3.28		0.41		
MSCI ACWI ex US Net	-2.61	-3.77		1.05		
%-tile	99	99		99		

(100.00% MSCI ACWI ex US Net; established 9/30/2017)

#### **Oppenheimer International Growth - (Total Portfolio)**

Gross Time Weighted Return	-3.07	-2.91		0.65	09/30/2017	\$7,240,151
Universe Median	-2.61	-3.28		0.41		
MSCI ACWI ex US Net	-2.61	-3.77		1.05		
%-tile	63	37		45		

(100.00% MSCI ACWI ex US Net; established 9/30/2017)

#### **Loomis Sayles Global Equity and Income Fund - (Total Portfolio)**

Gross Time Weighted Return	1.51	3.11		7.84	09/30/2017	\$4,339,705
Universe Median	-0.51	-1.32		1.84		
HFRX Global Hedge	0.17	-0.85		0.64		
%-tile	8	1		1		

(100.00% HFRX Global Hedge; established 9/30/2017)

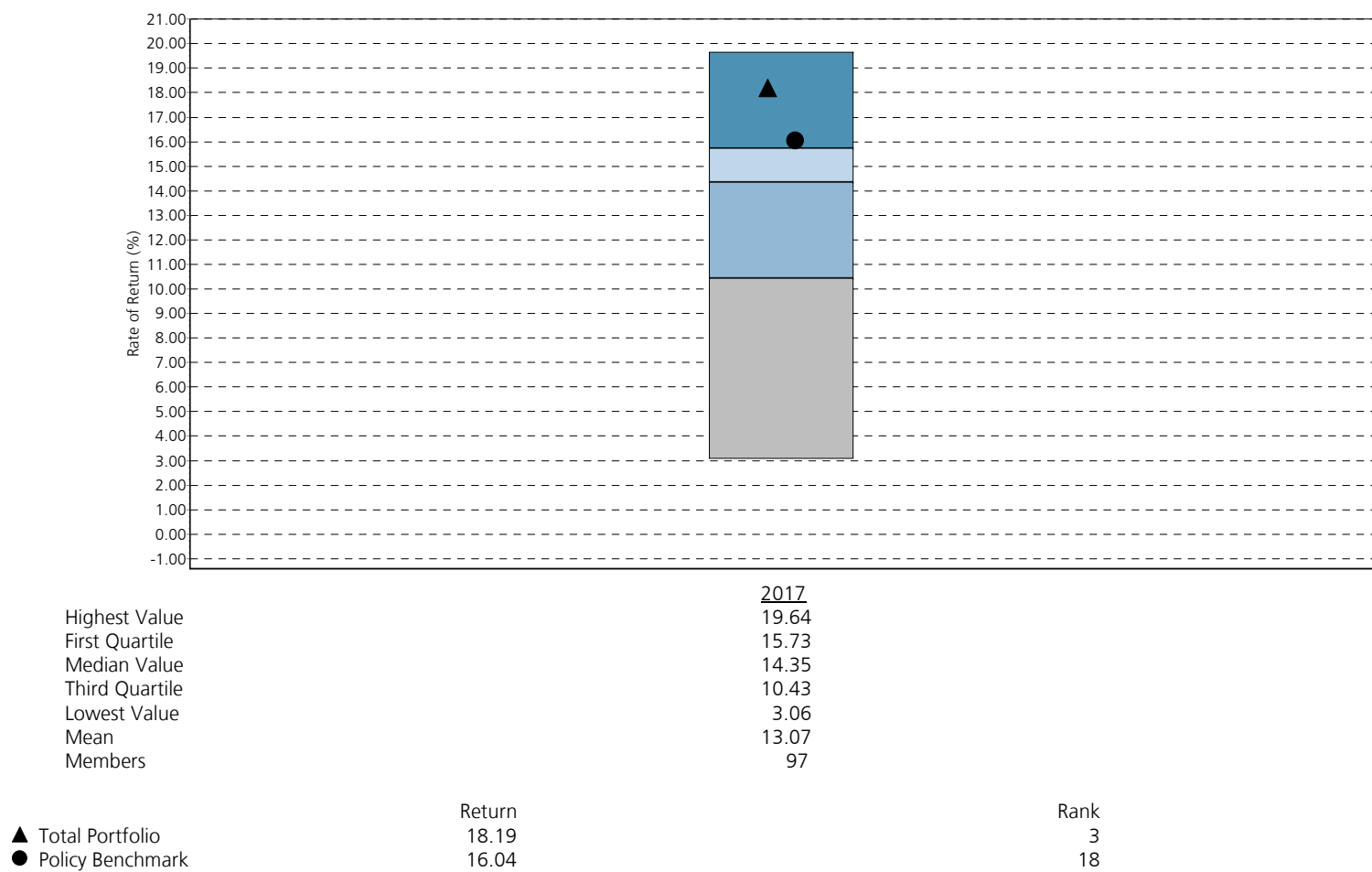
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**Total Portfolio**  
**Performance Summary Through June 30, 2018**

	Quarter	YTD	1 Yr	Inception	Inception Date	Current Assets
<b>First Eagle Global Funds Class I - (Total Portfolio)</b>						
Gross Time Weighted Return	-0.09	-1.16		2.08	09/30/2017	\$4,097,882
Universe Median	-0.51	-1.32		1.84		
HFRX Global Hedge	0.17	-0.85		0.64		
%-tile	29	44		43		
(100.00% HFRX Global Hedge; established 9/30/2017)						
 <b>Blackrock Global Allocation Fund - (Total Portfolio)</b>						
Gross Time Weighted Return	-1.17	-1.56		0.87	09/30/2017	\$3,526,836
Universe Median	-0.51	-1.32		1.84		
HFRX Global Hedge	0.17	-0.85		0.64		
%-tile	73	58		71		
(100.00% HFRX Global Hedge; established 9/30/2017)						

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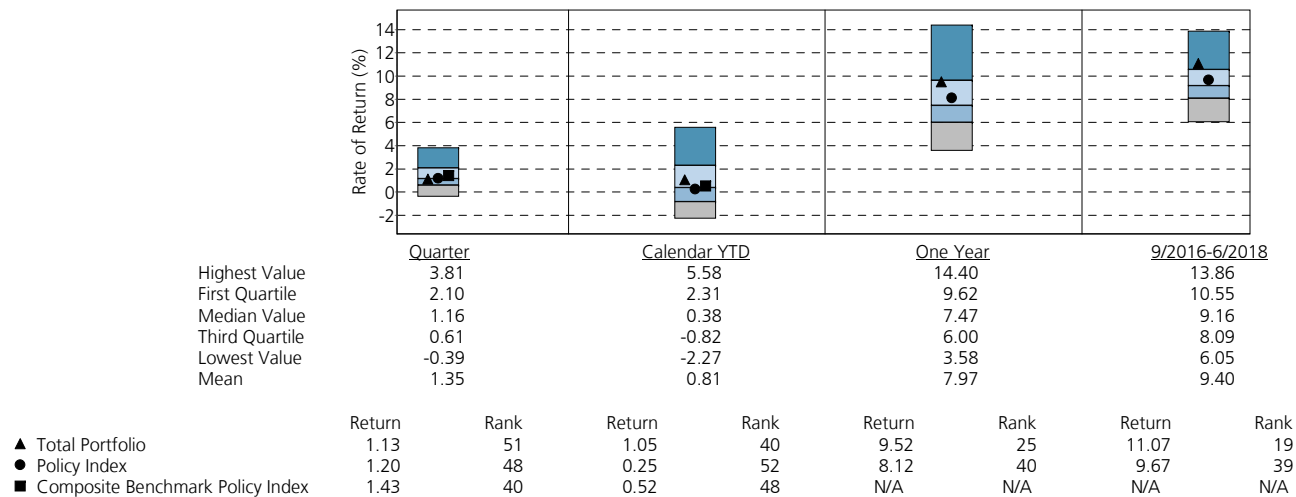
Consolidated Portfolio vs Master Trusts - Corporate : Plans < \$1 Billion Managers  
December 31, 2003 Through December 31, 2017



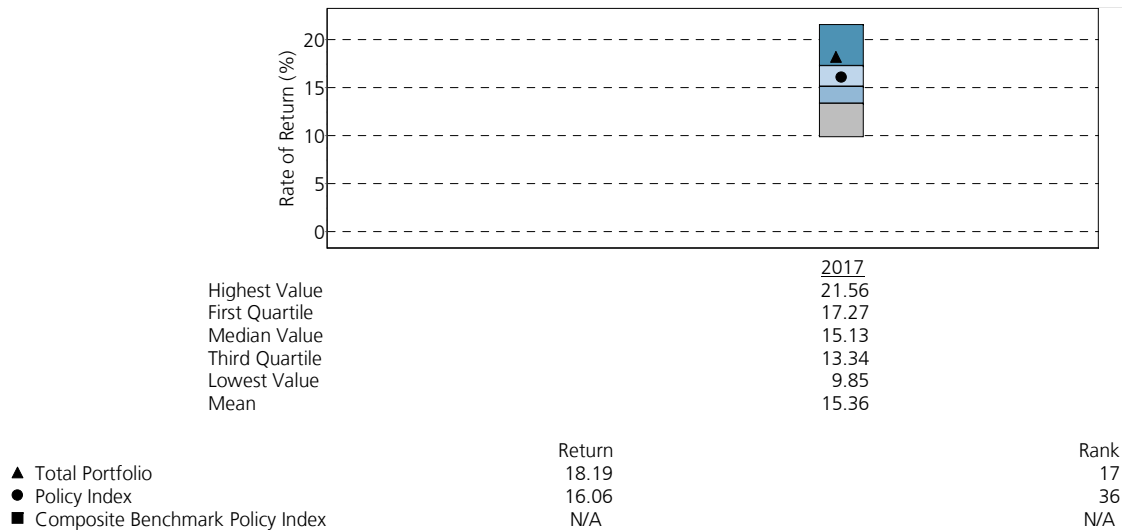
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Consolidated Portfolio Peer Universe Comparison versus 50% Equity, 35% Fixed, 15% International Managers

Trailing Periods



Annual Periods



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**Performance Profile**  
**September 30, 2016 Through June 30, 2018**

	<b>Ended</b>	<b>Return</b>
Best Quarter	3/2017	5.23
Worst Quarter	3/2018	-0.07
Best 4 Quarters	6/2018	9.52
Worst 4 Quarters	6/2018	9.52

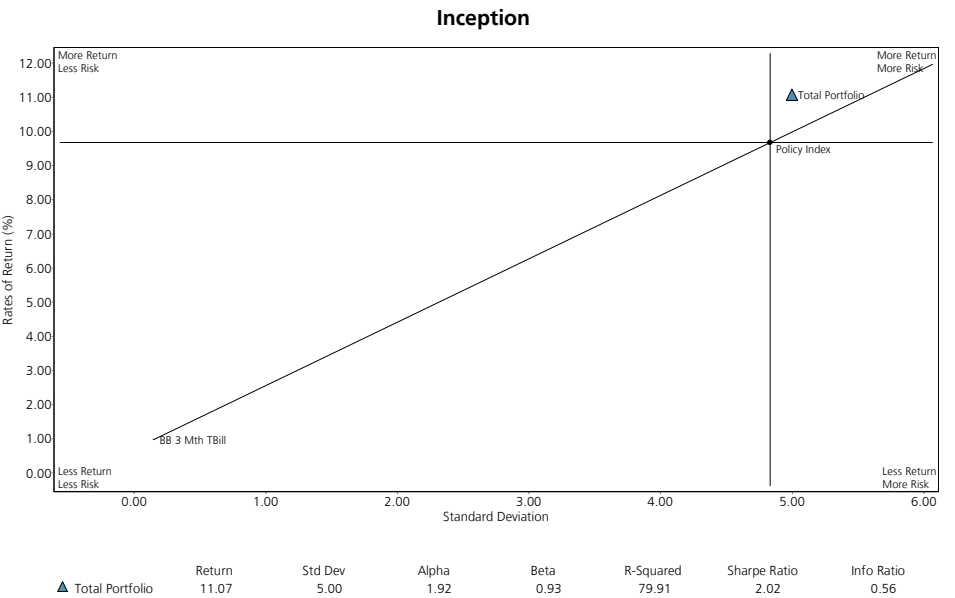
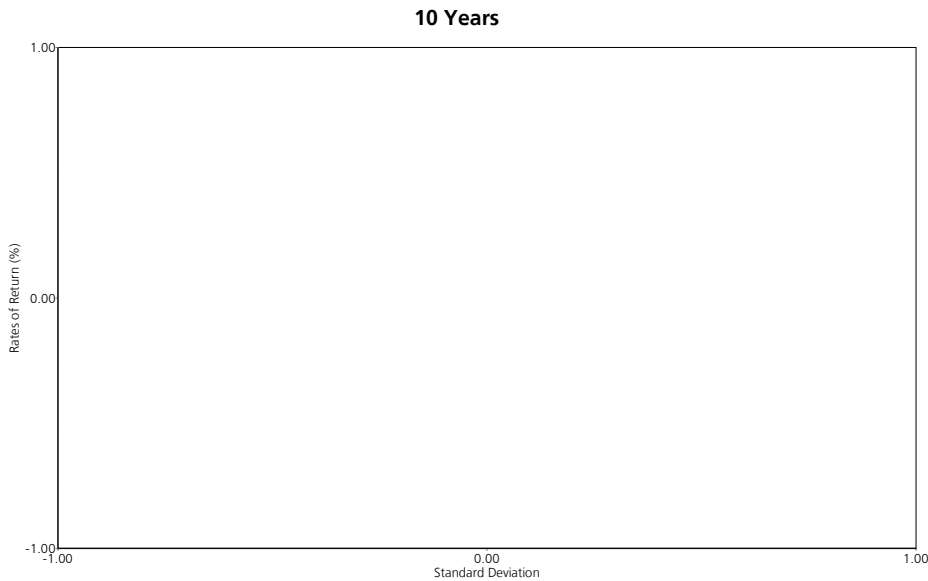
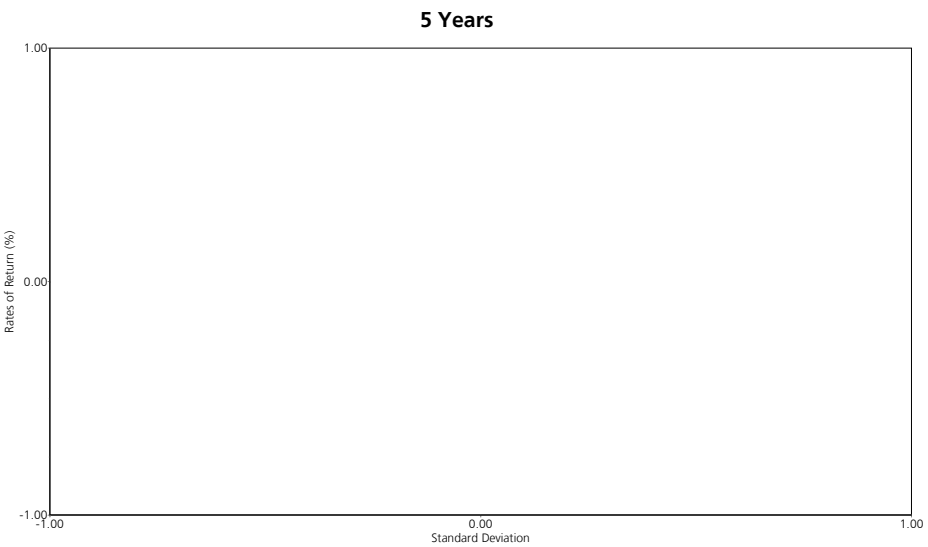
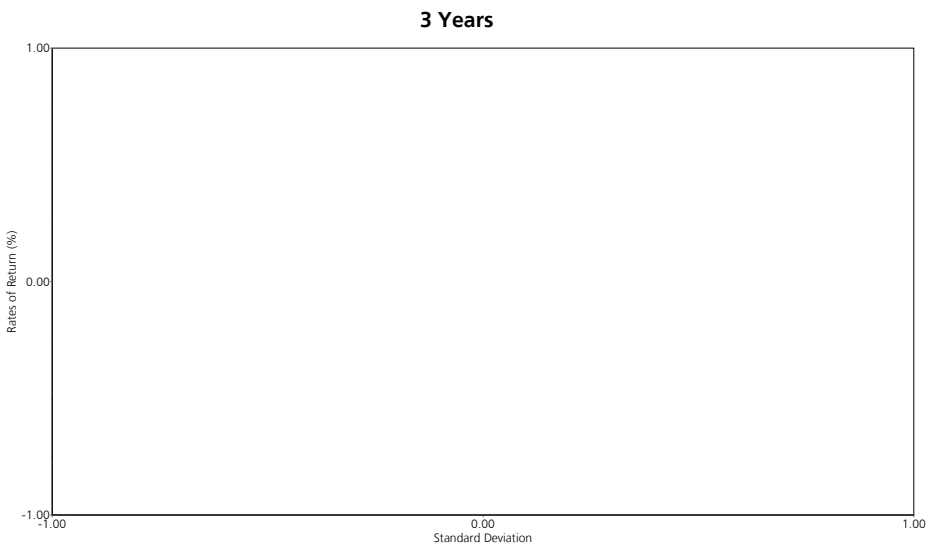
Total # of Periods: 21  
# of Positive Periods: 17  
# of Negative Periods: 4

	<b>Latest Month</b>	<b>Latest Quarter</b>	<b>Year To Date</b>	<b>One Year</b>	<b>Since Inception</b>
Consolidated Portfolio	-0.22	1.13	1.05	9.52	11.07
Policy Index	-0.13	1.20	0.25	8.12	9.67
Excess	-0.09	-0.07	0.81	1.40	1.40
Riskless Index	0.16	0.45	0.80	1.33	0.98
Real ROR	-0.42	0.12	-1.15	6.61	8.52
CPI	0.20	1.00	2.22	2.73	2.37

<b>Period</b>	<b>Return</b>	<b>Std Dev</b>	<b>Sharpe Ratio</b>	<b>Alpha</b>	<b>Beta</b>	<b>R-Squared</b>	<b>Relative Risk</b>	<b>Track Error</b>	<b>Treynor Ratio</b>	<b>Info Ratio</b>
One Year	9.52	6.11	1.34	0.59	1.11	97.04	1.13	1.22	7.37	1.10
Since Inception	11.07	4.88	2.07	1.92	0.93	79.91	1.03	2.23	10.91	0.57

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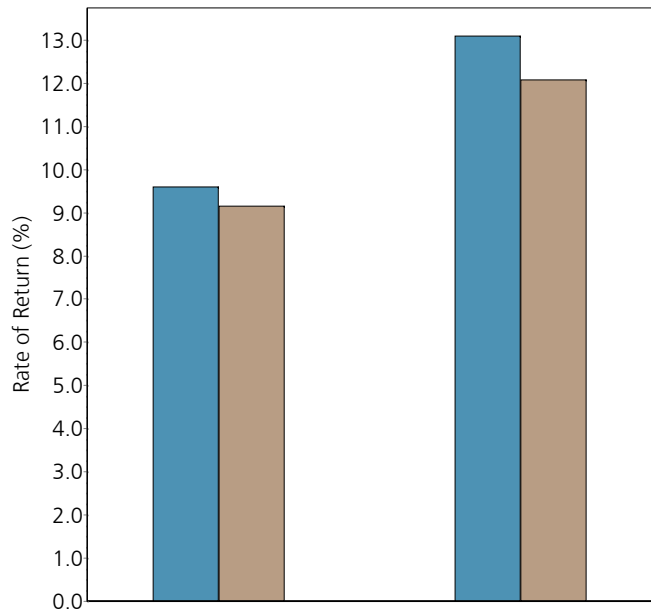
Risk vs Reward Analysis  
September 30, 2016 Through June 30, 2018



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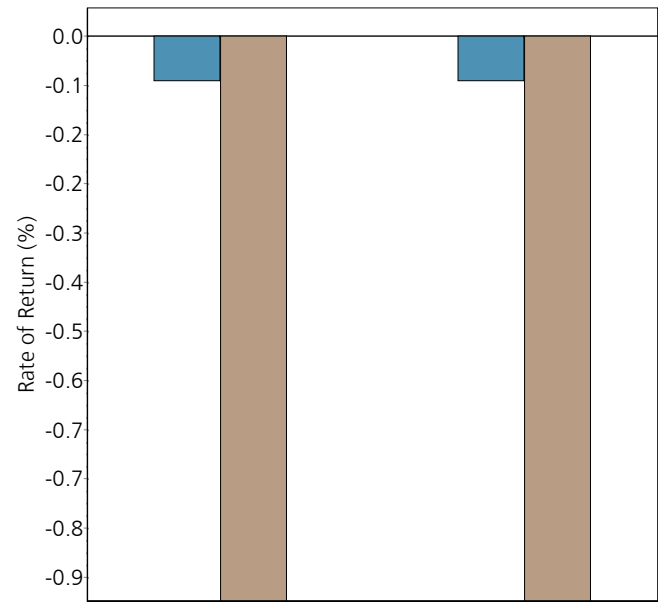
Performance in Rising and Declining Markets  
September 30, 2016 Through June 30, 2018

Up Market Performance



	One Year	Since Inception Day
Consolidated Portfolio	9.60	13.09
Policy Index	9.15	12.08
Difference	0.45	1.01
Ratio	1.05	1.08
Up Periods	3	6

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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Richmond Capital Management

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# Performance Analysis

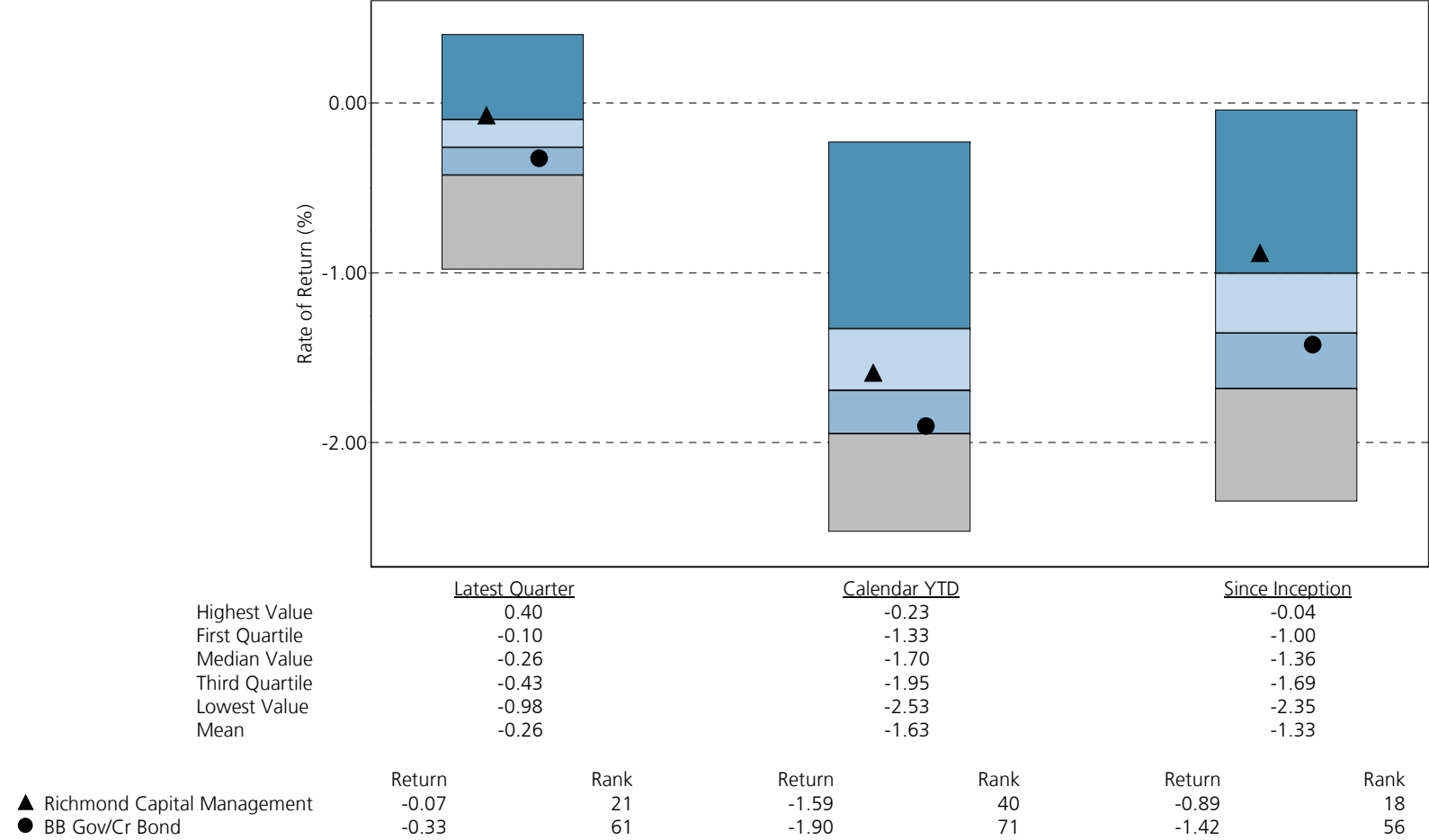
The primary index comparison for your portfolio and each of its asset classes is listed below.

**TOTAL FUND BENCHMARK**

9/30/2017 - Present

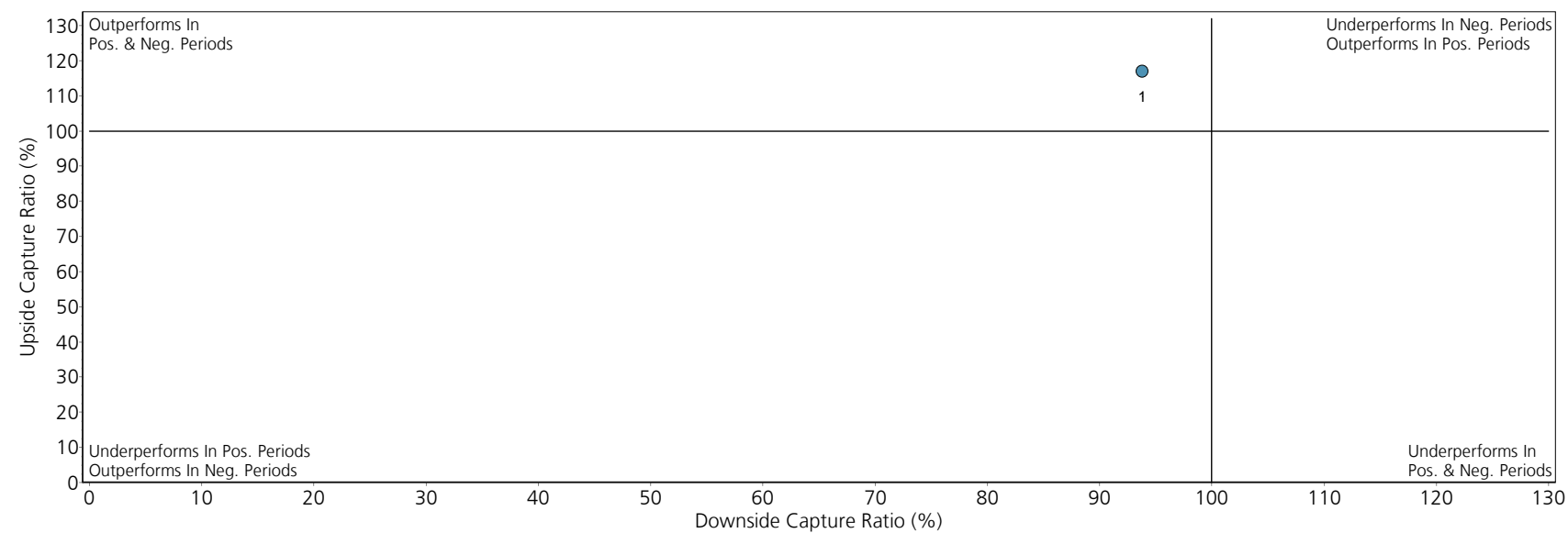
100% Bloomberg Barclays Government/Credit Bond

**TOTAL FUND versus Intermediate Bond Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	4.00
Upside Capture ROR	2.33
BB Gov/Cr Bond	1.99
% Of Capture	116.98
Down Periods	5.00
Downside Capture ROR	-3.14
BB Gov/Cr Bond	-3.35
% Of Capture	93.83

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 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.

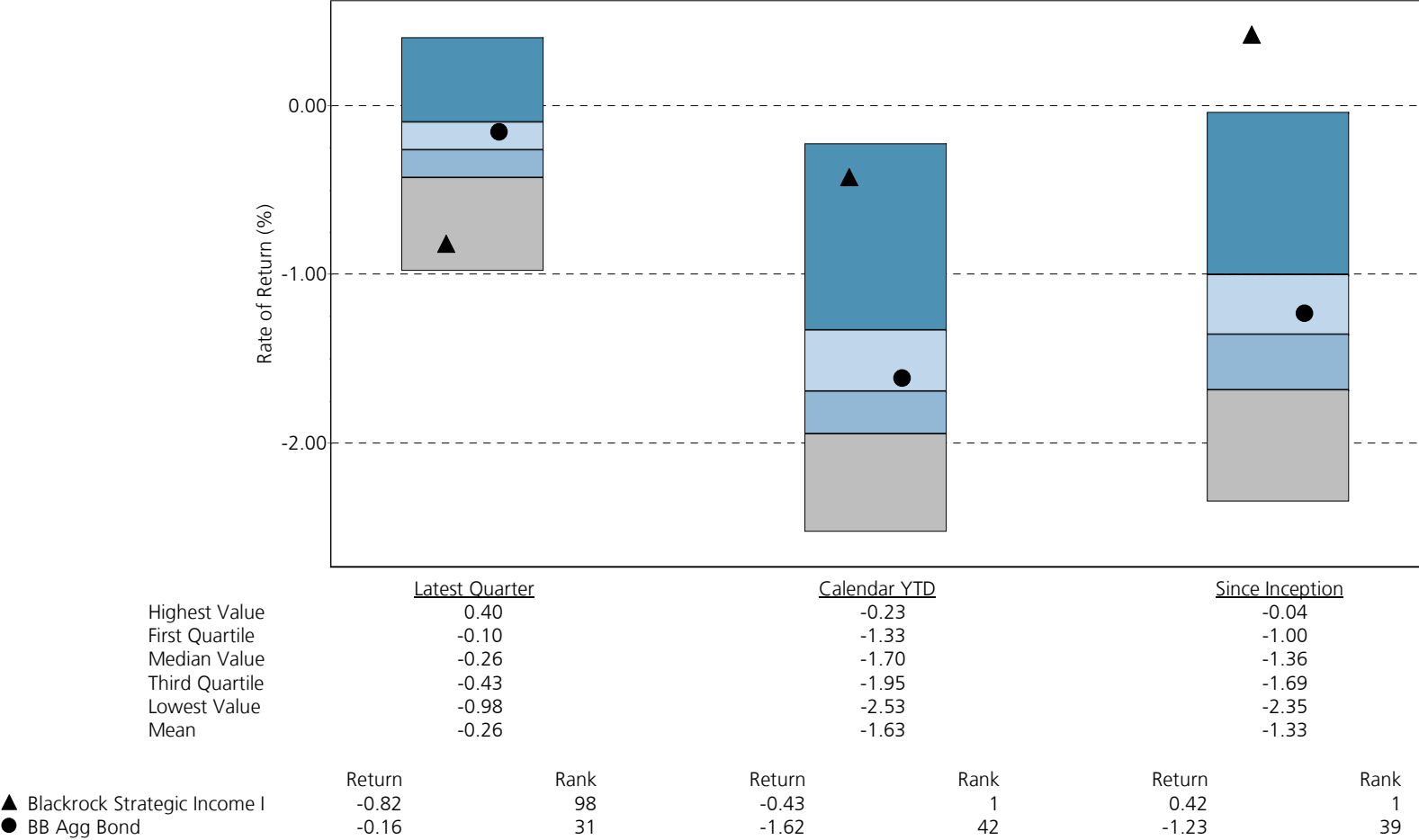
## **TOTAL FUND BENCHMARK**

9/30/2017 - Present

100% Bloomberg Barclays Aggregate Bond

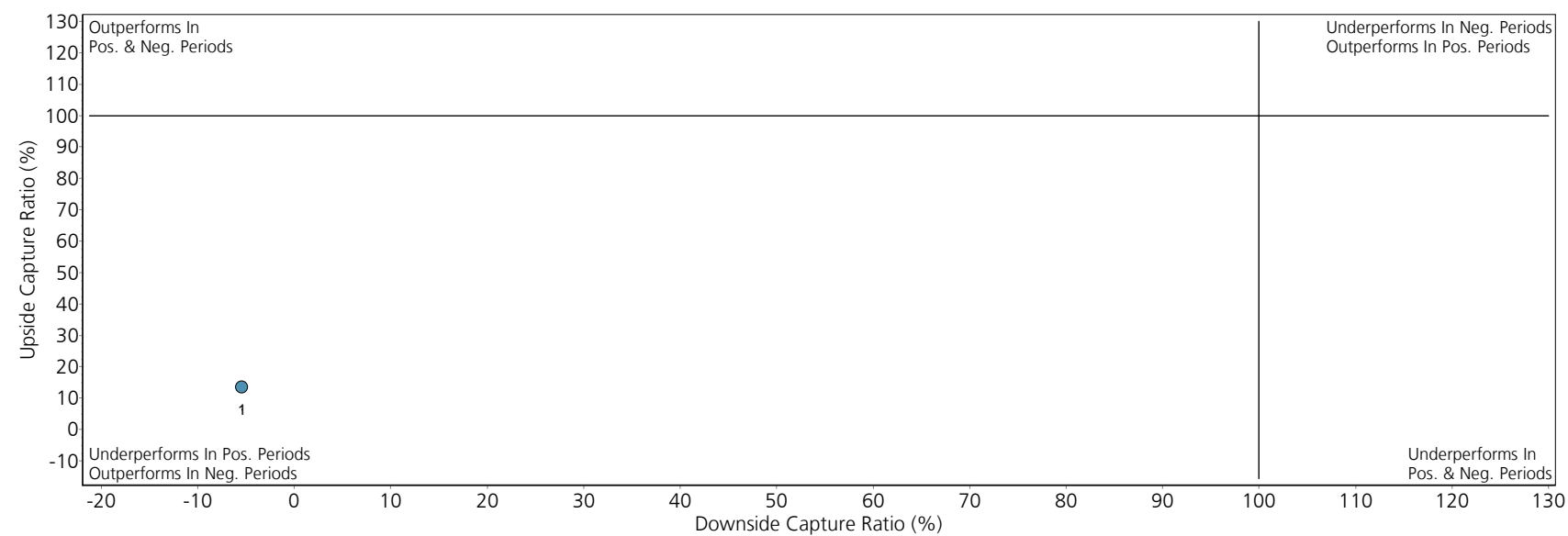
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**TOTAL FUND versus Intermediate Bond Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	4.00
Upside Capture ROR	0.25
BB Agg Bond	1.88
% Of Capture	13.39
Down Periods	5.00
Downside Capture ROR	0.17
BB Agg Bond	-3.06
% Of Capture	-5.42

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 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.

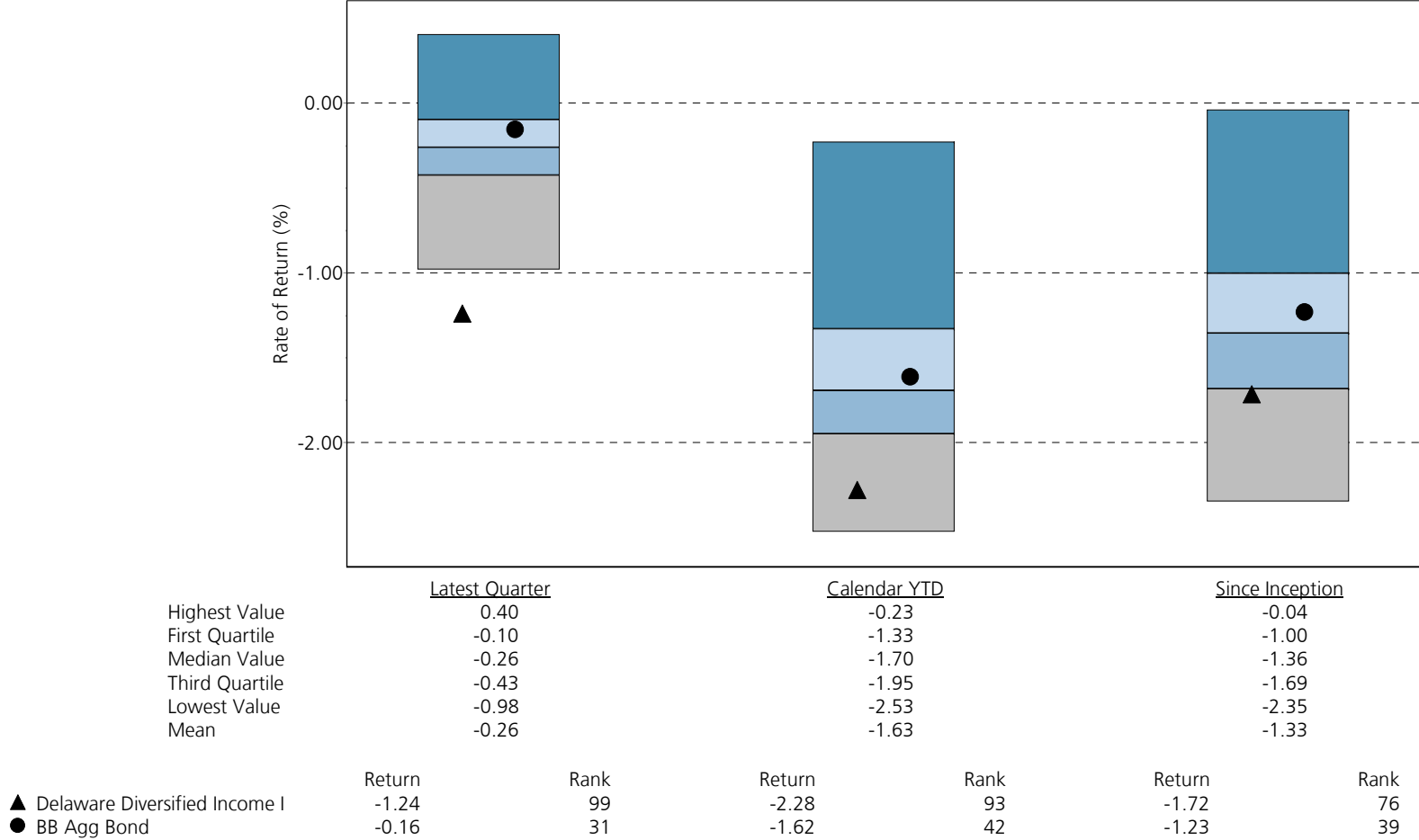
**TOTAL FUND BENCHMARK**

9/30/2017 - Present

100% Bloomberg Barclays Aggregate Bond

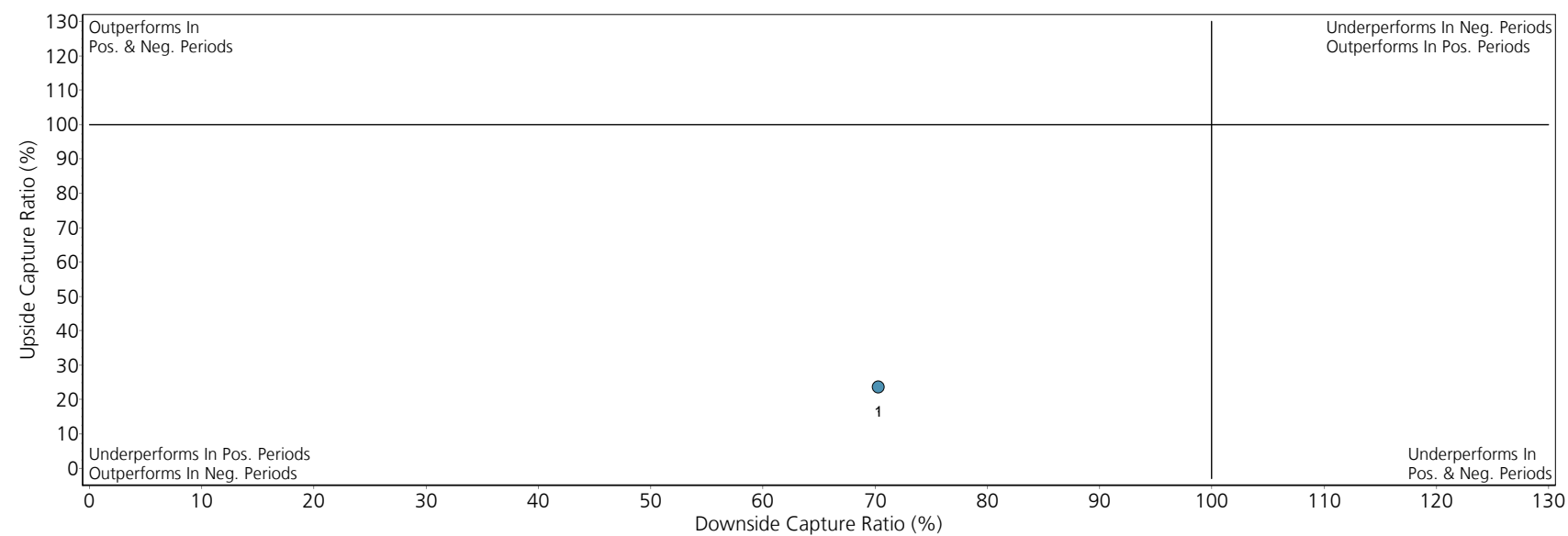
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**TOTAL FUND versus Intermediate Bond Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	4.00
Upside Capture ROR	0.44
BB Agg Bond	1.88
% Of Capture	23.62
Down Periods	5.00
Downside Capture ROR	-2.15
BB Agg Bond	-3.06
% Of Capture	70.33

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Eagle Capital Large Value

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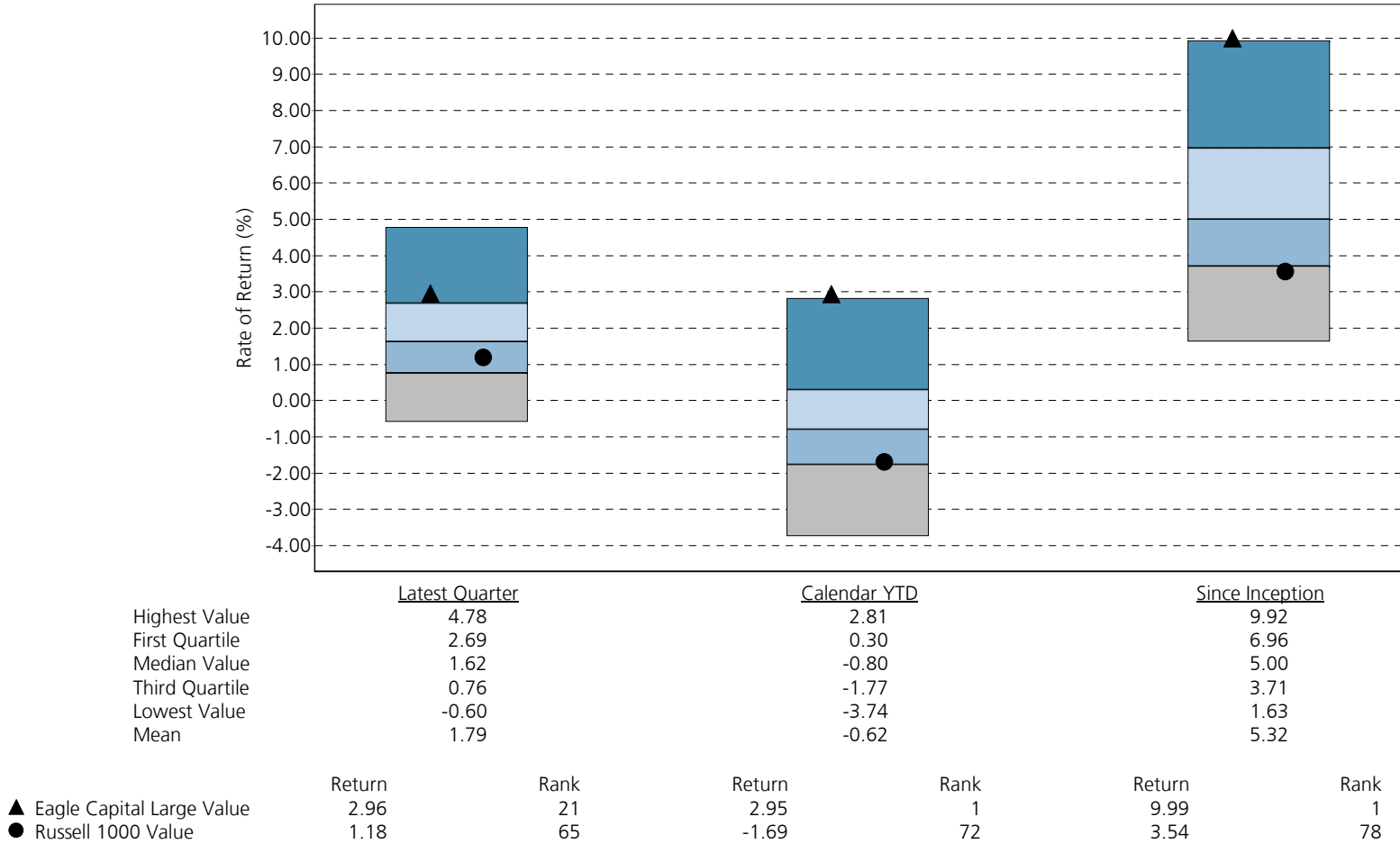
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

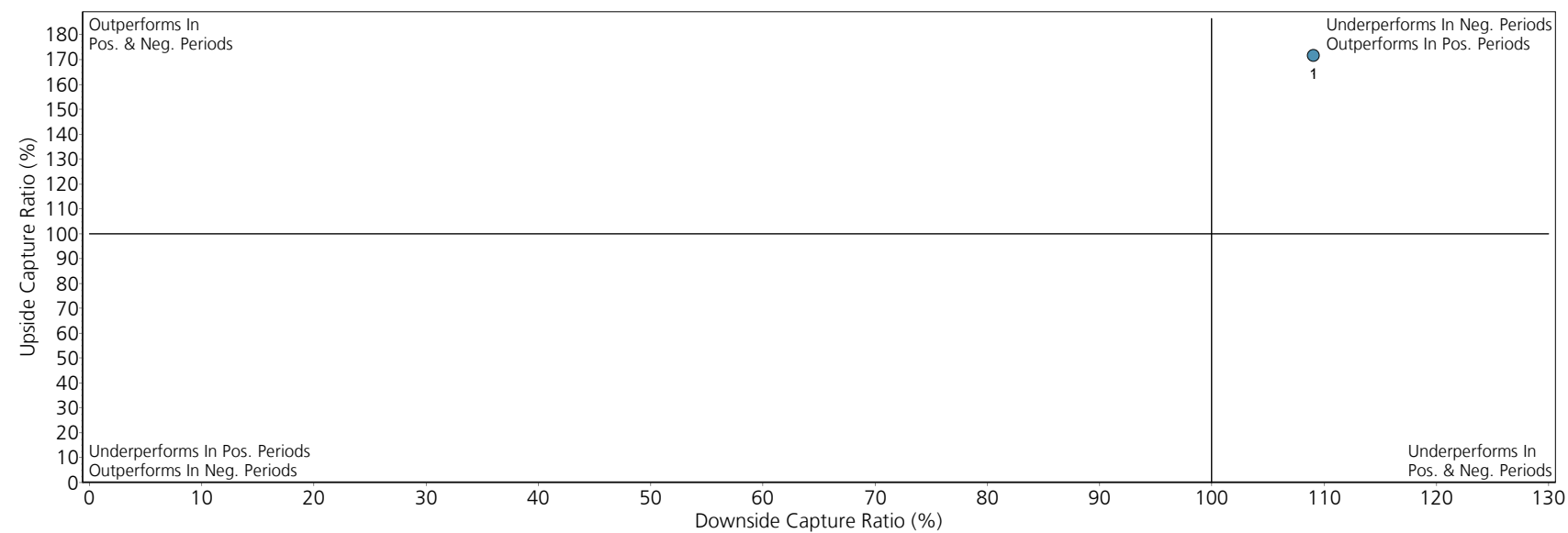
9/30/2017 - Present  
100% Russell 1000 Value

**TOTAL FUND versus Large Cap Value Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	7.00
Upside Capture ROR	18.32
Russell 1000 Value	10.68
% Of Capture	171.44
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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Vanguard 500 Index

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# Performance Analysis

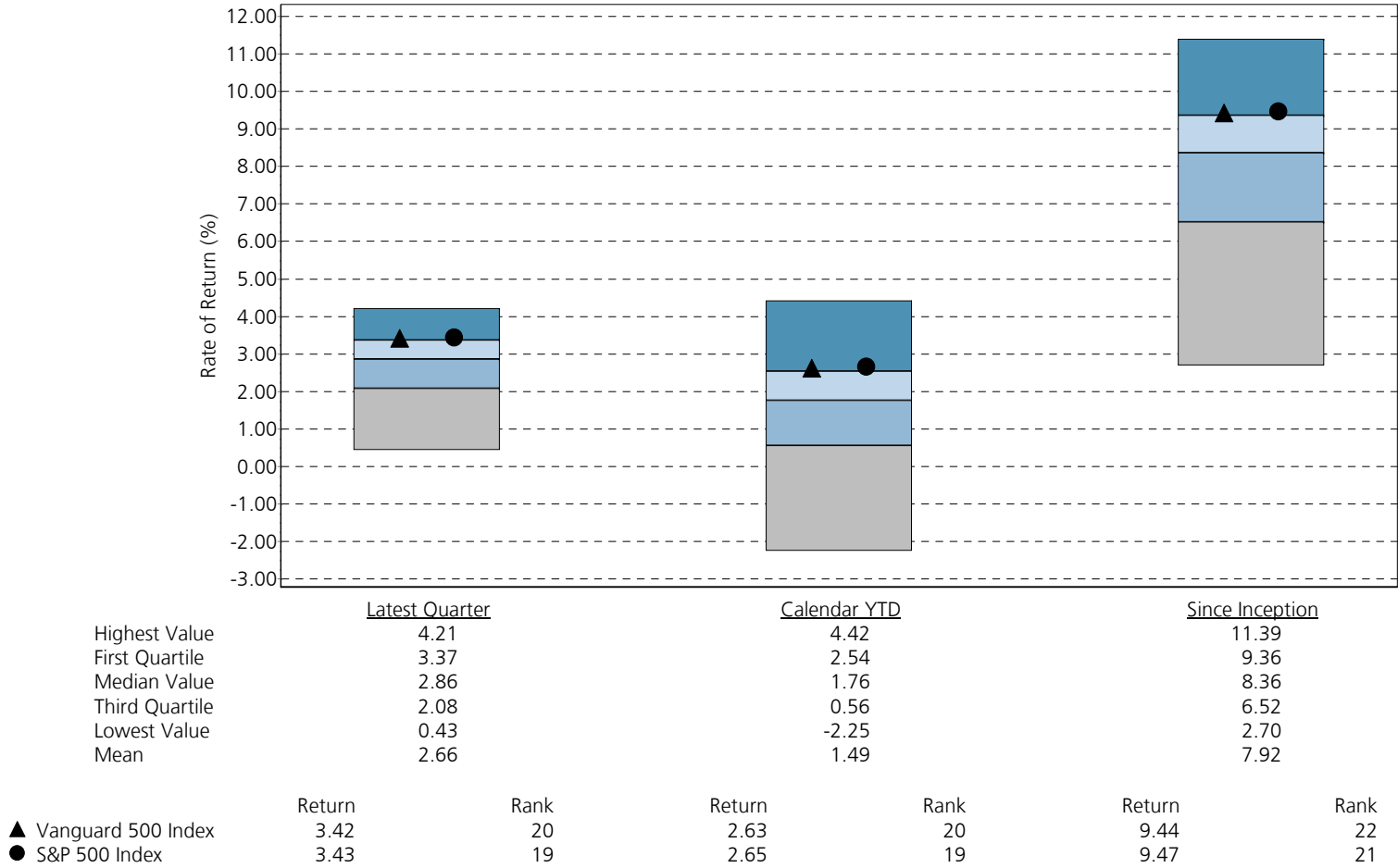
The primary index comparison for your portfolio and each of its asset classes is listed below.

**TOTAL FUND BENCHMARK**

9/30/2017 - Present  
100% S&P 500 Index

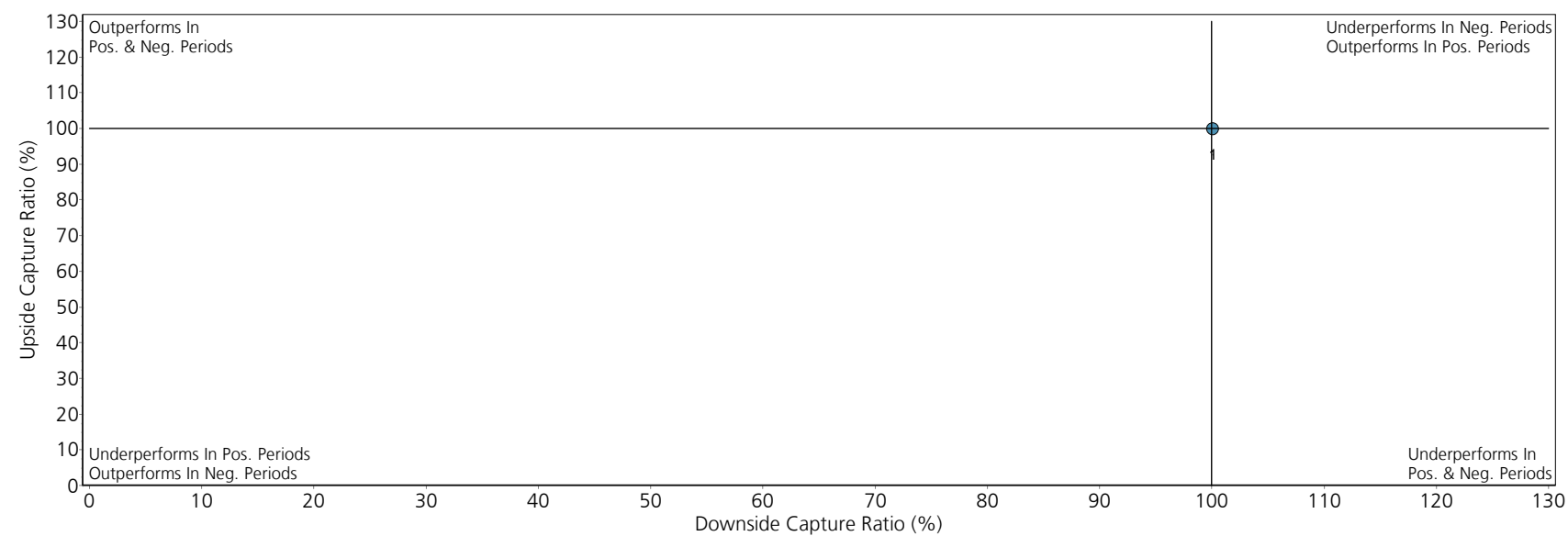
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**TOTAL FUND versus Large Blend Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	7.00
Upside Capture ROR	16.59
S&P 500 Index	16.62
% Of Capture	99.81
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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 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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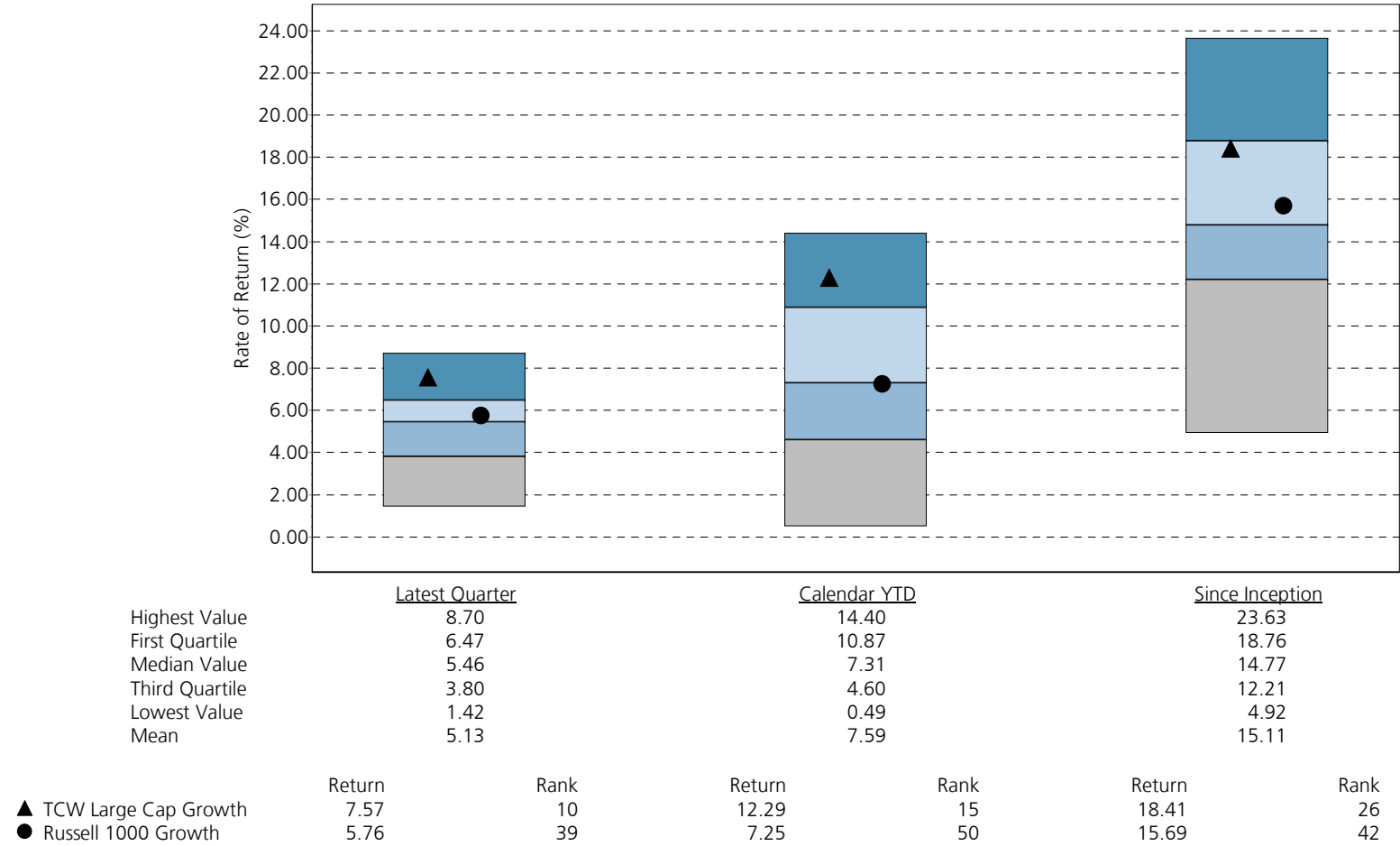
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

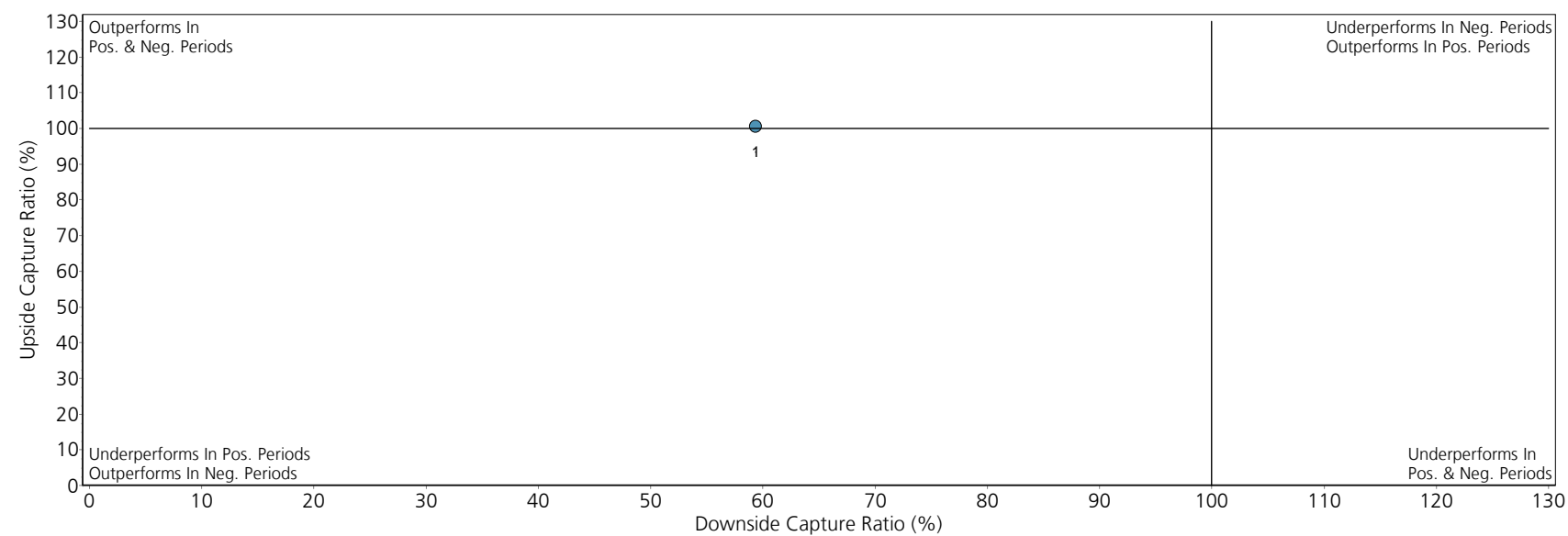
9/30/2017 - Present  
100% Russell 1000 Growth

**TOTAL FUND versus Large Cap Growth Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	7.00
Upside Capture ROR	22.25
Russell 1000 Growth	22.15
% Of Capture	100.46
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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Westfield Capital Large Growth

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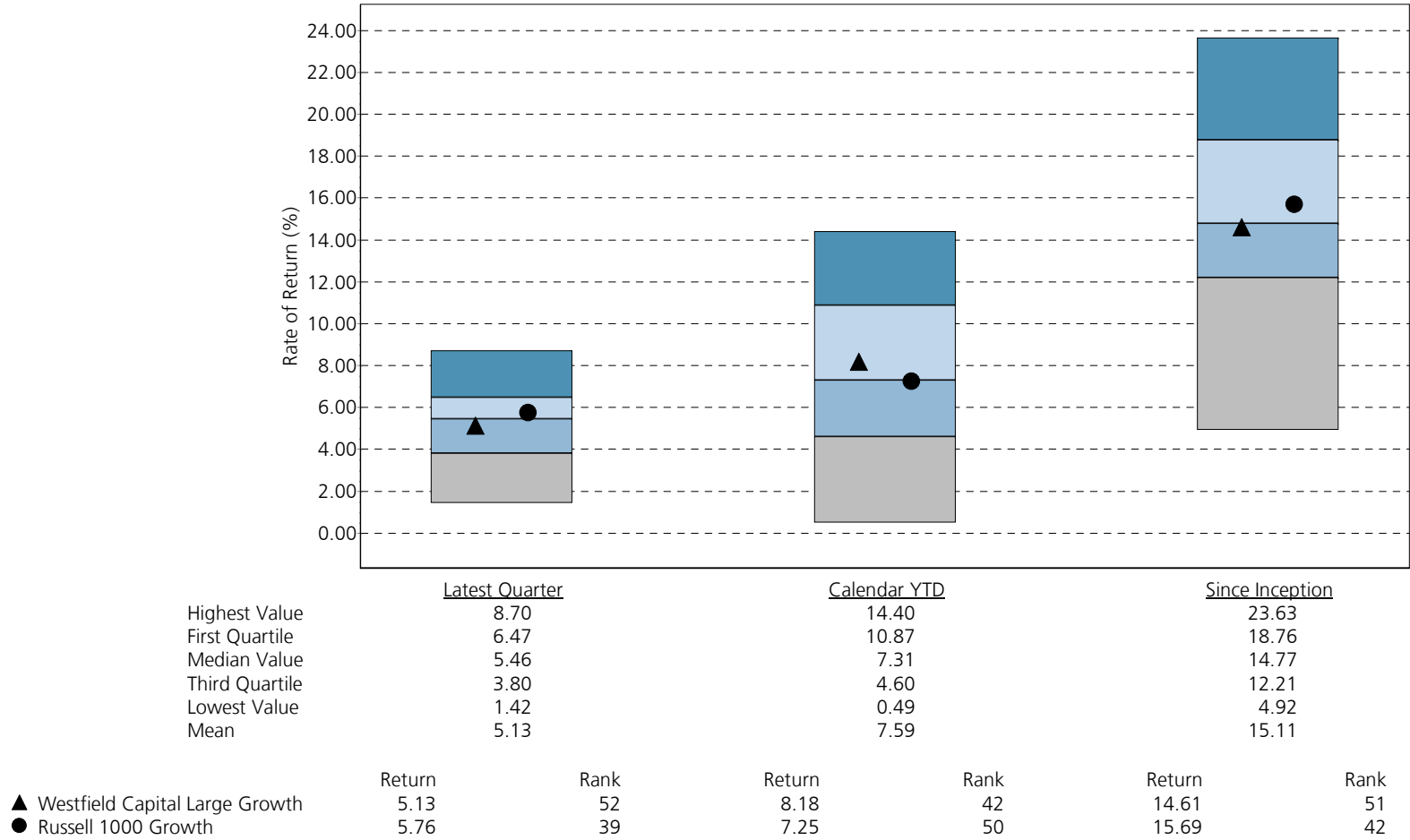
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

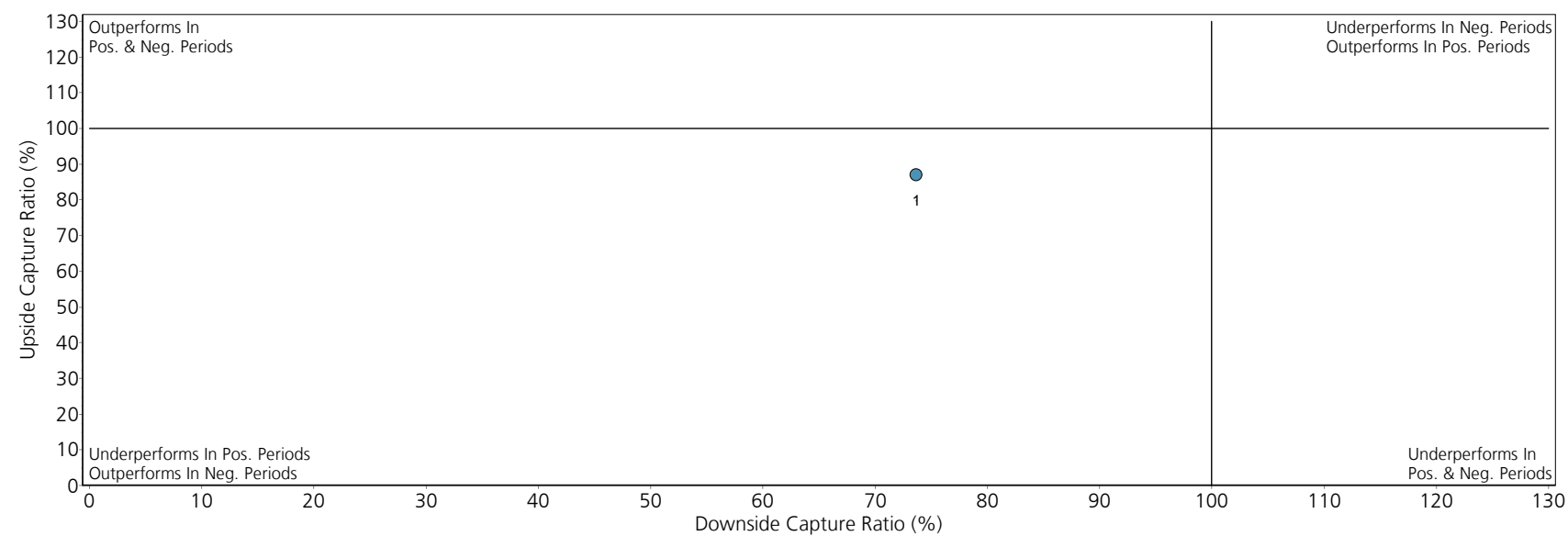
9/30/2017 - Present  
100% Russell 1000 Growth

**TOTAL FUND versus Large Cap Growth Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	7.00
Upside Capture ROR	19.26
Russell 1000 Growth	22.15
% Of Capture	86.94
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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Vanguard Mid-Cap Index Fund Admiral

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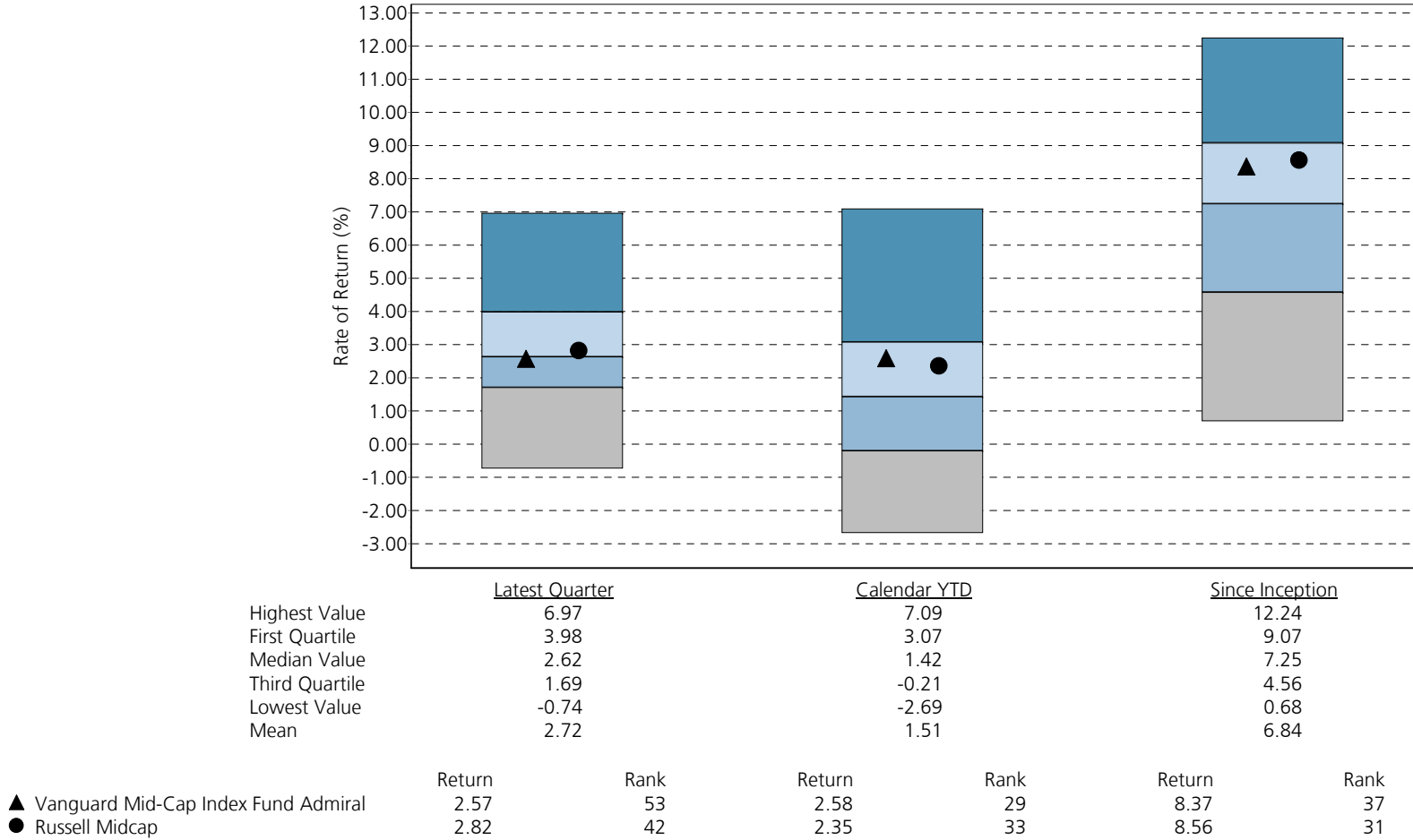
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

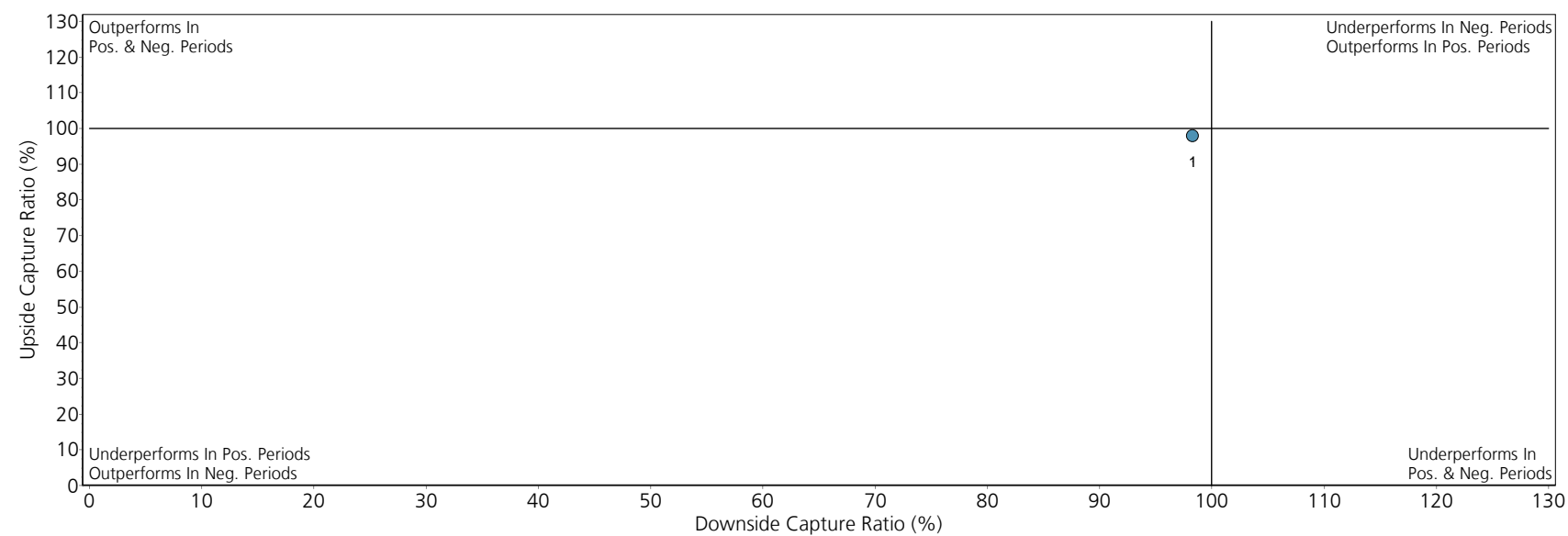
9/30/2017 - Present  
100% Russell Midcap

**TOTAL FUND versus Mid Cap Blend Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	7.00
Upside Capture ROR	13.12
Russell Midcap	13.40
% Of Capture	97.90
Down Periods	2.00
Downside Capture ROR	-4.20
Russell Midcap	-4.28
% Of Capture	98.27

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Vaughan Nelson

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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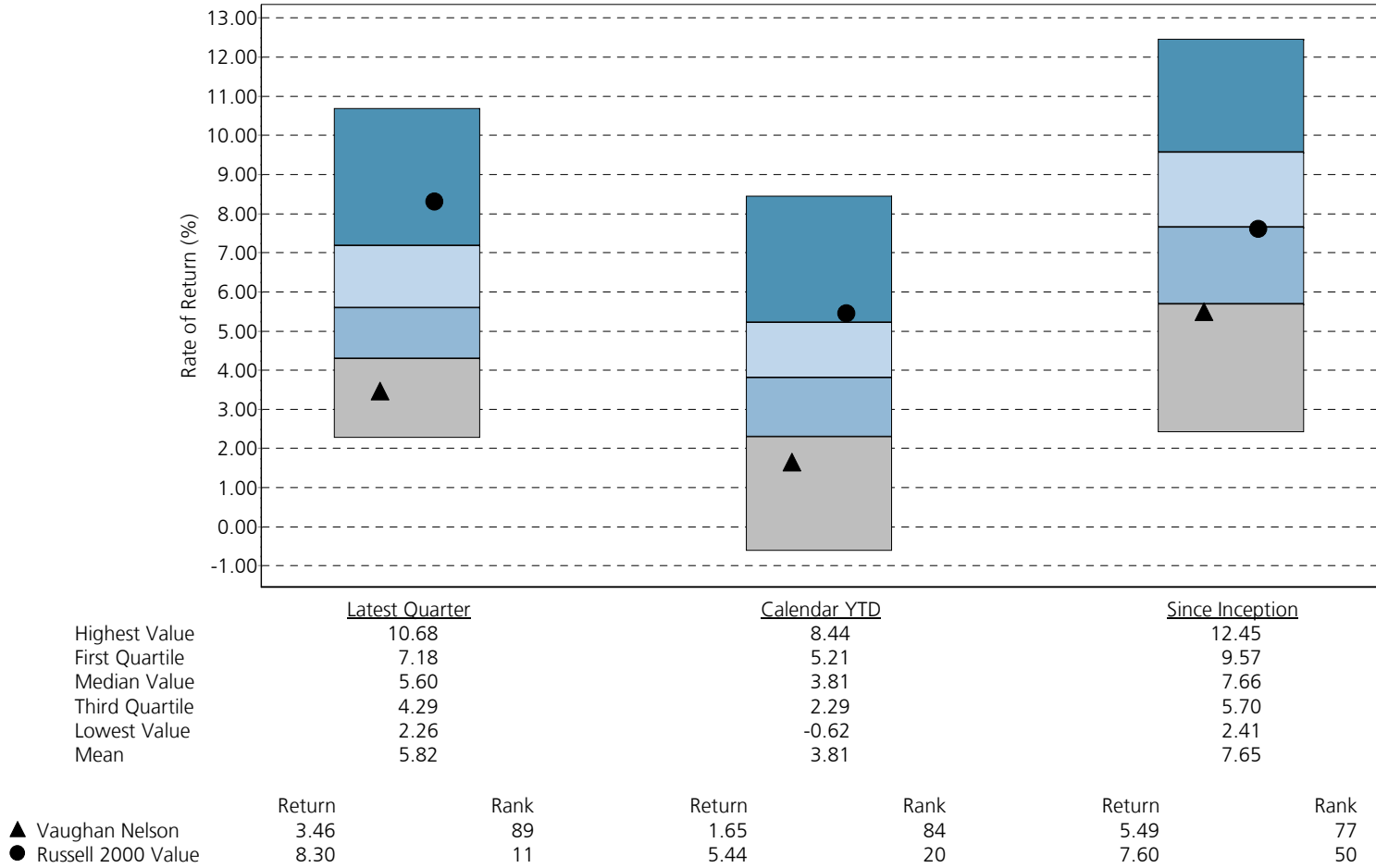
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

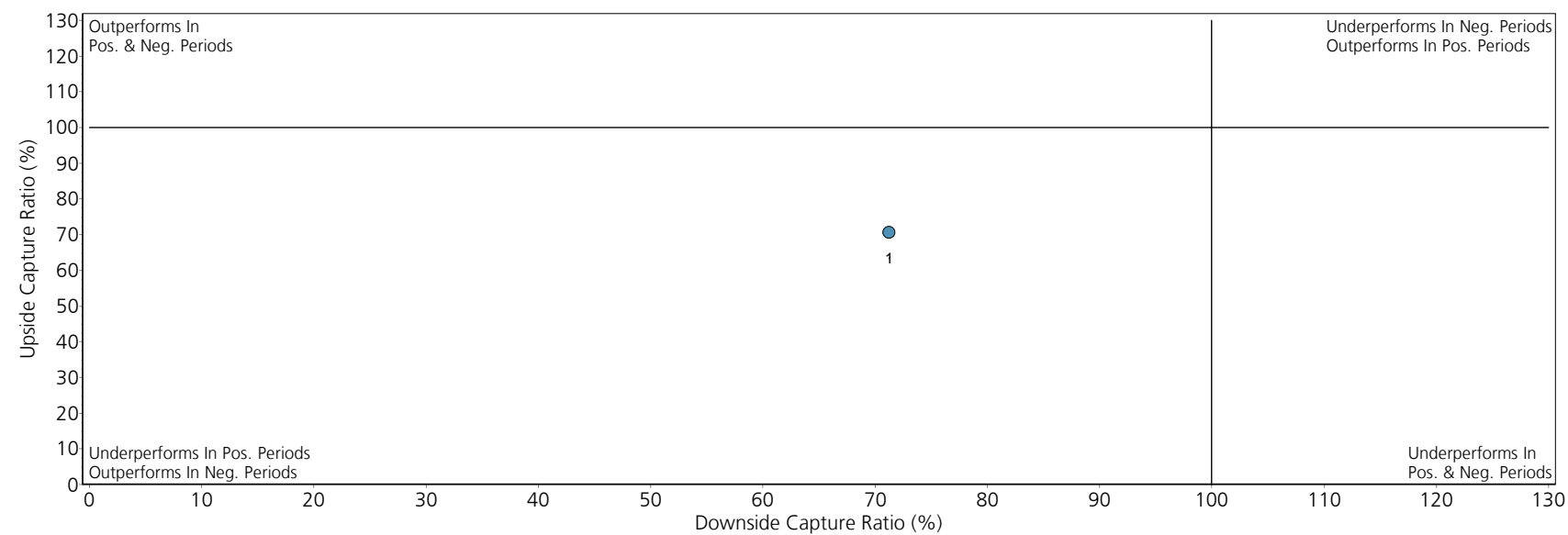
9/30/2017 - Present  
100% Russell 2000 Value

**TOTAL FUND versus Small Cap Value Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	7.00
Upside Capture ROR	10.13
Russell 2000 Value	14.36
% Of Capture	70.54
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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Eagle Small Cap Growth Fund

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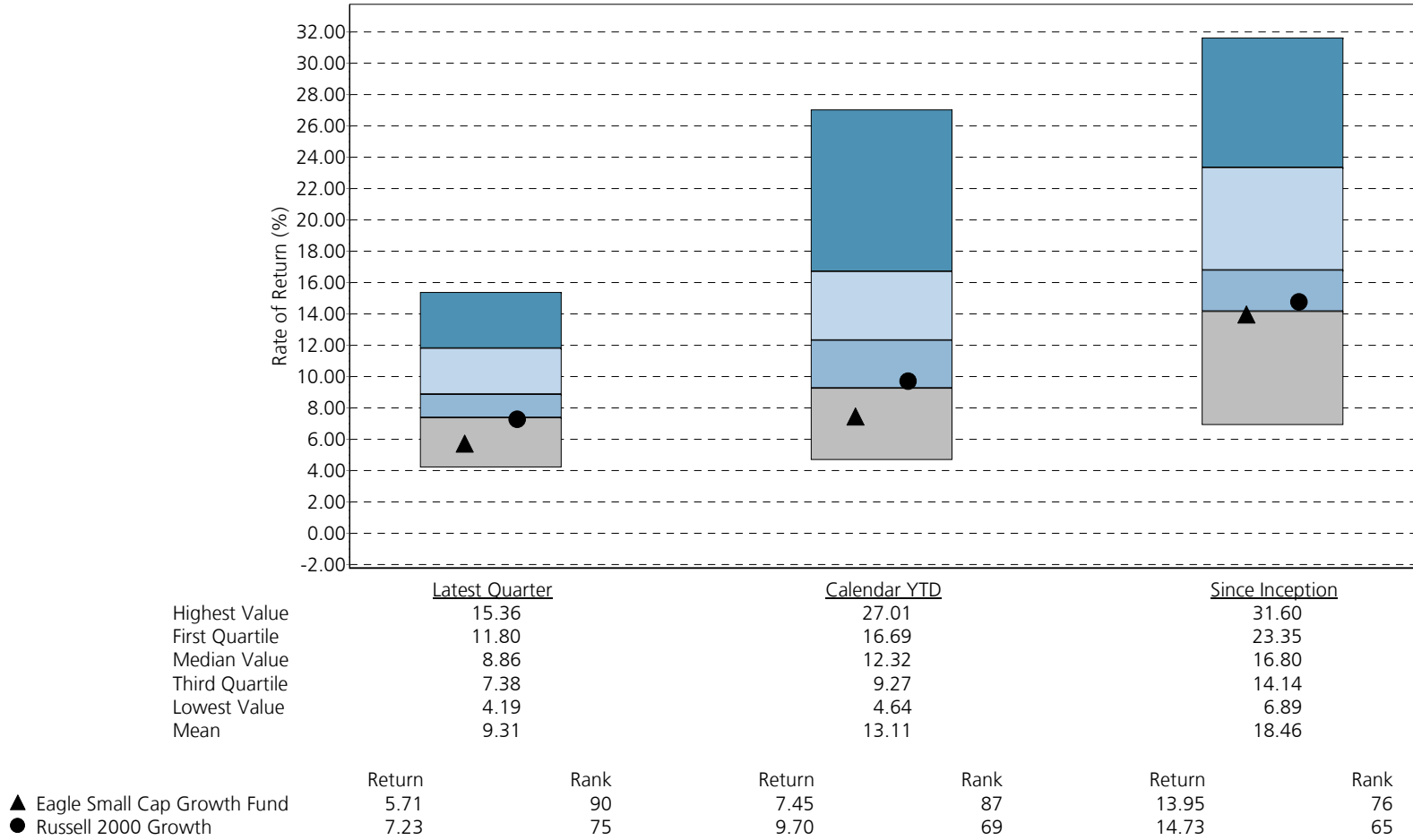
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

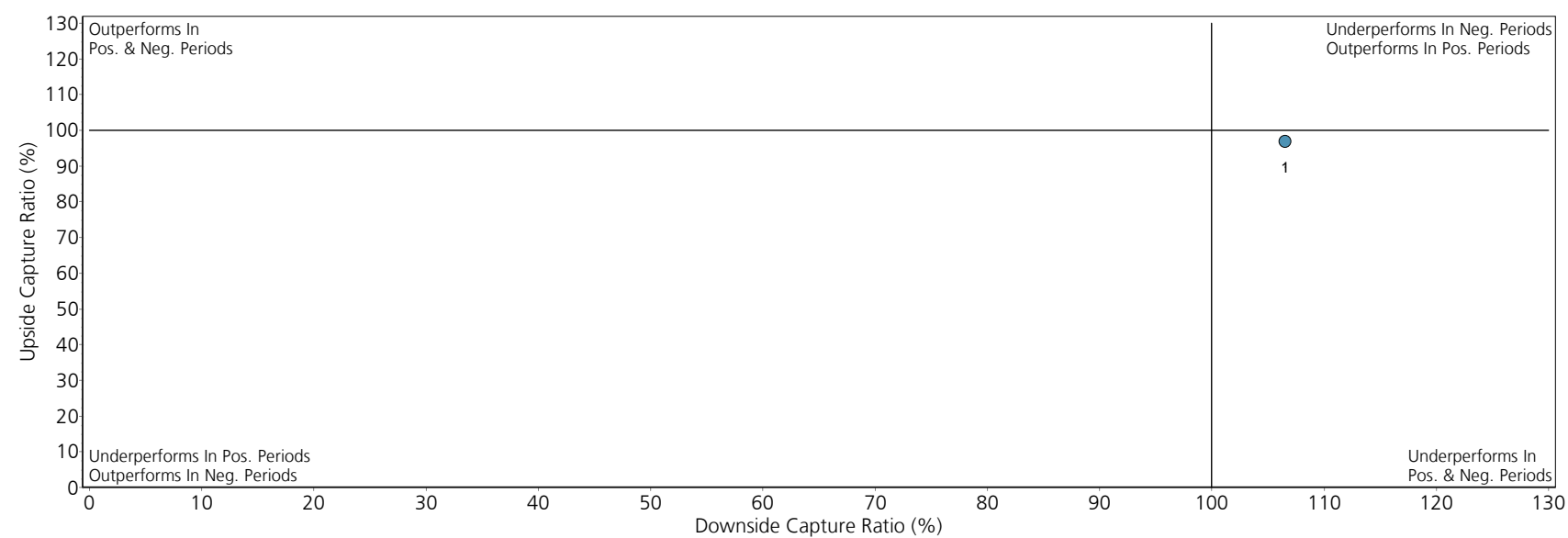
9/30/2017 - Present  
100% Russell 2000 Growth

**TOTAL FUND versus Small Cap Growth Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	8.00
Upside Capture ROR	17.52
Russell 2000 Growth	18.09
% Of Capture	96.84
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 June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Vanguard Total International Stock Fund

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# Performance Analysis

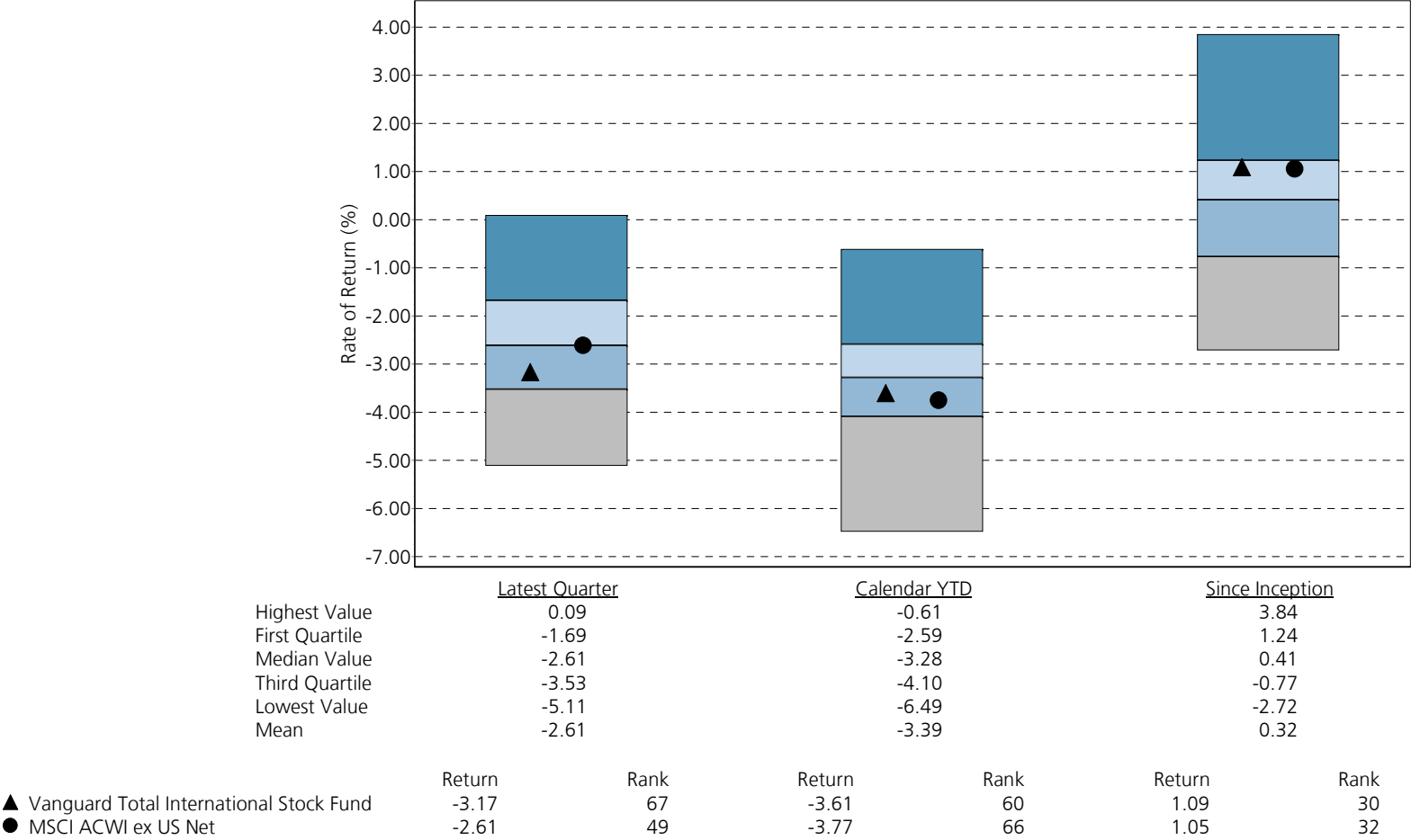
The primary index comparison for your portfolio and each of its asset classes is listed below.

**TOTAL FUND BENCHMARK**

9/30/2017 - Present  
100% MSCI ACWI ex US Net

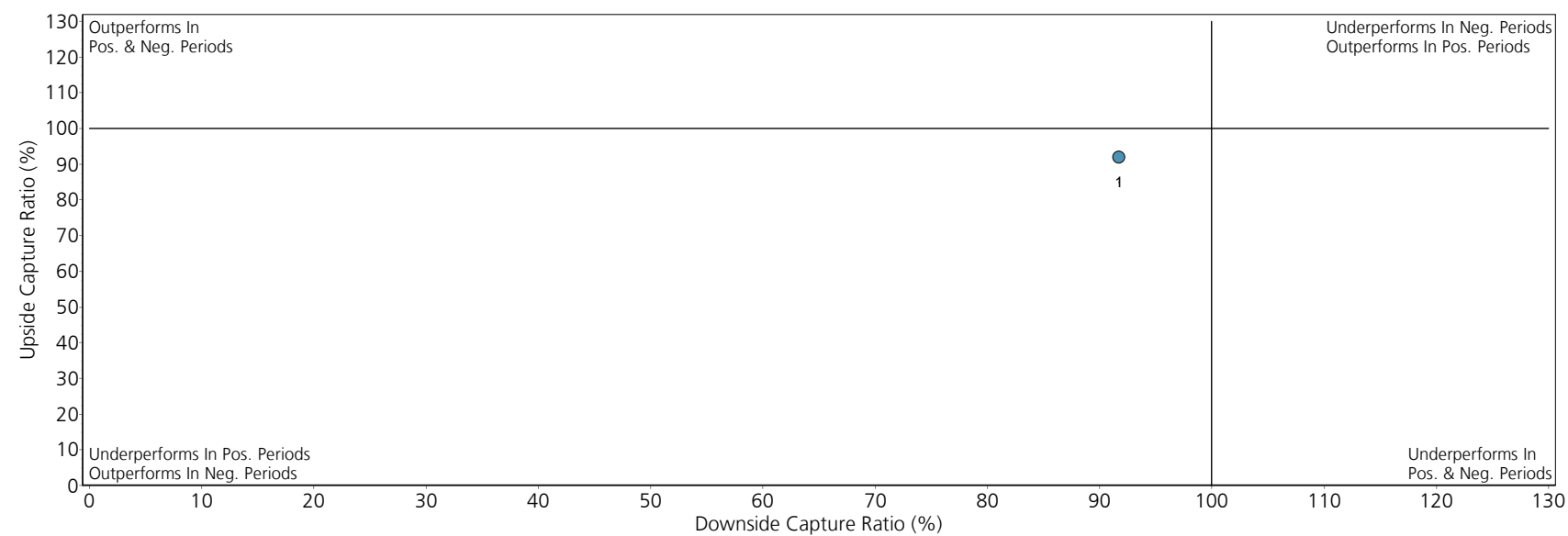
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**TOTAL FUND versus Foreign Large Blend Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	5.00
Upside Capture ROR	11.61
MSCI ACWI ex US Net	12.63
% Of Capture	91.94
Down Periods	4.00
Downside Capture ROR	-9.43
MSCI ACWI ex US Net	-10.28
% Of Capture	91.73

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Dodge & Cox International Stock Fund

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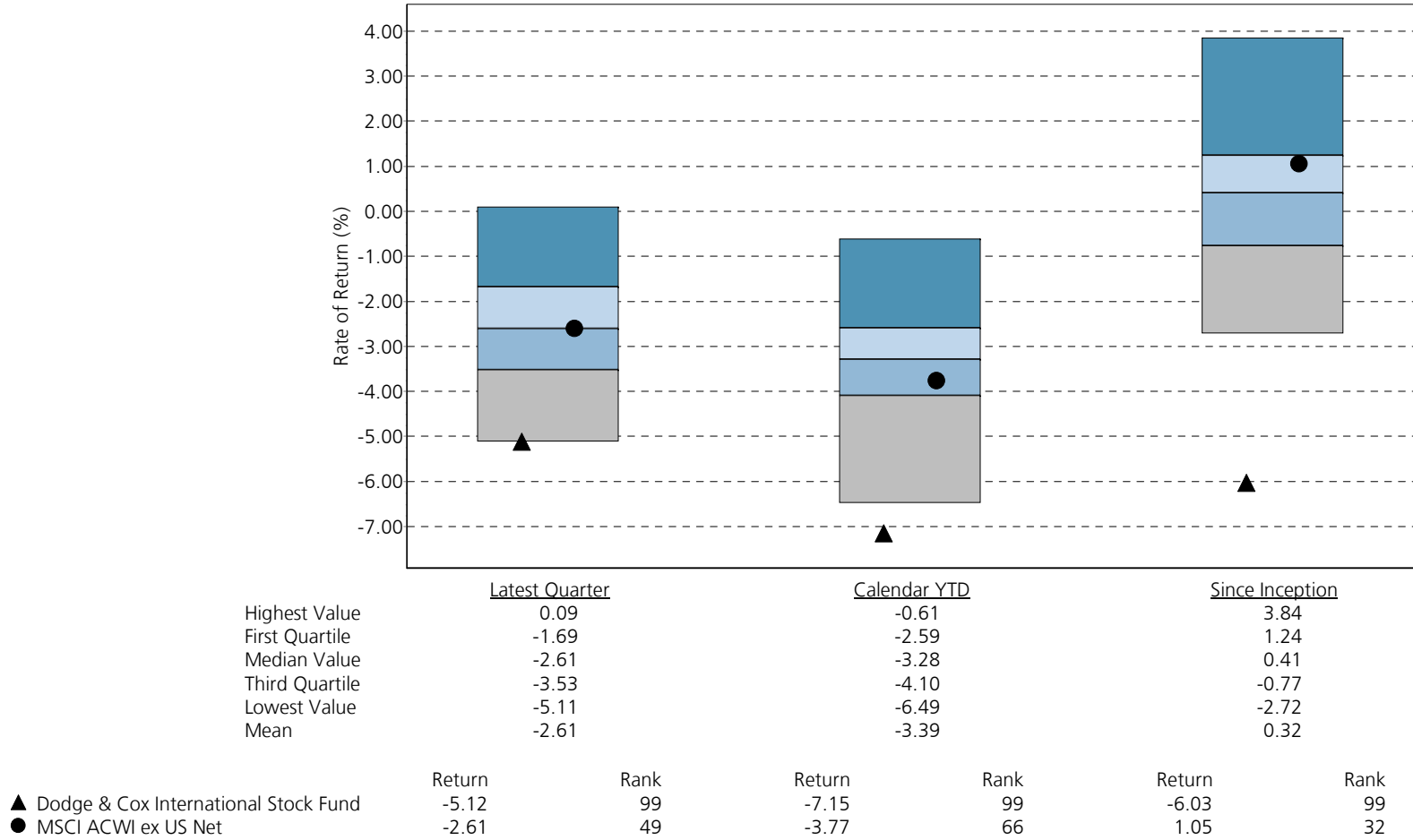
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

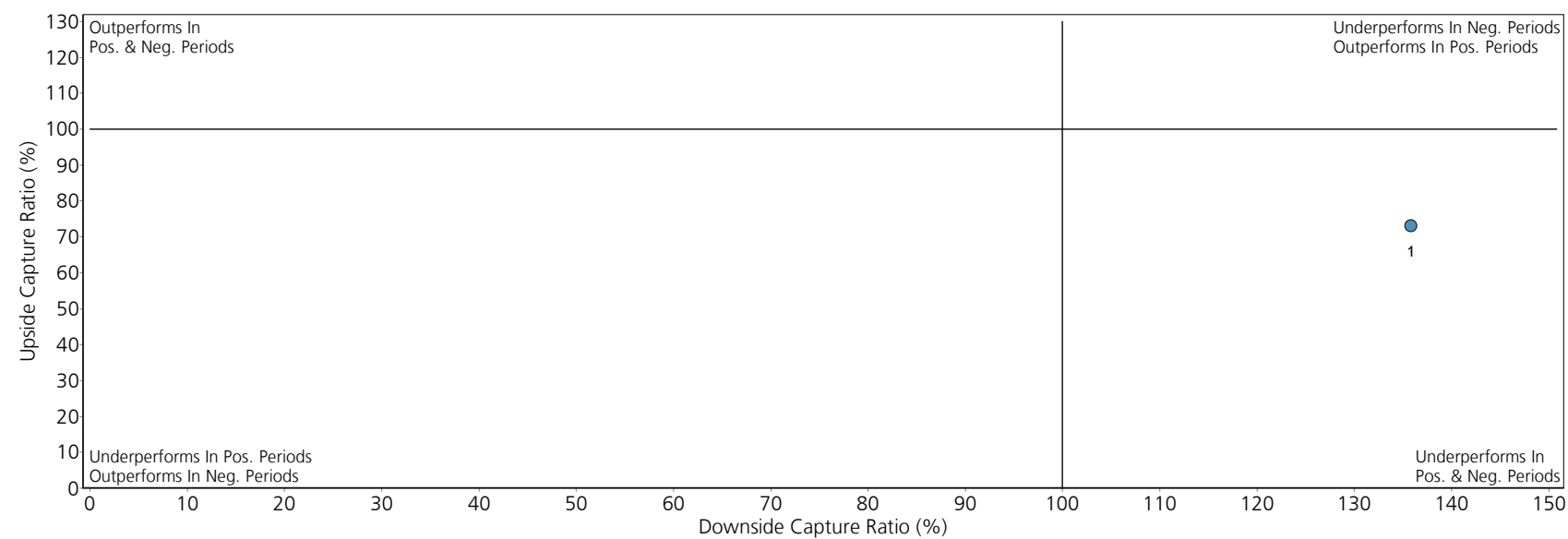
9/30/2017 - Present  
100% MSCI ACWI ex US Net

**TOTAL FUND versus Foreign Large Blend Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	5.00
Upside Capture ROR	9.22
MSCI ACWI ex US Net	12.63
% Of Capture	73.01
Down Periods	4.00
Downside Capture ROR	-13.96
MSCI ACWI ex US Net	-10.28
% Of Capture	135.80

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Oppenheimer International Growth

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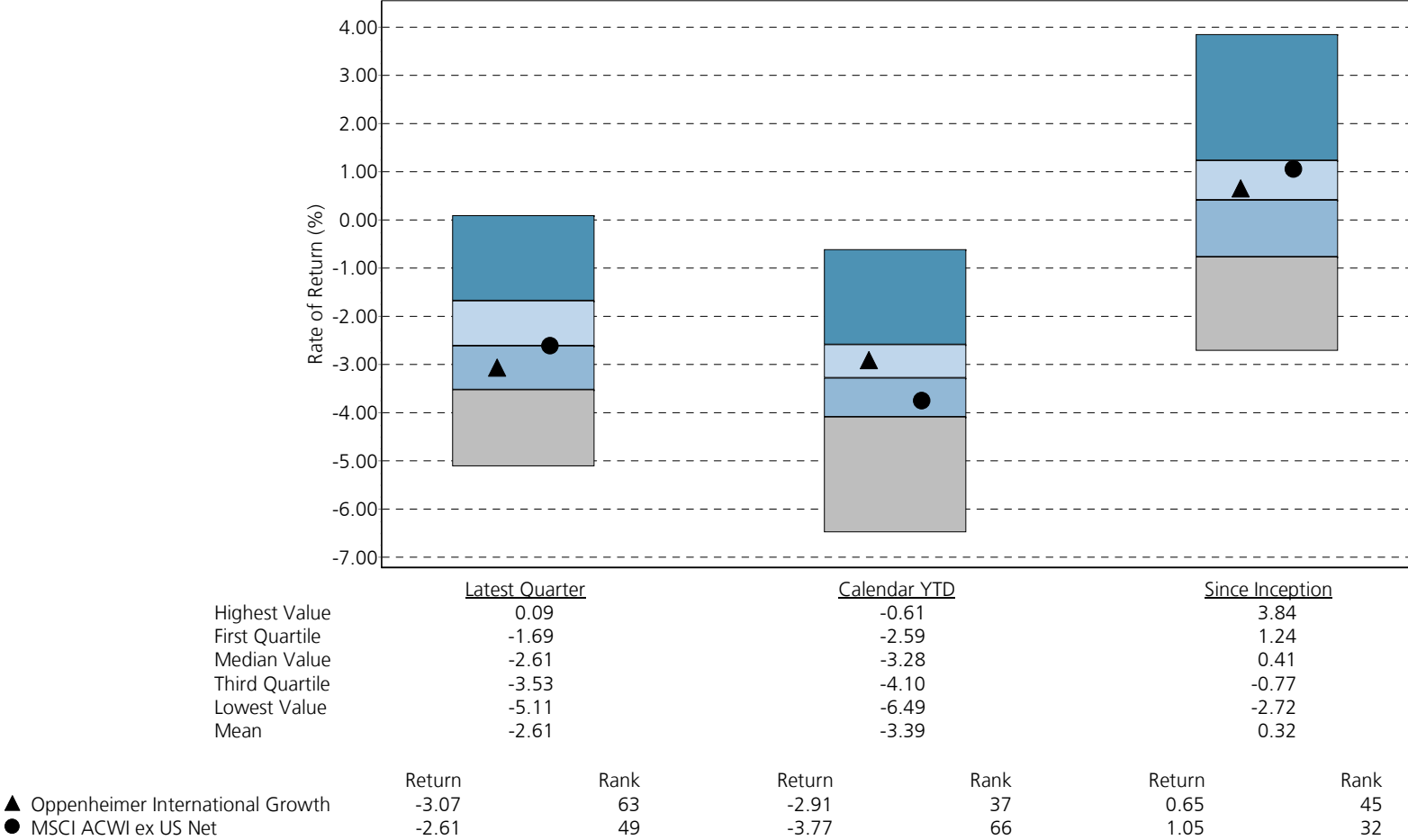
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

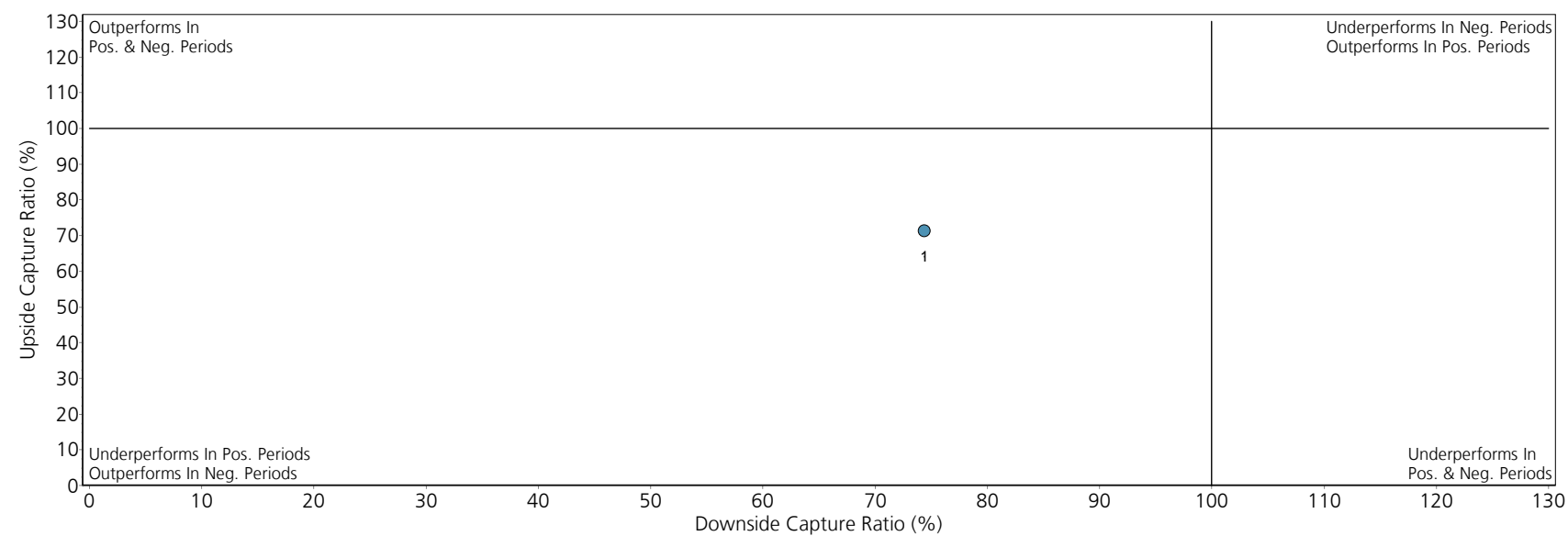
9/30/2017 - Present  
100% MSCI ACWI ex US Net

**TOTAL FUND versus Foreign Large Blend Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	5.00
Upside Capture ROR	8.99
MSCI ACWI ex US Net	12.63
% Of Capture	71.18
Down Periods	4.00
Downside Capture ROR	-7.65
MSCI ACWI ex US Net	-10.28
% Of Capture	74.43

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Loomis Sayles Global Equity and Income Fund

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# Performance Analysis

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

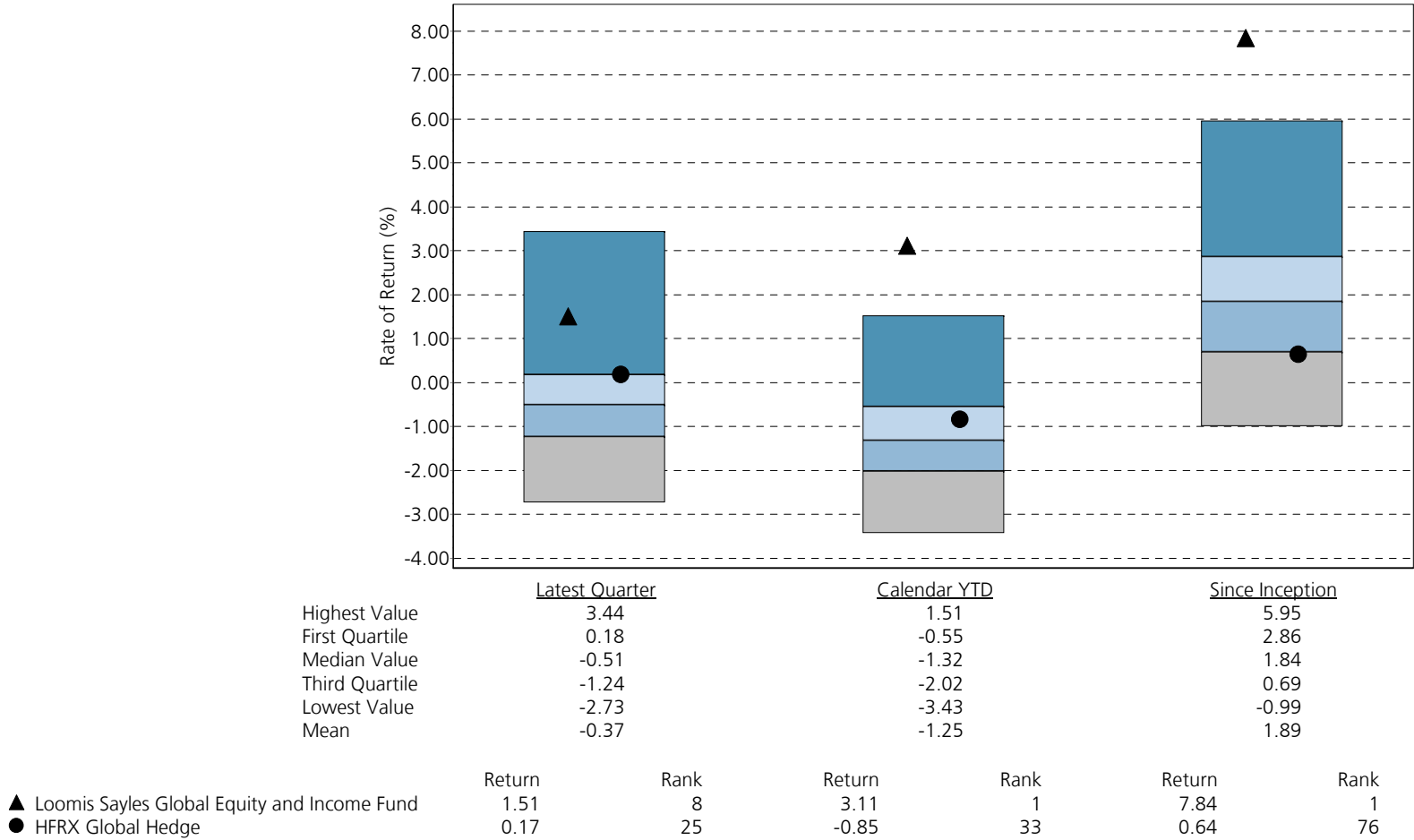
**TOTAL FUND BENCHMARK**

9/30/2017 - Present

100% HFRX Global Hedge Fund Index

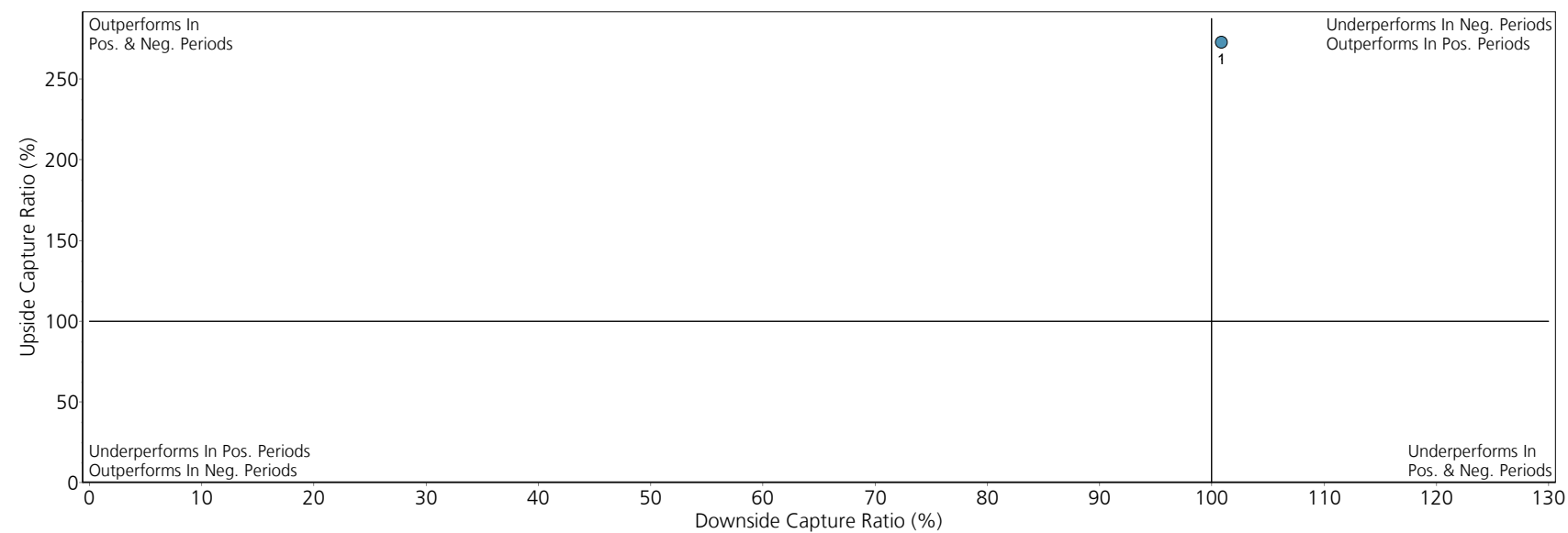
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**TOTAL FUND versus World Allocation Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	6.00
Upside Capture ROR	11.85
HFRX Global Hedge	4.35
% Of Capture	272.56
Down Periods	3.00
Downside Capture ROR	-3.59
HFRX Global Hedge	-3.56
% Of Capture	100.91

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# First Eagle Global Funds Class I

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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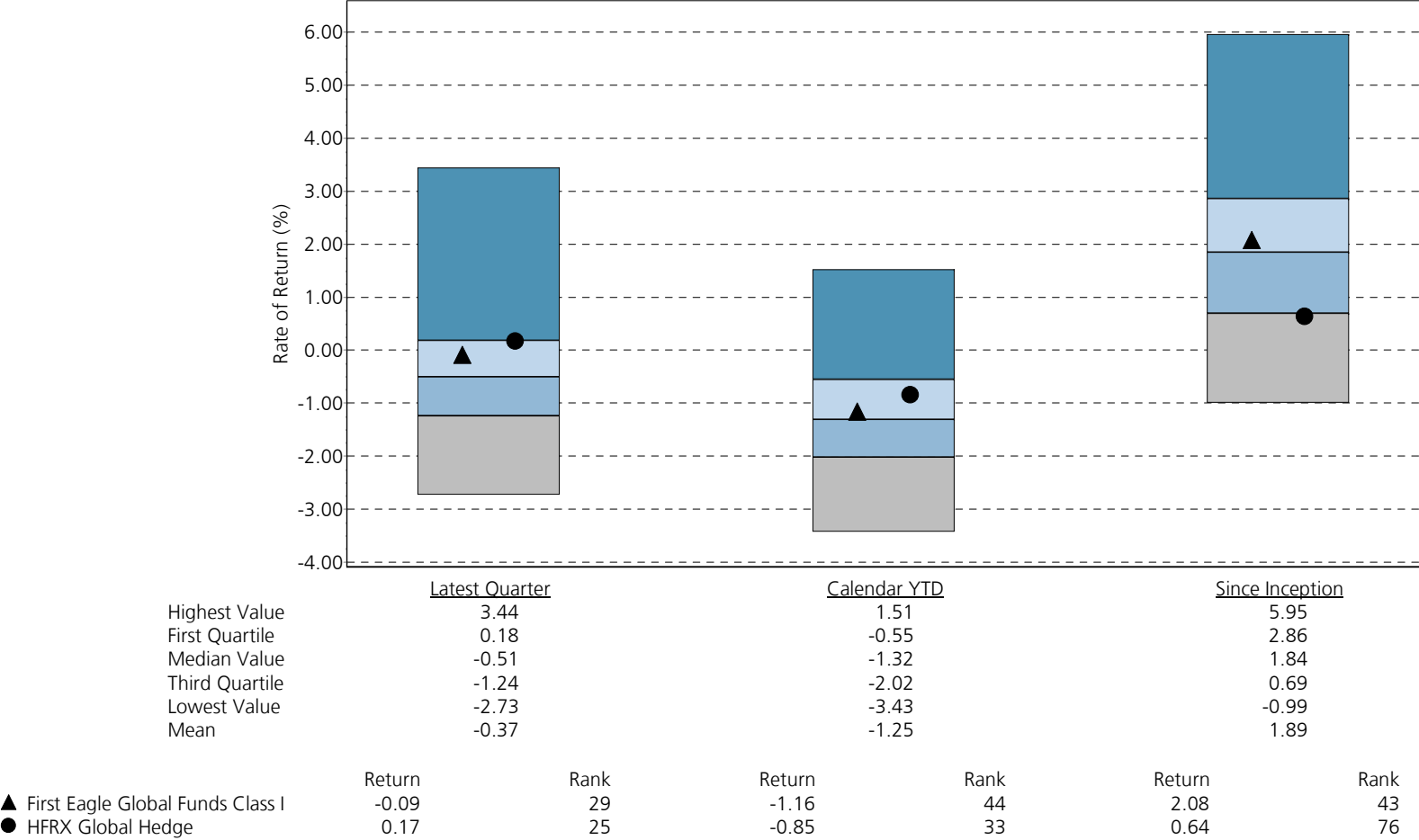
# Performance Analysis

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

**TOTAL FUND BENCHMARK**

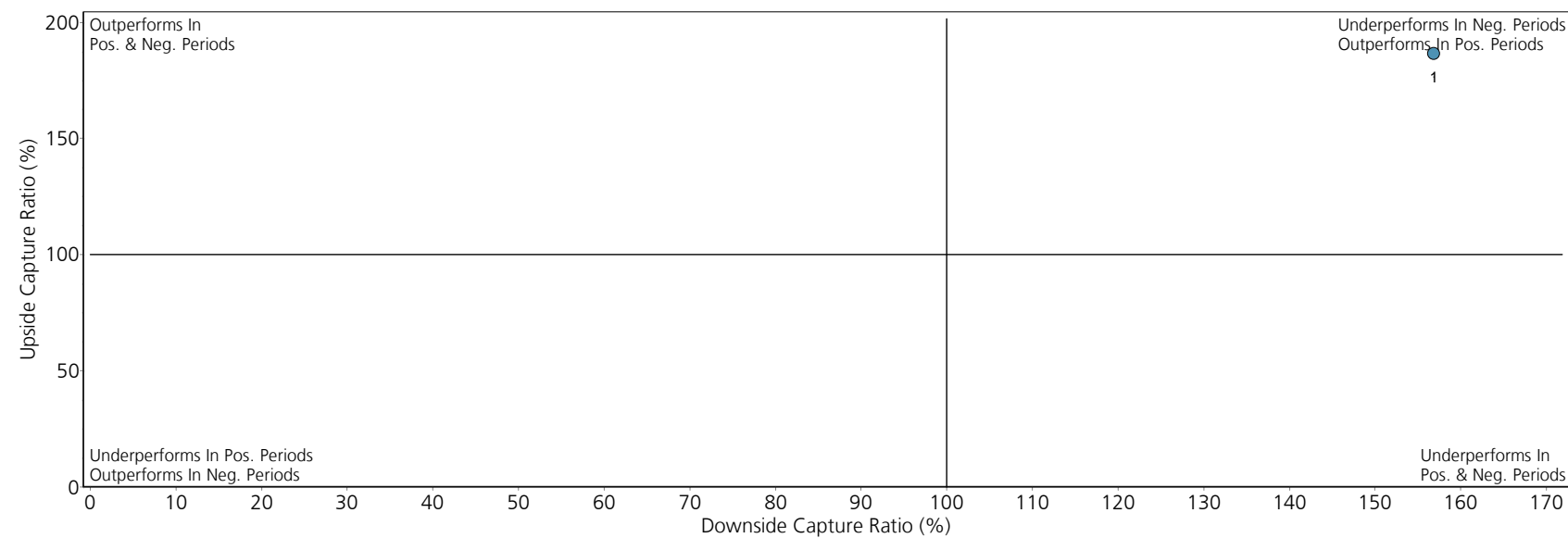
9/30/2017 - Present  
100% HFRX Global Hedge Fund Index

**TOTAL FUND versus World Allocation Managers**  
**September 30, 2017 Through June 30, 2018**



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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	6.00
Upside Capture ROR	8.11
HFRX Global Hedge	4.35
% Of Capture	186.52
Down Periods	3.00
Downside Capture ROR	-5.58
HFRX Global Hedge	-3.56
% Of Capture	156.85

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**

**Cobb OPEB**

July 20, 2018

**Prepared by:**

Earle Dodd, Van Price, Allen Wright

# Blackrock Global Allocation Fund

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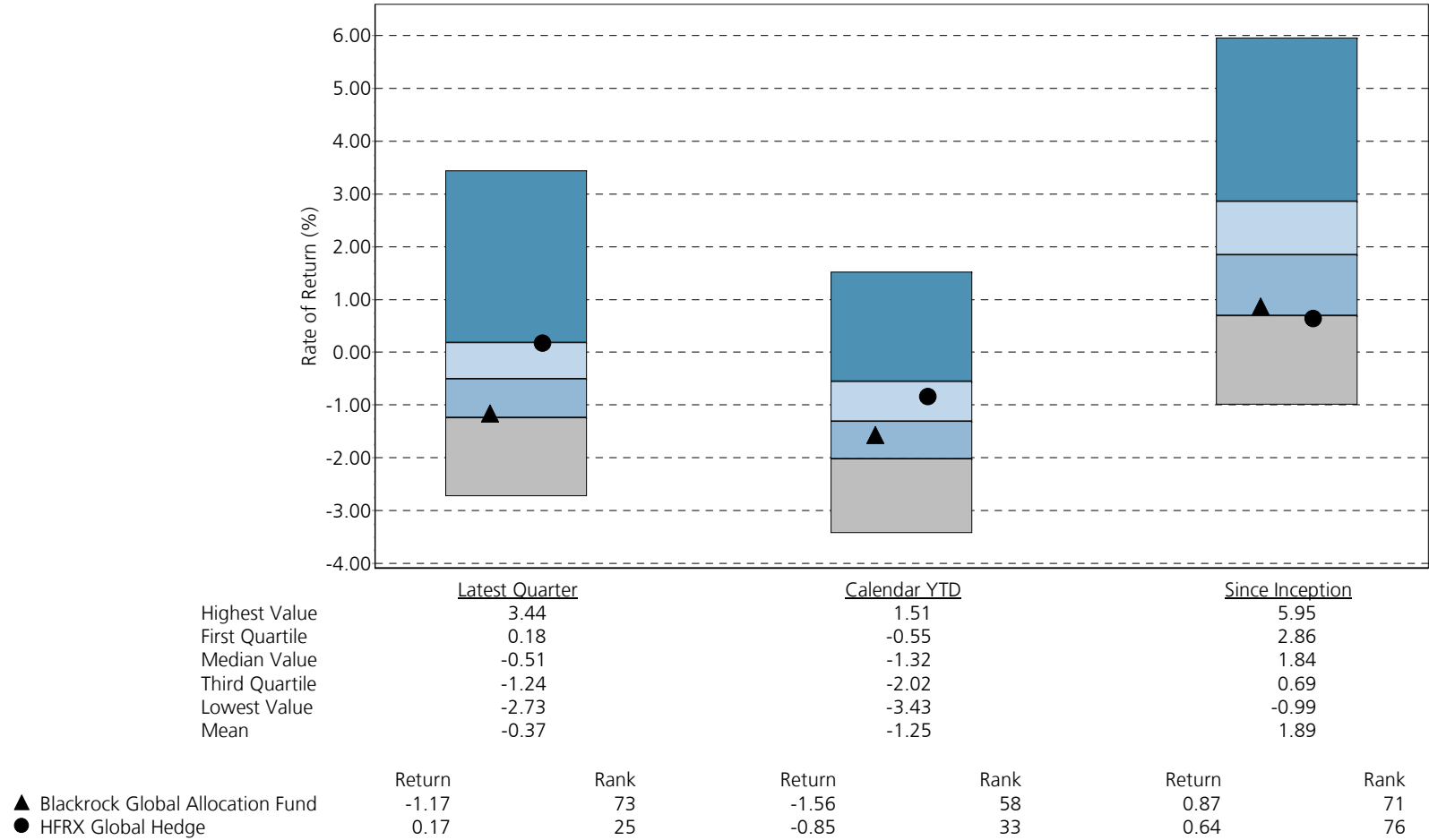
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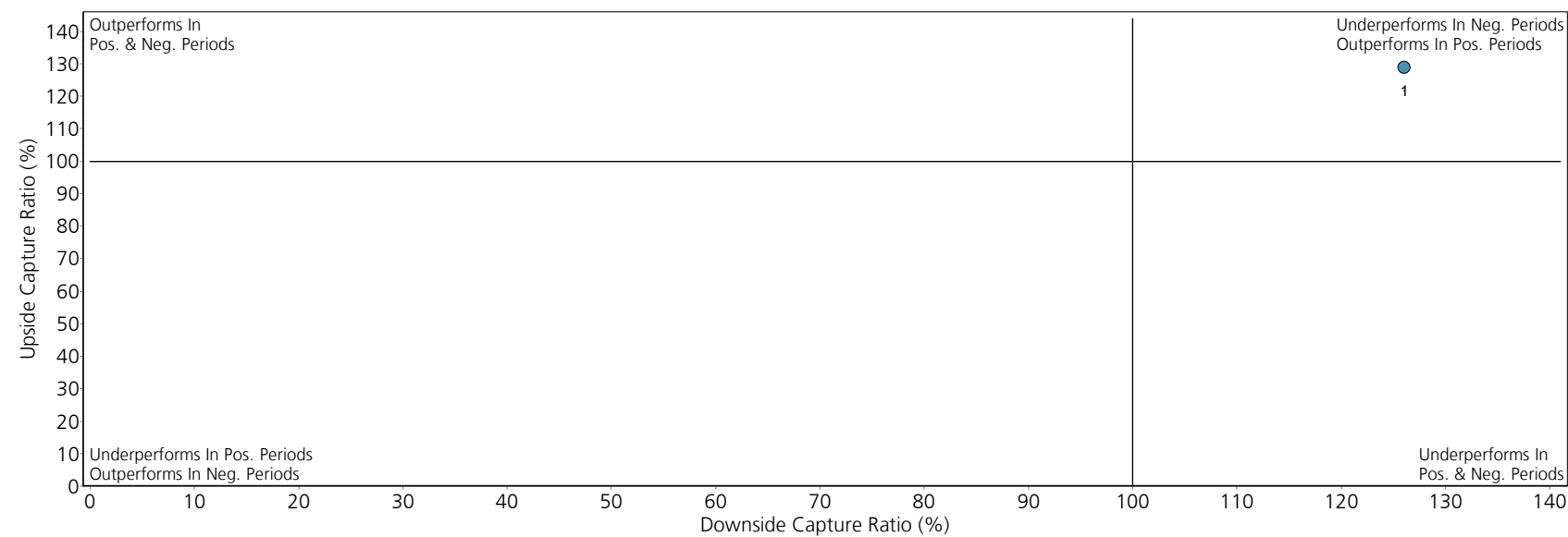
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Capture Ratio  
September 30, 2017 Through December 31, 2017



	1
	9/2017-6/2018
Up Periods	6.00
Upside Capture ROR	5.60
HFRX Global Hedge	4.35
% Of Capture	128.81
Down Periods	3.00
Downside Capture ROR	-4.48
HFRX Global Hedge	-3.56
% Of Capture	126.03

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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' 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.

**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.

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**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.

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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.

**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.

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**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.

**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.

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**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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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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.

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## Cobb County Employees Retirement System June 30, 2018

### **Accounts Included in this Report**

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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

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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**

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

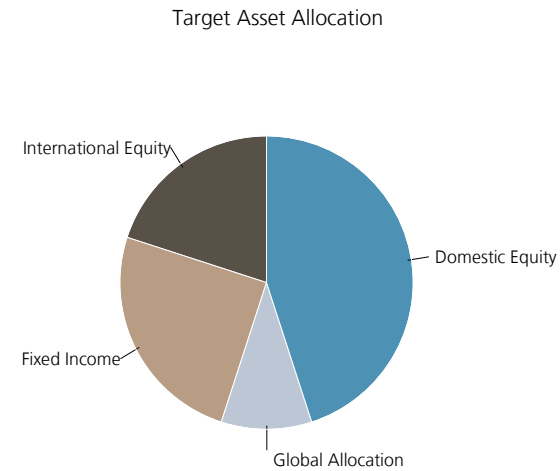
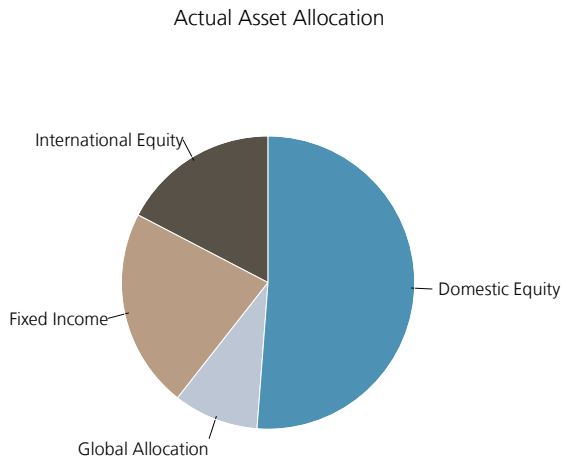
- 50% Russell 3000
- 35% Bloomberg Barclays Aggregate Bond
- 15% MSCI Net EAFE

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 June 30, 2018



	Market Value Actual	Percent Actual	Market Value Target	Percent Target	Market Value Difference	Percent Difference
Fixed Income	142,030,257.2	22.0%	161,113,754.6	25.0%	(19,083,497.5)	(3.0%)
Domestic Equity	329,985,804.0	51.2%	290,004,758.4	45.0%	39,981,045.6	6.2%
International Equity	111,954,713.9	17.4%	128,891,003.7	20.0%	(16,936,289.8)	(2.6%)
Global Allocation	60,484,243.6	9.4%	64,445,501.9	10.0%	(3,961,258.3)	(0.6%)
Total Fund	\$644,455,018.6	100.0%	\$644,455,018.6	100.0%	\$0.0	0.0%

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**Performance Summary - Gross of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$644,455,019	1.42%		1.46%		9.64%		7.63%		8.96%		8.37%		8.31%
Policy Index			1.20%		0.24%		8.18%		6.80%		7.92%		7.62%		7.78%
Dynamic Index			1.54%		0.65%		8.57%		6.92%		8.05%		7.67%		
<b>Fixed Income</b>															
Vanguard Intermediate Bond Index Fd	02/28/2005	\$0													
Barclays Int Gov/Cr															
Richmond Capital Management	07/31/2007	\$72,859,131	-0.17%	33	-1.63%	43	-0.17%	30	2.30%	14	2.76%	18	3.36%	12	4.54%
Barclays Govt/Credit			-0.33%	61	-1.90%	71	-0.63%	59	1.83%	38	2.29%	45	2.77%	44	4.02%
Blackrock Strategic Income Opps Fund	05/31/2011	\$34,904,994	-0.79%	97	-0.45%	1	2.27%	1	2.30%	14	2.88%	12	3.19%	20	3.03%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
Delaware Diversified Income Fund	05/31/2011	\$34,266,132	-1.04%	99	-2.02%	80	-0.48%	49	1.77%	41	2.66%	23	2.82%	40	2.70%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
<b>Large Cap Value</b>															
Eagle Capital Large Value	12/31/2002	\$68,897,469	3.39%	13	3.94%	1	16.31%	1	12.78%	1	14.50%	1	14.36%	1	13.49%
Russell 1000 Value			1.18%	65	-1.69%	72	6.77%	83	8.26%	67	10.34%	76	11.27%	67	9.11%
<b>Large Cap Core</b>															
Vanguard 500 Index	05/31/1999	\$76,365,448	3.44%	18	2.66%	19	14.36%	22	11.90%	3	13.38%	5	13.20%	4	6.05%
S&P 500 Index			3.43%	19	2.65%	19	14.37%	21	11.93%	2	13.42%	4	13.23%	3	5.94%
<b>Large Cap Growth</b>															
TCW Large Cap Growth	04/30/2013	\$37,148,096	7.57%	10	12.17%	16	24.60%	30	14.00%	46	15.53%	52			14.66%
Russell 1000 Growth			5.76%	39	7.25%	50	22.51%	48	14.98%	21	16.36%	36			15.78%
Westfield Capital Large Growth	07/31/2007	\$51,843,271	5.12%	52	8.19%	42	21.35%	55	14.02%	46	16.09%	42	13.91%	47	9.33%
Russell 1000 Growth			5.76%	39	7.25%	50	22.51%	48	14.98%	21	16.36%	36	14.88%	23	10.32%
<b>Mid Cap Core</b>															
Vanguard Midcap 400 Index Fund	05/31/2004	\$48,369,633	2.57%	53	2.56%	30	12.10%	35	9.22%	28	12.31%	13	11.73%	14	10.41%
Russell Midcap			2.82%	42	2.35%	33	12.33%	32	9.58%	24	12.22%	16	11.89%	8	10.12%
<b>Small Cap Value</b>															
Vaughan Nelson	04/30/2009	\$22,193,904	3.75%	85	1.90%	81	10.50%	77	7.37%	92	12.18%	50	11.97%	61	15.94%
Russell 2000 Value			8.30%	11	5.44%	20	13.10%	48	11.22%	40	11.18%	72	11.10%	82	14.63%
<b>Small Cap Growth</b>															
Eagle Small Cap Growth	10/31/2010	\$25,167,982	9.16%	47	12.68%	47	24.43%	52	13.20%	42	14.25%	66	12.52%	79	15.16%
Russell 2000 Growth			7.23%	75	9.70%	69	21.86%	65	10.60%	77	13.65%	77	12.50%	80	14.27%

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**Performance Summary - Gross of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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
<b>International Equity</b>															
Vanguard Total International Stock Fund	11/30/2006	\$38,301,575	-3.17%	67	-3.61%	60	7.14%	20	5.36%	16	6.45%	31	4.11%	59	3.04%
<i>International Index</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	2.45%
Dodge & Cox International Stock Fund	07/31/2007	\$35,672,647	-5.12%	99	-7.15%	99	0.52%	99	2.07%	95	5.71%	58	4.61%	37	2.39%
<i>International Index</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	1.50%
Oppenheimer International Growth	05/31/2014	\$37,980,491	-3.02%	62	-2.84%	35	6.68%	30	5.52%	14					3.07%
<i>MSCI AC Wld X US Net</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25					2.75%
<b>Global Allocation</b>															
Global Allocation	03/31/2010	\$60,484,244	0.12%	26	0.17%	12	7.03%	18	6.22%	2	6.83%	9	6.18%	19	7.08%
<i>HFRX Global Hedge</i>			0.17%	25	-0.85%	33	2.47%	92	0.83%	99	1.32%	99	0.86%	99	0.88%

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**Performance Summary - Net of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$644,455,019	1.35%		1.34%		9.39%		7.37%		8.71%		8.12%		8.04%
Policy Index			1.20%		0.24%		8.18%		6.80%		7.92%		7.62%		7.78%
Dynamic Index			1.54%		0.65%		8.57%		6.92%		8.05%		7.67%		
<b>Fixed Income</b>															
Vanguard Intermediate Bond Index Fd	02/28/2005	\$0													
Barclays Int Gov/Cr															
Richmond Capital Management	07/31/2007	\$72,859,131	-0.22%	43	-1.74%	55	-0.39%	42	2.08%	24	2.54%	29	3.13%	23	4.31%
Barclays Govt/Credit			-0.33%	61	-1.90%	71	-0.63%	59	1.83%	38	2.29%	45	2.77%	44	4.02%
Blackrock Strategic Income Opps Fund	05/31/2011	\$34,904,994	-0.79%	97	-0.45%	1	2.27%	1	2.30%	14	2.88%	12	3.19%	20	3.03%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
Delaware Diversified Income Fund	05/31/2011	\$34,266,132	-1.04%	99	-2.02%	80	-0.48%	49	1.77%	41	2.66%	23	2.82%	40	2.70%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
<b>Large Cap Value</b>															
Eagle Capital Large Value	12/31/2002	\$68,897,469	3.19%	15	3.56%	1	15.45%	1	11.93%	1	13.68%	1	13.54%	1	12.56%
Russell 1000 Value			1.18%	66	-1.69%	66	6.77%	77	8.26%	52	10.34%	50	11.27%	44	9.11%
<b>Large Cap Core</b>															
Vanguard 500 Index	05/31/1999	\$76,365,448	3.44%	18	2.66%	19	14.36%	22	11.90%	3	13.38%	5	13.20%	4	6.05%
S&P 500 Index			3.43%	19	2.65%	19	14.37%	21	11.93%	2	13.42%	4	13.23%	3	5.94%
<b>Large Cap Growth</b>															
TCW Large Cap Growth	04/30/2013	\$37,148,096	7.10%	11	11.68%	12	23.87%	26	13.16%	42	14.84%	45			14.00%
Russell 1000 Growth			5.76%	31	7.25%	42	22.51%	34	14.98%	8	16.36%	25			15.78%
Westfield Capital Large Growth	07/31/2007	\$51,843,271	4.98%	48	7.90%	40	20.68%	52	13.36%	41	15.41%	40	13.23%	46	8.71%
Russell 1000 Growth			5.76%	31	7.25%	42	22.51%	34	14.98%	8	16.36%	25	14.88%	9	10.32%
<b>Mid Cap Core</b>															
Vanguard Midcap 400 Index Fund	05/31/2004	\$48,369,633	2.57%	53	2.56%	30	12.10%	35	9.22%	28	12.31%	13	11.73%	14	10.41%
Russell Midcap			2.82%	42	2.35%	33	12.33%	32	9.58%	24	12.22%	16	11.89%	8	10.12%
<b>Small Cap Value</b>															
Vaughan Nelson	04/30/2009	\$22,193,904	3.49%	81	1.41%	75	9.42%	76	6.30%	92	11.07%	51	10.86%	67	14.79%
Russell 2000 Value			8.30%	13	5.44%	19	13.10%	38	11.22%	26	11.18%	49	11.10%	56	14.63%
<b>Small Cap Growth</b>															
Eagle Small Cap Growth	10/31/2010	\$25,167,982	8.96%	45	12.27%	47	23.52%	53	12.36%	45	13.40%	66	11.69%	81	14.33%
Russell 2000 Growth			7.23%	78	9.70%	73	21.86%	65	10.60%	72	13.65%	61	12.50%	60	14.27%

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**Performance Summary - Net of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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
<b>International Equity</b>															
Vanguard Total International Stock Fund	11/30/2006	\$38,301,575	-3.17%	67	-3.61%	60	7.14%	20	5.36%	16	6.45%	31	4.11%	59	3.04%
<i>International Index</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	2.45%
Dodge & Cox International Stock Fund	07/31/2007	\$35,672,647	-5.12%	99	-7.15%	99	0.52%	99	2.07%	95	5.71%	58	4.61%	37	2.39%
<i>International Index</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	1.50%
Oppenheimer International Growth	05/31/2014	\$37,980,491	-3.02%	62	-2.84%	35	6.68%	30	5.52%	14					3.07%
<i>MSCI AC Wld X US Net</i>			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25					2.75%
<b>Global Allocation</b>															
Global Allocation	03/31/2010	\$60,484,244	0.12%	26	0.17%	12	7.03%	18	6.22%	2	6.83%	9	6.18%	19	7.08%
<i>HFRX Global Hedge</i>			0.17%	25	-0.85%	33	2.47%	92	0.83%	99	1.32%	99	0.86%	99	0.88%

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
Gross Time Weighted Return	1.42	1.46	9.64	12.04	7.63	8.96	7.74	8.31	06/30/1994	\$644,455,019
Universe Median										
Policy Index	1.20	0.24	8.18	10.42	6.80	7.92	6.92	7.78		
%-tile										
(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									02/28/2005	\$0
Universe Median	-0.26	-1.70	-0.49	0.12	1.65	2.23	4.03	3.87		
BB Int Gov/Cr	0.01	-0.97	-0.58	-0.40	1.16	1.60	3.08	3.41		
%-tile										
(100.00% BB Int Gov/Cr; established 2/28/2005)										

#### Richmond Capital Management - (Total Portfolio)

Gross Time Weighted Return	-0.17	-1.63	-0.17	-0.05	2.30	2.76	4.41	4.54	07/31/2007	\$72,859,131
Universe Median	-0.26	-1.70	-0.49	0.12	1.65	2.23	4.03	4.04		
BB Gov/Cr Bond	-0.33	-1.90	-0.63	-0.52	1.83	2.29	3.78	4.02		
%-tile	33	43	30	60	14	18	26	21		
(100.00% BB Gov/Cr Bond; established 7/31/2007)										

#### Blackrock Strategic Income Opps Fund - (Total Portfolio)

Gross Time Weighted Return	-0.79	-0.45	2.27	3.62	2.30	2.88		3.03	05/31/2011	\$34,904,994
Universe Median	-0.26	-1.70	-0.49	0.12	1.65	2.23		2.59		
BB Agg Bond	-0.16	-1.62	-0.40	-0.36	1.72	2.27		2.50		
%-tile	97	1	1	1	14	12		22		
(100.00% BB Agg Bond; established 5/31/2011)										

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
<b>Delaware Diversified Income Fund - (Total Portfolio)</b>										
Gross Time Weighted Return	-1.04	-2.02	-0.48	0.78	1.77	2.66		2.70	05/31/2011	\$34,266,132
Universe Median	-0.26	-1.70	-0.49	0.12	1.65	2.23		2.59		
BB Agg Bond	-0.16	-1.62	-0.40	-0.36	1.72	2.27		2.50		
%-tile	99	80	49	24	41	23		41		

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

#### Eagle Capital Large Value - (Total Portfolio)

Gross Time Weighted Return	3.39	3.94	16.31	20.43	12.78	14.50	13.51	13.49	12/31/2002	\$68,897,469
Universe Median	1.62	-0.80	9.38	13.62	9.23	11.06	9.49	9.95		
Russell 1000 Value	1.18	-1.69	6.77	11.06	8.26	10.34	8.49	9.11		
%-tile	13	1	1	1	1	1	1	1		

(100.00% Russell 1000 Value; established 12/31/2002)

#### Vanguard 500 Index - (Total Portfolio)

Gross Time Weighted Return	3.44	2.66	14.36	16.09	11.90	13.38	10.23	6.05	05/31/1999	\$76,365,448
Universe Median	2.86	1.76	13.01	15.47	10.23	12.14	9.18	5.75		
S&P 500 Index	3.43	2.65	14.37	16.12	11.93	13.42	10.17	5.94		
%-tile	18	19	22	32	3	5	9	37		

(100.00% S&P 500 Index; established 5/31/1999)

#### TCW Large Cap Growth - (Total Portfolio)

Gross Time Weighted Return	7.57	12.17	24.60	21.07	14.00	15.53		14.66	04/30/2013	\$37,148,096
Universe Median	5.46	7.31	22.04	20.85	13.45	15.60		15.37		
Russell 1000 Growth	5.76	7.25	22.51	21.46	14.98	16.36		15.78		
%-tile	10	16	30	46	46	52		58		

(100.00% Russell 1000 Growth; established 4/30/2013)

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
<b>Westfield Capital Large Growth - (Total Portfolio)</b>										
Gross Time Weighted Return	5.12	8.19	21.35	23.12	14.02	16.09	9.35	9.33	07/31/2007	\$51,843,271
Universe Median	5.46	7.31	22.04	20.85	13.45	15.60	11.43	10.15		
Russell 1000 Growth	5.76	7.25	22.51	21.46	14.98	16.36	11.83	10.32		
%-tile	52	42	55	28	46	42	93	68		

(100.00% Russell 1000 Growth; established 7/31/2007)

#### Vanguard Midcap 400 Index Fund - (Total Portfolio)

Gross Time Weighted Return	2.57	2.56	12.10	14.65	9.22	12.31	10.19	10.41	05/31/2004	\$48,369,633
Universe Median	2.62	1.42	10.77	14.02	7.82	10.63	9.31	9.07		
Russell Midcap	2.82	2.35	12.33	14.39	9.58	12.22	10.23	10.12		
%-tile	53	30	35	41	28	13	25	1		

(100.00% Russell Midcap; established 5/31/2004)

#### Vaughan Nelson - (Total Portfolio)

Gross Time Weighted Return	3.75	1.90	10.50	13.07	7.37	12.18		15.94	04/30/2009	\$22,193,904
Universe Median	5.60	3.81	12.93	17.75	10.48	12.17		16.34		
Russell 2000 Value	8.30	5.44	13.10	18.83	11.22	11.18		14.63		
%-tile	85	81	77	96	92	50		58		

(100.00% Russell 2000 Value; established 4/30/2009)

#### Eagle Small Cap Growth - (Total Portfolio)

Gross Time Weighted Return	9.16	12.68	24.43	24.00	13.20	14.25		15.16	10/31/2010	\$25,167,982
Universe Median	8.86	12.32	25.45	24.79	12.90	14.87		15.60		
Russell 2000 Growth	7.23	9.70	21.86	23.13	10.60	13.65		14.27		
%-tile	47	47	52	58	42	66		69		

(100.00% Russell 2000 Growth; established 10/31/2010)

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## Total Portfolio

### Performance Summary Through June 30, 2018

	Quarter	YTD	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
<b>Vanguard Total International Stock Fund - (Total Portfolio)</b>										
Gross Time Weighted Return	-3.17	-3.61	7.14	13.42	5.36	6.45	2.94	3.04	11/30/2006	\$38,301,575
Universe Median	-2.61	-3.28	6.05	12.47	4.30	5.93	2.57	2.41		
International Index	-2.61	-3.77	7.28	13.67	5.07	5.99	2.63	2.45		
%-tile	67	60	20	22	16	31	36	30		

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

#### **Dodge & Cox International Stock Fund - (Total Portfolio)**

Gross Time Weighted Return	-5.12	-7.15	0.52	14.48	2.07	5.71	3.71	2.39	07/31/2007	\$35,672,647
Universe Median	-2.61	-3.28	6.05	12.47	4.30	5.93	2.57	1.48		
International Index	-2.61	-3.77	7.28	13.67	5.07	5.99	2.63	1.50		
%-tile	99	99	99	8	95	58	17	24		

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

#### **Oppenheimer International Growth - (Total Portfolio)**

Gross Time Weighted Return	-3.02	-2.84	6.68	11.45	5.52			3.07	05/31/2014	\$37,980,491
Universe Median	-2.61	-3.28	6.05	12.47	4.30			2.62		
MSCI AC Wld X US Net	-2.61	-3.77	7.28	13.67	5.07			2.75		
%-tile	62	35	30	73	14			34		

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

#### **Natixis Loomis Sayles Global Equity - (Total Portfolio)**

Gross Time Weighted Return	1.51	3.15	12.24	13.98				10.31	11/30/2015	\$20,717,886
Universe Median	-0.51	-1.32	5.01	7.75				6.35		
HFRX Global Hedge	0.17	-0.85	2.47	4.22				2.39		
%-tile	8	1	1	1				1		

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

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**Total Portfolio**  
**Performance Summary Through June 30, 2018**

	Quarter	YTD	1 Yr	2 Yr	3 Yr	5 Yr	10 Yr	Inception	Incept Date	Current Assets
<b>First Eagle Global Fund - (Total Portfolio)</b>										
Gross Time Weighted Return	-0.09	-1.15	4.97	8.04	6.75	7.24		7.94	03/31/2010	\$21,570,569
Universe Median	-0.51	-1.32	5.01	7.75	4.22	5.35		5.71		
HFRX Global Hedge	0.17	-0.85	2.47	4.22	0.83	1.32		0.88		
%-tile	29	43	50	43	1	3		1		

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

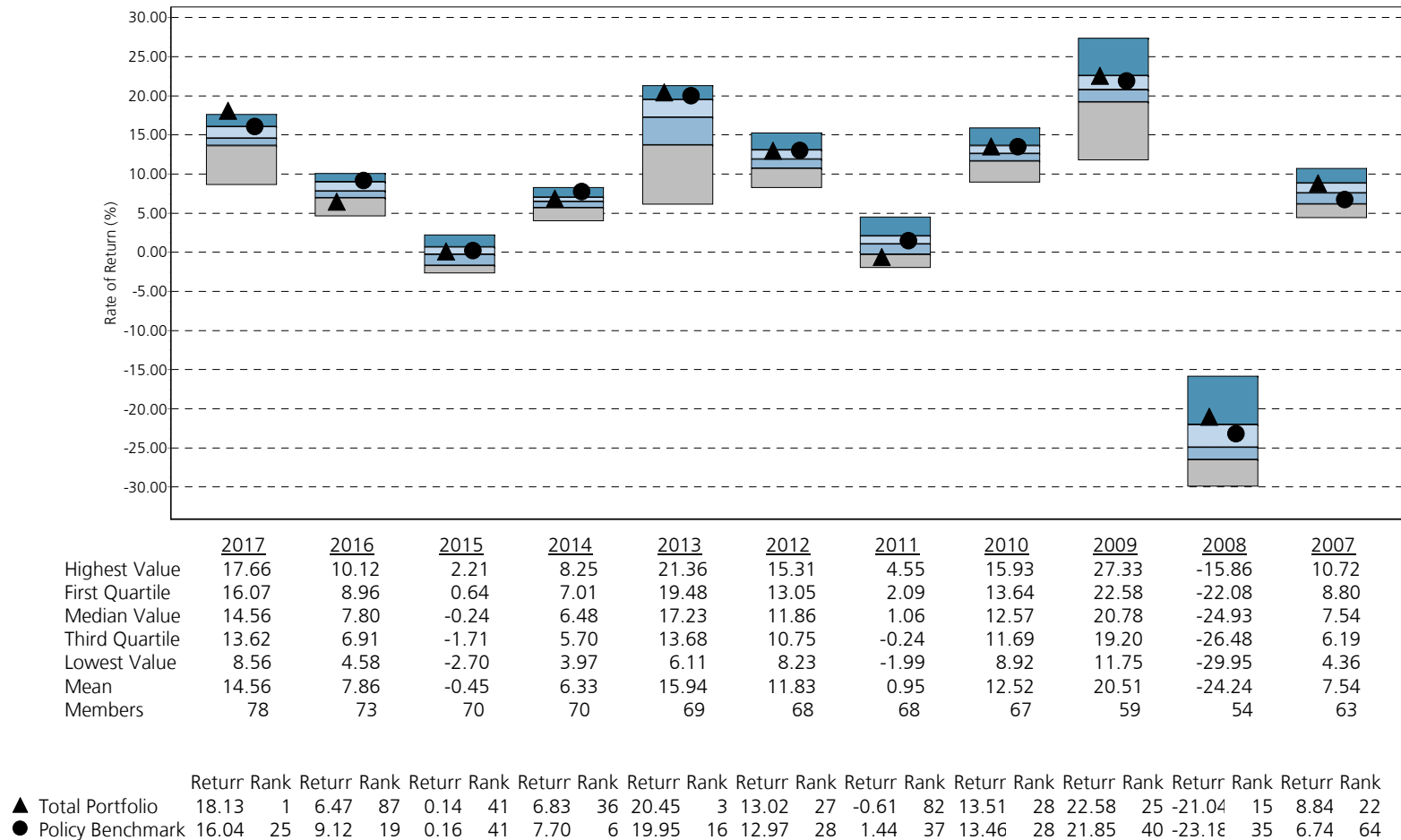
**Blackrock Global Allocation Fund - (Total Portfolio)**

Gross Time Weighted Return	-1.17	-1.52	3.96	7.78	3.90	5.33		5.55	03/31/2010	\$18,195,789
Universe Median	-0.51	-1.32	5.01	7.75	4.22	5.35		5.71		
HFRX Global Hedge	0.17	-0.85	2.47	4.22	0.83	1.32		0.88		
%-tile	73	56	66	48	60	50		55		

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

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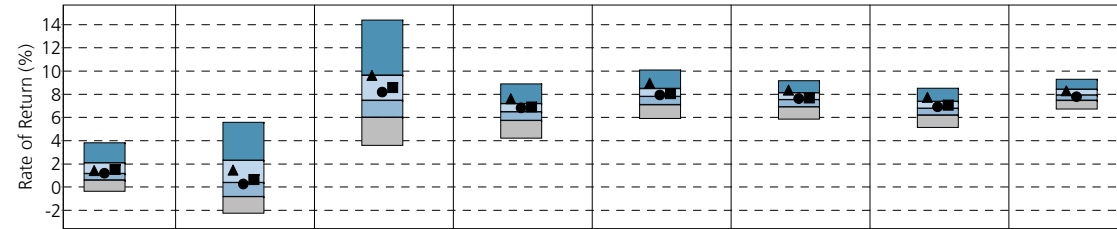
**Consolidated Portfolio vs Master Trusts - Public : Plans < \$1 Billion Managers**  
**December 31, 2003 Through December 31, 2017**



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

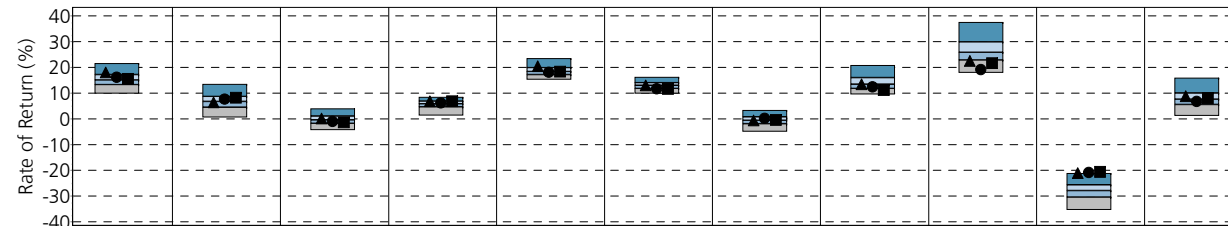
### Trailing Periods



	Quarter	Calendar YTD	One Year	Three Years	Five Years	Seven Years	Ten Years	6/1994-6/2018
Highest Value	3.81	5.58	14.40	8.90	10.08	9.16	8.51	9.30
First Quartile	2.10	2.31	9.62	7.17	8.48	8.11	7.36	8.41
Median Value	1.16	0.38	7.47	6.48	7.79	7.53	6.80	7.92
Third Quartile	0.61	-0.82	6.00	5.72	7.11	6.93	6.21	7.46
Lowest Value	-0.39	-2.27	3.58	4.20	5.89	5.84	5.12	6.71
Mean	1.35	0.81	7.97	6.48	7.83	7.51	6.80	7.94

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Total Portfolio	1.42	40	1.46	35	9.64	24	7.63	14	8.96	14	8.37	14	7.74	13	8.31	29
● Policy Index	1.20	48	0.24	52	8.18	40	6.80	37	7.92	45	7.62	45	6.92	43	7.78	58
■ Dynamic Index	1.54	36	0.65	45	8.57	34	6.92	33	8.05	40	7.67	43	7.05	37	N/A	N/A

### Annual Periods



	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Highest Value	21.56	13.51	3.89	8.45	23.44	16.16	3.39	20.80	37.46	-21.20	15.89
First Quartile	17.27	8.66	1.04	6.88	19.84	14.04	0.78	16.01	29.89	-25.62	10.05
Median Value	15.13	6.79	-0.41	5.82	18.44	12.99	-0.52	13.44	25.90	-27.96	7.63
Third Quartile	13.34	4.52	-1.76	4.68	17.16	11.90	-1.88	11.77	22.91	-30.37	5.59
Lowest Value	9.85	0.61	-4.27	1.42	15.21	9.94	-4.88	9.59	17.88	-35.42	1.27
Mean	15.36	6.67	-0.32	5.66	18.62	12.96	-0.56	14.02	26.46	-28.08	7.94

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Total Portfolio	18.13	18	6.47	53	0.14	40	6.83	26	20.45	18	13.02	49	-0.61	51	13.51	49
● Policy Index	16.12	35	7.64	37	-0.96	59	6.22	40	18.13	55	11.67	78	0.23	35	12.36	65
■ Dynamic Index	15.61	42	8.21	30	-1.32	66	6.88	25	18.47	49	11.61	79	-0.41	47	11.24	83

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**Performance Profile**  
**June 30, 1994 Through June 30, 2018**

	<b>Ended</b>	<b>Return</b>
Best Quarter	6/1997	14.08
Worst Quarter	9/2011	-11.22
Best 4 Quarters	6/1997	25.06
Worst 4 Quarters	6/2009	-13.44

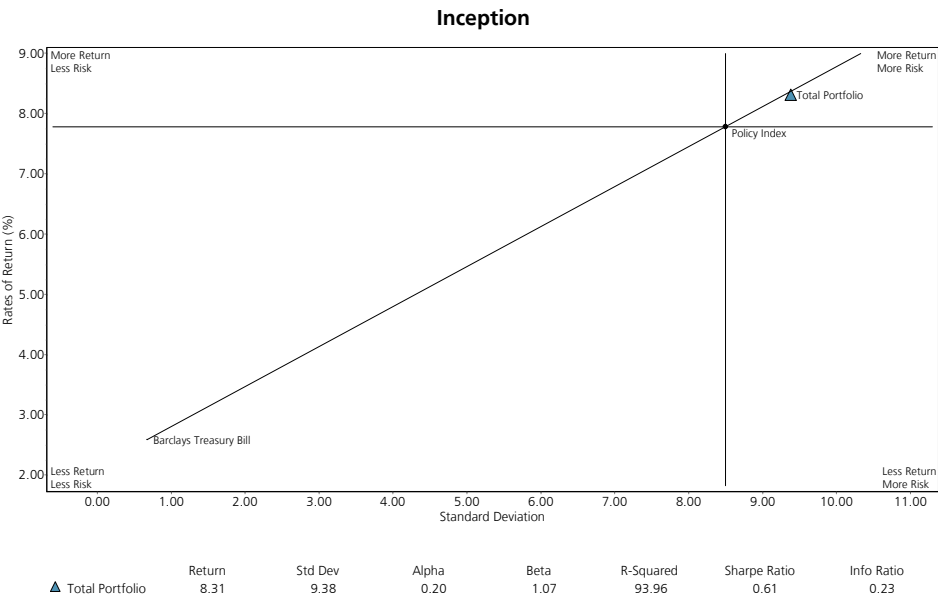
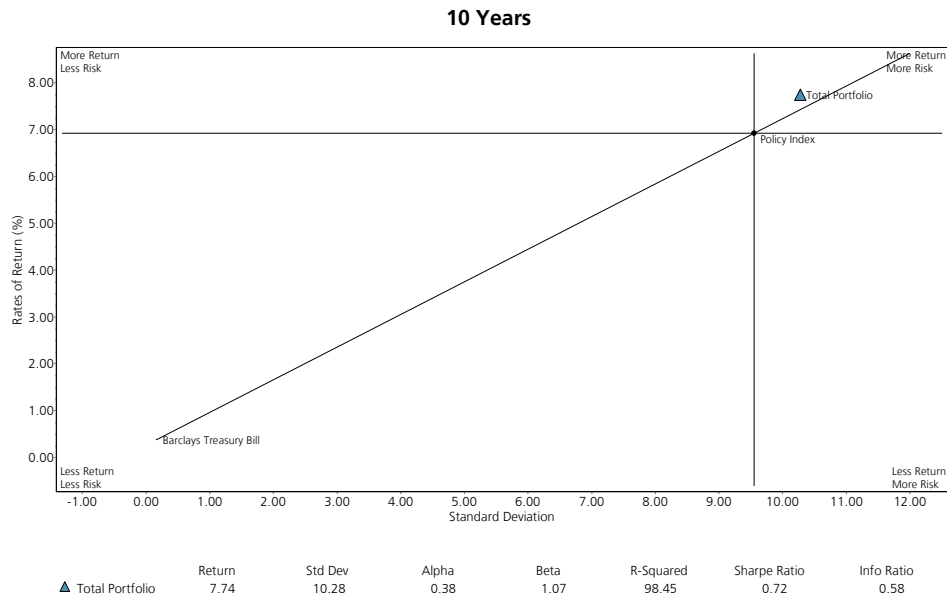
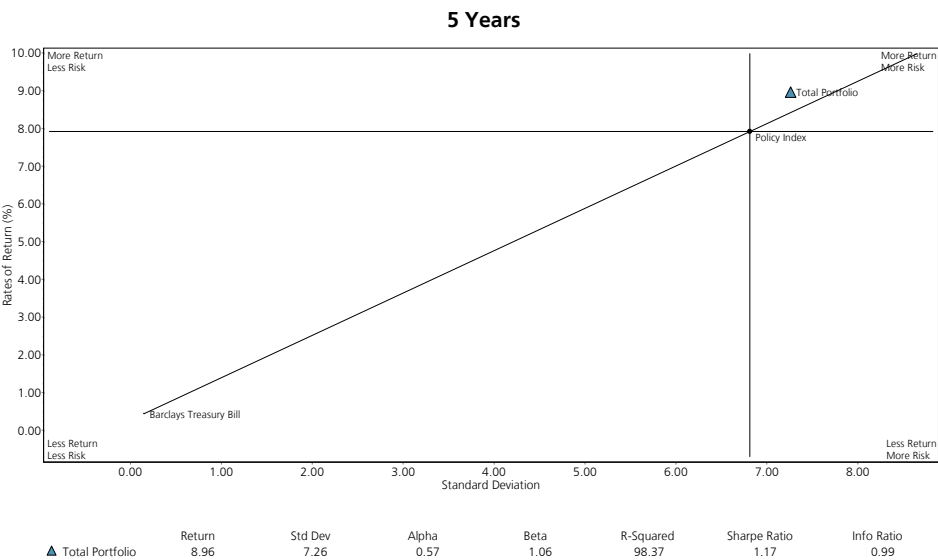
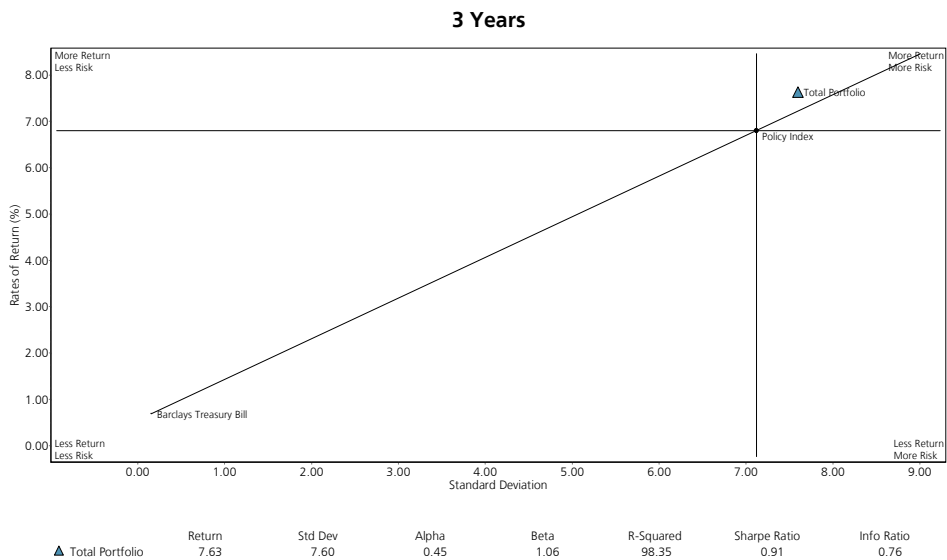
Total # of Periods: 288  
# of Positive Periods: 186  
# of Negative Periods: 102

	<b>Latest Month</b>	<b>Latest Quarter</b>	<b>Year To Date</b>	<b>One Year</b>	<b>Two Years</b>	<b>Three Years</b>	<b>Five Years</b>	<b>Ten Years</b>	<b>Since Inception</b>
Consolidated Portfolio	-0.10	1.42	1.46	9.64	12.04	7.63	8.96	7.74	8.31
Policy Index	-0.13	1.20	0.24	8.18	10.42	6.80	7.92	6.92	7.78
Excess	0.03	0.23	1.22	1.46	1.62	0.83	1.04	0.82	0.53
Riskless Index	0.16	0.45	0.80	1.33	0.90	0.69	0.44	0.38	2.59
Real ROR	-0.30	0.42	-0.74	6.72	9.72	5.76	7.38	6.28	5.94
CPI	0.20	1.00	2.22	2.73	2.12	1.78	1.46	1.39	2.23

<b>Period</b>	<b>Return</b>	<b>Std Dev</b>	<b>Sharpe Ratio</b>	<b>Alpha</b>	<b>Beta</b>	<b>R-Squared</b>	<b>Relative Risk</b>	<b>Track Error</b>	<b>Treynor Ratio</b>	<b>Info Ratio</b>
One Year	9.64	5.89	1.41	0.87	1.07	98.13	1.09	0.91	7.73	1.52
Two Years	12.04	5.14	2.17	0.83	1.07	97.43	1.09	0.90	10.39	1.67
Three Years	7.63	7.49	0.93	0.45	1.06	98.35	1.07	1.04	6.55	0.77
Five Years	8.96	7.20	1.18	0.57	1.06	98.37	1.07	1.00	8.06	1.00
Ten Years	7.74	10.24	0.72	0.38	1.07	98.45	1.08	1.43	6.89	0.58
Since Inception	8.31	9.36	0.61	0.20	1.07	93.96	1.10	2.38	5.35	0.23

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Risk vs Reward Analysis  
June 30, 1994 Through June 30, 2018

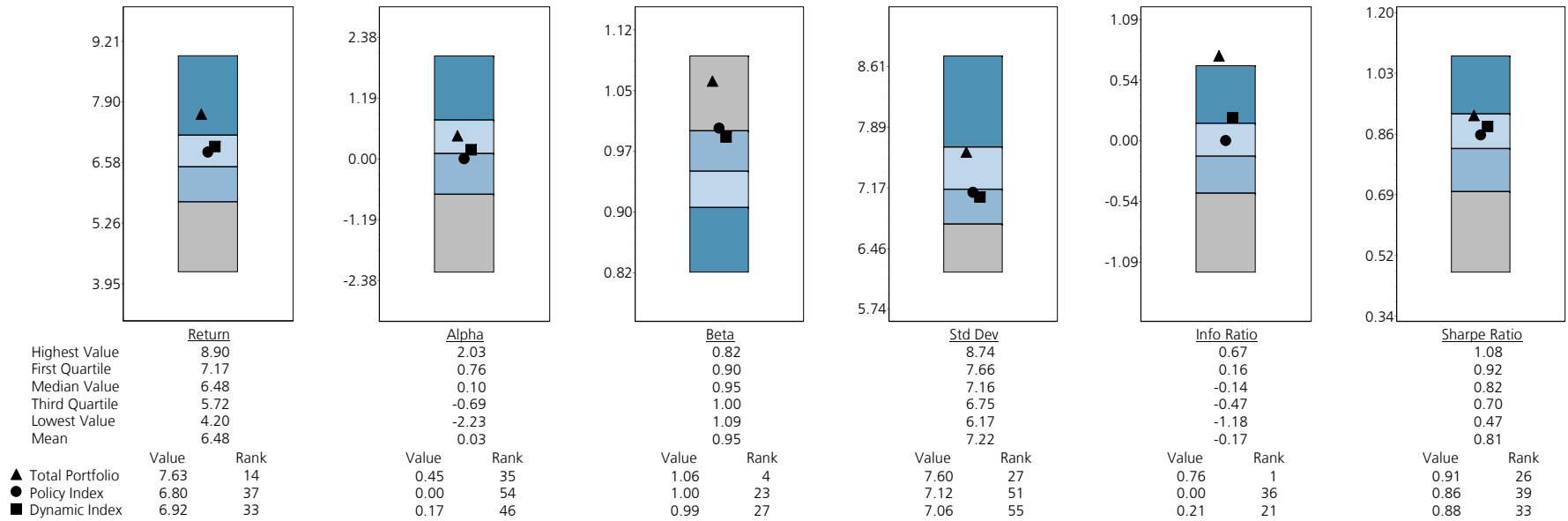


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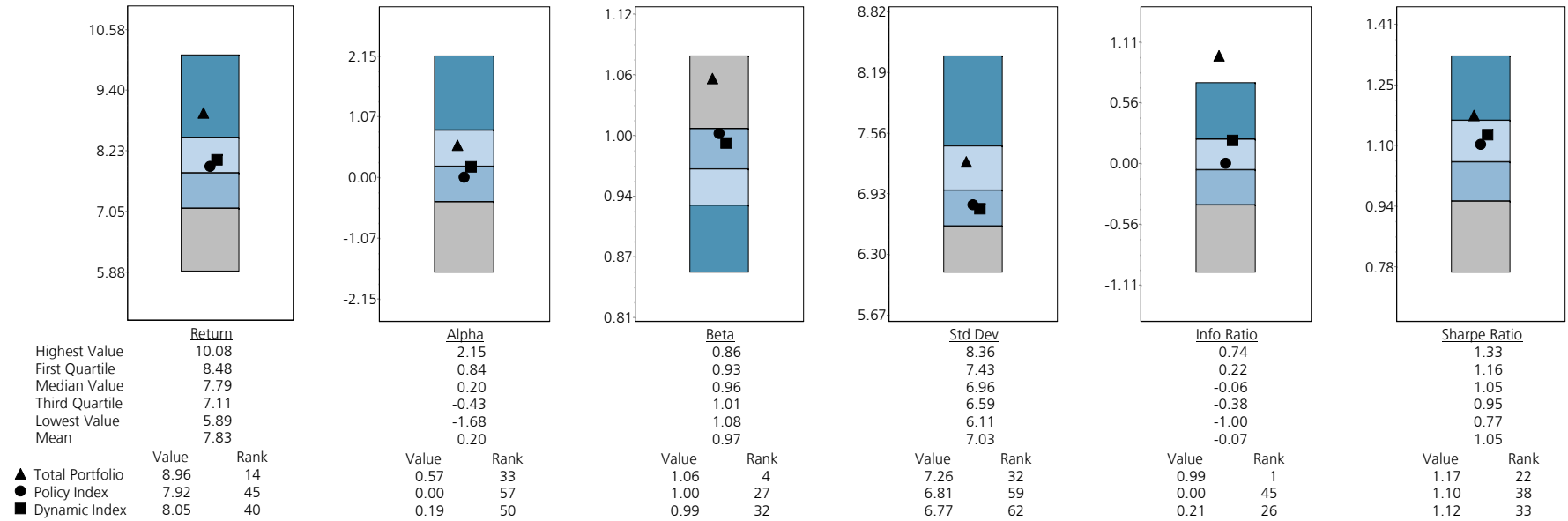
## Consolidated Portfolio vs 50% Equity, 35% Fixed, 15% International Managers

### June 30, 2015 Through June 30, 2018

3 Year



5 Year

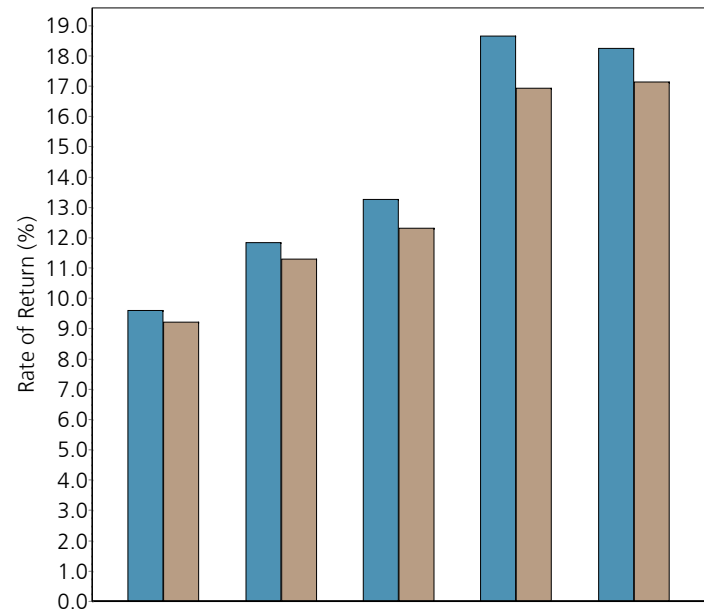


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**Performance in Rising and Declining Markets**  
**June 30, 1994 Through June 30, 2018**

Up Market Performance

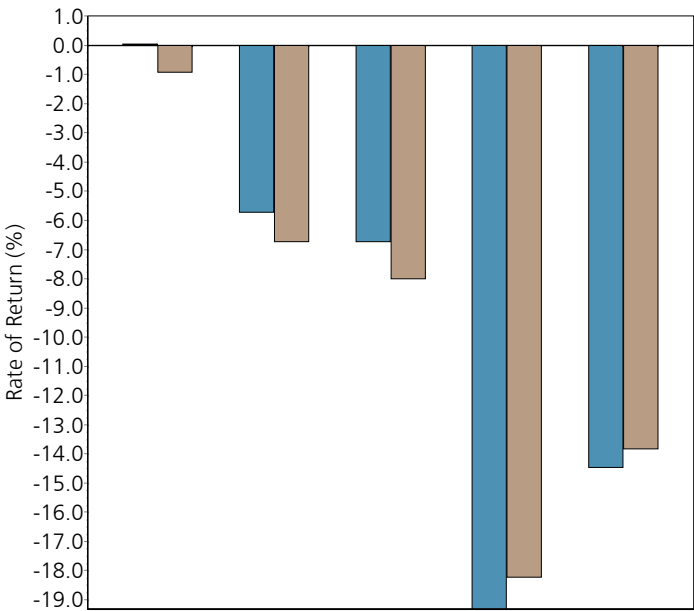


Since Incept

Consolidated Portfolio	One Year	Three Years	Five Years	Ten Years	Day
Policy Index	One Year	Three Years	Five Years	Ten Years	Day
Difference	One Year	Three Years	Five Years	Ten Years	Day
Ratio	One Year	Three Years	Five Years	Ten Years	Day
Up Periods	One Year	Three Years	Five Years	Ten Years	Day

9.60	11.84	13.28	18.65	18.24
9.21	11.29	12.32	16.93	17.13
0.39	0.55	0.96	1.72	1.11
1.04	1.05	1.08	1.10	1.06
3	10	16	30	70

Down Market Performance



Since Incept

Consolidated Portfolio	One Year	Three Years	Five Years	Ten Years	Day
Policy Index	One Year	Three Years	Five Years	Ten Years	Day
Difference	One Year	Three Years	Five Years	Ten Years	Day
Ratio	One Year	Three Years	Five Years	Ten Years	Day
Down Periods	One Year	Three Years	Five Years	Ten Years	Day

0.04	-5.75	-6.74	-19.33	-14.48
-0.94	-6.75	-8.03	-18.24	-13.85
0.98	1.00	1.28	-1.09	-0.62
-0.04	0.85	0.84	1.06	1.04
1	2	4	10	26

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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**

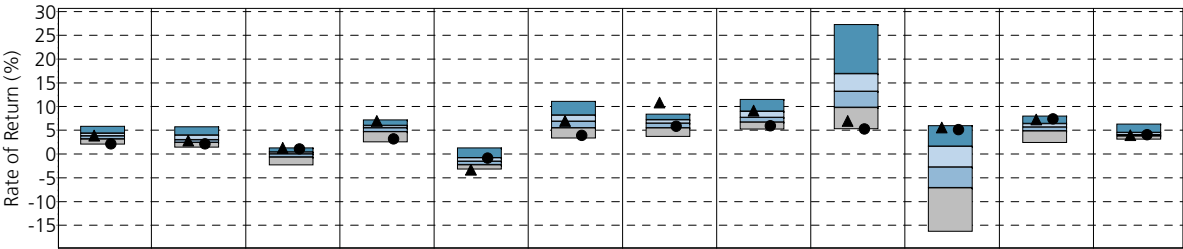
2/28/2005 - Present  
100% Bloomberg Barclays Int Govt/Credit

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TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

Trailing Periods

Annual Periods

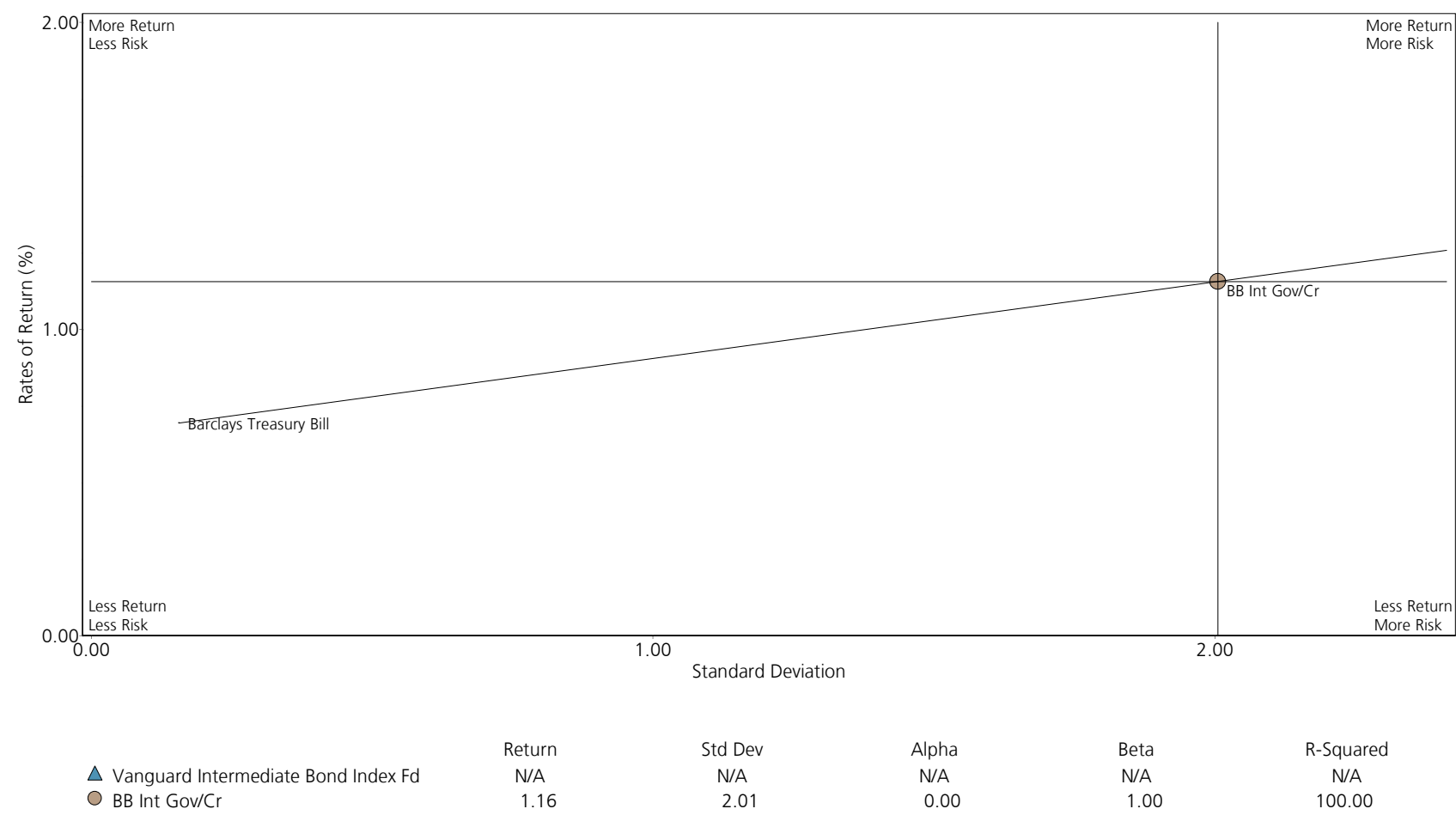


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Highest Value	5.82	5.75	1.30	7.23	1.33	11.08	8.46	11.53	27.27	6.00	8.01	6.31
First Quartile	4.39	3.99	0.42	6.02	-0.83	8.17	7.21	9.01	16.90	1.66	6.38	4.51
Median Value	3.81	3.03	0.00	5.53	-1.56	6.88	6.48	7.69	13.20	-2.71	5.69	4.08
Third Quartile	3.18	2.40	-0.65	4.72	-2.22	5.50	5.49	6.69	9.77	-7.09	4.83	3.78
Lowest Value	2.06	1.37	-2.34	2.52	-3.22	3.28	3.63	5.16	5.29	-16.31	2.32	3.06
Mean	3.81	3.21	-0.13	5.34	-1.46	6.84	6.30	7.92	13.55	-2.91	5.57	4.20

	Retur	Rank	Retur	Rank	Retur	Rank	Retur	Rank	Retur	Rank	Retur	Rank	Retur	Rank	Retur	Rank
▲ Vanguard Interm Bond	3.87	46	2.85	55	1.31	1	6.95	2	-3.33	99	6.96	47	10.83	1	9.17	22
● Barclays Int Gov/Cr	2.14	99	2.08	86	1.07	3	3.12	96	-0.86	24	3.85	92	5.80	66	5.85	92

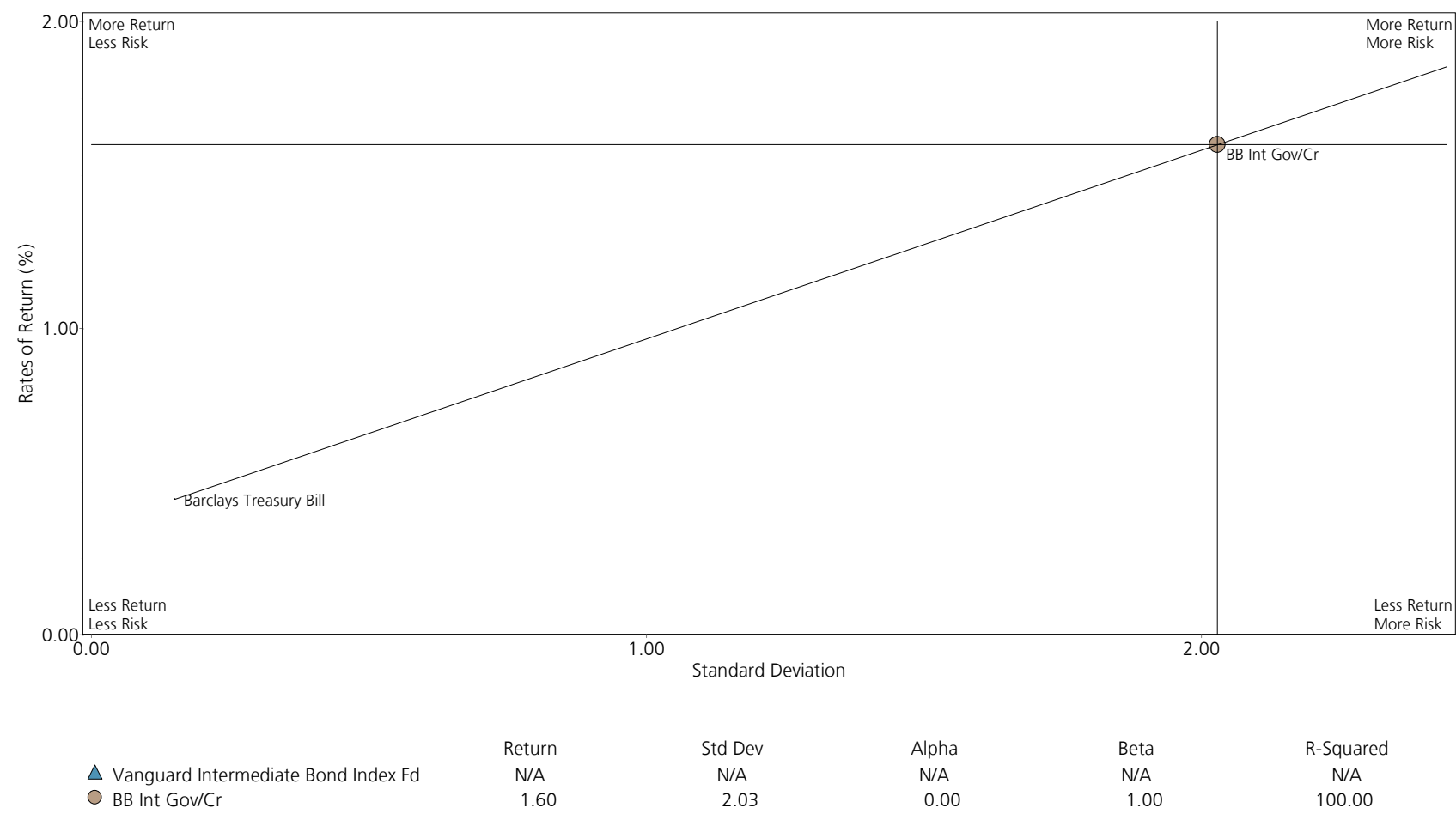
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



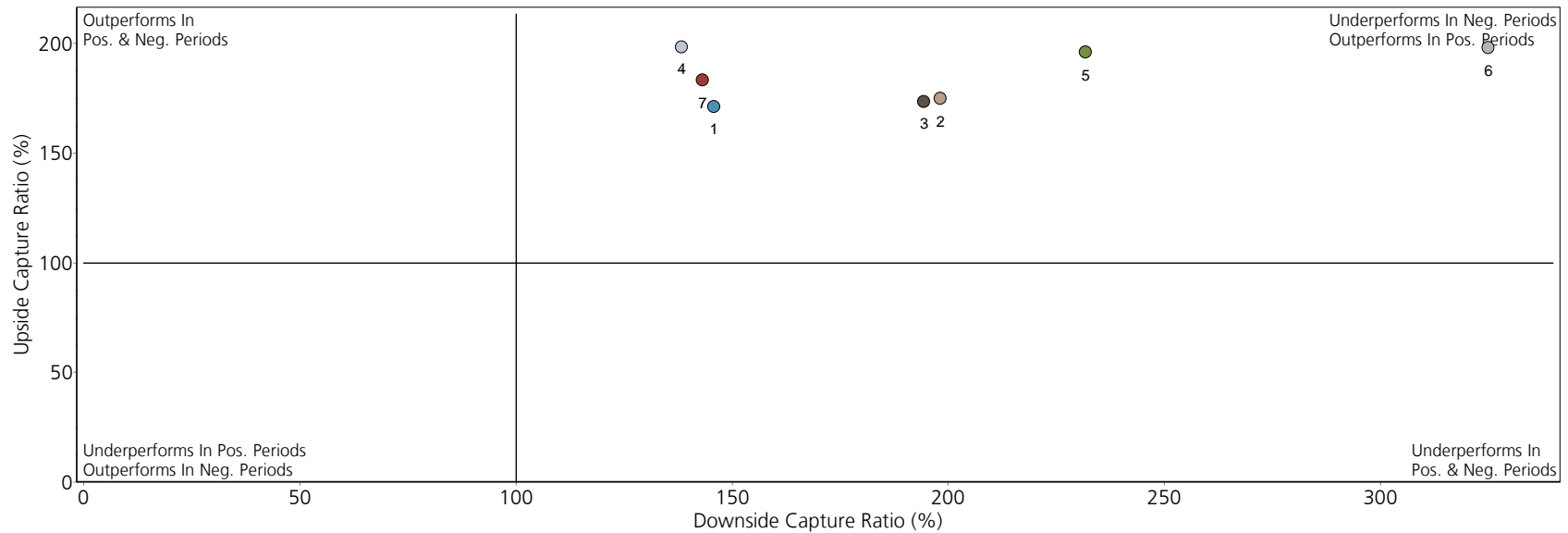
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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**February 28, 2005 Through June 30, 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	2/2005-6/2018
Up Periods	8.00	8.00	5.00	7.00	6.00	9.00	7.00	103.00
Upside Capture ROR	5.32	8.21	5.60	9.11	5.92	8.75	11.75	N/A
BB Int Gov/Cr	3.11	4.70	3.23	4.59	3.02	4.42	6.41	8.83
% Of Capture	170.96	174.76	173.49	198.33	195.92	197.92	183.23	N/A
Down Periods	4.00	4.00	7.00	5.00	6.00	3.00	5.00	57.00
Downside Capture ROR	-1.38	-4.95	-4.06	-1.94	-8.73	-1.64	-0.82	N/A
BB Int Gov/Cr	-0.94	-2.50	-2.09	-1.40	-3.77	-0.51	-0.57	-5.69
% Of Capture	145.85	198.20	194.38	138.26	231.74	324.86	143.20	N/A

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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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**

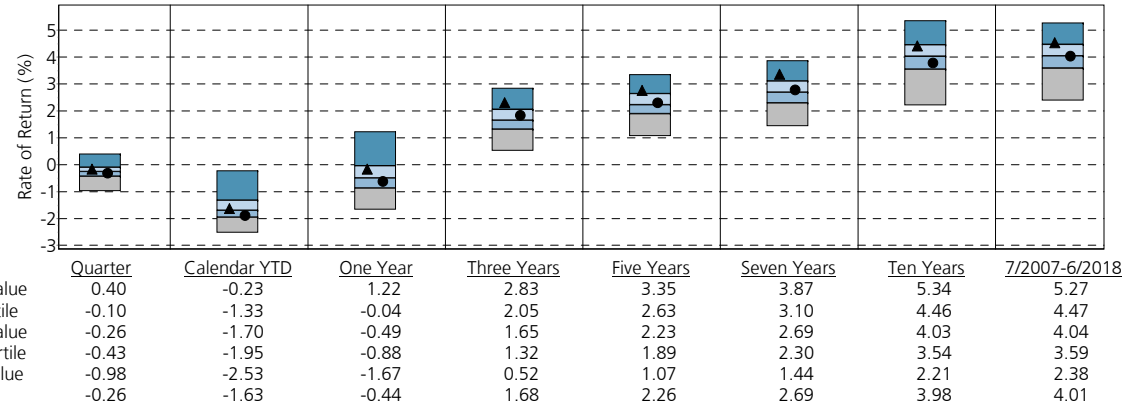
7/31/2007 - Present

100% Bloomberg Barclays Government/Credit Bond

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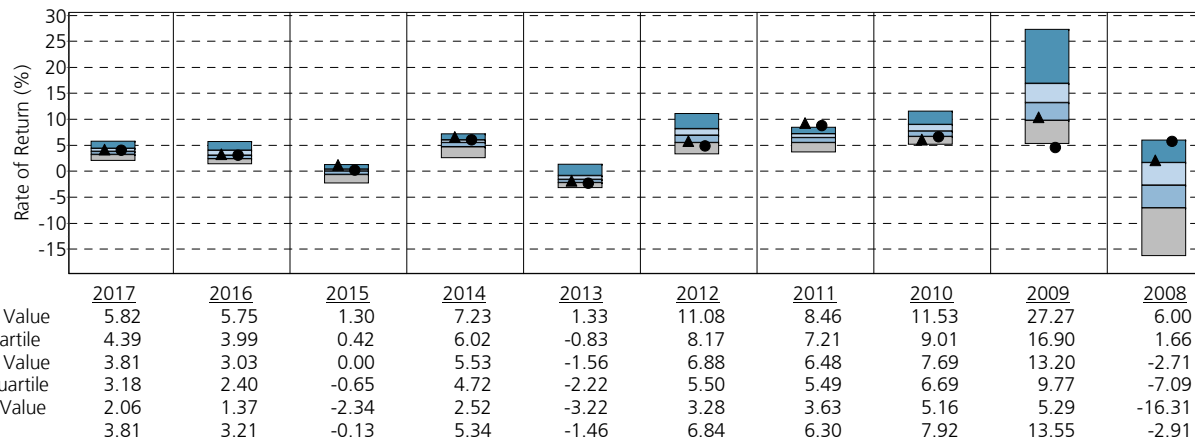
## TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

### Trailing Periods



	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Richmond Capital	-0.17	33	-1.63	43	-0.17	30	2.30	14	2.76	18	3.36	12	4.41	26	4.54	21
● Barclays Govt/Credit	-0.33	61	-1.90	71	-0.63	59	1.83	38	2.29	45	2.77	44	3.78	64	4.02	51

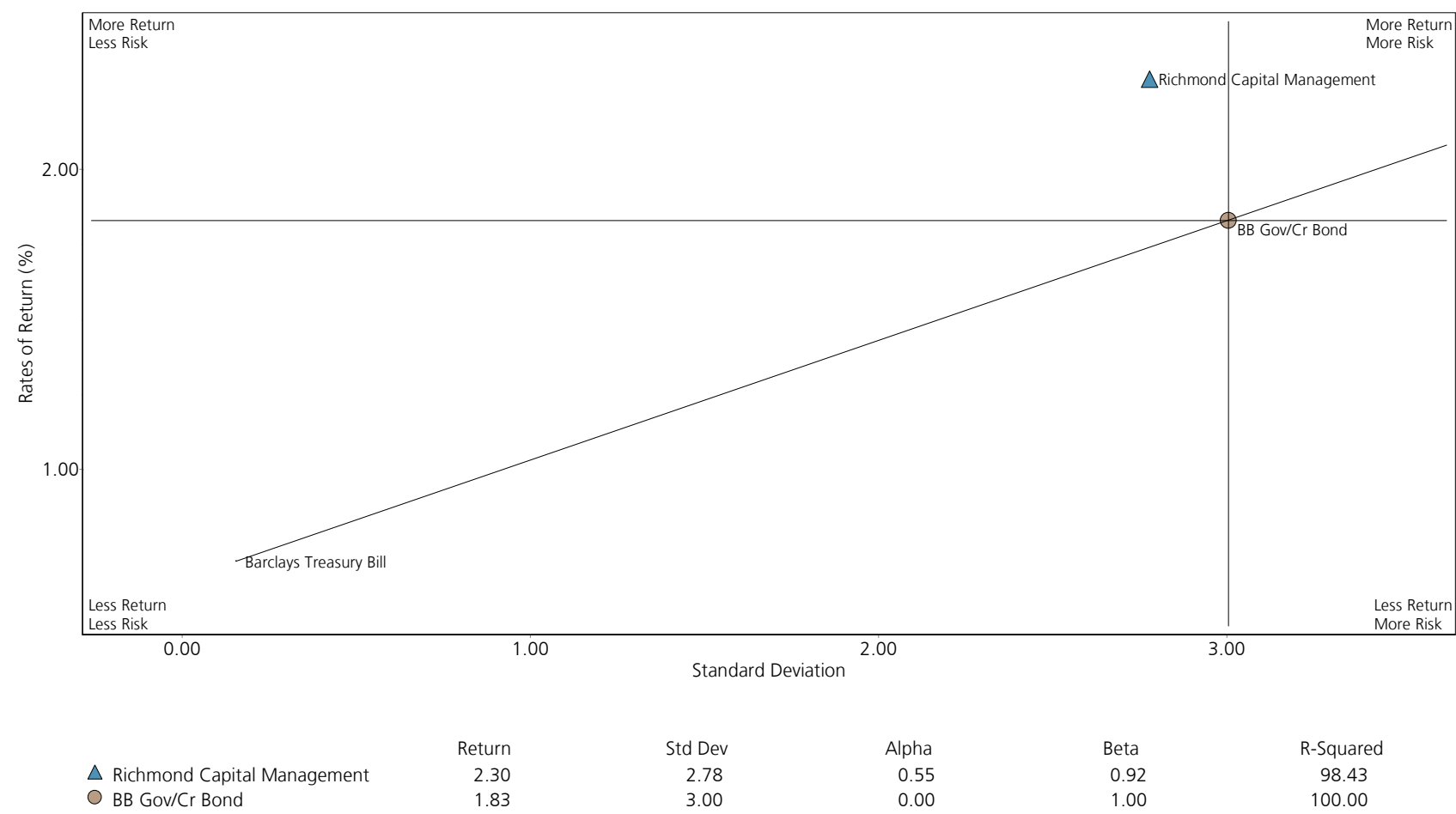
### Annual Periods



	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Richmond Capital	4.15	34	3.26	43	1.19	2	6.60	8	-1.82	59	5.77	68	9.29	1	6.11	88
● Barclays Govt/Credit	4.00	41	3.05	48	0.15	41	6.01	23	-2.35	80	4.82	83	8.74	1	6.59	76

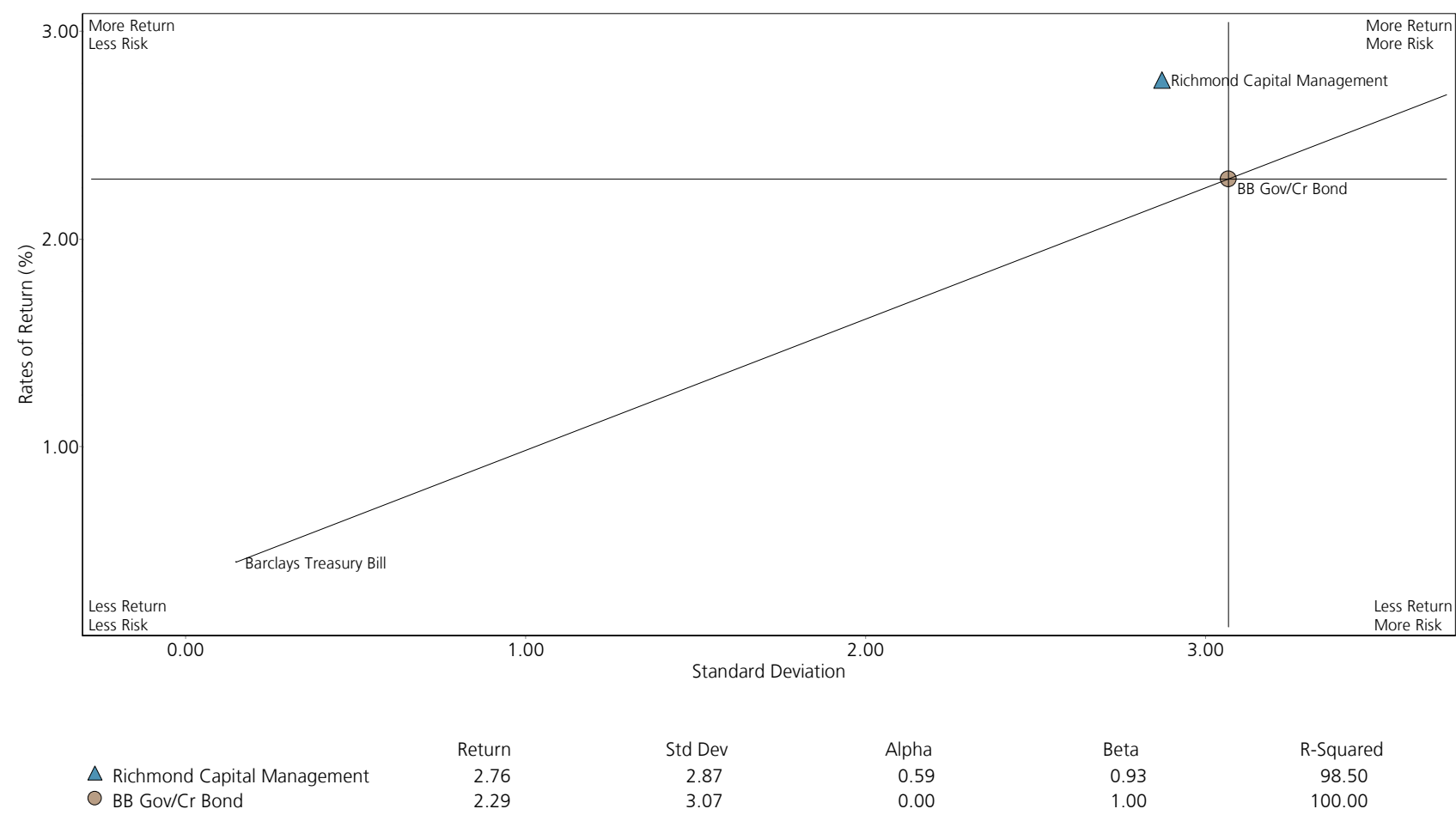
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



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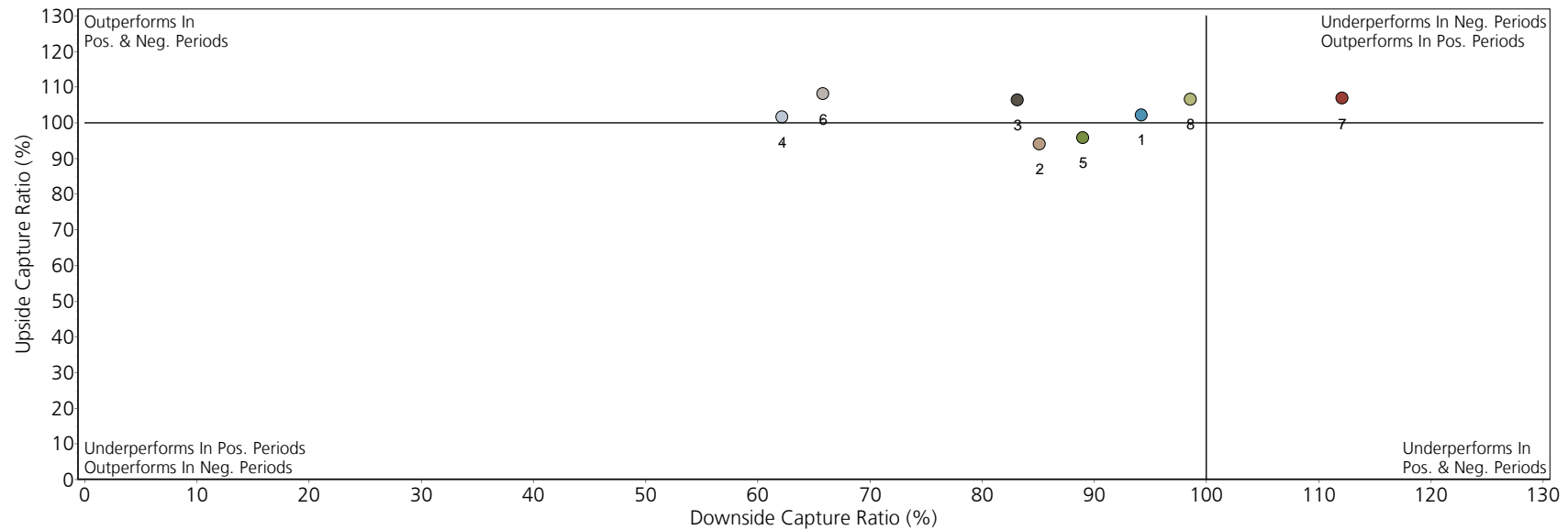
**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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## Capture Ratio

### July 31, 2007 Through June 30, 2018

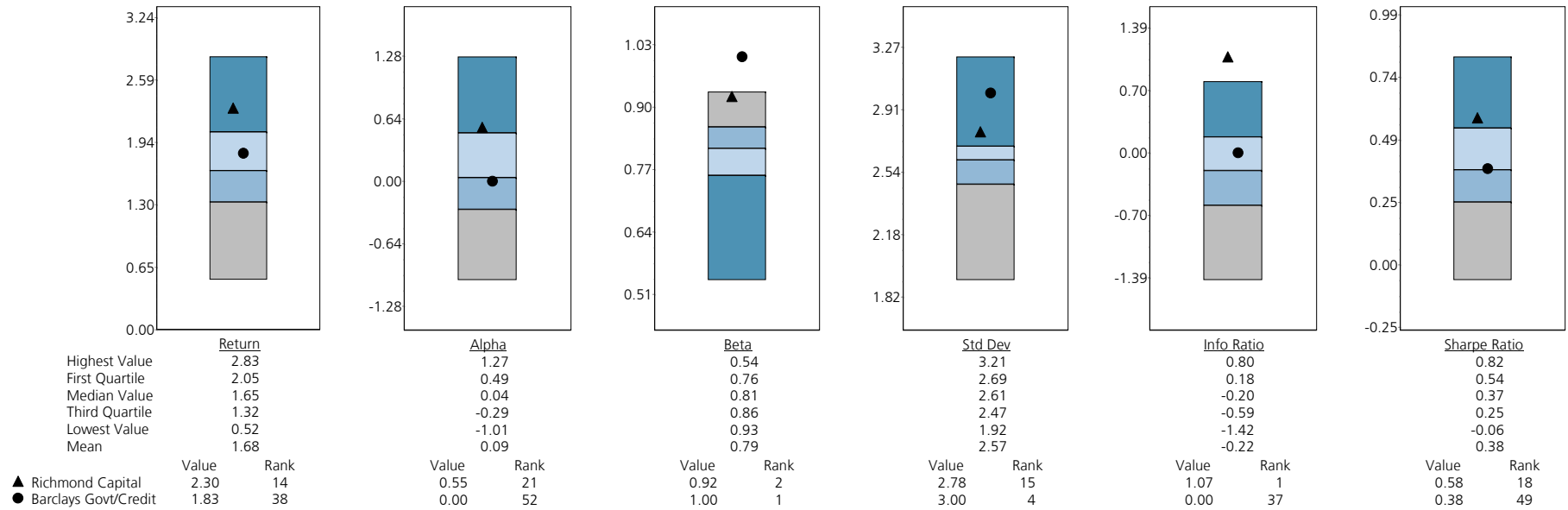


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	7/2007-6/2018
Up Periods	9.00	7.00	5.00	8.00	6.00	8.00	9.00	83.00
Upside Capture ROR	4.91	6.89	4.93	7.37	3.61	6.65	10.20	12.78
BB Gov/Cr Bond	4.81	7.33	4.63	7.25	3.77	6.15	9.54	11.98
% Of Capture	102.18	94.08	106.40	101.62	95.85	108.05	106.92	106.60
Down Periods	3.00	5.00	7.00	4.00	6.00	4.00	3.00	48.00
Downside Capture ROR	-0.73	-3.39	-3.57	-0.72	-5.25	-0.83	-0.82	-8.31
BB Gov/Cr Bond	-0.77	-3.99	-4.29	-1.16	-5.90	-1.26	-0.73	-8.43
% Of Capture	94.21	85.10	83.16	62.18	88.96	65.79	112.11	98.59

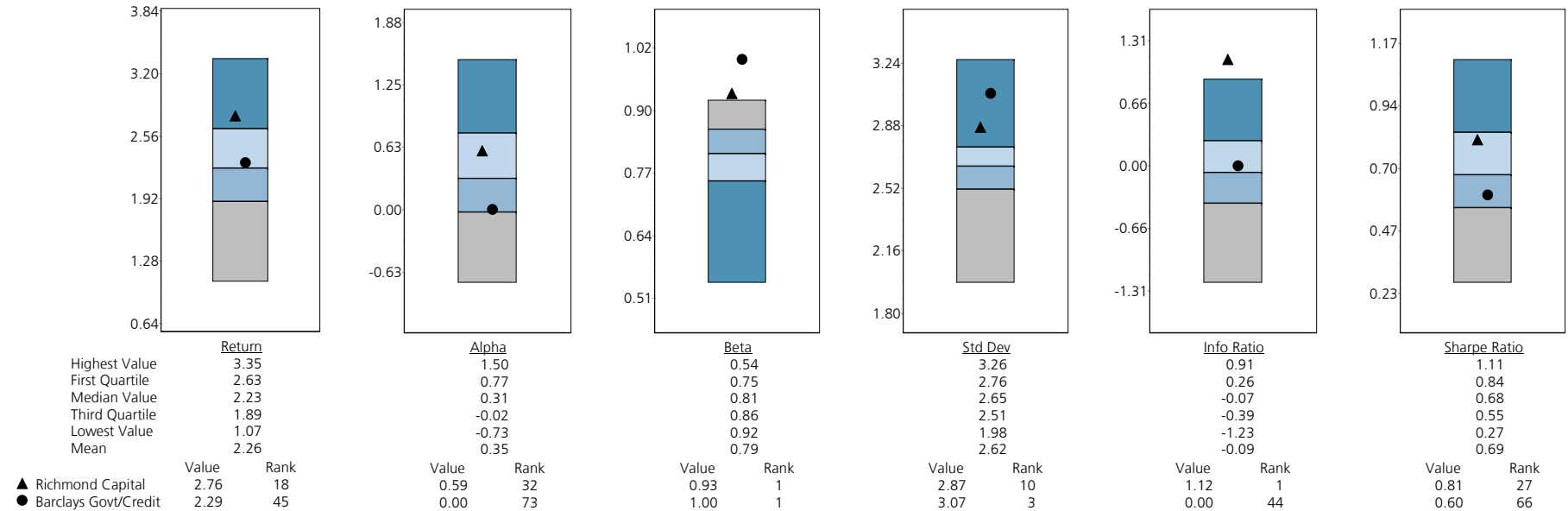
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## TOTAL FUND vs Intermediate Bond Managers June 30, 2015 Through June 30, 2018

### 3 Year



### 5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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**

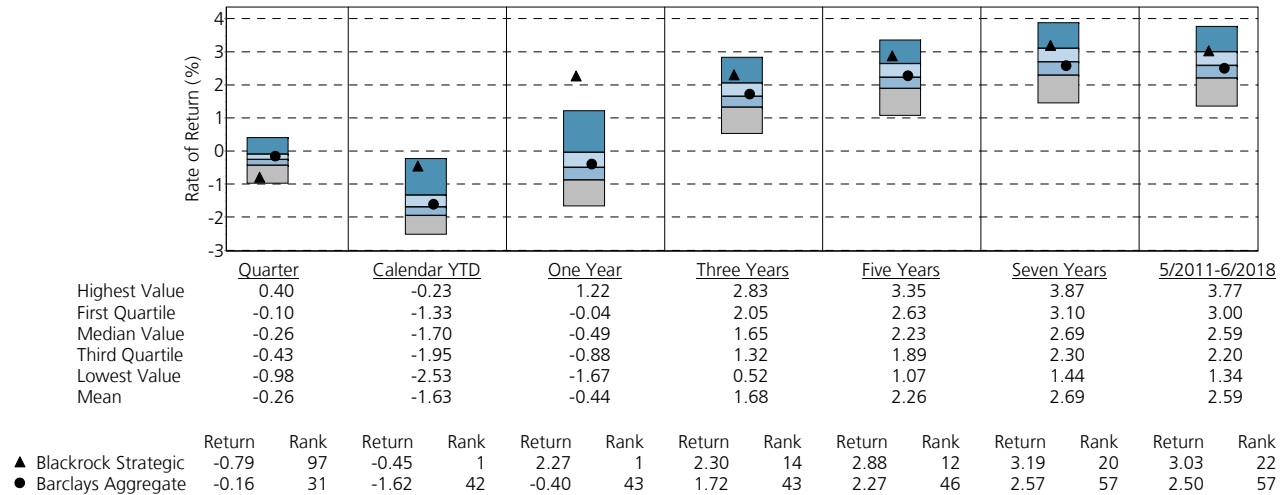
5/31/2011 - Present

100% Bloomberg Barclays Aggregate Bond

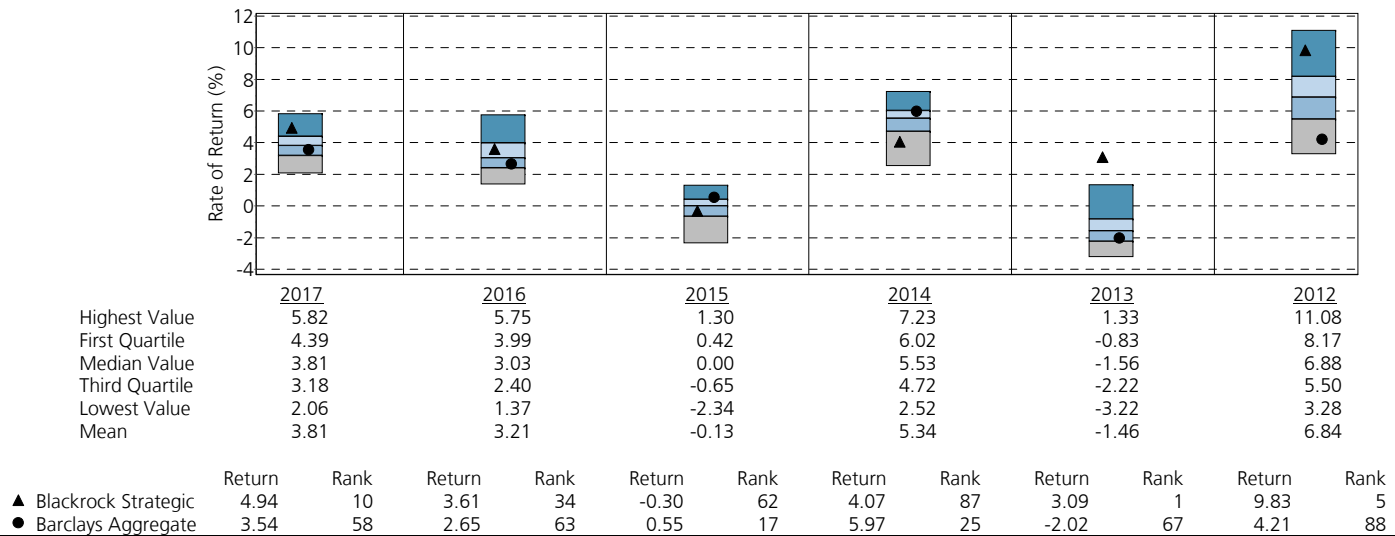


## TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

### Trailing Periods

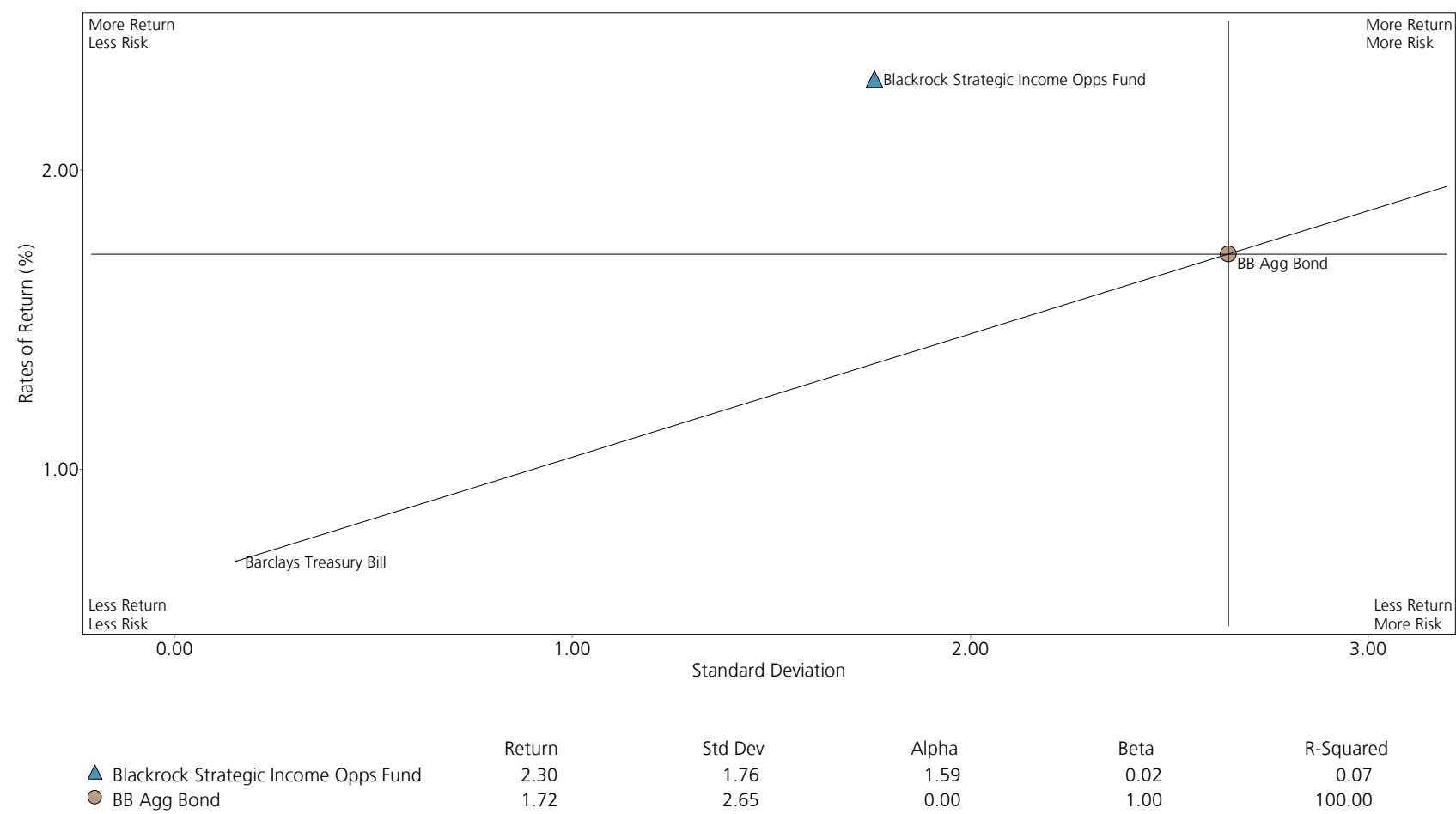


### Annual Periods



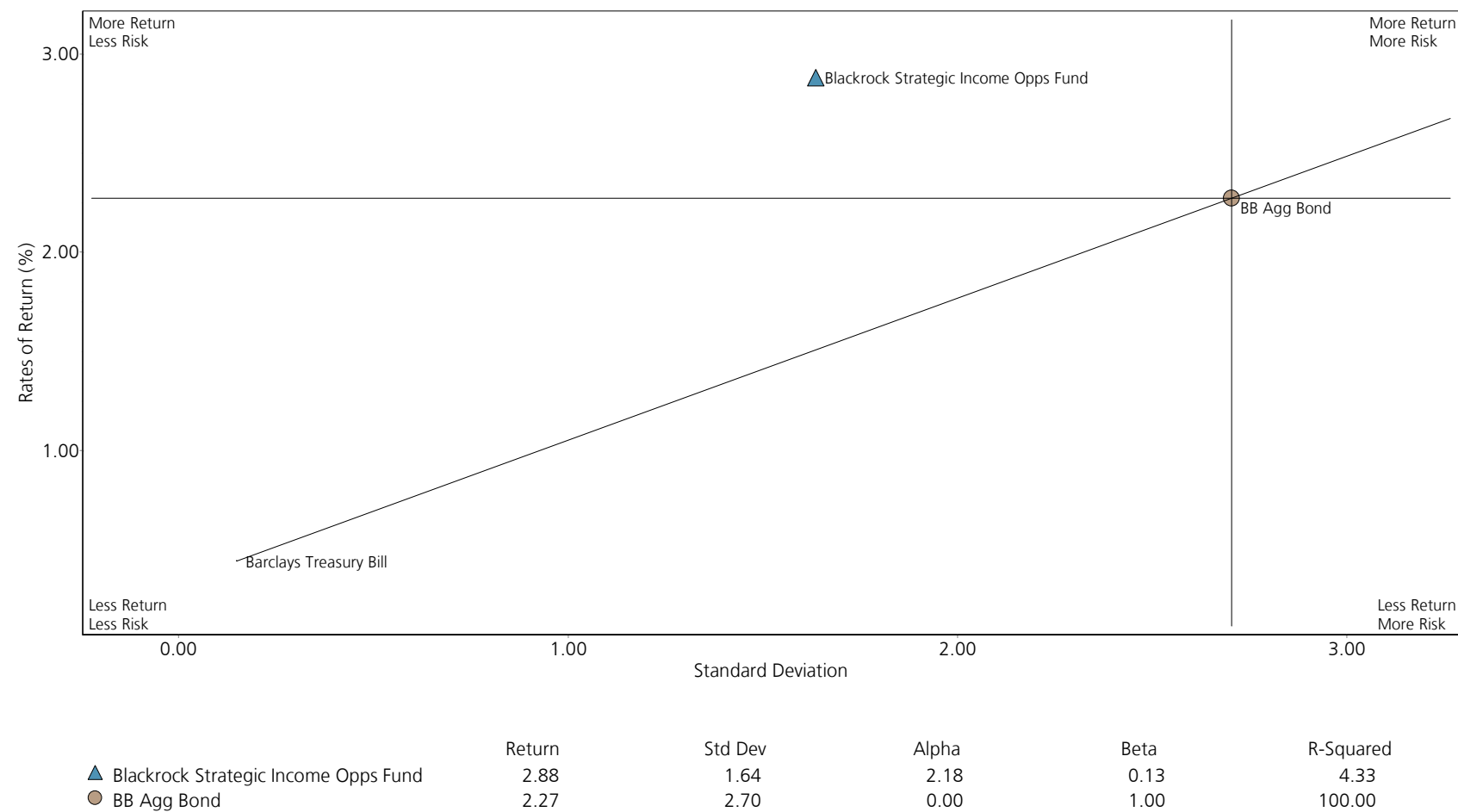
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



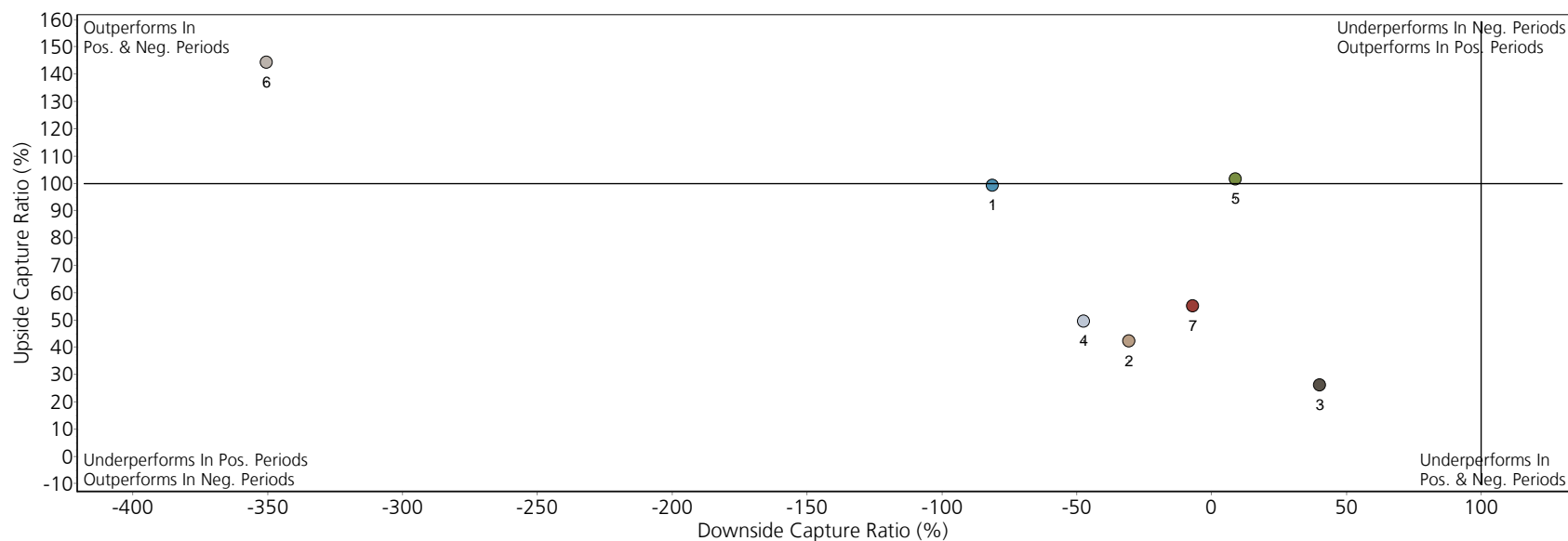
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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**May 31, 2011 Through June 30, 2018**

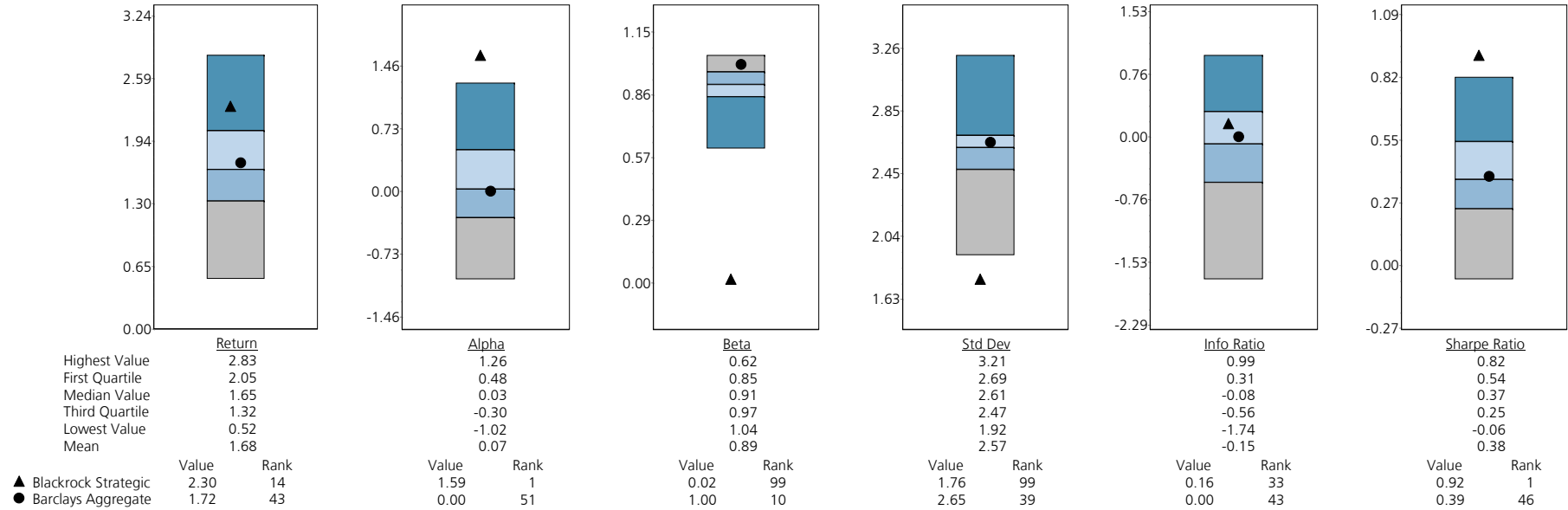


	1	2	3	4	5	6	7
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	5/2011-6/2018
Up Periods	8.00	8.00	5.00	9.00	6.00	9.00	52.00
Upside Capture ROR	4.30	2.58	1.04	3.53	3.58	7.16	4.71
BB Agg Bond	4.33	6.13	4.00	7.14	3.53	4.96	8.57
% Of Capture	99.27	42.09	26.06	49.44	101.43	144.22	54.92
Down Periods	4.00	4.00	7.00	3.00	6.00	3.00	33.00
Downside Capture ROR	0.61	1.00	-1.33	0.52	-0.48	2.50	0.45
BB Agg Bond	-0.76	-3.28	-3.32	-1.10	-5.37	-0.71	-6.39
% Of Capture	-81.16	-30.54	40.02	-47.35	8.86	-350.46	-6.99

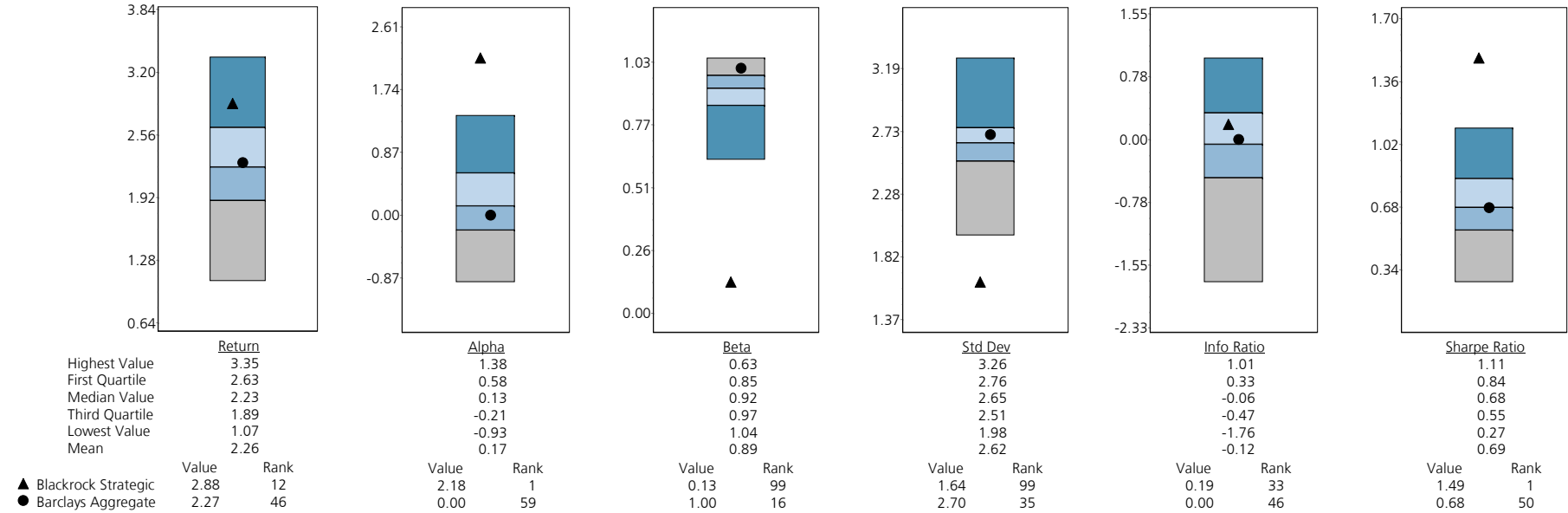
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TOTAL FUND vs Intermediate Bond Managers  
June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Delaware Diversified 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.

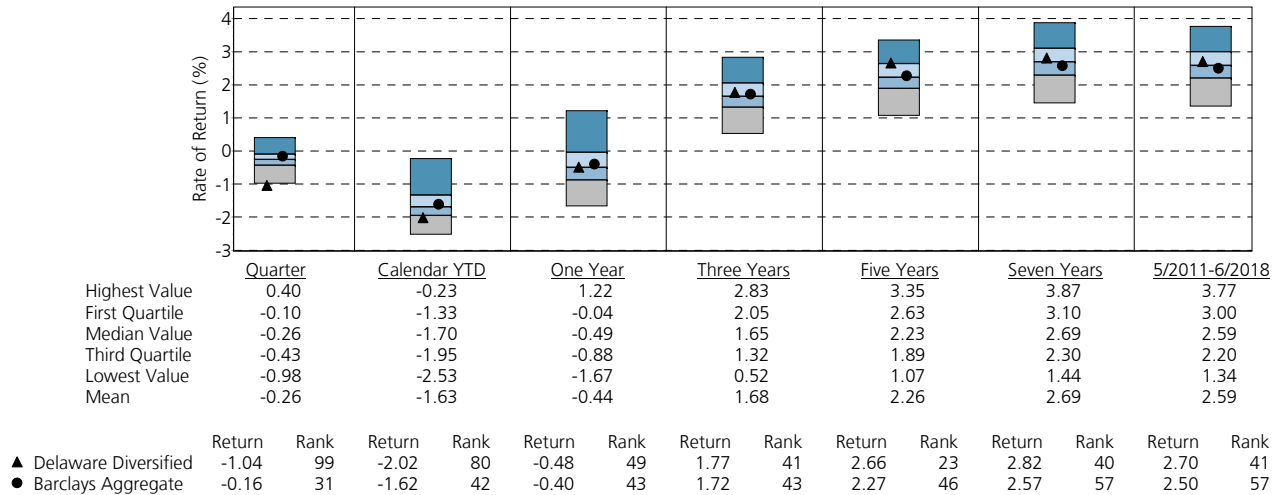
**TOTAL FUND BENCHMARK**

5/31/2011 - Present

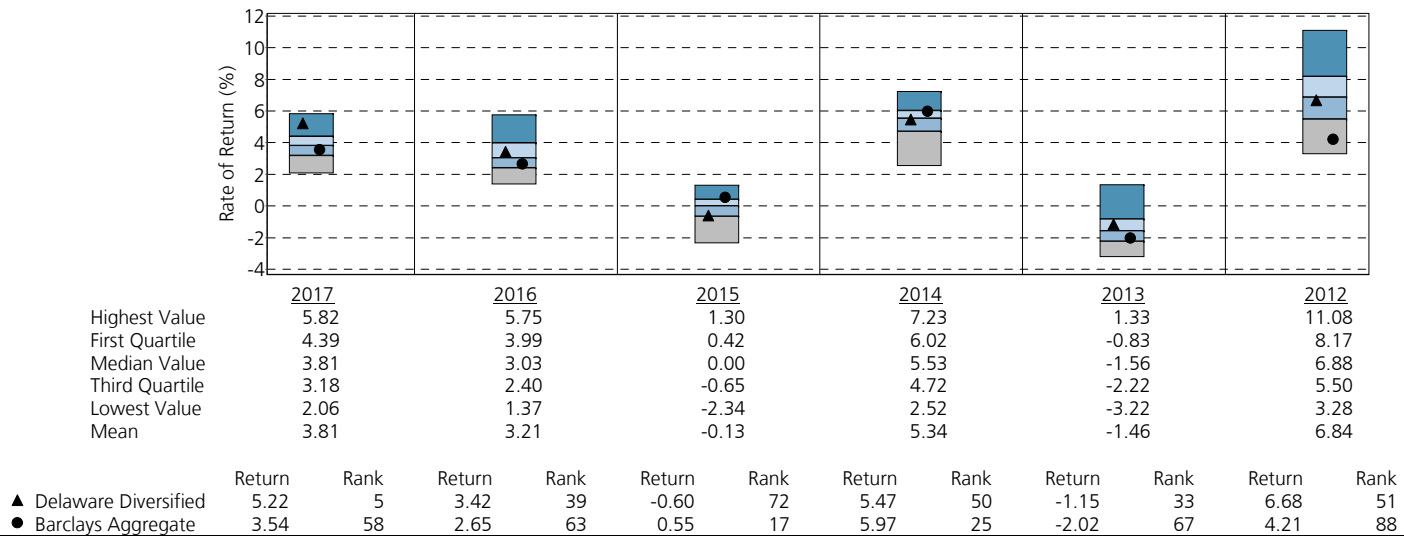
100% Bloomberg Barclays Aggregate Bond

## TOTAL FUND Peer Universe Comparison versus Intermediate Bond Managers

### Trailing Periods



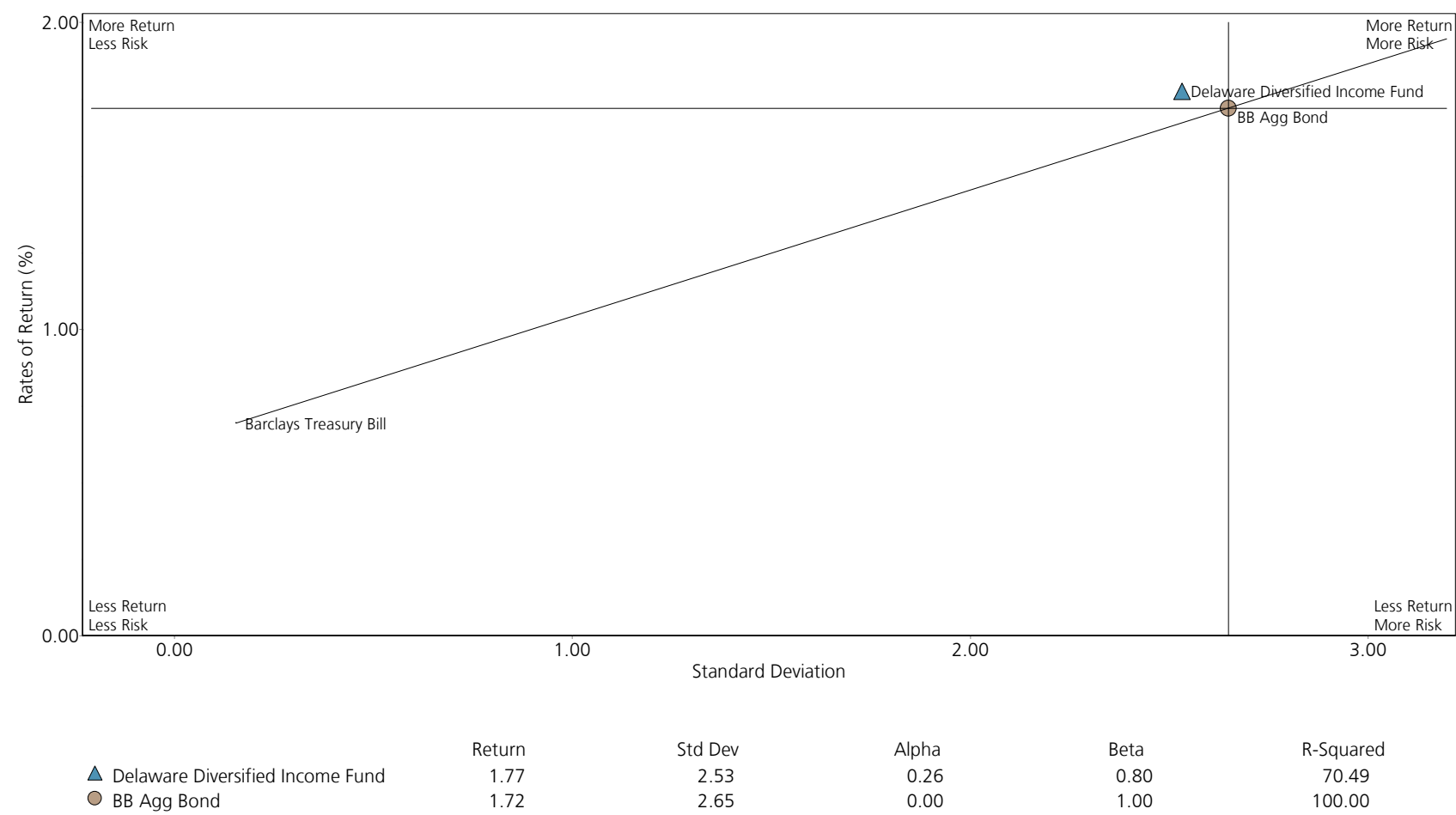
### Annual Periods



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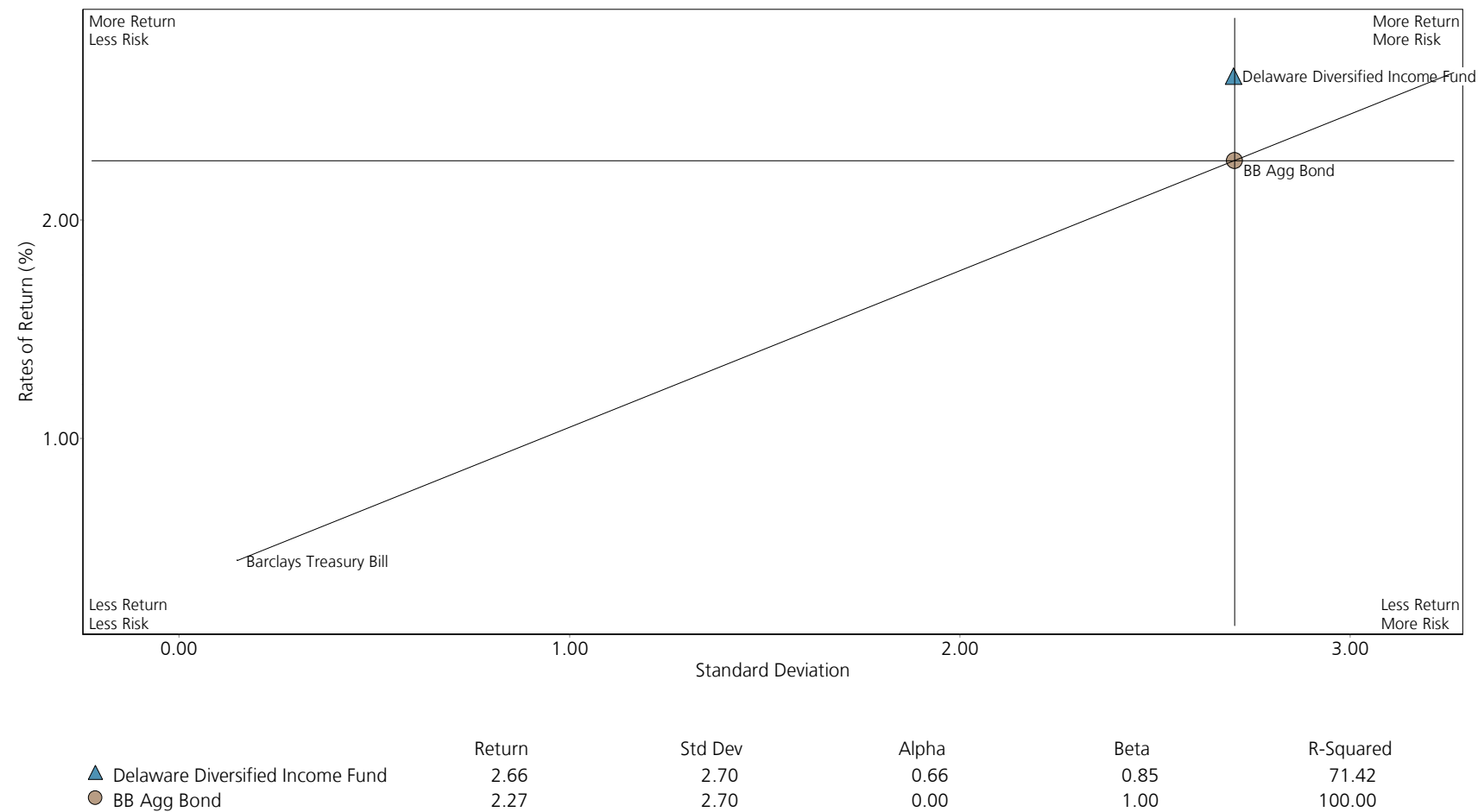


**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



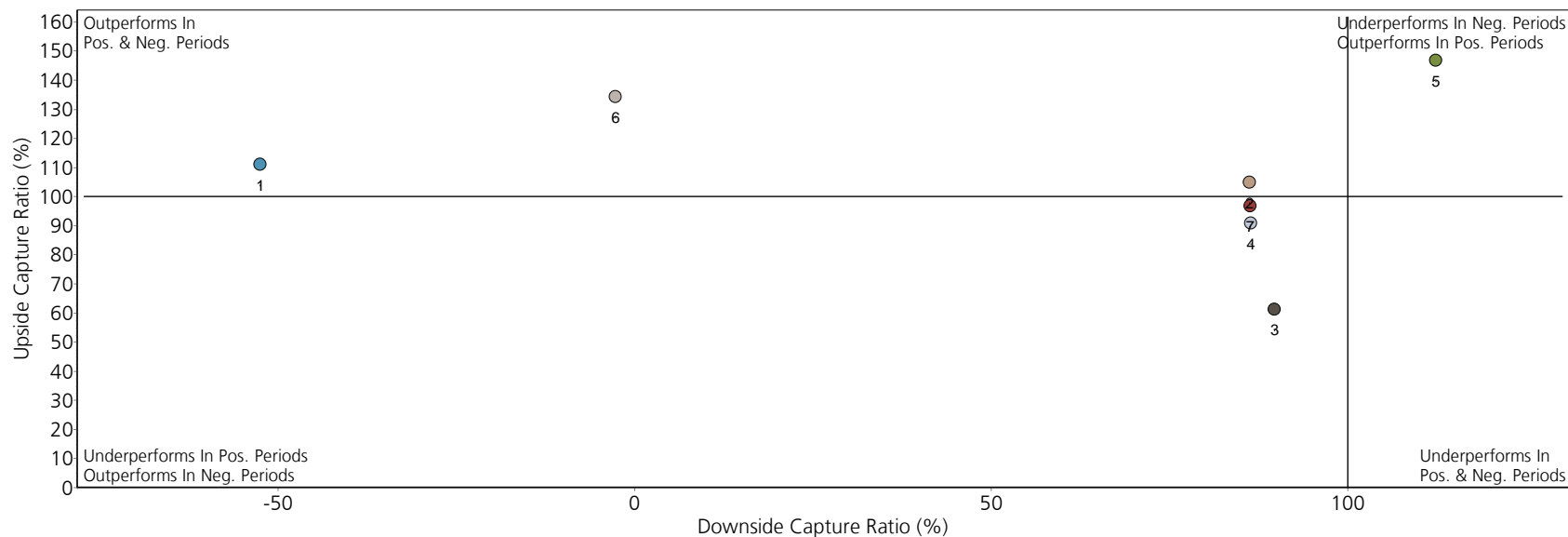
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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**May 31, 2011 Through June 30, 2018**



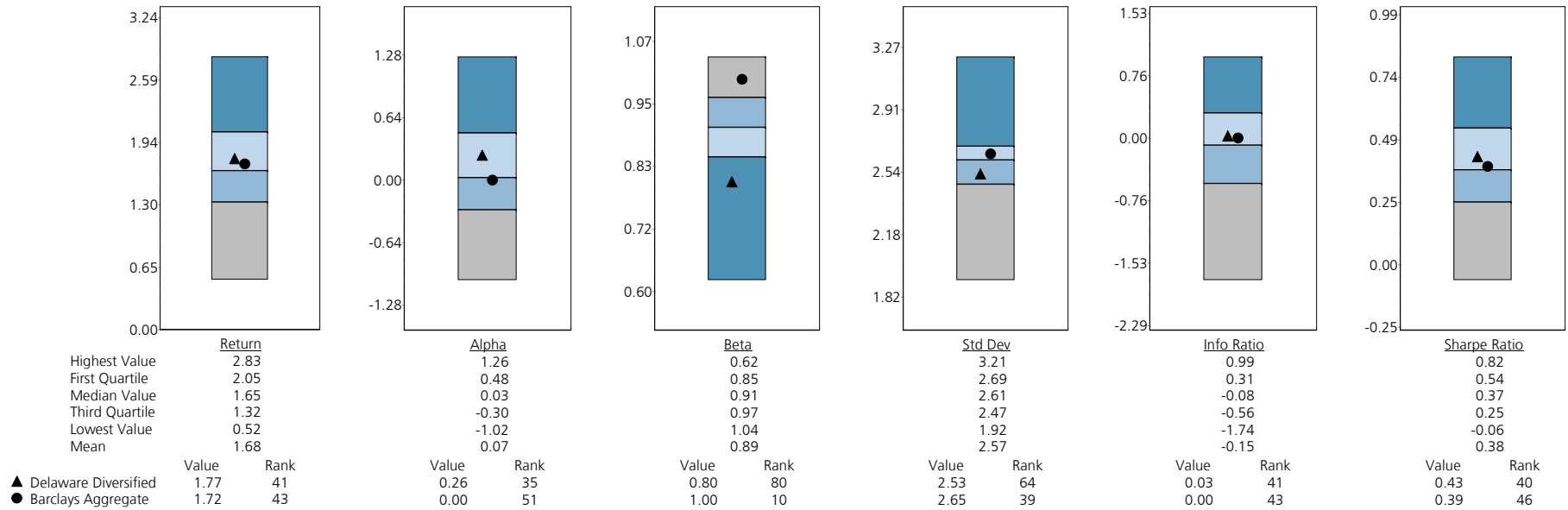
	1	2	3	4	5	6	7
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	5/2011-6/2018
Up Periods	8.00	8.00	5.00	9.00	6.00	9.00	52.00
Upside Capture ROR	4.80	6.43	2.45	6.48	5.18	6.66	8.28
BB Agg Bond	4.33	6.13	4.00	7.14	3.53	4.96	8.57
% Of Capture	110.95	104.91	61.28	90.75	146.73	134.24	96.67
Down Periods	4.00	4.00	7.00	3.00	6.00	3.00	33.00
Downside Capture ROR	0.40	-2.83	-2.97	-0.95	-6.02	0.02	-5.51
BB Agg Bond	-0.76	-3.28	-3.32	-1.10	-5.37	-0.71	-6.39
% Of Capture	-52.43	86.23	89.66	86.38	112.28	-2.69	86.28

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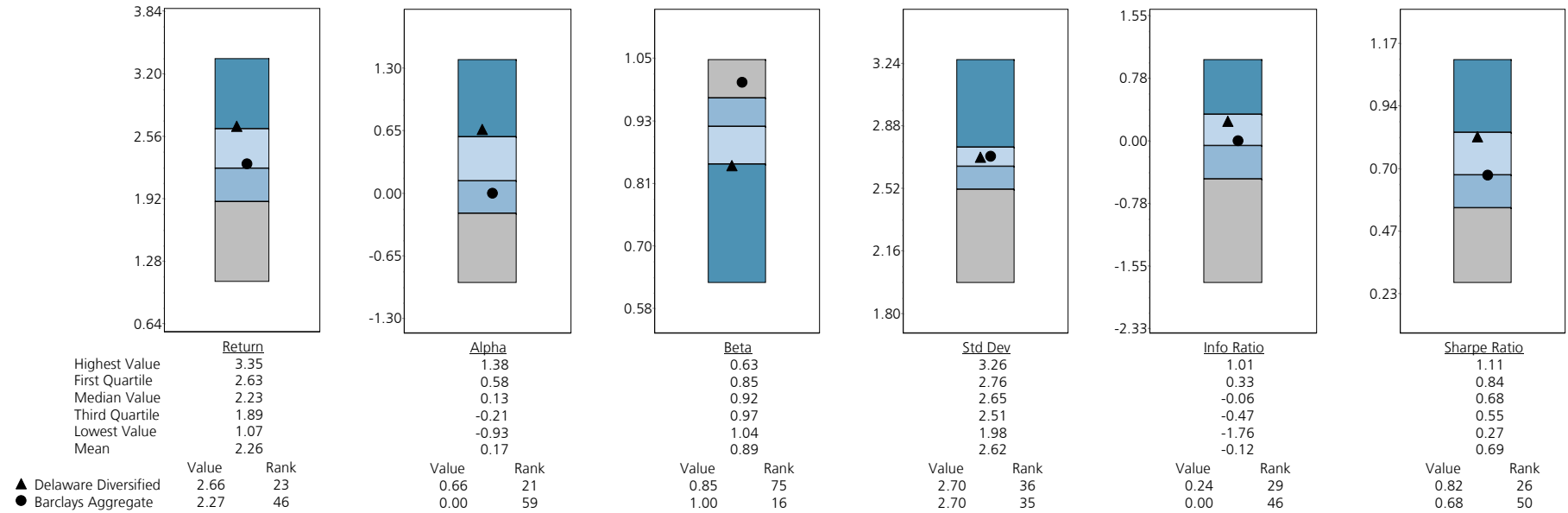
## TOTAL FUND vs Intermediate Bond Managers

### June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Eagle Capital Large Value

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# Performance Analysis

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

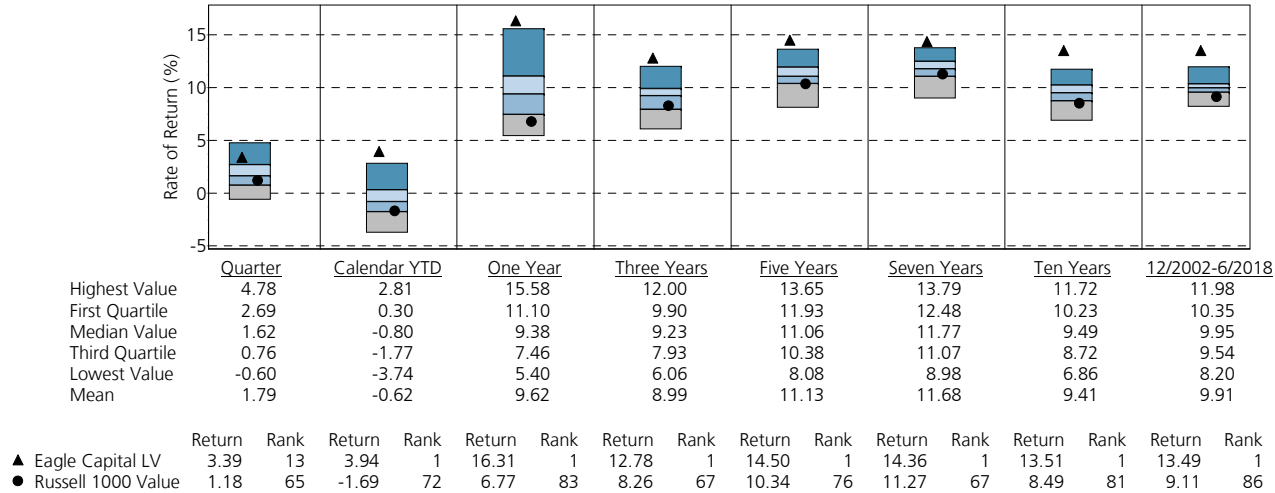
**TOTAL FUND BENCHMARK**

12/31/2002 - Present  
100% Russell 1000 Value

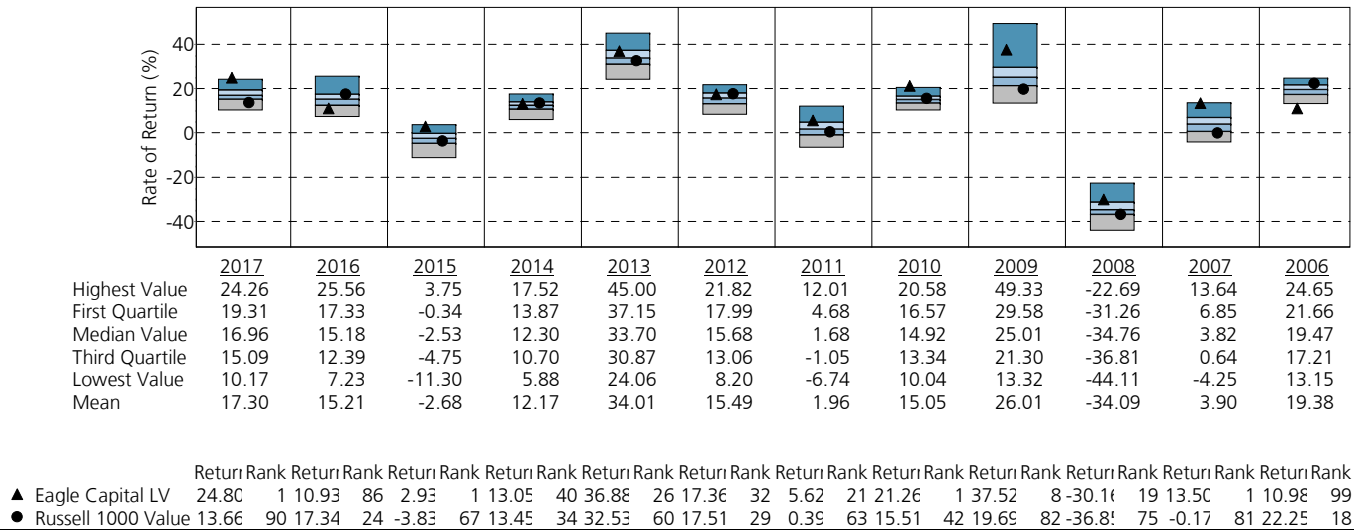
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TOTAL FUND Peer Universe Comparison versus Large Cap Value Managers

Trailing Periods

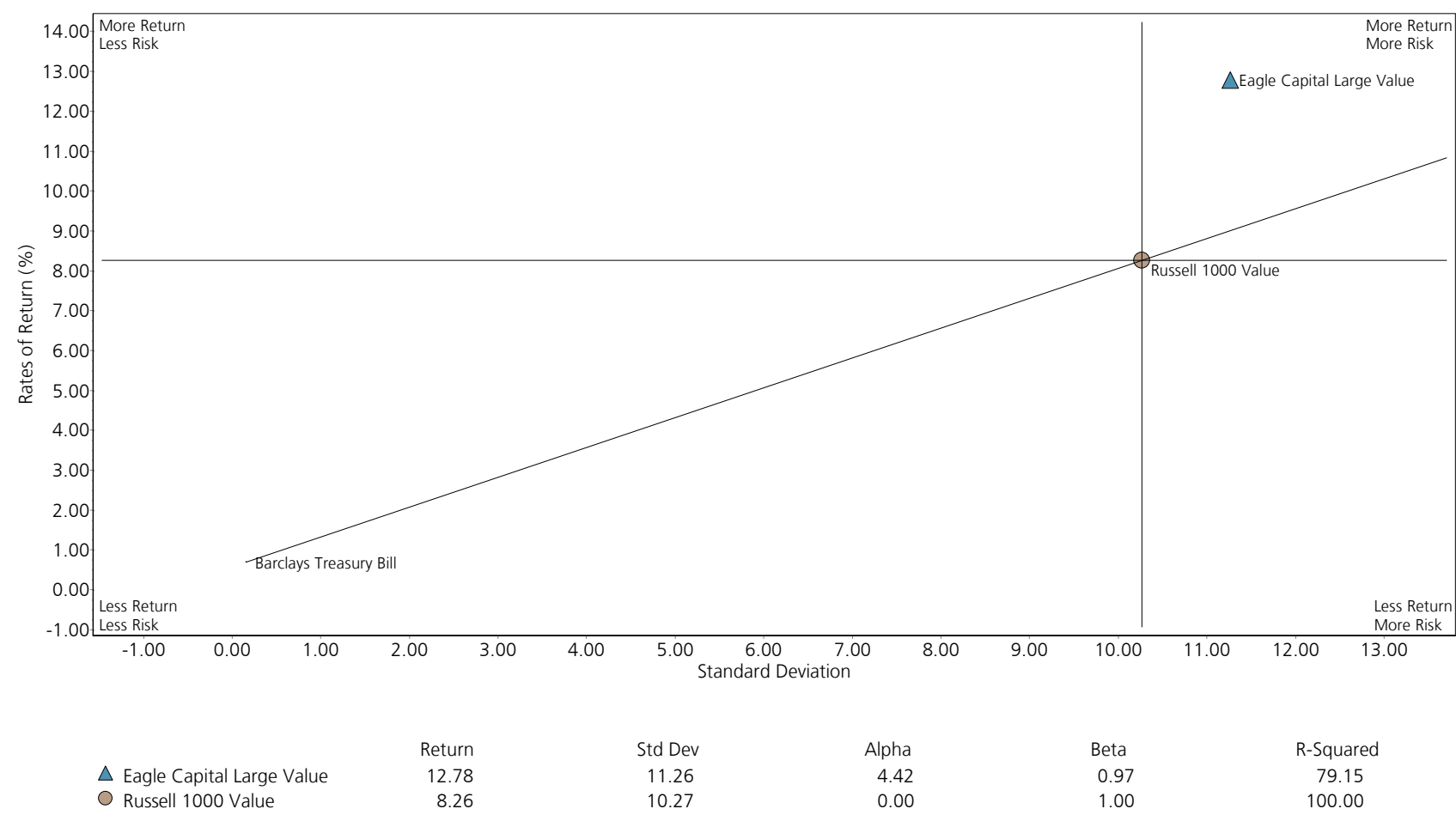


Annual Periods



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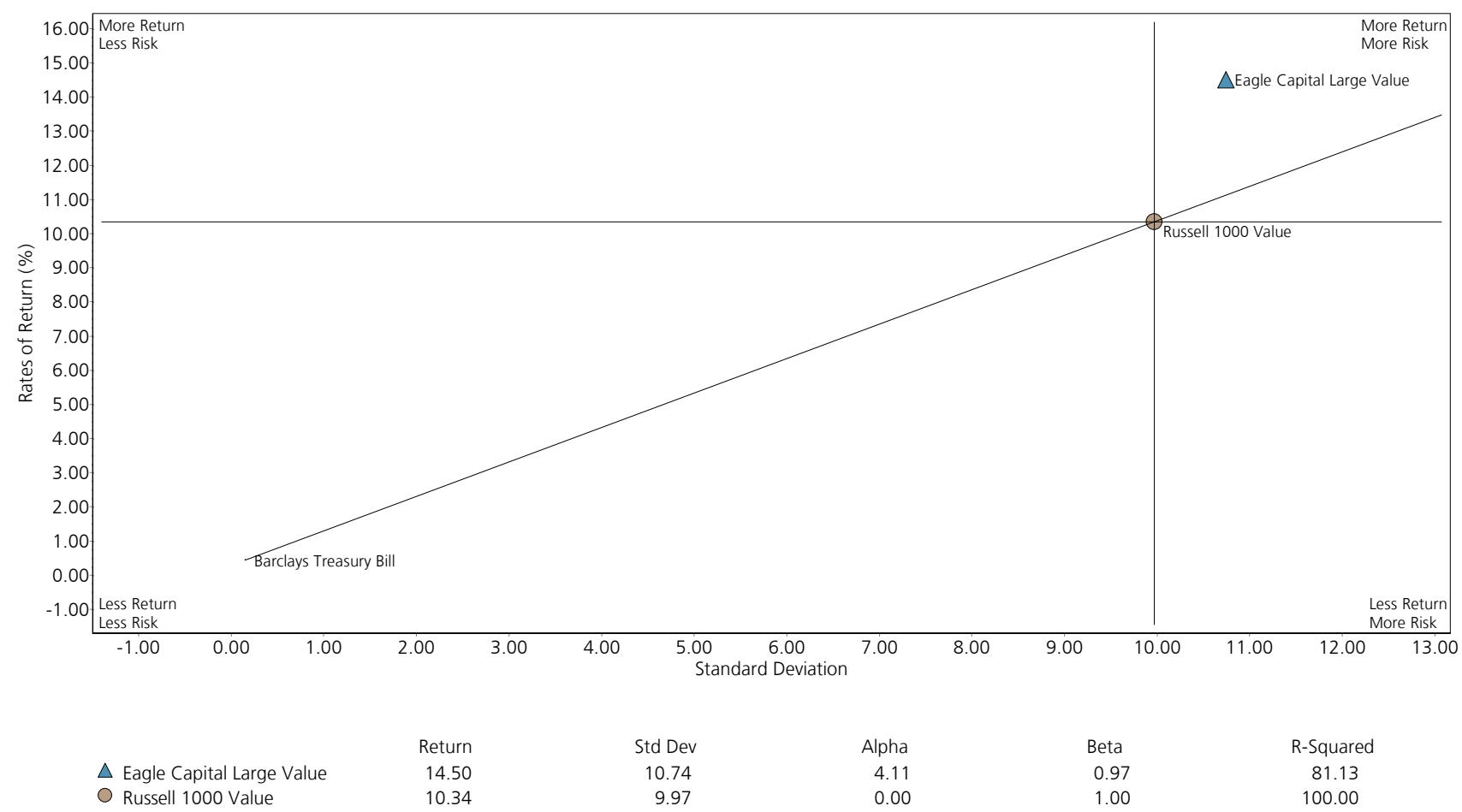
**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



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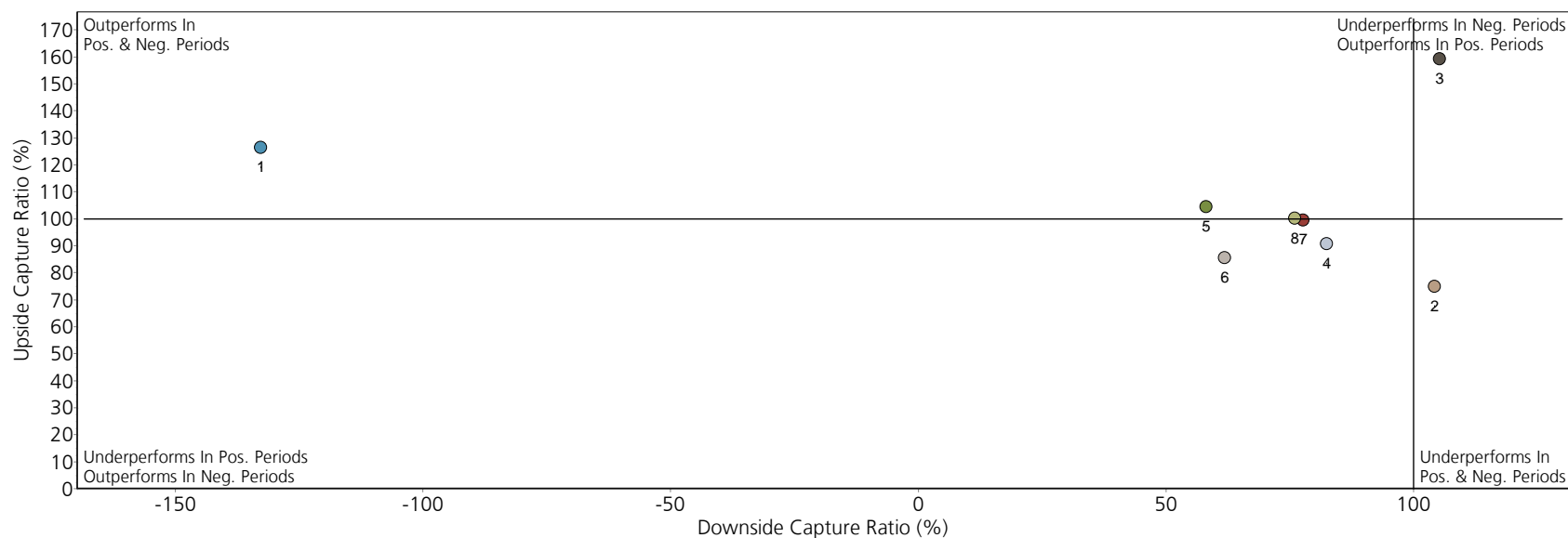
**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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## Capture Ratio

### December 31, 2002 Through June 30, 2018

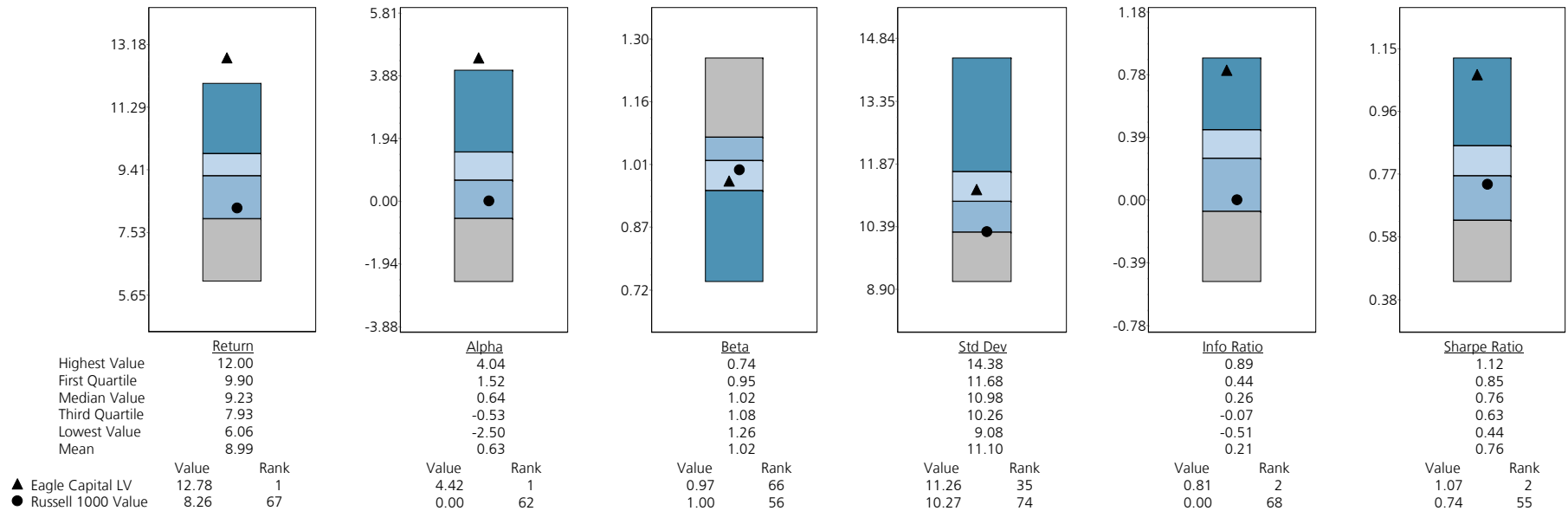


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	12/2002-6/2018
Up Periods	8.00	8.00	6.00	9.00	10.00	8.00	6.00	120.00
Upside Capture ROR	20.87	19.46	25.65	20.13	40.67	22.93	24.14	42.49
Russell 1000 Value	16.52	25.97	16.12	22.19	38.98	26.79	24.26	42.45
% Of Capture	126.34	74.91	159.12	90.72	104.35	85.58	99.50	100.09
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

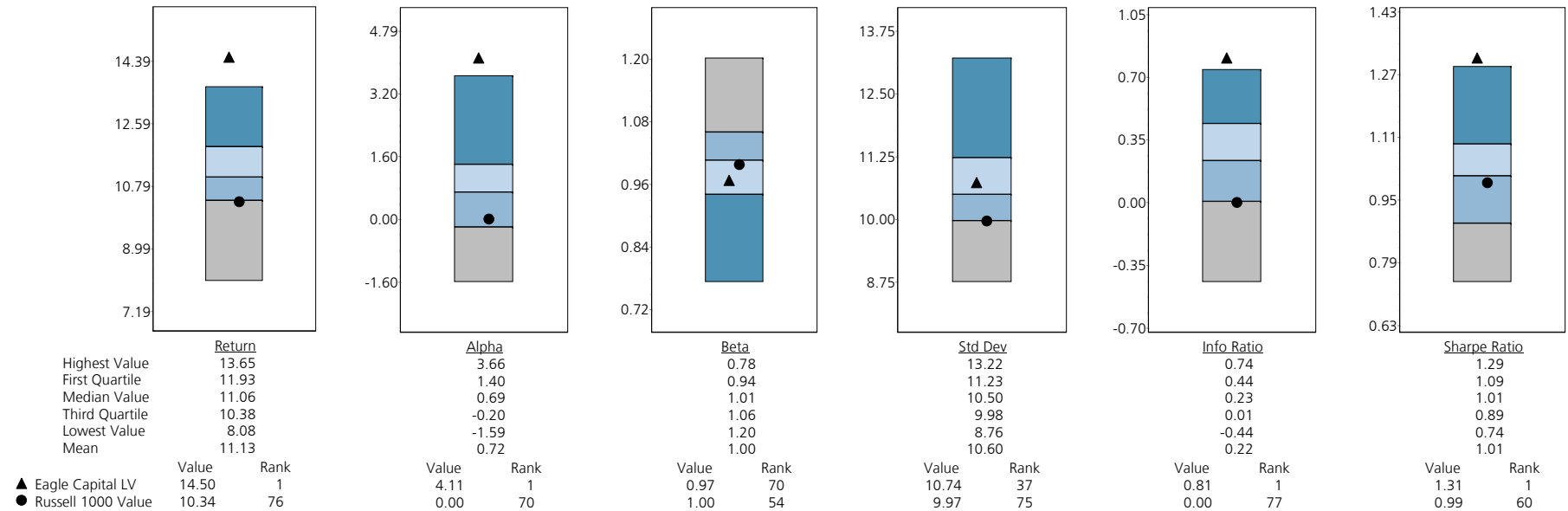
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## TOTAL FUND vs Large Cap Value Managers June 30, 2015 Through June 30, 2018

### 3 Year



### 5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Vanguard 500 Index

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# Performance Analysis

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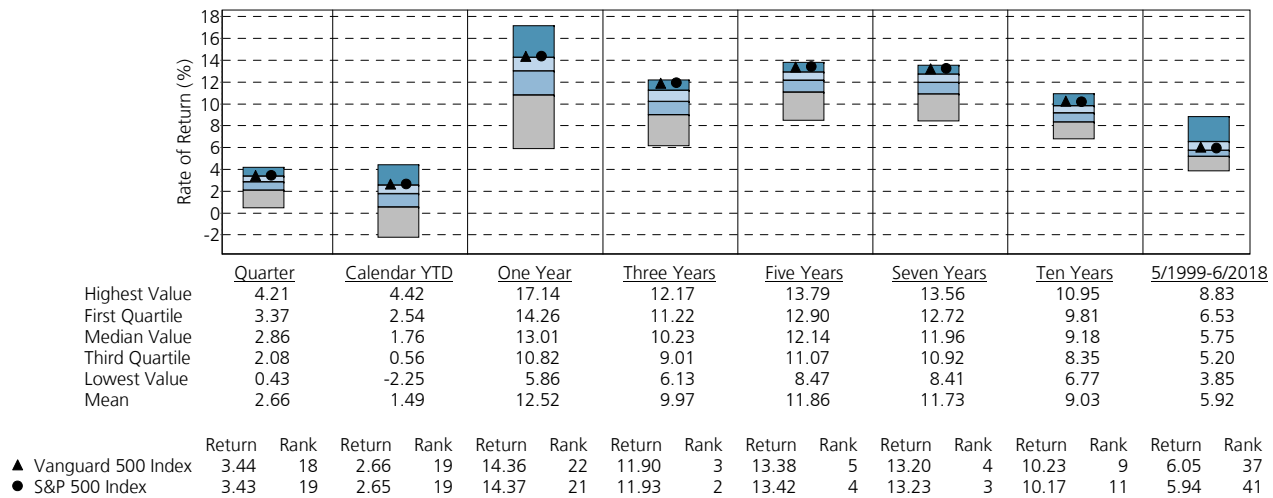
**TOTAL FUND BENCHMARK**

5/31/1999 - Present  
100% S&P 500 Index

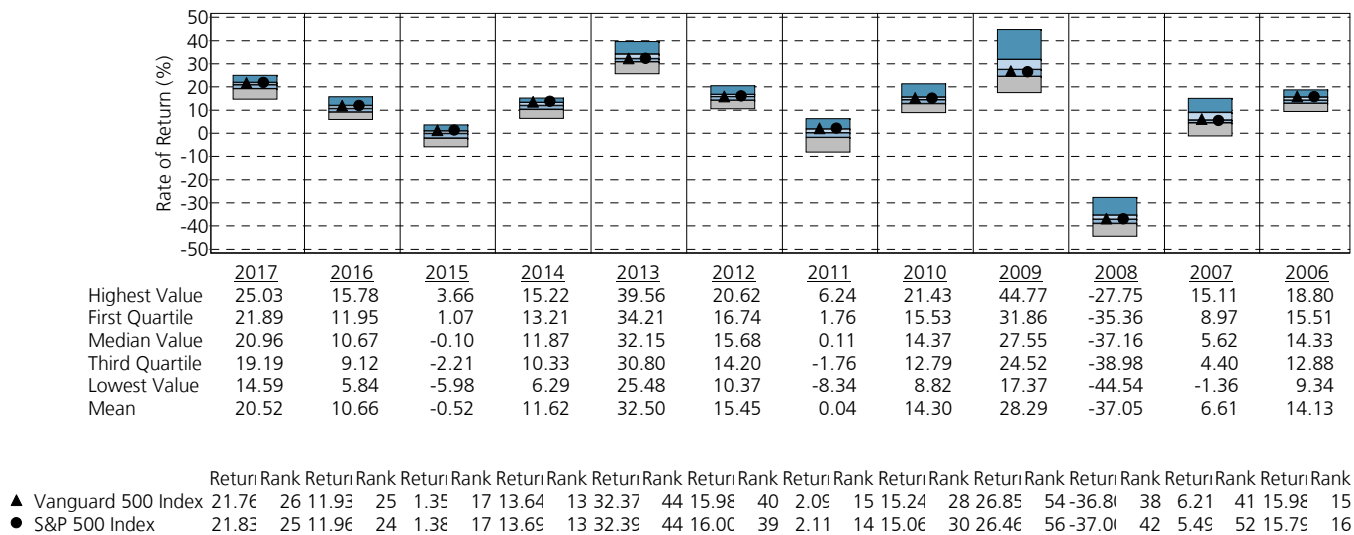
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TOTAL FUND Peer Universe Comparison versus Large Blend Managers

Trailing Periods

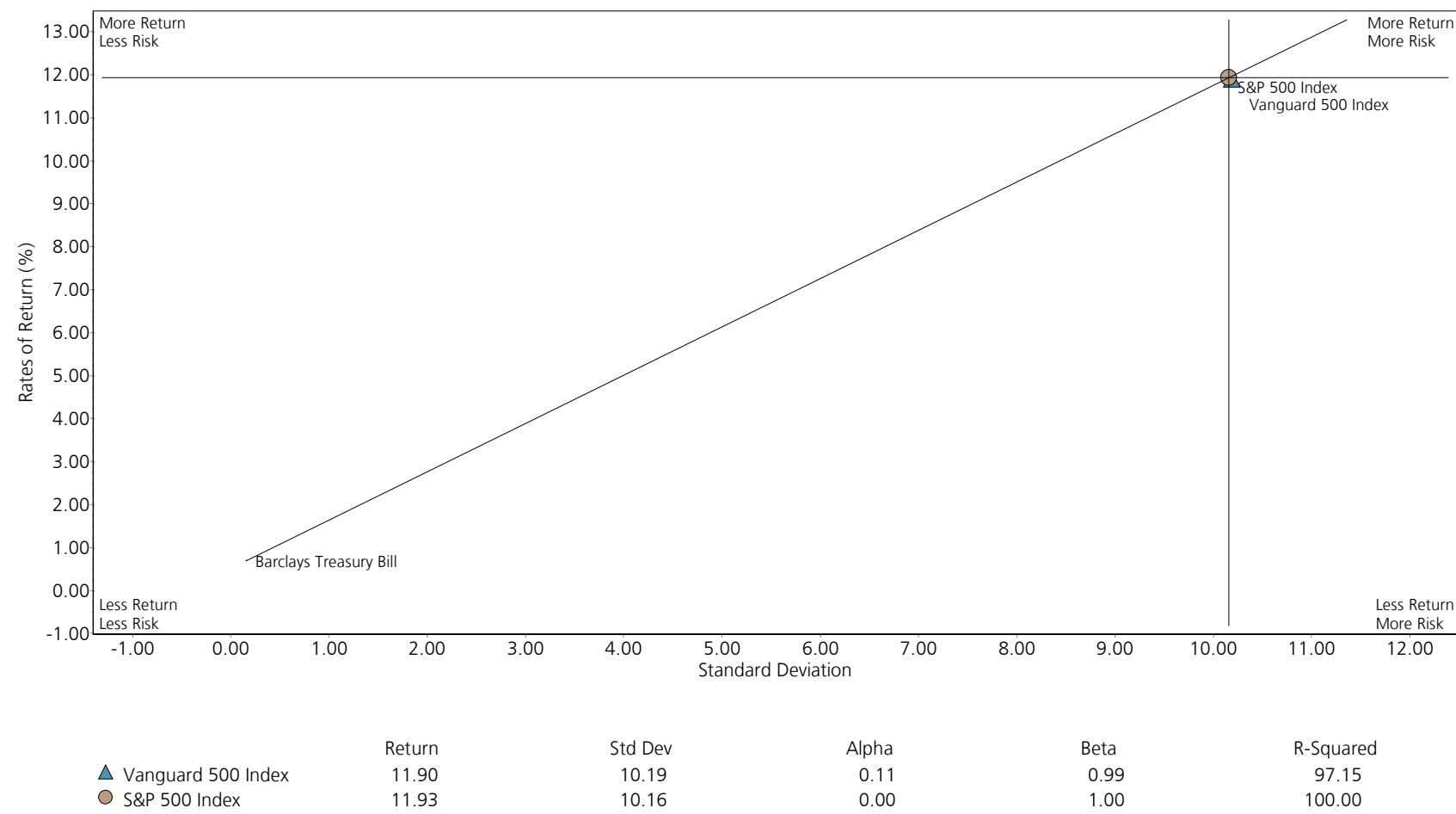


Annual Periods



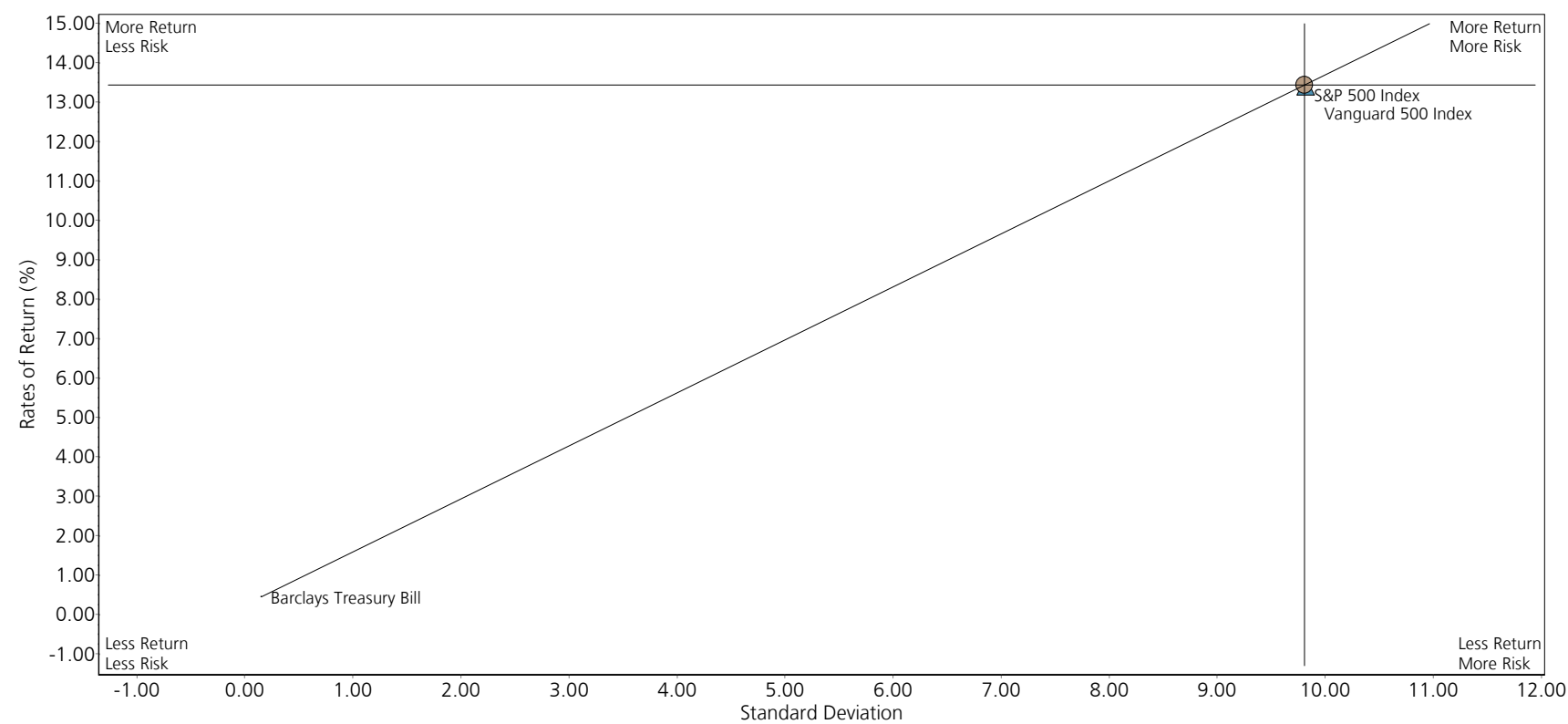
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**

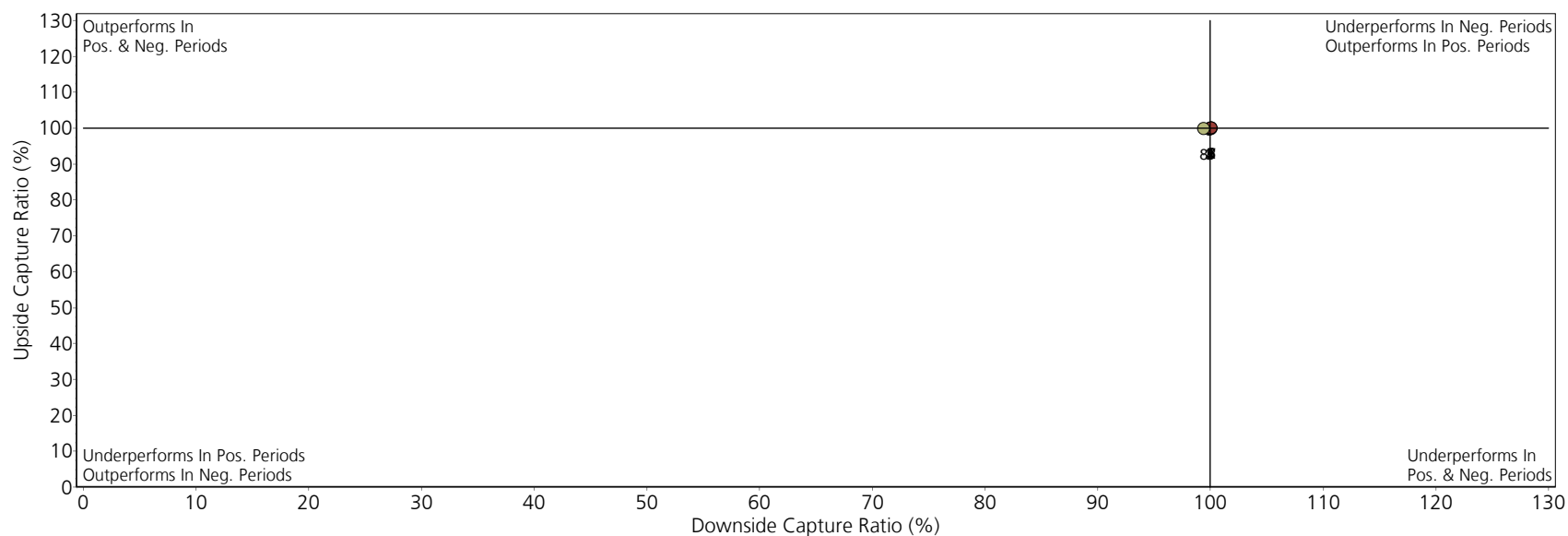


	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard 500 Index	13.38	9.82	0.07	0.99	98.17
● S&P 500 Index	13.42	9.81	0.00	1.00	100.00

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**Capture Ratio**  
**May 31, 1999 Through June 30, 2018**

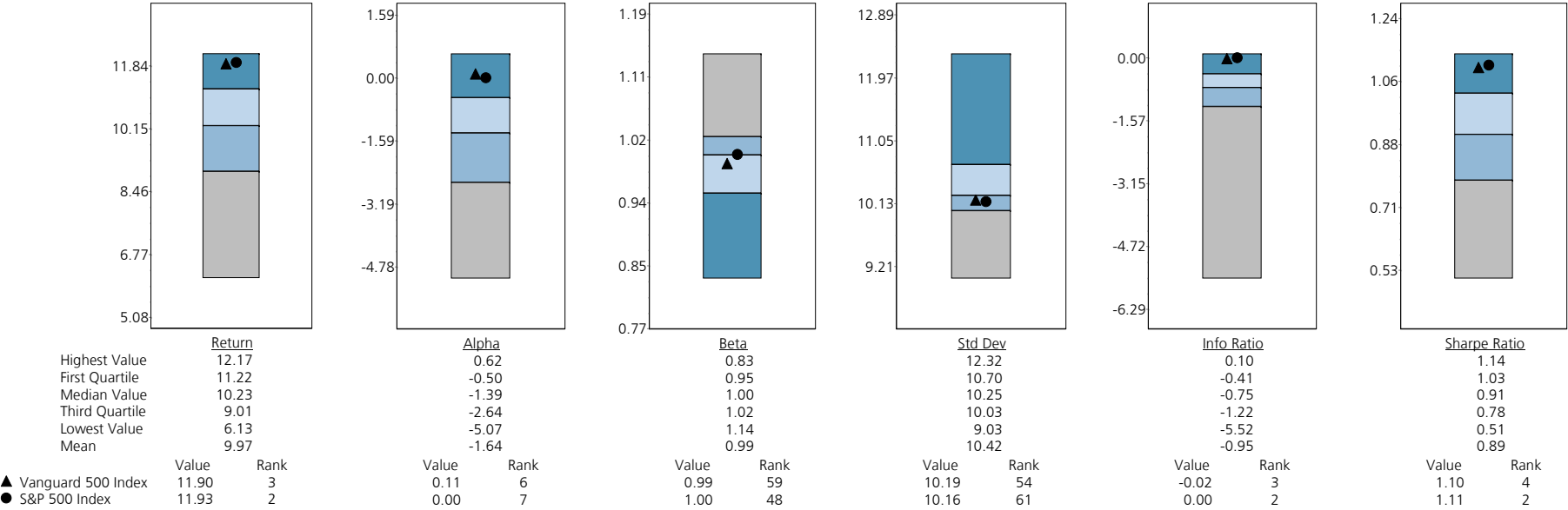


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	5/1999-6/2018
Up Periods	12.00	9.00	6.00	8.00	10.00	9.00	6.00	146.00
Upside Capture ROR	21.76	20.14	20.01	21.36	38.18	26.53	22.20	41.64
S&P 500 Index	21.83	20.16	20.07	21.41	38.19	26.54	22.21	41.69
% Of Capture	99.69	99.89	99.73	99.77	99.97	99.96	99.95	99.86
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

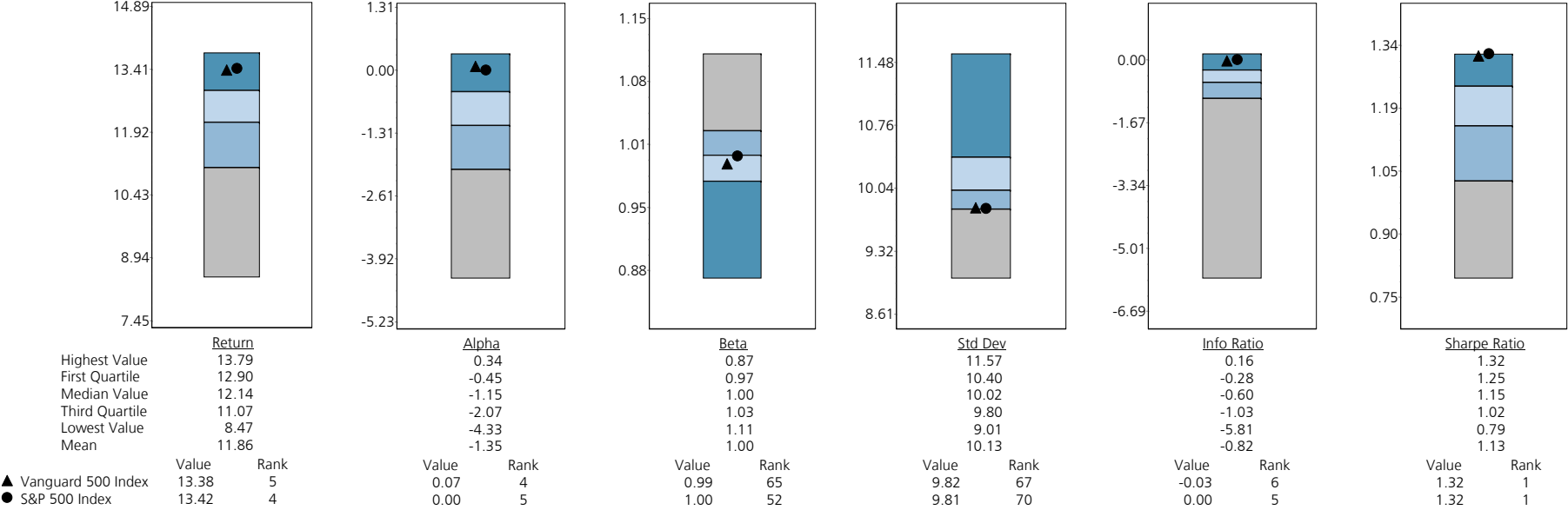
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TOTAL FUND vs Large Blend Managers  
June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# TCW Large Cap Growth

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# Performance Analysis

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

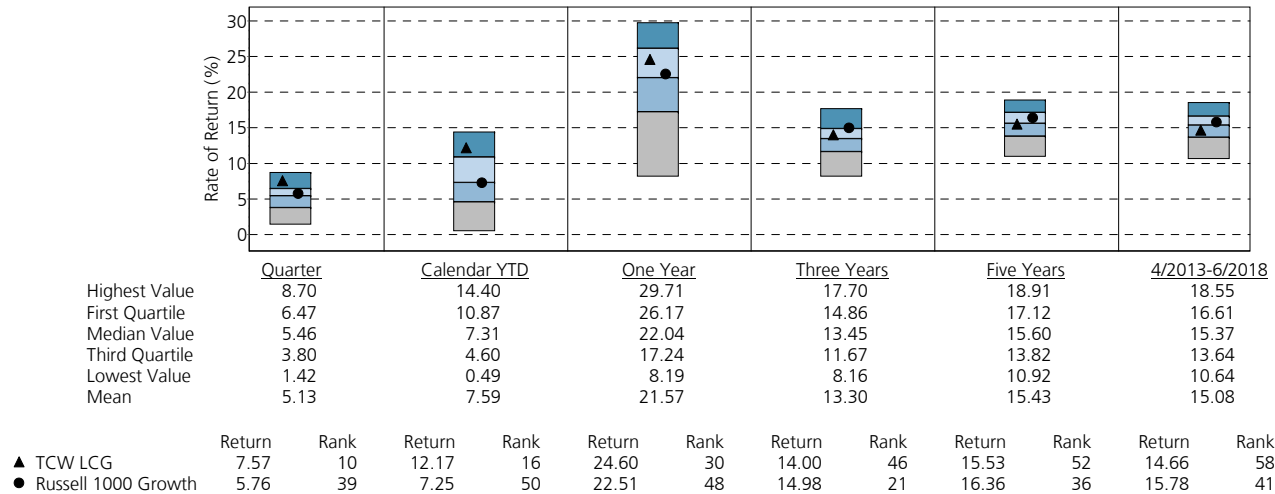
**TOTAL FUND BENCHMARK**

4/30/2013 - Present  
100% Russell 1000 Growth

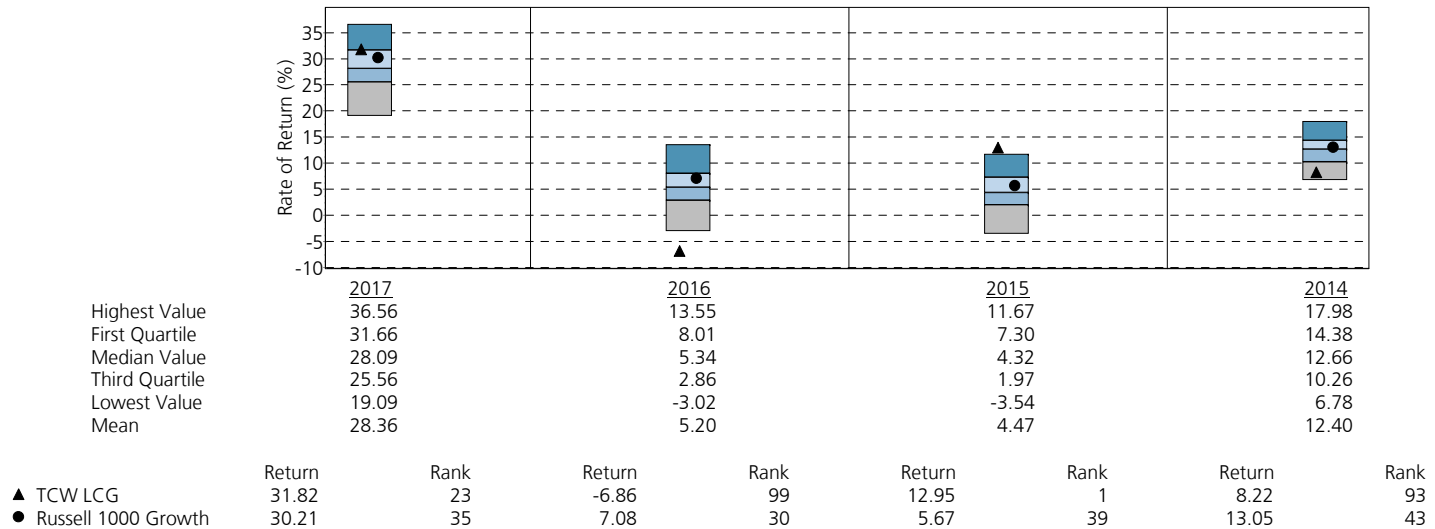
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## TOTAL FUND Peer Universe Comparison versus Large Cap Growth Managers

### Trailing Periods

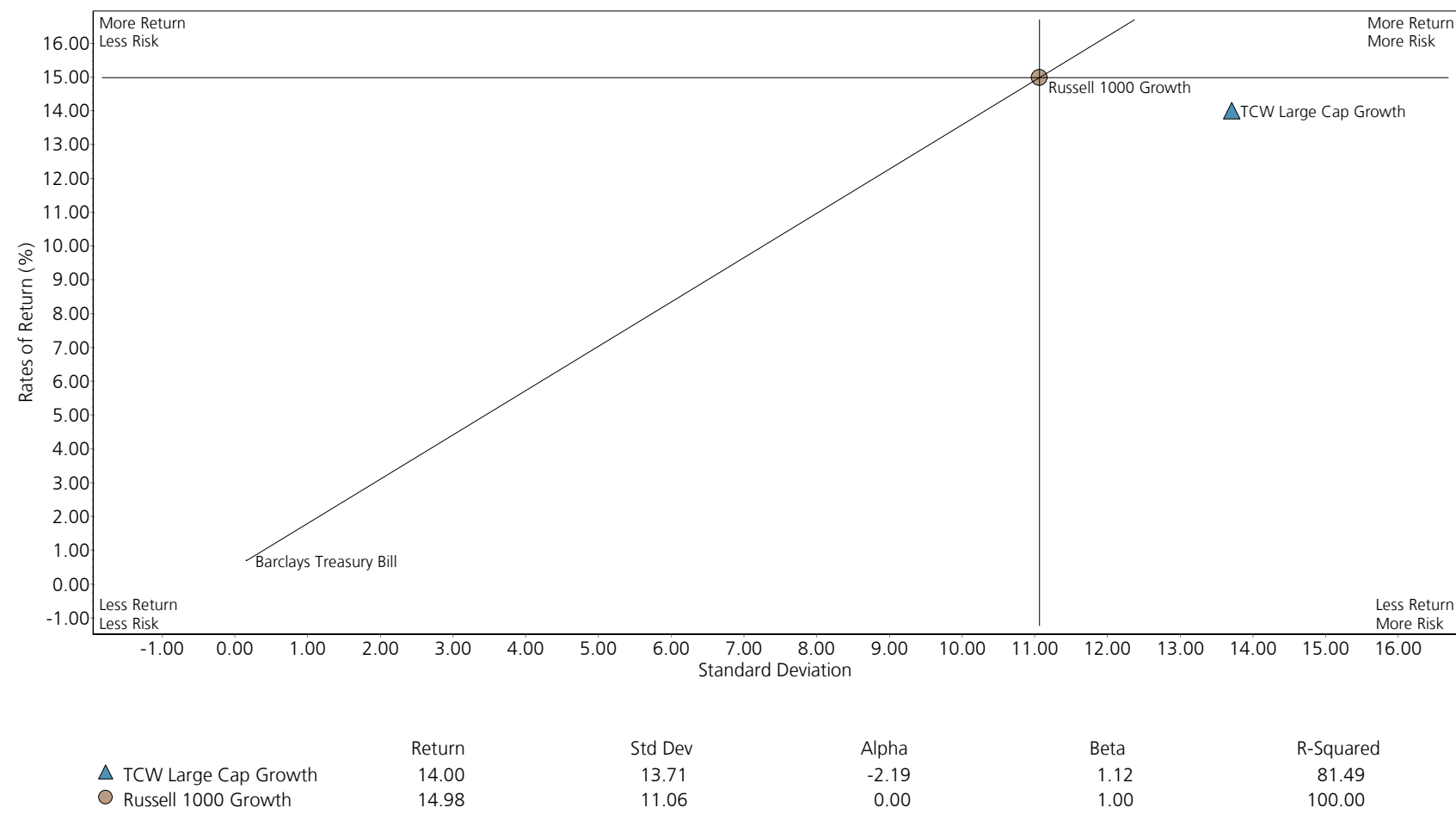


### Annual Periods



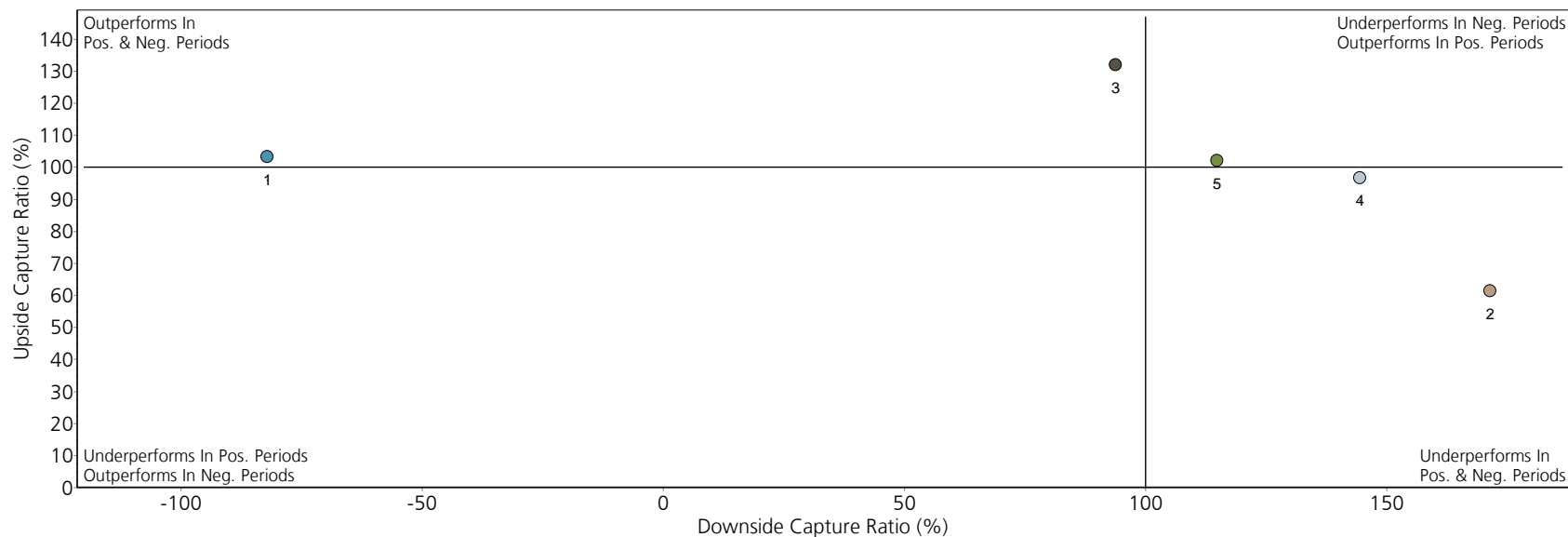
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



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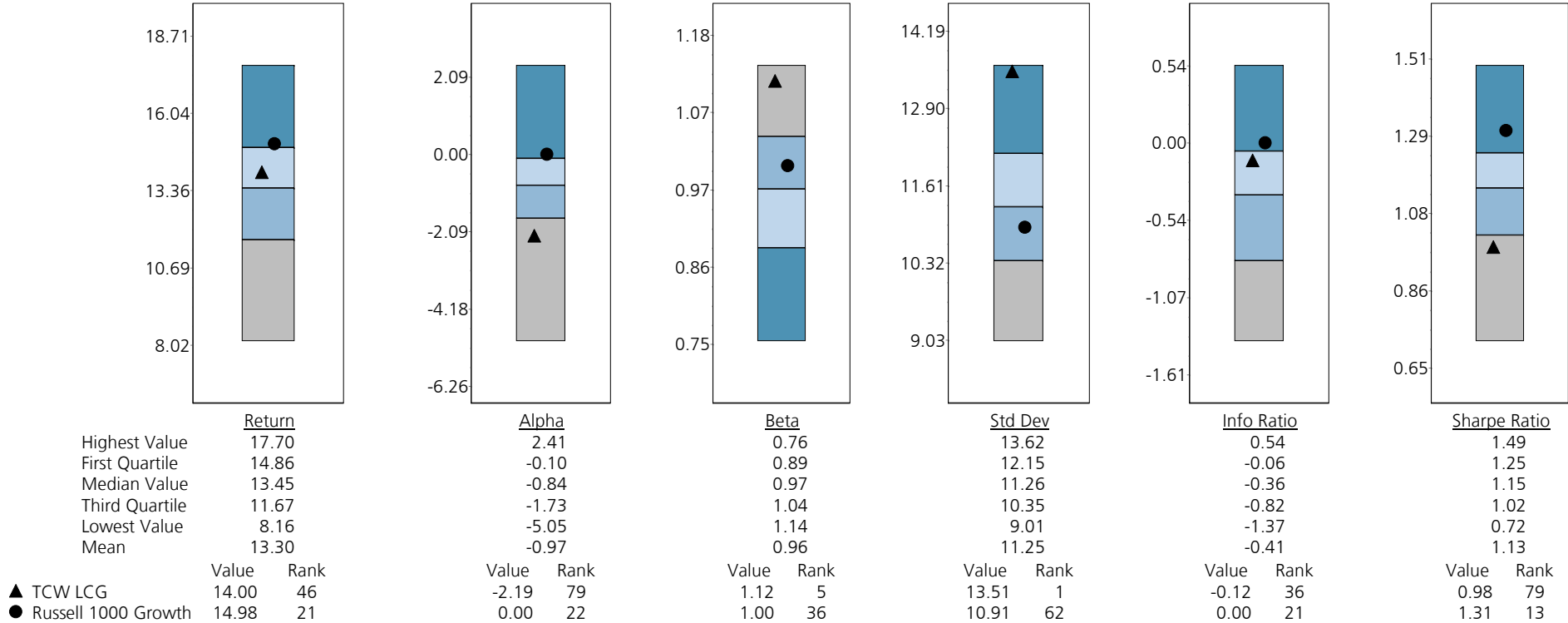
**Capture Ratio**  
**April 30, 2013 Through June 30, 2018**



	1	2	3	4	5
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	4/2013-6/2018
Up Periods	11.00	6.00	6.00	7.00	40.00
Upside Capture ROR	31.53	11.23	29.58	21.67	43.25
Russell 1000 Growth	30.56	18.31	22.42	22.41	42.33
% Of Capture	103.19	61.34	131.95	96.67	102.17
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**  
**June 30, 2015 Through June 30, 2018**



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Westfield Capital Large Growth

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# Performance Analysis

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

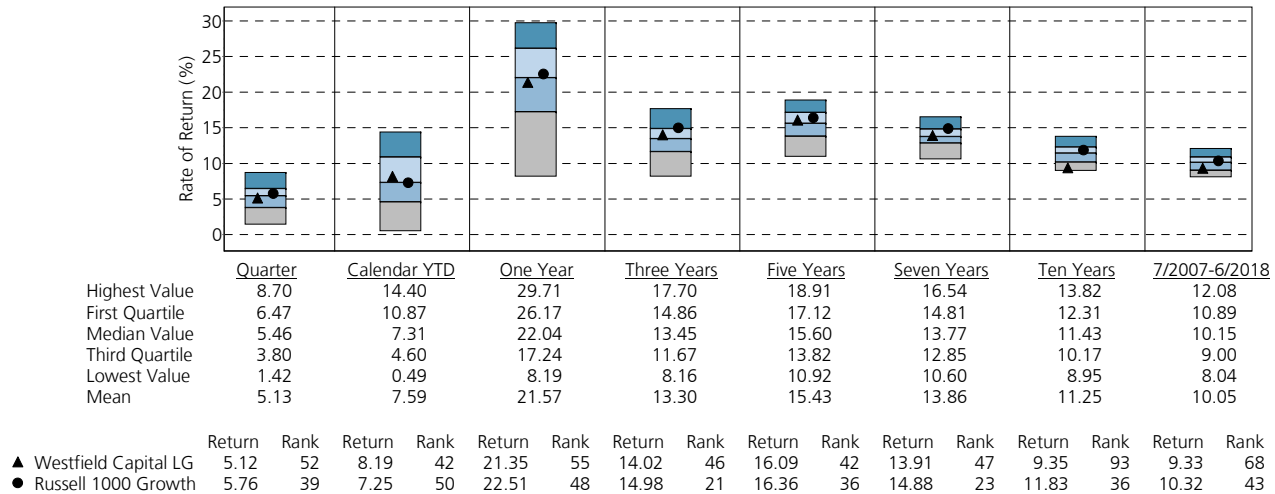
**TOTAL FUND BENCHMARK**

7/31/2007 - Present  
100% Russell 1000 Growth

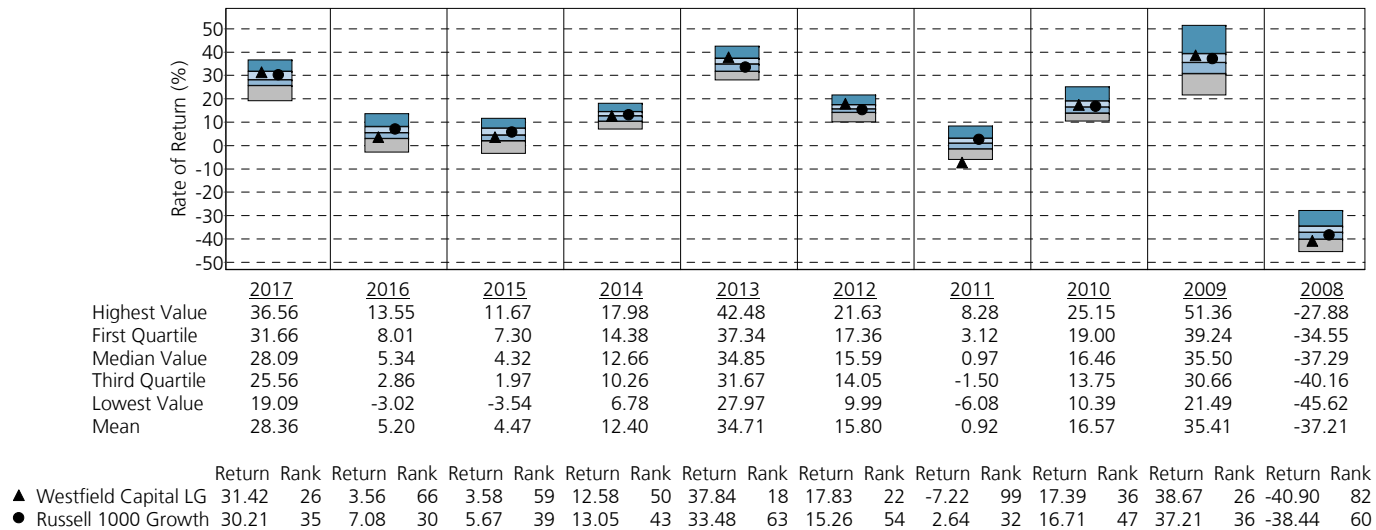
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## TOTAL FUND Peer Universe Comparison versus Large Cap Growth Managers

### Trailing Periods

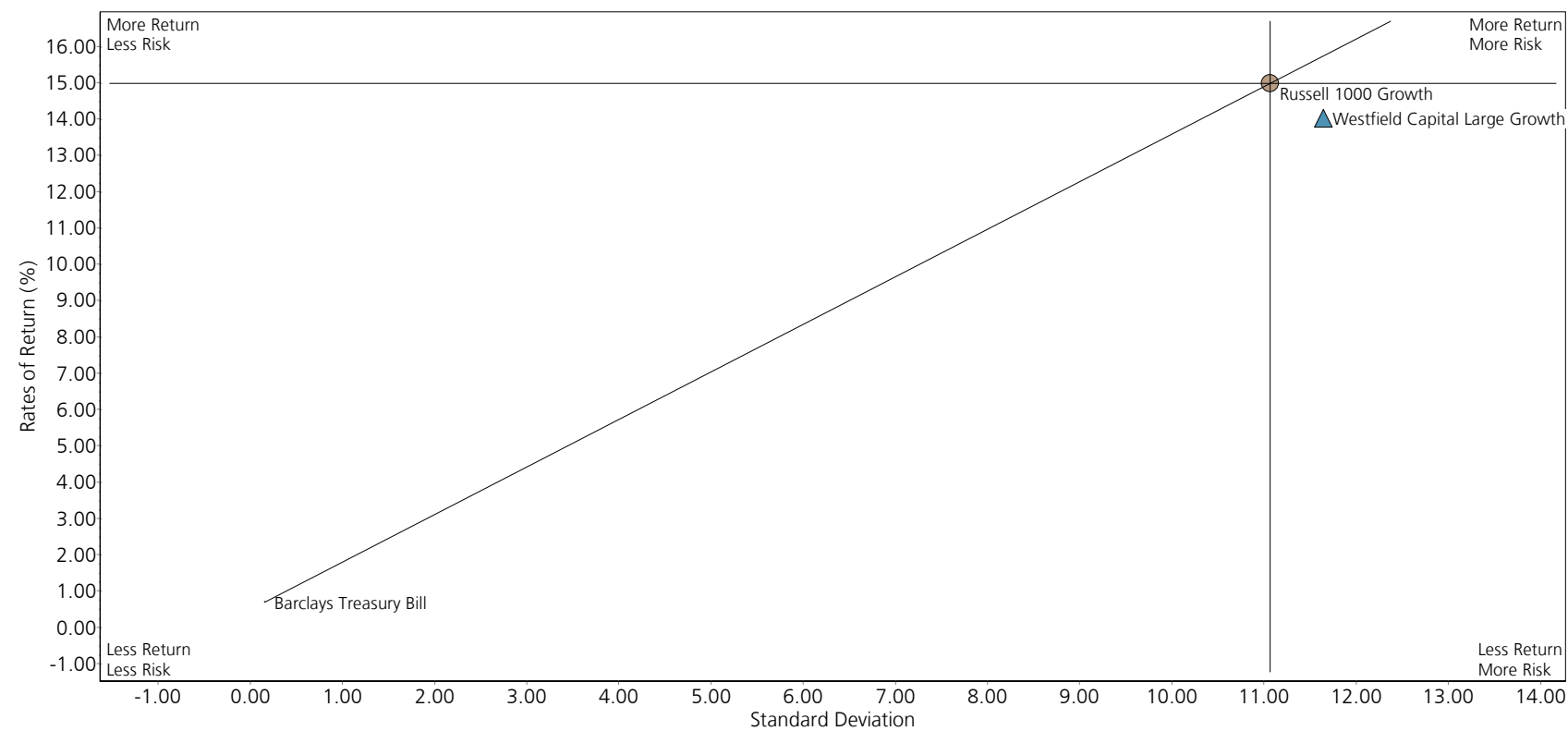


### Annual Periods



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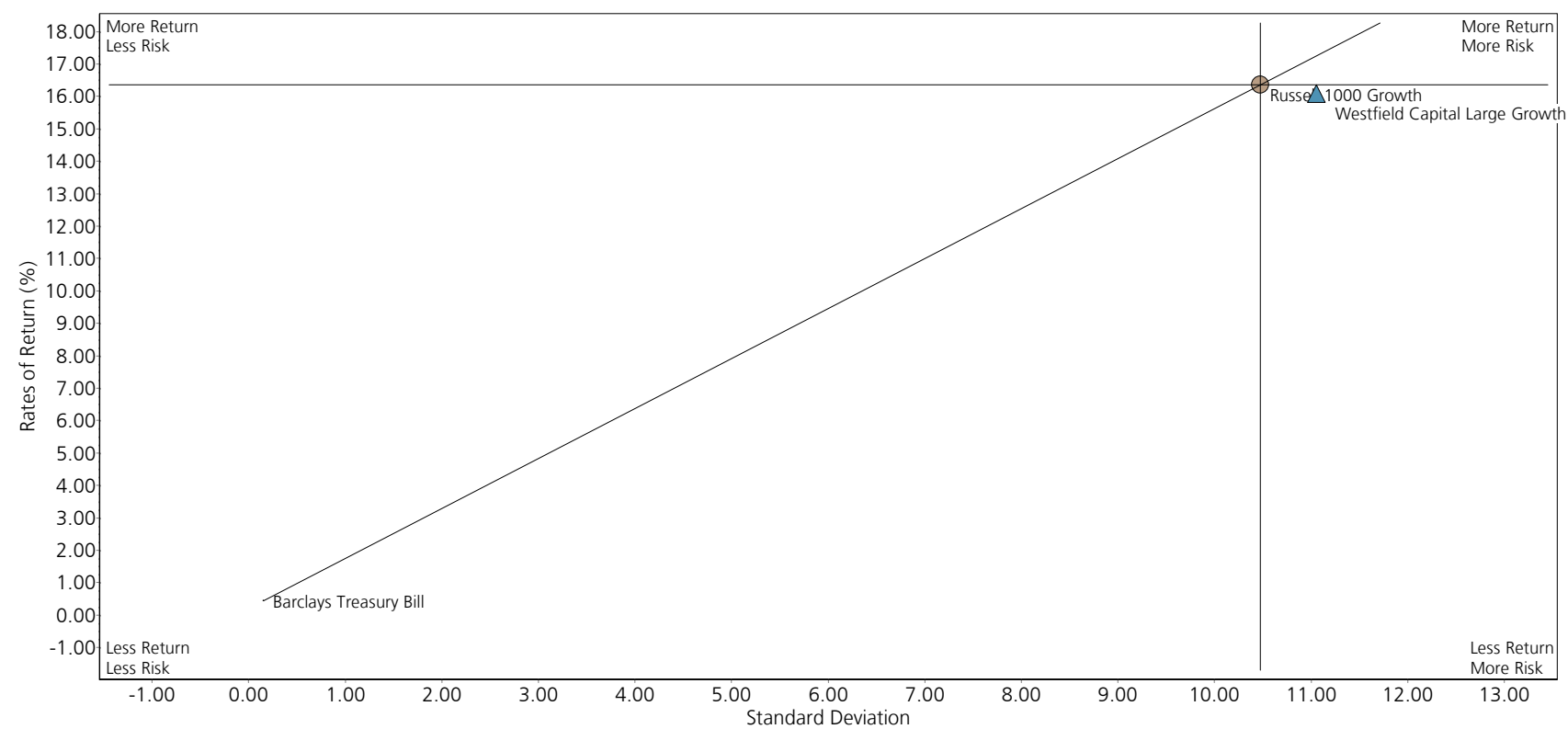
**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Westfield Capital Large Growth	14.02	11.64	-1.00	1.02	93.26
● Russell 1000 Growth	14.98	11.06	0.00	1.00	100.00

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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**

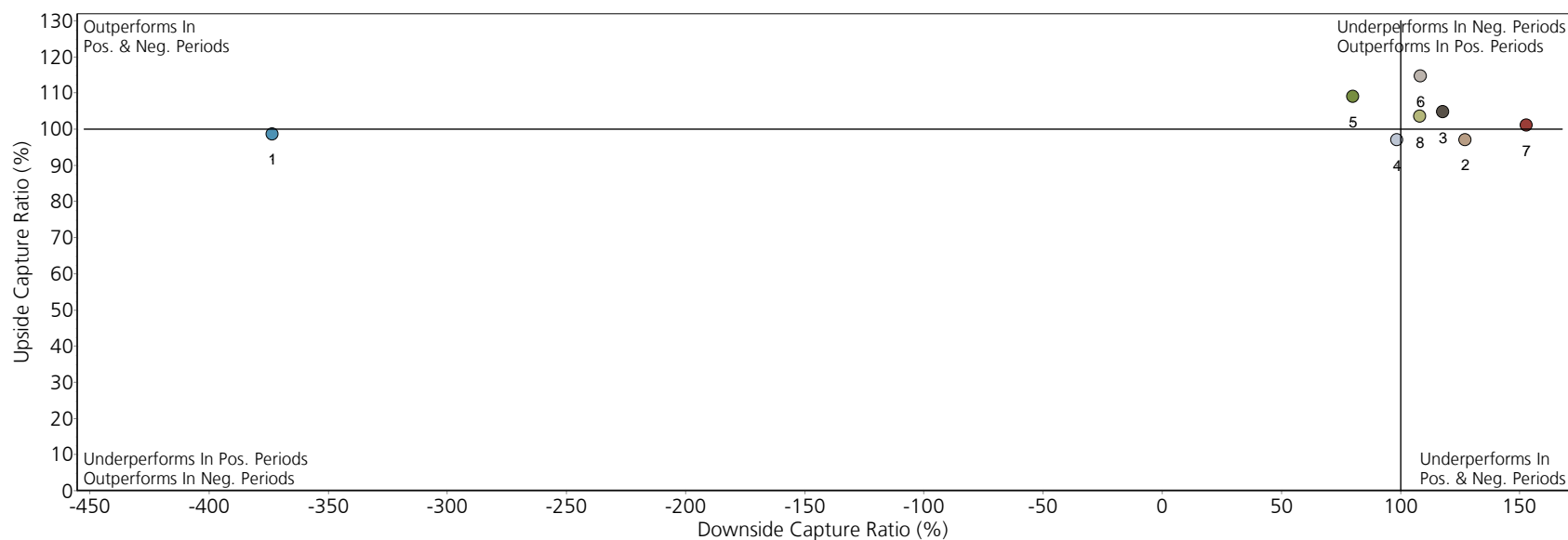


	Return	Std Dev	Alpha	Beta	R-Squared
▲ Westfield Capital Large Growth	16.09	11.05	-0.55	1.02	94.32
● Russell 1000 Growth	16.36	10.47	0.00	1.00	100.00

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## Capture Ratio

### July 31, 2007 Through June 30, 2018

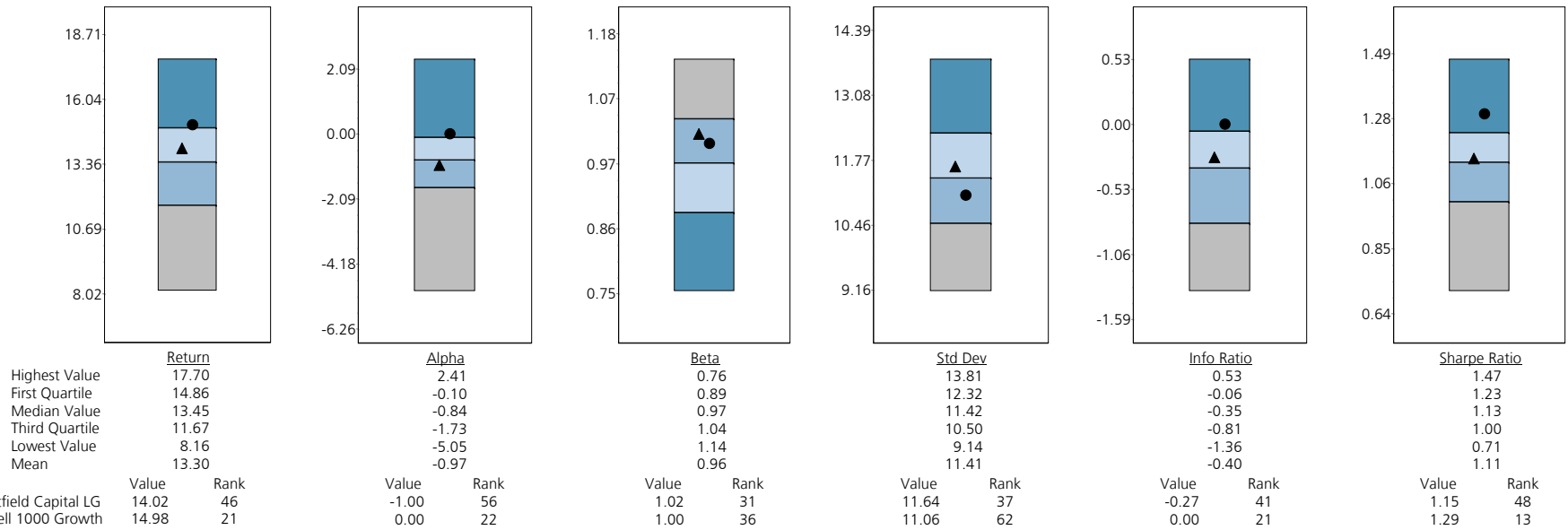


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	7/2007-6/2018
Up Periods	11.00	6.00	6.00	7.00	10.00	8.00	5.00	81.00
Upside Capture ROR	30.14	17.77	23.47	21.75	41.90	31.05	21.82	52.53
Russell 1000 Growth	30.56	18.31	22.42	22.41	38.42	27.09	21.61	50.75
% Of Capture	98.64	97.09	104.69	97.04	109.06	114.60	100.99	103.49
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

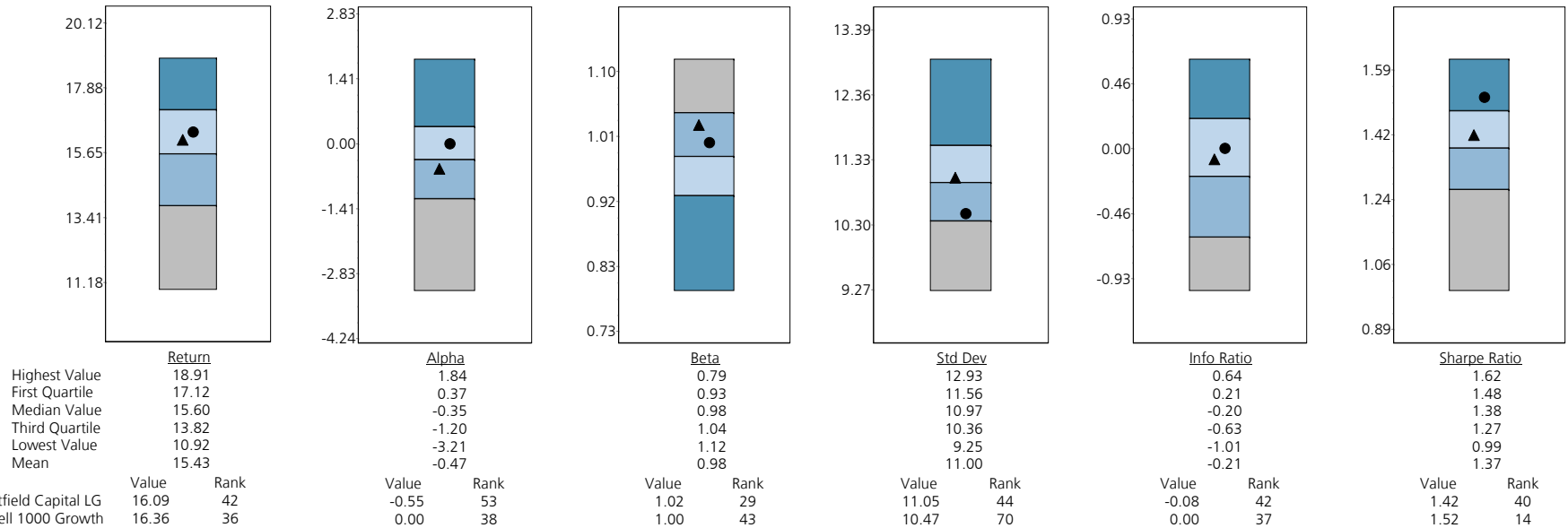
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## TOTAL FUND vs Large Cap Growth Managers June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Vanguard Midcap 400 Index Fund

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# Performance Analysis

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

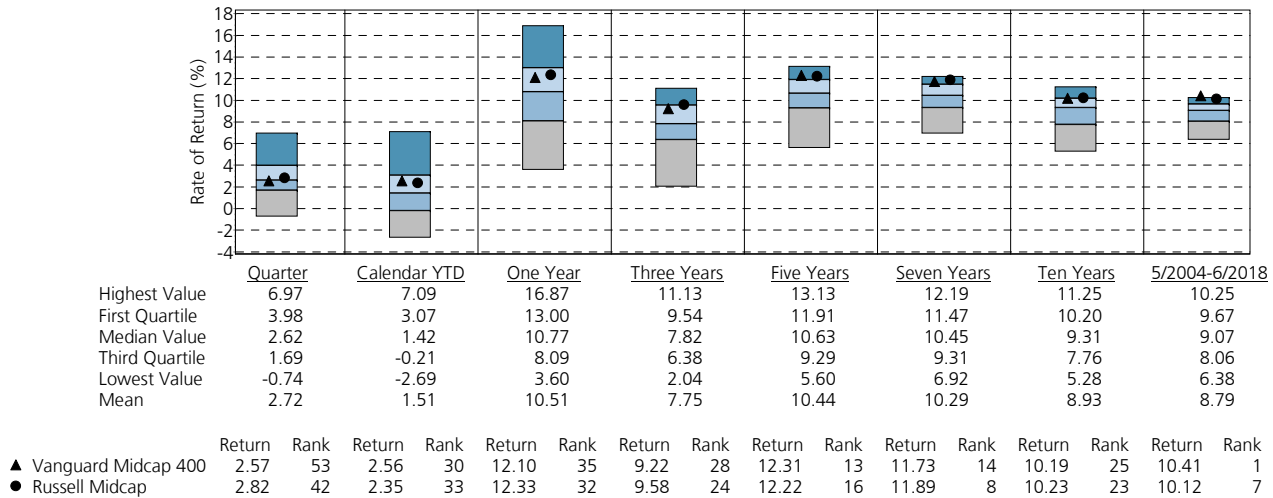
**TOTAL FUND BENCHMARK**

5/31/2004 - Present  
100% Russell Midcap

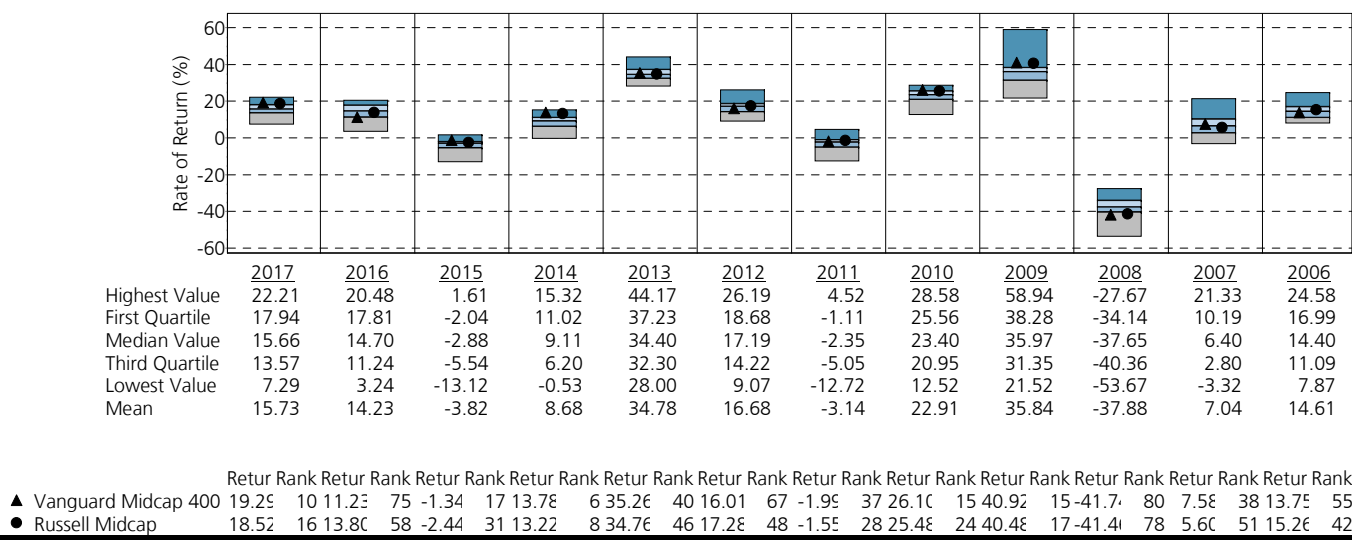
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TOTAL FUND Peer Universe Comparison versus Mid Cap Blend Managers

Trailing Periods

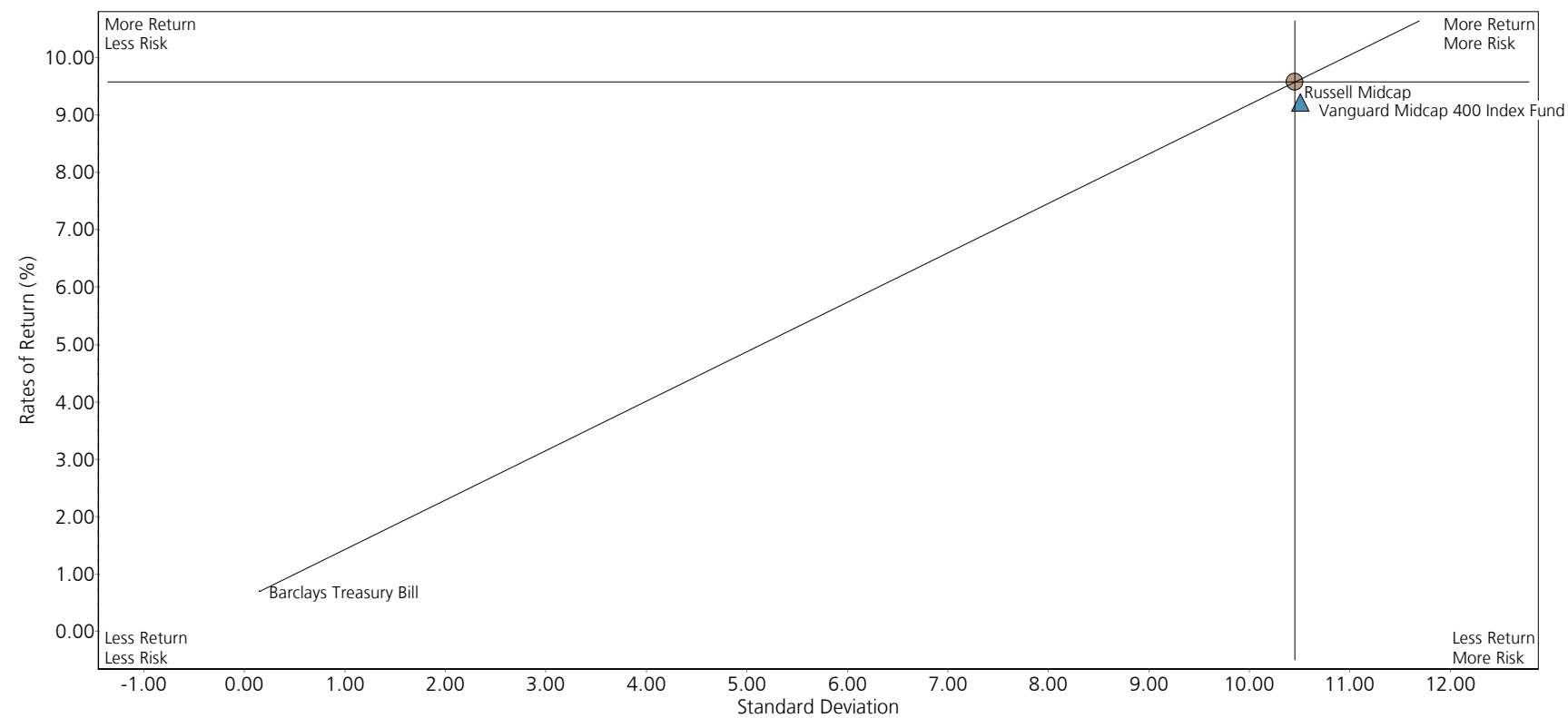


Annual Periods



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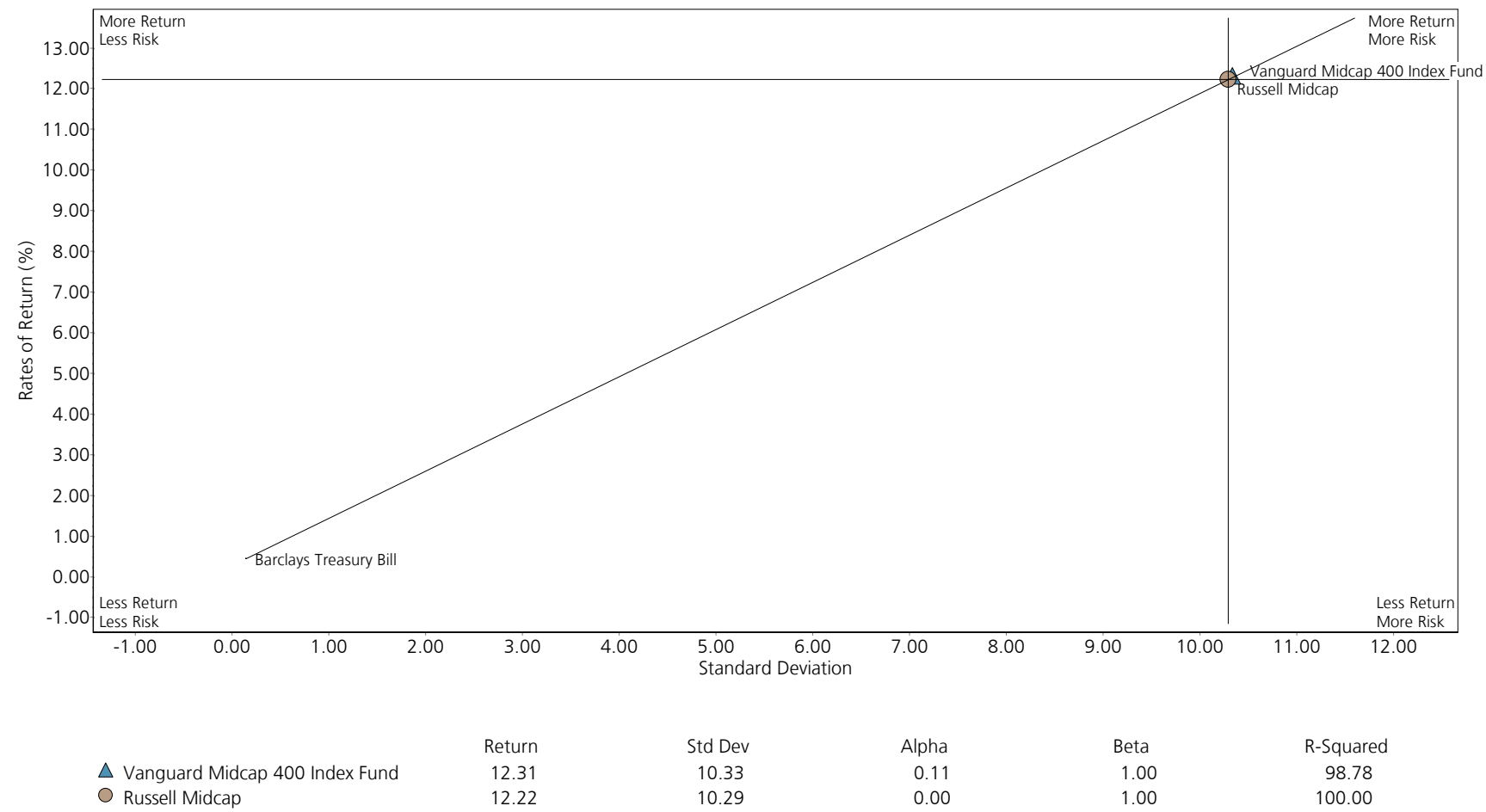
**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Midcap 400 Index Fund	9.22	10.51	-0.31	1.00	98.61
● Russell Midcap	9.58	10.45	0.00	1.00	100.00

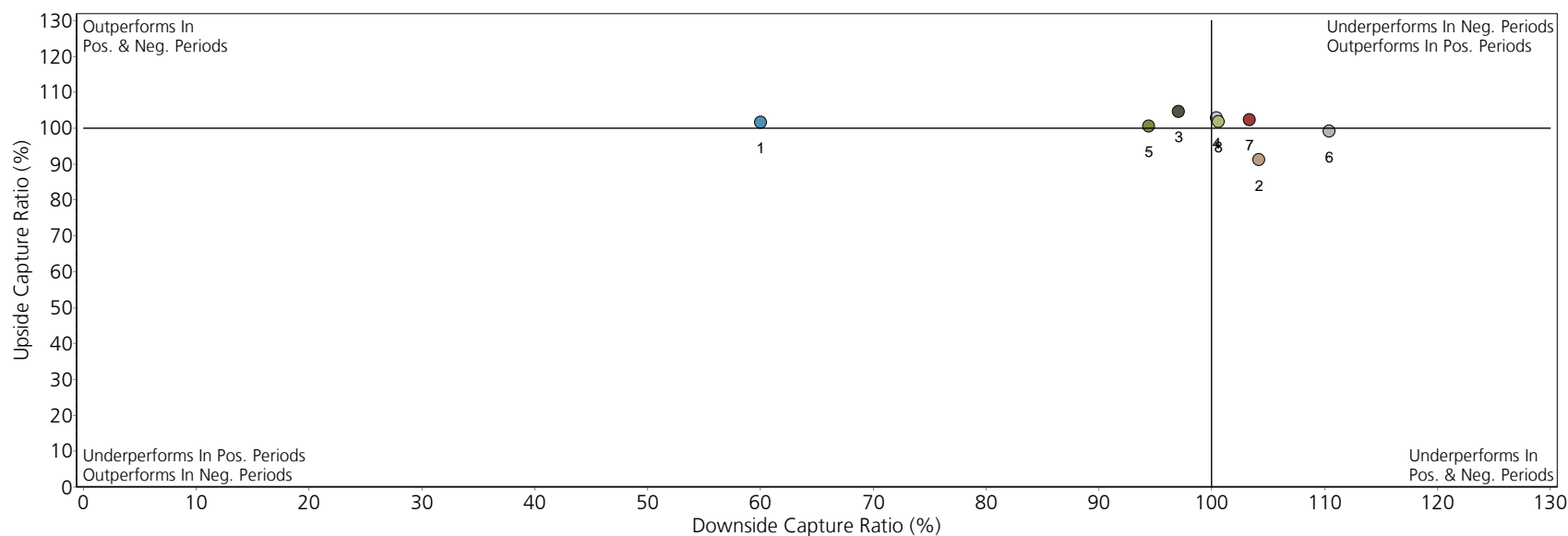
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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**May 31, 2004 Through June 30, 2018**

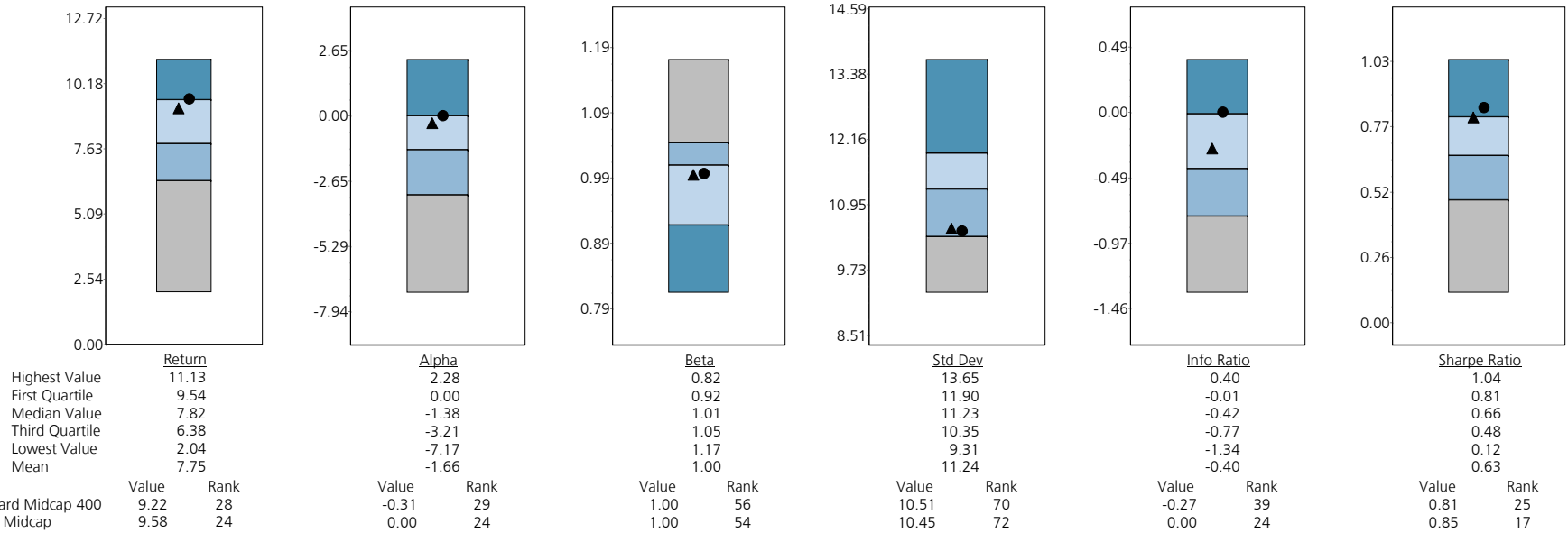


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	5/2004-6/2018
Up Periods	10.00	9.00	6.00	7.00	10.00	9.00	5.00	110.00
Upside Capture ROR	19.96	23.79	15.62	24.80	40.35	27.18	25.86	49.01
Russell Midcap	19.63	26.08	14.93	24.13	40.14	27.41	25.28	48.14
% Of Capture	101.69	91.22	104.64	102.78	100.51	99.15	102.32	101.82
Down Periods	2.00	3.00	6.00	5.00	2.00	3.00	7.00	59.00
Downside Capture ROR	-0.56	-10.15	-14.67	-8.83	-3.62	-8.79	-22.13	-36.86
Russell Midcap	-0.93	-9.74	-15.11	-8.79	-3.84	-7.96	-21.41	-36.65
% Of Capture	60.01	104.18	97.07	100.42	94.41	110.43	103.37	100.58

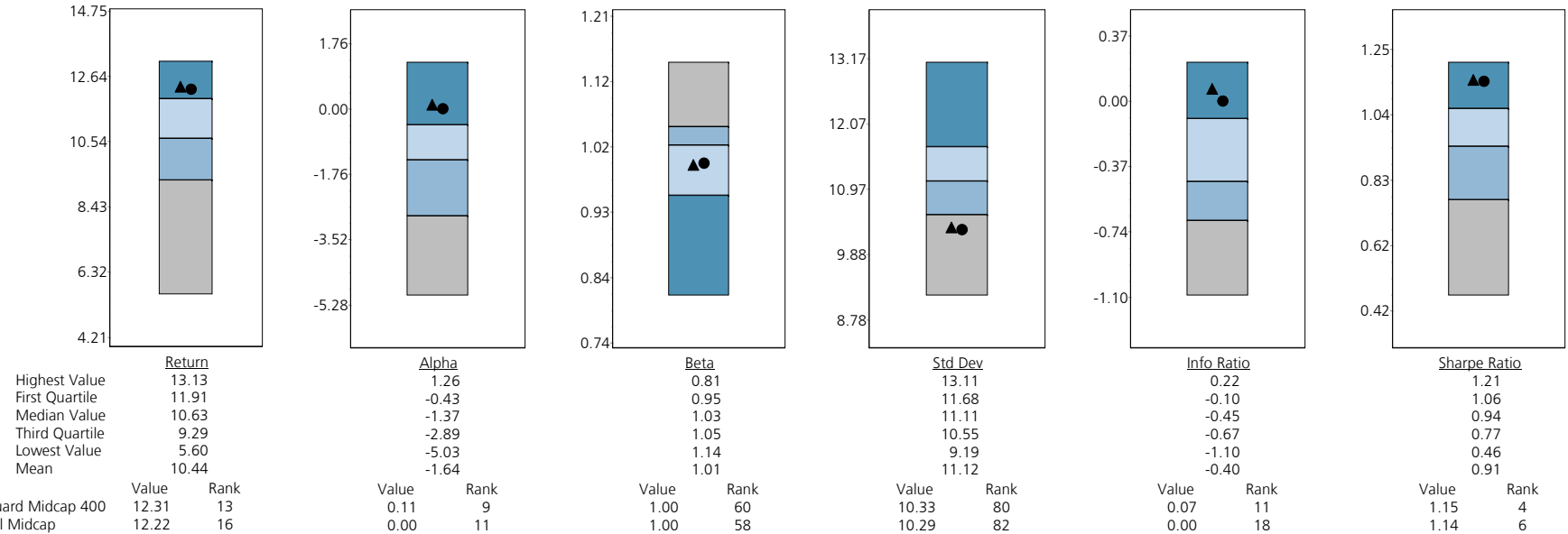
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## TOTAL FUND vs Mid Cap Blend Managers June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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**

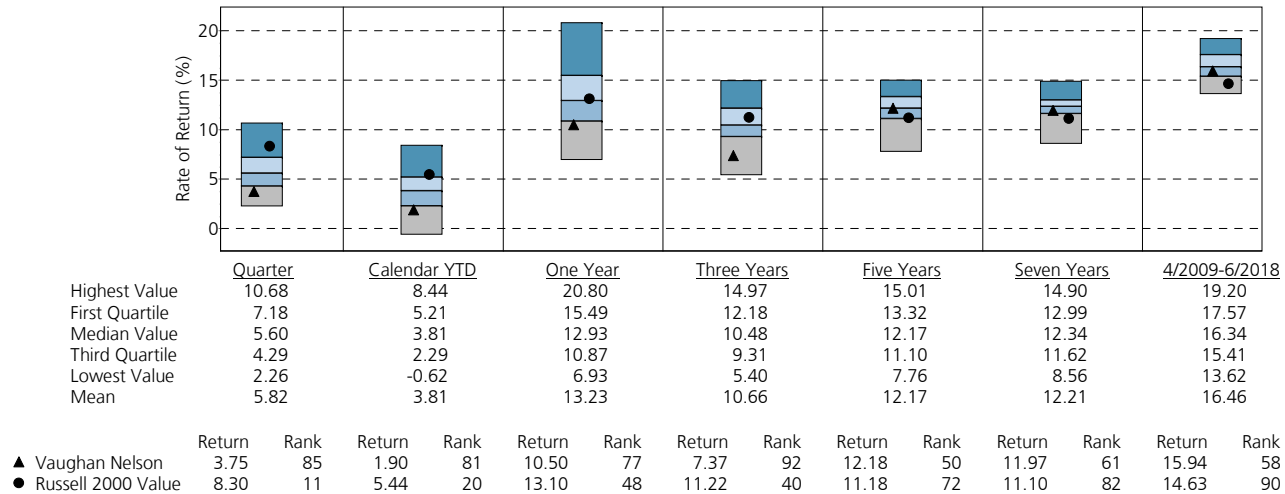
4/30/2009 - Present  
100% Russell 2000 Value

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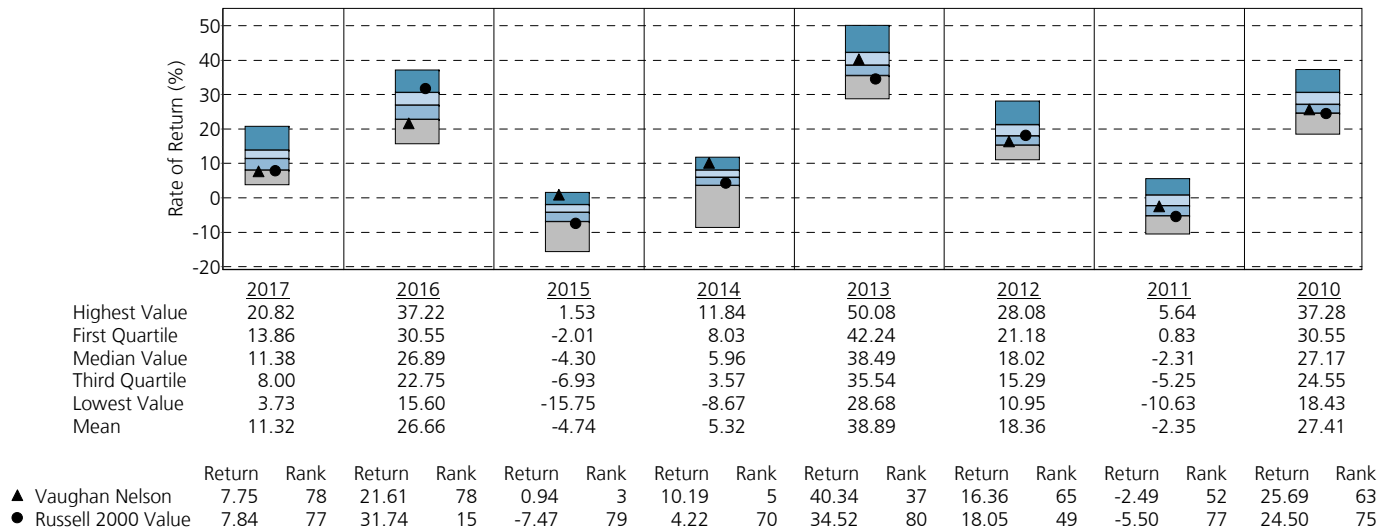


## TOTAL FUND Peer Universe Comparison versus Small Cap Value Managers

### Trailing Periods

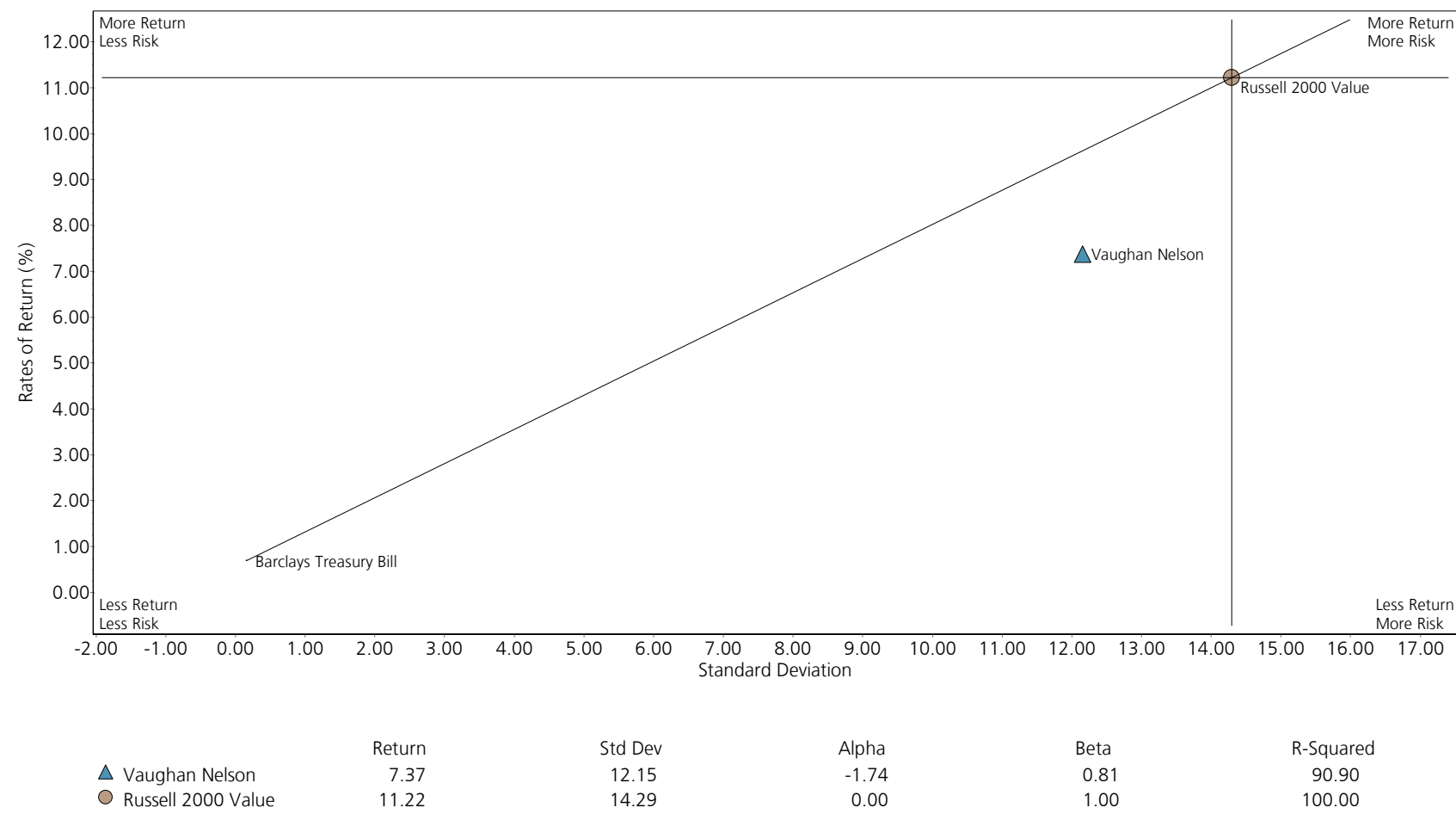


### Annual Periods



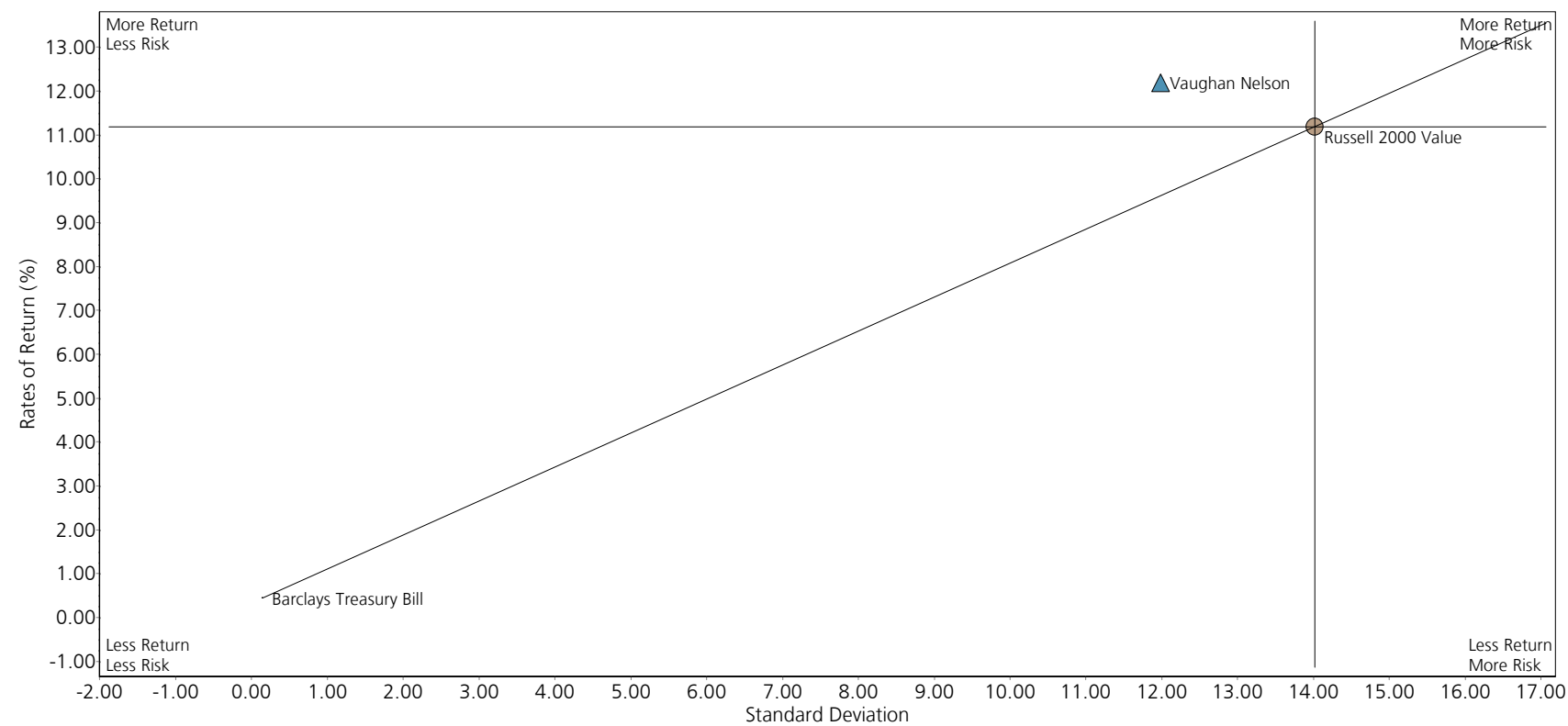
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



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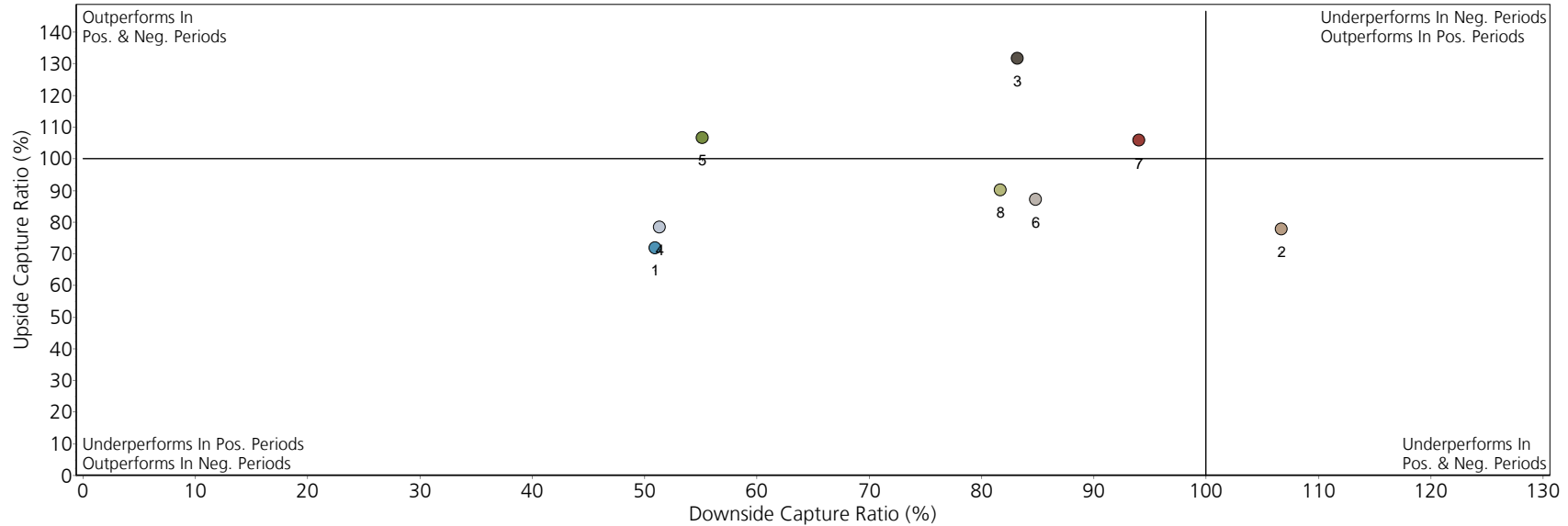
**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vaughan Nelson	12.18	11.98	2.90	0.80	86.98
● Russell 2000 Value	11.18	14.01	0.00	1.00	100.00

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**Capture Ratio**  
**April 30, 2009 Through June 30, 2018**



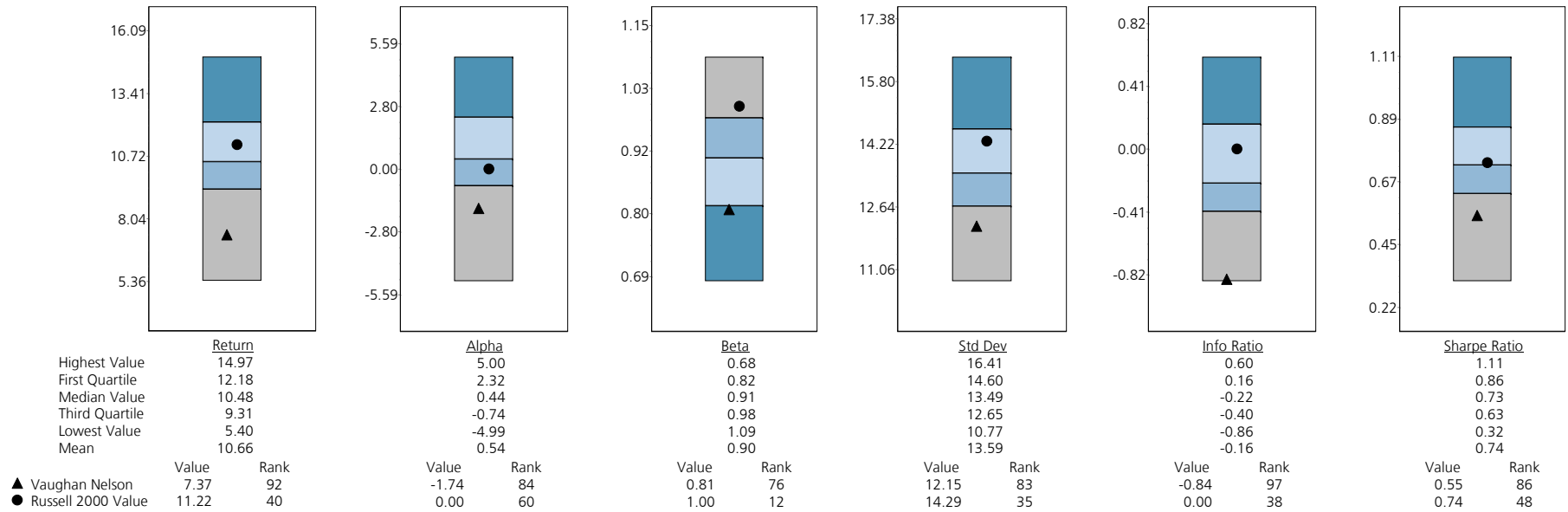
	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	4/2009-6/2018
Up Periods	7.00	10.00	6.00	7.00	9.00	8.00	6.00	72.00
Upside Capture ROR	12.24	35.79	21.94	21.63	44.24	26.63	27.37	51.66
Russell 2000 Value	17.03	46.03	16.67	27.60	41.45	30.53	25.88	57.32
% Of Capture	71.87	77.75	131.60	78.37	106.72	87.22	105.75	90.12
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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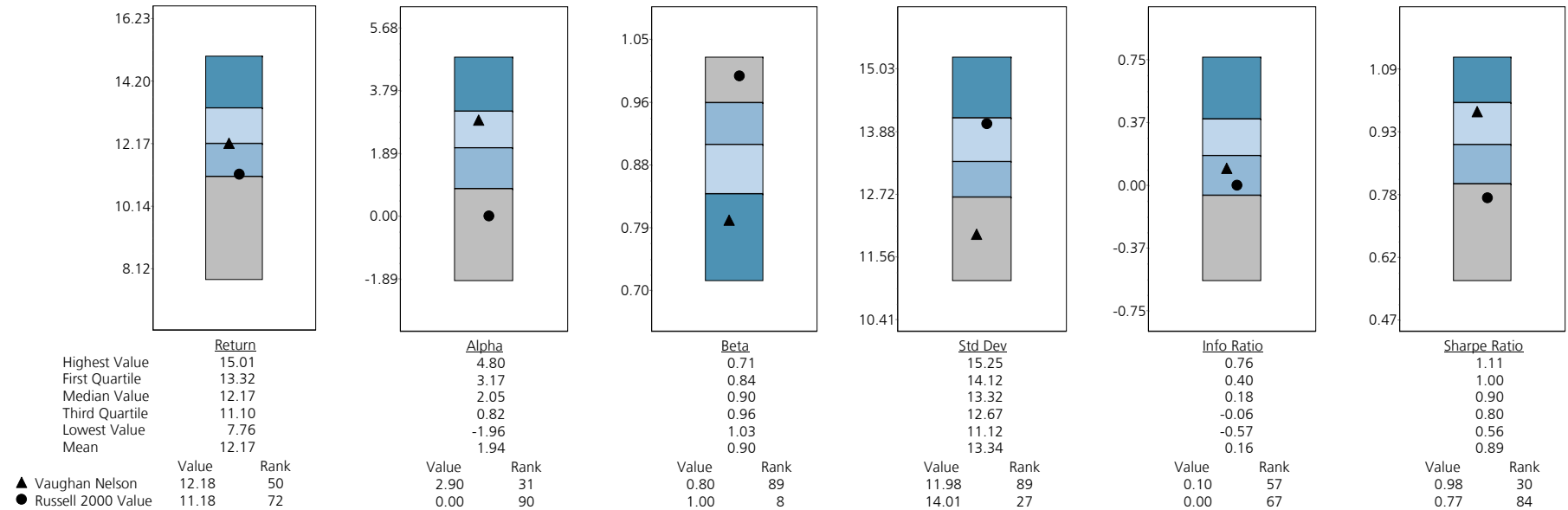
## TOTAL FUND vs Small Cap Value Managers

### June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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.

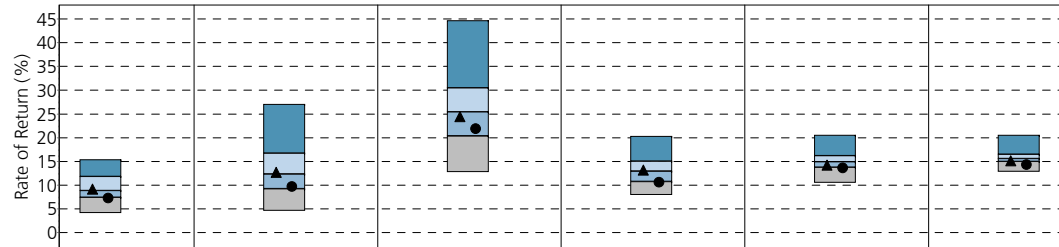
**TOTAL FUND BENCHMARK**

10/31/2010 - Present  
100% Russell 2000 Growth

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## TOTAL FUND Peer Universe Comparison versus Small Cap Growth Managers

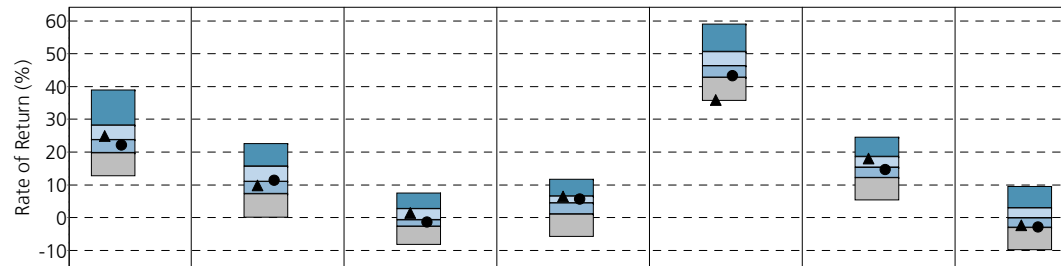
### Trailing Periods



	Quarter	Calendar YTD	One Year	Three Years	Five Years	10/2010-6/2018
Highest Value	15.36	27.01	44.60	20.27	20.49	20.52
First Quartile	11.80	16.69	30.47	15.07	16.23	16.53
Median Value	8.86	12.32	25.45	12.90	14.87	15.60
Third Quartile	7.38	9.27	20.33	10.75	13.78	14.95
Lowest Value	4.19	4.64	12.80	7.92	10.54	12.88
Mean	9.31	13.11	25.83	13.14	15.05	15.86

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Eagle SCG	9.16	47	12.68	47	24.43	52	13.20	42	14.25	66	15.16	69
● Russell 2000 Growth	7.23	75	9.70	69	21.86	65	10.60	77	13.65	77	14.27	84

### Annual Periods



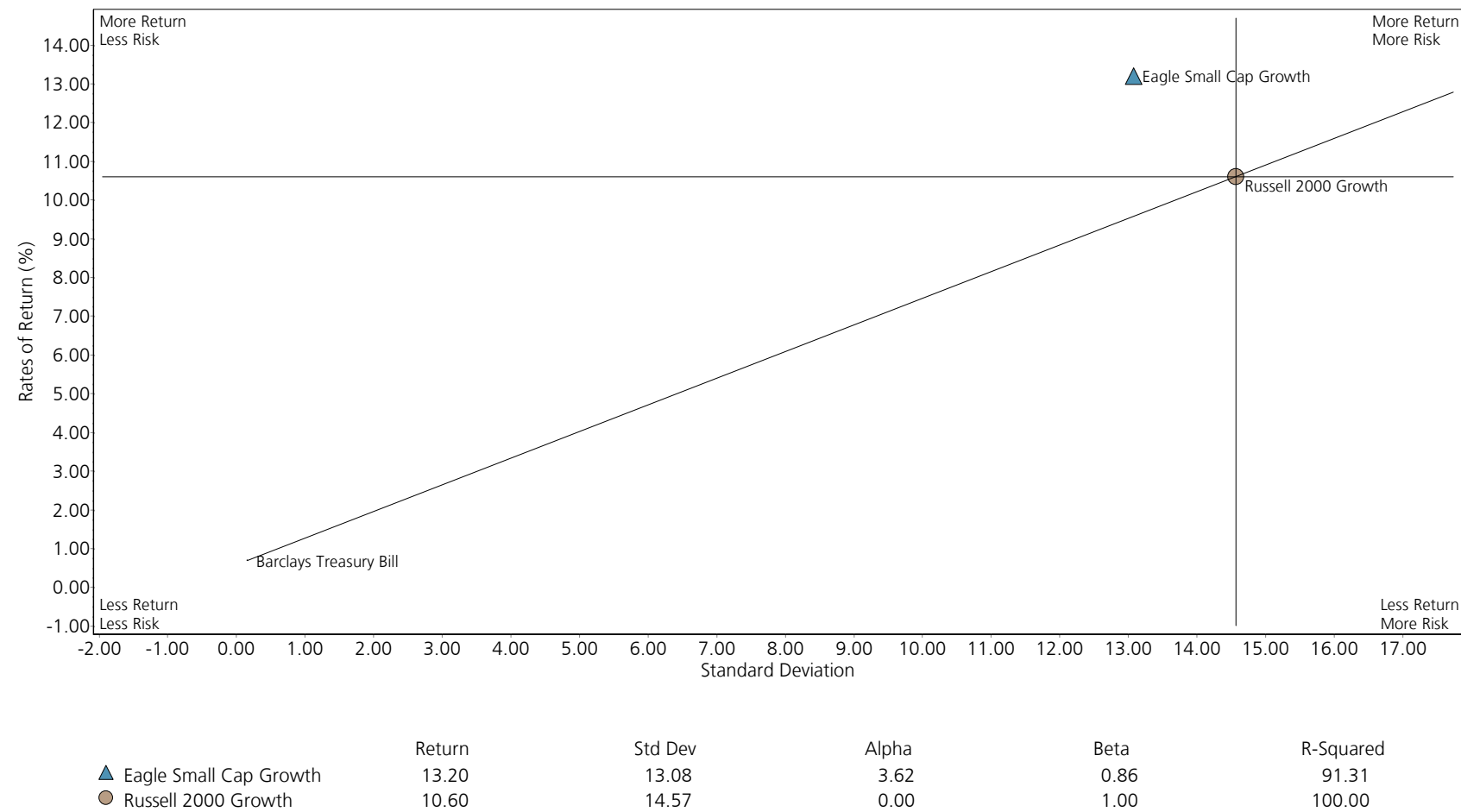
	2017	2016	2015	2014	2013	2012	2011
Highest Value	38.99	22.53	7.50	11.72	58.98	24.51	9.51
First Quartile	28.23	15.65	2.75	6.62	50.58	18.57	2.91
Median Value	23.71	11.01	-0.64	4.45	46.30	15.36	-0.14
Third Quartile	19.81	7.32	-2.68	1.12	42.82	12.19	-3.01
Lowest Value	12.68	0.02	-8.27	-5.81	35.69	5.34	-9.91
Mean	24.16	11.38	-0.13	3.85	46.76	15.38	-0.48

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Eagle SCG	24.92	43	9.81	59	1.38	38	6.50	27	35.92	98	17.98	30
● Russell 2000 Growth	22.17	58	11.32	48	-1.38	60	5.60	34	43.30	72	14.59	55

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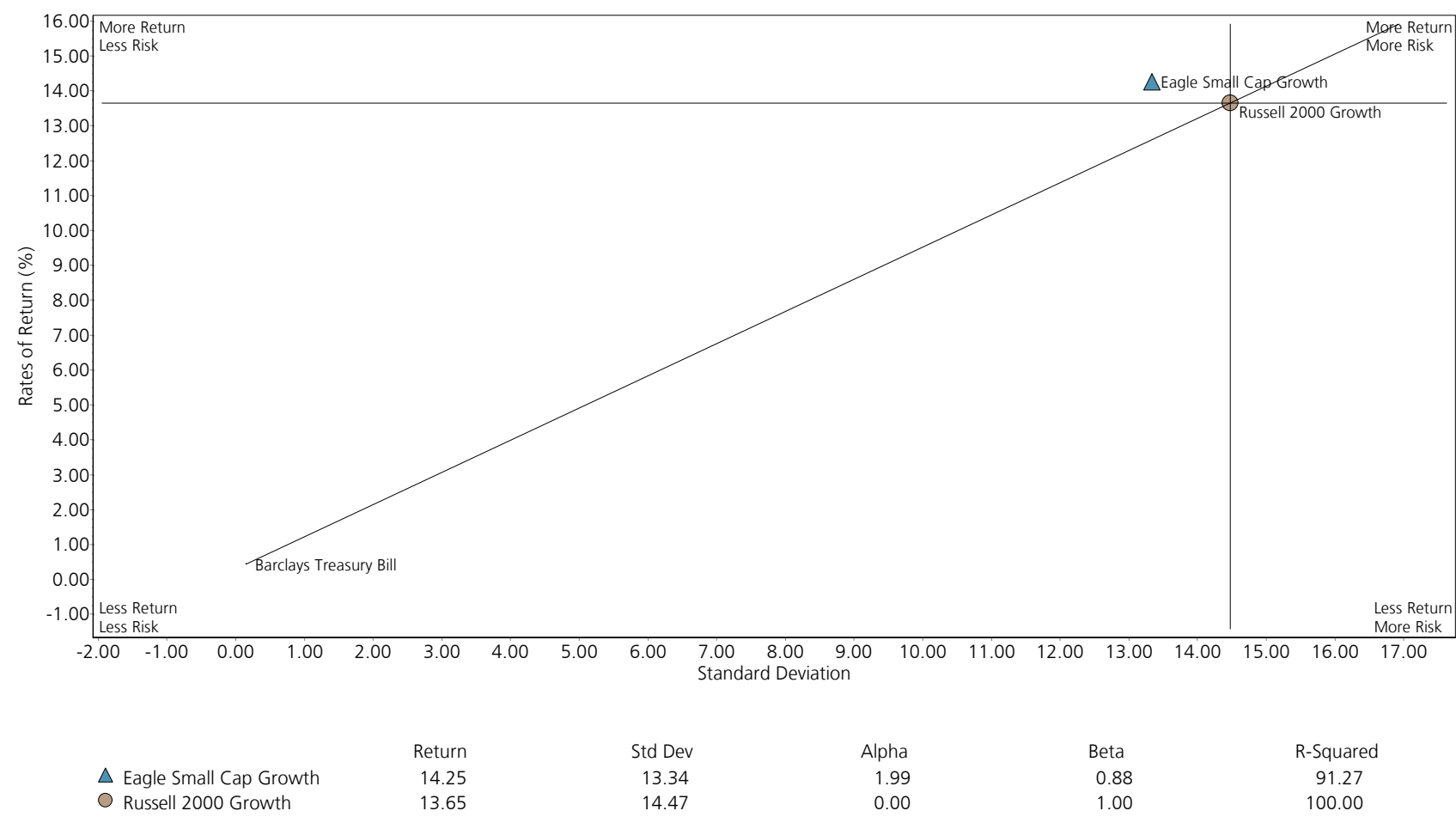


**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



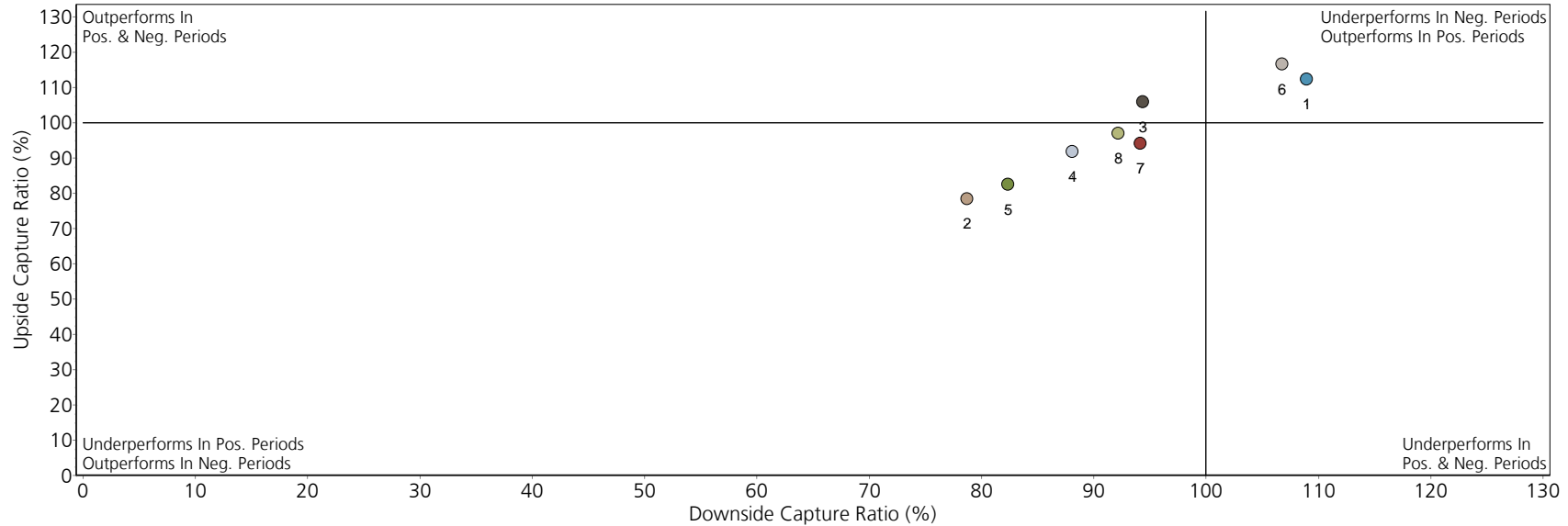
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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**October 31, 2010 Through June 30, 2018**

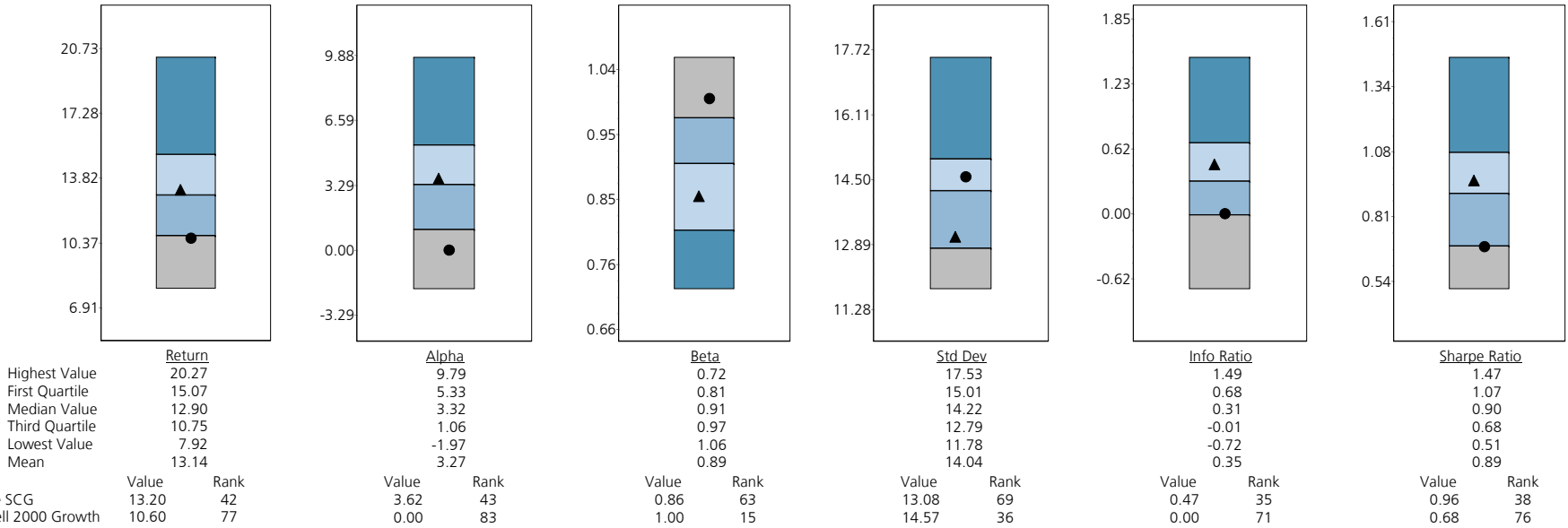


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	10/2010-6/2018
Up Periods	10.00	8.00	7.00	7.00	9.00	8.00	4.00	60.00
Upside Capture ROR	26.33	27.18	27.63	28.12	39.61	37.05	30.00	53.31
Russell 2000 Growth	23.43	34.68	26.11	30.62	48.04	31.76	31.86	54.94
% Of Capture	112.38	78.37	105.83	91.83	82.44	116.64	94.15	97.04
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

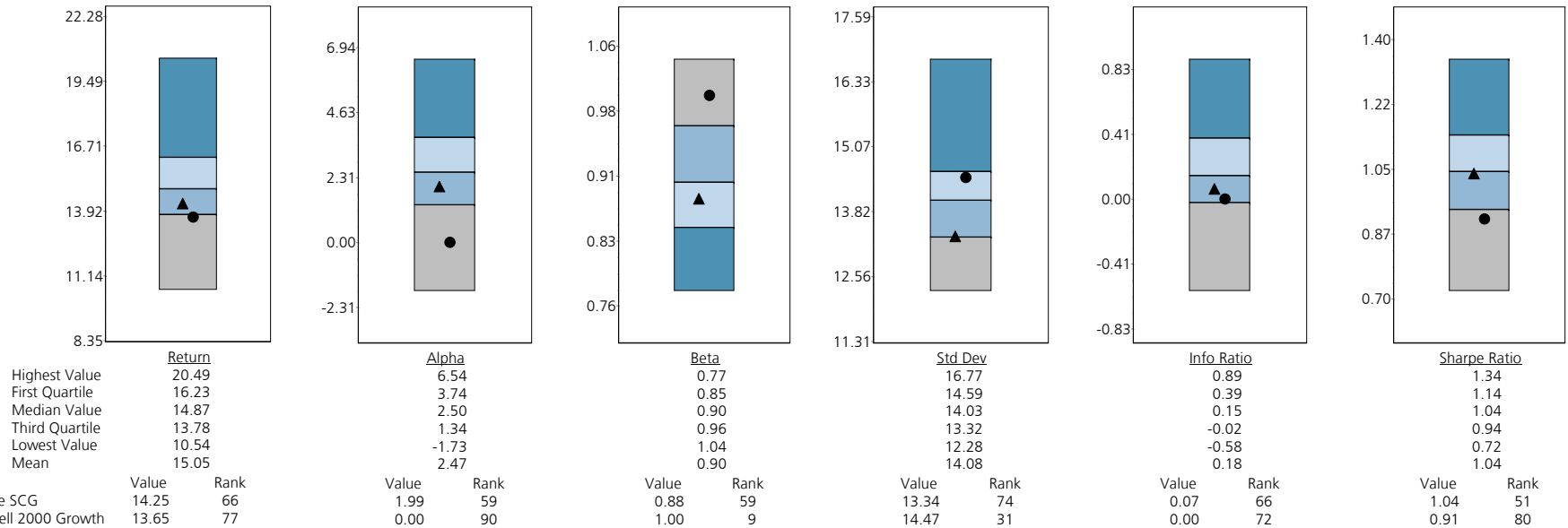
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## TOTAL FUND vs Small Cap Growth Managers June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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.

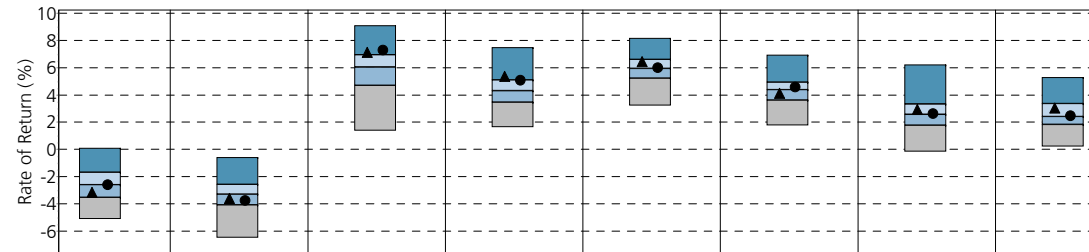
**TOTAL FUND BENCHMARK**

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

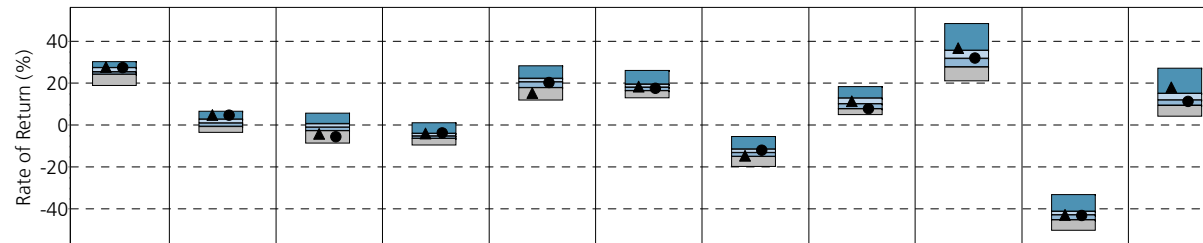
### Trailing Periods



	Quarter	Calendar YTD	One Year	Three Years	Five Years	Seven Years	Ten Years	11/2006-6/2018
Highest Value	0.09	-0.61	9.07	7.46	8.16	6.93	6.21	5.28
First Quartile	-1.69	-2.59	6.94	5.09	6.59	4.93	3.34	3.36
Median Value	-2.61	-3.28	6.05	4.30	5.93	4.38	2.57	2.41
Third Quartile	-3.53	-4.10	4.70	3.46	5.22	3.62	1.78	1.81
Lowest Value	-5.11	-6.49	1.37	1.65	3.22	1.78	-0.14	0.20
Mean	-2.61	-3.39	5.81	4.28	5.88	4.29	2.60	2.58

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Vanguard Total Intl	-3.17	67	-3.61	60	7.14	20	5.36	16	6.45	31	4.11	59	2.94	36	3.04	30
● International Index	-2.61	49	-3.77	66	7.28	19	5.07	25	5.99	48	4.57	39	2.63	48	2.45	48

### Annual Periods

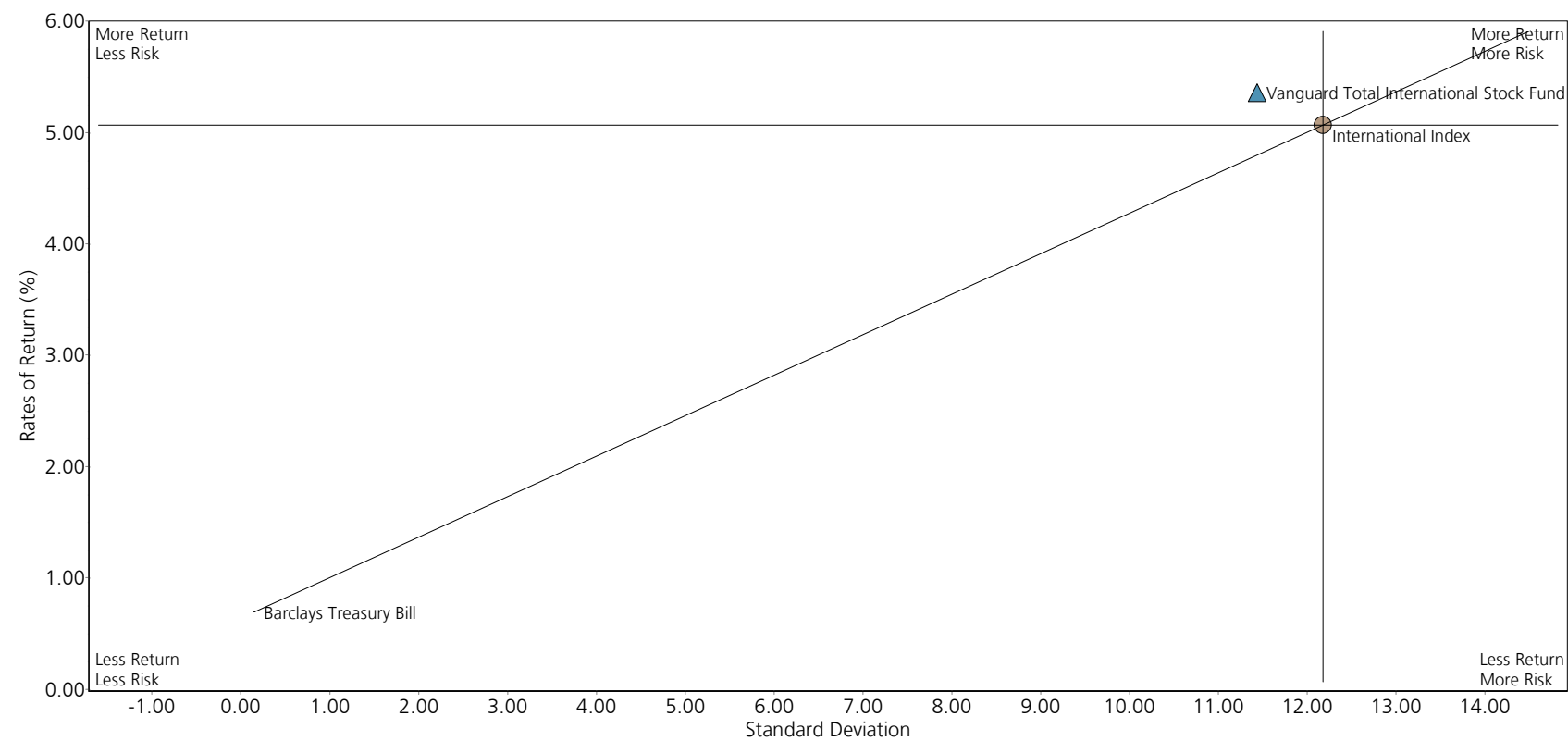


	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Highest Value	30.25	6.52	5.70	0.99	28.13	26.08	-5.63	18.30	48.38	-33.25	27.08
First Quartile	27.20	2.65	0.55	-4.08	22.15	19.41	-11.62	12.75	35.51	-41.35	14.95
Median Value	25.33	0.92	-1.09	-5.41	20.52	17.89	-13.29	10.09	31.65	-42.97	11.91
Third Quartile	24.21	-0.81	-2.86	-6.43	17.74	16.22	-15.02	7.67	27.63	-45.26	9.25
Lowest Value	18.62	-3.79	-8.80	-9.77	11.68	12.78	-20.11	4.75	20.89	-50.41	4.05
Mean	25.53	1.00	-1.38	-5.04	20.06	17.94	-13.17	10.30	32.13	-43.21	12.58

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Vanguard Total Intl	27.57	20	4.70	7	-4.24	83	-4.15	26	15.15	86	18.27	42	-14.69	71	11.35	37	36.67	19
● International Index	27.19	24	4.50	10	-5.66	92	-3.87	22	20.07	55	17.32	57	-12.14	32	7.75	73	31.78	47

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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**

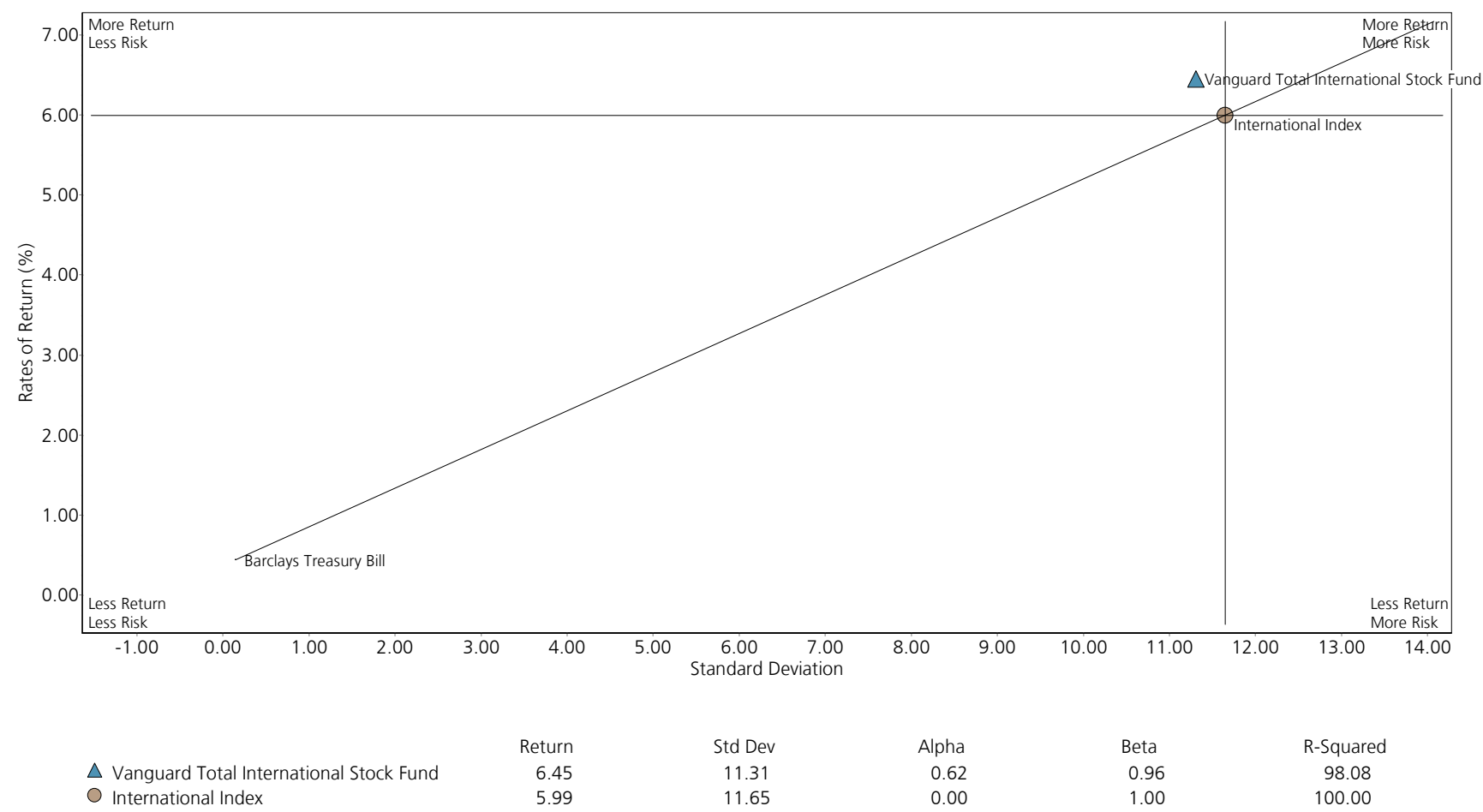


	Return	Std Dev	Alpha	Beta	R-Squared
▲ Vanguard Total International Stock Fund	5.36	11.44	0.54	0.93	97.98
● International Index	5.07	12.17	0.00	1.00	100.00

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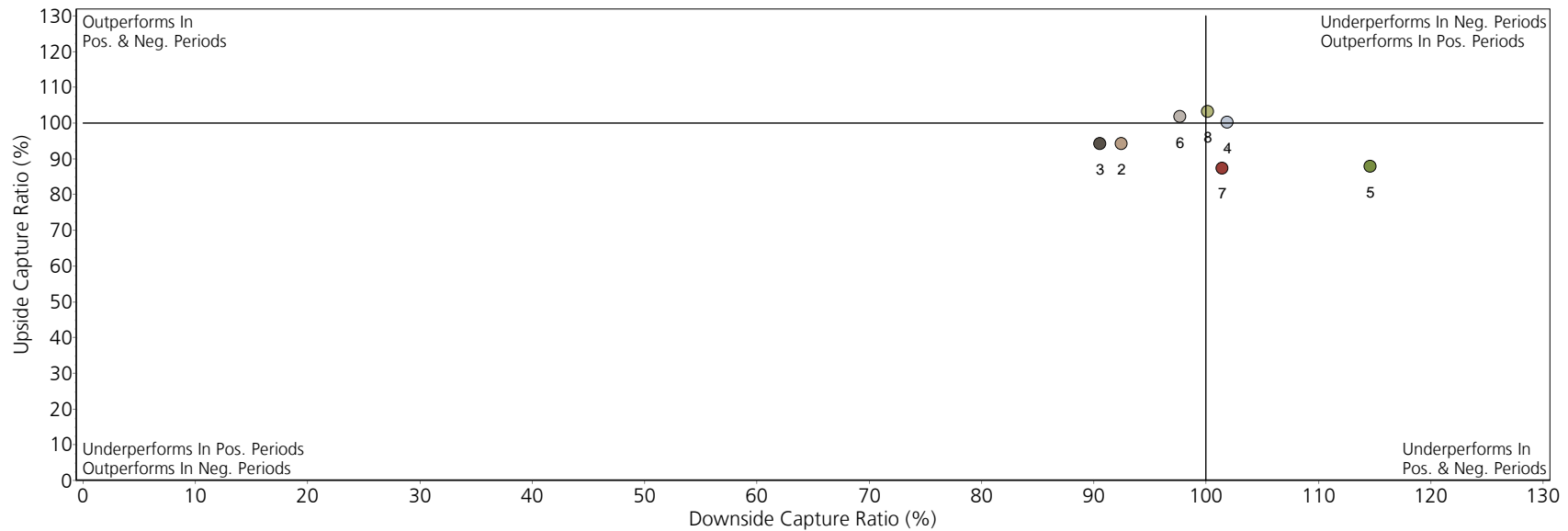


**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**November 30, 2006 Through June 30, 2018**

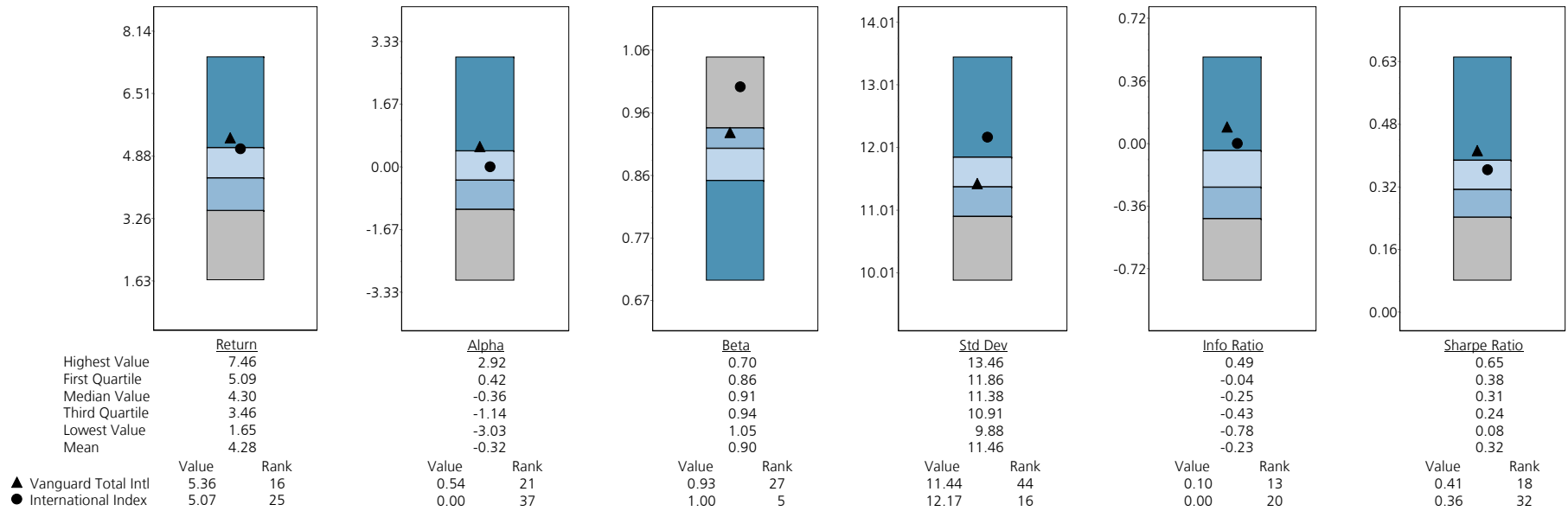


	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	11/2006-6/2018
Up Periods	12.00	6.00	3.00	7.00	8.00	9.00	4.00	77.00
Upside Capture ROR	27.57	20.42	17.80	12.02	26.88	36.42	19.97	56.29
International Index	27.19	21.68	18.91	12.00	30.60	35.81	22.86	54.58
% Of Capture	101.40	94.18	94.13	100.15	87.84	101.70	87.37	103.14
Down Periods	0.00	6.00	9.00	5.00	4.00	3.00	8.00	62.00
Downside Capture ROR	N/A	-13.06	-18.71	-14.44	-9.24	-13.30	-28.89	-38.58
International Index	N/A	-14.12	-20.66	-14.17	-8.06	-13.62	-28.49	-38.53
% Of Capture	N/A	92.44	90.55	101.90	114.63	97.70	101.43	100.13

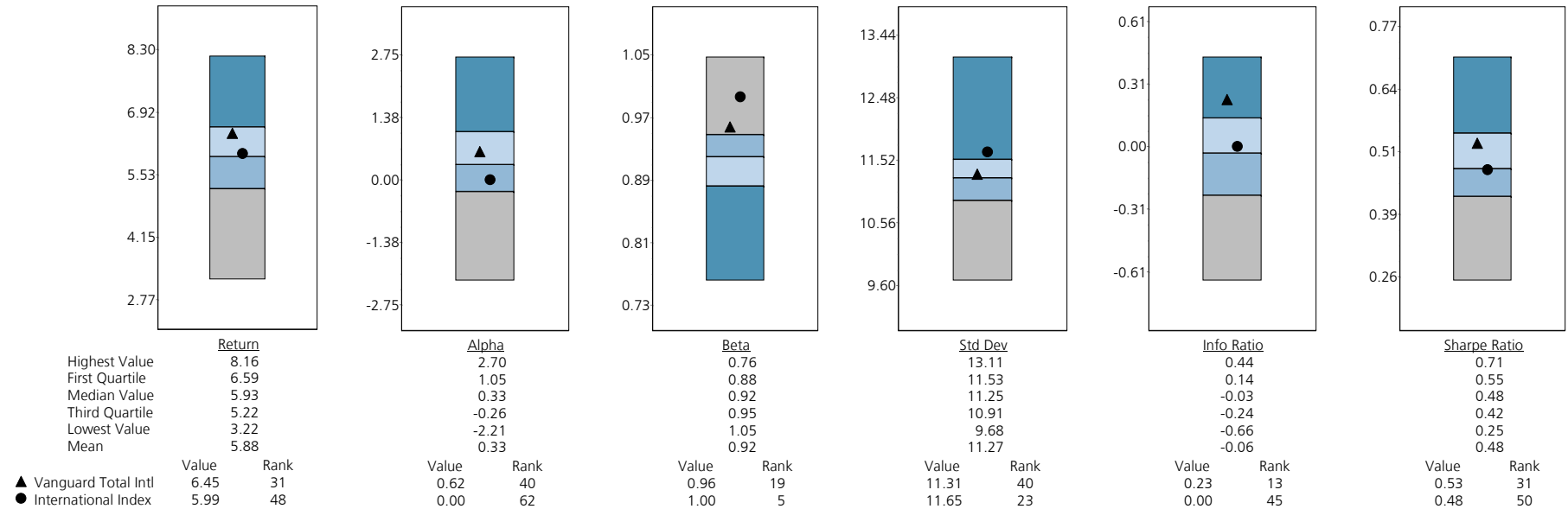
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## TOTAL FUND vs Foreign Large Blend Managers June 30, 2015 Through June 30, 2018

### 3 Year



### 5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Dodge & Cox International Stock Fund

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# Performance Analysis

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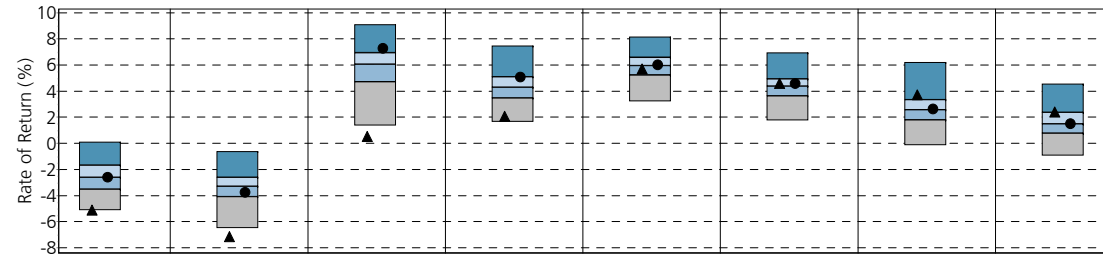
**TOTAL FUND BENCHMARK**

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

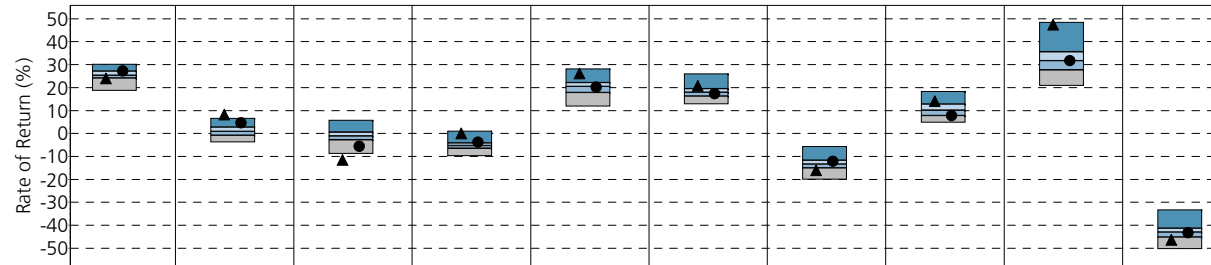
### Trailing Periods



	<u>Quarter</u>	<u>Calendar YTD</u>	<u>One Year</u>	<u>Three Years</u>	<u>Five Years</u>	<u>Seven Years</u>	<u>Ten Years</u>	<u>7/2007-6/2018</u>
Highest Value	0.09	-0.61	9.07	7.46	8.16	6.93	6.21	4.55
First Quartile	-1.69	-2.59	6.94	5.09	6.59	4.93	3.34	2.37
Median Value	-2.61	-3.28	6.05	4.30	5.93	4.38	2.57	1.48
Third Quartile	-3.53	-4.10	4.70	3.46	5.22	3.62	1.78	0.78
Lowest Value	-5.11	-6.49	1.37	1.65	3.22	1.78	-0.14	-0.94
Mean	-2.61	-3.39	5.81	4.28	5.88	4.29	2.60	1.62

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Dodge & Cox Intl	-5.12	99	-7.15	99	0.52	99	2.07	95	5.71	58	4.61	37	3.71	17	2.39	24
● International Index	-2.61	49	-3.77	66	7.28	19	5.07	25	5.99	48	4.57	39	2.63	48	1.50	49

### Annual Periods

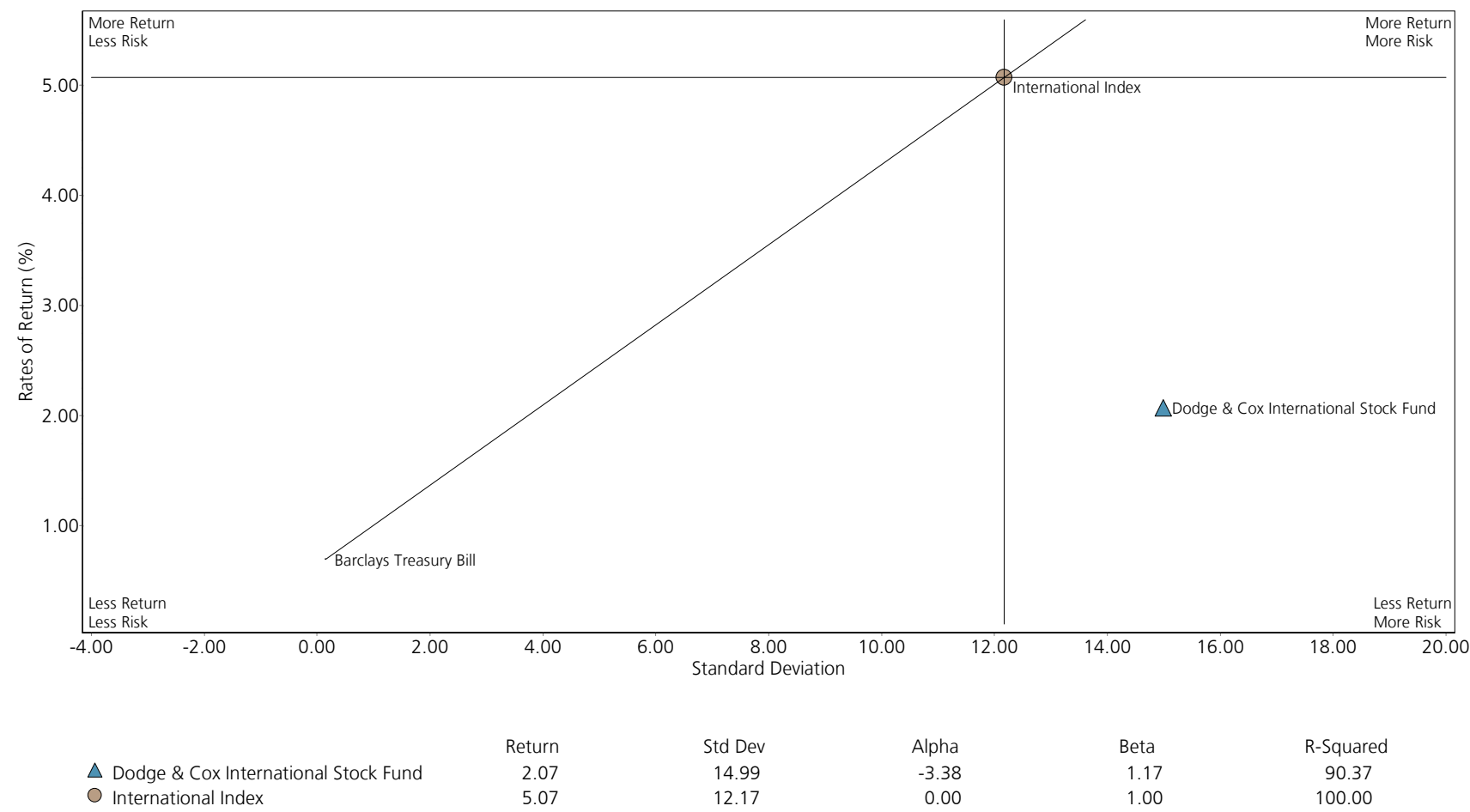


	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>2012</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>
Highest Value	30.25	6.52	5.70	0.99	28.13	26.08	-5.63	18.30	48.38	-33.25
First Quartile	27.20	2.65	0.55	-4.08	22.15	19.41	-11.62	12.75	35.51	-41.35
Median Value	25.33	0.92	-1.09	-5.41	20.52	17.89	-13.29	10.09	31.65	-42.97
Third Quartile	24.21	-0.81	-2.86	-6.43	17.74	16.22	-15.02	7.67	27.63	-45.26
Lowest Value	18.62	-3.79	-8.80	-9.77	11.68	12.78	-20.11	4.75	20.89	-50.41
Mean	25.53	1.00	-1.38	-5.04	20.06	17.94	-13.17	10.30	32.13	-43.21

	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank	Return	Rank
▲ Dodge & Cox Intl	23.97	78	8.26	1	-11.58	99	0.08	3	26.15	7	20.82	14	-15.99	86	14.06	15
● International Index	27.19	24	4.50	10	-5.66	92	-3.87	22	20.07	55	17.32	57	-12.14	32	7.75	73

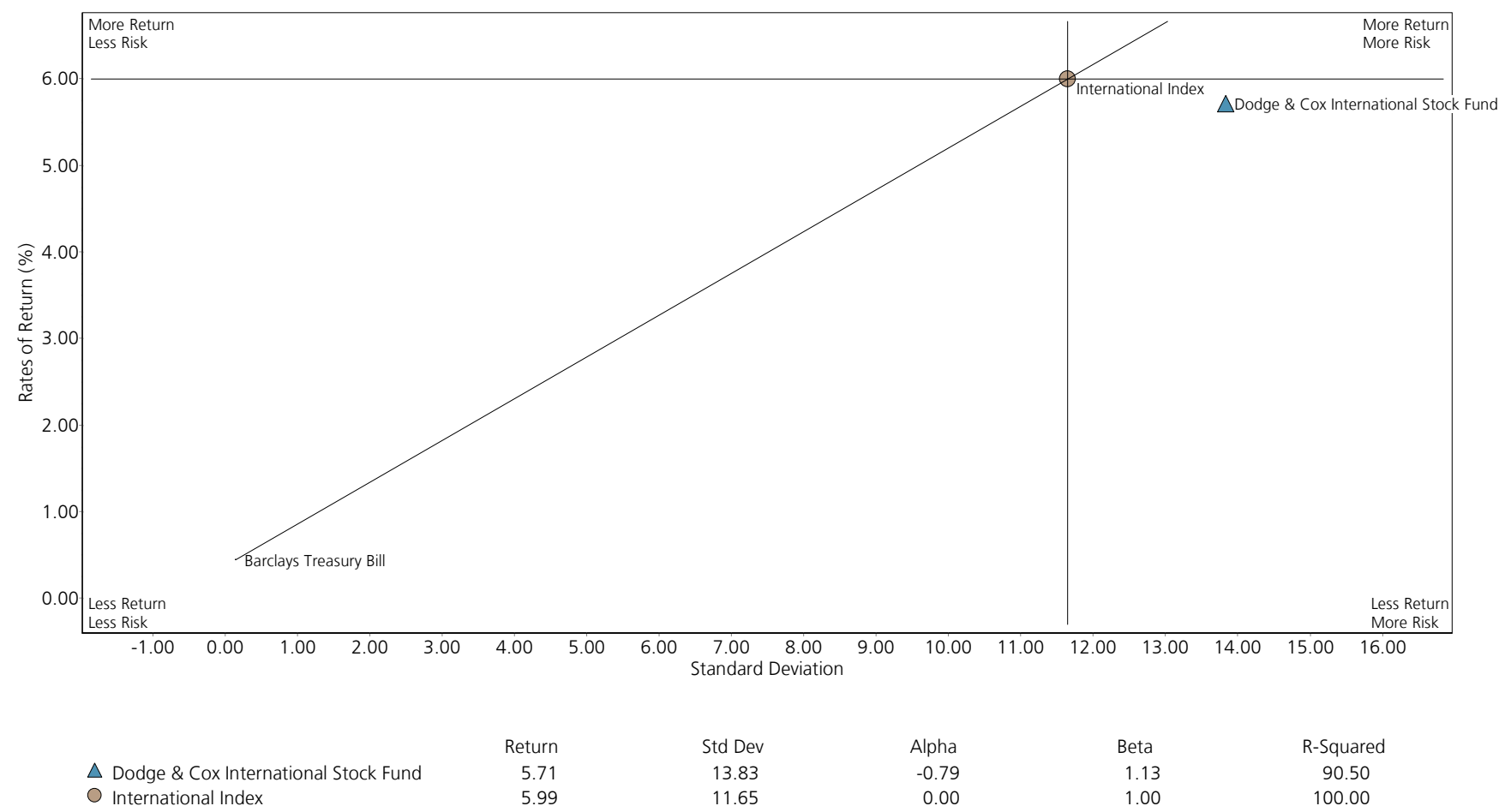
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**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



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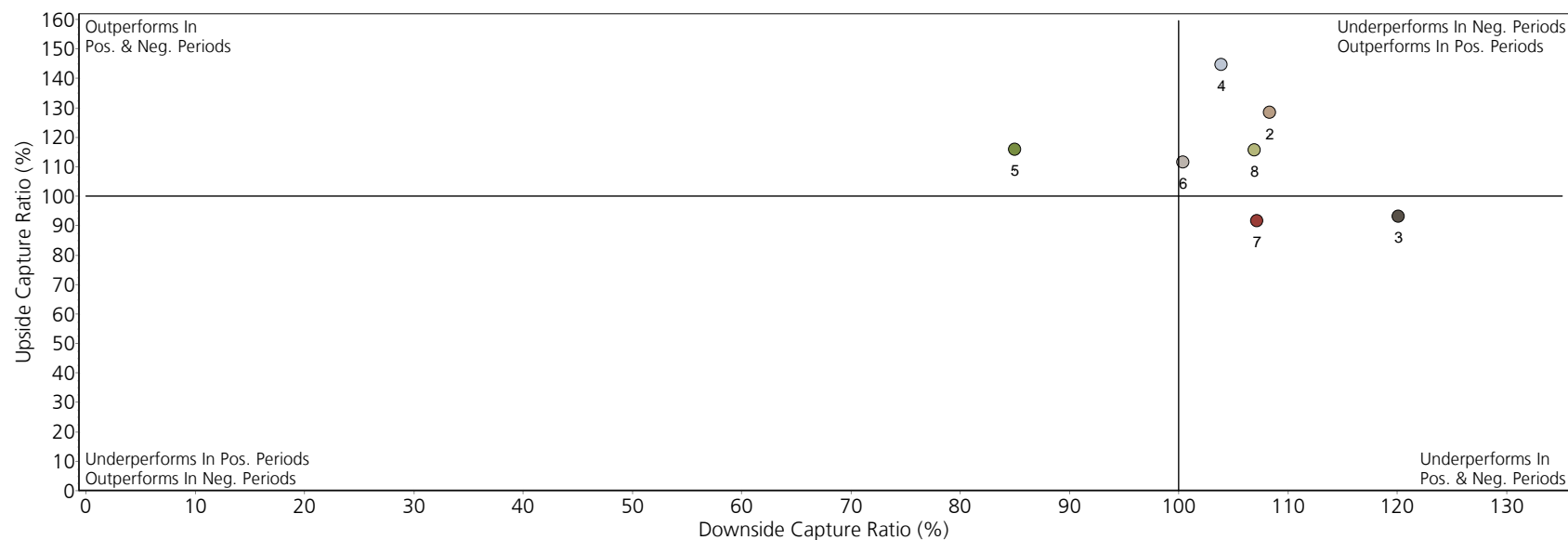
**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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**Capture Ratio**  
**July 31, 2007 Through June 30, 2018**



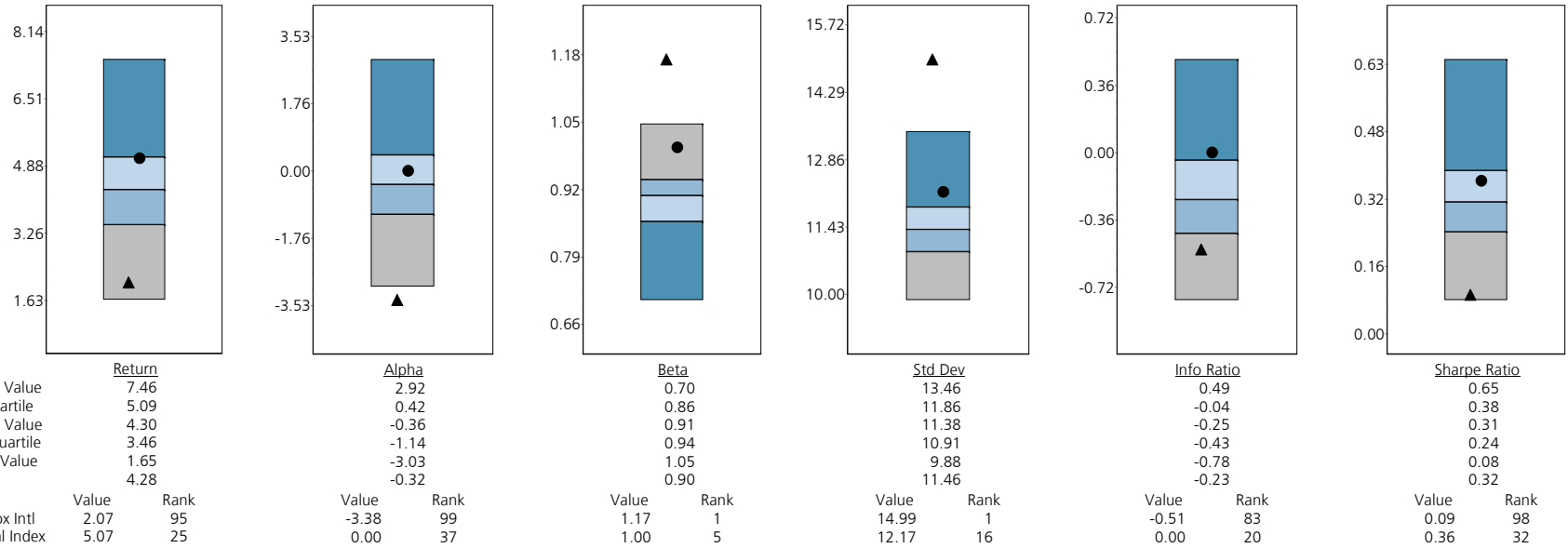
	1	2	3	4	5	6	7	8
	12/2016-12/2017	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011	7/2007-6/2018
Up Periods	12.00	6.00	3.00	7.00	8.00	9.00	4.00	70.00
Upside Capture ROR	23.97	27.82	17.60	17.36	35.43	39.96	20.93	66.87
International Index	27.19	21.68	18.91	12.00	30.60	35.81	22.86	57.82
% Of Capture	88.15	128.32	93.11	144.58	115.81	111.59	91.56	115.65
Down Periods	0.00	6.00	9.00	5.00	4.00	3.00	8.00	61.00
Downside Capture ROR	N/A	-15.30	-24.81	-14.72	-6.85	-13.67	-30.53	-41.54
International Index	N/A	-14.12	-20.66	-14.17	-8.06	-13.62	-28.49	-38.84
% Of Capture	N/A	108.33	120.09	103.91	85.02	100.41	107.17	106.95

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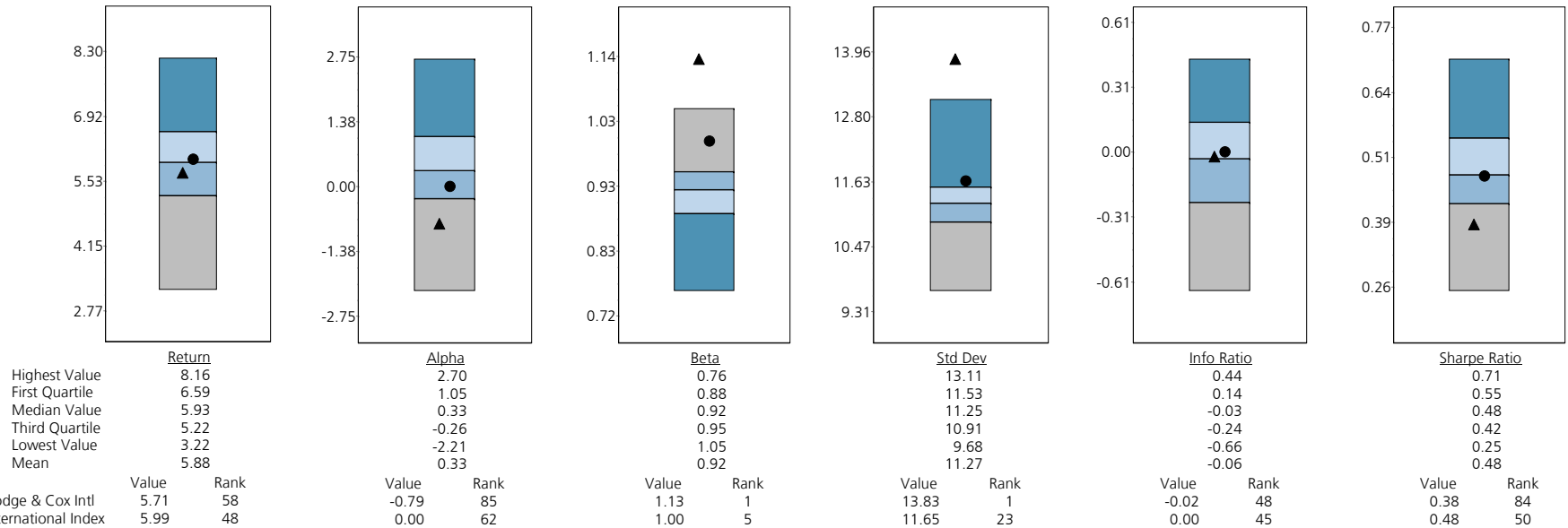
## TOTAL FUND vs Foreign Large Blend Managers

### June 30, 2015 Through June 30, 2018

3 Year



5 Year



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 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.

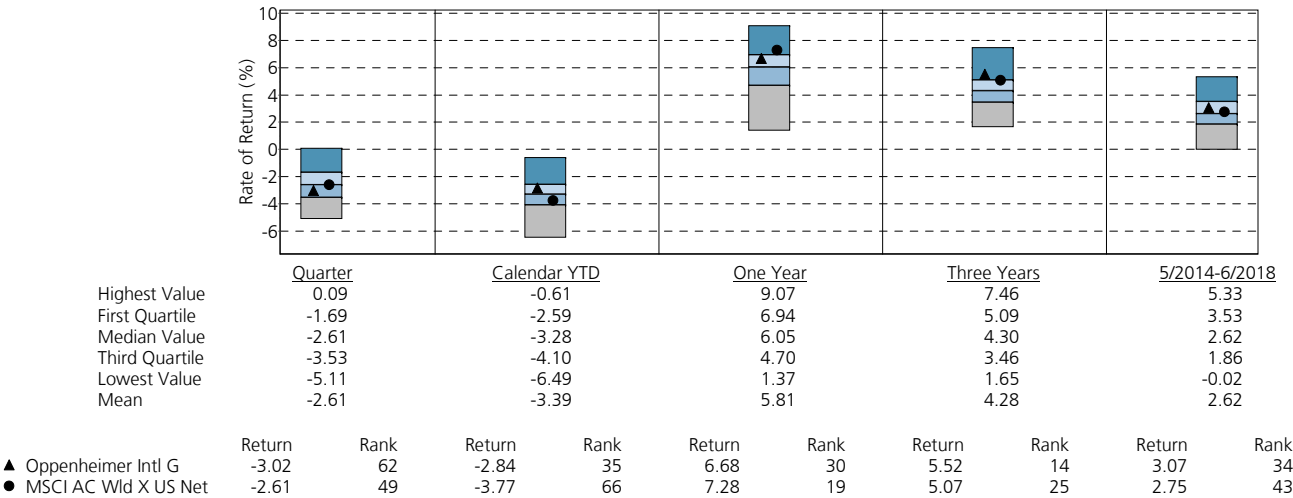
**TOTAL FUND BENCHMARK**

5/31/2014 - Present  
100% MSCI AC World X US Net

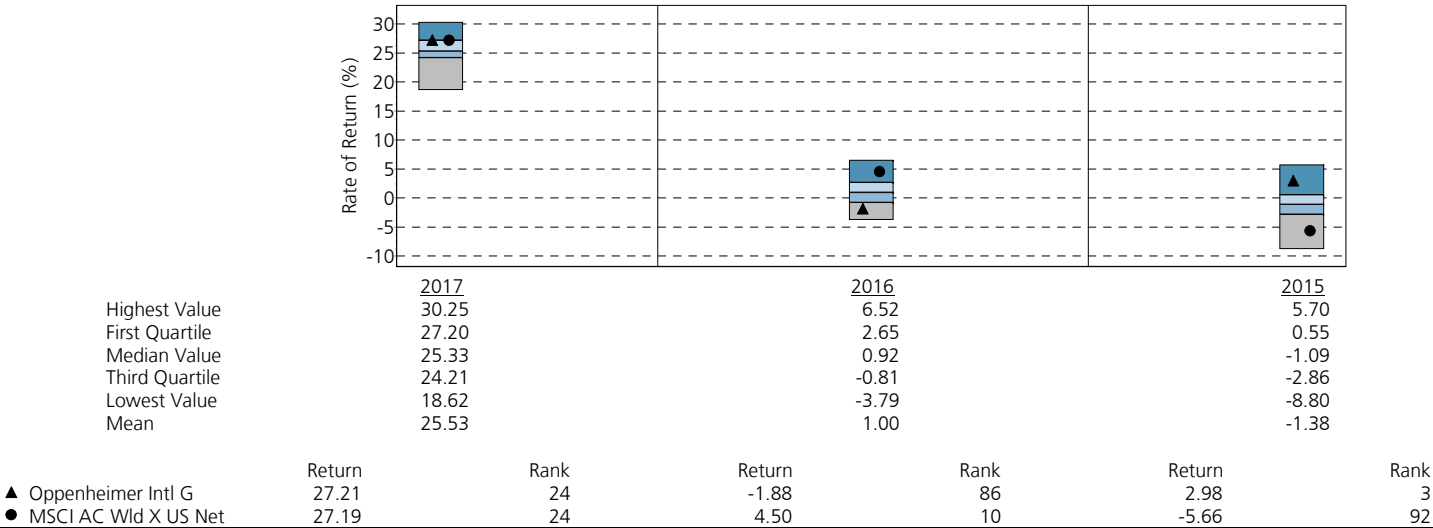
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# TOTAL FUND Peer Universe Comparison versus Foreign Large Blend Managers

Trailing Periods



Annual Periods



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## Investment Performance

Period Ending June 30, 2018

**Prepared for:**  
**Cobb County Employees Retirement System**  
July 23, 2018

**Prepared by:**  
Earle Dodd, Van Price, Allen Wright

# Blackrock Global Allocation Fund First Eagle Global Fund Loomis Sayles Global Equity & 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**

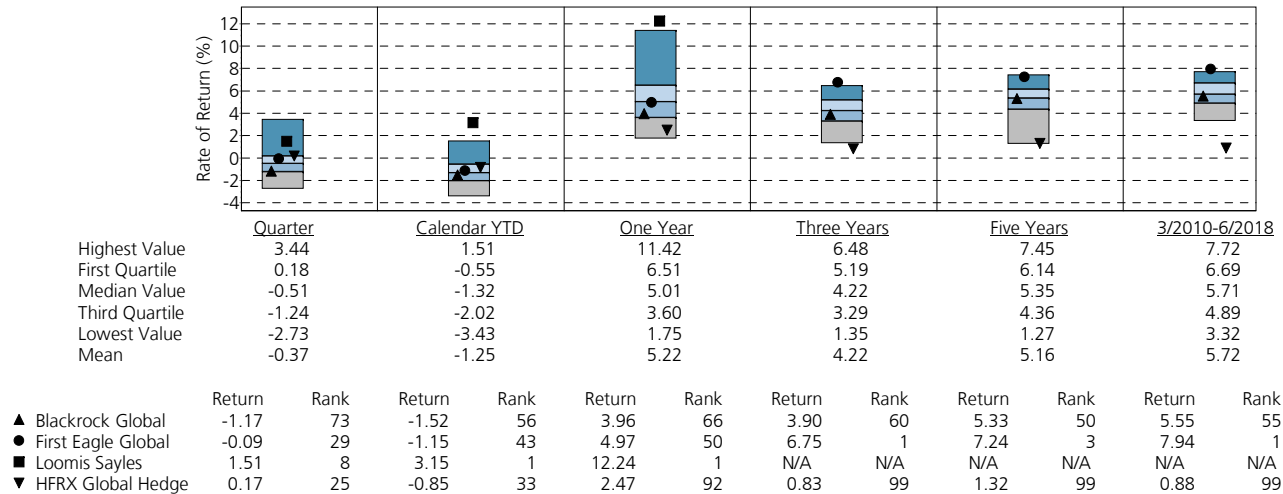
3/31/2010 - Present

100% HFRX Global Hedge Fund Index

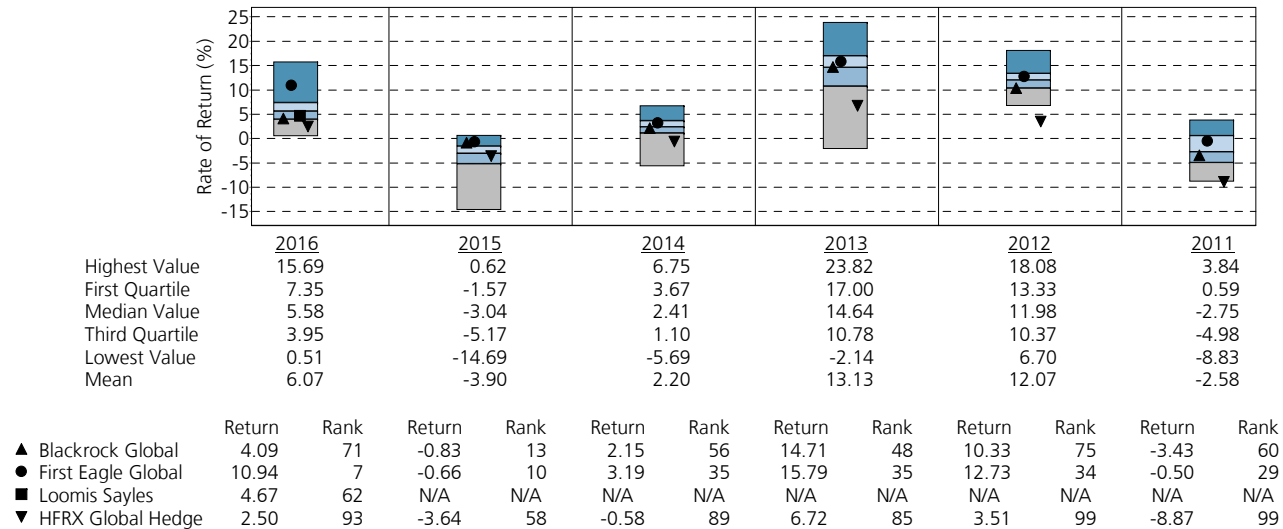
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## TOTAL FUND Peer Universe Comparison versus World Allocation Managers

### Trailing Periods



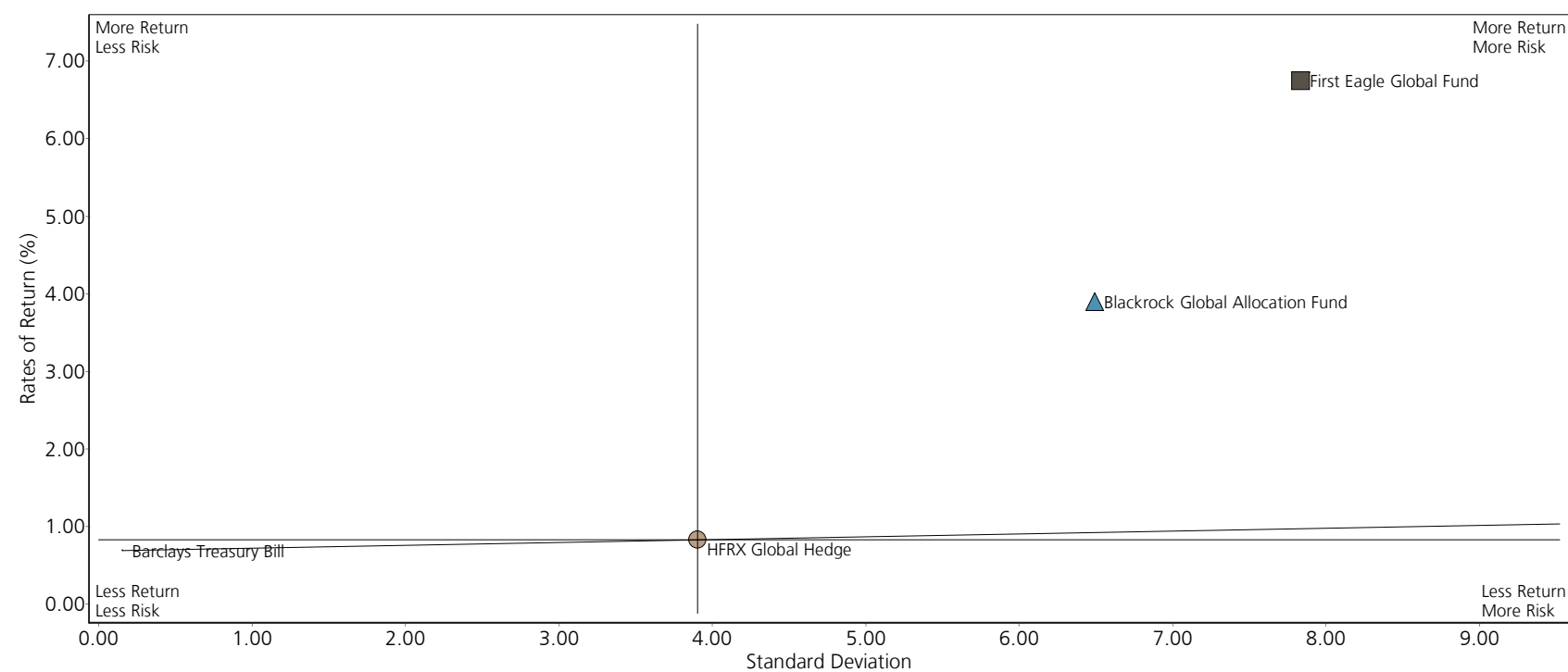
### Annual Periods



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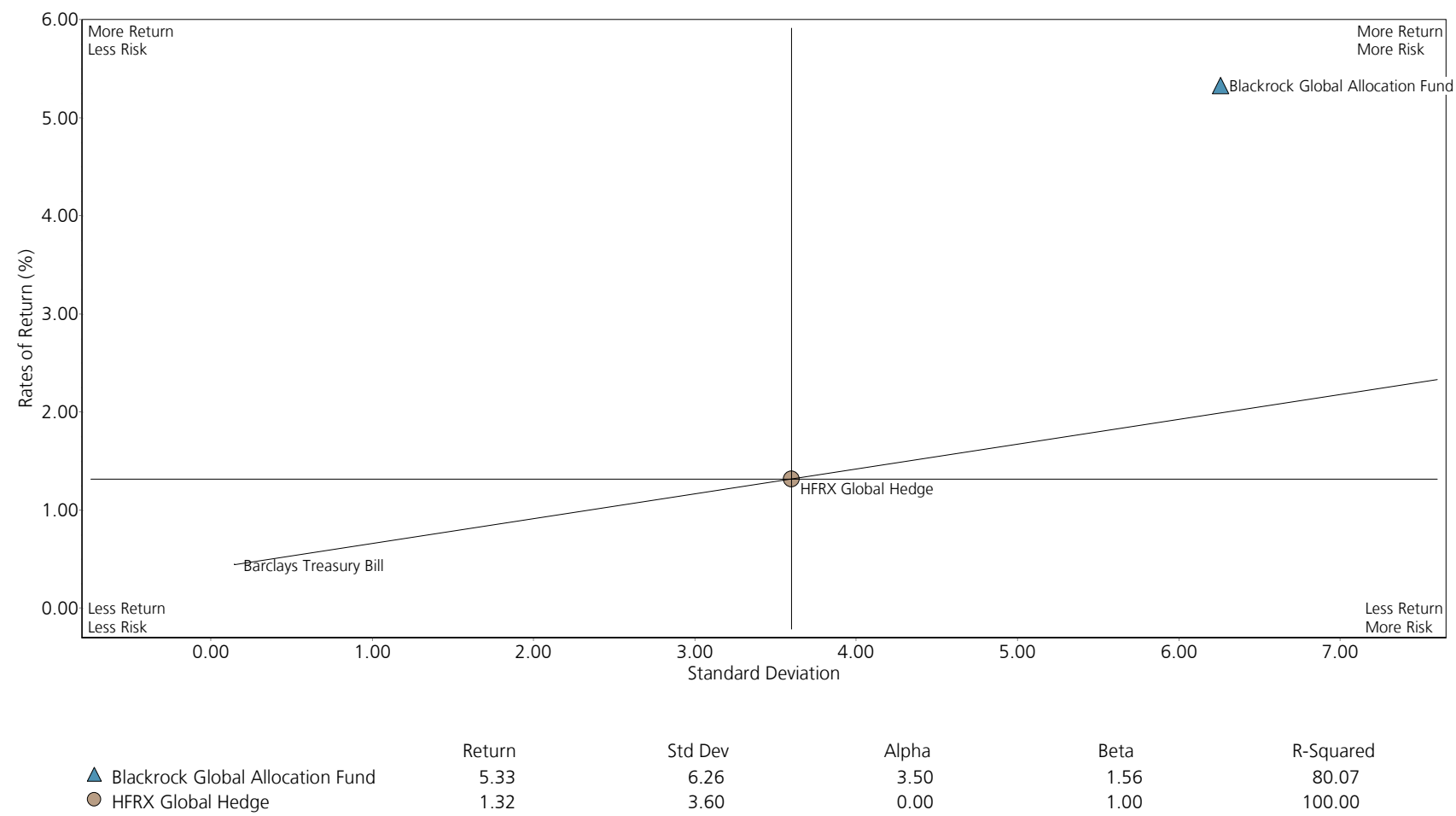
**Risk vs Reward Analysis**  
**June 30, 2015 Through June 30, 2018**



	Return	Std Dev	Alpha	Beta	R-Squared
▲ Blackrock Global Allocation Fund	3.90	6.49	3.03	1.52	82.48
● HFRX Global Hedge	0.83	3.90	0.00	1.00	100.00
■ First Eagle Global Fund	6.75	7.83	5.81	1.67	68.97
▼ Natixis Loomis Sayles Global Equity	N/A	N/A	N/A	N/A	N/A

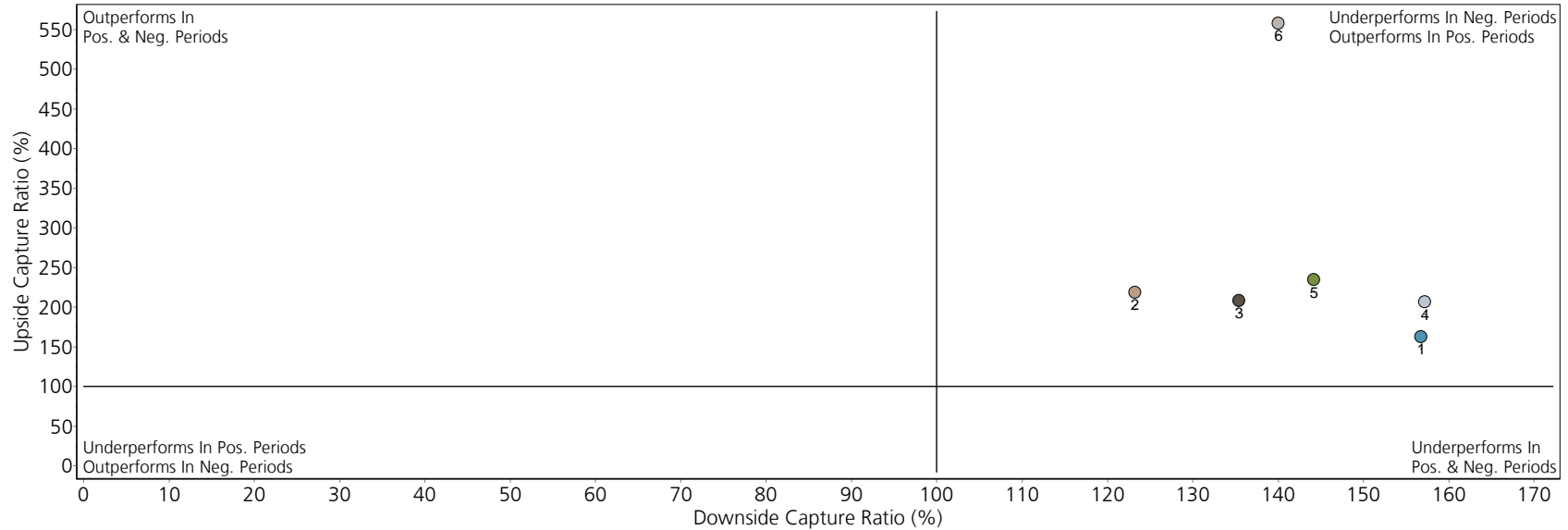
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**Risk vs Reward Analysis**  
**June 30, 2013 Through June 30, 2018**



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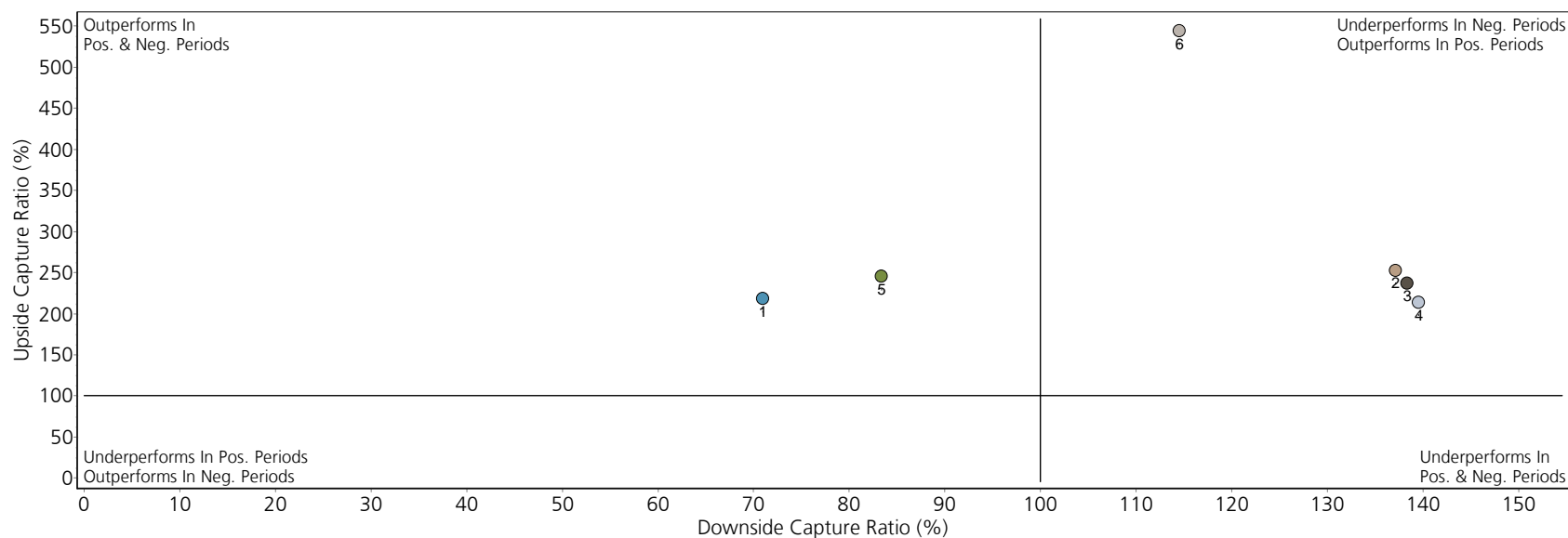
**Capture Ratio - Blackrock Global Allocation Fund**  
**December 31, 2010 Through December 31, 2016**



	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**

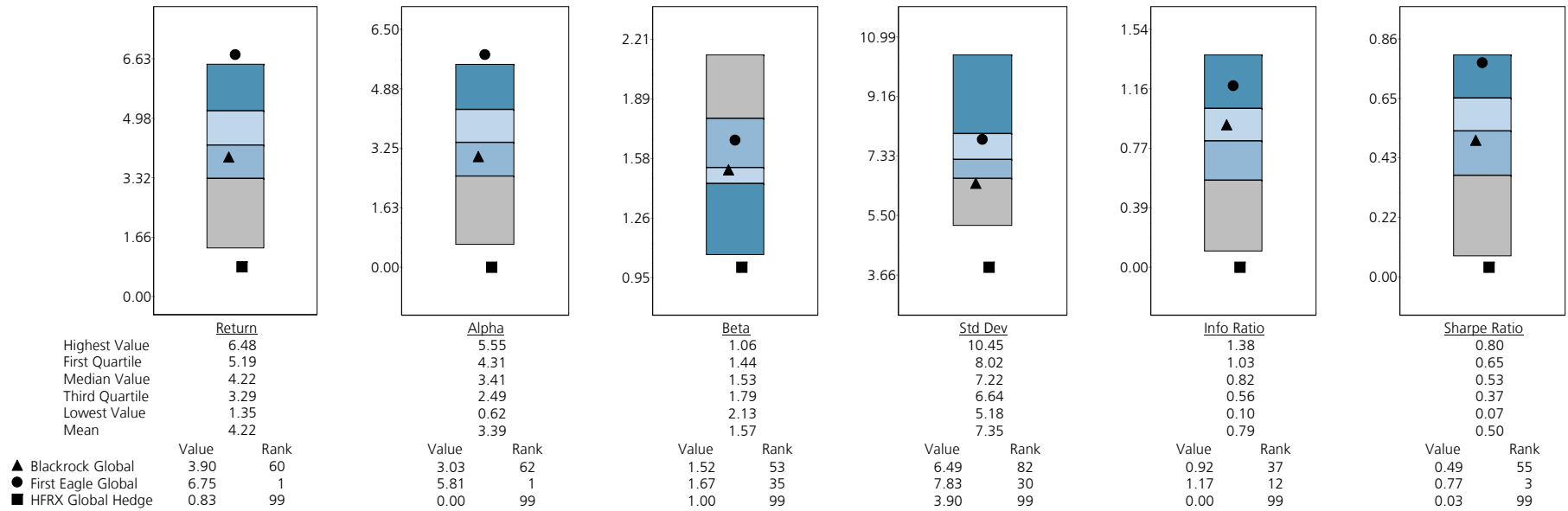


	1	2	3	4	5	6
	12/2015-12/2016	12/2014-12/2015	12/2013-12/2014	12/2012-12/2013	12/2011-12/2012	12/2010-12/2011
Up Periods	9.00	5.00	5.00	10.00	8.00	4.00
Upside Capture ROR	13.88	10.99	10.57	19.42	15.14	14.11
HFRX Global Hedge	6.36	4.35	4.46	9.09	6.18	2.59
% Of Capture	218.05	252.75	236.96	213.54	245.07	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

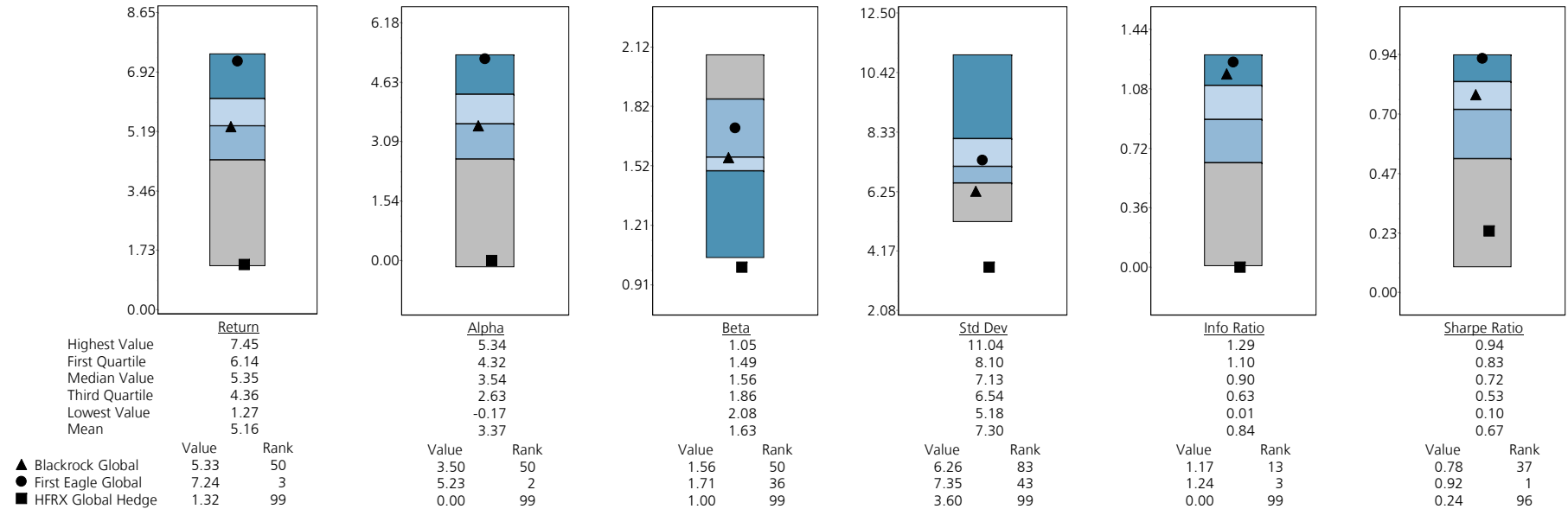
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## TOTAL FUND vs World Allocation Managers June 30, 2015 Through June 30, 2018

3 Year



5 Year



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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' 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.

**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.

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**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.

**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.

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**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.

**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.

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**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.

Source of **FTSE Data:** **FTSE International Limited ("FTSE") © FTSE 2016.** For important disclaimers in relation to **FTSE Data** please see the relevant attribution and disclaimer requirements at [http://www.ftse.com/About\\_Us/Legal/Attribution\\_Requirements.jsp](http://www.ftse.com/About_Us/Legal/Attribution_Requirements.jsp).

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# Cobb County Government Employees' Pension Plan

John Brogan, Director- Market Leader



BLACKROCK®





**BlackRock**

**Strategic Income Opportunities Fund**

**Global Allocation Fund**

**BLACKROCK®**





# BlackRock Strategic Income Opportunities Fund (SIO)

July 2018



BLACKROCK®

FOR INSTITUTIONAL OR FINANCIAL PROFESSIONAL USE ONLY  
NOT FDIC INSURED  
MAY LOSE VALUE  
NO BANK GUARANTEE

USR0718U-545725-1710053



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- IV. Strategic Income Opportunities Fund**
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## I. Firm Overview

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# BlackRock at a glance

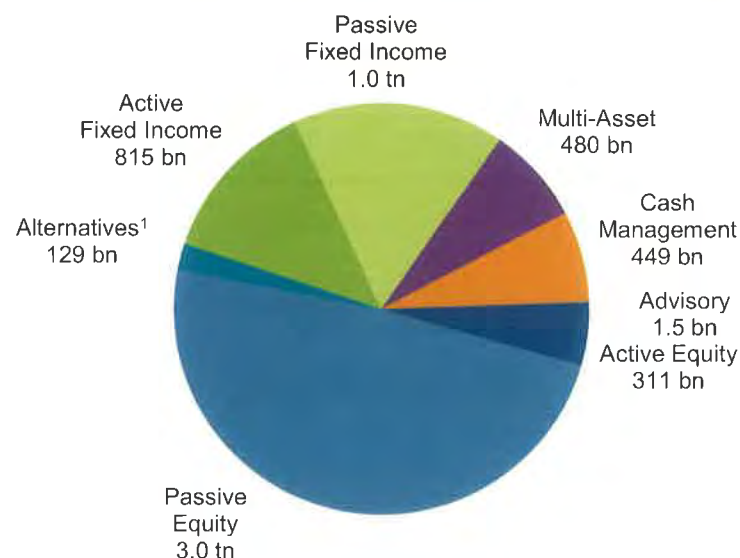
## BlackRock Mission Statement

**Create a better financial future for our clients by building  
the most respected investment and risk manager in the world**

## BlackRock facts

- Established in 1988
- NYSE: BLK
- \$6.28 trillion assets under management
- More than 13,500 employees
- More than 2,000 investment professionals
- Offices in over 34 countries
- 25 primary investment centers globally
- Clients in over 100 countries
- Over 800 iShares® ETFs Globally
- Through BlackRock Solutions, the Firm provides risk management and enterprise investment services for over 200 clients
- Financial Markets Advisory business managed or advised on over \$8 trillion in asset and derivative portfolios
- Transition Management team partners with clients to save costs and reduce risks when changing investment exposures

## \$6.28 trillion managed across asset classes



Assets as of 31 December 2017

<sup>1</sup> Includes commodity and currency mandates

As of 31 December 2017. All figures are represented in USD.



## II. Global Fixed Income Platform

---



# BlackRock: 30 years of innovation, anticipating changing client needs

- **Pioneered the idea of risk managed fixed income solutions**

- **First fixed income index fund, largest fixed income index<sup>1</sup> and fixed income ETF manager<sup>2</sup> globally**

- **Innovative provider of fundamental and systematic alpha-seeking capabilities**

**1980s**

- BlackRock founded as a mortgage manager
- Introduced first Fixed Income index funds

**1990s**

- Awarded first Insurance company mandate, the first step in building the Financial Institutions Group (FIG)
- Began managing a fundamental relative value FI hedge fund
- Created the first EMEA Fixed Income Index Fund
- Won first external Aladdin client

**2000s**

- Created the industry's first Fixed Income ETFs
- MLIM/BlackRock merger expanded Fundamental non-dollar and municipal capabilities
- Introduced first Global Credit-Screened fund
- Launched Financial Markets Advisory business in response to global financial crisis; partnered with government agencies in work out situations and capital raises
- BGI/BlackRock merger added Index and Systematic Fixed Income capabilities

**2010s**

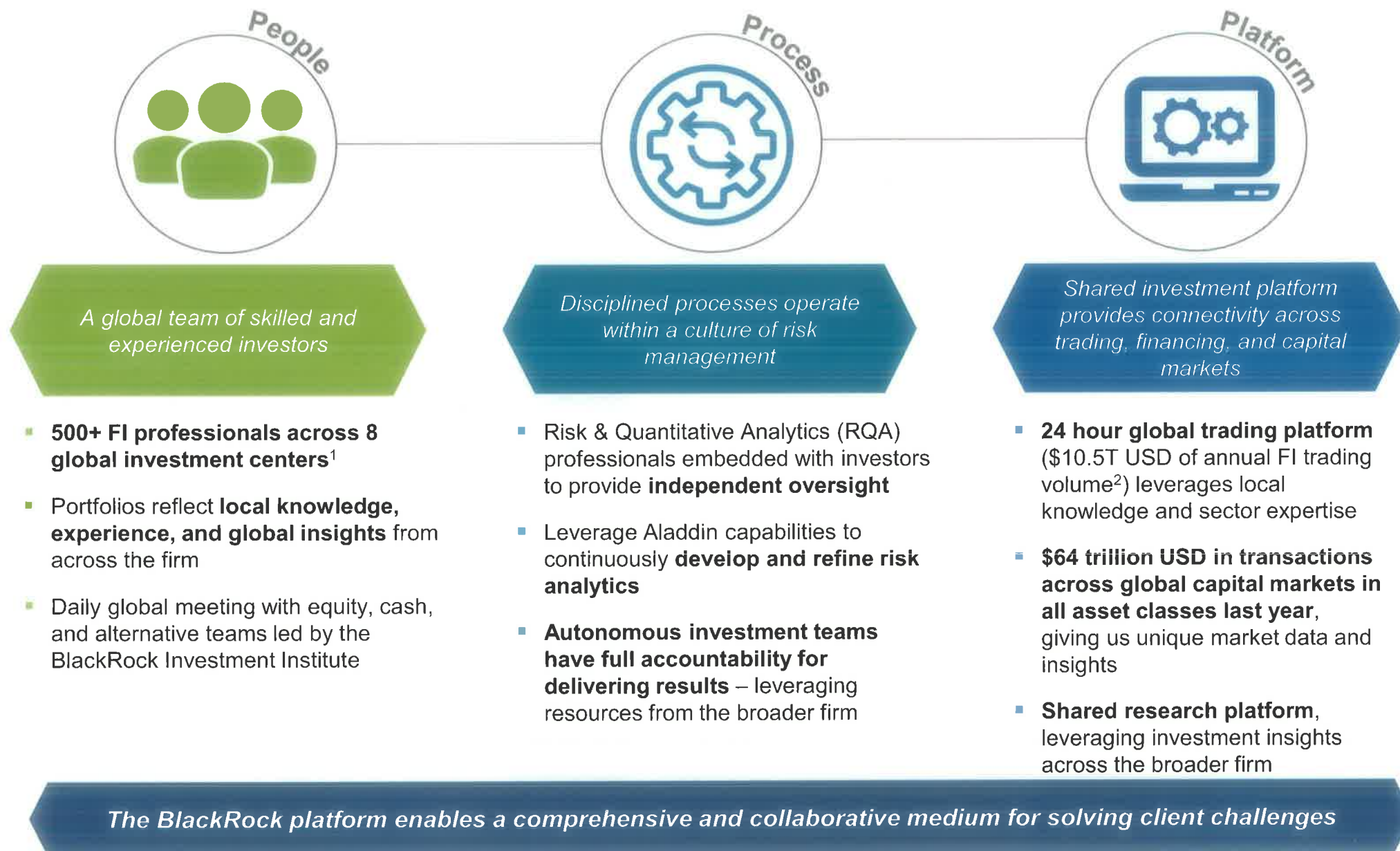
- Introduced synthetic Long Duration funds for Liability-Driven Investing clients
- Pioneered Strategic Income Opportunities, one of the industry's first Unconstrained Fixed Income strategies
- Initiated the first Smart Beta Fixed Income strategy
- Partnered with JP Morgan to launch Emerging Markets ESG Indices

Source: 1. Pension & Investments as of 30 June 2017.

2. Morningstar as of 30 April 2018 Note: Reflects achievements at BlackRock and predecessor firms

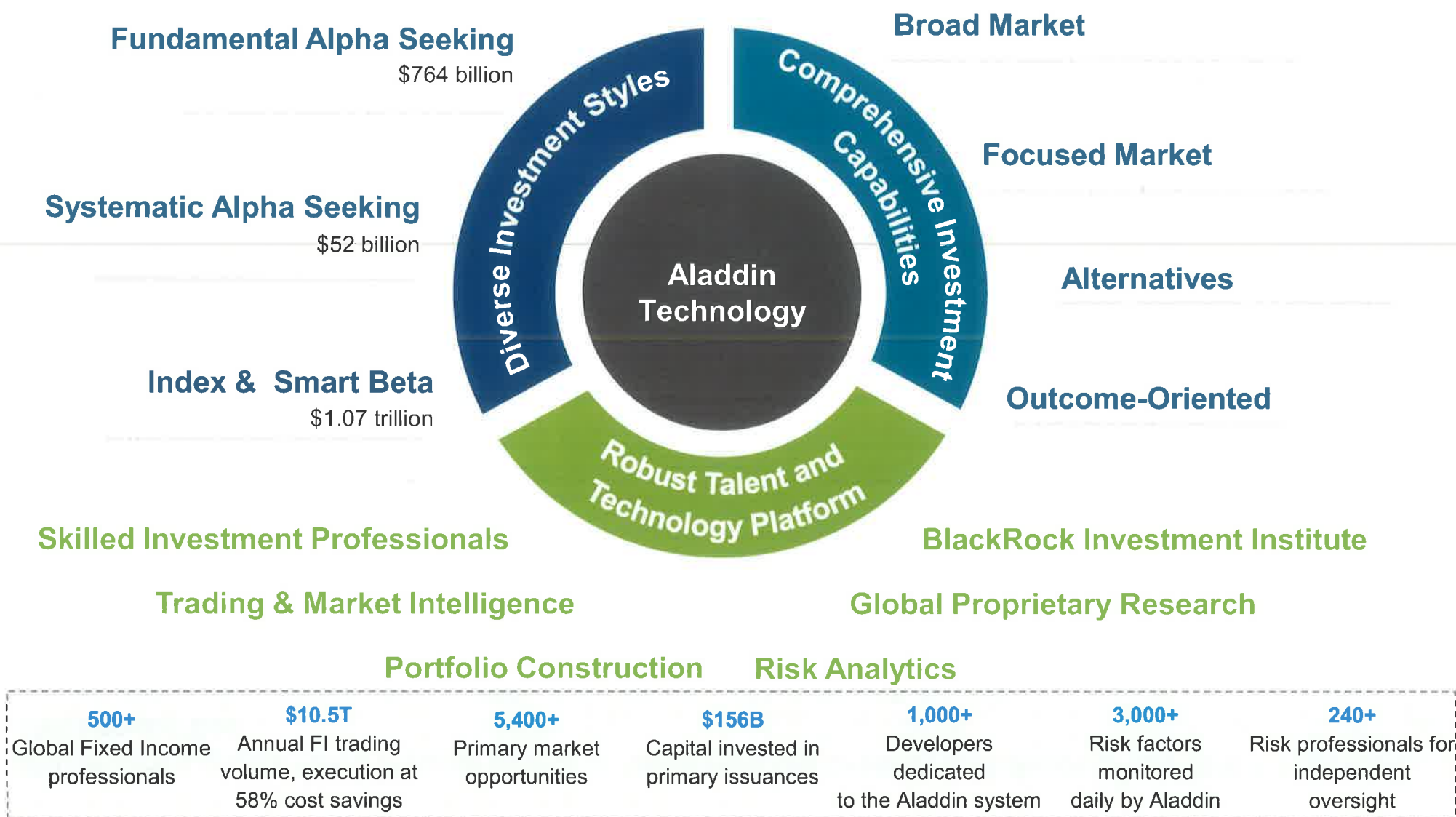


# BlackRock: People, process & platform focused on solving client challenges



1. BlackRock as of September 2017. 2. Activity as of December 31, 2017; Source: BlackRock.

# BlackRock: The industry leader for innovative fixed income solutions<sup>1</sup>



Source: BlackRock; as of March 31, 2018. \$ represented in USD

1. Per Pensions & Investments rankings as of 12/31/2016. Report published as of 5/29/2017. BlackRock assets are as of 3/31/2018.

# BlackRock fundamental fixed income platform leads the industry

## BlackRock's global fixed income platform harnesses the breadth and depth of the firm's expertise and capabilities

- 17 of 22 funds, accounting for over **93% of assets**, have 1<sup>st</sup> quartile performance\*
- 21 of 25 funds, accounting for **84% BlackRock active fixed** income funds are priced in the least expensive quartile\*\*
- BlackRock manages over **\$90B** in active Fixed Income assets

### BlackRock's Active Fixed Income Mutual Fund Platform

Fixed Income Asset Class	BlackRock Funds	5-Yr Mstar %ile	Least Expensive Quartile	Fixed Income Asset Class	BlackRock Funds	5-Yr Mstar %ile	Least Expensive Quartile
Multi-sector	BlackRock Strtgc Inc Opp	17	✓	Government/ Agency	BlackRock GNMA Port	21	✓
	BlackRock Total Return	7	✓		BlackRock US Government	22	✓
	BlackRock Core Bond	36	✓		BlackRock Inflatn Prot Bd	53	✓
	BlackRock Low Duration	24	✓		BlackRock US Mortgage	13	✓
	BlackRock Core Alpha Bd	39	✓	National Muni	BlackRock National Municipal	13	
Credit	BlackRock High Yld Bd	11	✓		BlackRock Strategic Municipal Opp	5	
	BlackRock Float Rate Inc	21	✓		BlackRock High Yield Municipal	18	✓
	BlackRock Credit Strategies Income	16	✓		BlackRock Short-Term Municipal	78	✓
Global Bond	BlackRock Emrg Mkt Flex Dyn	42	✓	State-Specific Muni	BlackRock California Municipal	1	
	BlackRock Strategic Global Bond Instl	21	✓		BlackRock Penn Municipal	8	✓
						BlackRock New York Municipal	1
					BlackRock New Jersey Municipal	7	✓
Total AUM (\$M)						100,389	

1st

2nd

3rd

4th



\*Source: BlackRock and Morningstar. As of 3/31/18. 17 of 22 funds accounts for 77% of our active fixed income mutual funds with at least a 5 year performance track record (22 funds total). Over the 1, 3, 5 and 10 year periods, 12, 11, 17 and 11 of BlackRock fixed income funds are in the first quartile of their respective Morningstar categories. Based on institutional share classes of BlackRock open-end taxable and tax-free fixed income funds (based on 22 funds). **93% statistic based on \$93.6B out of \$100.4B AUM of all share classes of the funds.** Strategic Income Opportunities Fund AUM is \$34.6B which accounts for 37% of the total \$93.6B AUM of funds that have first quartile performance. **Institutional shares may not be available to all retail investors. Performance for different share classes may vary. Past performance does not guarantee future results.**

21 of 25 U.S. bond funds, accounting for **84% of our fixed income funds**, are priced in the least expensive quartile†

\*\*Source: Morningstar. As of 3/31/18. Includes all BlackRock active fixed income funds available as of 3/31/17 (25 total). Current fee rankings may vary based on recent and frequent prospectus updates to the funds within the respective Morningstar categories. Analysis based only on institutional shares of BlackRock active retail fixed income funds vs. institutional shares of active fixed income funds within their respective Morningstar categories. Expenses are based on the funds' most recent prospectus net expense ratios, excluding investment dividend expense, interest expense, and certain other fund expenses. Morningstar category net expense ratio also excludes these expenses. Includes active open-end taxable and tax-free fixed income mutual funds only, and excludes index funds. 84% of BlackRock active fixed income funds are in the lowest fee quartile (21 out of 25 funds). Based on 25 BlackRock active taxable and tax-free funds. **Institutional shares may not be available to all retail investors. Performance for different share classes may vary.**



# BlackRock Fixed Income Awards & Recognition

## Firm-Wide Achievements

# #1

Ranked **#1** on the 2017 II300, Institutional Investor's annual ranking of **top US money managers**



Winner of the 2017 **Gold Standard Award** for Retail Fund Management for the **eleventh consecutive year**



Ranked **#22** on LinkedIn's 2017 Top Companies: **Where the World Wants to Work Now**



Among firms with 1,000+ employees, BlackRock was named one of the **"Best Places to Work in Money Management"** in 2017, 2016, 2015, and 2014 by Pensions & Investments

## BlackRock's Multi-Sector Fixed Income Platform

### Strategic Income Opportunities Fund



Morningstar Analyst **Silver Medal Award**



2016 eVestment Advantage **Fixed Income Honoree**

### Total Return Bond Fund



Morningstar Analyst **Silver Medal Award**



Winner of the **2017 Lipper Fund Award** for 5-year performance among Core Bond Funds and the **2016 Lipper Fund Award** for 3-year performance

### Strategic Global Bond Fund



Morningstar Analyst **Bronze Medal Award**



Named to Investor's Business Daily's list of **Best International Bond Funds** in 2017

Please see Important Notes for more information on methodology for fund awards.



### III. BlackRock Multi-Sector Fixed Income Platform



# BlackRock Fundamental Multi-Sector Fixed Income

The BlackRock Multi-Sector Fixed Income Investment Team manages assets across a broad range of clients and investment styles

## Expertise

Diverse Lead PM backgrounds bring together deep expertise across every sector of the Bloomberg Barclays US Aggregate.

- **Rick Rieder (Global CIO of FI)**
  - Chairman of the BlackRock firm-wide Investment Council and member of BlackRock's Global Operating Committee
  - Member of Federal Reserve Bank of NY's investment advisory committee
  - 9 yrs BLK / 31 yrs Industry
- **Bob Miller (Head of Multi-Sector FI)**
  - Background in global macro strategies, interest rate derivatives, sovereign debt and global equity and credit portfolios
  - 8 yrs BLK / 30 yrs Industry
- **Akiva Dickstein (Head of Customized)**
  - Previously served as the lead PM for BlackRock's mortgage portfolios
  - 9 yrs BLK / 25 yrs Industry
- **David Rogal (Director, Portfolio Manager)**
  - Member of the Multi-Sector Retail & Rates Team, previously a member of the Multi-Asset Portfolio Solutions Team
  - 12 yrs BLK / 12 yrs Industry

## Breadth and Depth of Platform

Platform includes 400+ fixed income professionals with specialized insights and skill across global fixed income markets.

- **Assess widest possible global fixed income opportunity set** with no bias towards any particular subsector, geography or risk
- **Utilize specialized knowledge** across diverse strategies (i.e., global rates, securitized assets, corporate credit, municipals, EM, FX) with local offices in 45 countries
- **Track and analyze** 15,000+ securities on risk-factor level and aggregate across portfolios
- **Leverage BlackRock Solutions**, the firm's risk management and enterprise investment services offered to over 200 clients
- **Gain liquidity insights** from more than 73,000 daily trades across equity, fixed income, cash, currency and futures

## Partnership

Team offers a comprehensive spectrum of investment styles and ability for customization in efforts to meet unique client needs.

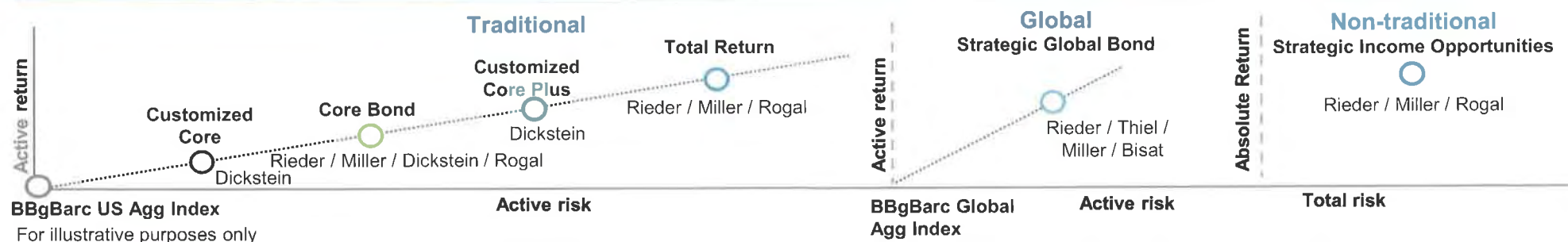
- **Partner with clients** to determine appropriate objective, benchmark and guidelines
- **Implement sophisticated analytics** and platform insights to design custom solutions for unique client needs
- **Risk-focused philosophy and process** designed to achieve clients' alpha targets with the highest possible information ratio
- **Model numerous risk characteristics** and design custom risk reports to closely track portfolio risks

Source: BlackRock; all data as of 30 June 2018



# Diversified alpha potential across broad array of fundamental multi-sector fixed income strategies

## Fundamental Multi-Sector Fixed Income Offering



### Traditional (Benchmark: BBgBarc US Agg)

#### Core Strategies

##### Core Bond

- Invests in core, global, macro sectors

##### Guidelines:

- Duration: Agg +/- 20%
- Quality: IG at purchase
- Non-US: Up to 25%
- Non-USD: Up to 10%
- EM: Up to 10%

##### Customized Core

- Guideline flexibility to address client specific constraints / risk targets

#### Core Plus Strategies

##### Total Return

- Invests in core, global, macro sectors
- Employs relative value strategies

##### Guidelines:

- Duration: Agg +/- 40%
- Quality: Up to 20% below IG at purchase
- Non-US: Up to 30%
- EM: Up to 20%
- CDOs: Up to 15% (10% CLOs)

##### Customized Core Plus

- Guideline flexibility to address client specific constraints / risk targets

### Global (Benchmark: BBgBarc Global Agg)

#### Global Strategy

##### Strategic Global Bond

- Invests in core, global, macro sectors
- Employs relative value strategies

##### Guidelines:

- Under normal circumstances:
- Non-US: At least 40%

### Unconstrained (No Benchmark)

#### Flexible Strategy

##### Strategic Income Opportunities

- Invests in core, global, macro sectors
- Employs relative value strategies

##### Guidelines:

- Duration: -2Y to +7Y
- Quality: No constraint
- CDOs: Up to 15% (10% CLOs)

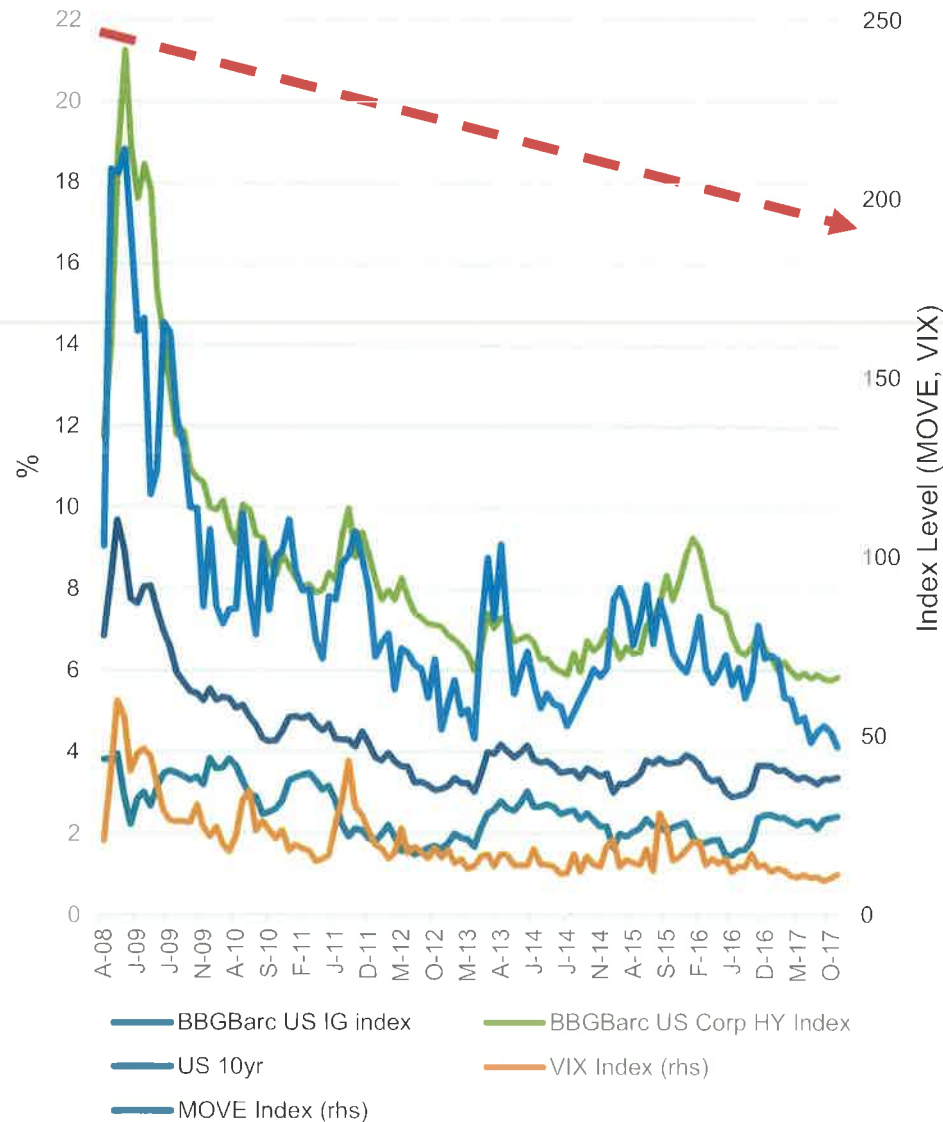
## IV. Strategic Income Opportunities Fund

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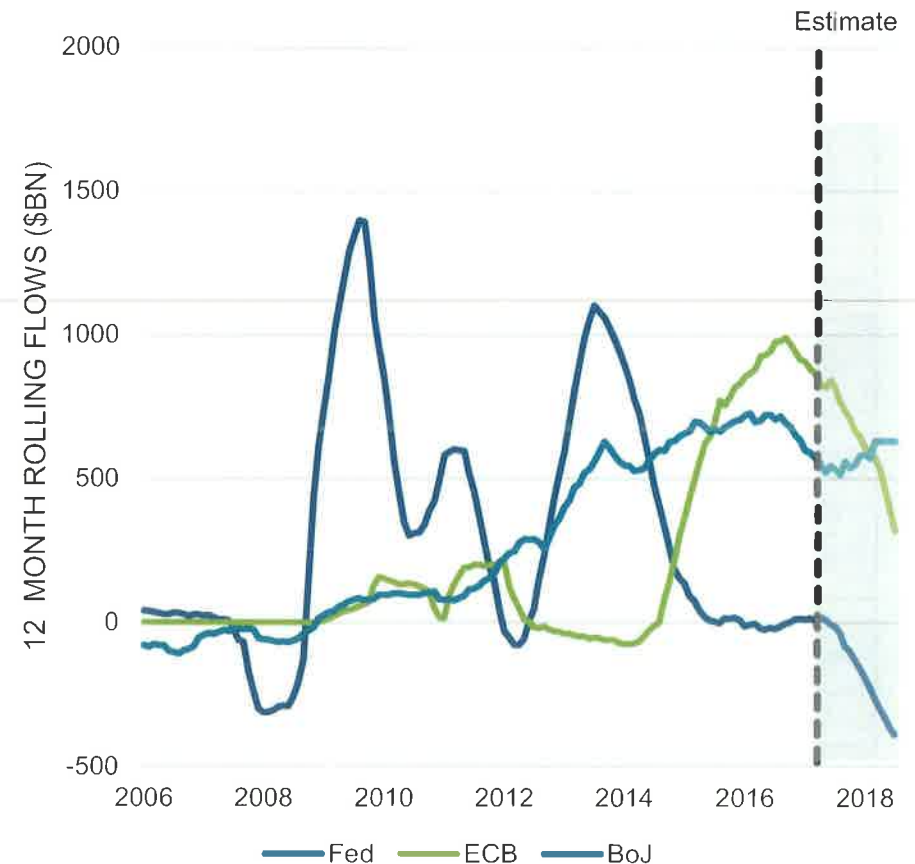


# Investors must weigh the potential impact of less monetary policy support

## Policy has served to suppress interest rates and market volatility




## Global central banks now reducing monetary policy support



Sources: BlackRock Investment Institute, with data from the Fed, ECB and BoJ, October 2017. Note: The rolling flows of the Fed is based on the addendum to the Policy Normalization Principles and Plans issued by FOMC. The ECB forecast assumes ECB purchases 30bn EUR per month in the first nine months of 2018 based on available information from ECB's monetary policy meeting held on Oct 26th, 2017. The BoJ forecast assumes that the monthly JGB (ex. Bills) purchase is equal to the average monthly purchase since the yield curve control policy. BoJ's Monthly purchase of Exchange Traded Funds, J-REIT, commercial paper are not included.

# Greater dispersion across sectors requires flexibility and diversification

Annual fixed income performance<sup>#</sup>



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD 2018
	EMD (Local CCY): 18.11%	US Treasury: 13.74%	US High Yield: 58.21%	EMD (Local CCY): 15.68%	US Treasury: 9.81%	EMD (USD): 18.54%	US High Yield: 7.44%	US Credit: 7.53%	US Securitized: 1.49%	US High Yield: 17.13%	Euro Corporate: 16.02%	US High Yield: 0.16%
	Euro Government: 12.78%	US Agg: 5.24%	EM (USD): 28.18%	US High Yield: 15.12%	EMD (USD): 8.46%	EMD (Local CCY): 16.76%	Euro Government: 6.74%	US Agg: 5.97%	EMD (USD): 1.23%	EMD (USD): 10.19%	EMD (Local CCY): 15.21%	US Securitized: -0.97%
	US Treasury: 9.01%	US Securitized: 4.99%	EMD (Local CCY): 21.98%	EM (USD): 12.04%	US Credit: 8.35%	Euro Corporate: 16.36%	Euro Corporate: 6.11%	US Securitized: 5.94%	US Treasury: 0.84%	EMD (Local CCY): 9.94%	Euro Government: 14.08%	US Treasury: -1.08%
	Euro Corporate: 8.39%	Euro Government: 3.77%	Euro Corporate: 21.07%	US Credit: 8.47%	US Agg: 7.84%	US High Yield: 15.81%	US Securitized: -1.37%	EMD (USD): 5.53%	US Agg: 0.55%	US Credit: 5.63%	EMD (USD): 9.32%	US Agg: -1.62%
	US Agg: 6.97%	US Credit: -3.07%	US Credit: 16.04%	US Agg: 6.54%	US Securitized: 6.21%	Euro Government: 12.27%	US Credit: -2.01%	US Treasury: 5.05%	US Credit: -0.77%	US Agg: 2.65%	US High Yield: 7.50%	Euro Government: -2.24%
	US Securitized: 6.68%	EMD (Local CCY): -5.22%	Euro Government: 7.85%	US Securitized: 5.92%	US High Yield: 4.98%	US Credit: 9.36%	US Agg: -2.02%	US High Yield: 2.45%	US High Yield: -4.47%	US Securitized: 1.76%	US Credit: 6.18%	US Credit: -2.99%
	EMD (USD): 6.28%	EMD (USD): -10.91%	US Securitized: 7.58%	US Treasury: 5.87%	Euro Government: 0.19%	US Agg: 4.21%	US Treasury: -2.75%	Euro Government: -1.27%	Euro Government: -8.87%	US Treasury: 1.04%	US Agg: 3.54%	Euro Corporate: -3.53%
	US Credit: 5.10%	Euro Corporate: -15.19%	US Agg: 5.93%	Euro Corporate: -0.32%	Euro Corporate: -0.18%	US Securitized: 2.75%	EMD (USD): -6.58%	Euro Corporate: -2.54%	Euro Corporate: -9.10%	Euro Government: 0.13%	US Securitized: 2.49%	EM (USD): -5.23%
	US High Yield: 1.87%	US High Yield: -29.48%	US Treasury: -3.57%	Euro Government: -5.10%	EMD (Local CCY): -1.75%	US Treasury: 1.99%	EMD (Local CCY): -8.98%	EMD (Local CCY): -5.72%	EMD (Local CCY): -14.92%	Euro Corporate: -0.05%	US Treasury: 2.31%	EM (Local CCY): -6.44%
Return Dispersion	16.20%	39.90%	61.80%	20.80%	11.60%	16.50%	16.40%	13.30%	16.40%	18.20%	13.70%	6.60%

Source: Morningstar, as of June 2018. <sup>#</sup>Please see the Important Notes section for a complete list of Indices used to represent each asset class. All index returns denominated in USD. **Past performance is no guarantee of future results. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index.**



# Strategic Income Opportunities (SIO)

Flexible alpha, diversified risk, seeks downside protection

Ticker: BSIIX

SIO is BlackRock's flexible fixed income strategy that seeks to:

- Generate consistent, attractive risk-adjusted returns across all market environments
- Retain the general risk profile of traditional fixed income investments

## 1 Flexible

Widely diversified portfolio of *global fixed income* strategies

## 2 Diversified

Lower absolute risk and correlation through *diversified risk exposures*

## 3 Risk-aware

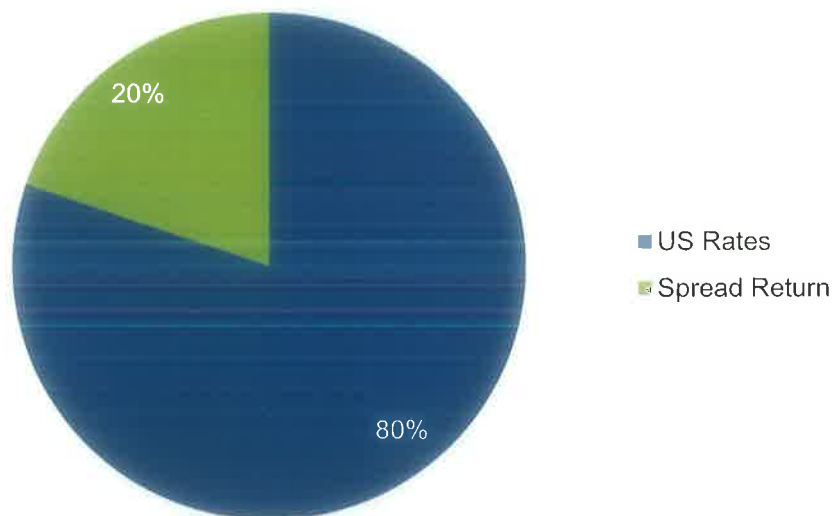
Process aims to *hedge tail risk* and *control volatility*

# 'Making a little bit of money a lot of times' has potential to produce more consistent results

No single alpha source has contributed more than 25% of total performance since inception in SIO

## Drivers of return since strategy inception (March 2010)

### Bloomberg Barclays US Aggregate Index Drivers of Return

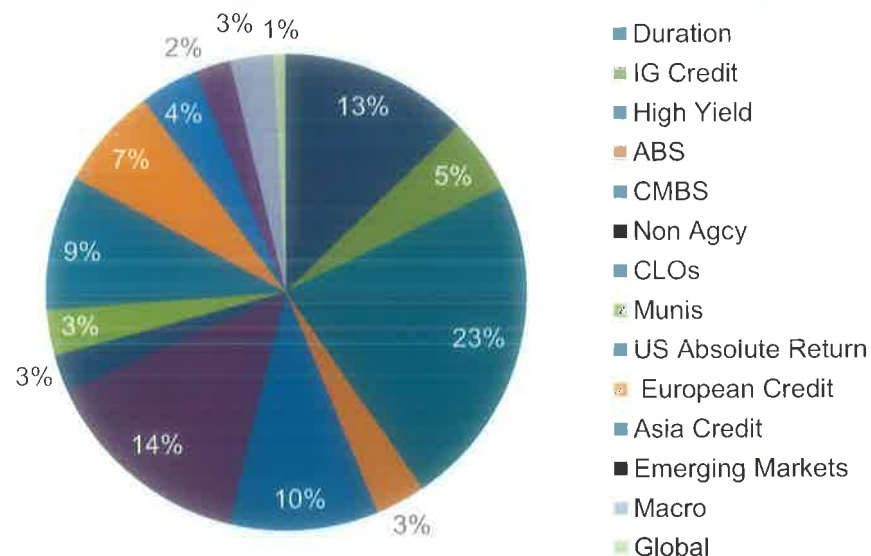


As of 6/30/2018

Duration (yrs)	5.81
Yield to Worst <sup>1</sup>	3.29%
Risk (vol)	296 bps

A majority of the BBgBarc US Agg is concentrated in interest rate risk

### BlackRock SIO Portfolio Drivers of Return



As of 6/30/2018

Duration (yrs)	2.29
Sec Yield <sup>2</sup>	3.13%
Risk (vol)	91 bps

Flexibility seeks to provide attractive risk adjusted returns

1. Yield to worst as of 30 June 2018. Yields for fixed income indexes are yield-to-worst, calculated based on all possible call dates, reflecting the lowest potential yield that can be received without the issuer actually defaulting.

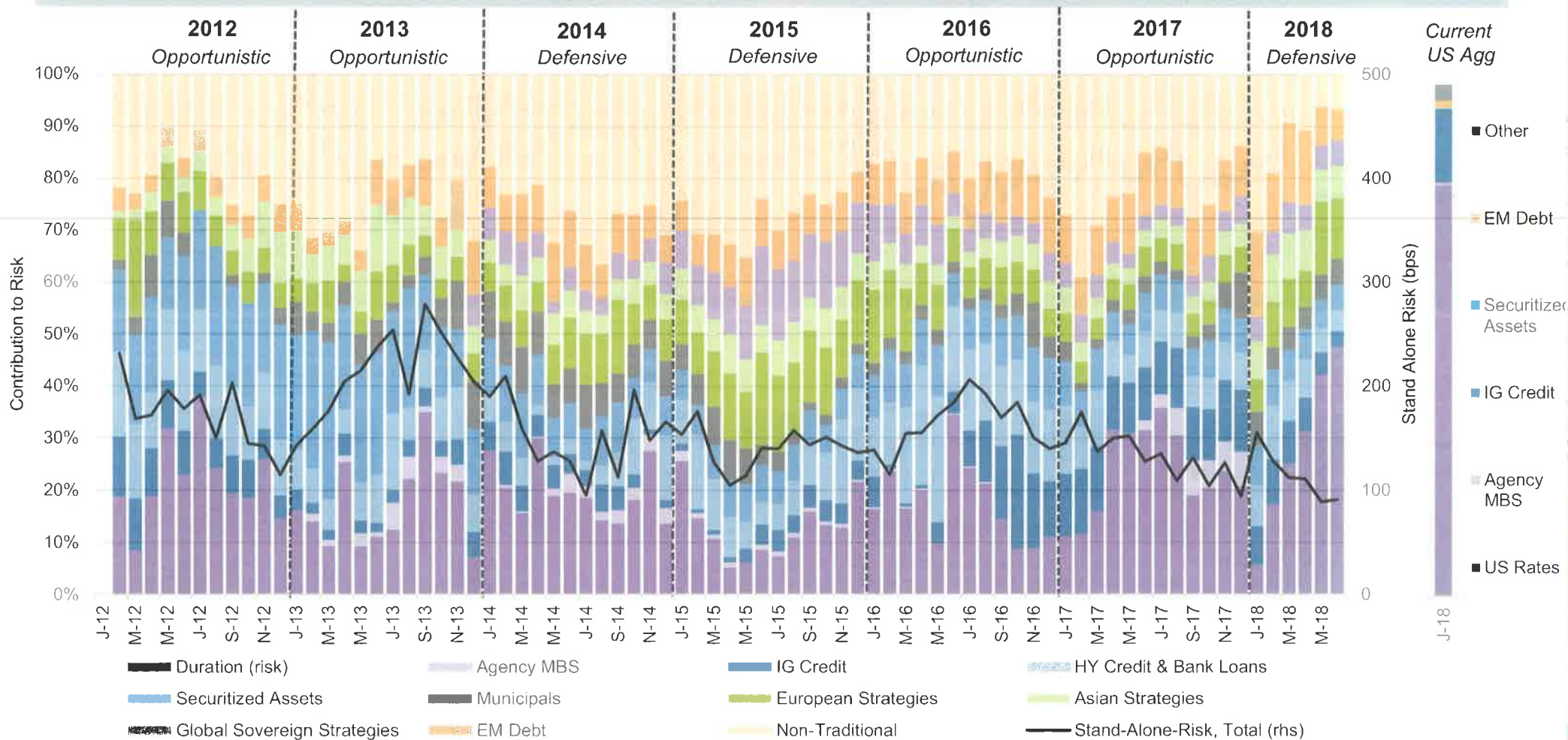
2. SEC (Instl Shares) unsubsidized 30-day yield as of 30 June 2018.

The above pie charts represent the performance attribution of the Index and SIO from March 2010 through June 2018. March 2010 represents the strategy inception date. Spread for the Index is the excess return. Past performance is not a guide to current or future performance and should not be the sole factor of consideration when selecting a product.

# SIO has the flexibility to adapt to changing bond markets

Unlike traditional core bond funds, SIO has the flexibility to actively manage **interest rate risk** and **credit risk**

## Historical contribution to risk by strategy



### Strategy Flexibility

Duration: -2 yrs to +7 yrs; typical range is 0-3 years  
Free from sector constraints

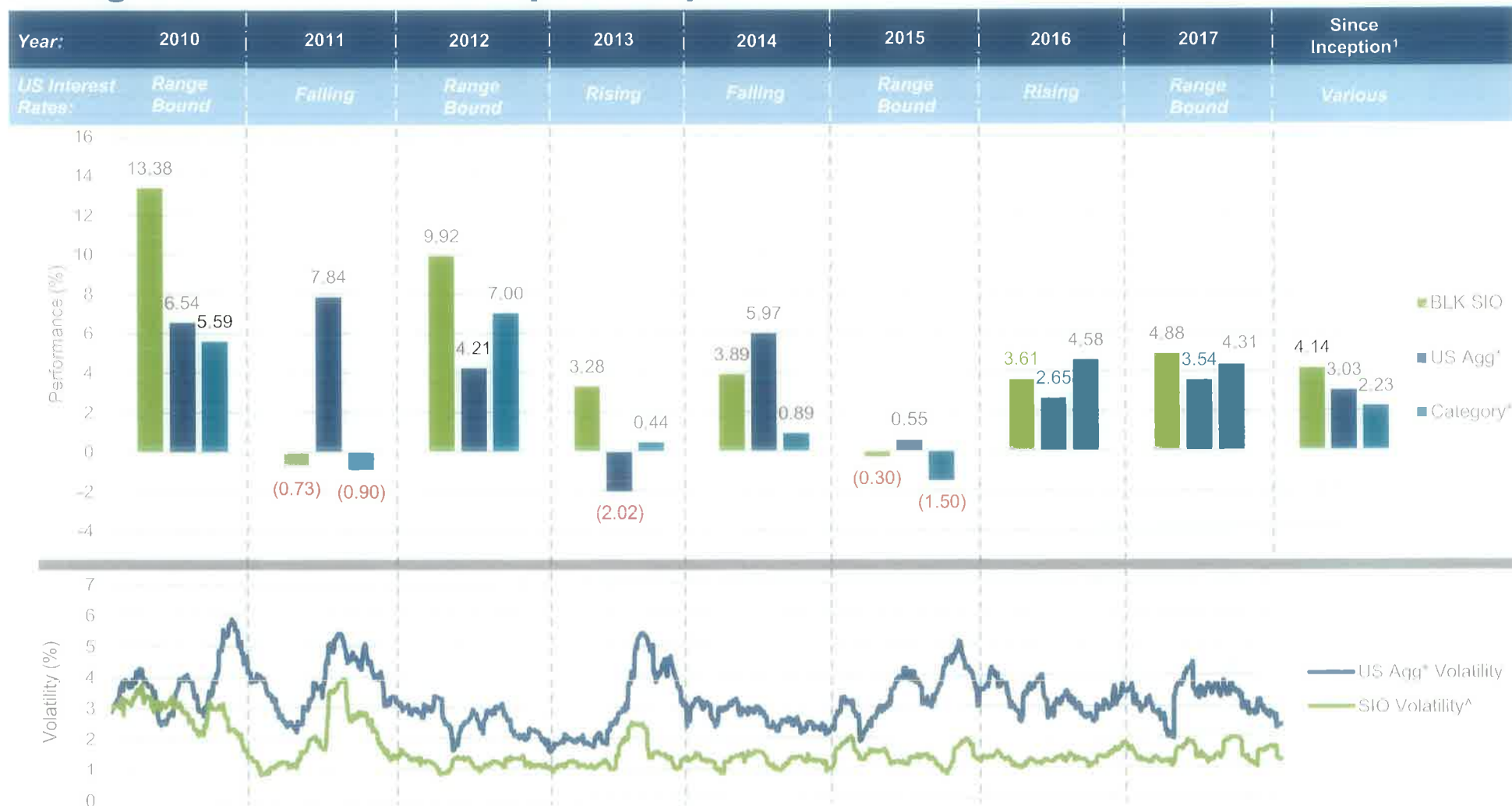
### Historical Sector Ranges

Below IG Structured Products < 25%  
Non-USD FX < 30%  
HY Corporates < 40%  
EMD < 25%

Source: BlackRock, as of June 2018.



# Strong track record of competitive performance in different rate environments



## Statistics<sup>1</sup>

	Ann return	Ann Std Dev	Sharpe Ratio
SIO	4.14%	2.54%	1.48
BBgBarc US Agg	3.03%	2.76%	0.98
Nontraditional Category	2.23%	2.15%	0.89

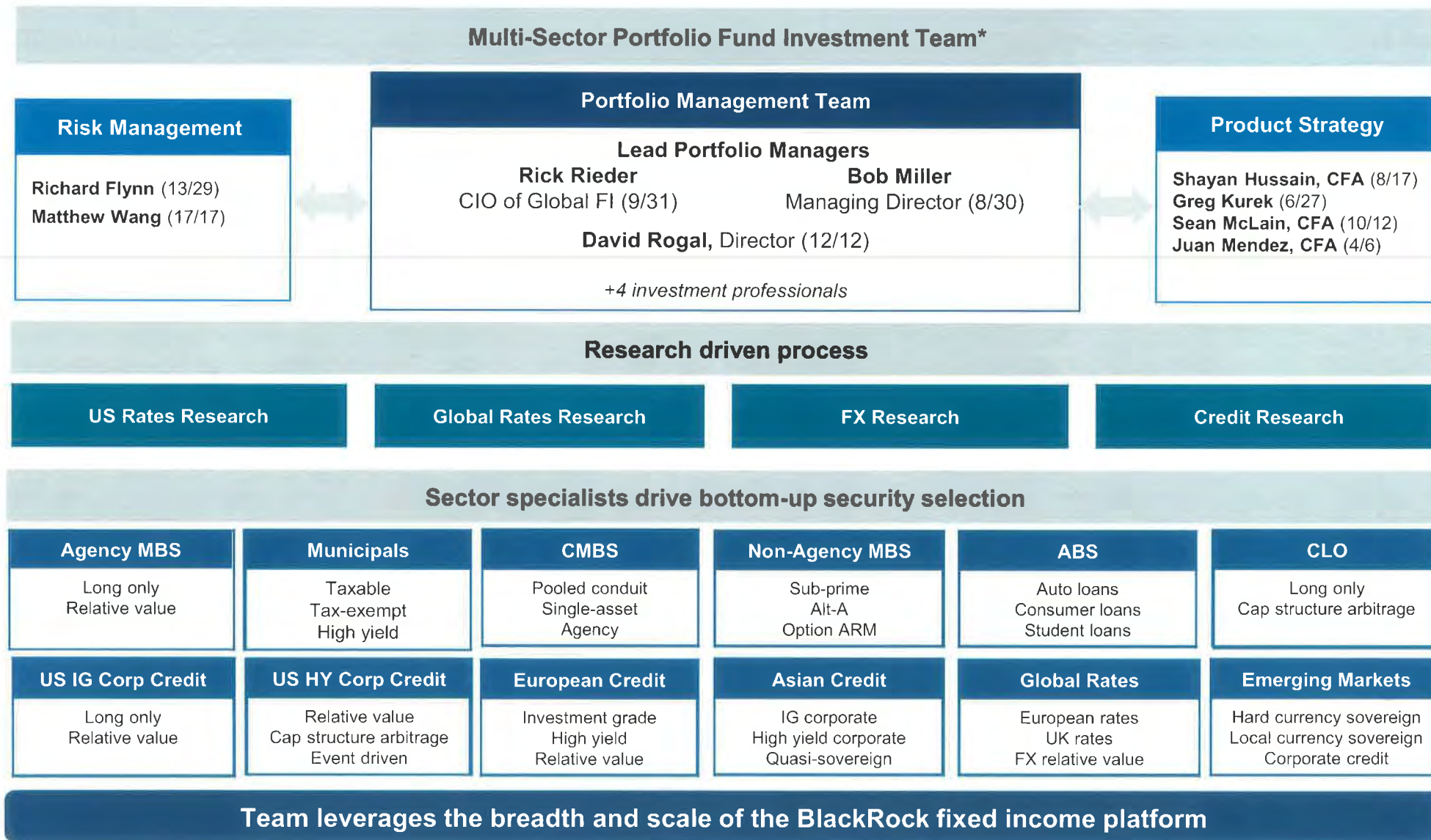
## SIO correlation and beta to major indices<sup>1</sup>

	Correlation	Beta
BBgBarc US Agg	0.29	0.26
S&P 500 Index	0.50	0.11

Source: Morningstar Direct as of 6/30/2018. Performance for the Instl. Share class shown. 1: Since inception refers to strategy inception in March 2010. \*US Agg refers to Bloomberg Barclays US Aggregate Index; Category refers to Morningstar Nontraditional Category. ^30-day rolling annualized volatility calculated using daily returns. **Performance data quoted represents past performance and does not guarantee future results.**

# Our Multi-Sector Fund investment team leverages the full power of BlackRock's global fixed income platform

*Deep resources and specialized market insights enable unbiased focus on investment opportunities*

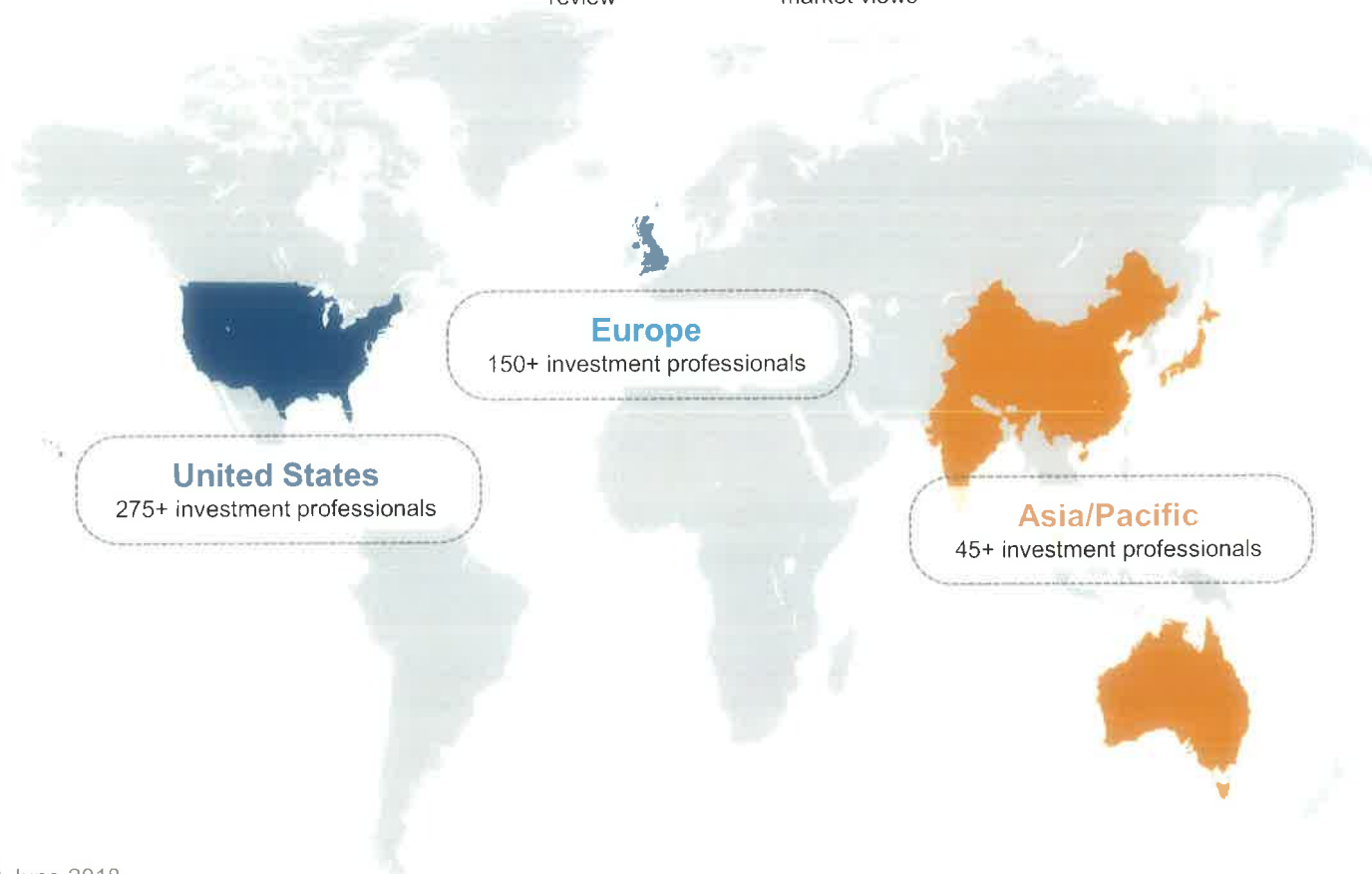


\*Years at BlackRock / Year in Industry as of June 2018.

# BlackRock platform promotes idea sharing across multiple forums

- ▶ The team taps into the global information flow and proprietary analysis from our regional experts to determine the evolution of macro-economic trends, monetary policy and government policy

CIO Markets Call	Global Meeting	Positioning Meeting	Macro Speaker Series	Investment Strategy Meeting	Sector Deep Dive
Monthly	Daily	Daily	Monday	Tuesday	Thursday
Identify the existing investment regime	Multi-asset market recap	Risk, positioning and performance review	External macro speaker addresses market views	CIO-led platform-wide market discussion	In-depth fixed income sector insights



Source: BlackRock, as of 30 June 2018.

# Process integrates macro, sector and security selection

Process employs best ideas across BlackRock's global fixed income platform to:

- Integrate macro, sector and security selection insights
- Budget risk to the highest quality alpha sources that can provide diversified risk-adjusted returns



## Macro Regime

- Lead PMs examine global growth, inflation, and implications on economic policy
- Identify macro regime associated with market conditions, as well as pace and direction of regime changes
- Build thesis from deep fundamental research across the platform, resulting in CIO Monthly Call



## Asset Allocation

- Lead PMs determine opportunities based on economic regime and expected risk-adjusted returns
- Leverage expertise of the platform to assess current valuation of those assets
- Optimally allocate risk to sector specialists, based on conviction in different sectors



## Security Selection

- Sector Specialists identify bottom-up opportunities based on extensive relative value analysis and local market expertise
- Sector Specialists implement trades for their sector based on assigned risk budgets



## Analysis and Review

- Daily investment and risk dashboard review helps the team monitor and understand risk/reward trade-offs
- Investment Team leverages RQA and BlackRock's proprietary Aladdin® system for risk and scenario analysis, attribution, and hedging

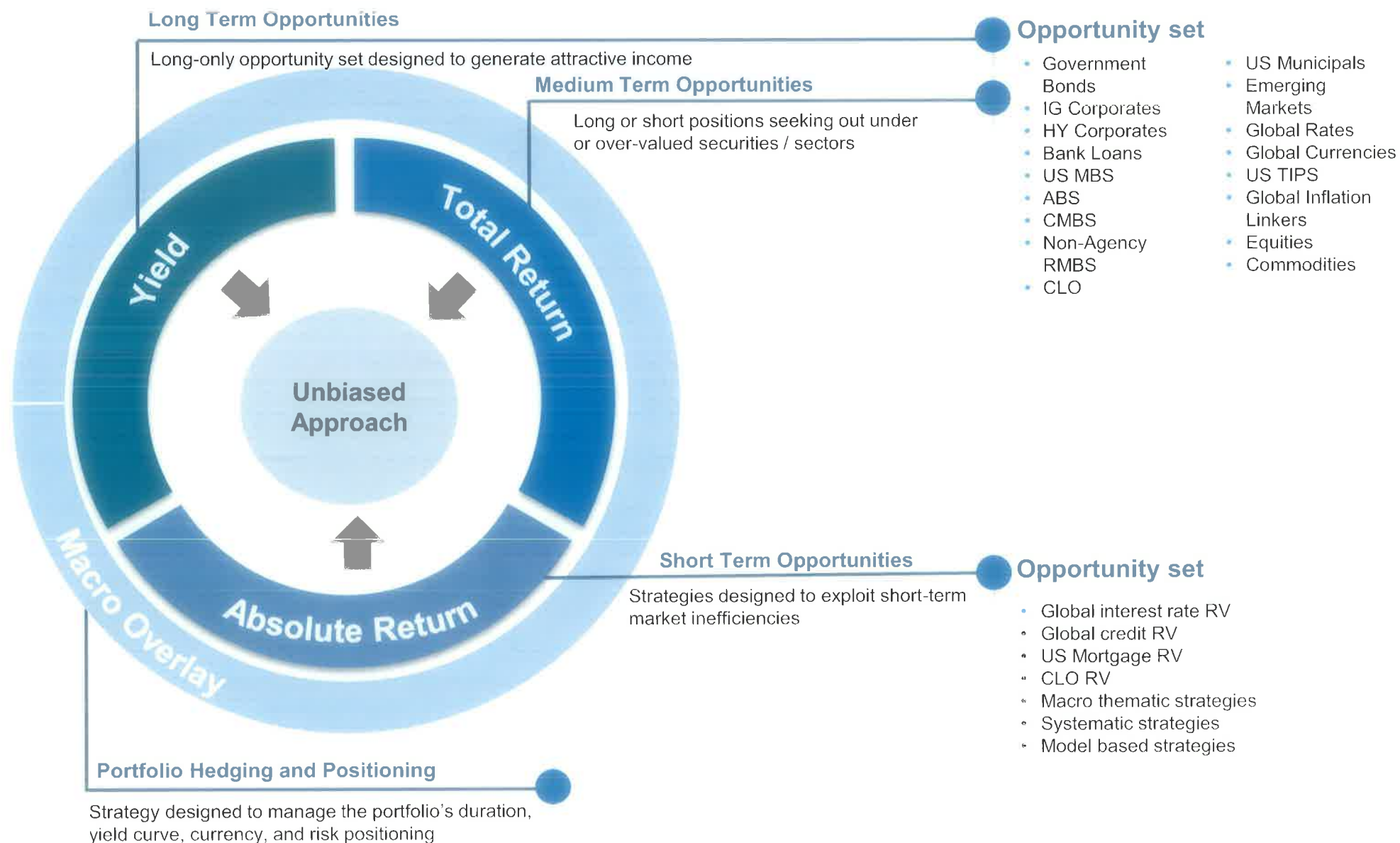
## Daily Performance / Risk Attribution Feedback Loop

### BlackRock Global Resources

Research • Portfolio Solutions • Trading • Risk & Analytics • Product Strategy • COO



# Flexible process that seeks to invest in the most attractive global fixed income opportunities

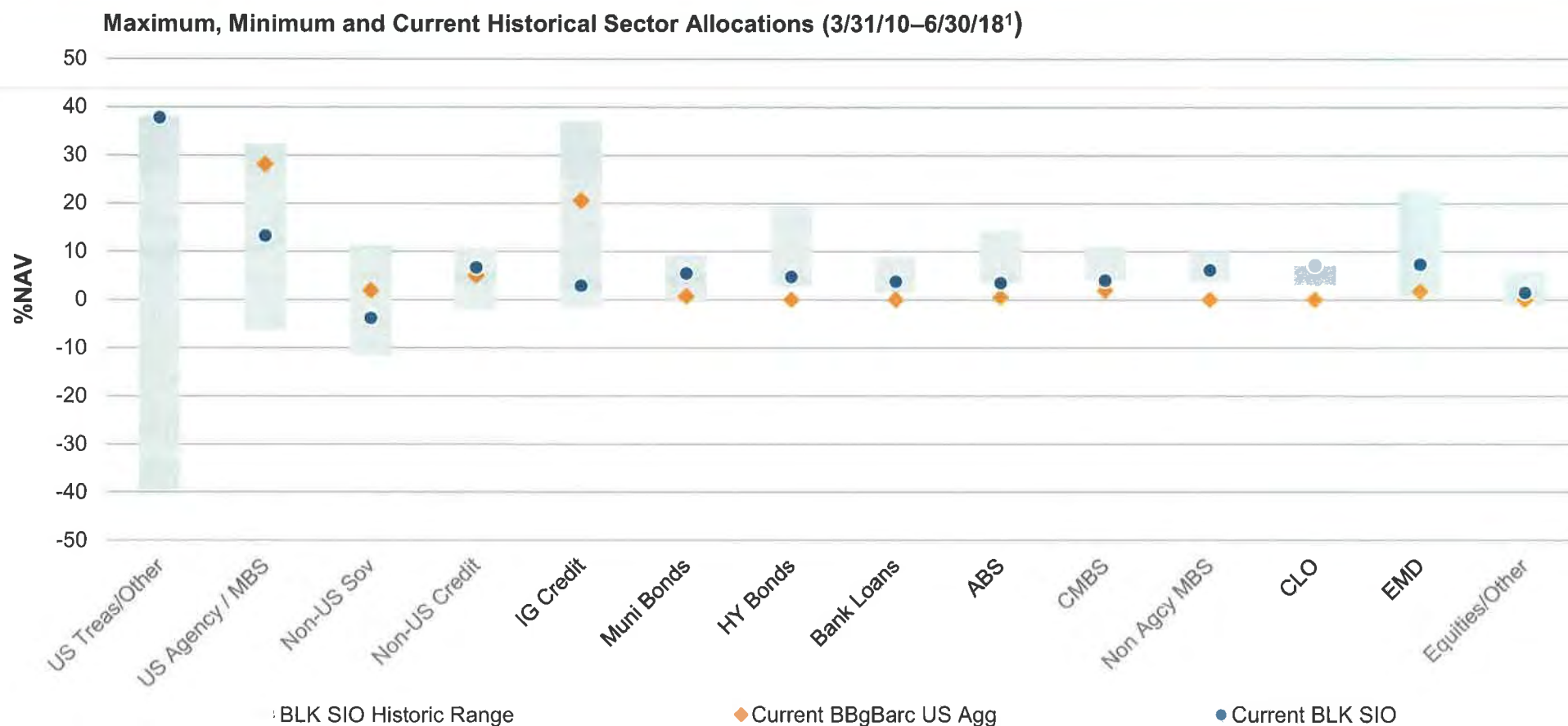


# Consistent track record of employing a broad and diversified approach

## Seeks to generate returns in rising and falling rate environments

- Ability to invest in broad fixed income sectors and credit qualities within its risk budget

### Tactical sector allocation, free from benchmark constraints



<sup>1</sup>The data is since March 2010, when the Fund's investment strategy changed. Subject to change.

# Flexible duration management is critical to generating return and controlling risk across different market environments

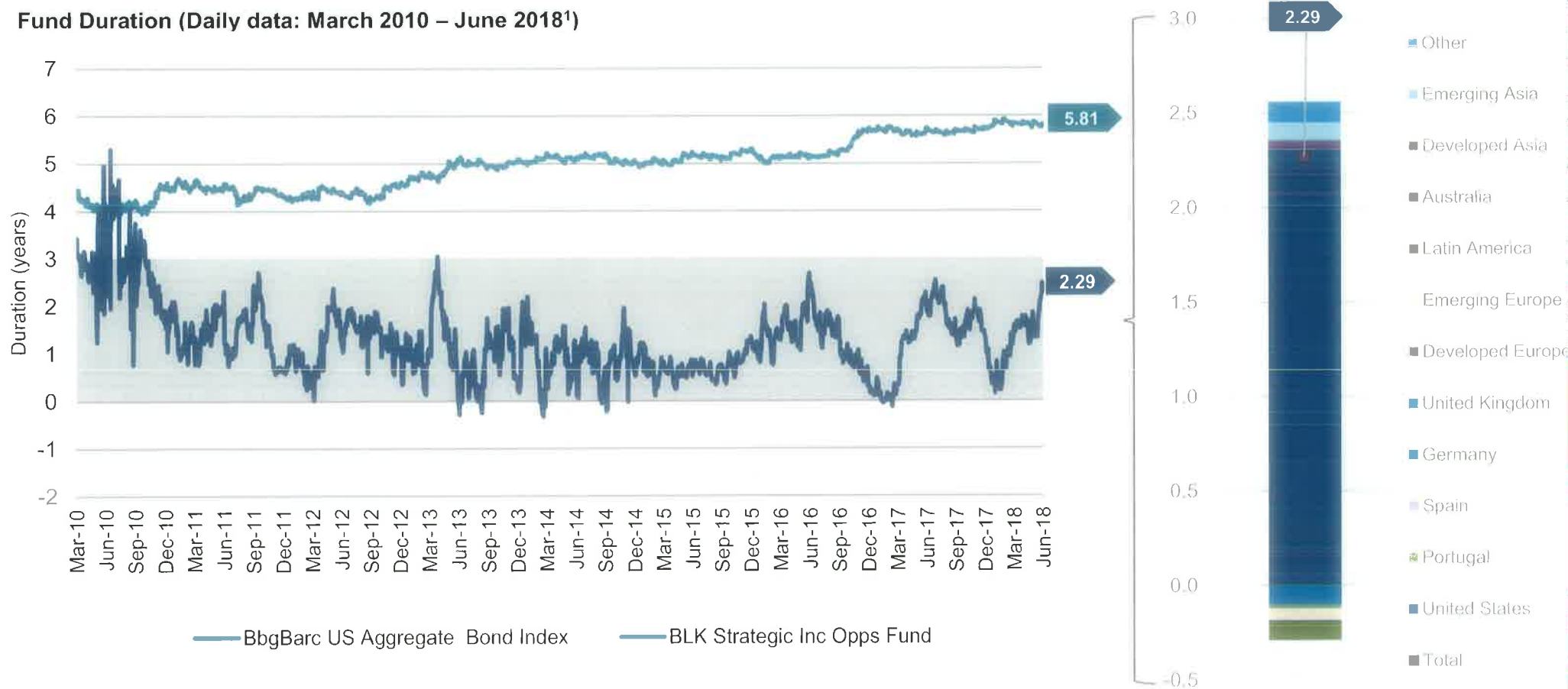
Active duration management guides interest rate and credit exposure

Typical duration range spans the normal duration bands for most core and short duration funds

➤ **Duration band:** -2 to +7 years, typically 0 to +3 years

## Flexible duration management in action

Fund Duration (Daily data: March 2010 – June 2018<sup>1</sup>)



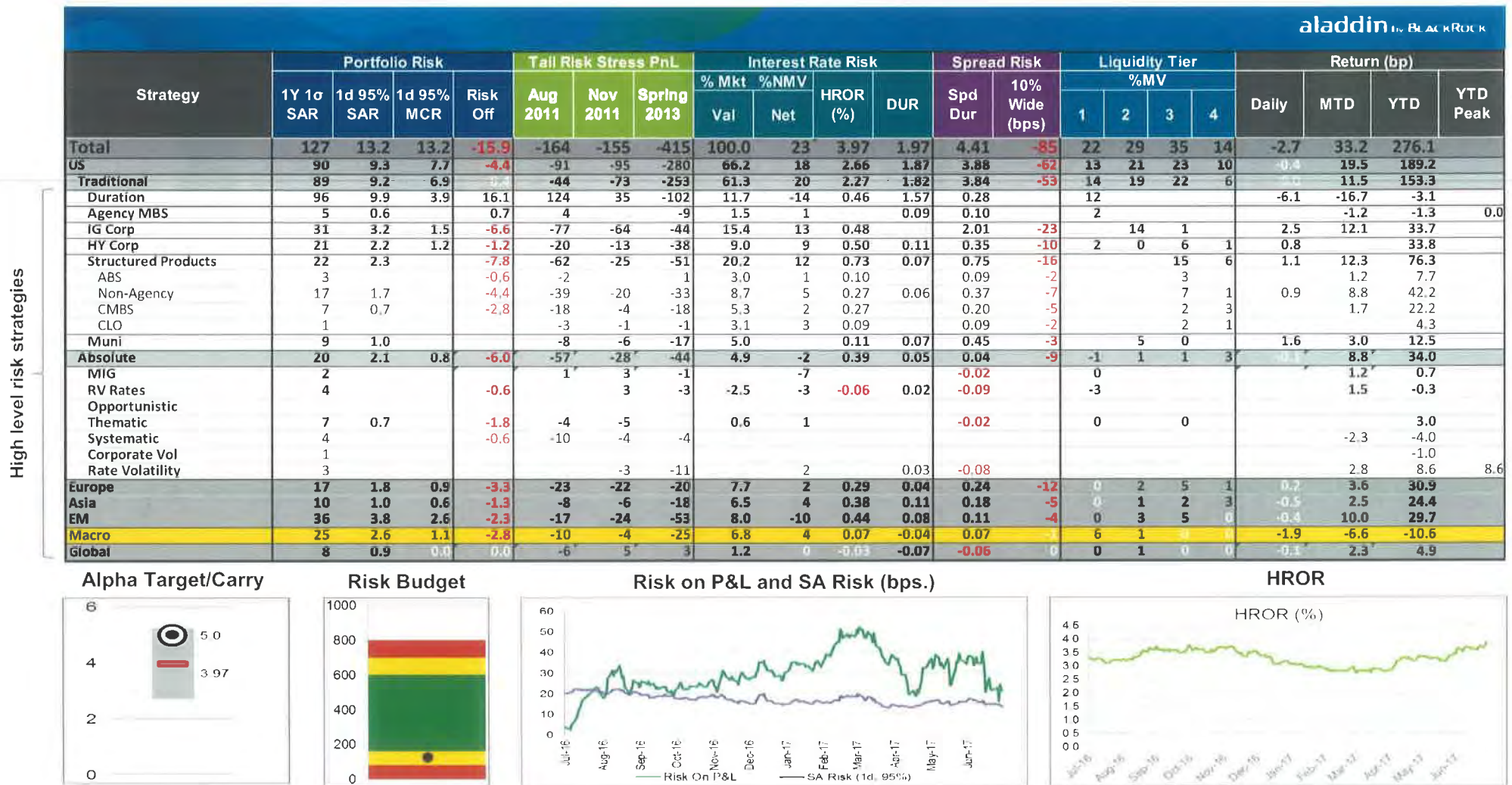
<sup>1</sup>The data is daily since March 2010, when the Fund's investment strategy changed. Subject to change.



# Risk Dashboard provides deep understanding of risk and return trade-offs

Helps PMs understand whether return generated is proportionate to the risks taken

- Aggregates portfolio dynamics and risk characteristics for all risk strategies aggregated in the dashboard
- Alpha-seeking and macro-seeking strategies are shown in one consistent framework
- Tracks multi-dimensional risk exposures and portfolio behavior daily enabling better decision making



Source: BlackRock, for illustrative purposes only; Bullseye represents the alpha target of the portfolio. The red box represents the carry of the portfolio based off the portfolio's current positions (subject to change).



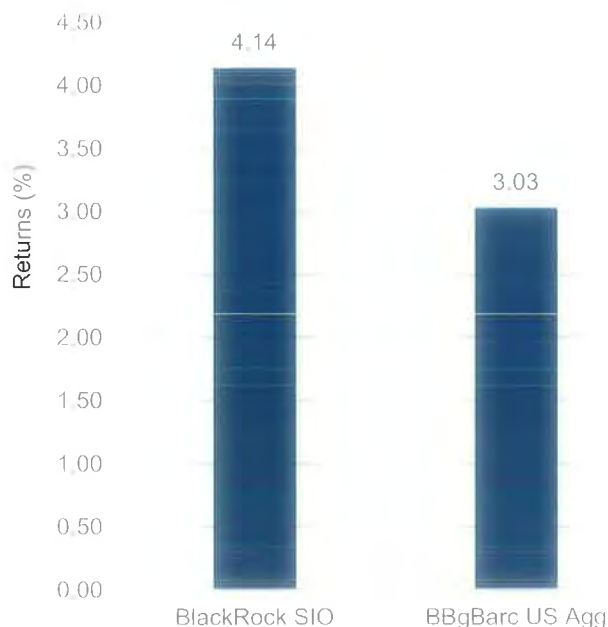
# SIO: Built to Adapt to Today's Challenging Fixed Income Markets

Strategic Income Opportunities (SIO) is BlackRock's flagship unconstrained fixed income strategy, providing access to our highest conviction views from across our global fixed income platform. The goal of the fund is to provide:

- 1) A source of **attractive returns** making "a little bit of money a lot of times"
- 2) Active risk management targeting a **lower volatility** than traditional fixed income investments
- 3) A diversified approach producing **lower correlations** to major fixed income indices

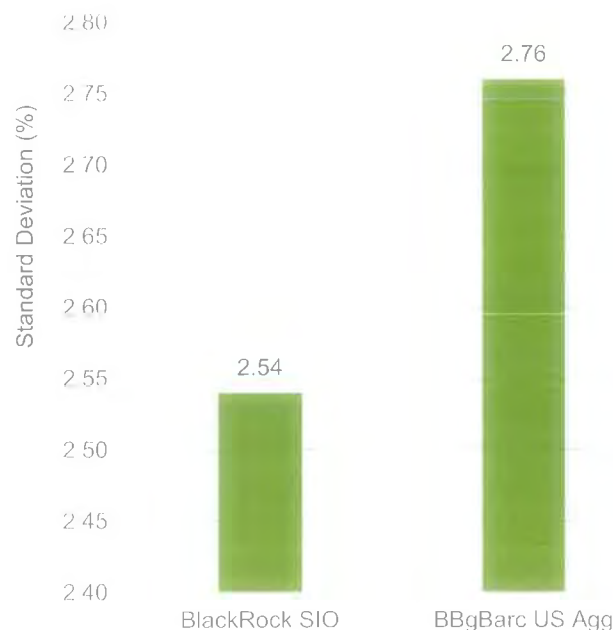
## 1 Attractive Returns<sup>#</sup>

Performance since inception



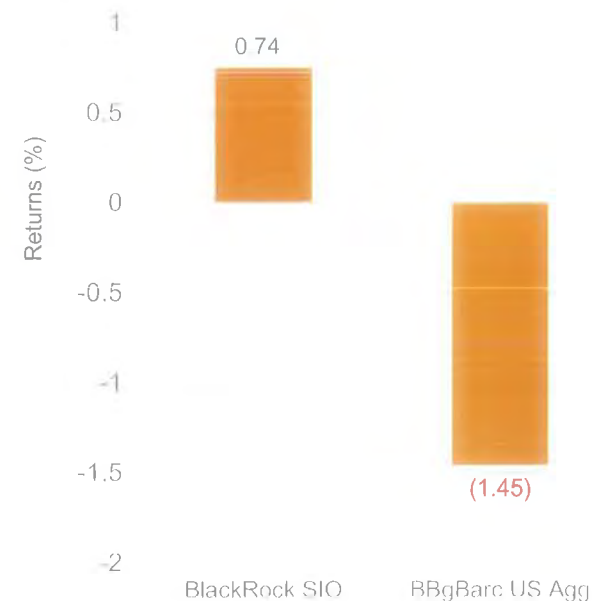
## 2 Lower Volatility<sup>^</sup>

Volatility since inception



## 3 Lower Correlation<sup>\*</sup>

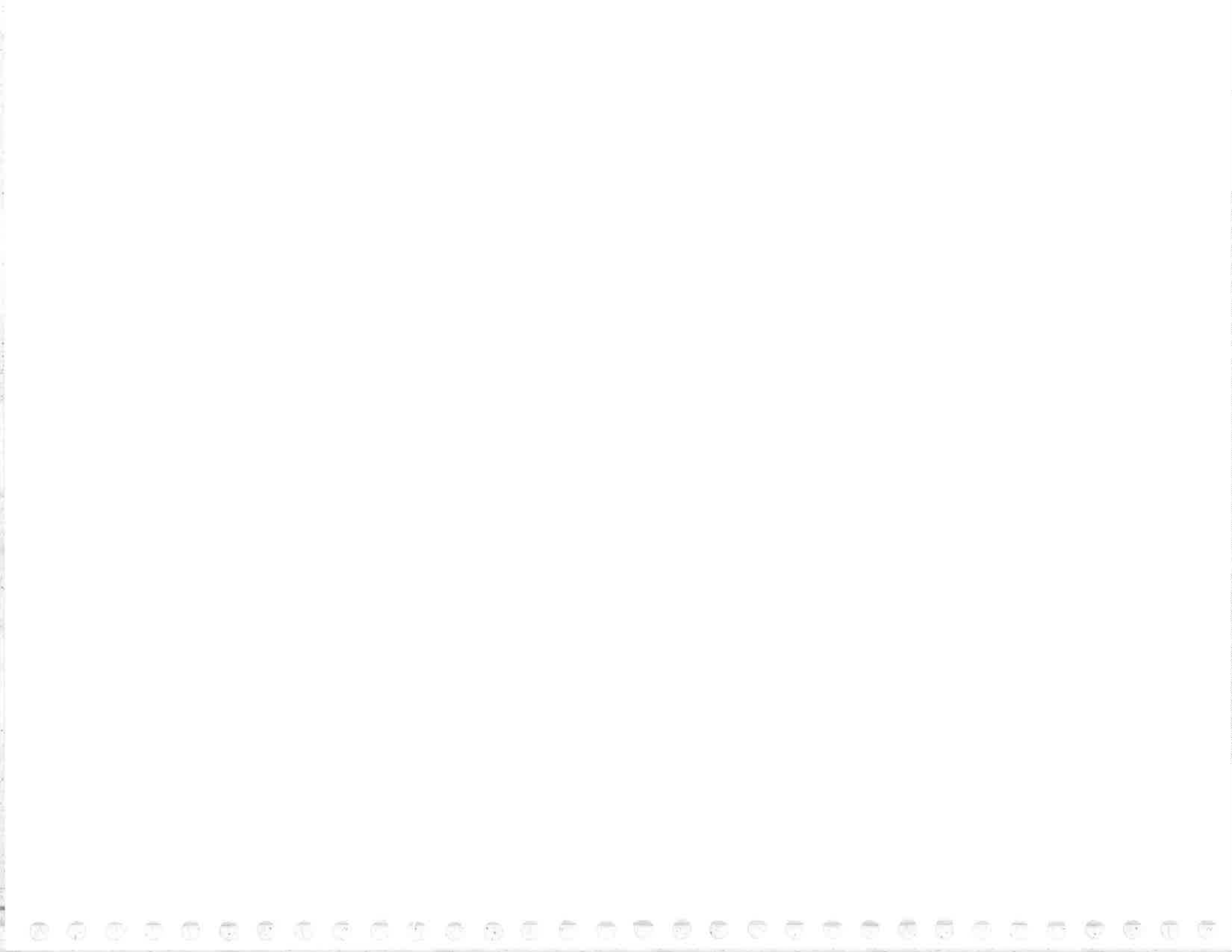
Performance during rising rate periods since inception



Source: Morningstar Direct as of 6/30/2018. BlackRock SIO is represented by the Instl. share class. **Past Performance does not guarantee future results.** Index returns are for illustrative purposes only. Index performance returns do not reflect any management fees, transaction costs or expenses. Indexes are unmanaged and one cannot invest directly in an index. Please see important notes slide for disclosures.

## V. Portfolio Review

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# Performance Overview

## Strategic Income Opportunities Fund Performance

	QTD		YTD		Since March 2010		
	Return %	Vol. %	Return %	Vol. %	Return %	M* %ile	Vol. %
BLK SIO	-0.80	1.03	-0.39	1.77	4.14	22	2.54
BBGBarc US Agg	-0.16	3.84	-1.62	3.66	3.03		2.76
Morningstar Nontraditional Cat.	-0.47	1.14	-0.41	1.32	2.23		2.15

Since March 2010 as of 6/30/18 – Instl share. Past performance is no guarantee of future results. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index.

## Navigating a diverse rate environment since 2H16



Source: Morningstar, June 2018.

## Quarter-To-Date Portfolio Themes

- **Added duration** amidst heightened geopolitical risk. We continue to believe the front-end offers attractive value given higher short-term yields in the US, though we anticipate that longer-term rates can be pressured higher later this year.
- **Reduced exposure to emerging market debt** as a stronger dollar, higher US rates, and local political uncertainty have proven to be near-term headwinds for the asset class.
- **Sourced attractive yields** in front-end carry-trades and securitized assets. In securitized, seek lower interest rate and beta sensitive expressions.

Sector Views	<div><div>Bearish</div><div></div><div>Bullish</div></div>									
US Rates	We tactically increased duration in our portfolios as in the near term we expect yields to remain close to the lower end of their recent range. We believe the front end of the yield curve presents an attractive opportunity.									
Agency RMBS	Despite strong bank demand and fundamentals, increased supply may complicate the technical picture for mortgages over the medium term. Still, we remain constructive over the longer term versus other sectors and are focusing on relative value opportunities.									
Global Rates	Slightly reduced underweight exposures in Core European countries. ECB currently sees inflation as unsatisfactory and describes "the sustained adjustment in the path of inflation" as "the key condition for bringing net asset purchases to a gradual end."									
US IG Corporates	We remain cautious on IG corporates given rich valuations and the potential for continued higher levels of volatility relative to last year. Given the large widening in front-end corporate spreads, however, we've started to add small tactical exposures.									
US HY Corporates	We've maintained our allocation, with a focus on BB and B securities given the passage of the tax plan which could negatively impact highly-levered and lower quality issuers. We favor security selection and prefer to take less beta risk.									
European Corporates	Following the theme of caution around corporate credit, we trimmed some of our European corporates, while maintaining some exposure to subordinated financials.									
Emerging Markets	We've turned cautious on EM over the near term as weaker FX, higher inflation, higher DM interest rates and higher volatility took a toll on the sector over recent months.									
Securitized Assets	The strong demand for income alongside negative net supply continues to support this sector. We hold core allocations to non-agency MBS, CLO's, CMBS, and ABS.									

# Strategic Income Opportunities Fund

## Positioning as of 6/30/2018

### Sector allocation and duration contribution

Sector	Sector Allocation (% Notional Exposure)	Δ since 1Q18	Duration Contribution (Yrs)
US Treasuries	37.8	13.2	1.56
US Interest Rate Derivatives*	-3.5	9.1	-0.69
US Agency/ MBS	13.3	-3.3	0.35
Non US Sovereign*	-3.8	-2.2	-0.34
Non US Credit**	6.7	2.3	0.13
IG Credit**	2.9	0.7	0.22
Municipals	5.5	1.7	0.39
HY**	4.7	-0.1	0.09
Bank Loans	3.8	0.5	0.00
ABS	3.5	-0.4	0.06
CMBS	4.0	-0.4	0.12
Non-Agency	6.1	-0.1	0.21
CLOs	7.1	0.1	0.02
Emerging Markets	7.3	-7.4	0.11
Other***	1.5	0.8	0.01
Net Derivatives****	18.1	-8.9	0.00
Cash and Cash Eq.#	-14.7	-5.8	0.04
<b>Total</b>	<b>100</b>		<b>2.28</b>

\* Includes the effect of interest rate derivatives.

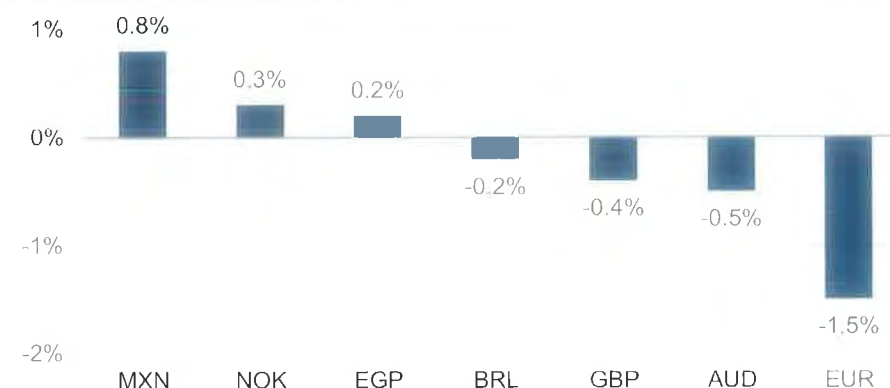
\*\* Note that this sector includes the notional value of CDX overlay positions.

\*\*\* Other contains equity related securities, convertibles and other non-classified securities. Keep in mind that SIO is limited to 10% max exposure to equities.

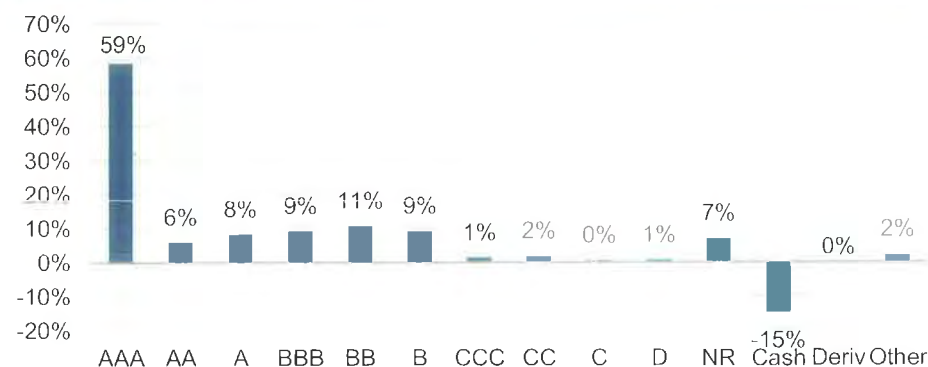
\*\*\*\* Net Derivatives represents the approximate offsetting net notional value of the longs less the short derivatives held in the fund. Derivatives held in the fund include, but are not limited to, futures, options and swap contracts.

# May include cash, cash equivalents, long or short positions yet to settle, traditional bonds and the market value of short-dated swaps (such as Eurodollar futures) with a maturity date of less than 1 year.

### Currency Exposure (% Notional Exposure)



### Credit quality breakdown (% Notional Exposure)



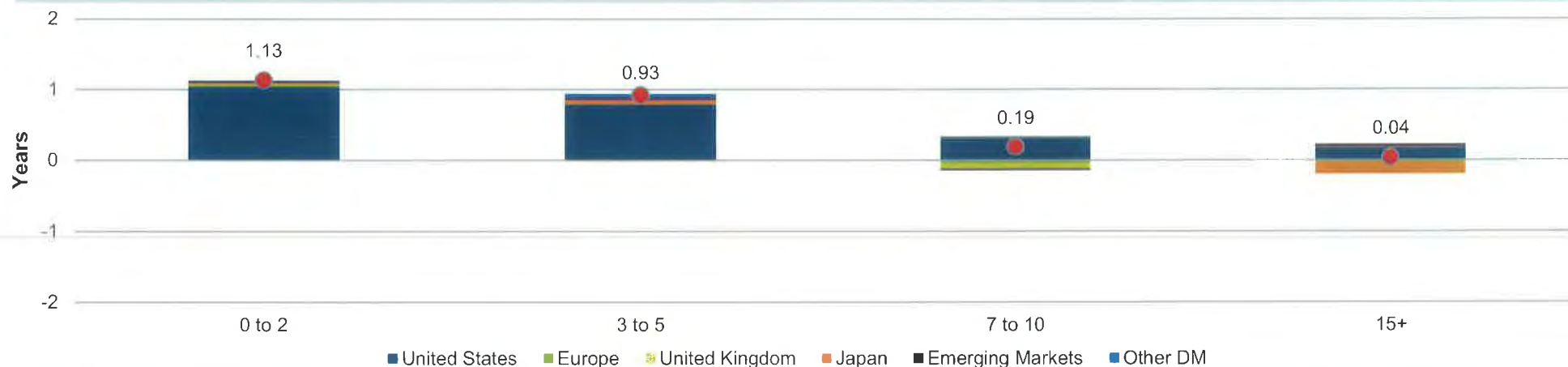
Source: Percentage calculation is a combination of S&P, Moody's and Fitch ratings when available. NR includes securities issued under rule 144A, Reg S, private placements, and other not rated securities. Please see "Important Notes" section for additional disclosures.



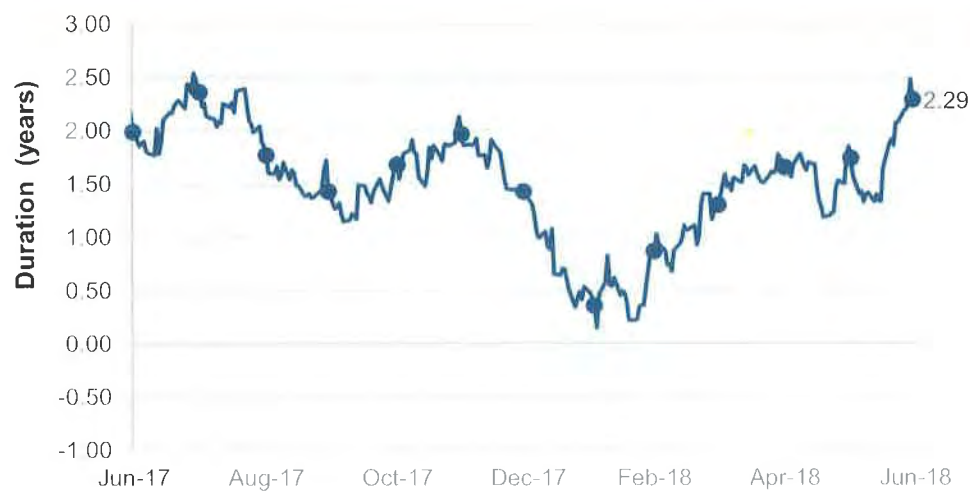
# Strategic Income Opportunities Fund

## Positioning as of 6/30/2018

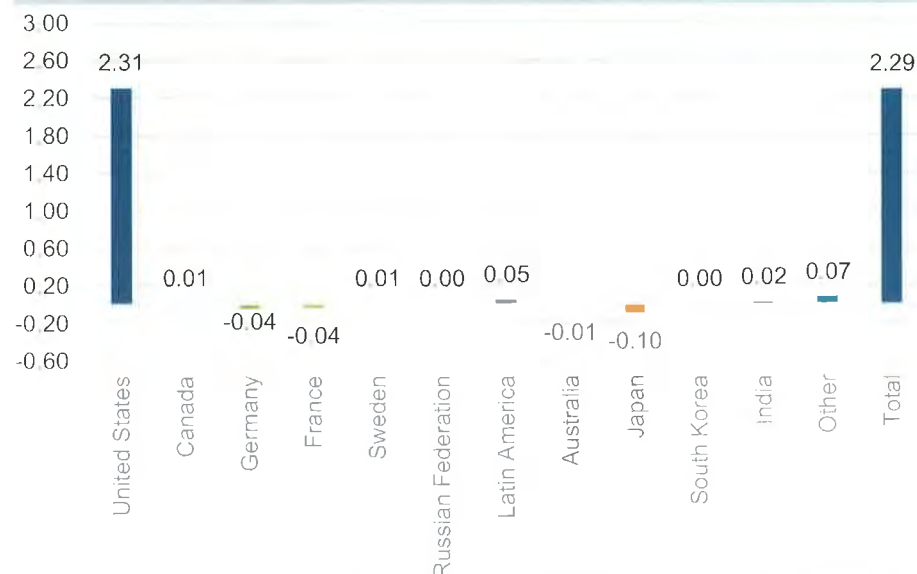
### Key Rate Yield Curve Positioning



### Fund duration changes over the year



### Duration by region/country



Source: BlackRock

# Strategic Income Opportunities Fund

## Risk Attribution as of 6/30/2018

	Risk Attribution (Absolute SAR, bps)	
	6/30/2018	5/31/2018
<b>US</b>	<b>90</b>	<b>70</b>
Duration	103	87
Agency MBS	0	0
IG Corp.	7	9
HY (Ex Loans)	8	10
Bank Loans	0	0
ABS	1	1
Non-Agency MBS	9	10
CMBS	3	3
CLO	1	1
Municipals	10	10
Absolute	14	20
<b>Europe</b>	<b>25</b>	<b>29</b>
Credit	15	20
Absolute	5	4
<b>Asia Credit</b>	<b>13</b>	<b>13</b>
<b>EM</b>	<b>13</b>	<b>16</b>
<b>Global</b>	<b>9</b>	<b>10</b>
<b>Macro</b>	<b>18</b>	<b>18</b>
<b>Total</b>	<b>91</b>	<b>89</b>
<b>HROR</b>	<b>4.32%</b>	<b>4.33%</b>

Source: BlackRock

HROR: "Horizon Rate of Return" measures aggregate coupons of assets at a specific point in time, all else equal. Shown as annualized percentage.

SAR (Stand Alone Risk) is calculated using the BlackRock fixed income factor model which incorporates portfolio exposure, market volatility, and correlation. All the figures are annualized.

### Performance highlights

#### June 2018

##### Positives

- Structured Products
- Global Strategies

##### Negatives

- Emerging Market Debt
- Foreign Credit (Europe, Asia)

#### 2018 YTD

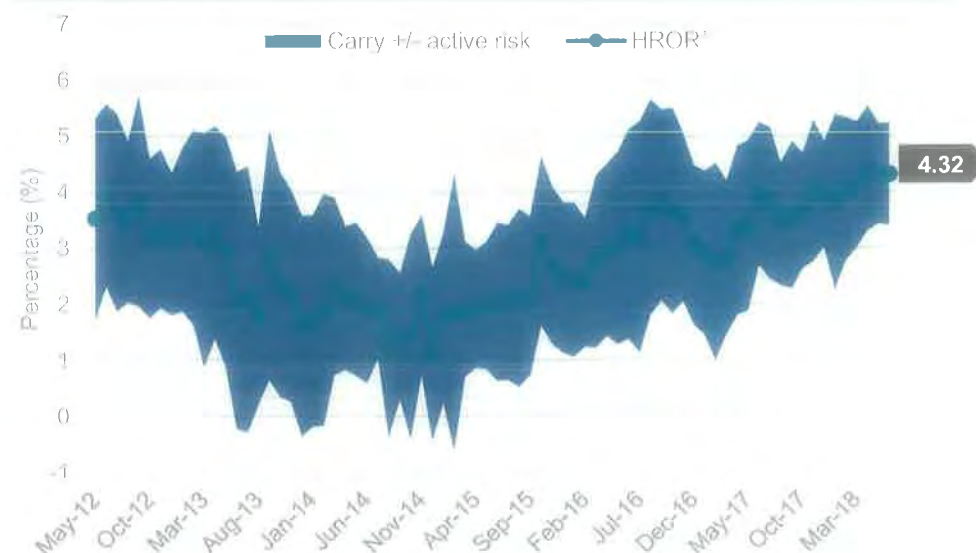
##### Positives

- Structured Products
- Macro Strategies
- US Municipals

##### Negatives

- Duration positioning
- Foreign Credit (Europe, Asia)
- Emerging Market Debt

### HROR Decomposition



## VI. Performance

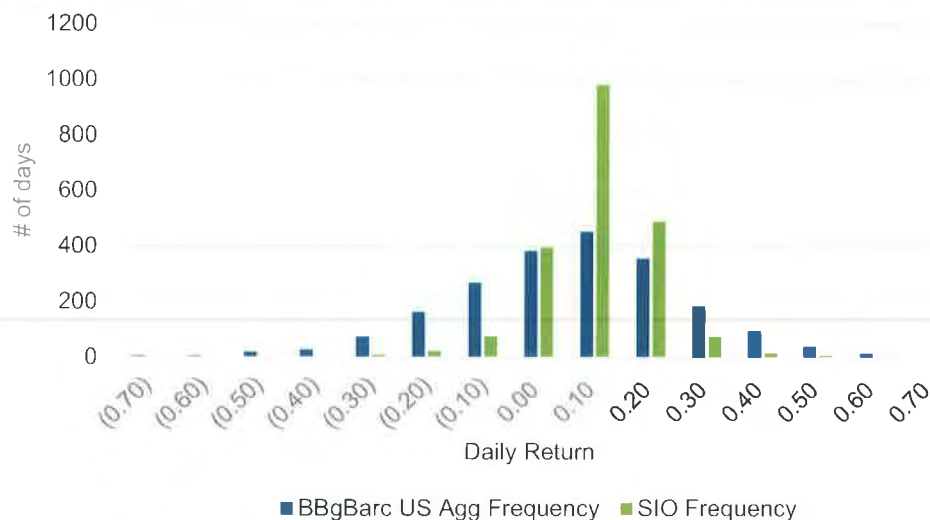
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# SIO has delivered attractive risk-adjusted returns with less sensitivity to interest rates

## Greater consistency and less sensitivity to interest rates

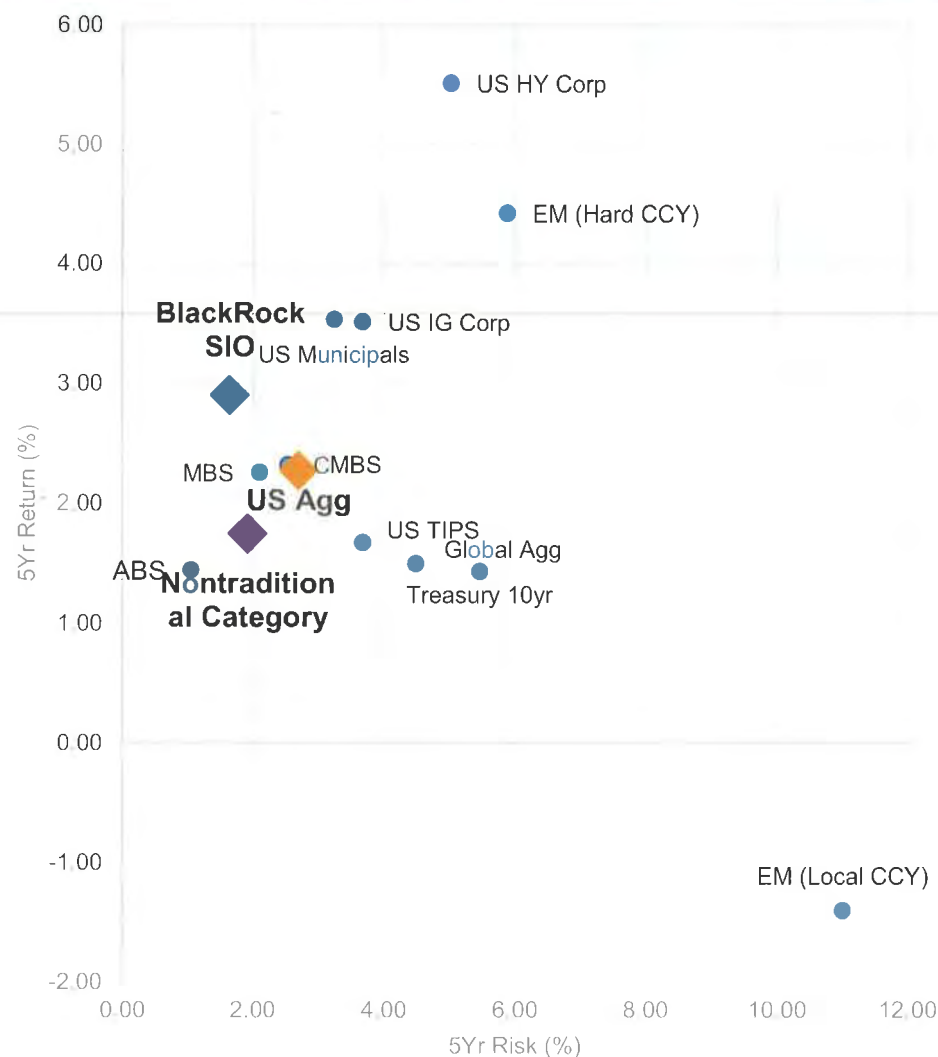


## Flexibility utilized to navigate diverse markets

5 year daily performance (June 2013 – June 2018)

	S&P 500 Higher	S&P 500 Lower
Rates Higher	SIO Positive Return: 89% of days	SIO Positive Return: 62% of days
Rates Lower	SIO Positive Return: 86% of days	SIO Positive Return: 59% of days

## Strong performance with less volatility over the past 5 years<sup>1</sup>.

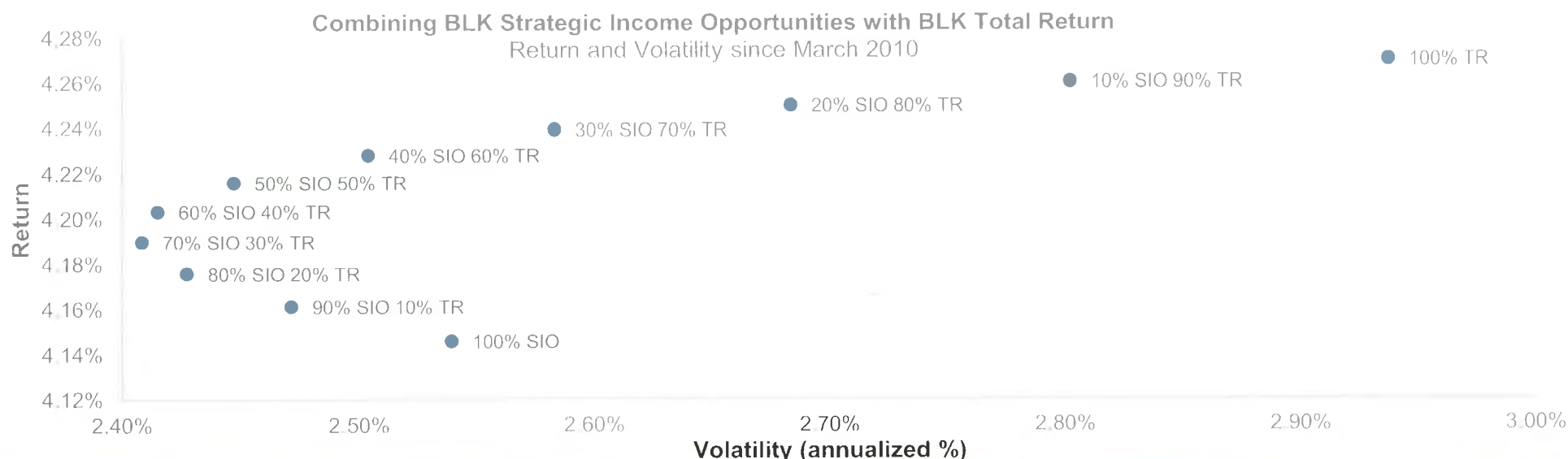


Source: Morningstar as 30 June 2018. **Performance data quoted represents past performance and does not guarantee future results.** 1. Please see the Important Notes section for a complete list of Indices used to represent each asset class.

# Find the right combination to reach your goals

## Adding SIO alongside a BLK Total Return allocation helped improve returns and reduce volatility

- Overweight equities: A 30% allocation to SIO helped to increase returns and reduce risk while maintaining a low correlation to equities
- Overweight fixed income: An even split between SIO and Total Return helped produce a higher return per unit of risk



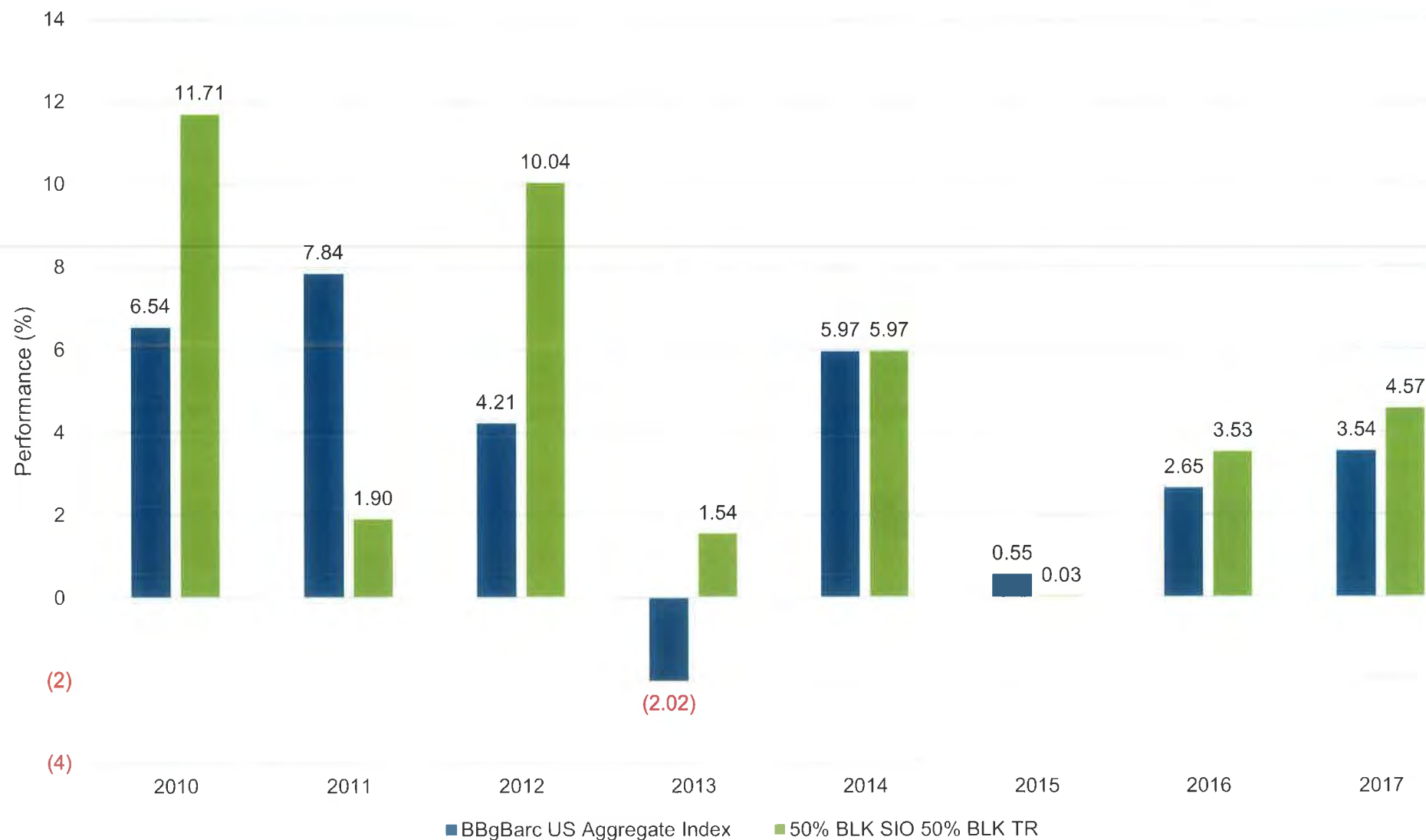
Since Mar. 2010 Statistics*	100% SIO	90% SIO 10% TR	80% SIO 20% TR	70% SIO 30% TR	60% SIO 40% TR	50% SIO 50% TR	40% SIO 60% TR	30% SIO 70% TR	20% SIO 80% TR	10% SIO 90% TR	100% TR
Ann. Return	4.14%	4.16%	4.18%	4.19%	4.20%	4.22%	4.23%	4.24%	4.25%	4.26%	4.27%
Ann. St. Dev	2.54%	2.47%	2.43%	2.41%	2.42%	2.45%	2.50%	2.58%	2.68%	2.80%	2.94%
Risk / Return	1.63	1.68	1.72	1.74	1.74	1.72	1.69	1.64	1.58	1.52	1.45
Correlation with S&P 500	0.50	0.46	0.42	0.38	0.33	0.27	0.22	0.17	0.12	0.07	0.03
Correlation with BBgBarc US Agg	0.28	0.35	0.45	0.53	0.61	0.69	0.75	0.80	0.84	0.88	0.90

Source: Morningstar, BlackRock as of 30 June 2018 since strategy inception of BlackRock Strategic Income Opportunities Fund. This information should not be relied upon as research, investment advice or a recommendation regarding the Funds or any security in particular. This information is strictly for illustrative and educational purposes and is subject to change. This information does not represent the actual current, past or future holdings or portfolio of any BlackRock client. Past performance does not guarantee future results. Calculations using the Instl. share class for both funds.

## Stay Balanced and Diversified

Since 2010 a 50/50 blend of SIO and Total Return has never posted a negative calendar year return

- On average the blended portfolio has a return of 4.57% compared to 3.54% for the BBgBarc US Agg

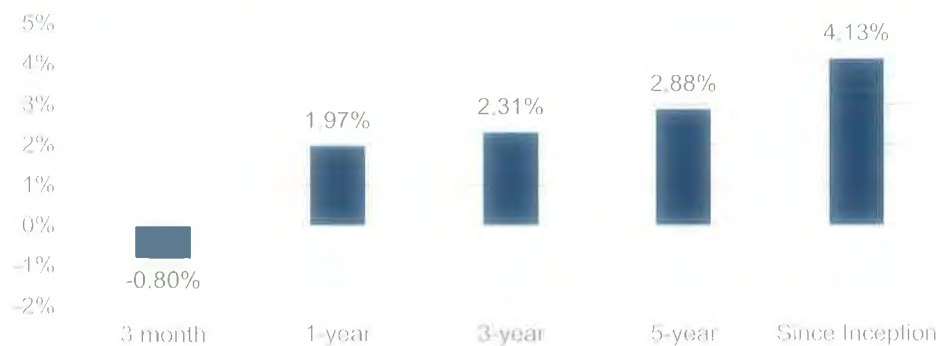


Source: Morningstar Direct: 12/31/2017. The blended portfolio (using the Instl share class for both funds) is hypothetical and for illustrative purposes only and reflects reinvestment of distributions. Past performance does not guarantee future results. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index.

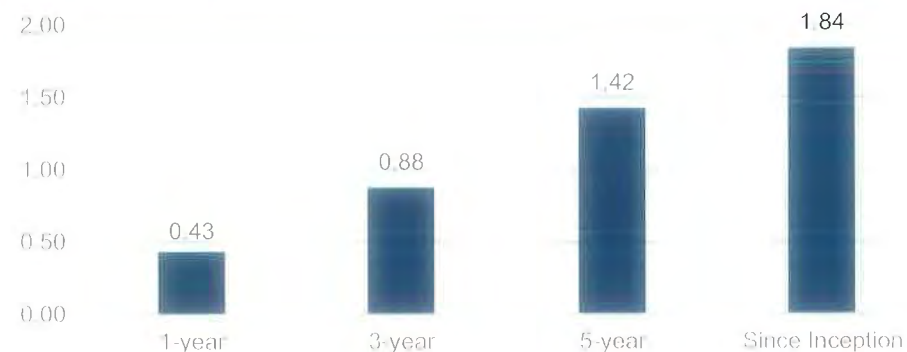
# SIO consistently delivered risk-adjusted performance

Ticker: BSIX

## Net total returns (as of 6/30/18)<sup>1</sup>



## Sharpe ratio (as of 6/30/18)<sup>1</sup>



## Net total returns<sup>1</sup>

%	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD
<b>2018</b>	1.38	-0.54	-0.40	-0.32	-0.23	-0.24							<b>-0.37</b>
<b>2017</b>	0.62	0.75	0.08	0.19	0.59	0.21	0.62	0.40	0.47	0.33	-0.05	0.57	<b>4.88</b>
<b>2016</b>	-0.60	-0.53	0.59	0.84	-0.05	0.57	0.99	0.29	0.34	0.17	0.19	0.76	<b>3.61</b>
<b>2015</b>	0.85	0.55	0.16	-0.09	-0.08	0.61	0.09	-0.42	-0.65	0.59	-0.11	-0.57	<b>-0.30</b>
<b>2014</b>	0.16	0.98	0.51	0.52	0.62	0.51	0.23	0.09	-0.41	-0.02	0.59	0.05	<b>3.89</b>
<b>2013</b>	0.83	0.22	0.05	1.29	0.01	-1.92	0.40	-0.43	0.88	0.88	0.48	0.57	<b>3.28</b>
<b>2012</b>	2.08	1.03	0.60	0.26	-0.31	0.61	1.24	0.69	1.29	0.80	0.56	0.64	<b>9.92</b>
<b>2011</b>	0.90	0.12	-0.08	0.71	0.29	-0.57	0.43	-1.76	-1.14	1.01	-0.97	0.37	<b>-0.73</b>
<b>2010</b>	2.03	0.11	1.01	1.51	-0.50	2.54	2.59	1.40	1.23	1.26	-0.54	0.05	<b>13.38</b>
<b>2009</b>	2.07	-1.00	1.05	4.02	3.60	1.13	3.77	1.73	3.01	1.34	1.20	0.91	<b>25.23</b>
<b>2008</b>	N/A	N/A	-0.67	1.89	0.22	-0.97	-1.21	0.02	-3.18	-7.29	-5.82	1.96	<b>-14.45</b>

<sup>1</sup> Data shown is for the BlackRock SIO Mutual Fund – Institutional Share Class from Morningstar. Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that 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 performance data quoted. Refer to website at [www.blackrock.com](http://www.blackrock.com) to obtain performance data current to the most recent month-end. Total annual operating expenses as stated in this fund's most recent prospectus are: 0.91% for Institutional shares.



# Strategic Income Opportunities Fund

## Performance as of 6/30/2018

Ticker: BSIIX

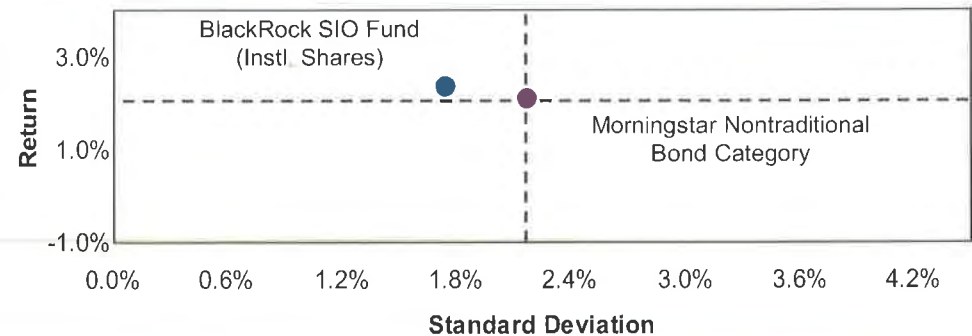
The Fund consistently provided attractive returns relative to its Morningstar Category since 2009

### Morningstar Nontraditional Bond Category <sup>1</sup>

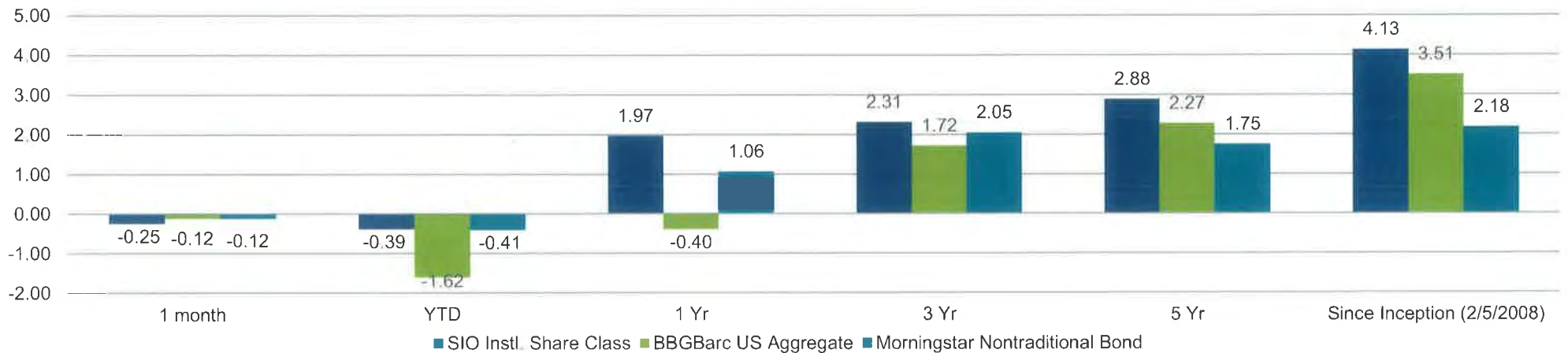
#### Percentile & fund rank

1 Yr	38th - 114/336	2nd quartile
3 Yr	54th - 164/303	3rd quartile
5 Yr	22nd - 49/202	1st quartile

### 3-Year Annualized Risk & Return Summary



### % Annual net returns



1 Source: Morningstar. Morningstar Category: Nontraditional Bond. Rankings are based on total return excluding sales charges, independently calculated and not combined to create an overall ranking. Returns less than one year are not annualized. **Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that 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 performance data quoted. Refer to website at [www.blackrock.com](http://www.blackrock.com) to obtain performance data current to the most recent month-end.** Investment returns reflect total fund operating expenses, net of all fees, waivers and/or expense reimbursements. Total/net annual operating expenses as stated in this fund's most recent prospectus are: 0.91% for Institutional shares.

# Total Return Fund Performance as of 6/30/2018

Ticker: **MAHQX**

**Fund delivered consistent long-term performance above the category average**

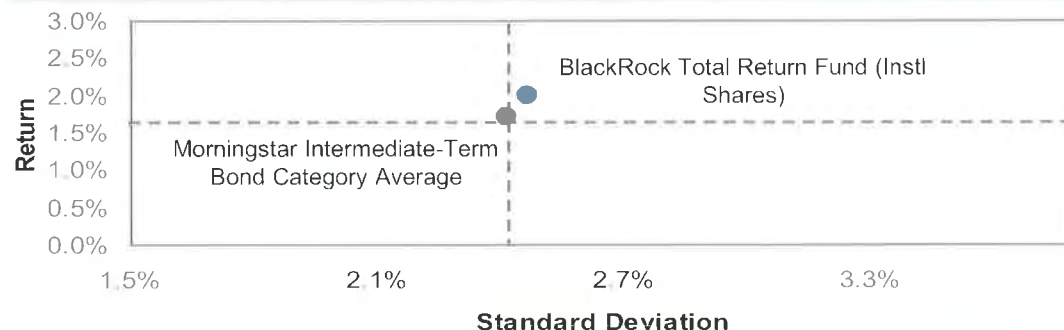
## Morningstar Percentile & Fund Rank (Instl. Share Class)<sup>1</sup>

1 Yr	40th - 403/1039	2nd quartile
3 Yr	32nd - 300/974	2nd quartile
5 Yr	8th - 88/926	1st quartile
10 Yr	33rd - 296/821	2nd quartile

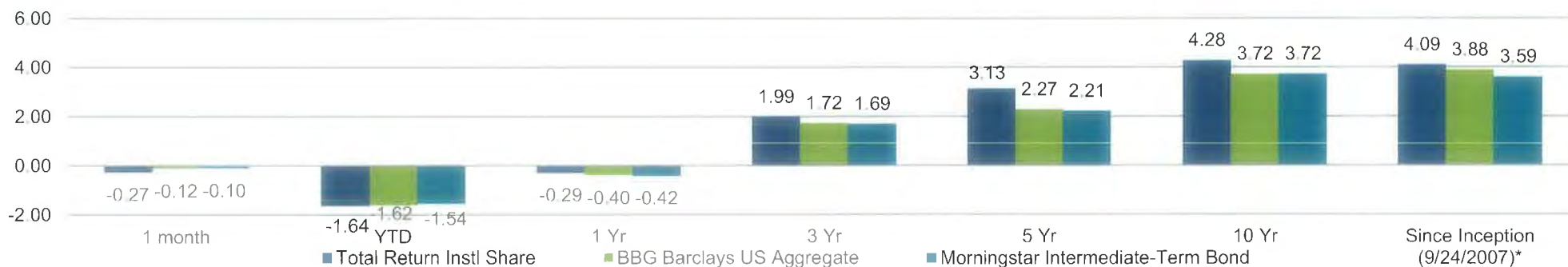
## Overall Morningstar Rating (Institutional Shares)<sup>1</sup>



## 3-Year Annualized Risk & Return Summary



## % Net returns, annualized



<sup>1</sup> Source: Morningstar. Morningstar Category: Intermediate-Term Bond. Rankings based on total return excluding sales charge, independently calculated and not combined to create an overall ranking. Data shown is for the BlackRock Total Return Mutual Fund – Inst. Class. Returns less than one year not annualized. Overall Morningstar Rating for Total Return Fund, Class Inst, as of 31-Mar-2018 rated against 852 Intermediate-Term Bond Funds. Please see Important Notes disclosure for Morningstar Star Ratings over the 3, 5, and 10-year periods.

\* - Since Inception performance as of 9/24/07. Performance before 9/24/07 for Investor A and Institutional shares of BlackRock Total Return Fund, formerly BlackRock Bond Fund (the Fund) is based on performance of the BlackRock shares of the former BlackRock Total Return Portfolio (Total Return Portfolio) that was reorganized into the Fund 9/24/07 adjusted for fees applicable to each class.

**Performance data quoted represents past performance and does not guarantee future results.** The investment return and principal value of an investment will fluctuate so that 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 performance data quoted. Refer to website at [www.blackrock.com](http://www.blackrock.com) to obtain performance data current to the most recent month-end. Investment returns reflect total fund operating expenses, net of all fees, waivers and/or expense reimbursements. Total annual operating expenses as stated in this fund's most recent prospectus are: 0.74% for Instl. shares.

# Important notes

Please ask your clients to consider the investment objective, risk, charge and expense of the funds carefully before investing. The prospectus and, if available, the summary prospectus contain this and other information about the fund and are available, along with information on other BlackRock funds, by calling 800-882-0052 or at [www.blackrock.com](http://www.blackrock.com). The prospectus and, if available, the summary prospectus should be read carefully before investing.

**Credit Quality:** The fund itself has not been rated by an independent rating agency. Credit quality ratings on underlying securities of the fund are received from S&P, Moody's and Fitch and converted to the equivalent S&P major rating category. This breakdown is provided by BlackRock and takes the median rating of the three agencies when all three agencies rate a security the lower of the two ratings if only two agencies rate a security and one rating if that is all that is provided. Unrated securities do not necessarily indicate low quality. Below investment-grade is represented by a rating of BB and below. Ratings and portfolio credit quality may change over time.

**Important Risks of the Fund:** The Portfolio is actively managed and its characteristics will vary. Bond values fluctuate in price so the value of your investment can go down depending on market conditions. The two main risks related to fixed income investing are interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in the market value of bonds. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments. The principal on mortgage- or asset-backed securities normally may be prepaid at any time, which reduces the yield and market value of those securities. Obligations of US gov't agencies and authorities are supported by varying degrees of credit but generally are not backed by the full faith and credit of the US gov't. Investing in derivatives entails specific risks relating to liquidity, leverage and credit that may reduce returns and increase volatility. International investing includes risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. These risks often are heightened for investments in emerging/developing markets or smaller capital markets. Investments in non-investment-grade debt securities ("high-yield" or "junk" bonds) may be subject to greater market fluctuations and risk of default or loss of income and principal than securities in higher rating categories. The fund may actively engage in short-selling, which entails special risks. If the fund makes short sales in securities that increase in value, the fund will lose value. Any loss on short positions may or may not be offset by investing short-sale proceeds in other Investments.

**Stand Alone Risk:** Ex-ante risk is an estimate of a portfolio's annualized standard deviation based on its exposure to 2,200 risk factors in BlackRock's proprietary risk model. Risk factors are objective, measurable characteristics of a security that historically have had explanatory power of volatility. Exposures to these risk factors are aggregated, with correlations taken into account, to arrive at an estimate of total standard deviation at the portfolio level.

From slide 8:

Source: Morningstar Rankings as of 3/31/18 **California Municipal Opportunities Fund** was ranked 1 year, 2/77; 3-year, 1/66; 5-year, 1/63; 10-year, 1/50 among all California Intermediate Municipal Funds. **Core Bond Fund** was ranked 1 year, . 678/999; 3-year, 567/858; 5-year, 288/784 347/561 10-year among Intermediate-Bond Funds. **CoreAlpha Bond Fund** was ranked 1 year, 226/999; 3-year, 387/858; 5-year, 310/784. among Intermediate-Bond Funds **Credit Strategies Income Fund** was ranked 1 year, 91/314; 3-year, 56/255; 5-year, 30/205 among Multi-Sector Bond Funds **Emerging Markets Flexible Dynamic Bond Fund** was ranked 1 year, 61/320; 3-year, 3/263; 5-year, 74/160 10-year 2/47 Among all Nontraditional Bond Funds. **Floating Rate Income Fund** was ranked 1 year, 104/234; 3-year, 76/206; 5-year, 39/166 among all Bank Loan Funds. **GNMA Fund** was ranked 1 year, 138/253; 3-year, 34/229; 5-year, 35/219; 10-year, 13/165 among all Intermediate-Government Bond funds. **High Yield Bond Fund** was ranked 1 year, 96/684; 3-year, 117/588; 5-year, 46/488; 10-year, 22/319 among all High Yield Bond Funds. **High Yield Municipal Fund** was ranked 1 year, 24/174; 3-year, 28/146; 5-year, 25/122; 10-year, 3/81 among High Yield Municipal Bond funds. **Inflation Protected Bond Fund** was ranked 1 year, 52/232; 3-year, 103/207; 5-year, 71/174; 10-year, 26/110 among Inflation-Protected Bond Funds. **Low Duration Bond Fund** was ranked 1 year, 109/509; 3-year, 125/455; 5-year, 84/393; 10-year, 87/255 among Short-term Bond Funds. **National Municipal Fund** was ranked 1 year, 47/297; 3-year, 38/257; 5-year, 26/232; 10-year, 7/156 among all Muni National Intermediate Bond Funds. **New Jersey Municipal Bond Fund** was ranked 1 year, 3/49; 3-year, 4/48; 5-year, 4/44; 10-year, 2/40 among all New Jersey Municipal Bond Funds. **New York Municipal Opportunities Fund** was ranked 1 year, 1/56; 3-year, 1/52; 5-year, 1/50; 10-year, 1/39 among all New York Intermediate Bond Funds. **Pennsylvania Municipal Bond Fund** was ranked 1 year, 13/59; 3-year, 10/57; 5-year, 5/53; 10-year, 1/50 among all Pennsylvania Municipal Bond funds. **Short-term Municipal Fund** was ranked 1 year, 132/194; 3-year, 112/173, 5-year, 121/158; 10-year, 78/96 Among all Muni National Short bond funds. **Strategic Global Bond Fund** was ranked 1 year, 127/361; 3-year, 67/264; 5-year, 45/236; 10-year, 79/133 among all World Bond funds. **Strategic Income Opportunities Fund** was ranked 1 year, 104/320; 3-year, 148/263; 5-year, 31/160; 10-year 19/47 among all Non-traditional Bond funds. **Strategic Municipal Opportunities Fund** was ranked 1-year 2/297; 3-year, 2/257; 5-year, 10/232; 10-year, 3/156 among all Muni National Intermediate Bond Funds. **Total Return Fund** was ranked 1 year, 341/999; 3-year, 307/858; 5-year, 61/784; 10 year 174/561 among all Intermediate Bond funds. **U.S. Government Bond Fund** was ranked 1 year, 74/253; 3-year, 74/229; 5-year, 40/219; 10-year, 79/165 among all Intermediate Government Bond funds. **U.S. Mortgage Fund** was ranked 1 year, 653/999; 3-year, 268/858; 5-year, 105/784; 10-year, 31/561 among all Intermediate-Bond funds.



# Important notes (continued)

From slide 9:

**Lipper Fund Classification Awards:** The currency for the calculation corresponds to the currency of the country for which the awards are calculated and relies on monthly data. Classification averages are calculated with all eligible share classes for each eligible classification. The calculation periods extend over 36, 60, and 120 months. The highest Lipper Leader for Consistent Return (Effective Return) value within each eligible classification determines the fund classification winner over three, five, or 10 years. For a detailed explanation, please review the Lipper Leaders methodology document on [lipperalpha.financial.thomsonreuters.com/lipper](http://lipperalpha.financial.thomsonreuters.com/lipper). Fund classification awards are given to the company that has the day-to-day responsibility of investing and monitoring the assets under management within the fund's portfolio in order to achieve the investment objectives of the fund. This company is also referred to as a portfolio management company or investment advisor. The award goes to the fund management company in case that no such company has been appointed or several such companies share the task.

**Morningstar Rating:** Morningstar Ratings as of 12/31/2017. 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 (excluding any applicable sales charges) 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.

Strategic Income Opportunities Fund: 3 Year Morningstar Rating: 3 stars, 5 Year Morningstar Rating: 4 stars.

Total Return Fund: 3 Year Morningstar Rating: 4 stars, 5 Year Morningstar Rating: 5 stars, 10 Year Morningstar Rating: 3 stars.

Strategic Global Bond Fund: 3 Year Morningstar Rating: 3 stars, 5 Year Morningstar Rating: 4 stars, 10 Year Morningstar Rating: 3 stars.

**Morningstar Analyst Rating:** Morningstar Analyst Ratings as of 12/31/2017. 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/](http://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 Analyst 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.

## Important notes (continued)

#From slide 15: The following indices are used to represent the asset classes shown:

**US Treasury:** BBgBarc US Treasury TR USD, **EMD (USD):** JPM EMBI Global TR USD, **EMD (Local CCY):** JPM GBI-EM Global Diversified TR USD, **US Securitized:** BBgBarc US Securitized AAA TR USD, **US Credit:** BBgBarc US Credit 2% Issuer Cap TR USD, **US High Yield:** BBgBarc US Corporate High Yield TR USD, **US Agg:** BBgBarc US Agg Bond TR USD, **Euro Government:** BBgBarc Euro Agg Govt TR EUR, **Euro Corporate:** BBgBarc Pan Euro Agg Corp TR EUR

From slide 27: # **Rate Periods:** Sorts through daily 10-year treasury rates from 12/31/2010. **Rising Rate Periods (10):** Counts period if  $\leq 60$  day period with at least a 40 bp increase in 10-year treasury from start date to end date. Overlapping periods are eliminated by choosing the period with the highest rate increase. **Flat Rate Periods (14):** Ending date rate must be within  $\pm 2$  bps of start date rate. Period must be at least 30 days and no more than 90 days (business days). Variance of rate in the periods must be  $\pm 15$  bps from start date rate on each date over the period (ensures minimal volatility over the period as a whole). Overlapping periods are eliminated by choosing the period with the longest date range. **Declining Rate Periods (12):** Counts period if  $\leq 60$  day period with at least a 40 bp decline in 10-year treasury rate from start date to end date. Overlapping periods are eliminated by choosing the period with the largest rate decrease.

\* Percentage of positive monthly returns since inception shows the % of positive monthly returns when the Bank of America Merrill Lynch (BofAML) US Treasury Current 10 Year Index or Barclays US Aggregate returns are positive and % of positive monthly returns when BofAML US Treasury Current 10 Year Index or Barclays US Agg returns are negative. Index performance is shown for illustrative purposes only. You cannot invest directly in an index

^ Source: BlackRock. Based on rolling 30 day annualized volatility 3/01/2010 – 12/31/2017

This material is not intended to be a recommendation or advice by BlackRock. If this material were construed to be a recommendation by BlackRock, BlackRock would seek to rely on Department of Labor Regulation Section 2510.3-21(c)(1). As such, by providing this material to you, a plan fiduciary that is independent of BlackRock, BlackRock does not undertake to provide impartial investment advice or give advice in a fiduciary capacity. Further, BlackRock receives revenue in the form of advisory fees for our mutual funds and exchange traded funds and management fees for our collective investment trusts



## VI. Summary & Appendix

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# BlackRock Strategic Income Opportunities Portfolio

## BSIIX Summary

<b>Investment Objective</b>	Seeks total return that is consistent with preservation of capital
<b>Eligible Investments</b>	Broad range of global fixed income instruments and derivatives, including among others US Treasuries, agencies, credit, MBS, ABS, CMBS, high yield, EMD and non-USD
<b>Constraints</b>	<b>Include, among others:</b> <ul style="list-style-type: none"> <li>• Duration band -2 years to +7 years; typical range is 0-3 years</li> <li>• CDOs &lt; 15% net assets, of which CLOs &lt; 10% of net assets</li> <li>• Short up to 15% of market value of total assets (shorting TBAs and short sales “against the box” not restricted by this limit</li> <li>• 40 Act Leverage &lt; 33%</li> </ul>
<b>Historical Ranges<sup>1</sup></b>	<b>Since inception the Fund maintained</b> <ul style="list-style-type: none"> <li>• Below IG Structured Products &lt; 25%</li> <li>• FX &lt; 30% (Defined as net exposure to USD)</li> <li>• HY Corporates &lt; 40%</li> <li>• EMD &lt; 25% (IMF Emerging Market country definitions)</li> <li>• Equity typically &lt; 10% of net assets</li> <li>• Tier IV Liquidity &lt; 20% (as defined by BLK liquidity scoring)</li> <li>• Ex-ante risk &lt; 700bps</li> </ul>
<b>Expense Ratio (Institutional Share Class: BSIIX)</b>	Total: 0.91% Net including investment related expenses: 0.90%
<b>Strategy Inception<sup>2</sup></b>	5 March 2010
<b>AUM</b>	Fund AUM: \$35.5B Strategy AUM: \$48.1B
<b>Number of Holdings</b>	3,565
<b>Liquidity</b>	Daily
<b>Key highlights</b>	<ul style="list-style-type: none"> <li>• Duration management flexibility designed to help protect investors in a rising interest rate environment</li> <li>• Broad flexibility to invest across the global FI universe leveraging the BlackRock global platform</li> </ul>

Info as of 6/30/18 and subject to change.

1 Historical ranges represent past investment exposures and may not be representative of future allocations

2 Strategy inception for the unconstrained strategy. Actual inception date for the fund is 2/5/2008.

Net, excluding investment related expenses is 0.61%.

Net operating expenses exclude investment interest expenses, acquired fund fees, if any, and certain other fund expenses net of all waivers and reimbursements. BlackRock has agreed contractually to waive or reimburse certain fees and expenses until 4/30/19. Contractual waivers terminable upon 90 days notice by the fund's independent trustees or majority vote of outstanding fund securities.

# Biographies of key investment professionals



**Rick Rieder**, Managing Director, is BlackRock's Chief Investment Officer of Fundamental Fixed Income, co-head of Americas Fixed Income and a member of the Executive Committee of the firm-wide Alpha Strategy business. He is a portfolio manager for BlackRock's Strategic Income Opportunities for US investors, and Fixed Income Global Opportunities for non-US investors; he's also a portfolio manager for BlackRock's Total Return and Core Bond funds. Additionally, Rick is a member of BlackRock's firm-wide Operating, Leadership, and Philanthropy Committees.

Before joining BlackRock in 2009, Mr. Rieder was President and Chief Executive Officer of R3 Capital Partners. He served as Vice Chairman and member of the Borrowing Committee for the U.S. Treasury. Mr. Rieder is currently a member of the Federal Reserve Bank of New York's Investment Advisory Committee on Financial Markets, and was recently elected as the 2013 inductee into the Fixed Income Analysts Society Fixed Income Hall of Fame.

From 1987 to 2008, Mr. Rieder was with Lehman Brothers, most recently as head of the firm's Global Principal Strategies team, a global proprietary investment platform. He was also global head of the firm's credit businesses, Chairman of the Corporate Bond and Loan Capital Commitment Committee, and a member of the Board of Trustees for the corporate pension fund. Before joining Lehman Brothers, Mr. Rieder was a credit analyst at SunTrust Banks in Atlanta.

Mr. Rieder earned a BBA degree in finance from Emory University in 1983 and an MBA degree from The Wharton School of the University of Pennsylvania in 1987. He is a member of the board of Emory University, Emory's Business School, and the University's Investment Committee and is the Vice Chairman of the Finance Committee, and founder and chairman of the business school's BBA investment fund.

Mr. Rieder serves as Chairman of the Board of North Star Academy's nine Charter Schools in Newark, New Jersey and is the Founder and Chairman of the Board of Graduation Generation Public School Collaboration in Atlanta. He is a Trustee for the US Olympic Committee, and on the board of advisors for the Hospital for Special Surgery. He serves on the National Leadership Council of the Communities in Schools Educational Foundation and the boards of Big Brothers/Big Sisters of Newark and Essex County and the Newark Youth Foundation.



**Bob Miller**, Managing Director, is Head of the Multi-Sector & Rates Team within BlackRock's Americas Fixed Income Group and a member of the Americas Fixed Income Executive Team. He is a Portfolio Manager of BlackRock's Core Bond, Total Return, and Strategic Income Opportunities Funds.

Prior to joining BlackRock in 2011, Mr. Miller was a Co-Founder and Partner at the Round Table Investment Management Company, a multi-strategy, research-based investment company, where he managed a global macro strategy. Previously, he spent 20 years at Bank of America, where he served in a variety of roles, most recently as Senior Portfolio Manager for the bank's proprietary multi-asset class investment portfolio. He managed global equity and credit, global interest rate derivative, and sovereign debt portfolios during his tenure at Bank of America.

Mr. Miller is a Trustee of Davidson College, a member of the Executive Committee and Chairman of the Investment Committee. He is also actively involved with the Davidson July Experience program. Mr. Miller is a former Trustee and past Chairman of the Board at Trinity Episcopal School, and remains a member of the Friends of Trinity Board. He earned a BA degree in economics from Davidson College.

## Biographies of key investment professionals

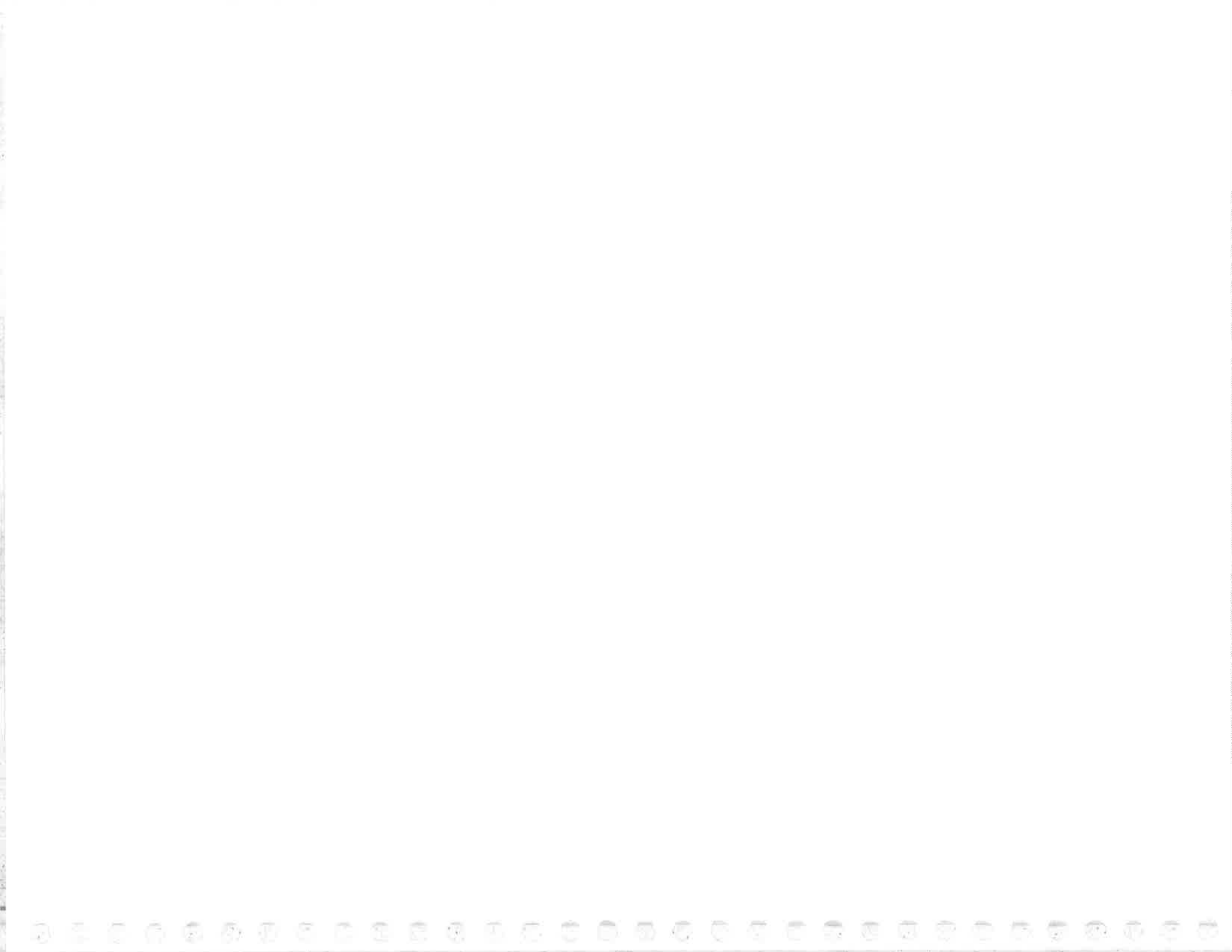


**David Rogal**, Director, is a member of the Multi-Sector Retail & Rates team within BlackRock's Americas Fixed Income Group. He is a portfolio manager on the Multi-Sector Mutual Fund Team.

Mr. Rogal moved to his current role in 2009. Previously, he was a member of BlackRock's Multi-Asset Portfolio Strategies (MAPS) group. Within MAPS, he was part of the Strategic Advice Service team where he focused on various research and analytical projects, and was responsible for asset allocation analysis and liability-based portfolio structuring for taxable clients and prospects. Mr. Rogal began his career at BlackRock in 2006 as an analyst in the Financial Institutions Group.

Mr. Rogal earned a BA degree, *Phi Beta Kappa*, in economics and genetics from Cornell University in 2006.







INST: **BSIIX** • A: **BASIX** • C: **BSICX**

**BLACKROCK®**

## Strategic Income Opportunities Fund

A flexible fixed income strategy to complement your core bond allocation

**Performance:** The fund's allocations to emerging markets and foreign credit as well as its duration positioning resulted in a negative return in June, while positions in securitized assets and global rates contributed positively.

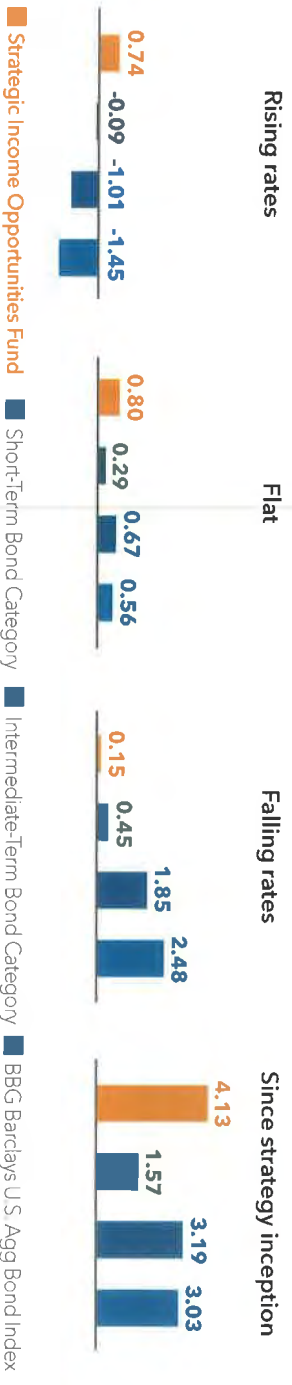
**Positioning:** We slightly increased duration, while still favoring the front end of the yield curve given the market's risk-off tone. We kept credit risk low and sourced attractive yields in securitized assets and short-dated paper.

▲ **Increased:** Treasuries, municipal bonds

▼ **Decreased:** Emerging market debt, agency mortgages

### Positive returns in all rate environments<sup>1</sup>

Whether rates were rising, falling or flat, the fund has delivered positive returns. In June, we tactically increased duration while relying on diversified exposures across securitized products and global rates to generate return.



### Outperformance with less risk

The fund has outperformed nontraditional and intermediate-term bond fund averages with lower volatility.

	BlackRock Strategic Income Opportunities Fund	Morningstar Nontraditional Bond Category Average	Morningstar Intermediate-Term Bond Category Average
Annualized return (5-year)	2.88%	2.01%	2.20%
30-day SEC yield (sub/unsb)	3.13% / 3.13%	3.34%	3.20%
Annualized volatility (5-year standard deviation)	1.66%	1.92%	2.46%
Sharpe ratio (5-year)	1.42	0.67	0.71

30-day SEC yield reflects the income earned by an investor in the fund during a 30-day period after deducting the fund's expenses. Unsubsidized SEC yield represents what a fund's 30-day SEC yield would have been had no fee waiver or expense reimbursement been in place over the period. Volatility is measured by standard deviation of returns. Higher deviation represents higher volatility. Sharpe ratio uses a fund's monthly standard deviation and excess return (difference between the fund's return and the risk-free return of 90-day Treasury Bills) to determine reward per unit of risk.

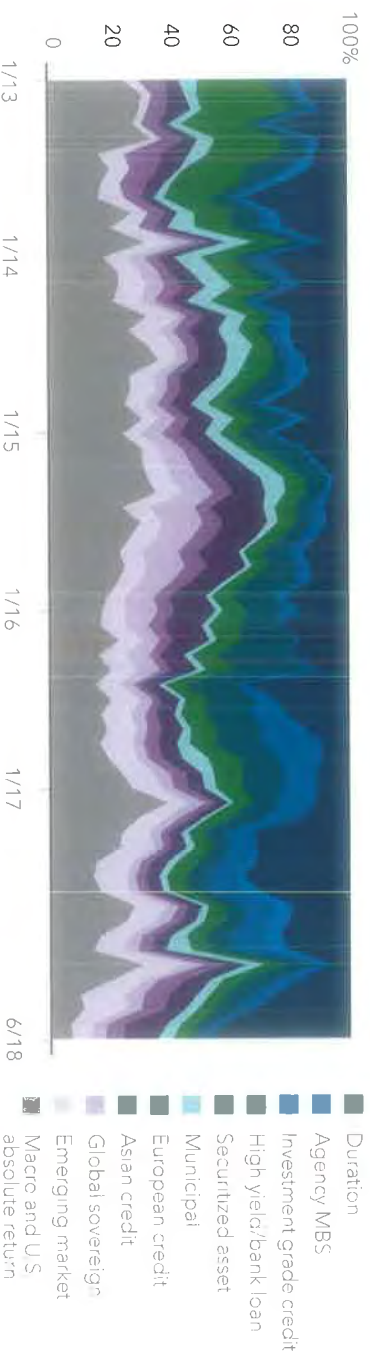
All data as of 6/30/18. **Fund data based on institutional shares, which may not be available to all investors. Other share classes may vary.** Performance data quoted represents past performance and is no guarantee of future results. Investment returns and principal values may fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. All returns assume reinvestment of all dividend and capital gain distributions. Current performance may be lower or higher than that shown. Refer to [blackrock.com](http://blackrock.com) for recent performance.

Morningstar has awarded the fund a Silver medal. Fewer than 10% of U.S. open-end funds hold medalist ratings. (Last rating 3/6/18).

## Tactical risk taking as bond markets change

We adapt the fund's risk strategies as markets change over time. Given the continued pressure in emerging markets, we reduced risk in the sector and added to short-dated investment grade credit.

### Composition of risk



### Risk strategies



### Asset allocation

In June, we maintained our preference for the front end of the curve as we increased allocations to high-quality assets in sectors such as investment grade credit and municipals.

Sector	% as of 6/30*	Change since last month	Duration contrib. (years)
U.S. Treasuries	37.8	▲ 14.8	1.56
U.S. interest rate derivatives	-3.5	▲ 7.1	-0.69
U.S. agency/MBS	13.3	▼ -6.4	0.35
Non-U.S. sovereign	-3.8	▼ -5.1	-0.34
Non-U.S. credit	6.7	▼ -1.0	0.13
Investment grade credit	2.9	▲ 0.4	0.22
High yield credit	4.7	▲ 0.3	0.09
Bank loans	3.8	▲ 0.4	0.00
Municipal bonds	5.5	▲ 0.7	0.39
Emerging market debt	7.3	▼ -2.1	0.11
Non-agency MBS	6.1	▲ 0.2	0.21
Commercial MBS	4.0	▲ 0.1	0.12
Asset-backed	3.5	▼ -0.3	0.06
CLOs	7.1	▼ -0.1	0.02
Other	1.5	▲ 1.5	0.01
Cash/cash equivalents	-14.7	▼ -5.7	0.04
Net derivatives	17.9	▼ -5.1	0.00
Total	100.0		2.28

\*Values may not equal 100% due to rounding. Asset class exposure shown as a percent of market value. Hedging strategies shown as a percent of notional value and include only short derivative positions. **Non-U.S. Sovereign** includes the effect of interest rate derivatives. **Credit** allocations include the notional value of CDO overlay positions. **Other** category includes equity-related securities, convertibles and other non-classified securities. The fund's exposure to equities is limited to 10% of assets. **Cash/Cash Equivalents** may include long or short positions pending settlement as well as the market value of traditional bonds and swaps (such as Eurodollar futures) with a maturity date of less than one year. **Net Derivatives** reflects the approximate notional value of long derivative positions less short derivative positions held in the fund; derivatives typically include, but are not limited to, futures, options and swap contracts.

	Correlation to fund	Annualized volatility
Strategic Income Opportunities Fund		2.54%
Bloomberg Barclays U.S. Aggregate Bond Index	0.29	2.76%

Source: Morningstar. Monthly data based on institutional shares since strategy inception (March 2010) through 6/30/18. Annualized volatility is the standard deviation of returns. Past correlations are no guarantee of future correlations.

### Flexible duration for all rate scenarios



Monthly data since inception of the fund's strategy in March 2010. As a general rule for every 1% change in interest rates, a bond's price will change approximately 1% in the opposite direction for every year of duration. Therefore, when interest rates rise, bonds with shorter duration fare better. When interest rates fall, bonds with longer duration tend to outperform.

## Diversified sources of return keep volatility low

Since strategy inception, the fund has drawn upon a variety of sources to generate return.



Data is since strategy inception (3/31/10) through 6/30/18. Subject to change. Diversification does not ensure a profit or protect against a loss.

## Market movements

As the market continues to digest developments on international trade relations, increasing focus is turning to questions around the next phase for the economy. The labor market remains resilient while producer and consumer prices are firming, albeit contained relative to historical standards. For the near term, we think the economy is operating quite nicely and should continue to power ahead. However, at some point, growing pressure from higher wages and other input costs for companies alongside more potential tariffs, as well as a pull-forward of capital expenditures, may lead to an economic slowdown from the recent buoyant pace.

## Duration positioning

We slightly increased the fund's duration to 2.3 years in June as geopolitical tensions kept interest rates range-bound. While the majority of the fund's duration continues to be held in the 0- to 2-year part of the curve, we also hold exposure in the 7- to 10-year space as we believe rates are hovering around the highs of their near-term range. We maintained our inflation protection (in breakeven form) on the front end given the firming of producer and consumer prices during the second quarter.

We held slight short positions in European rates, including Italy, where political uncertainty has created selling pressure on sovereign bonds in the region. In credit, we reduced exposure to European banks but still hold a modest allocation as we believe this segment may ultimately outperform amid continued economic growth while the tapering of the European Central Bank's stimulus program supports rates gradually moving higher in the region.

“ The breadth and depth of our global fixed income platform allows us to find opportunities as we seek to make a little bit of money a lot of times. ”



**Rick Rieder**  
BlackRock's Global  
Chief Investment Officer  
of Fixed Income

## Sector positioning

We slightly increased the fund's allocation to investment grade credit on the front end of the curve and continue to hold high-quality names for income generation; however, we remain cautious on corporate credit more broadly given increased volatility in the market. We maintained our select high yield positions, which are mainly on the front end of the credit curve.

We believe securitized assets should continue to experience strong demand in this low yield environment. We continued to reduce the fund's overall emerging market exposure as a stronger dollar and global trade tensions are creating a headwind for the sector. However, we continue to hold select positions in China, Argentina and Indonesia.



## Average annual total returns (%) as of 6/30/18

	1 Month (not annualized)	YTD (not annualized)	1 year	3 years	5 years	10 years	Since Inception*
Institutional	-0.25	-0.39	1.97	2.31	2.88	4.33	4.13
Investor A without/with sales charge	-0.27 / -4.26	-0.53 / -4.50	1.68 / -2.39	2.01 / 0.63	2.59 / 1.75	4.05 / 3.63	3.86 / 3.45
Morningstar Nontraditional Bond Funds Avg	-0.12	-0.25	1.30	2.41	2.01	4.04	-

\* Fund inception 2/15/08

Investment returns reflect total fund operating expenses, net of all fees, waivers and/or expense reimbursements. Expenses, as stated in the fund's most recent prospectus, for Institutional/Investor A shares: Total, **0.91%/1.23%**; Net, including Investment Related Expenses (dividend expense, interest expense, acquired fund fees and expenses and certain other fund expenses): **0.90%/1.19%**. Institutional and Investor A have contractual waivers with an end date of 4/30/19 terminable upon 90 days' notice. Data represents past performance and is no guarantee of future results. Investment returns and principal values may fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. All returns assume reinvestment of dividends and capital gains. Current performance may be lower or higher than that shown. Share classes have different sales charges, fees and other features. Returns with sales charge reflect the deduction of current maximum initial sales charge of 4.00% for Investor A shares. **Institutional shares have no front- or back-end load, limited availability and may be purchased at various minimums. See prospectus for details.**

Net expenses. Excluding Investment Related Expenses: 0.62%/0.90%

Want to know more?  blackrock.com

**Important risks:** The fund is actively managed and its characteristics will vary. Bond values fluctuate in price so the value of your investment can go down depending on market conditions. Fixed income risks include interest-rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments. Principal of mortgage- or asset-backed securities normally may be prepaid at any time, reducing the yield and market value of those securities. Obligations of U.S. govt agencies are supported by varying degrees of credit but generally are not backed by the full faith and credit of the U.S. govt. Derivatives entail risks relating to liquidity, leverage and credit that may reduce returns and increase volatility. International investing involves special risks including, but not limited to currency fluctuations, illiquidity and volatility. These risks may be heightened for investments in emerging markets. Non-investment-grade debt securities (high-yield/junk bonds) may be subject to greater market fluctuations, risk of default or loss of income and principal than higher-rated securities. Short-selling entails special risks. If the fund makes short sales in securities that increase in value, the fund will lose value. Any loss on short positions may or may not be offset by investing short-sale proceeds in other investments.

The opinions expressed are those of the fund's portfolio management team as of June 30, 2018, and may change as subsequent conditions vary. Information and opinions are derived from proprietary and nonproprietary sources deemed by BlackRock to be reliable, are not necessarily all-inclusive and are not guaranteed as to accuracy.

**1 Source:** Morningstar as of 6/30/18. Data since 3/31/2010, when Rick Rieder was named PM of the fund and the investment strategy changed. Performance is category, fund or index average in given time frames. Rising, Flat and Falling rate periods are calculated using a proprietary methodology that chooses periods based on specific parameters. BlackRock deems sufficient category periods as rising, flat and falling. Rising Rates. Counts period if <= 50 day period with at least a 40 bp increase in 10 year Treasury rate from start date to end date. 12/31/2010 to 02/08/2011, 09/22/2011 to 10/21/2011, 01/31/2012 to 03/19/2012, 07/25/2012 to 09/14/2012, 11/16/2012 to 02/13/2013, 05/01/2013 to 07/05/2013, 10/23/2013 to 12/31/2013, 01/30/2015 to 03/06/2015, 04/03/2015 to 06/10/2015, 09/07/2017 to 10/26/2017, 11/6/2017 to 1/30/2018, 4/5/2018 to 6/29/2018. Flat Rates. Finding date 10 year Treasury rate must be within +/- 2 bps of start date, period must be at least 30 and no more than 90 business days. Variance of rate in the periods must be +/- 15 bps from start date rate on each date over the period (ensures minimal volatility over the period as a whole). 11/17/2011 to 03/06/2012, 06/05/2012 to 08/01/2012, 10/10/2012 to 12/14/2012, 01/03/2013 to 03/25/2013, 06/25/2013 to 08/12/2013, 09/25/2013 to 11/07/2013, 01/30/2014 to 04/29/2014, 05/16/2014 to 09/30/2014, 10/22/2014 to 12/08/2014, 08/03/2015 to 10/30/2015, 11/04/2015 to 12/31/2015, 02/02/2016 to 03/28/2016, 03/30/2016 to 05/31/2016, 06/16/2016 to 08/31/2016, 12/9/2016 to 1/31/2017, 02/06/2017 to 03/31/2017, 04/18/2017 to 06/21/2017, 06/22/2017 to 08/30/2017, 9/29/2017 to 11/28/2017, 1/31/2018 to 3/29/2018, 4/5/2018 to 6/29/2018. Falling Rates. Counts period if <= 60 day period with at least a 40 bp decline in 10 year Treasury rate from start date to end date. 02/08/2011 to 03/16/2011, 04/08/2011 to 06/24/2011, 07/01/2011 to 09/22/2011, 10/27/2011 to 12/19/2011, 03/19/2012 to 06/01/2012, 03/11/2013 to 05/02/2013, 09/05/2013 to 10/23/2013, 12/31/2013 to 03/03/2014, 09/18/2014 to 10/15/2014, 11/06/2014 to 02/02/2015, 06/10/2015 to 08/24/2015, 11/09/2015 to 01/29/2016, 03/13/2017 to 05/31/2017. **2** The Morningstar Analyst Rating is not a credit or risk rating. It is a subjective evaluation performed by the manager research analysts of Morningstar. Morningstar evaluates funds based on five key pillars, which are process, performance, people, parent, and price. Analysts use this five pillar evaluation to determine how they believe funds are likely to perform over the long term on a risk-adjusted basis. They consider quantitative and qualitative factors in their research, and the weighting of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflect an Analyst's Analyst in a fund's prospects for outperformance. Analyst Ratings 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 <http://corporate.morningstar.com/us/documents/Methodology/Documents/AnalystRatingtoFundsMethodology.pdf>. The Morningstar Analyst Rating should not be used as the sole basis in evaluating a mutual fund. Morningstar Analyst Ratings involve unknown risks and uncertainties which may cause Morningstar's expectations not to occur or to differ significantly from what we expected.

*You should consider the investment objectives, risks, charges and expenses of the fund carefully before investing. The prospectus and, if available, the summary prospectus contain this and other information about the fund and are available, along with information on other BlackRock funds, by calling 800-882-0052 or from your financial professional. The prospectus should be read carefully before investing.*

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Lit. No. SIO-EXP-COM-0718R 0E218071-0718

**BLACKROCK®**

USR0718U-552560-1730146



# BlackRock Global Allocation Fund

## Portfolio Update

July 2018



BLACKROCK®

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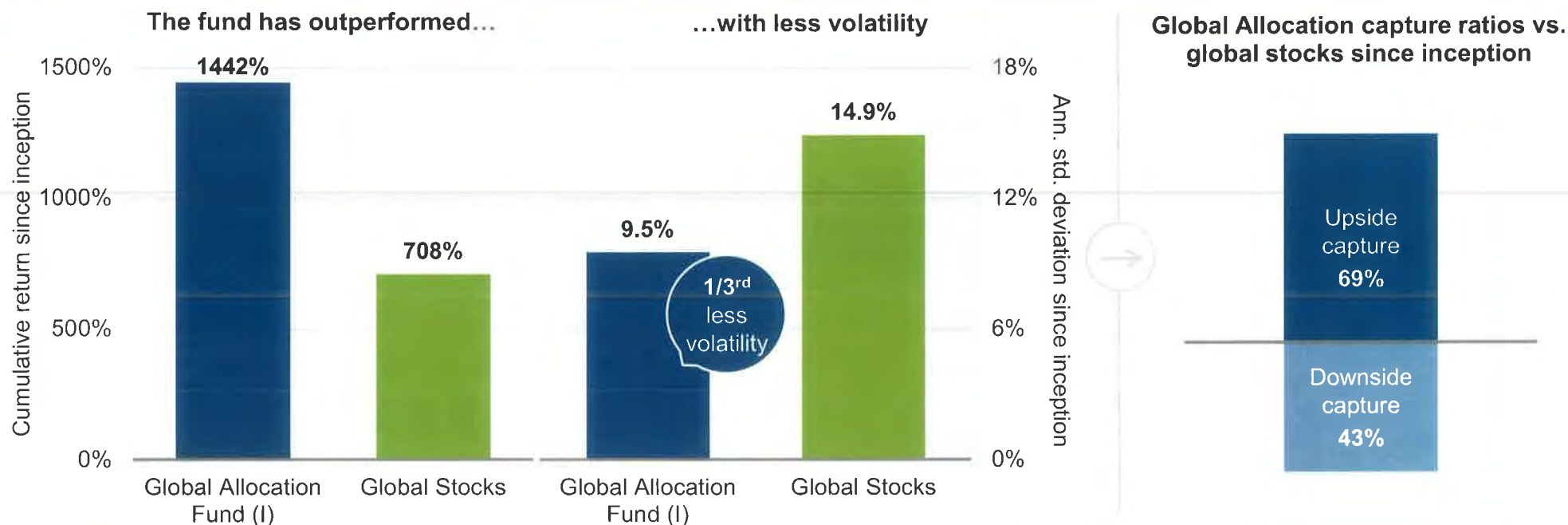
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USR0718U-547173-1713265



# BlackRock Global Allocation Fund has delivered on its mission for nearly three decades

**Our mission: Provide a rate of return competitive with that of global stocks at a lower level of volatility over a full market cycle**

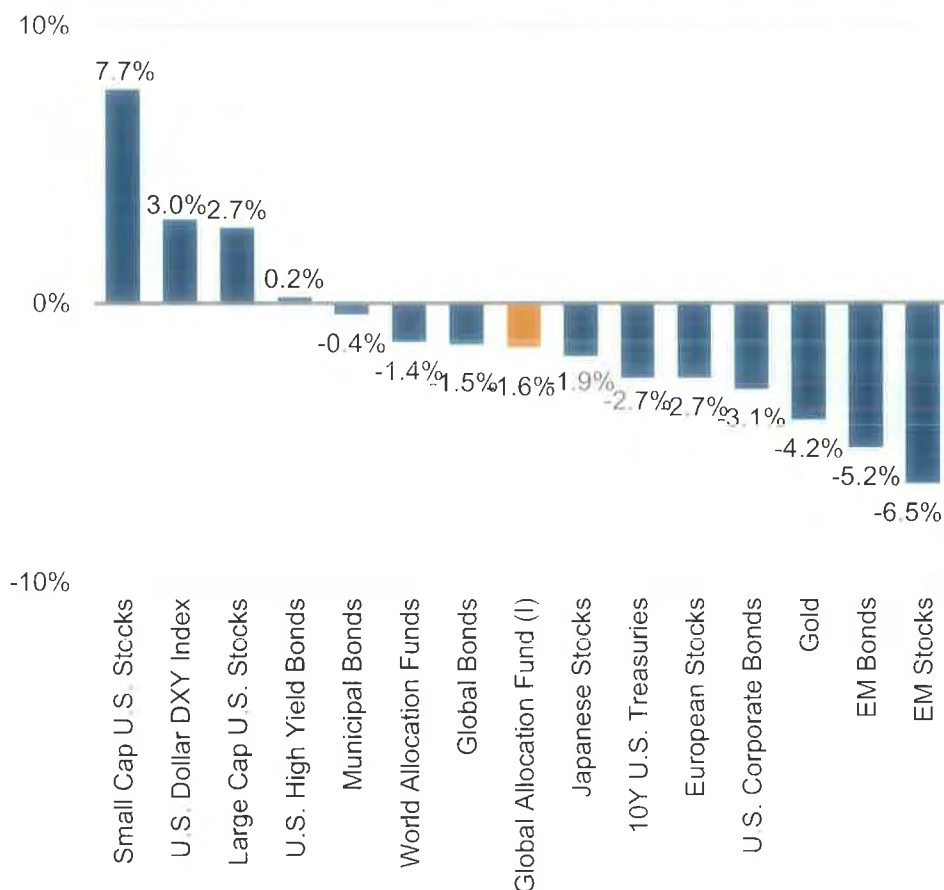


**Performance data quoted represents past performance and does not guarantee future results. Average annual returns for the BlackRock Global Allocation Fund (Institutional) as of June 30, 2018 are: 1 year, 3.87%; 5 years, 5.31%; 10 years, 4.63%. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than that shown. Refer to [blackrock.com](http://blackrock.com) for current month-end performance. Investment returns reflect total fund operating expenses, net of all fees, waivers and/or expense reimbursement. Total annual fund operating expenses as stated in the fund's most recent prospectus are 0.91% for Institutional shares. Net annual fund operating expenses (including investment related expenses) are 0.84% for Institutional shares. The difference between the fund's total and net expense ratios is due to fees that BlackRock has agreed to contractually waive through February 28, 2019, and any voluntary fee waivers. Such waivers may be terminated upon 90 days' notice by the fund's board of directors or by a shareholder vote. Any voluntary fee waivers may be terminated at any time without notice.** As of June 30, 2018. Source: BlackRock, Morningstar. The performance depicted above is for the BlackRock Global Allocation Fund (Institutional). Institutional shares are not available to all investors. Performance, fees and rankings for other share classes could be higher. Returns are net of fees and include reinvestment of dividends and capital gains. Returns calculated from first full month post inception (February 28, 1989). Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index. Global stocks are represented by the FTSE World Index.

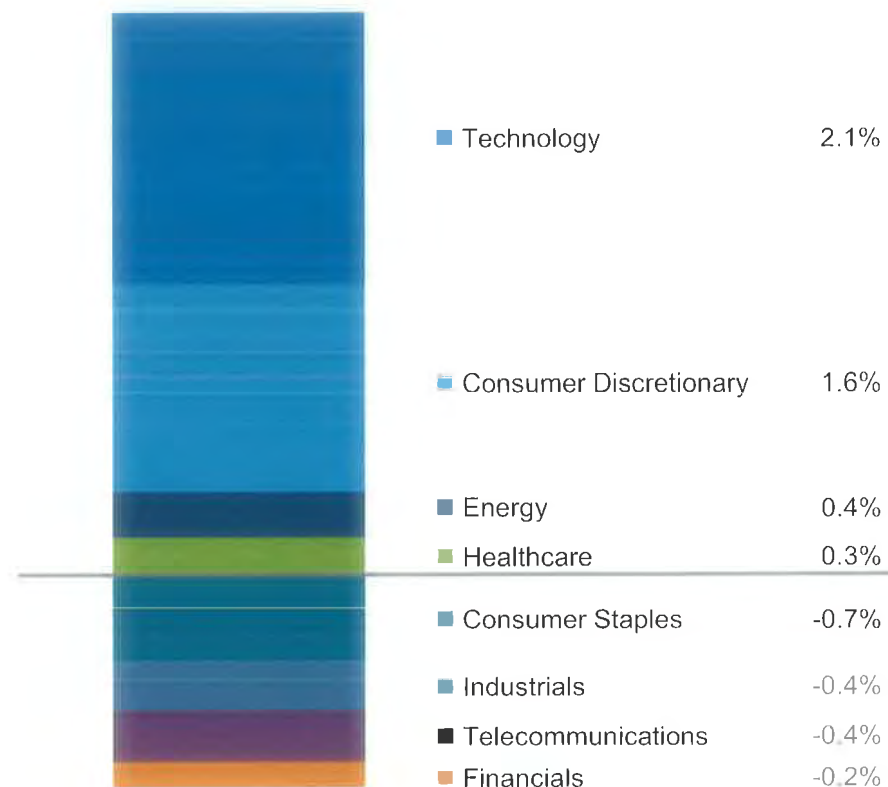


# 1H 2018 in review: Narrowness returns to global capital markets

## Index returns (12/31/17 - 6/30/18)



## Contribution by sector for S&P 500 Index



**Performance data quoted represents past performance and does not guarantee future results.** As of June 30, 2018. Source: BlackRock, Morningstar. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index. Index returns are calculated in USD. Small cap U.S. stocks are represented by the Russell 2000 Index, large cap U.S. stocks by the S&P 500 Index, U.S. high yield bonds by the BBG Barclays U.S. Corporate High Yield Index, municipal bonds by the S&P National Municipal Bond Index, Japanese stocks by the MSCI Japan Index, World Allocation Funds by the Morningstar World Allocation category average, global bonds by the BBG Barclays Global Aggregate Index, 10-year U.S. Treasuries by the ICE BofA/ML Current 10-Year U.S. Treasury Index, U.S. corporate bonds by the ICE BofA/ML U.S. Corporate Index, European stocks by the MSCI Europe Index, gold by the S&P Goldman Sachs Gold Index, emerging market bonds by the JPM EMBI Global Diversified Index, and emerging market stocks by the MSCI EM Index.

## Market views & positioning

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# Summary of market views

## Macro environment

- Economic evidence suggests global growth remains solid but with increasing regional divergences
- Inflation remains low globally, with U.S. inflation rising in-line with expectations
- Policy dispersion across central banks is continuing
- Elevation of geopolitical risk and the modest tightening of financial conditions could lead higher volatility



## Broad portfolio positioning themes

- We favor equities, particularly relative to fixed income. Despite potential for higher volatility, we find particularly attractive valuations in Asia. Within the U.S. we favor quality stocks that feature some combination of high profitability, low debt-to-equity and earnings consistency
- Within fixed income, the fund is modestly overweight duration in the U.S., but remains underweight developed market government bonds. We continue to maintain some modest exposure to select emerging market bonds and U.S. credit
- U.S. Treasuries, cash, and gold can serve as diversifying asset classes to mitigate risk



## Sector/thematic positioning

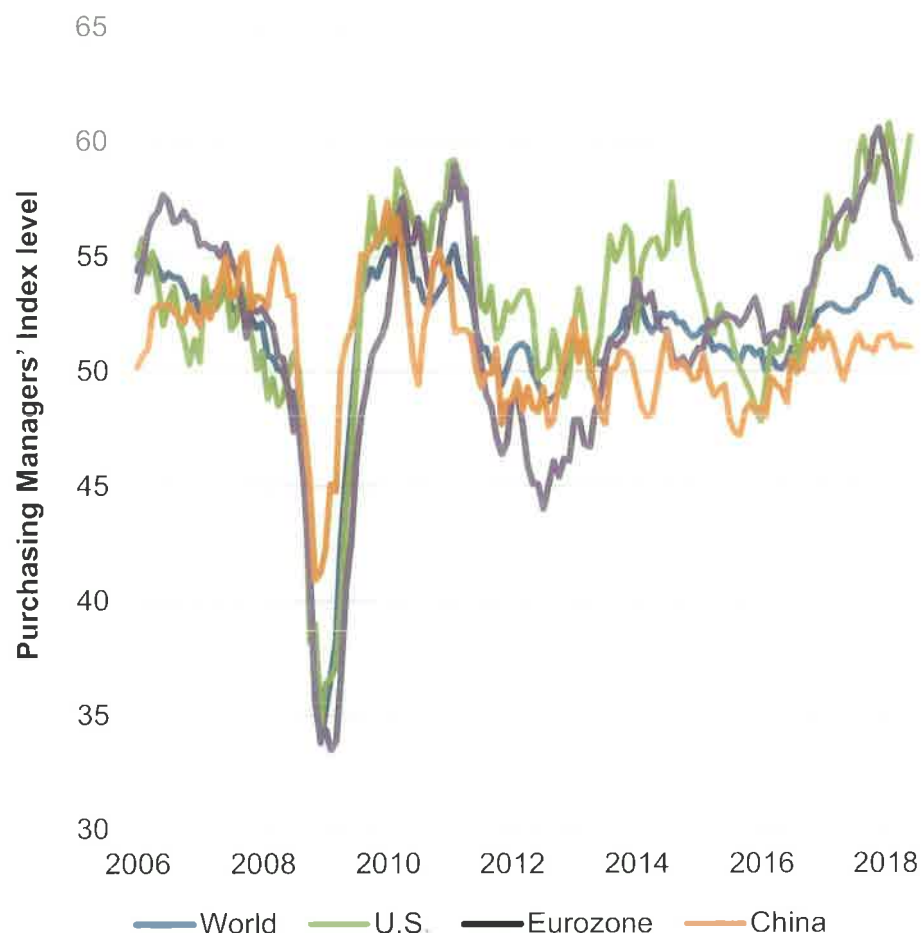
- Emerging market dividend payers
- Japan “SMID” cap value
- Corporate governance
- Network convergence (telecom & cable)
- Cloud computing
- Emerging market healthcare services



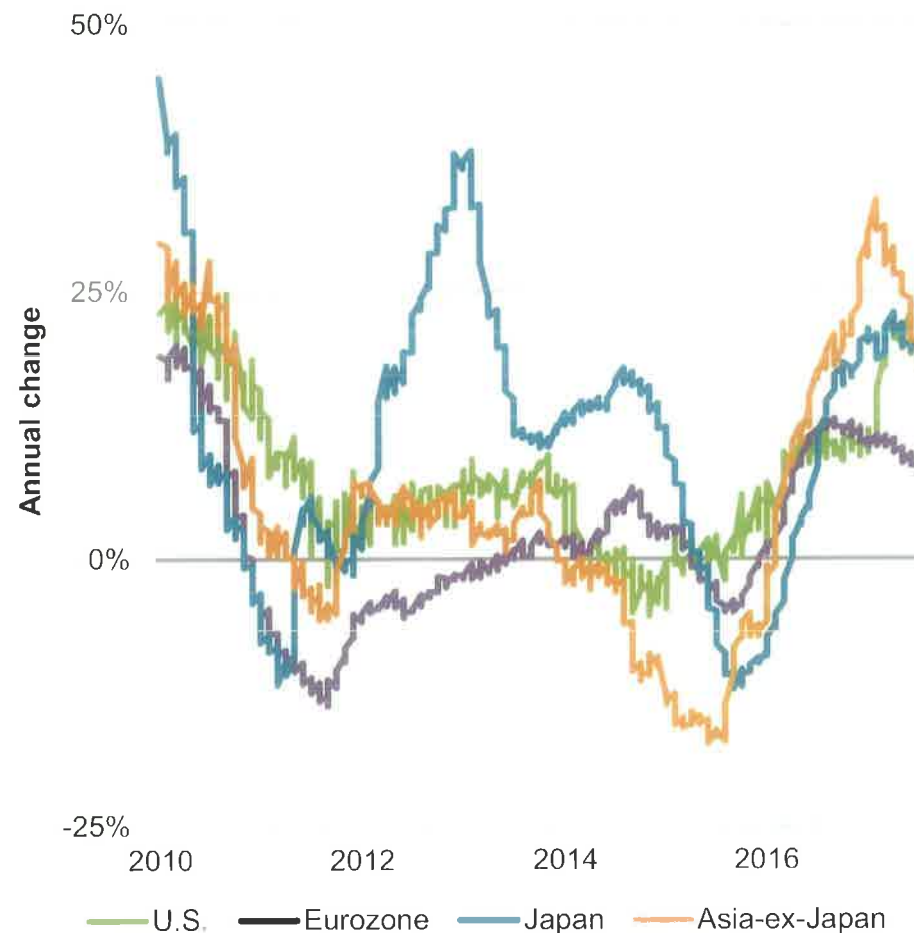
The opinions presented are those of the BlackRock Global Allocation team as of June 2018 and may change as subsequent conditions vary. Individual portfolio managers for BlackRock may have opinions and / or make investment decisions that may, in certain respects, not be consistent with the information contained in this presentation. This is not intended to be relied upon as a forecast, research or investment advice, and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy.

# Economic evidence suggests global growth remains solid but with increased divergence

## Global manufacturing activity



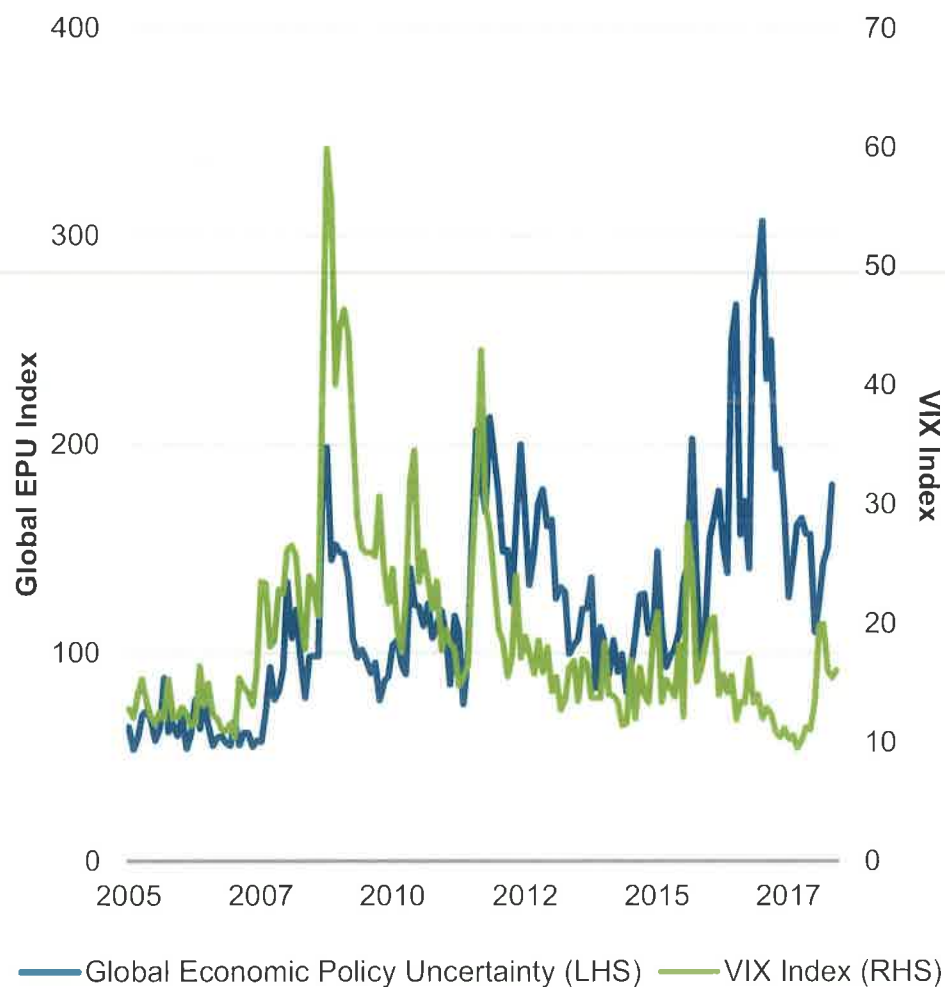
## Equity earnings momentum



Source: Bloomberg, BlackRock Investment Institute, Thomson Reuters, June 2018. Purchasing Managers' Index (PMI) is an economic indicator that is derived from monthly surveys of private sector companies. An index level above 50 indicates an improvement in manufacturing activity, while an index level below 50 indicates a decline. Equity earnings momentum represented by 12-month change in analysts' 12-month forward earnings estimates.

# Policy uncertainty and risk of protectionism are at odds with market volatility

## Economic policy uncertainty vs. volatility

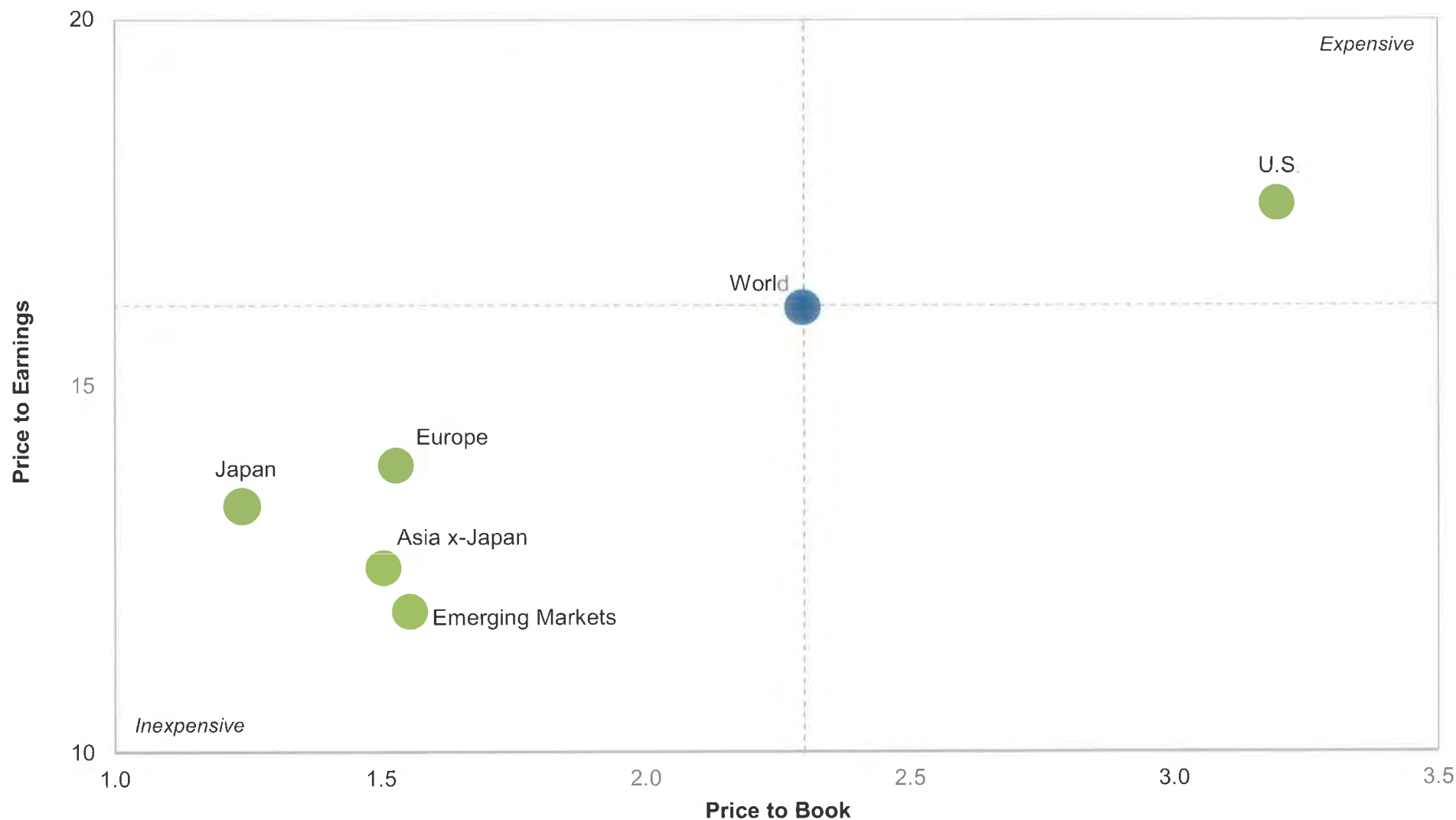


## Global trade growth



Source: Bloomberg, BlackRock Investment Institute, Thomson Reuters, June 2018. Data is shown on a monthly basis.

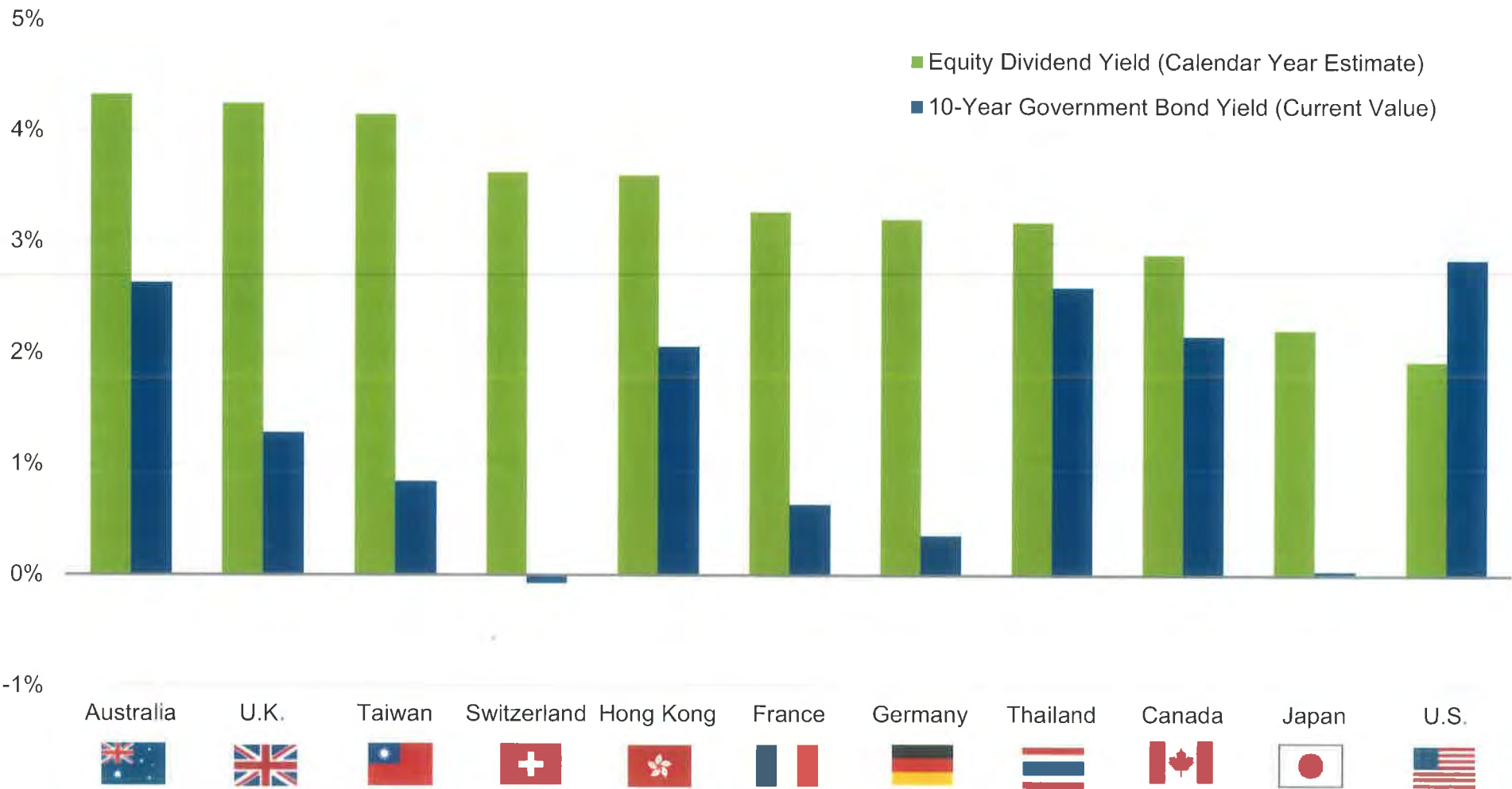
## Equity valuations vary by region



Source: Bloomberg, July 2018. Numbers are calendar year estimates. U.S. represented by the S&P 500 index, World by the MSCI World Index, Japan by the Topix Index, Latin America by the MSCI Emerging Market Latin America Index, Europe by the Stoxx Europe 50 Index, and Asia ex-Japan by the MSCI All Country Asia ex-Japan Index.



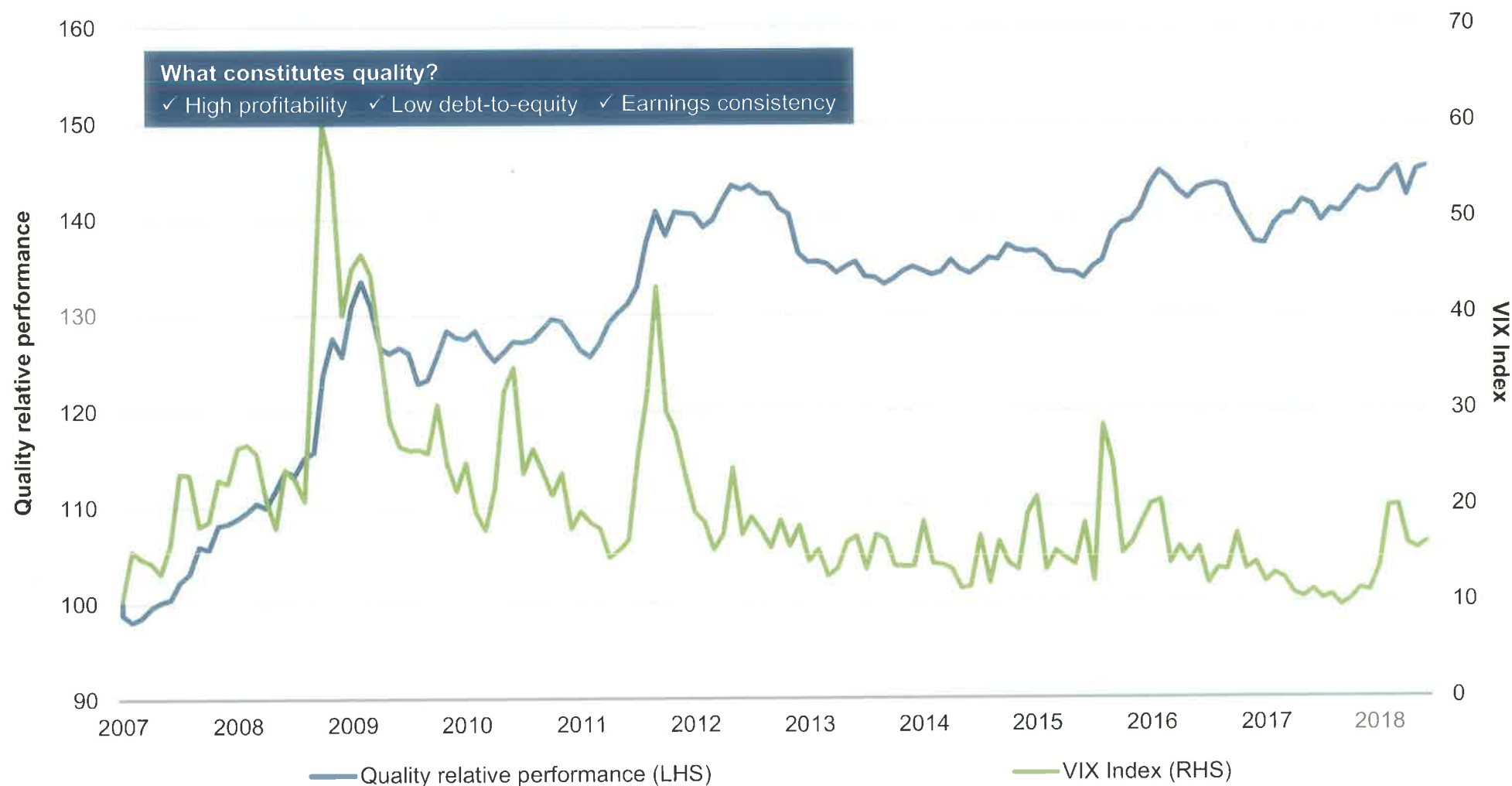
# Equities yield more than bonds in many markets



Source: Bloomberg, July 2018. Bonds are current values, equity yields are calendar year estimates. Equities represented by S&P/ASX 200, FTSE 100, TWSE, Swiss Market, CAC 40, Hang Seng Index, Deutsche Boerse, S&P/TSX, SET, S&P 500, and TOPIX.



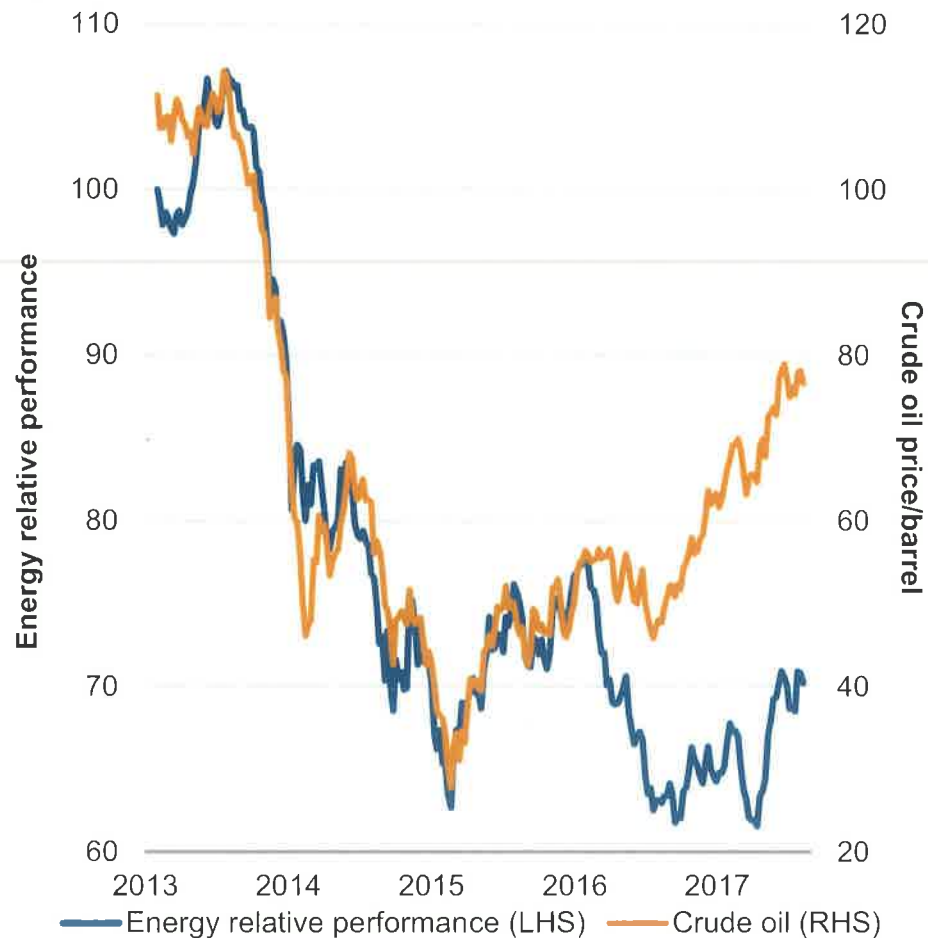
# Quality stocks have outperformed when volatility increased



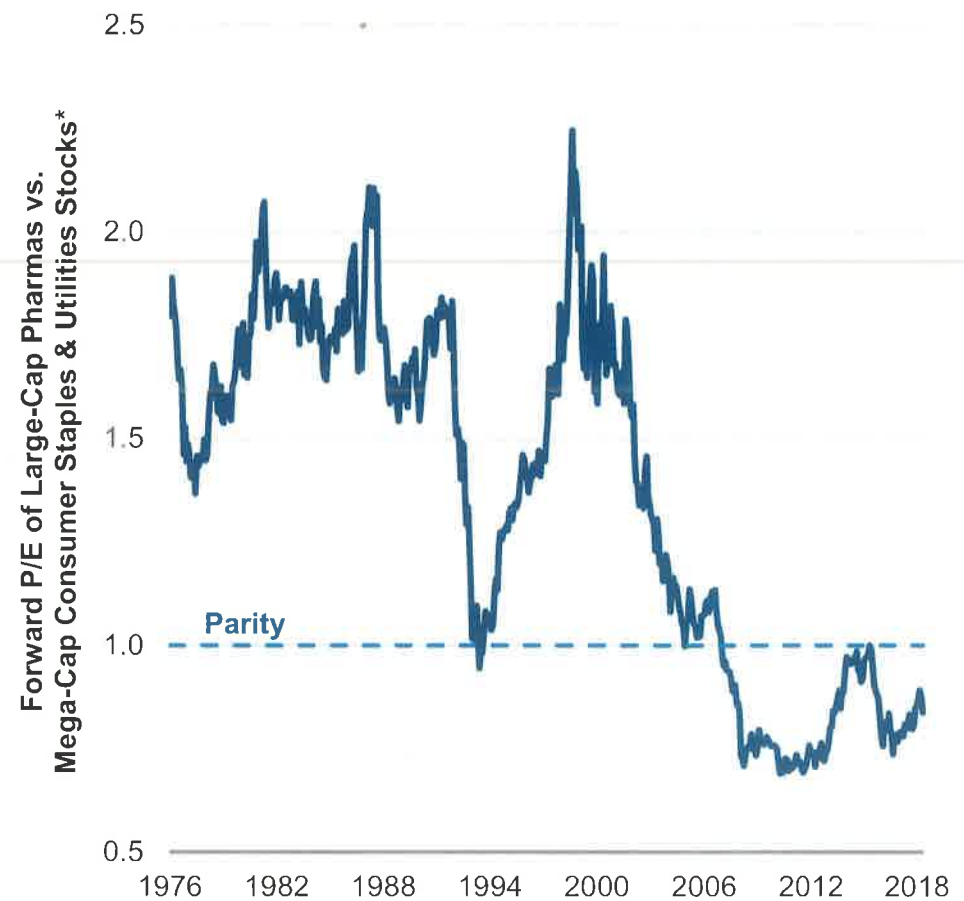
Source: Bloomberg, BlackRock Investment Institute, Thomson Reuters, June 2018. Quality relative performance calculated using MSCI World Quality (USD) relative to MSCI World (USD), both rebased to 100 as of January 2007. The MSCI World Quality Index is comprised of stocks that have high quality scores based on return-on-equity, earnings growth and financial leverage. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index.

## Sector themes

### Energy stock performance has trailed oil prices



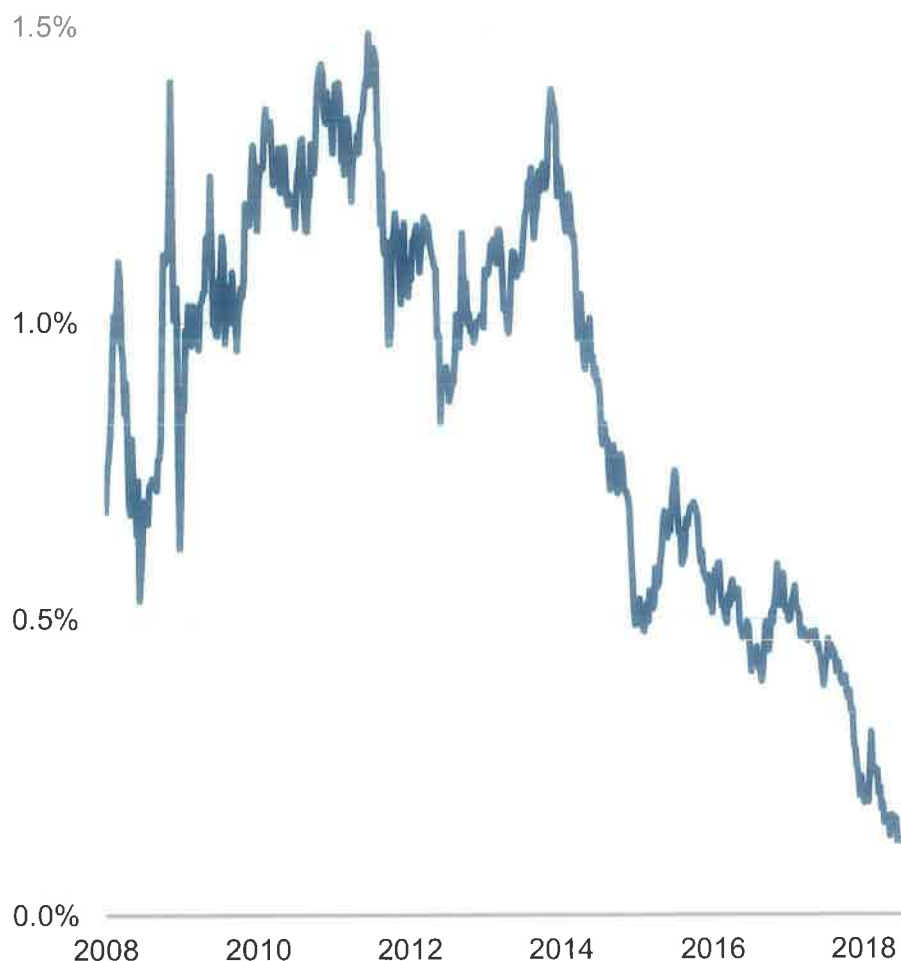
### Healthcare is at a discount to traditional defensives



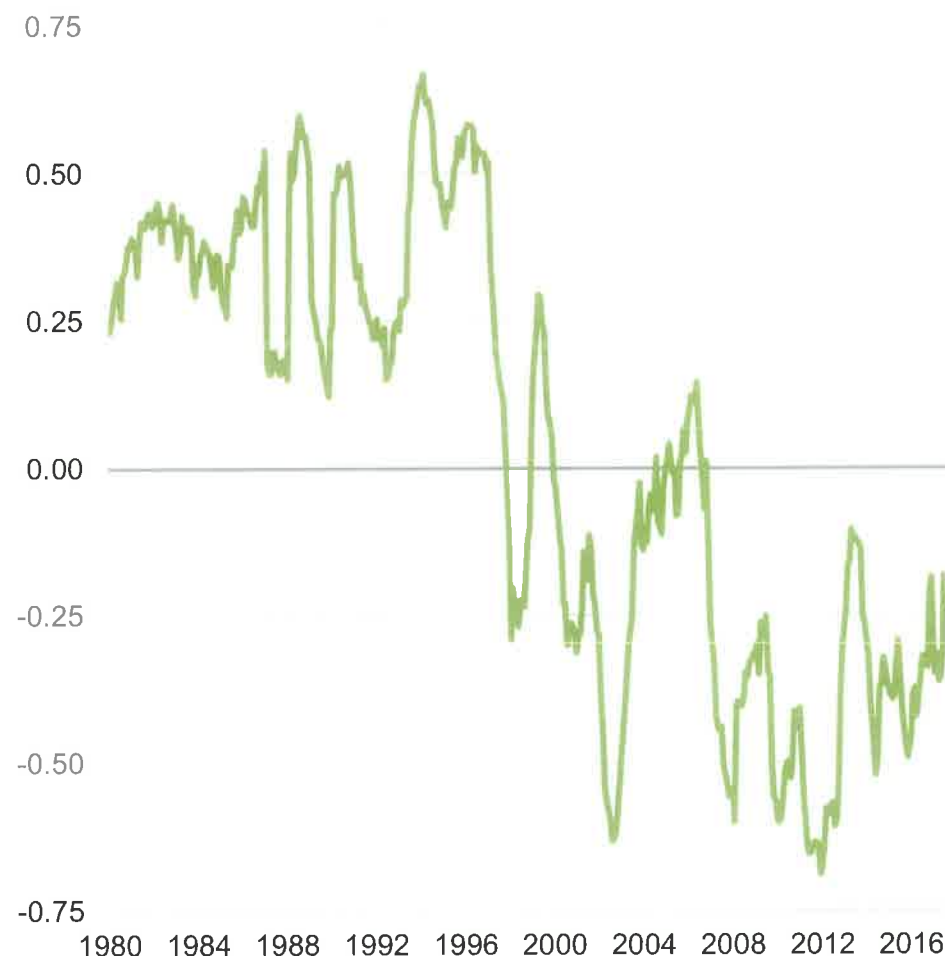
Source: Bloomberg, Thomson Reuters, Empirical Research Partners, June 2018. Energy relative performance calculated using MSCI World Energy (USD) relative to MSCI World (USD), both rebased to 100 as of January 2014. \* Capitalization-weighted data. Pharmaceutical stocks excludes Specialty & Generics. Mega-cap consumer staples includes the largest 13 issues.

# U.S. Treasuries and cash can add ballast to the portfolio

10-year minus 5-year U.S. Treasury yields



Trailing 1-year correlation of stocks and bonds



Source: Bloomberg, BlackRock Investment Institute, Thomson Reuters, June 2018. Correlation analysis based on daily returns with bonds represented by U.S. 10-Year Treasuries and stocks by S&P 500 Index.

# Portfolio snapshot as of June 30, 2018

## Equities: 61% (Overweight)

### Overweight:

- Regions: Japan, Emerging Markets
- Sectors: Healthcare, Energy, Technology, Consumer Discretionary, Telecommunications, Materials

### Underweight:

- Regions: U.S.
- Sectors: Industrials, Financials, Consumer Staples, Real Estate, Utilities

## Fixed Income: 28% (Underweight)

### Overweight:

- Corporates, Emerging Market Debt

### Underweight:

- U.S. Treasuries, European Sovereign Debt, Japanese Government Bonds

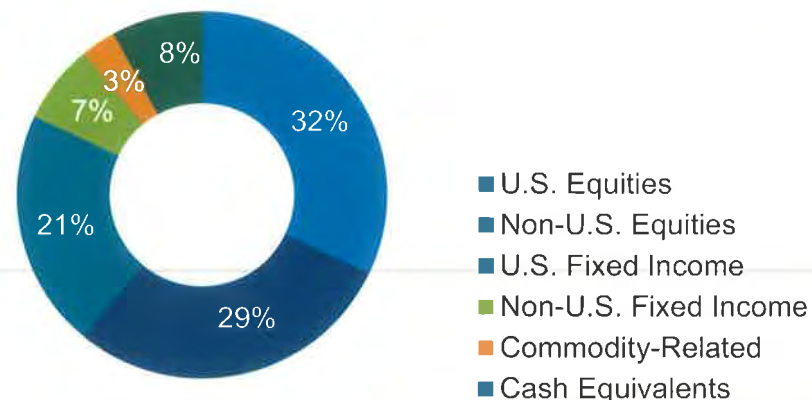
## Commodity-Related: 3% (Overweight)

- Precious metal ETFs

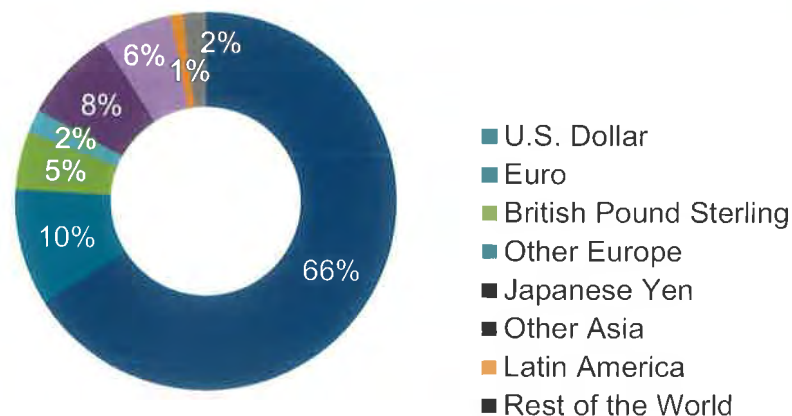
## Cash Equivalents: 8% (Overweight)

- Actively managed, both USD and non-USD

### Asset allocation (as % of net assets\*)



### Currency allocation (as % of net assets)



As of June 30, 2018. Source: BlackRock. Subject to change. The fund is actively managed and its characteristics will vary. Overweight/underweight indicators are relative to fund's reference benchmark, which consists of 36% S&P 500 Index, 24% FTSE World (ex-U.S.) Index, 24% ICE BofA/ML Current 5-Year U.S. Treasury Index, 16% FTSE Non-USD World Government Bond Index. \* % of net assets represents the fund's exposure based on the economic value of securities and is adjusted for futures, options and swaps (except with respect to fixed income securities) and convertible bonds.



## Why now?

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# At this point in the market cycle, investors may want to consider a broader opportunity set

The BlackRock Global Allocation Fund is a **globally diversified, multi-asset fund** that seeks to provide a rate of return competitive with that of global stocks at a lower level of volatility over a full market cycle.

- **Unconstrained** in search of opportunity
- **Diversified broadly** across asset classes, countries, currencies, sectors, and securities
- **Experienced** and **consistent** team
- Combination of **bottom-up fundamental research** and **top-down asset allocation**

Equities	Fixed Income	Cash/FX	Non-Traditional
<ul style="list-style-type: none"><li>• Common stock</li><li>• Preferred stock</li><li>• Single name options</li><li>• Index options</li><li>• Futures</li><li>• Dividend futures</li><li>• Warrants</li><li>• Developed markets</li><li>• Emerging markets</li><li>• Frontier markets</li><li>• American depository receipts</li><li>• Locally listed shares</li></ul>	<ul style="list-style-type: none"><li>• U.S. Treasuries and agencies</li><li>• Developed market sovereigns</li><li>• Emerging markets (USD and local currency)</li><li>• Investment grade corporates</li><li>• High yield bonds</li><li>• Distressed bonds</li><li>• Inflation-linked bonds</li><li>• Bank loans</li><li>• Interest rate swaps</li><li>• Yield curve trades</li><li>• Credit default swaps (CDS)</li></ul>	<ul style="list-style-type: none"><li>• U.S. Treasury bills</li><li>• Non-U.S. government bills</li><li>• Foreign exchange forwards</li><li>• Foreign exchange options</li></ul>	<ul style="list-style-type: none"><li>• Convertible bonds</li><li>• Private placements</li><li>• Real estate investment trusts</li><li>• Precious metals-related securities</li><li>• Structured notes</li><li>• Short sales (up to 20% of NAV)</li></ul>

The Fund's flexibility and vast universe of asset classes has historically provided investors with **long-term alpha generation** and **downside protection**.

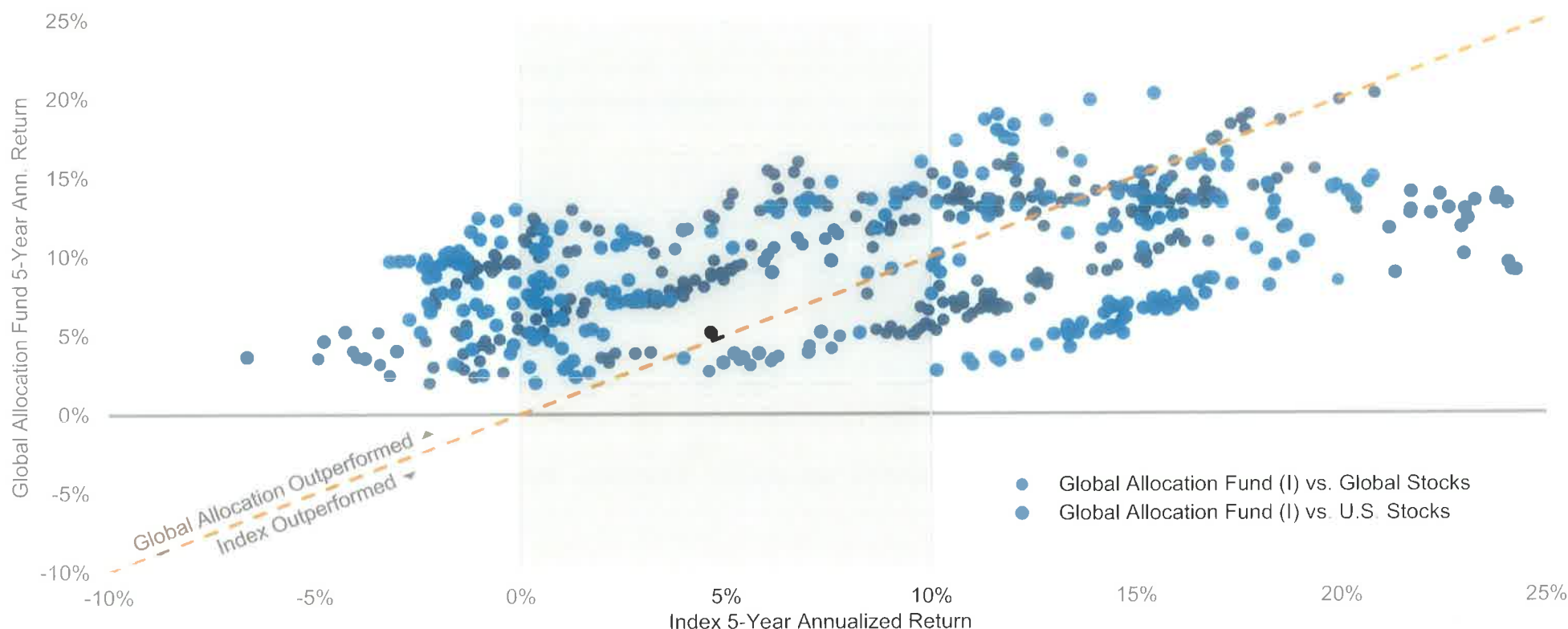
As of June 30, 2018.



# Performance in different market return regimes

## Frequency of Global Allocation Fund outperformance over 5-year rolling periods

	Index <0%	Index 0-10%	Index >10%
vs. Global Stocks	<b>100%</b> (44 / 44 periods)	<b>81%</b> (101 / 125 periods)	<b>36%</b> (45 / 124 periods)
vs. U.S. Stocks	<b>100%</b> (49 / 49 periods)	<b>90%</b> (76 / 84 periods)	<b>16%</b> (25 / 160 periods)



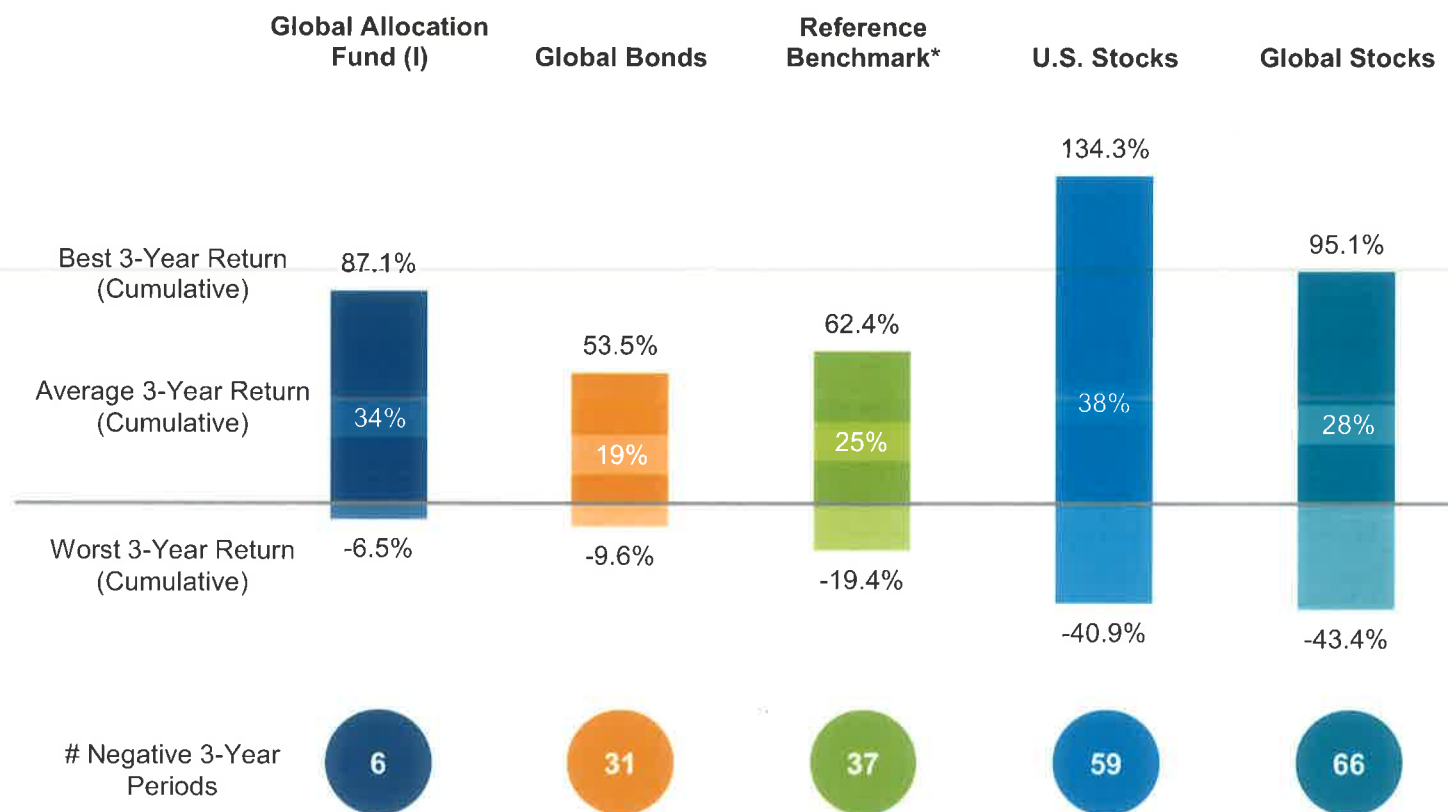
**Performance data quoted represents past performance and does not guarantee future results.** As of June 30, 2018. Source: BlackRock, Morningstar. The performance depicted above is for the BlackRock Global Allocation Fund (Institutional). Other share classes will vary. Returns are net of fees and include reinvestment of dividends and capital gains. Rolling returns calculated monthly from first full month post inception (February 28, 1989). Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index. Global stocks represented by the FTSE World Index and U.S. stocks by the S&P 500 Index.

# A history of competitive performance and limited drawdowns

"I need growth but I'm worried about volatility and market downturns."

"I want global diversification in a risk-controlled manner."

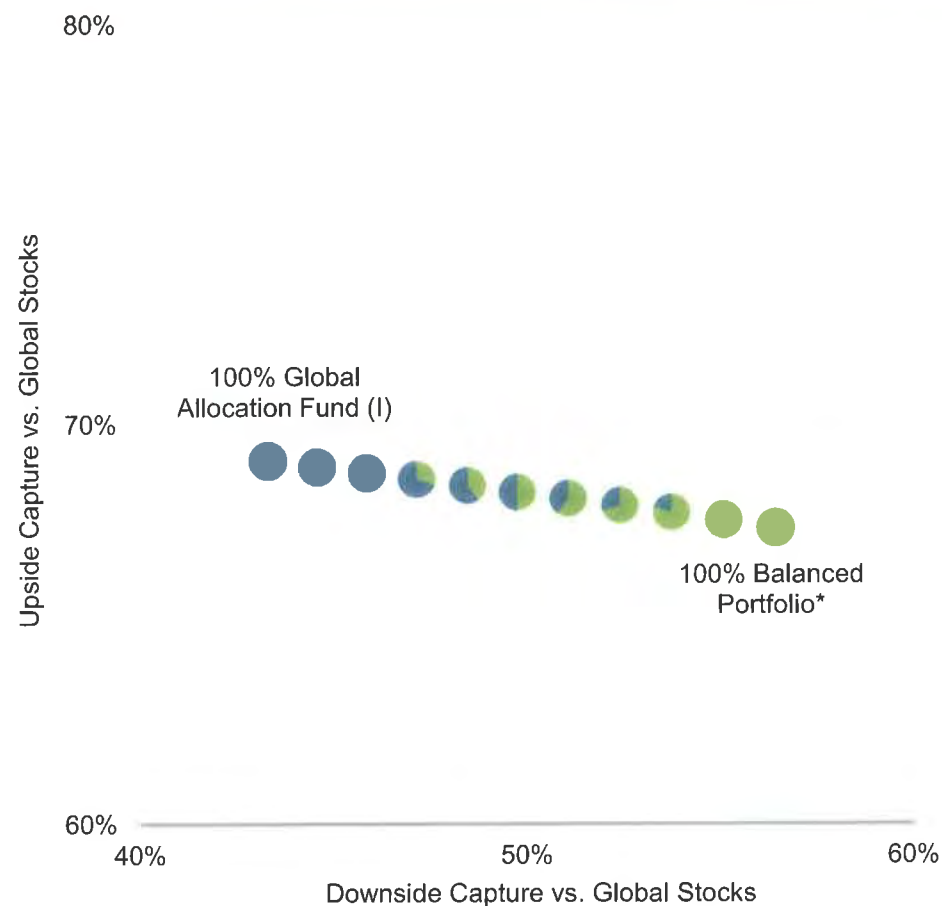
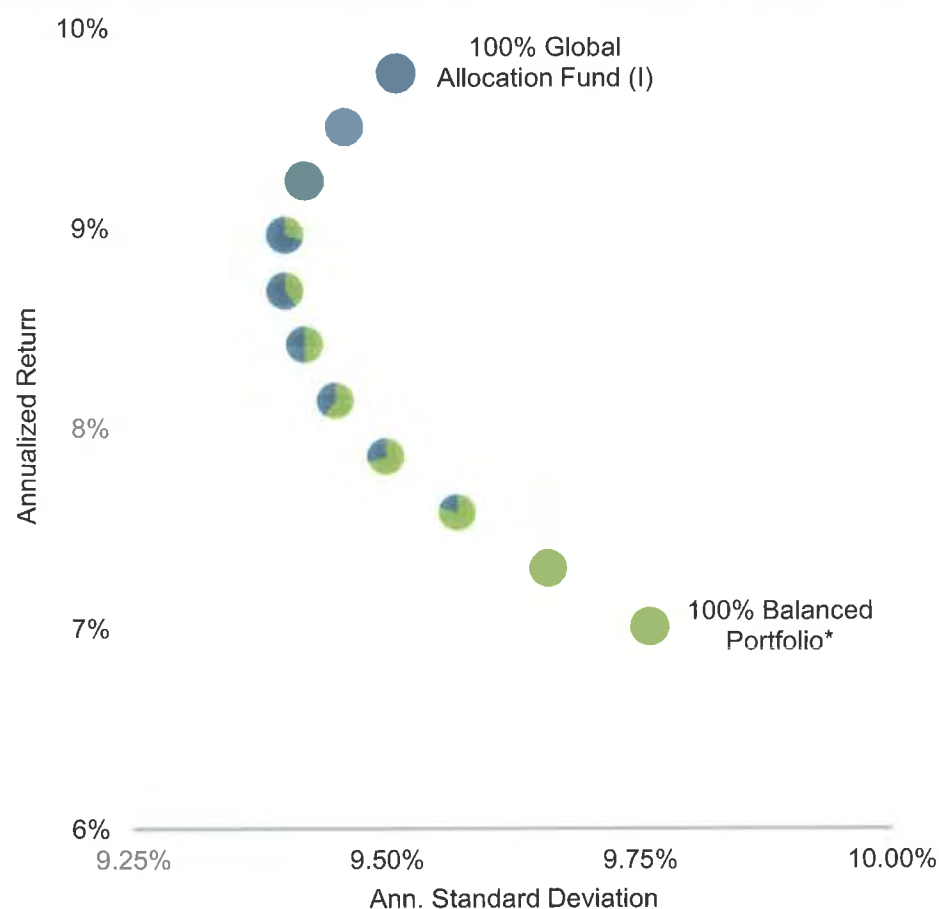
"I'm sitting on cash but I am worried about when to invest it."



Performance data quoted represents past performance and does not guarantee future results. As of June 30, 2018. Source: BlackRock, Bloomberg, Morningstar. The performance depicted above is for the BlackRock Global Allocation Fund (Institutional). Other share classes will vary. Returns calculated from first full month post inception (February 28, 1989). Returns include reinvestment of dividends and capital gains. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an index. Global bonds represented by the FTSE World Government Bond Index, U.S. stocks by the S&P 500 Index, and global stocks by the FTSE World Index. \* Reference benchmark consists of 36% S&P 500 Index, 24% FTSE World (ex-U.S.) Index, 24% ICE BofA/ML Current 5-Year U.S. Treasury Index, 16% FTSE Non-USD World Government Bond Index.

# Global Allocation has improved the risk-adjusted return and downside mitigation of a portfolio

## Adding Global Allocation Fund to a balanced portfolio

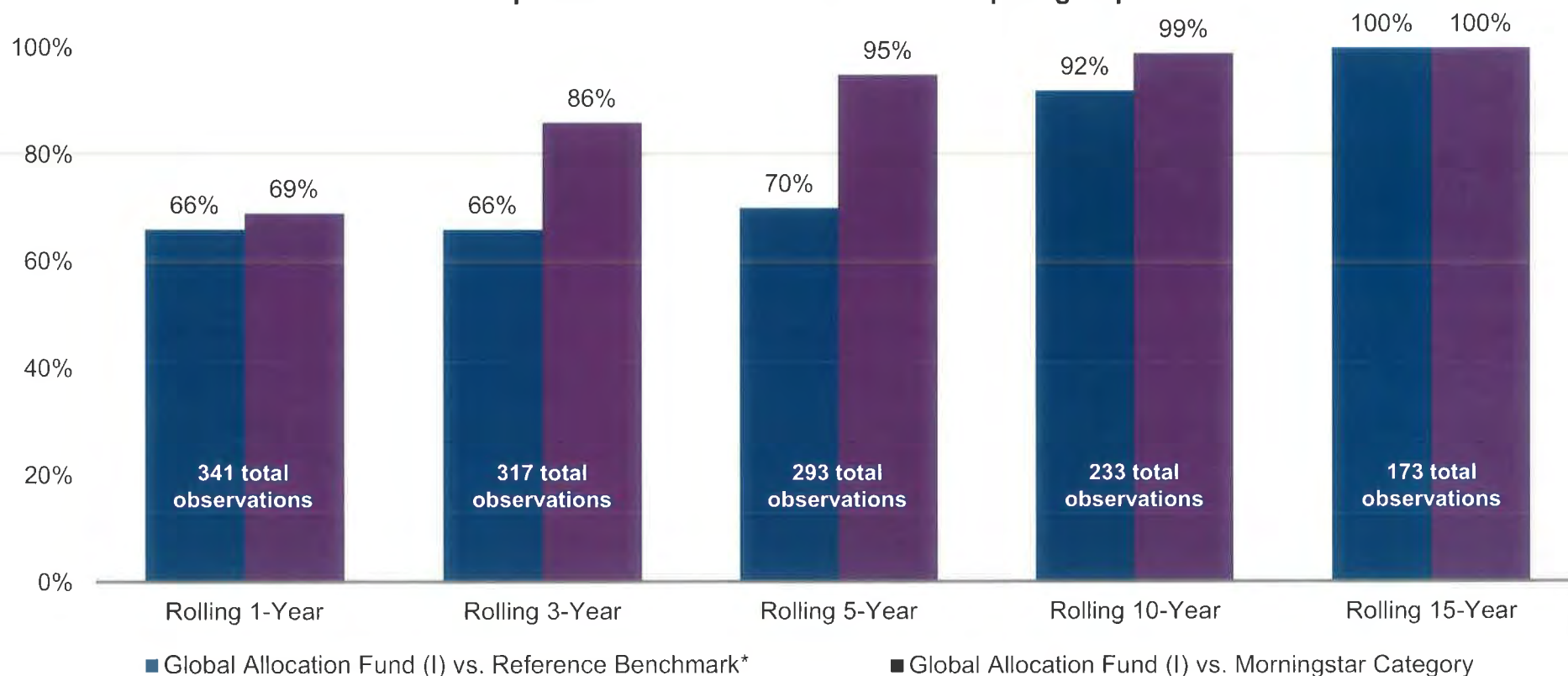


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# Consistently outperformed over the long-term

## Frequency of outperformance over rolling periods since inception

The longer the time horizon, the higher the frequency of outperformance vs. the benchmark and peer group



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# Performance as of June 30, 2018

Average annual total returns (%)	1 year	3 years	5 years	10 years	15 years	Since inception
Global Allocation Fund (Inst.)	3.87	3.87	5.31	4.63	7.89	9.72
Reference Benchmark*	6.98	6.39	6.83	5.75	6.94	7.56
FTSE World Index	11.14	8.94	10.13	6.59	8.85	7.39
FTSE World Government Bond Index	1.90	2.81	1.11	2.07	3.49	5.59
Morningstar World Allocation Category	5.41	4.21	5.02	4.72	6.60	—

## Morningstar Analyst Rating™

Morningstar has awarded the fund a Silver Medal rating (last rating 4/13/18). See 'Important Notes' for more information.



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**Principal risks:** The fund is actively managed and its characteristics will vary. Stock and bond values fluctuate in price so the value of your investment can go down depending on market conditions. International investing involves special risks including, but not limited to currency fluctuations, illiquidity and volatility. These risks may be heightened for investments in emerging markets. Fixed income risks include interest rate and credit risk. Typically, when interest rates rise, there is a corresponding decline in bond values. Credit risk refers to the possibility that the bond issuer will not be able to make principal and interest payments. Non-investment grade debt securities (high yield/junk bonds) may be subject to greater market fluctuations, risk of default or loss of income and principal than higher-rated securities. Asset allocation strategies do not assure profit and do not protect against loss. Short selling entails special risks. If the fund makes short sales in securities that increase in value, the fund will lose value. Any loss on short positions may or may not be offset by investing short sale proceeds in other investments. The fund may use derivatives to hedge its investments or to seek to enhance returns. Derivatives entail risks relating to liquidity, leverage and credit that may reduce returns and increase volatility.

The Morningstar Analyst Rating is not a credit or risk rating. It is a subjective evaluation performed by the manager research analysts of Morningstar. Morningstar evaluates funds based on five key pillars, which are process, performance, people, parent, and price. Analysts use this five pillar evaluation to determine how they believe funds are likely to perform over the long term on a risk-adjusted basis. They consider quantitative and qualitative factors in their research, and the weighting of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflect an Analyst's conviction in a fund's prospects for outperformance. Analyst Ratings are continuously monitored and reevaluated at least every 14 months. The Morningstar Analyst Rating should not be used as the sole basis in evaluating a mutual fund. Morningstar Analyst Ratings involve unknown risks and uncertainties which may cause Morningstar's expectations not to occur or to differ significantly from what we expected. For more detailed information about Morningstar's Analyst Rating, including its methodology, please go to <http://corporate.morningstar.com/us/documents/MethodologyDocuments/AnalystRatingforFundsMethodology.pdf>.

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*Please ask your clients to consider the investment objectives, risks, charges and expenses of the fund carefully before investing. The prospectus and summary prospectus contain this and other information about the fund and are available, along with information on other BlackRock funds, by calling 800-882-0052 or at [blackrock.com](http://blackrock.com). The prospectus and, if available, the summary prospectus should be read carefully before investing.*

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INST: MALOX • A: MDLOX • C: MCLOX • K: MKLOX

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## Global Allocation Fund

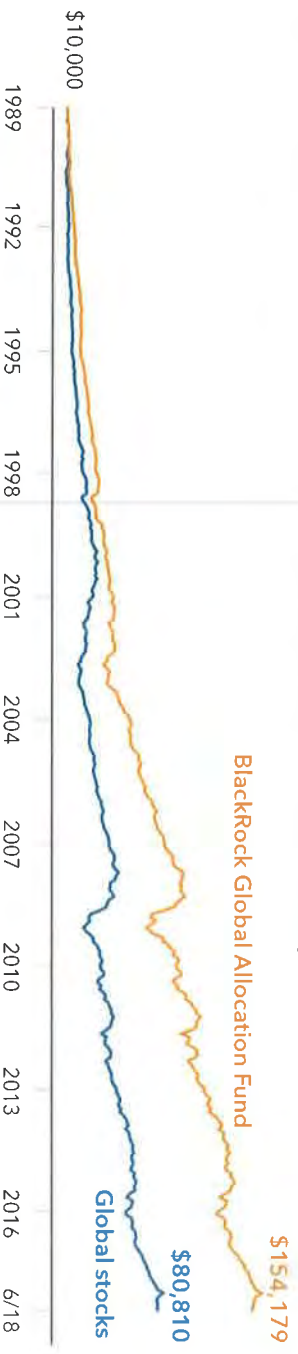
**Performance:** Stock selection in real estate, materials and healthcare, and an overweight to Japanese equities detracted from returns in June. Selection in IT and consumer discretionary and an underweight to industrials helped

**Positioning:** The fund holds cash, gold and Treasuries to help diversify equity risks in recognition that rising U.S. interest rates or a stronger dollar coupled with elevated geopolitical risk could lead to higher market volatility.

▲ **Increased:** U.S. equities, U.S. Treasury and German government bonds, euro

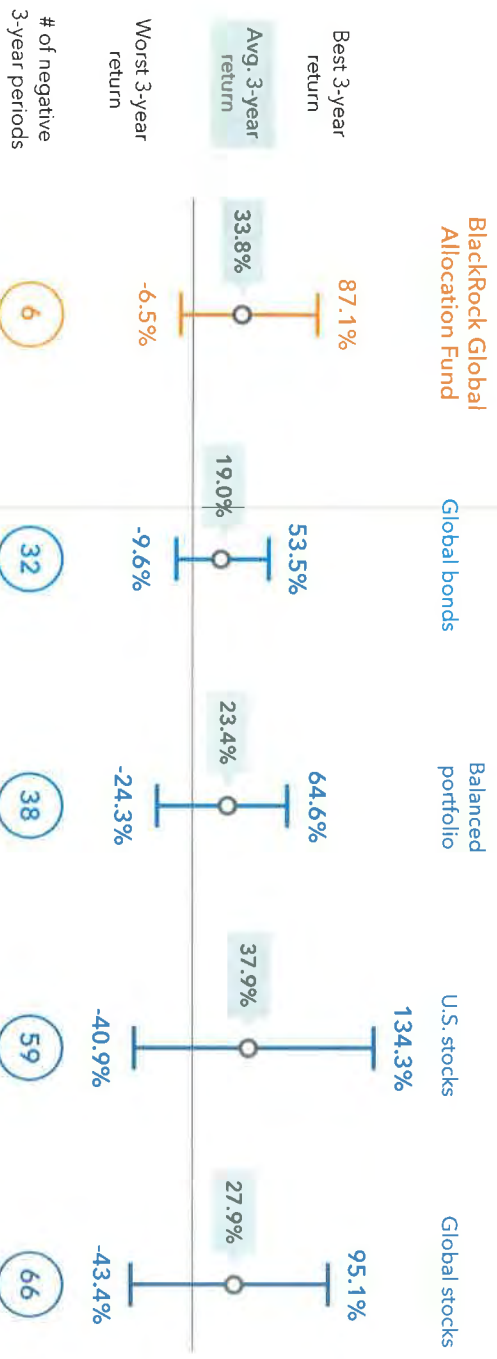
▼ **Decreased:** Emerging market bonds, cash and cash equivalents, U.S. dollar

The fund has historically outperformed global stocks with less volatility



Source: BlackRock, Bloomberg. Based on a hypothetical investment of \$10,000 in the fund and FTSE World Index made first month post inception (2/3/89). Volatility is represented by annualized standard deviation. Standard deviation for the fund: 9.5% and global stocks: 14.9%.

A proven record of growing and protecting assets



Source: BlackRock, Bloomberg, Morningstar. Cumulative 3-year returns from first month after fund inception (2/3/89). Asset classes represented by Citigroup Non-U.S. Dollar World Govt Bond Index, S&P 500 Index, FTSE World Index. Balanced portfolio is 60% Morningstar World Large Stock category and 40% Morningstar World Bond category, rebalanced quarterly.

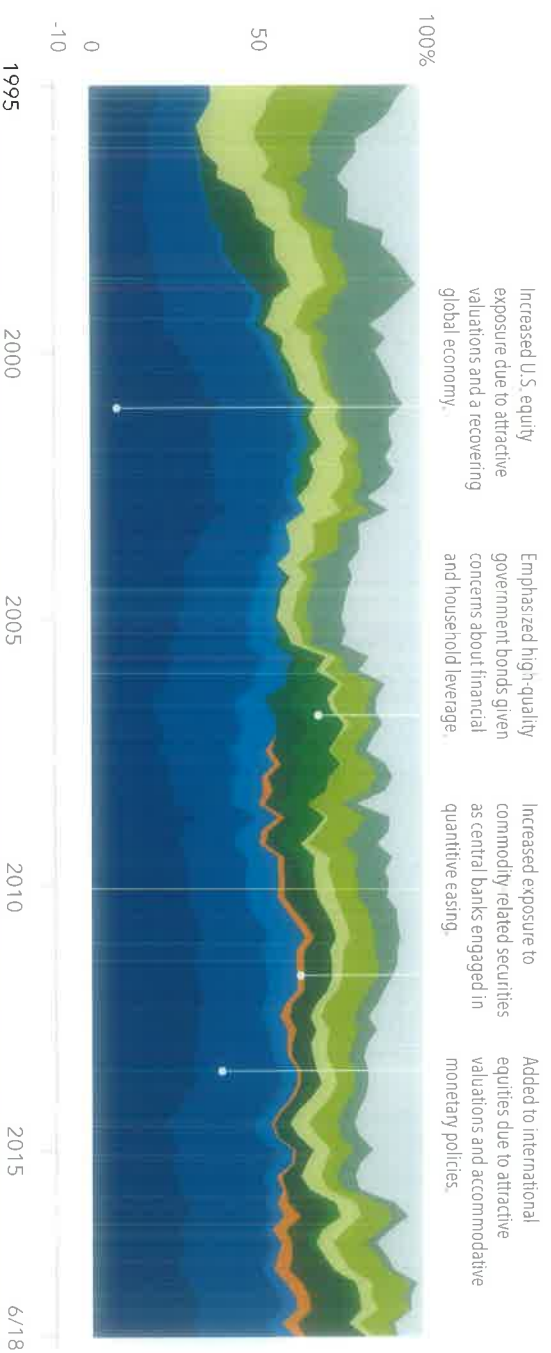
All data as of 6/30/18. **Fund data based on institutional shares, which may not be available to all investors; other share classes will vary.** Index performance is shown for illustrative purposes only. It is not possible to invest directly in an unmanaged index.

Performance data quoted represents past performance and is no guarantee of future results. Investment returns and principal values may fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. All returns assume reinvestment of dividends and capital gains. Current performance may be lower or higher than that shown.

Morningstar has awarded the fund a Silver medal. Fewer than 10% of U.S. open-end funds hold medalist ratings. (last rating 4/13/18.)



## Flexibility in practice-adapting as markets change

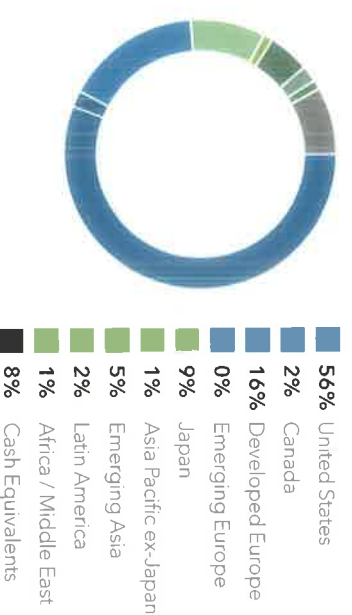


	As of 6/18	Over/Under	Historical range		As of 6/18	Over/Under	Historical range
U.S. equities	31.8%	▼	15 - 45%	U.S. TIPS	+	-	0 - 15%
Developed equities ex-U.S.	23.4%	▲	10 - 35%	U.S. credit	2.4%	▲	0 - 25%
Emerging market equities	5.9%	▲	0 - 15%	Non-U.S. sovereign debt	6.0%	▼	0 - 25%
Commodity-related	2.9%	▲	0 - 5%	Non-U.S. credit	1.5%	▲	0 - 25%
U.S. Treasuries & agencies	18.5%	▼	0 - 15%	Cash equivalents	7.6%	▲	0 - 30%

Prior to 2015, the fund's exposure was based on market value and adjusted for the economic value of futures and swaps. From 2015, the fund's exposure is based on the economic value of securities and is adjusted for futures, options and swaps, except with respect to fixed income securities and convertible bonds. Commodity-related is comprised of precious metals ETFs. Prior to 2006, commodity-related exposure was included in equities. Historical ranges represent actual exposures, not minimum or maximum prospectus limits. Subject to change. Over/under indications are relative to the fund's reference benchmark, which is 36% S&P 500 Index, 24% FTSE World (ex-U.S.) Index, 24% ICE BofA Merrill Lynch 5 year U.S. Treasury Bond Index and 16% Citigroup Non-U.S. Dollar World Government Bond Index.

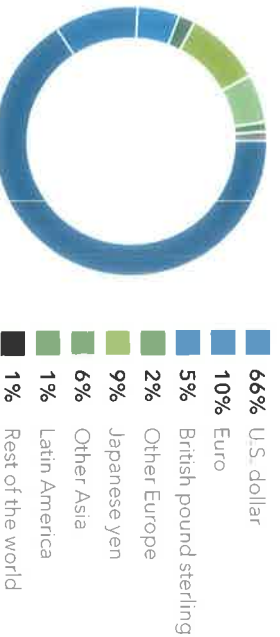
## Geographic allocation

% of net assets



## Currency allocation

% of net assets



Largest change this month:

United States ▲ from 54% to 56% of assets.

Largest change this month:

Euro ▲ from 8% to 10% of assets.

## Positioning around global trade dynamics

We believe the imposition of reciprocal tariffs between the United States and China (and more broadly, between the U.S. and Europe, and its North American Free Trade Agreement partners) will, to the extent they remain in place for a sustained period, have a negative impact on overall global growth, global business confidence as it relates to investment, and on the margin, it will weigh on investor sentiment as it relates to risk assets. However, on the positive side, the sizeable corporate and individual tax cuts passed in late 2017 are helping to prolong the U.S. economic and employment expansion, and any acceleration in U.S. growth will contribute to overall global growth.

Given the complexity and geographic diversity of global supply chains and the breadth of trading channels, it is unclear whether the new trade tariffs will achieve their intended effects. Companies that have access to various sources for their product inputs have already begun reorganizing and reorienting their supply and trade channels to avoid tariffs. Ultimately, certain Southeast Asian countries may benefit from an acceleration of an existing trend that has production facilities moving out of China into Vietnam, the Philippines and the like. While China might suffer, the balance of Asia might benefit.

While global interest rates remain low (and bond prices remain high) relative to historical norms, many central banks are shifting their stance from “accommodative” to “tightening,” at least in nominal terms, both in major developed markets—the United States, Europe and Canada—and in emerging markets, where a rapidly rising U.S. dollar has compelled

policymakers to raise rates in India, Argentina, Turkey, and Indonesia. A broadly rising rate environment is generally an unattractive backdrop for sovereign bond prices. (Bond prices fall as interest rates rise.) Rising interest rates or a stronger U.S. dollar coupled with elevated geopolitical risk could lead to higher market volatility. Given heightened uncertainty at the macro level, we have increased the fund's cash position since the start of the year, which not only helps protect against risks, but also contributes income as short-term Treasury bills are now providing a meaningful yield for the first time in a decade.

The fund still favors equities over fixed income. Within equities, the fund is moderately overweight in Asia relative to the benchmark (and moderately underweight in U.S. equities). Many Asian markets have materially underperformed the United States year-to-date, leaving valuations attractive relative to U.S. stocks. The fund's Asian stock exposures are focused in specific countries that are not closely connected to the global supply chain and, at best, are only tangentially affected in the ongoing trade wars, and may even benefit once the dust settles.

Across the globe, there will be companies that stand to lose and others that stand to benefit depending on how the redefining of trade relationships collectively shakes out. We are watching carefully as the situation unfolds in order to identify the relative winners and losers, and we stand ready to act upon opportunities within the parameters of the fund's overall risk profile.

### Russ Koesterich

shares the team's  
outlook on the markets.



### Portfolio managers

**Dan Chamby, CFA**, 33 years of experience

**Russ Koesterich, CFA, JD**, 23 years of experience

**David Clayton, CFA, JD**, 24 years of experience

**Kent Hogshire, CFA**, 18 years of experience

## Average annual total returns (%) as of 6/30/18

	1 Month (not annualized)	YTD (not annualized)	1 year	3 years	5 years	10 years	Since inception
Institutional	-0.61	-1.56	3.87	3.87	5.31	4.63	972
Investor A (Without sales charge)	-0.62	-1.65	3.61	3.59	5.03	4.35	944
Investor A (With sales charge) <sup>1</sup>	-5.83	-6.84	1.93	1.75	3.91	3.79	924
FTSE World Index <sup>2</sup>	-0.34	-0.05	11.14	8.94	10.13	6.59	-
Morningstar World Allocation Avg	-0.66	-1.40	5.41	4.21	5.02	4.72	-
Reference Benchmark <sup>3</sup>	-0.24	-0.22	6.98	6.39	6.83	5.75	-

Investment returns reflect total fund operating expenses, net of all fees, waivers and/or expense reimbursements. Expenses, as stated in the fund's most recent prospectus, for Institutional/Investor A shares: Total, **0.91%/1.19%**; Net, including Investment-Related Expenses (dividend expense, interest expense, acquired fund fees and expenses and certain other fund expenses): **0.84%/1.12%**. Institutional and Investor A have contractual waivers with an end date of 2/28/19, terminable upon 90 days' notice. Performance data quoted represents past performance and is no guarantee of future results. Investment returns and principal values may fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. All returns assume reinvestment of dividend and capital gain distributions. Current performance may be lower or higher than that shown. Refer to blackrock.com for current month-end performance. Index performance is shown for illustrative purposes only. It is not possible to invest directly in an unmanaged index. Share classes have different sales charges, fees and other features. Returns with sales charge reflect deduction of current maximum initial sales charge of 5.25% for Investor A shares. **Institutional shares have no front- or back-end load. Institutional shares have limited availability and may be purchased at various minimums. See prospectus for details.**

Net Expenses. Excluding Investment Related Expenses for Institutional/Investor A shares: 0.81%/1.09%.

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The opinions expressed are those of the fund's portfolio management team as of June 30, 2018, and may change as subsequent conditions vary. Information and opinions are derived from proprietary and nonproprietary sources deemed by BlackRock to be reliable, are not necessarily all-inclusive and are not guaranteed as to accuracy. There is no guarantee that any of these views will come to pass. Reliance upon information in this material is at the sole discretion of the reader. Percent of net assets figures represent the fund's exposure based on the economic value of securities adjusted for futures, options, swaps and convertible bonds.

**1** The Morningstar Analyst Rating is not a credit or risk rating. It is a subjective evaluation performed by the manager research analysts of Morningstar. Morningstar evaluates funds based on five key pillars, which are process, performance, people, parent, and price. Analysts use this five pillar evaluation to determine how they believe funds are likely to perform over the long term on a risk adjusted basis. They consider quantitative and qualitative factors in their research, and the weighting of each pillar may vary. The Analyst Rating scale is Gold, Silver, Bronze, Neutral, Negative. A Morningstar Analyst Rating of Gold, Silver, or Bronze reflect an Analyst's conviction in a fund's prospects for outperformance. Analyst Ratings 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 <http://corporate.morningstar.com/us/documents/%20MethodologyDocuments/AnalystRatingofFundsMethodology.pdf>. The Morningstar Analyst Rating should not be used as the sole basis in evaluating a mutual fund. Morningstar Analyst Ratings involve unknown risks and uncertainties which may cause Morningstar's expectations not to occur or to differ significantly from what we expected. **2** Fund inception 2/3/89. Performance for Investor A shares prior to their introduction (10/2/194) is based on the performance of institutional shares adjusted to reflect the fees applicable to Investor A at time of such share class launch. This information may be considered when assessing the fund's performance, but does not represent actual performance of this share class. **3** The FTSE World Index is comprised of world equities, including the U.S. **4** The Reference Benchmark is 36% S&P 500 Index, 24% FTSE World (ex U.S.) Index, 24% BofA Merrill Lynch 5 year U.S. Treasury Bond Index and 16% Citigroup Non-U.S. Dollar World Government Bond Index. S&P 500 Index comprises large capitalization U.S. equities. FTSE World (ex U.S.) Index comprises world equities, ex U.S. BofA ML 5 year U.S. Treasury Bond Index tracks the 5-year U.S. Treasury bond. Citigroup Non U.S. Dollar World Government Bond Index tracks government bond indices, ex U.S.

You should consider the investment objectives, risks, charges and expenses of the fund carefully before investing. The prospectus and, if available, the summary prospectus contain this and other information about the fund and are available, along with information on other BlackRock funds, by calling 800-882-0052 or from your financial professional. The prospectus should be read carefully before investing.

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## REGULAR MEETING for August 7, 2018

**PURPOSE**


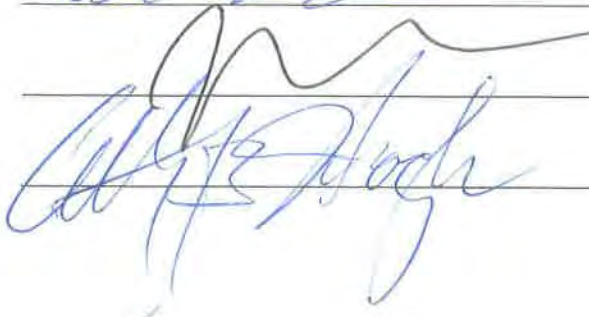
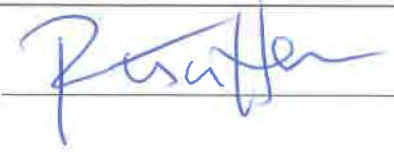
To seek authorization from the Board of Trustees of the Cobb County Employees Retirement Plan to ratify the following invoices which have already been processed for payment;

1	Suntrust	\$43,953.47
2	Cavanaugh Macdonald Consulting LLC	\$11,690.00
3	Cavanaugh Macdonald Consulting LLC	\$4,342.00
4	Westfield Capital Management Co., LP	\$69,772.90
5	Cavanaugh Macdonald Consulting LLC	\$2,746.50
6	Eagle Capital Management, LLC	\$131,840.95
7	Richmond Capital Management Inc	\$30,146.00
8	Troutman Sanders LLC	\$306.00
9	Troutman Sanders LLC	\$1,040.40
10	Vaughan Nelson Investment Management LP	\$55,169.18
11	Westfield Capital Management Co, LP	\$72,786.27
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TOTAL

\$423,793.67

**APPROVAL**



## REGULAR MEETING for August 7, 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	Cavanaugh Macdonald Consulting, LLC	\$7,680.00
2	Westfield Capital Management Co., LP	\$12,146.96
3	Cavanaugh Macdonald Consulting, LLC	\$8,320.00
4	Eagle Capital Management, LLC	\$24,037.74
5	Richmond Capital Management Inc	\$5,460.00
6	TCW Investment Management Company	\$10,987.12
7	UBS Financial Services, Inc.	\$29,145.53
8	Vaughan Nelson Investment Management LP	\$9,903.51
9	Westfield Capital Management Co, LP	\$12,700.63
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**TOTAL** \$120,381.49

**APPROVAL**



## REGULAR MEETING for August 7, 2018

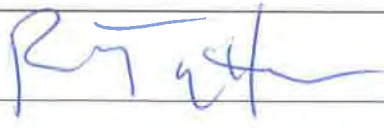

**PURPOSE**

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	UBS Financial Services	\$16,897.76
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TOTAL		\$16,897.76

**APPROVAL**



**Performance Summary - Gross of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$644,455,019	1.42%	1.20%	1.46%	7.63%	9.64%	7.63%	8.18%	7.63%	8.96%	8.31%	8.37%	8.31%	8.31%
Policy Index			1.20%		0.24%		8.18%		6.80%		7.92%		7.62%		7.78%
Dynamic Index			1.54%		0.65%		8.57%		6.92%		8.05%		7.67%		
<b>Fixed Income</b>															
Vanguard Intermediate Bond Index Fd	02/28/2005	\$0													
Barclays Int Gov/Cr															
Richmond Capital Management	07/31/2007	\$72,859,131	-0.17%	33	-1.63%	43	-0.17%	30	2.30%	14	2.76%	18	3.36%	12	4.54%
Barclays Govt/Credit			-0.33%	61	-1.90%	71	-0.63%	59	1.83%	38	2.29%	45	2.77%	44	4.02%
Blackrock Strategic Income Opps Fund	05/31/2011	\$34,904,994	-0.79%	97	-0.45%	1	2.27%	1	2.30%	14	2.88%	12	3.19%	20	3.03%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
Delaware Diversified Income Fund	05/31/2011	\$34,266,132	-1.04%	99	-2.02%	80	-0.48%	49	1.77%	41	2.66%	23	2.82%	40	2.70%
Barclays Aggregate			-0.16%	31	-1.62%	42	-0.40%	43	1.72%	43	2.27%	46	2.57%	57	2.50%
<b>Large Cap Value</b>															
Eagle Capital Large Value	12/31/2002	\$68,897,469	3.39%	13	3.94%	1	16.31%	1	12.78%	1	14.50%	1	14.36%	1	13.49%
Russell 1000 Value			1.18%	65	-1.69%	72	6.77%	83	8.26%	67	10.34%	76	11.27%	67	9.11%
<b>Large Cap Core</b>															
Vanguard 500 Index	05/31/1999	\$76,365,448	3.44%	18	2.66%	19	14.36%	22	11.90%	3	13.38%	5	13.20%	4	6.05%
S&P 500 Index			3.43%	19	2.65%	19	14.37%	21	11.93%	2	13.42%	4	13.23%	3	5.94%
<b>Large Cap Growth</b>															
TCW Large Cap Growth	04/30/2013	\$37,148,096	7.57%	10	12.17%	16	24.60%	30	14.00%	46	15.53%	52			14.66%
Russell 1000 Growth			5.76%	39	7.25%	50	22.51%	48	14.98%	21	16.36%	36			15.78%
Westfield Capital Large Growth	07/31/2007	\$51,843,271	5.12%	52	8.19%	42	21.35%	55	14.02%	46	16.09%	42	13.91%	47	9.33%
Russell 1000 Growth			5.76%	39	7.25%	50	22.51%	48	14.98%	21	16.36%	36	14.88%	23	10.32%
<b>Mid Cap Core</b>															
Vanguard Midcap 400 Index Fund	05/31/2004	\$48,369,633	2.57%	53	2.56%	30	12.10%	35	9.22%	28	12.31%	13	11.73%	14	10.41%
Russell Midcap			2.82%	42	2.35%	33	12.33%	32	9.58%	24	12.22%	16	11.89%	8	10.12%
<b>Small Cap Value</b>															
Vaughan Nelson	04/30/2009	\$22,193,904	3.75%	85	1.90%	81	10.50%	77	7.37%	92	12.18%	50	11.97%	61	15.94%
Russell 2000 Value			8.30%	11	5.44%	20	13.10%	48	11.22%	40	11.18%	72	11.10%	82	14.63%
<b>Small Cap Growth</b>															
Eagle Small Cap Growth	10/31/2010	\$25,167,982	9.16%	47	12.68%	47	24.43%	52	13.20%	42	14.25%	66	12.52%	79	15.16%
Russell 2000 Growth			7.23%	75	9.70%	69	21.86%	65	10.60%	77	13.65%	77	12.50%	80	14.27%

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**Performance Summary - Gross of Fees**  
**Cobb County Employees Retirement System**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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
<b>International Equity</b>															
Vanguard Total International Stock Fund	11/30/2006	\$38,301,575	-3.17%	67	-3.61%	60	7.14%	20	5.36%	16	6.45%	31	4.11%	59	3.04%
International Index			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	2.45%
Dodge & Cox International Stock Fund	07/31/2007	\$35,672,647	-5.12%	99	-7.15%	99	0.52%	99	2.07%	95	5.71%	58	4.61%	37	2.39%
International Index			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25	5.99%	48	4.57%	39	1.50%
Oppenheimer International Growth	05/31/2014	\$37,980,491	-3.02%	62	-2.84%	35	6.68%	30	5.52%	14					3.07%
MSCI AC Wld X US Net			-2.61%	49	-3.77%	66	7.28%	19	5.07%	25					2.75%
<b>Global Allocation</b>															
Global Allocation	03/31/2010	\$60,484,244	0.12%	26	0.17%	12	7.03%	18	6.22%	2	6.83%	9	6.18%	19	7.08%
HFRX Global Hedge			0.17%	25	-0.85%	33	2.47%	92	0.83%	99	1.32%	99	0.86%	99	0.88%

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**UBS**

**Cobb County Government Employees' Pension Plan**  
**Asset Class Summary**

**Style Analysis**

As of June 30, 2018

<b>Manager/Accounts</b>	<b>Account #:</b>	<b>% Assets</b>	<b>Large Cap Growth</b>	<b>Large Cap Blend</b>	<b>Large Cap Value</b>	<b>Mid Cap Blend</b>	<b>Small Cap Growth</b>	<b>Small Cap Value</b>	<b>Global</b>	<b>International</b>	<b>Fixed Income</b>	<b>Cash</b>	<b>Total Portfolio</b>
TCW	XXXXX76	5.8%	\$ 37,148,096										\$ 37,148,096
Westfield Capital Management	XXXXX32	8.0%	\$ 51,843,271										\$ 51,843,271
Vanguard S&P 500 (VINIX)	XXXXX66	11.8%		\$ 76,365,448									\$ 76,365,448
Eagle Capital	XXXXX85	10.7%			\$ 68,897,469								\$ 68,897,469
Vanguard Mid Cap (VMCIX)	XXXXX66	7.5%				\$ 48,369,633							\$ 48,369,633
Eagle Asset Management	XXXXX85	3.9%					\$ 25,167,982						\$ 25,167,982
Vaughan Nelson	XXXXX49	3.4%						\$ 22,193,904					\$ 22,193,904
BlackRock Global Allocation (MALOX)	XXXXX66	2.8%							\$ 18,195,789				\$ 18,195,789
First Eagle Global (SGIIX)	XXXXX66	3.3%							\$ 21,570,569				\$ 21,570,569
Loomis Sayles Global Equity & Income (LSWWX)	XXXXX66	3.2%							\$ 20,717,886				\$ 20,717,886
Vanguard Total Int'l Stock (VTSNX)	XXXXX66	5.9%								\$ 38,301,575			\$ 38,301,575
Oppenheimer International Growth (OIGIX)	XXXXX66	5.9%								\$ 37,980,491			\$ 37,980,491
Dodge & Cox Int'l (DODFX)	XXXXX66	5.5%								\$ 35,672,647			\$ 35,672,647
Vanguard Int Bond (VBIMX)	XXXXX66	0.0%									\$ -		\$ -
Richmond	XXXXX37	11.3%									\$ 72,859,131		\$ 72,859,131
BlackRock Strategic Income Opps (BSIIX)	XXXXX66	5.4%									\$ 34,904,994		\$ 34,904,994
Delaware Diversified Income (CIT)	XXXXX84	5.3%									\$ 34,266,132		\$ 34,266,132
<b>Total</b>		<b>100%</b>	<b>\$ 88,991,368</b>	<b>\$ 76,365,448</b>	<b>\$ 68,897,469</b>	<b>\$ 48,369,633</b>	<b>\$ 25,167,982</b>	<b>\$ 22,193,904</b>	<b>\$ 60,484,244</b>	<b>\$ 111,954,713</b>	<b>\$ 142,030,257</b>	<b>\$ -</b>	<b>\$ 644,455,019</b>
<b>Current Allocation</b>			<b>13.81%</b>	<b>11.85%</b>	<b>10.69%</b>	<b>7.51%</b>	<b>3.91%</b>	<b>3.44%</b>	<b>9.39%</b>	<b>17.37%</b>	<b>22.04%</b>	<b>0.00%</b>	<b>100%</b>
<b>Target Allocation</b>			<b>11.00%</b>	<b>11.00%</b>	<b>11.00%</b>	<b>6.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>10.00%</b>	<b>20.00%</b>	<b>25.00%</b>		<b>100%</b>
<b>Difference in %</b>			<b>2.81%</b>	<b>0.85%</b>	<b>-0.31%</b>	<b>1.51%</b>	<b>0.91%</b>	<b>0.44%</b>	<b>-0.61%</b>	<b>-2.63%</b>	<b>-2.96%</b>		

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 Government Employees' Pension Plan**  
**Asset Class Summary**  
**Market Value As of: June 30, 2018**

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Sources: Custodial Statement; IPS; Client Request or Advisor Recommendation

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**Performance Summary - Gross of Fees**  
**Cobb OPEB**  
**As of June 30, 2018**

Account	Inception Date	06/30/2018 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	\$117,493,895	1.13%		1.05%		9.52%								11.07%
Policy Index			1.20%		0.25%		8.12%								9.67%
Composite Benchmark Policy Index			1.43%		0.52%										
<b>Fixed Income</b>															
Vanguard Interim-Term Bond Index	09/30/2017	\$0													
BB Int Gov/Cr															
Richmond Capital Management	09/30/2017	\$13,206,870	-0.07%	21	-1.59%	40									-0.89%
BB Gov/Cr Bond			-0.33%	61	-1.90%	71									-1.42%
Blackrock Strategic Income I	09/30/2017	\$6,543,483	-0.82%	98	-0.43%	1									0.42%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
Delaware Diversified Income I	09/30/2017	\$6,434,089	-1.24%	99	-2.28%	93									-1.72%
BB Agg Bond			-0.16%	31	-1.62%	42									-1.23%
<b>Domestic Equity</b>															
Eagle Capital Large Value	09/30/2017	\$12,561,451	2.96%	21	2.95%	1									9.99%
Russell 1000 Value			1.18%	65	-1.69%	72									3.54%
Vanguard 500 Index	09/30/2017	\$13,075,481	3.42%	20	2.63%	20									9.44%
S&P 500 Index			3.43%	19	2.65%	19									9.47%
TCW Large Cap Growth	09/30/2017	\$6,999,979	7.57%	10	12.29%	15									18.41%
Russell 1000 Growth			5.76%	39	7.25%	50									15.69%
Westfield Capital Large Growth	09/30/2017	\$9,045,859	5.13%	52	8.18%	42									14.61%
Russell 1000 Growth			5.76%	39	7.25%	50									15.69%
Vanguard Mid-Cap Index Fund Admiral	09/30/2017	\$7,225,741	2.57%	53	2.58%	29									8.37%
Russell Midcap			2.82%	42	2.35%	33									8.56%
Vaughan Nelson	09/30/2017	\$3,985,225	3.46%	89	1.65%	84									5.49%
Russell 2000 Value			8.30%	11	5.44%	20									7.60%
Eagle Small Cap Growth Fund	09/30/2017	\$4,413,256	5.71%	90	7.45%	87									13.95%
Russell 2000 Growth			7.23%	75	9.70%	69									14.73%
<b>International Equity</b>															
Vanguard Total International Stock Fund	09/30/2017	\$8,044,406	-3.17%	67	-3.61%	60									1.09%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Dodge & Cox International Stock Fund	09/30/2017	\$6,753,479	-5.12%	99	-7.15%	99									-6.03%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%
Oppenheimer International Growth	09/30/2017	\$7,240,151	-3.07%	63	-2.91%	37									0.65%
MSCI ACWI ex US Net			-2.61%	49	-3.77%	66									1.05%

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Performance Summary - Gross of Fees  
Cobb OPEB  
As of June 30, 2018

Account	Inception Date	06/30/2018 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
<b>Global Allocation</b>															
Global Allocation	09/30/2017	\$11,964,423	0.16%	25	0.22%	11									3.72%
HFRX Global Hedge			0.17%	25	-0.85%	33									0.64%

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**UBS****Cobb County OPEB**  
Asset Class SummaryStyle Analysis

As of June 30, 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	6.0%	\$ 6,999,979										\$ 6,999,979
Westfield Capital Management	XXXXX91	7.7%	\$ 9,045,859										\$ 9,045,859
Vanguard S&P 500 (VINIX)	XXXXX57	11.1%		\$ 13,075,481									\$ 13,075,481
Eagle Capital	XXXXX00	10.7%			\$ 12,561,451								\$ 12,561,451
Vanguard Mid Cap (VIMAX)	XXXXX57	6.1%				\$ 7,225,741							\$ 7,225,741
Eagle Asset Management (HSRUX)	XXXXX57	3.8%					\$ 4,413,256						\$ 4,413,256
Vaughan Nelson	XXXXX94	3.4%						\$ 3,985,225					\$ 3,985,225
BlackRock Global Allocation (MALOX)	XXXXX57	3.0%							\$ 3,526,836				\$ 3,526,836
First Eagle Global (SGIIX)	XXXXX57	3.5%							\$ 4,097,882				\$ 4,097,882
Loomis Sayles Global Equity & Income(LSWWX)	XXXXX57	3.7%							\$ 4,339,705				\$ 4,339,705
Vanguard Total Int'l Stock (VTSNX)	XXXXX57	6.8%								\$ 8,044,406			\$ 8,044,406
Oppenheimer International Growth (OIGYX)	XXXXX57	6.2%								\$ 7,240,151			\$ 7,240,151
Dodge & Cox Int'l (DODFX)	XXXXX57	5.7%								\$ 6,753,479			\$ 6,753,479
Vanguard Int Bond (VBILX)	XXXXX57	0.0%									\$ -		\$ -
Richmond	XXXXX92	11.2%									\$ 13,206,870		\$ 13,206,870
BlackRock Strategic Income Opps (BSIIX)	XXXXX57	5.6%									\$ 6,543,483		\$ 6,543,483
Delaware Diversified Income (DPFFX)	XXXXX57	5.5%									\$ 6,434,089		\$ 6,434,089
<b>Total</b>		<b>100%</b>	<b>\$ 16,045,839</b>	<b>\$ 13,075,481</b>	<b>\$ 12,561,451</b>	<b>\$ 7,225,741</b>	<b>\$ 4,413,256</b>	<b>\$ 3,985,225</b>	<b>\$ 11,964,423</b>	<b>\$ 22,038,036</b>	<b>\$ 26,184,442</b>	<b>\$ -</b>	<b>\$ 117,493,895</b>
<b>Current Allocation</b>			<b>13.66%</b>	<b>11.13%</b>	<b>10.69%</b>	<b>6.15%</b>	<b>3.76%</b>	<b>3.39%</b>	<b>10.18%</b>	<b>18.76%</b>	<b>22.29%</b>	<b>0.00%</b>	<b>100%</b>
<b>Target Allocation</b>			<b>11.00%</b>	<b>11.00%</b>	<b>11.00%</b>	<b>6.00%</b>	<b>3.00%</b>	<b>3.00%</b>	<b>10.00%</b>	<b>20.00%</b>	<b>25.00%</b>		<b>100%</b>
<b>Difference in %</b>			<b>2.66%</b>	<b>0.13%</b>	<b>-0.31%</b>	<b>0.15%</b>	<b>0.76%</b>	<b>0.39%</b>	<b>0.18%</b>	<b>-1.24%</b>	<b>-2.71%</b>		

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**Cobb County OPEB**  
**Asset Class Summary**  
**Market Value As of: June 30, 2018**

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