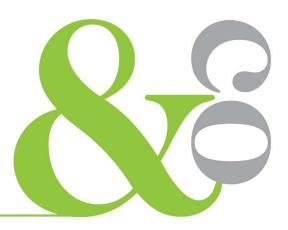
Investment Performance Review Period Ending September 30, 2018

## **Sunrise Police Retirement Plan**



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Total Fund Compliance:	Yes	No
The total plan return equaled or exceeded the total plan benchmark over the trailing three and five year periods.		•
The three and five year total plan returns rank in the top 40% of the Fund's peers.		•
The total plan return equaled or exceeded the 7.7% target rate of return over the trailing three year period.	•	
The total plan return equaled or exceeded the 7.7% target rate of return over the trailing five year period.	•	
Equity Compliance:		
Ceredex Large Cap Value	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods.		•
The three and five year return ranks in the top 40% of its peers.		•
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	
Polen Capital	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods. **	•	
The three and five year return ranks in the top 40% of its peers. **	•	
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	
Rhumbline R1000G	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods.**		•
The three and five year return ranks in the top 40% of its peers. **		•
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	
Mutual of America	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods.		•
The three and five year return ranks in the top 40% of its peers.	•	
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	

Great Lakes SMID Equity	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods. **		•
The three and five year return ranks in the top 40% of its peers. **		•
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	
Vanguard R2000 Equity	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods. **		•
The three and five year return ranks in the top 40% of its peers. **		•
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	
Vanguard International Equity	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods. *		•
The three and five year return ranks in the top 40% of its peers. *		•
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•	

JPM International Equity	Yes No
The return equaled or exceeded its benchmark over the trailing three and five year periods. **	•
The three and five year return ranks in the top 40% of its peers. **	•
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•
The aggregate investment in any one company is less than or equal to 5% of the outstanding shares of the company.	•



Fixed Income Compliance:		
Fixed Income Compliance:  GHA Fixed Income BCAB A+	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods.	•	NO
The three and five year return ranks in the top 40% of its peers.	•	
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
Are all the fixed income securities ranked in the top "3" categories by Standard & Poor's or Moody's.	•	
GHA Fixed Income BCIGC	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods.	•	
The three and five year return ranks in the top 40% of its peers.	•	
The amount invested in any one issuing company is less than or equal to 5% of the Manager's total fund.	•	
Are all the fixed income securities ranked in the top "3" categories by Standard & Poor's or Moody's.	•	
Real Estate Compliance:		
Barings Real Estate	Yes	No
The return equaled or exceeded its benchmark over the trailing three and five year periods.**		•
The three and five year return ranks in the top 40% of its peers.**		•

**ASB Real Estate** 

Net perfomance used when available

The return equaled or exceeded its benchmark over the trailing three and five year periods.\*\*

The three and five year return ranks in the top 40% of its peers.\*\*



Yes

No

<sup>\*</sup> Only 3 years available

<sup>\*\*</sup> Since Inception

Asset Allocation Compliance					
	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal (\$000)
Total Fund Composite	150,719,028	100.0	100.0	0.0	-
Ceredex Equity	23,882,645	15.8	15.5	0.3	-521,196
Rhumbline R1000G	13,262,466	8.8	7.8	1.0	-1,581,742
Polen Capital	13,743,383	9.1	7.8	1.4	-2,062,658
Mutual of America Equity	16,238,583	10.8	10.0	0.8	-1,166,680
Great Lakes SMID Cap	8,064,909	5.4	5.0	0.4	-528,958
Vanguard R2000 (VRTIX)	7,880,759	5.2	5.0	0.2	-344,808
JPM International Equity	5,742,218	3.8	4.5	-0.7	1,040,138
Vanguard Intl Eq (VTMGX)	6,564,686	4.4	4.5	-0.1	217,670
GHA EXCL A+ Fixed Income	18,998,385	12.6	16.0	-3.4	5,116,660
GHA A+ Fixed Income	23,823,667	15.8	16.0	-0.2	291,378
Barings Real Estate	6,520,896	4.3	4.0	0.3	-492,135
ASB Real Estate	5,371,373	3.6	4.0	-0.4	657,388
R&D Cash	617,899	0.4	0.0	0.4	-617,899
Ceredex Equity (15.8 Rhumbline R1000G (8.8			0.3%		
Polen Capital (9.1	%) –		1.4%		
Mutual of America Equity (10.8)	%) –		0.8%		
Great Lakes SMID Cap (5.4	%) –		0.4%		
Vanguard R2000 (VRTIX) (5.29	%) -		0.2%		
JPM International Equity (3.8)	%) -		-0.7 %		
Vanguard Intl Eq (VTMGX) (4.4	,		-0.1 %		
GHA EXCL A+ Fixed Income (12.6		-3.4 %			
GHA A+ Fixed Income (15.8)	,		-0.2 %		
Barings Real Estate (4.3	%) =		0.3%		

-3.0 %

0.0%

3.0%

6.0%



9.0% 10.0%

ASB Real Estate (3.6%)

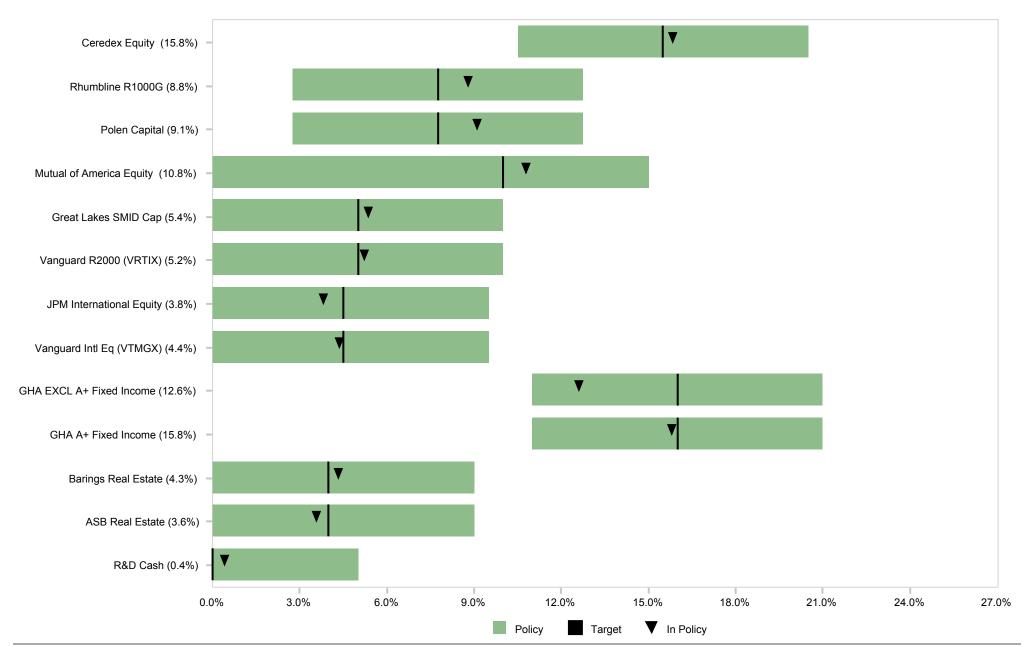
R&D Cash (0.4%)

-9.0 %

Allocation Differences

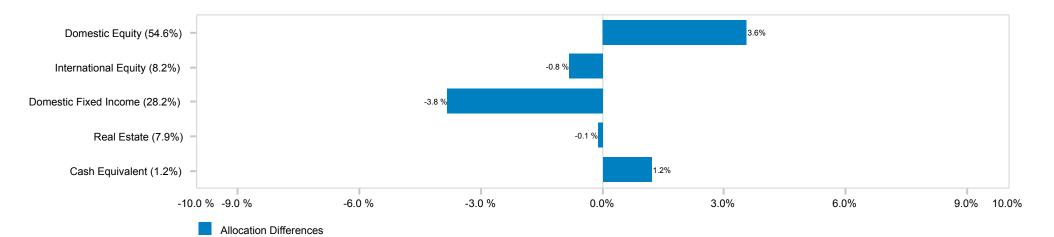
-6.0 %

#### **Executive Summary**





	Asset Allocation \$	Current Allocation (%)	Target Allocation (%)	Differences (%)	Target Rebal. (\$000)
Domestic Equity	82,231,577	54.6	51.0	3.6	-5,364,873
International Equity	12,306,904	8.2	9.0	-0.8	1,257,808
Domestic Fixed Income	42,461,164	28.2	32.0	-3.8	5,768,925
Real Estate	11,892,270	7.9	8.0	-0.1	165,253
Cash Equivalent	1,827,113	1.2	0.0	1.2	-1,827,113
Total Fund	150,719,028	100.0	100.0	0.0	-

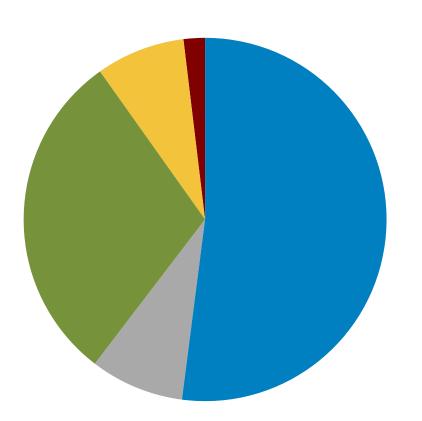


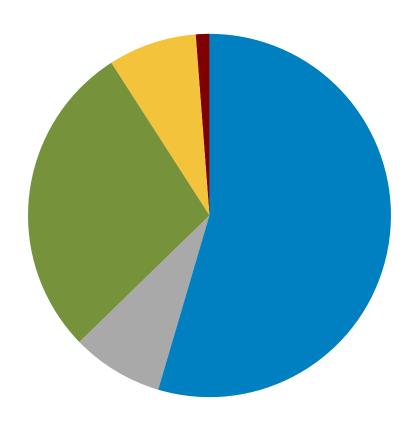




Asset Allocation By Segment as of June 30, 2018 : \$147,886,563

Asset Allocation By Segment as of September 30, 2018 : \$150,719,028



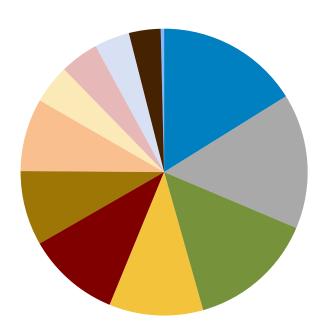


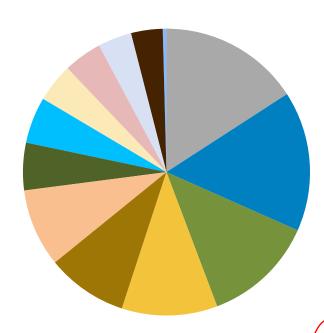
ocation			Allocation			
Segments	Market Value	Allocation	Segments	Market Value	Allocation	
■ Domestic Equity	76,952,048	52.0	■ Domestic Equity	82,231,577	54.6	
International Equity	12,359,266	8.4	International Equity	12,306,904	8.2	
Domestic Fixed Income	44,029,420	29.8	Domestic Fixed Income	42,461,164	28.2	
Real Estate	11,720,352	7.9	Real Estate	11,892,270	7.9	
Cash Equivalent	2,825,477	1.9	Cash Equivalent	1,827,113	1.2	



Asset Allocation By Manager as of June 30, 2018 : \$147,886,563

Asset Allocation By Manager as of September 30, 2018 : \$150,719,028





ocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
■ GHA A+ Fixed Income	23,851,392	16.1	Ceredex Equity	23,882,645	15.8
■ Ceredex Equity	22,538,039	15.2	GHA A+ Fixed Income	23,823,667	15.8
■ GHA EXCL A+ Fixed Income	21,076,529	14.3	GHA EXCL A+ Fixed Income	18,998,385	12.6
Mutual of America Equity	15,640,778	10.6	Mutual of America Equity	16,238,583	10.8
■ New Amsterdam Equity	15,527,048	10.5	Polen Capital	13,743,383	9.1
Polen Capital	12,452,307	8.4	Rhumbline R1000G	13,262,466	8.8
Rhumbline R1000G	12,149,652	8.2	■ Great Lakes SMID Cap	8,064,909	5.4
Vanguard Intl Eq (VTMGX)	6,493,898	4.4	Vanguard R2000 (VRTIX)	7,880,759	5.2
Barings Real Estate	6,436,201	4.4	Vanguard Intl Eq (VTMGX)	6,564,686	4.4
JPM International Equity	5,865,368	4.0	Barings Real Estate	6,520,896	4.3
■ ASB Real Estate	5,284,151	3.6	JPM International Equity	5,742,218	3.8
R&D Cash	571,200	0.4	ASB Real Estate	5,371,373	3.6
■ Great Lakes SMID Cap	-	0.0	R&D Cash	617,899	0.4
Vanguard R2000 (VRTIX)	-	0.0	New Amsterdam Equity	7,158	0.0



Comparative Performance Trailing Returns								
	QTR	YTD	FYTD	1 YR	3 YR	5 YR	Inception	Inceptio Date
Total Fund Composite (Gross)	3.51 (46)	5.05 (37)	8.38 ((59)	8.38 (59)	9.86 (58)	7.81 (62)	6.41 (59)	01/01/1998
Total Fund Policy Index	3.45 (50)	5.06 (36)	9.00 (44)	9.00 (44)	9.97 (54)	7.93 (53)	6.50 (54)	
Difference	0.06	-0.01	-0.62	-0.62	-0.11	-0.12	-0.09	
All Public Plans-Total Fund Median	3.42	4.66	8.74	8.74	10.05	7.98	6.53	
Total Fund Composite (Net)	3.42	4.78	8.01	8.01	9.50	7.42	6.06	01/01/1998
Total Fund Policy Index	3.45	5.06	9.00	9.00	9.97	7.93	6.50	
Difference	-0.03	-0.28	-0.99	-0.99	-0.47	-0.51	-0.44	
Total Equity Composite (Gross)	5.43	7.43	13.02	13.02	15.23	11.14	6.40	01/01/1998
Total Equity Policy Index	5.49	8.19	14.65	14.65	15.64	11.71	7.23	
Difference	-0.06	-0.76	-1.63	-1.63	-0.41	-0.57	-0.83	
Total Domestic Equity								
Ceredex Equity (Gross)	6.64 (30)	4.34 (62)	10.74 (63)	10.74 (63)	14.97 (45)	11.00 (66)	14.07 (56)	01/01/2012
Russell 1000 Value Index	5.70 (49)	3.92 (71)	9.45 (77)	9.45 (77)	13.55 (71)	10.72 (71)	13.53 (70)	
Difference	0.94	0.42	1.29	1.29	1.42	0.28	0.54	
IM U.S. Large Cap Value Equity (SA+CF) Median	5.64	5.14	11.72	11.72	14.64	11.57	14.33	
Ceredex Equity (Net)	6.50	3.92	10.15	10.15	14.33	10.38	13.44	01/01/2012
Russell 1000 Value Index	5.70	3.92	9.45	9.45	13.55	10.72	13.53	
Difference	0.80	0.00	0.70	0.70	0.78	-0.34	-0.09	
Polen Capital (Gross)	10.55 (8)	24.37 (6)	N/A	N/A	N/A	N/A	24.37 (6)	01/01/2018
Russell 1000 Growth Index	9.17 (25)	17.09 (46)	26.30 (37)	26.30 (37)	20.55 (23)	16.58 (31)	17.09 (46)	
Difference	1.38	7.28	N/A	N/A	N/A	N/A	7.28	
IM U.S. Large Cap Growth Equity (SA+CF) Median	8.19	16.46	24.66	24.66	18.85	15.70	16.46	
Polen Capital (Net)	10.38	23.98	N/A	N/A	N/A	N/A	23.98	01/01/2018
Russell 1000 Growth Index	9.17	17.09	26.30	26.30	20.55	16.58	17.09	
Difference	1.21	6.89	N/A	N/A	N/A	N/A	6.89	
Rhumbline R1000G (Gross)	9.16 (25)	17.09 (46)	N/A	N/A	N/A	N/A	17.09 (46)	01/01/2018
Russell 1000 Growth Index	9.17 (25)	17.09 (46)	26.30 (37)	26.30 (37)	20.55 (23)	16.58 (31)	17.09 (46)	
Difference	-0.01	0.00	N/A	N/A	N/A	N/A	0.00	
IM U.S. Large Cap Growth Equity (SA+CF) Median	8.19	16.46	24.66	24.66	18.85	15.70	16.46	
Rhumbline R1000G (Net)	9.15	17.06	N/A	N/A	N/A	N/A	17.06	01/01/2018
Russell 1000 Growth Index	9.17	17.09	26.30	26.30	20.55	16.58	17.09	
Difference	-0.02	-0.03	N/A	N/A	N/A	N/A	-0.03	

Returns for periods greater than one year are annualized. Returns are expressed as percentages.



	QTR	YTD	FYTD	1 YR	3 YR	5 YR	Inception	Inception Date
Mutual of America Equity (Gross)	3.85 (60)	7.53 (46)	14.25 (43)	14.25 (43)	15.60 (28)	11.80 (27)	11.08 (14)	04/01/2008
S&P MidCap 400 Index	3.86 (60)	7.49 (46)	14.21 (44)	14.21 (44)	15.68 (27)	11.91 (26)	11.20 (14)	
Difference	-0.01	0.04	0.04	0.04	-0.08	-0.11	-0.12	
IM U.S. Mid Cap Equity (MF) Median	4.54	7.10	13.30	13.30	13.92	10.54	9.61	
Mutual of America Equity (Net)	3.84	7.46	14.15	14.15	15.51	11.73	11.00	04/01/2008
S&P MidCap 400 Index	3.86	7.49	14.21	14.21	15.68	11.91	11.20	
Difference	-0.02	-0.03	-0.06	-0.06	-0.17	-0.18	-0.20	
Great Lakes SMID Cap (Gross)	N/A	N/A	N/A	N/A	N/A	N/A	-1.53 (53)	09/01/2018
Russell 2500 Index	4.70 (52)	10.41 (49)	16.19 (54)	16.19 (54)	16.13 (44)	11.37 (79)	-1.52 (51)	
Difference	N/A	N/A	N/A	N/A	N/A	N/A	-0.01	
IM U.S. SMID Cap Core Equity (SA+CF) Median	4.75	10.26	16.28	16.28	16.05	13.06	-1.51	
Great Lakes SMID Cap (Net)	N/A	N/A	N/A	N/A	N/A	N/A	-1.53	09/01/2018
Russell 2500 Index	4.70	10.41	16.19	16.19	16.13	11.37	-1.52	
Difference	N/A	N/A	N/A	N/A	N/A	N/A	-0.01	
Vanguard R2000 (VRTIX) (Net)	N/A	N/A	N/A	N/A	N/A	N/A	-2.40 (41)	09/01/2018
Russell 2000 Index	3.58 (27)	11.51 (30)	15.24 (20)	15.24 (20)	17.12 (32)	11.07 (33)	-2.41 (42)	
Difference	N/A	N/A	N/A	N/A	N/A	N/A	0.01	
IM U.S. Small Cap Core Equity (MF) Median	2.26	8.46	11.41	11.41	15.41	10.36	-2.64	
Total International Equity								
Vanguard Intl Eq (VTMGX) (Net)	1.09 (24)	-1.60 (25)	2.78 (24)	2.78 (24)	9.81 (43)	4.87 (35)	6.84 (29)	07/01/2013
MSCI EAFE Index	1.42 (17)	-0.98 (19)	3.25 (21)	3.25 (21)	9.77 (44)	4.90 (35)	6.88 (29)	
Difference	-0.33	-0.62	-0.47	-0.47	0.04	-0.03	-0.04	
IM International Equity (MF) Median	-0.27	-3.92	0.06	0.06	9.15	3.98	5.63	
JPM International Equity (Net)	-2.10 (77)	-7.26 (75)	-3.43 (86)	-3.43 (86)	8.15 (86)	N/A	8.15 (86)	10/01/2015
MSCI EAFE Index	1.42 (25)	-0.98 (27)	3.25 (34)	3.25 (34)	9.77 (68)	4.90 (62)	9.77 (68)	
Difference	-3.52	-6.28	-6.68	-6.68	-1.62	N/A	-1.62	
IM International Equity (SA+CF) Median	0.17	-3.06	1.46	1.46	11.12	5.63	11.12	

	QTR	YTD	FYTD	1 YR	3 YR	5 YR	Inception	Inception Date
Total Fixed Income Composite	0.09	0.08	0.58	0.58	1.89	2.89	5.51	01/01/1998
Total Fixed Income Policy Index	0.01	-1.15	-1.12	-1.12	0.91	1.71	4.20	
Difference	0.08	1.23	1.70	1.70	0.98	1.18	1.31	
GHA A+ Fixed Income (Gross)	-0.04 (90)	-0.08 (6)	0.74 (4)	0.74 (4)	2.14 (30)	3.15 (15)	5.42 (2)	01/01/2007
Blmbg. Barc. U.S. Aggregate: A+	-0.18 (94)	-1.53 (78)	-1.28 (95)	-1.28 (95)	0.90 (100)	1.90 (99)	3.63 (97)	
Difference	0.14	1.45	2.02	2.02	1.24	1.25	1.79	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	0.19	-1.29	-0.74	-0.74	1.82	2.58	4.36	
GHA A+ Fixed Income (Net)	-0.10	-0.27	0.48	0.48	1.88	2.90	5.16	01/01/2007
Blmbg. Barc. U.S. Aggregate: A+	-0.18	-1.53	-1.28	-1.28	0.90	1.90	3.63	
Difference	0.08	1.26	1.76	1.76	0.98	1.00	1.53	
GHA EXCL A+ Fixed Income (Gross)	0.24 (80)	0.24 (13)	0.42 (10)	0.42 (10)	1.64 (29)	2.58 (15)	5.27 (7)	01/01/1998
Bloomberg Barclays Intermediate US Govt/Credit Idx	0.21 (87)	-0.76 (91)	-0.96 (97)	-0.96 (97)	0.91 (94)	1.52 (91)	4.32 (89)	
Difference	0.03	1.00	1.38	1.38	0.73	1.06	0.95	
IM U.S. Intermediate Duration (SA+CF) Median	0.37	-0.48	-0.39	-0.39	1.37	1.91	4.67	
GHA EXCL A+ Fixed Income (Net)	0.18	0.05	0.22	0.22	1.58	2.54	5.26	01/01/1998
Bloomberg Barclays Intermediate US Govt/Credit Idx	0.21	-0.76	-0.96	-0.96	0.91	1.52	4.32	
Difference	-0.03	0.81	1.18	1.18	0.67	1.02	0.94	
Total Real Estate (Gross)	1.76 (74)	5.87 (77)	7.85 (76)	7.85 (76)	N/A	N/A	7.18 (N/A)	06/01/2017
NCREIF Fund Index-Open End Diversified Core (EW)	2.08 (63)	6.52 (70)	8.82 (67)	8.82 (67)	9.08 (56)	10.84 (61)	9.43 (N/A)	
Difference	-0.32	-0.65	-0.97	-0.97	N/A	N/A	-2.25	
IM U.S. Open End Private Real Estate (SA+CF) Median	2.35	6.78	9.69	9.69	9.53	11.41	N/A	
Barings Real Estate (Gross)	1.59 (89)	5.70 (78)	7.51 (89)	7.51 (89)	N/A	N/A	8.05 (78)	07/01/2017
NCREIF Fund Index-Open End Diversified Core (EW)	2.08 (63)	6.52 (70)	8.82 (67)	8.82 (67)	9.08 (56)	10.84 (61)	8.60 (71)	
Difference	-0.49	-0.82	-1.31	-1.31	N/A	N/A	-0.55	
IM U.S. Open End Private Real Estate (SA+CF) Median	2.35	6.78	9.69	9.69	9.53	11.41	9.31	
Barings Real Estate (Net)	1.32	4.85	6.36	6.36	N/A	N/A	6.89	07/01/2017
NCREIF Fund Index-Open End Diversified Core (EW)	2.08	6.52	8.82	8.82	9.08	10.84	8.60	
Difference	-0.76	-1.67	-2.46	-2.46	N/A	N/A	-1.71	
ASB Real Estate (Gross)	1.96 (66)	6.07 (74)	8.26 (72)	8.26 (72)	N/A	N/A	7.22 (91)	07/01/2017
NCREIF Fund Index-Open End Diversified Core (EW)	2.08 (63)	6.52 (70)	8.82 (67)	8.82 (67)	9.08 (56)	10.84 (61)	8.60 (71)	
Difference	-0.12	-0.45	-0.56	-0.56	N/A	N/A	-1.38	
IM U.S. Open End Private Real Estate (SA+CF) Median	2.35	6.78	9.69	9.69	9.53	11.41	9.31	
ASB Real Estate (Net)	1.65	5.09	6.92	6.92	N/A	N/A	5.90	07/01/2017
NCREIF Fund Index-Open End Diversified Core (EW)	2.08	6.52	8.82	8.82	9.08	10.84	8.60	
•								

Returns for periods greater than one year are annualized. Returns are expressed as percentages.



Comparative Performance Fiscal Year to Date									
	FYTD	Oct-2016 To	Oct-2015 To	Oct-2014 To	Oct-2013 To	Oct-2012 To	Oct-2011 To	Oct-2010 To	Oct-2009 To
		Sep-2017	Sep-2016	Sep-2015	Sep-2014	Sep-2013	Sep-2012	Sep-2011	Sep-2010
Total Fund Composite (Gross)	8.38 (59)	11.66 (63)	9.56 (54)	0.60 (25)	9.19 (72)	13.87 (25)	18.40 (38)	1.31 (26)	9.86 (51)
Total Fund Policy Index	9.00 (44)	10.90 (77)	10.01 (39)	0.59 (25)	9.47 (65)	13.44 (34)	18.12 (45)	1.19 (28)	11.64 (15)
Difference	-0.62	0.76	-0.45	0.01	-0.28	0.43	0.28	0.12	-1.78
All Public Plans-Total Fund Median	8.74	12.19	9.66	-0.53	10.17	12.49	17.96	0.29	9.87
Total Fund Composite (Net)	8.01	11.28	9.25	0.22	8.71	13.36	17.84	0.85	9.28
Total Fund Policy Index	9.00	10.90	10.01	0.59	9.47	13.44	18.12	1.19	11.64
Difference	-0.99	0.38	-0.76	-0.37	-0.76	-0.08	-0.28	-0.34	-2.36
Total Equity Composite (Gross)	13.02	19.33	13.45	-1.15	12.14	23.86	25.54	-0.21	11.03
Total Equity Policy Index	14.65	18.53	13.79	-1.26	13.94	24.01	27.57	-1.42	13.35
Difference	-1.63	0.80	-0.34	0.11	-1.80	-0.15	-2.03	1.21	-2.32
Total Domestic Equity									
Ceredex Equity (Gross)	10.74 (63)	17.71 (54)	16.57 (22)	-5.35 (72)	17.16 (65)	26.65 (25)	N/A	N/A	N/A
Russell 1000 Value Index	9.45 (77)	15.12 (76)	16.19 (25)	-4.42 (65)	18.89 (42)	22.30 (60)	30.92 (26)	-1.89 (62)	8.90 (55)
Difference	1.29	2.59	0.38	-0.93	-1.73	4.35	N/A	N/A	N/A
IM U.S. Large Cap Value Equity (SA+CF) Median	11.72	17.92	13.13	-3.24	18.35	23.71	28.17	-0.97	9.32
Ceredex Equity (Net)	10.15	17.06	15.91	-5.89	16.50	25.93	N/A	N/A	N/A
Russell 1000 Value Index	9.45	15.12	16.19	-4.42	18.89	22.30	30.92	-1.89	8.90
Difference	0.70	1.94	-0.28	-1.47	-2.39	3.63	N/A	N/A	N/A
GHA LCG (Gross)	N/A	21.48 (41)	13.71 (23)	1.52 (72)	17.32 (59)	12.80 (99)	27.88 (49)	3.11 (36)	12.33 (38)
Russell 1000 Growth Index	26.30 (37)	21.94 (36)	13.76 (22)	3.17 (55)	19.15 (40)	19.27 (64)	29.19 (38)	3.78 (30)	12.65 (36)
Difference	N/A	-0.46	-0.05	-1.65	-1.83	-6.47	-1.31	-0.67	-0.32
IM U.S. Large Cap Growth Equity (SA+CF) Median	24.66	20.80	11.60	3.61	18.12	20.24	27.62	1.40	11.28
Polen Capital (Gross)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 1000 Growth Index	26.30 (37)	21.94 (36)	13.76 (22)	3.17 (55)	19.15 (40)	19.27 (64)	29.19 (38)	3.78 (30)	12.65 (36)
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Large Cap Growth Equity (SA+CF) Median	24.66	20.80	11.60	3.61	18.12	20.24	27.62	1.40	11.28
Polen Capital (Net)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 1000 Growth Index	26.30 (37)	21.94 (36)	13.76 (22)	3.17 (55)	19.15 (40)	19.27 (64)	29.19 (38)	3.78 (30)	12.65 (36)
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Large Cap Growth Equity (SA+CF) Median	24.66	20.80	11.60	3.61	18.12	20.24	27.62	1.40	11.28

	FYTD	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010
Rhumbline R1000G (Gross)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 1000 Growth Index	26.30 (37)	21.94 (36)	13.76 (22)	3.17 (55)	19.15 (40)	19.27 (64)	29.19 (38)	3.78 (30)	12.65 (36)
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Large Cap Growth Equity (SA+CF) Median	24.66	20.80	11.60	3.61	18.12	20.24	27.62	1.40	11.28
Rhumbline R1000G (Net)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 1000 Growth Index	26.30	21.94	13.76	3.17	19.15	19.27	29.19	3.78	12.65
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mutual of America Equity (Gross)	14.25 (43)	17.31 (41)	15.25 (15)	1.41 (36)	11.52 (52)	27.64 (42)	28.61 (26)	-1.27 (39)	17.60 (24)
S&P MidCap 400 Index	14.21 (44)	17.52 (39)	15.33 (15)	1.40 (36)	11.82 (48)	27.68 (42)	28.54 (26)	-1.28 (39)	17.78 (23)
Difference	0.04	-0.21	-0.08	0.01	-0.30	-0.04	0.07	0.01	-0.18
IM U.S. Mid Cap Equity (MF) Median	13.30	16.58	10.85	-0.20	11.60	27.14	25.56	-2.35	15.37
Mutual of America Equity (Net)	14.15	17.23	15.17	1.35	11.48	27.55	28.54	-1.32	17.36
S&P MidCap 400 Index	14.21	17.52	15.33	1.40	11.82	27.68	28.54	-1.28	17.78
Difference	-0.06	-0.29	-0.16	-0.05	-0.34	-0.13	0.00	-0.04	-0.42
New Amsterdam Equity (Gross)	81.13 (1)	20.56 (51)	8.62 (94)	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Index	16.19 (13)	17.79 (77)	14.44 (61)	0.38 (55)	8.97 (31)	29.79 (64)	30.93 (52)	-2.22 (43)	15.92 (40)
Difference	64.94	2.77	-5.82	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Small Cap Value Equity (SA+CF) Median	9.02	20.57	15.69	0.79	6.96	30.97	31.11	-2.83	14.99
New Amsterdam Equity (Net)	80.31	19.99	8.11	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Index	16.19	17.79	14.44	0.38	8.97	29.79	30.93	-2.22	15.92
Difference	64.12	2.20	-6.33	N/A	N/A	N/A	N/A	N/A	N/A
Great Lakes SMID Cap (Gross)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Index	16.19 (54)	17.79 (71)	14.44 (35)	0.38 (74)	8.97 (72)	29.79 (58)	30.93 (41)	-2.22 (71)	15.92 (60)
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. SMID Cap Core Equity (SA+CF) Median	16.28	18.86	12.61	2.28	11.29	30.27	30.15	-0.86	16.29
Great Lakes SMID Cap (Net)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2500 Index	16.19	17.79	14.44	0.38	8.97	29.79	30.93	-2.22	15.92
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vanguard R2000 (VRTIX) (Net)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2000 Index	15.24 (20)	20.74 (48)	15.47 (30)	1.25 (45)	3.93 (63)	30.06 (40)	31.91 (26)	-3.53 (42)	13.35 (40)
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Small Cap Core Equity (MF) Median	11.41	20.46	13.74	0.21	4.75	28.73	28.31	-4.61	12.45



#### Comparative Performance Total Fund

As of September 30, 2018

	FYTD	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010
Total International Equity									
Vanguard Intl Eq (VTMGX) (Net)	2.78 (24)	19.25 (52)	8.03 (59)	-7.90 (45)	4.01 (54)	N/A	N/A	N/A	N/A
MSCI EAFE Index	3.25 (21)	19.65 (48)	7.06 (65)	-8.27 (47)	4.70 (44)	24.29 (20)	14.33 (66)	-8.94 (24)	3.71 (74)
Difference	-0.47	-0.40	0.97	0.37	-0.69	N/A	N/A	N/A	N/A
IM International Equity (MF) Median	0.06	19.37	9.34	-8.78	4.26	17.80	16.18	-12.09	8.59
JPM International Equity (Net)	-3.43 (86)	18.60 (70)	10.45 (56)	N/A	N/A	N/A	N/A	N/A	N/A
MSCI EAFE Index	3.25 (34)	19.65 (61)	7.06 (76)	-8.27 (50)	4.70 (63)	24.29 (33)	14.33 (71)	-8.94 (45)	3.71 (80)
Difference	-6.68	-1.05	3.39	N/A	N/A	N/A	N/A	N/A	N/A
IM International Equity (SA+CF) Median	1.46	21.05	11.48	-8.30	5.80	20.28	17.27	-9.58	9.57



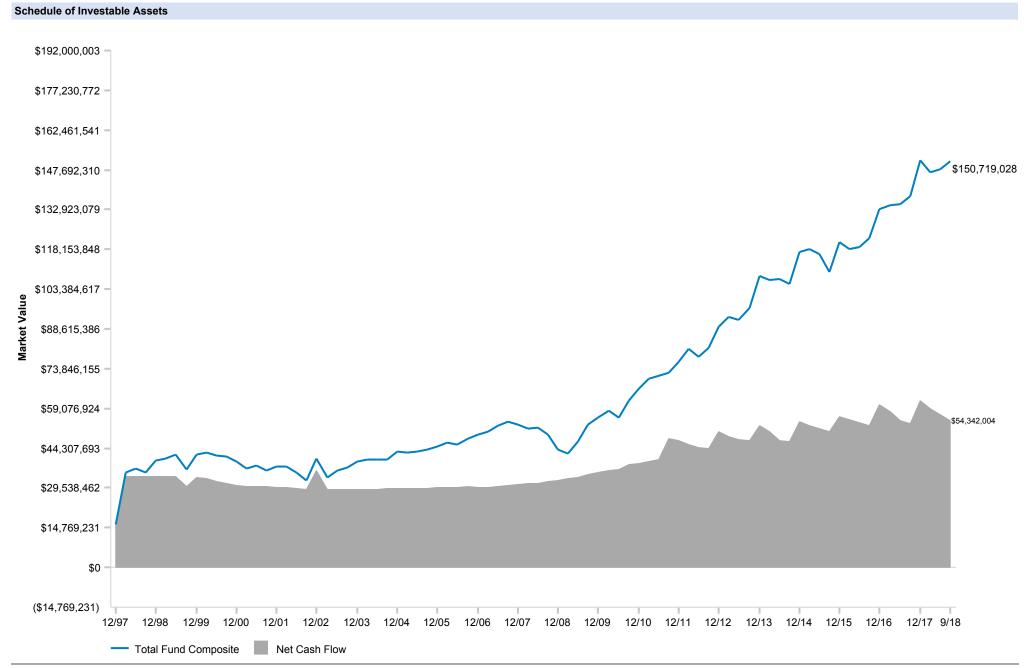
								AS OI Sept	ember 30, 2016
	FYTD	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010
Total Fixed Income Composite (Gross)	0.58	0.36	4.79	3.51	5.32	0.01	10.47	3.21	9.38
Total Fixed Income Policy Index	-1.12	-0.09	4.01	3.06	2.79	-1.09	4.40	4.35	7.68
Difference	1.70	0.45	0.78	0.45	2.53	1.10	6.07	-1.14	1.70
GHA A+ Fixed Income (Gross)	0.74 (4)	0.23 (72)	5.53 (62)	3.53 (12)	5.87 (12)	-0.17 (14)	10.68 (3)	4.02 (92)	9.90 (33)
Blmbg. Barc. U.S. Aggregate: A+	-1.28 (95)	-0.42 (100)	4.50 (96)	3.44 (17)	3.39 (95)	-1.68 (79)	4.40 (98)	5.30 (47)	7.59 (94)
Difference	2.02	0.65	1.03	0.09	2.48	1.51	6.28	-1.28	2.31
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.74	0.63	5.67	3.02	4.52	-1.22	6.70	5.26	9.28
GHA A+ Fixed Income (Net)	0.48	-0.02	5.27	3.27	5.62	-0.43	10.42	3.77	9.62
Blmbg. Barc. U.S. Aggregate: A+	-1.28	-0.42	4.50	3.44	3.39	-1.68	4.40	5.30	7.59
Difference	1.76	0.40	0.77	-0.17	2.23	1.25	6.02	-1.53	2.03
GHA EXCL A+ Fixed Income (Gross)	0.42 (10)	0.52 (67)	4.03 (42)	3.45 (7)	4.56 (11)	0.18 (26)	9.98 (3)	2.13 (96)	8.69 (32)
Bloomberg Barclays Intermediate US Govt/Credit Idx	-0.96 (97)	0.23 (88)	3.52 (76)	2.68 (52)	2.20 (85)	-0.50 (66)	4.40 (81)	3.40 (61)	7.77 (68)
Difference	1.38	0.29	0.51	0.77	2.36	0.68	5.58	-1.27	0.92
IM U.S. Intermediate Duration (SA+CF) Median	-0.39	0.70	3.90	2.70	2.88	-0.27	5.56	3.60	8.25
GHA EXCL A+ Fixed Income (Net)	0.22	0.52	4.03	3.45	4.56	0.18	9.98	2.13	8.69
Bloomberg Barclays Intermediate US Govt/Credit Idx	-0.96	0.23	3.52	2.68	2.20	-0.50	4.40	3.40	7.77
Difference	1.18	0.29	0.51	0.77	2.36	0.68	5.58	-1.27	0.92
Total Real Estate (Gross)	7.85 (76)	N/A							
NCREIF Fund Index-Open End Diversified Core (EW)	8.82 (67)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)	11.77 (66)	18.03 (44)	6.14 (55)
Difference	-0.97	N/A							
IM U.S. Open End Private Real Estate (SA+CF) Median	9.69	8.29	11.32	15.45	12.78	13.18	12.90	16.96	6.43
Barings Real Estate (Gross)	7.51 (89)	N/A							
NCREIF Fund Index-Open End Diversified Core (EW)	8.82 (67)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)	11.77 (66)	18.03 (44)	6.14 (55)
Difference	-1.31	N/A							
IM U.S. Open End Private Real Estate (SA+CF) Median	9.69	8.29	11.32	15.45	12.78	13.18	12.90	16.96	6.43
Barings Real Estate (Net)	6.36	N/A							
NCREIF Fund Index-Open End Diversified Core (EW)	8.82	7.81	10.62	14.71	12.39	12.47	11.77	18.03	6.14
Difference	-2.46	N/A							
ASB Real Estate (Gross)	8.26 (72)	N/A							
NCREIF Fund Index-Open End Diversified Core (EW)	8.82 (67)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)	11.77 (66)	18.03 (44)	6.14 (55)
Difference	-0.56	N/A							
IM U.S. Open End Private Real Estate (SA+CF) Median	9.69	8.29	11.32	15.45	12.78	13.18	12.90	16.96	6.43
ASB Real Estate (Net)	6.92	N/A							
NCREIF Fund Index-Open End Diversified Core (EW)	8.82	7.81	10.62	14.71	12.39	12.47	11.77	18.03	6.14
Difference	-1.90	N/A							

Returns for periods greater than one year are annualized. Returns are expressed as percentages.



Financial Reconciliation Quarter	to Date				
	Market Value 07/01/2018	Apprec./ Deprec.	Income	Management Fees	Market Value 09/30/2018
Ceredex Equity	22,538,039	1,351,606	141,466	-31,074	23,882,645
Polen Capital	12,452,307	1,290,185	21,340	-18,627	13,743,383
Rhumbline R1000G	12,149,652	1,112,815	-	-1,623	13,262,466
Mutual of America Equity	15,640,778	564,090	38,625	-2,623	16,238,583
New Amsterdam Equity	15,527,048	579,510	19,498	-18,019	7,158
Great Lakes SMID Cap	-	-32,922	14,223	-	8,064,909
Vanguard R2000 (VRTIX)	-	-158,193	23,952	-	7,880,759
Vanguard Intl Eq (VTMGX)	6,493,898	46,836	23,952	-	6,564,686
JPM International Equity	5,865,368	-123,150	-	-	5,742,218
GHA A+ Fixed Income	23,851,392	-194,398	185,081	-14,907	23,823,667
GHA EXCL A+ Fixed Income	21,076,529	-86,582	135,634	-13,172	18,998,385
Barings Real Estate	6,436,201	55,932	46,463	-17,700	6,520,896
ASB Real Estate	5,284,151	72,307	31,510	-16,595	5,371,373
R&D Cash	571,200	-1	2,001	-	617,899
Total Fund Composite	147,886,563	4,478,035	683,745	-134,338	150,719,028







Since Inception Ending September 30, 2018

Schedule of Investa	Beginning			Net		Ending	
Periods Ending	Market Value \$	Contributions \$	Withdrawals \$	Cash Flow \$	Gain/Loss \$	Market Value \$	%Return
Dec-1997	-	-	-		-	15,998,300	N/A
Mar-1998	15,998,300	17,675,917	-	17,675,917	1,591,809	35,266,026	9.95
Jun-1998	35,266,026	237,384	-	237,384	1,275,793	36,779,203	3.61
Sep-1998	36,779,203	· <u>-</u>	34,946	-34,946	-1,362,667	35,381,590	-3.71
Dec-1998	35,381,590	-	84,404	-84,404	4,428,727	39,725,913	12.53
Mar-1999	39,725,913	45,809	-	45,809	571,996	40,343,718	1.44
Jun-1999	40,343,718	-	83,881	-83,881	1,732,162	41,991,999	4.30
Sep-1999	41,991,999	-	3,513,461	-3,513,461	-1,997,343	36,481,195	-4.88
Dec-1999	36,481,195	3,141,344	-	3,141,344	2,286,800	41,909,339	6.31
Mar-2000	41,909,339	-	531,269	-531,269	1,445,328	42,823,398	3.47
Jun-2000	42,823,398	-	986,106	-986,106	-362,829	41,474,463	-0.86
Sep-2000	41,474,463	-	690,560	-690,560	215,472	40,999,375	0.52
Dec-2000	40,999,375	-	577,326	-577,326	-951,616	39,470,433	-2.34
Mar-2001	39,470,433	-	393,550	-393,550	-2,158,027	36,918,856	-5.50
Jun-2001	36,918,856	-	225,319	-225,319	1,167,090	37,860,627	3.17
Sep-2001	37,860,627	40,297	-	40,297	-2,075,500	35,825,424	-5.47
Dec-2001	35,825,424	-	184,219	-184,219	1,729,006	37,370,211	4.84
Mar-2002	37,370,211	-	223,926	-223,926	278,998	37,425,283	0.75
Jun-2002	37,425,283	-	348,391	-348,391	-1,937,612	35,139,280	-5.21
Sep-2002	35,139,280	-	221,225	-221,225	-2,602,605	32,315,450	-7.44
Dec-2002	32,315,450	6,836,371	-	6,836,371	1,438,642	40,590,463	4.41
Mar-2003	40,590,463	-	6,795,099	-6,795,099	-410,557	33,384,807	-1.17
Jun-2003	33,384,807	-	197,693	-197,693	2,866,553	36,053,667	8.62
Sep-2003	36,053,667	252,293	-	252,293	741,955	37,047,915	2.05
Dec-2003	37,047,915	-	21,113	-21,113	2,460,444	39,487,246	6.67
Mar-2004	39,487,246	-	134,073	-134,073	822,971	40,176,144	2.09
Jun-2004	40,176,144	1,194	-	1,194	3,493	40,180,831	-0.01
Sep-2004	40,180,831	397,660	-	397,660	-339,911	40,238,580	-0.85
Dec-2004	40,238,580	54,577	-	54,577	2,802,548	43,095,705	6.96
Mar-2005	43,095,705	-	186,709	-186,709	-417,831	42,491,165	-0.98
Jun-2005	42,491,165	-	34,346	-34,346	731,050	43,187,869	1.72
Sep-2005	43,187,869	-	43,678	-43,678	503,689	43,647,880	1.17
Dec-2005	43,647,880	423,649	-	423,649	950,170	45,021,699	2.19
Mar-2006	45,021,699	51,421	-	51,421	1,403,105	46,476,225	3.11
Jun-2006	46,476,225	-	83,590	-83,590	-718,538	45,674,097	-1.55
Sep-2006	45,674,097	586,713	-	586,713	1,503,788	47,764,598	3.27
Dec-2006	47,764,598	-	322,499	-322,499	1,978,220	49,420,319	4.19
Mar-2007	49,420,319	45,644	· -	45,644	895,483	50,361,446	1.82
Jun-2007	50,361,446	243,909	-	243,909	1,901,240	52,506,595	3.78
Sep-2007	52,506,595	400,316	_	400,316	1,166,875	54,073,786	2.20



Since Inception Ending September 30, 2018

Periods Ending	Beginning Market Value \$	Contributions \$	Withdrawals \$	Net Cash Flow \$	Gain/Loss \$	Ending Market Value \$	%Return
Dec-2007	54,073,786	190,416	-	190,416	-1,264,986	52,999,216	-2.33
Mar-2008	52,999,216	475,161	_	475,161	-1,773,644	51,700,733	-3.33
Jun-2008	51,700,733	157,090	_	157,090	19,456	51,877,279	0.06
Sep-2008	51,877,279	729,736	_	729,736	-3,090,400	49,516,615	-5.88
Dec-2008	49,516,615	272,688	_	272,688	-5,953,060	43,836,243	-12.10
Mar-2009	43,836,243	645,560	_	645,560	-2,154,563	42,327,240	-4.63
Jun-2009	42,327,240	466,248	-	466,248	4,028,207	46,821,695	9.51
Sep-2009	46,821,695	1,231,187	_	1,231,187	4,915,363	52,968,245	10.42
Dec-2009	52,968,245	728,073	_	728,073	2,085,980	55,782,298	3.90
Mar-2010	55,782,298	530,170	_	530,170	2,014,347	58,326,815	3.60
Jun-2010	58,326,815	495,784	_	495,784	-3,139,138	55,683,461	-5.38
Sep-2010	55,683,461	1,660,776	_	1,660,776	4,453,702	61,797,939	7.87
Dec-2010	61,797,939	651,202	_	651,202	4,073,218	66,522,359	6.59
Mar-2011	66,522,359	634,816	_	634,816	2,936,677	70,093,852	4.43
Jun-2011	70,093,852	665,257	_	665,257	532,225	71,291,334	0.76
Sep-2011	71,291,334	7,862,053	_	7,862,053	-6,957,257	72,196,130	-9.67
Dec-2011	72,196,130	-	654,876	-654,876	4,773,351	76,314,605	6.63
Mar-2012	76,314,605	_	1,466,628	-1,466,628	6,525,345	81,373,322	8.63
Jun-2012	81,373,322	-	1,210,329	-1,210,329	-1,962,942	78,200,051	-2.42
Sep-2012	78,200,051	_	328,909	-328,909	3,699,212	81,570,354	4.75
Dec-2012	81,570,354	6,149,365	-	6,149,365	1,463,069	89,182,788	1.61
Mar-2013	89,182,788	-	1,674,077	-1,674,077	5,563,247	93,071,958	6.29
Jun-2013	93,071,958	_	1,198,519	-1,198,519	117,987	91,991,426	0.15
Sep-2013	91,991,426	_	302,113	-302,113	4,852,470	96,541,783	5.28
Dec-2013	96,541,783	5,486,468	-	5,486,468	6,283,251	108,311,502	6.10
Mar-2014	108,311,502	-	2,359,425	-2,359,425	918,503	106,870,580	0.88
Jun-2014	106,870,580	_	3,191,614	-3,191,614	3,629,450	107,308,416	3.49
Sep-2014	107,308,416	_	452,620	-452,620	-1,543,346	105,312,450	-1.43
Dec-2014	105,312,450	7,621,833	-	7,621,833	4,031,767	116,966,050	3.57
Mar-2015	116,966,050	-	1,512,343	-1,512,343	2,856,300	118,310,007	2.46
Jun-2015	118,310,007	_	1,332,712	-1,332,712	-581,700	116,395,595	-0.50
Sep-2015	116,395,595	_	1,099,361	-1,099,361	-5,449,028	109,847,206	-4.72
Dec-2015	109,847,206	8,251,060	2,762,661	5,488,399	5,689,897	121,025,502	2.58
Mar-2016	121,025,502	7,589,316	8,599,372	-1,010,056	-1,803,617	118,211,829	1.44
Jun-2016	118,211,829	1,424,212	2,565,534	-1,141,322	2,049,990	119,120,498	1.74
Sep-2016	119,120,498	3,743,647	4,750,720	-1,007,073	4,157,724	122,271,148	3.49
Dec-2016	122,271,148	20,010,869	12,411,919	7,598,951	3,172,123	133,042,222	2.44
Mar-2017	133,042,222	3,994,591	6,390,328	-2,395,737	4,004,829	134,651,313	3.04
Jun-2017	134,651,313	12,268,921	15,569,852	-3,300,931	3,602,838	134,953,220	2.71
Sep-2017	134,953,220	15,754,188	16,964,685	-1,210,497	4,039,130	137,781,854	3.00
Dec-2017	137,781,854	34,723,496	26,093,106	8,630,390	4,656,414	151,068,658	3.17



#### Schedule of Investable Assets Total Fund

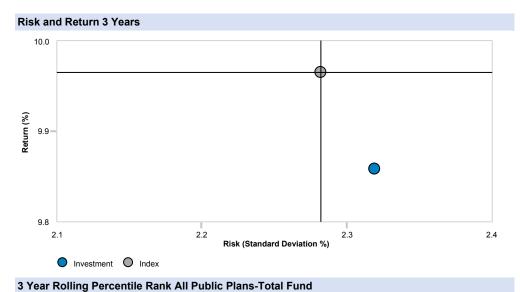
Since Inception Ending September 30, 2018

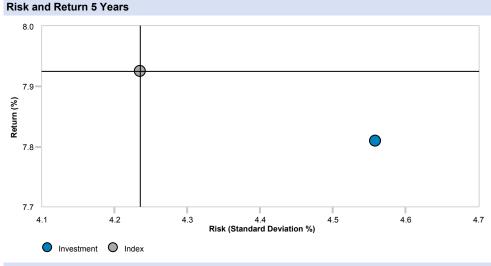
Periods Ending	Beginning Market Value \$	Contributions \$	Withdrawals \$	Net Cash Flow \$	Gain/Loss \$	Ending Market Value \$	%Return
Mar-2018	151,068,658	36,560,097	39,599,539	-3,039,442	-1,310,015	146,719,201	-0.90
Jun-2018	146,719,201	2,531,546	4,858,682	-2,327,136	3,494,498	147,886,563	2.40
Sep-2018	147,886,563	21,023,715	23,353,030	-2,329,315	5,161,780	150,719,028	3.51
	15,998,300	234,964,040	196,620,336	38,343,704	96,377,024	150,719,028	6.41

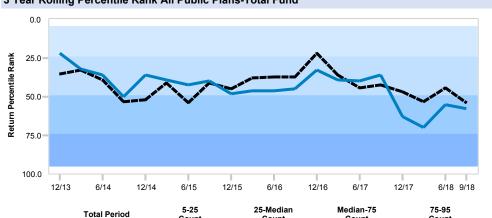


Historical Stati	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.86	2.32	3.71	100.04	11	152.56	1
Index	9 97	2 28	3.81	100.00	11	100.00	1

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	7.81	4.56	1.59	100.82	16	112.70	4
Index	7.93	4.23	1.73	100.00	16	100.00	4







Count

15 (75%)

14 (70%)

Count

4 (20%)

5 (25%)

Count

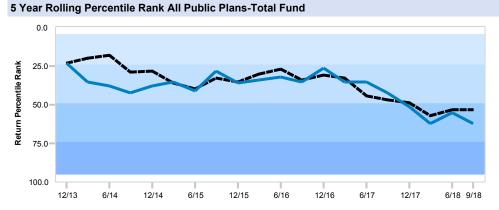
0 (0%)

0 (0%)

Count

1 (5%)

1 (5%)



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count	
Investment	20	1 (5%)	15 (75%)	4 (20%)	0 (0%)	
Index	20	3 (15%)	14 (70%)	3 (15%)	0 (0%)	



Investment

\_\_ Index

20

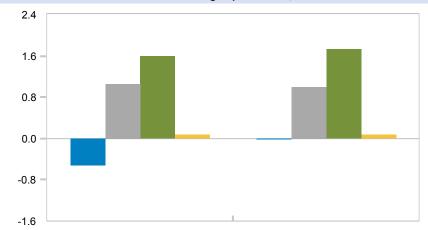
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# Risk / Reward Historical Statistics 3 Years Ending September 30, 2018 6.0 4.0 2.0 Total Fund Composite Total Fund Policy Index Alpha 0.48 0.00 1.00

#### Risk / Reward Historical Statistics 5 Years Ending September 30, 2018

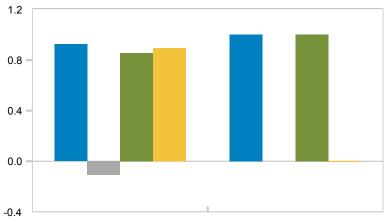


	<b>Total Fund Composite</b>	<b>Total Fund Policy Index</b>
■ Alpha	-0.52	0.00
■ Beta	1.05	1.00
Sharpe Ratio	1.59	1.73
Treynor Ratio	0.07	0.07

#### Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018

3.71

0.09

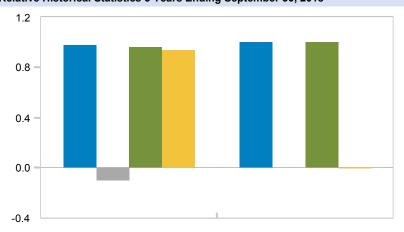


3.81

0.09

	Total Fund Composite	Total Fund Policy Index
Actual Correlation	0.93	1.00
Information Ratio	-0.11	N/A
R-Squared	0.86	1.00
Tracking Error	0.89	0.00

#### Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



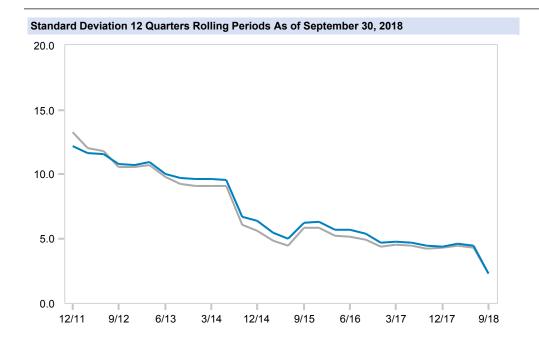
	Total Fund Composite	Total Fund Policy Index
Actual Correlation	0.98	1.00
Information Ratio	-0.10	N/A
R-Squared	0.96	1.00
Tracking Error	0.94	0.00

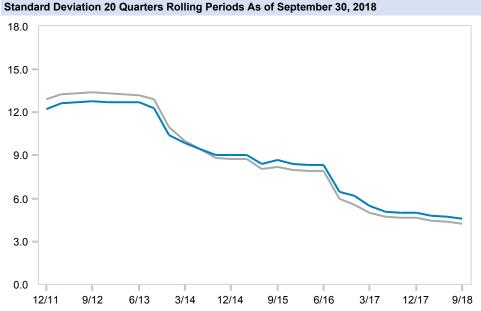
Benchmark: Total Fund Policy Index

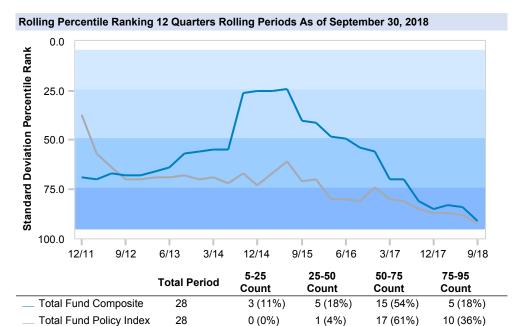
■ Sharpe Ratio

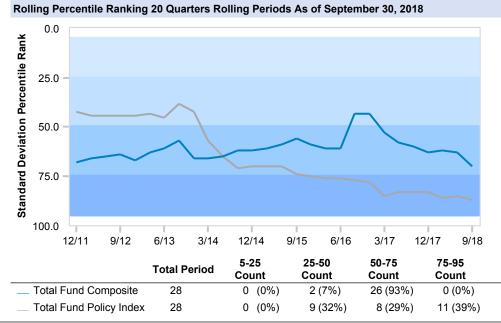
Treynor Ratio





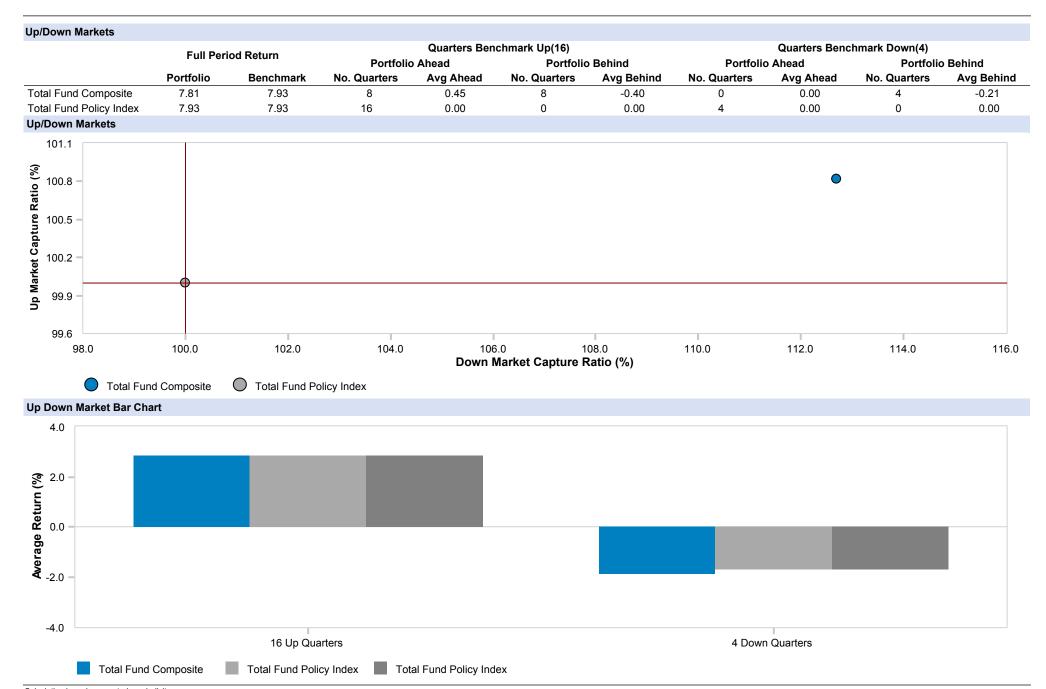






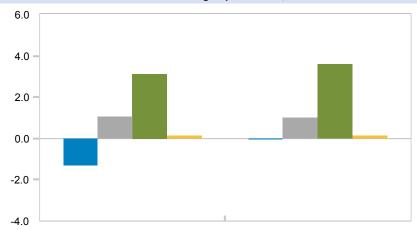
Peer: All Public Plans-Total Fund





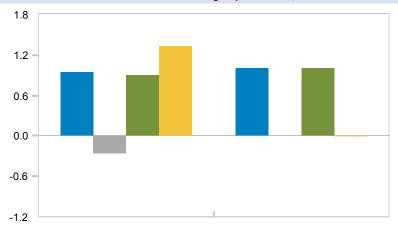


#### Risk / Reward Historical Statistics 3 Years Ending September 30, 2018



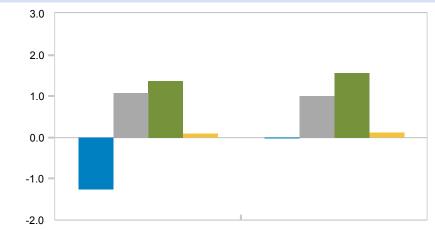
	<b>Total Equity Composite</b>	<b>Total Equity Policy Index</b>
Alpha	-1.33	0.00
Beta	1.07	1.00
Sharpe Ratio	3.14	3.60
Trevnor Ratio	0.13	0.14

#### Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018



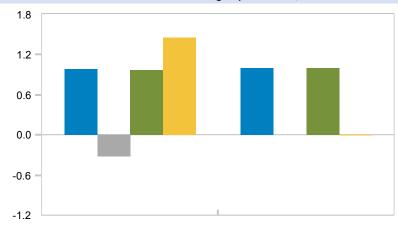
	<b>Total Equity Composite</b>	Total Equity Policy Index
Actual Correlation	0.95	1.00
Information Ratio	-0.26	N/A
R-Squared	0.91	1.00
Tracking Error	1.33	0.00

#### Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



	Total Equity Composite	<b>Total Equity Policy Index</b>
Alpha	-1.26	0.00
■ Beta	1.07	1.00
Sharpe Ratio	1.37	1.56
Treynor Ratio	0.10	0.11

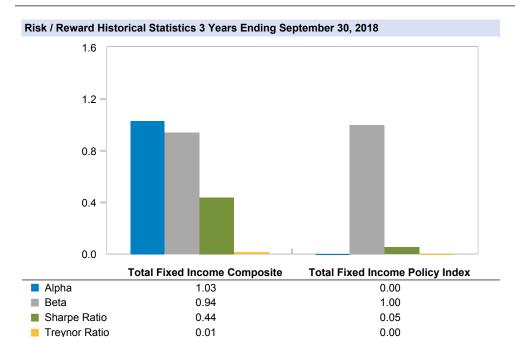
#### Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



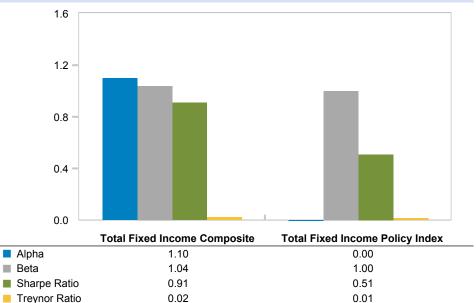
	Total Equity Composite	Total Equity Policy Index
Actual Correlation	0.98	1.00
Information Ratio	-0.33	N/A
R-Squared	0.97	1.00
Tracking Error	1.46	0.00

Benchmark: Total Equity Policy Index

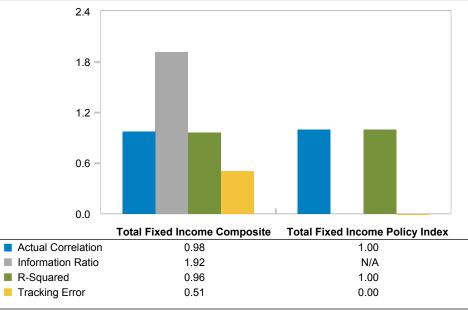




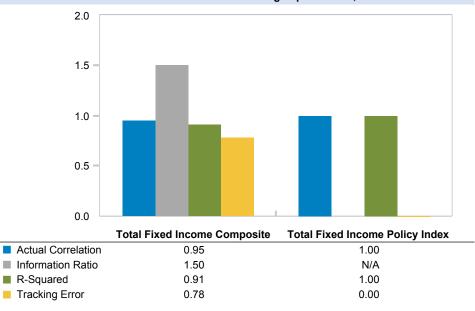
#### Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



#### Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018



#### Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



Benchmark: Total Fixed Income Policy Index

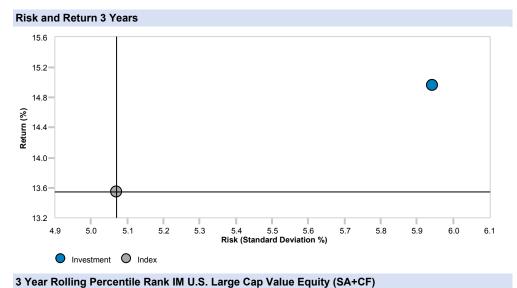


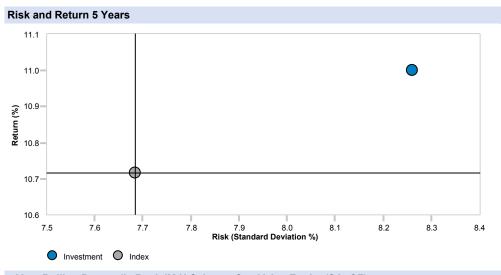
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<b>Historical Stati</b>	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	14.97	5.94	2.25	112.33	11	141.74	1
Index	13 55	5.07	2.36	100.00	11	100.00	1

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.00	8.26	1.26	106.47	16	122.01	4
Index	10.72	7.68	1.31	100.00	16	100.00	4





#### 0.0 Return Percentile Rank 25.0 75.0 100.0 12/14 6/16 6/17 12/13 6/14 6/15 12/15 12/16 12/17 6/18 9/18 5-25 25-Median Median-75 75-95

Count

6 (38%)

8 (40%)

Count

10 (63%)

12 (60%)

Count

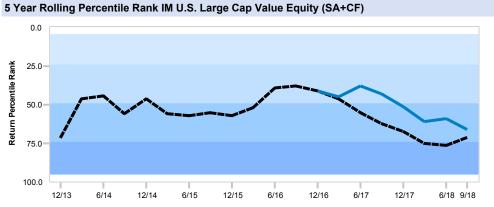
0 (0%)

0 (0%)

Count

0 (0%)

0 (0%)



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	8	0 (0%)	4 (50%)	4 (50%)	0 (0%)
Index	20	0 (0%)	7 (35%)	12 (60%)	1 (5%)



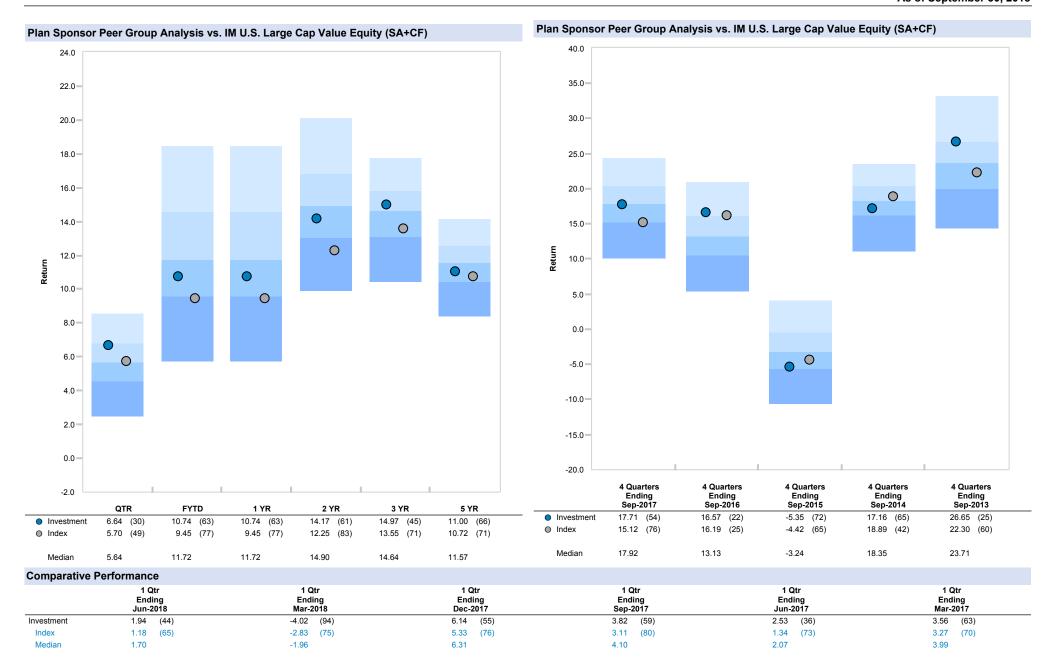
Investment

\_\_ Index

Total Period

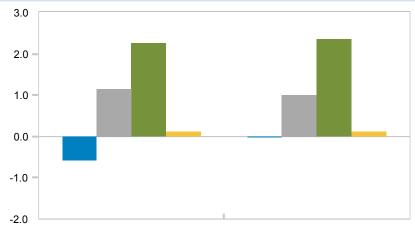
16

20





#### Risk / Reward Historical Statistics 3 Years Ending September 30, 2018

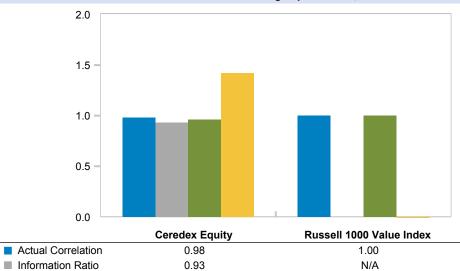


	Ceredex Equity	Russell 1000 Value Index
Alpha	-0.59	0.00
Beta	1.15	1.00
Sharpe Ratio	2.25	2.36
Treynor Ratio	0.12	0.12

#### Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018

0.96

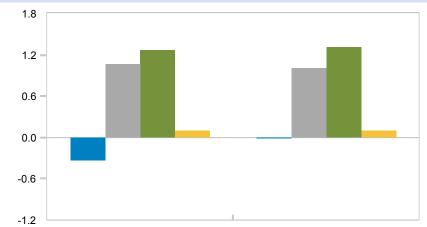
1.42



1.00

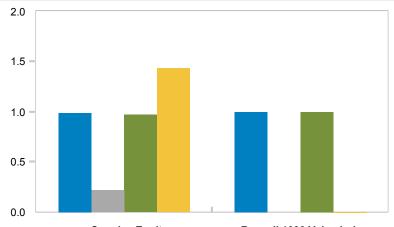
0.00

#### Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



	Ceredex Equity	Russell 1000 Value Index
Alpha	-0.33	0.00
■ Beta	1.06	1.00
Sharpe Ratio	1.26	1.31
Treynor Ratio	0.10	0.10

#### Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



	Ceredex Equity	Russell 1000 Value Index
Actual Correlation	0.99	1.00
Information Ratio	0.21	N/A
R-Squared	0.97	1.00
Tracking Error	1.44	0.00

Benchmark: Russell 1000 Value Index

R-Squared

Tracking Error



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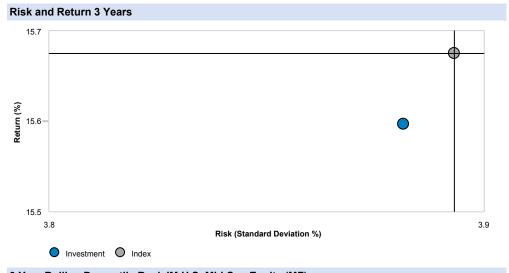


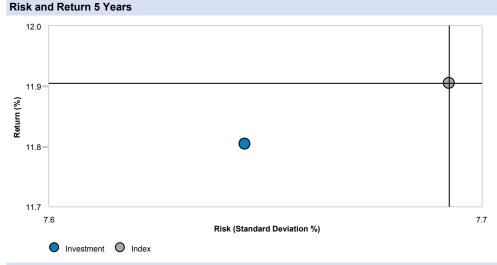


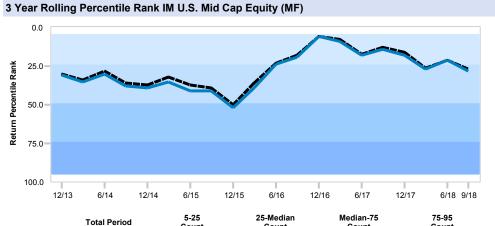


Historical Statis	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	15.60	3.88	3.55	99.37	11	90.71	1
Index	15.69	3.80	3 55	100.00	11	100.00	1

<b>Historical Stati</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	11.80	7.65	1.46	99.24	16	99.49	4
Index	11.91	7.69	1.46	100.00	16	100.00	4







Count

11 (55%)

12 (60%)

Count

1 (5%)

0 (0%)

Count

0 (0%)

0 (0%)

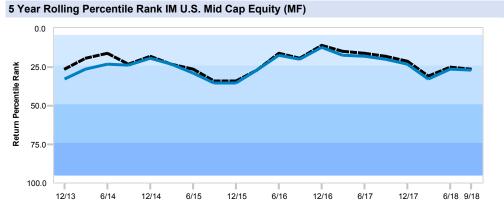
Count

8 (40%)

8 (40%)

20

20

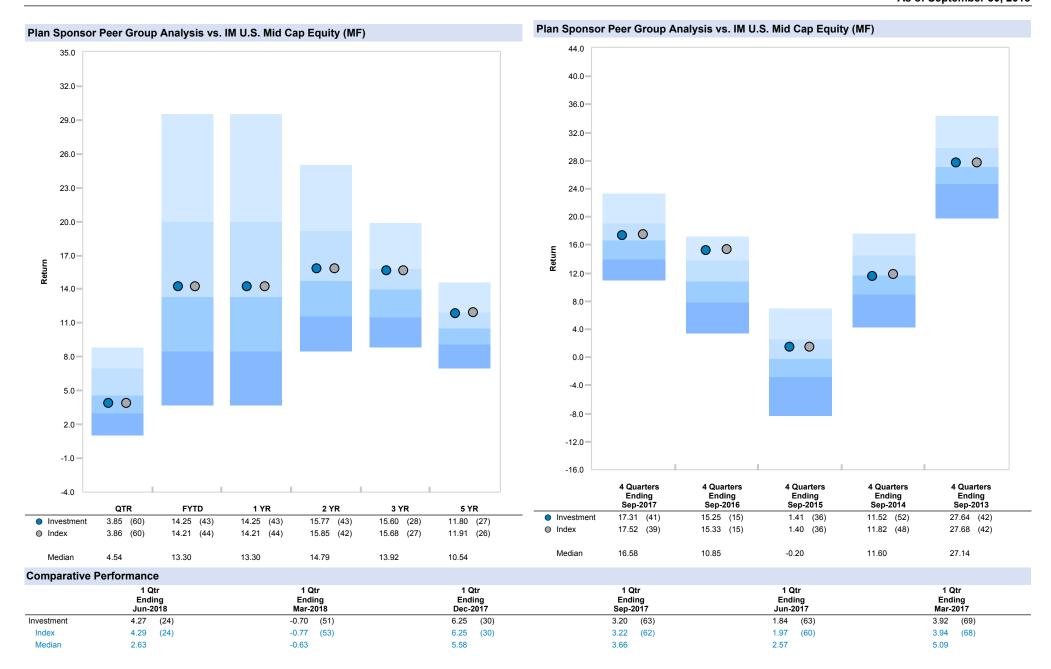


	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	20	11 (55%)	9 (45%)	0 (0%)	0 (0%)
Index	20	13 (65%)	7 (35%)	0 (0%)	0 (0%)



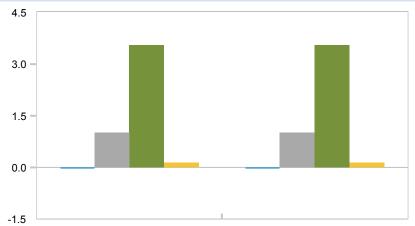
Investment

\_\_ Index



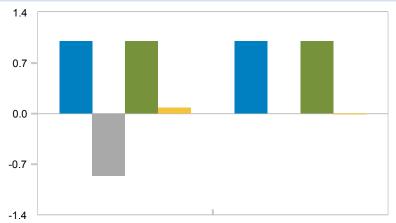


# Risk / Reward Historical Statistics 3 Years Ending September 30, 2018



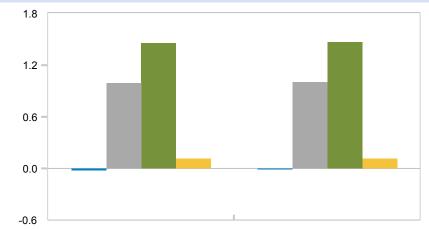
***		
	Mutual of America Equity	S&P MidCap 400 Index
Alpha	-0.02	0.00
Beta	1.00	1.00
Sharpe Ratio	3.55	3.55
Treynor Ratio	0.14	0.14

# Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018



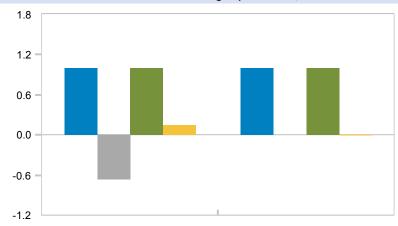
	Mutual of America Equity	S&P MidCap 400 Index
Actual Correlation	1.00	1.00
Information Ratio	-0.87	N/A
R-Squared	1.00	1.00
Tracking Error	0.08	0.00

# Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



	Mutual of America Equity	S&P MidCap 400 Index
Alpha	-0.02	0.00
Beta	0.99	1.00
Sharpe Ratio	1.46	1.46
Treynor Ratio	0.11	0.11

# Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



	Mutual of America Equity	S&P MidCap 400 Index
Actual Correlation	1.00	1.00
Information Ratio	-0.66	N/A
R-Squared	1.00	1.00
Tracking Error	0.15	0.00

Benchmark: S&P MidCap 400 Index



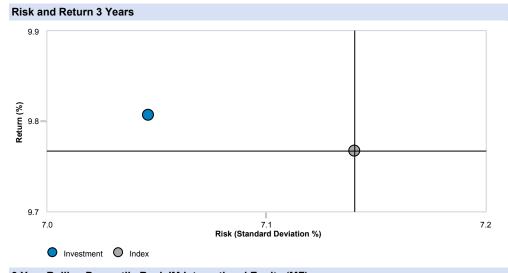
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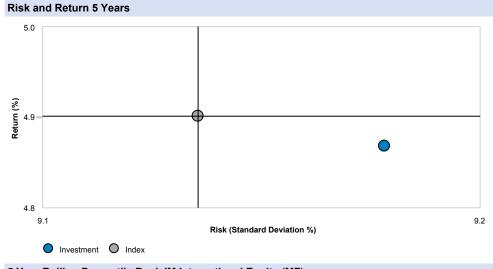


3	
	As of September 30, 2018

Historical Statis	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	9.81	7.05	1.25	98.38	7	90.56	5
Indev	0.77	7 14	1 23	100.00	7	100.00	5

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	4.87	9.18	0.51	99.55	12	99.66	8
Index	4.90	9.14	0.52	100.00	12	100.00	8







Count

9 (90%)

14 (70%)

Count

1 (10%)

2 (10%)

Count

0 (0%)

0 (0%)

Count

0 (0%)

4 (20%)



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count
Investment	2	0 (0%)	2 (100%)	0 (0%)	0 (0%)
Index	20	1 (5%)	18 (90%)	1 (5%)	0 (0%)

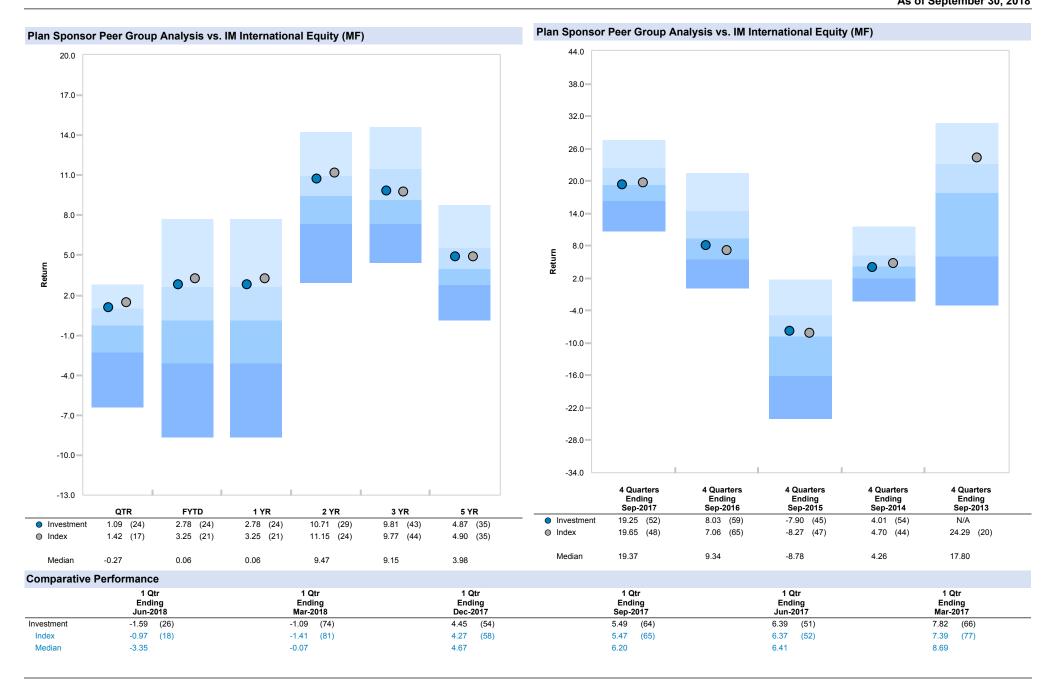


Investment

\_\_ Index

10

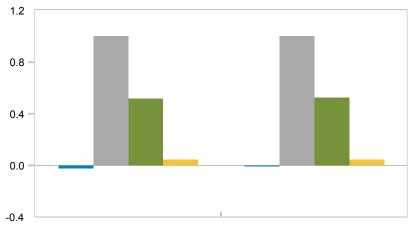
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# Risk / Reward Historical Statistics 3 Years Ending September 30, 2018 1.6 1.2 8.0 0.4 0.0 Vanguard Intl Eq (VTMGX) **MSCI EAFE Index**

# Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



	Vanguard Intl Eq (VTMGX)	MSCI EAFE Index
■ Alpha	-0.03	0.00
Beta	1.00	1.00
Sharpe Ratio	0.51	0.52
Treynor Ratio	0.05	0.05

# Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018

0.03

0.98

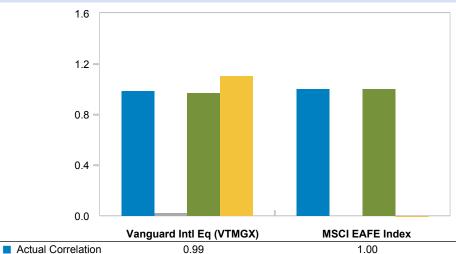
1.10

0.27

0.97

1.25

0.09



0.00

1.00

1.23

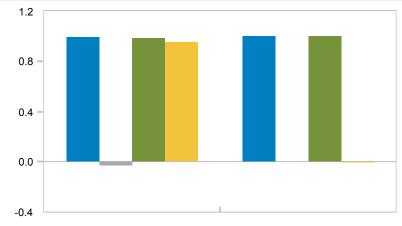
0.09

N/A

1.00

0.00

# Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



	Vanguard Intl Eq (VTMGX)	MSCI EAFE Index
Actual Correlation	0.99	1.00
Information Ratio	-0.03	N/A
R-Squared	0.99	1.00
Tracking Error	0.95	0.00

Tracking Error Benchmark: MSCI EAFE Index

R-Squared

Information Ratio

Alpha

Beta

■ Sharpe Ratio

Treynor Ratio

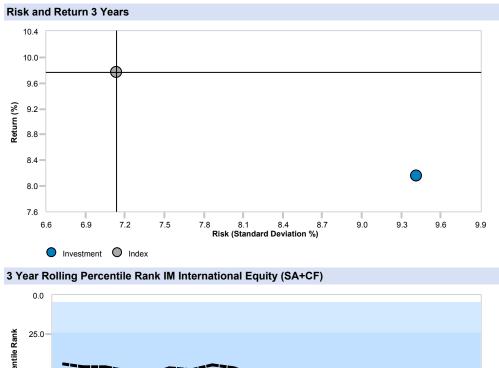


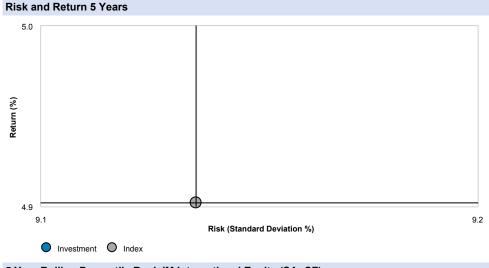
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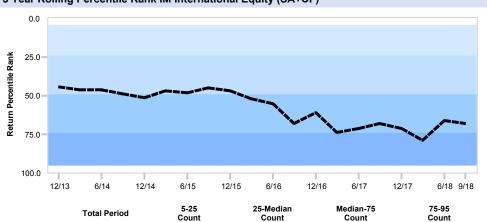


<b>Historical Stati</b>	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	8.15	9.42	0.79	103.33	6	172.90	6
Index	0.77	7 1/1	1 22	100.00	7	100.00	5

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Index	4.90	9.14	0.52	100.00	12	100.00	8







0 (0%)

8 (40%)

0 (0%)

11 (55%)

1 (100%)

1 (5%)

0 (0%)

0 (0%)



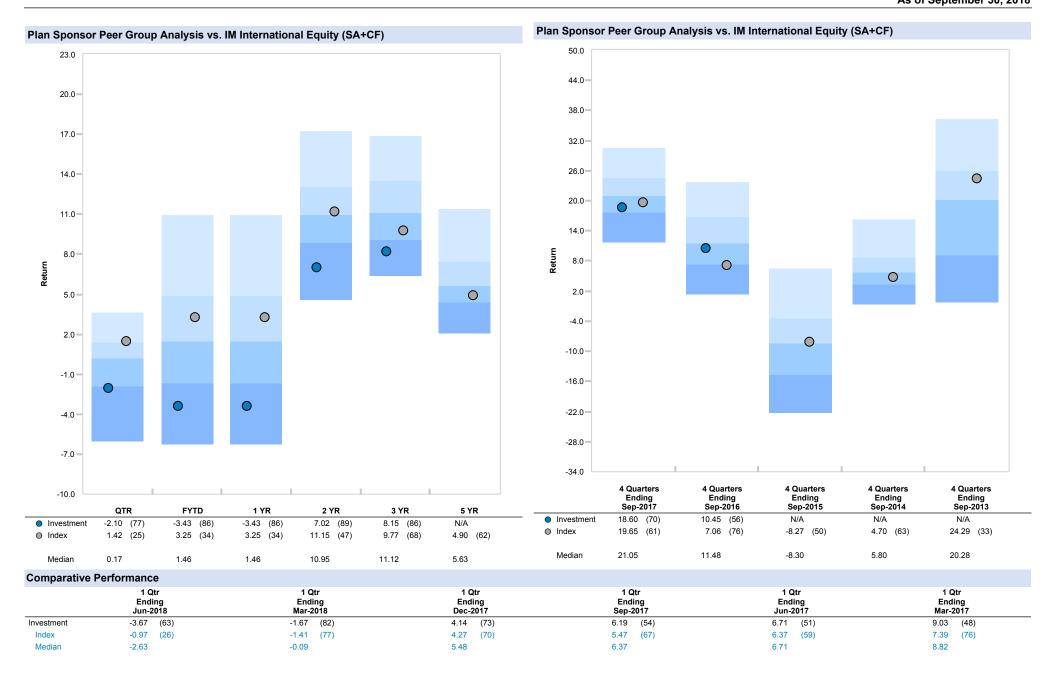
	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count	
Investment	0	0	0	0	0	
Index	20	0 (0%)	0 (0%)	19 (95%)	1 (5%)	



Investment

\_\_ Index

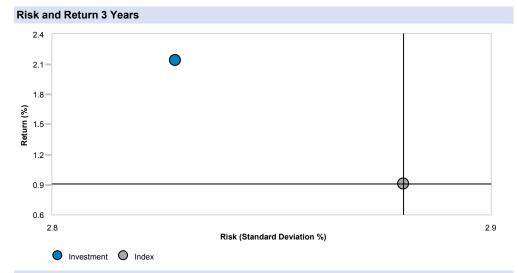
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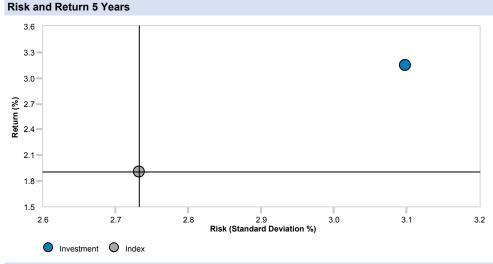


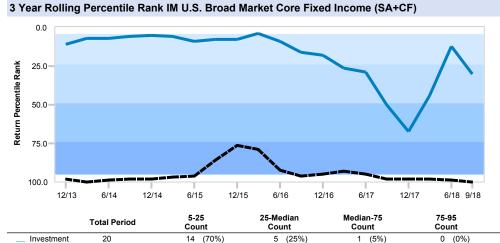


Historical Statis	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.14	2.83	0.47	126.35	8	68.79	4
Index	0.90	2 88	0.05	100.00	8	100.00	4

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	3.15	3.10	0.84	130.64	15	83.25	5
Index	1.90	2.73	0.51	100.00	14	100.00	6





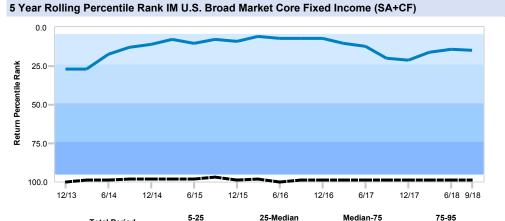


0 (0%)

0 (0%)

20 (100%)

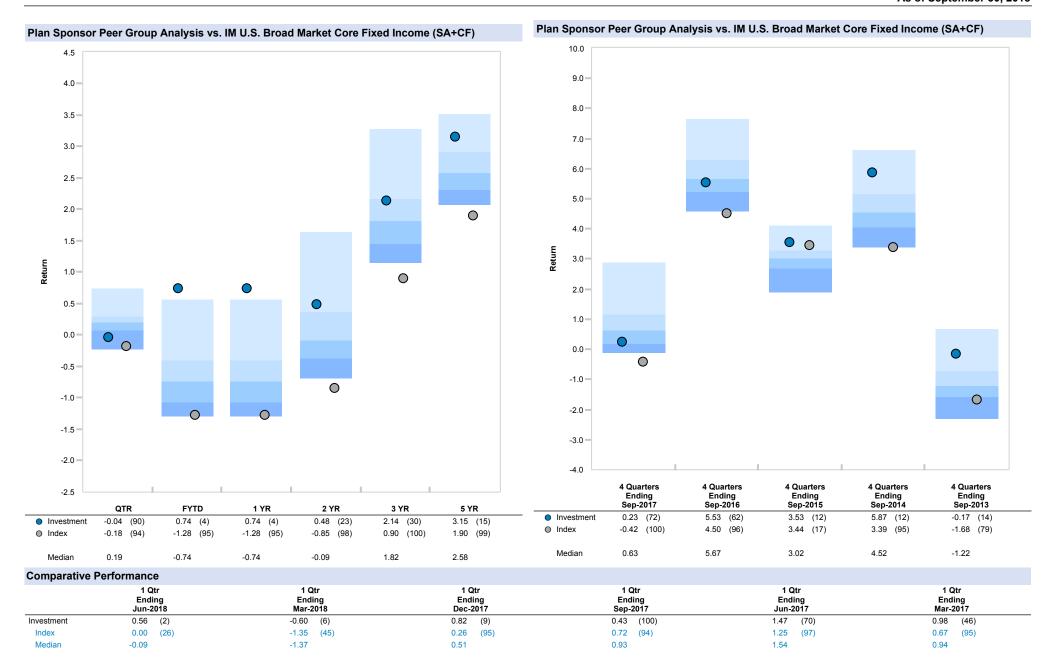
0 (0%)





\_\_ Index

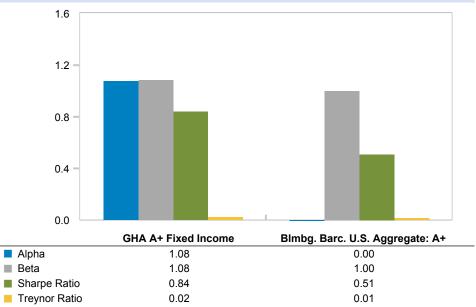
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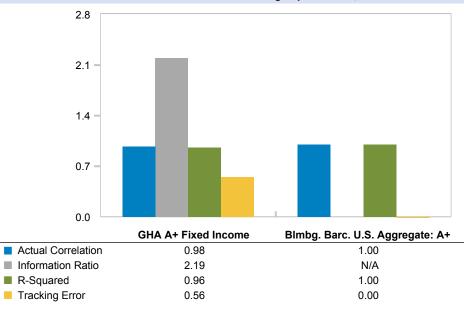
# Risk / Reward Historical Statistics 3 Years Ending September 30, 2018 1.6 1.2 0.8 0.4 0.0 Blmbg. Barc. U.S. Aggregate: A+ **GHA A+ Fixed Income** Alpha 1.26 0.00 Beta 0.96 1.00 Sharpe Ratio 0.47 0.05

# Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



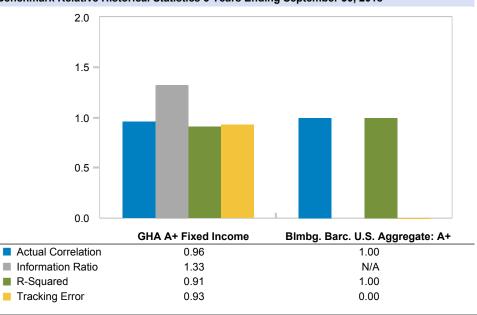
# Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018

0.01



0.00

## Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



Benchmark: Blmbg. Barc. U.S. Aggregate: A+

Treynor Ratio

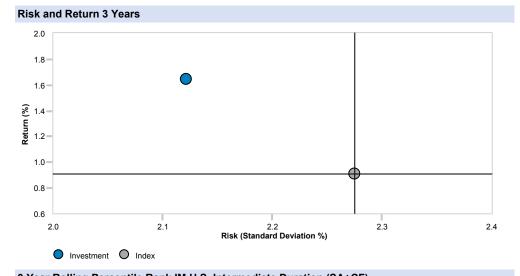


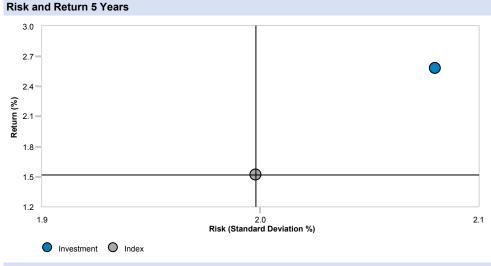
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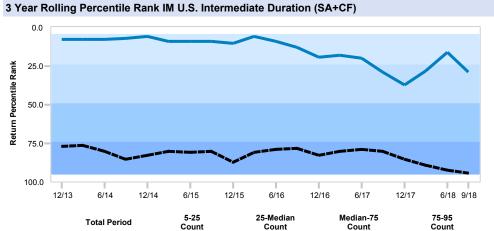


Historical Stati	stics 3 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	1.64	2.12	0.39	109.94	9	62.00	3
Index	0.91	2 28	0.06	100.00	8	100.00	4

<b>Historical Statis</b>	stics 5 Years						
	Return	Standard Deviation	Sharpe Ratio	Up Market Capture	Up Quarters	Down Market Capture	Down Quarters
Investment	2.58	2.08	0.96	123.12	16	47.93	4
Index	1.52	2.00	0.50	100.00	13	100.00	7







4 (20%)

0 (0%)

0 (0%)

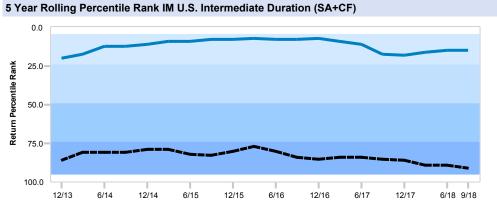
0 (0%)

0 (0%)

20 (100%)

16 (80%)

0 (0%)



	Total Period	5-25 Count	25-Median Count	Median-75 Count	75-95 Count	
Investment	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)	
Index	20	0 (0%)	0 (0%)	0 (0%)	20 (100%)	

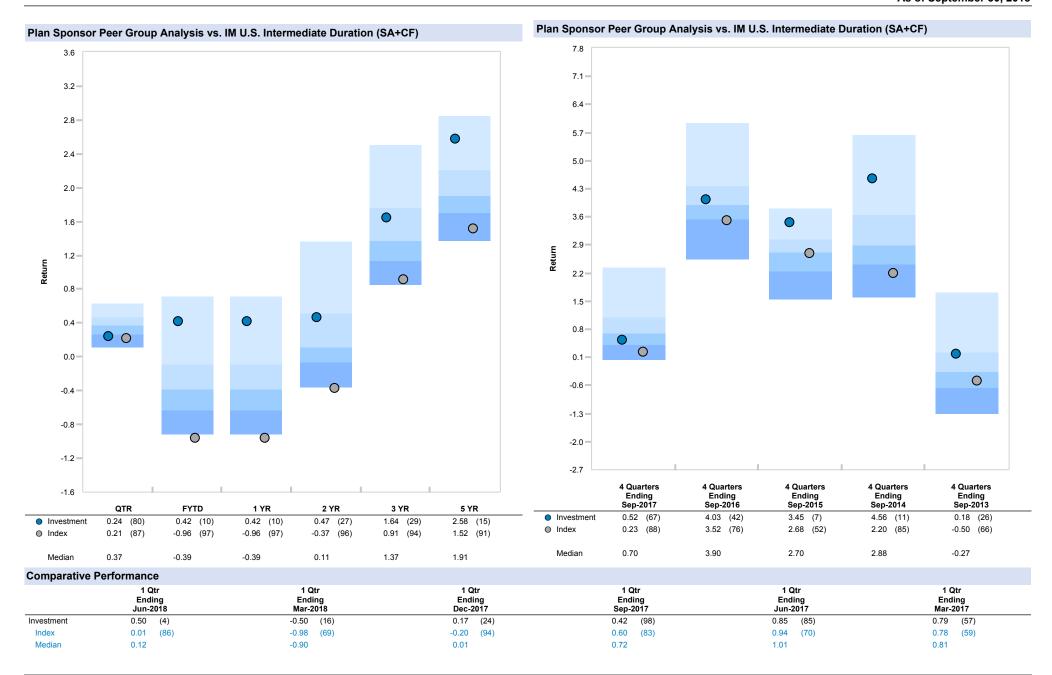


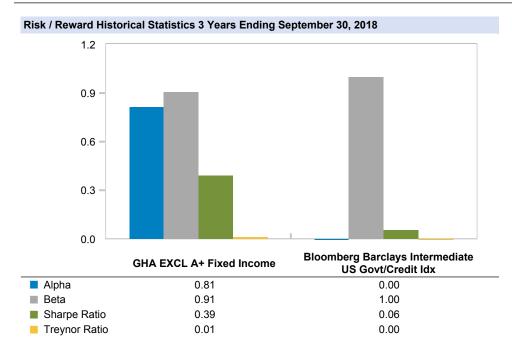
Investment

\_\_ Index

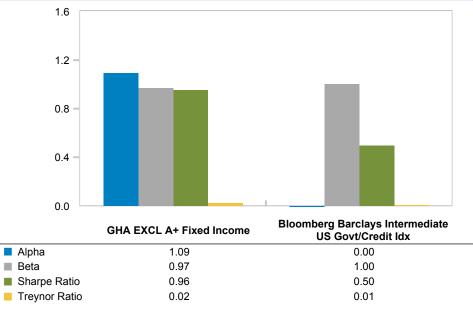
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20

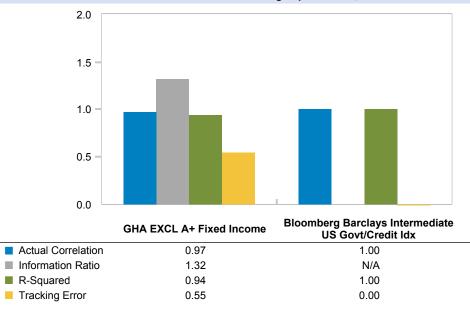




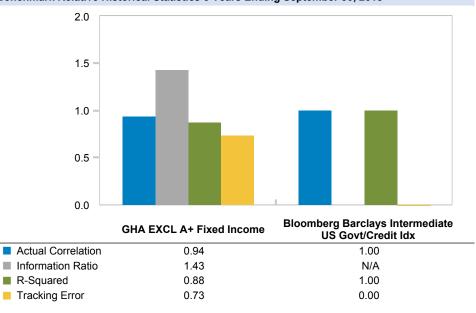
# Risk / Reward Historical Statistics 5 Years Ending September 30, 2018



# Benchmark Relative Historical Statistics 3 Years Ending September 30, 2018



# Benchmark Relative Historical Statistics 5 Years Ending September 30, 2018



Benchmark: Bloomberg Barclays Intermediate US Govt/Credit Idx

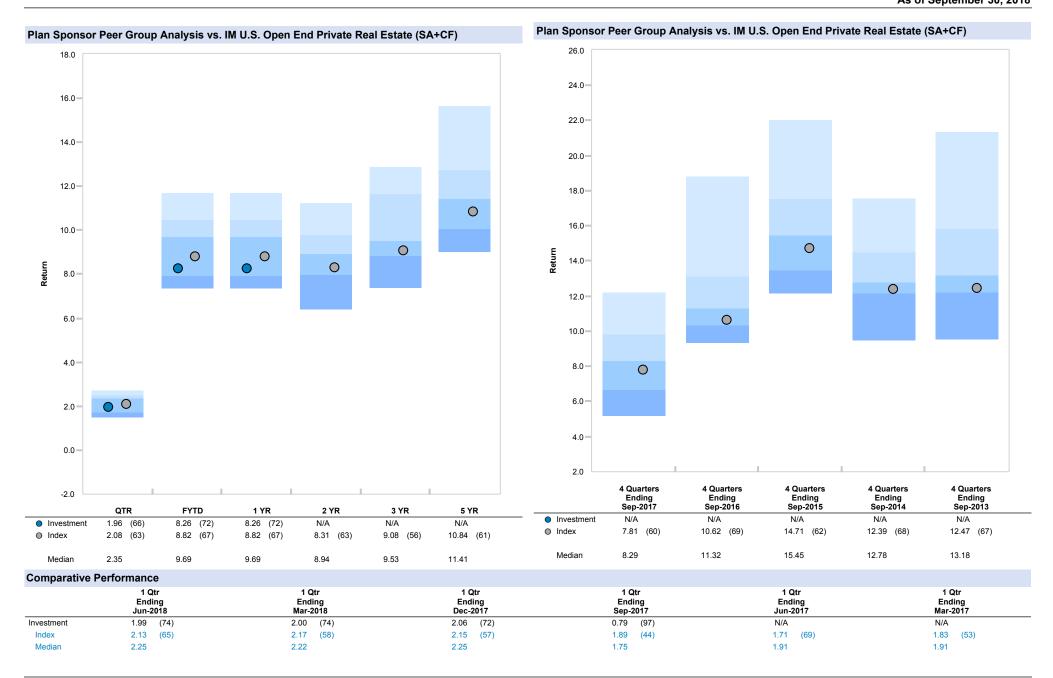


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Allocation Mandate	Weight (%)	Allocation Mandate	Weight (%)
an-1998	- , ,	Jul-2010	<u> </u>
S&P 500 Index	60.00	Russell 1000 Value Index	15.50
CE BofAML Govt/ Corp Master	40.00	Bloomberg Barclays Intermediate US Govt/Credit Idx	20.00
		S&P MidCap 400 Index	10.00
an-2000		Russell 2500 Index	10.00
S&P 500 Index	50.00	Russell 1000 Growth Index	15.50
Blmbg. Barc. U.S. Aggregate Index	40.00	MSCI EAFE Index	9.00
MSCI EAFE Index	10.00	Blmbg. Barc. U.S. Aggregate: A+	20.00
Apr-2004		Jul-2017	
S&P 500 Index	50.00	Russell 1000 Value Index	15.50
Blmbg. Barc. U.S. Aggregate Index	40.00	Bloomberg Barclays Intermediate US Govt/Credit Idx	16.00
Russell 2000 Value Index	10.00	S&P MidCap 400 Index	10.00
		Russell 2500 Index	10.00
lan-2007		Russell 1000 Growth Index	15.50
S&P 500 Index	50.00	MSCI EAFE Index	9.00
Bloomberg Barclays Intermediate US Govt/Credit Idx	24.00	Blmbg. Barc. U.S. Aggregate: A+	16.00
Russell 2000 Value Index	10.00	NCREIF Fund Index-Open End Diversified Core (EW)	8.00
Barclays Aggregate A+	16.00	, , , , , , , , , , , , , , , , , , , ,	
an-2008			
S&P 500 Index	40.00		
Bloomberg Barclays Intermediate US Govt/Credit Idx	24.00		
S&P MidCap 400 Index	10.00		
Barclays Aggregate A+	16.00		
Russell 2000 Value Index	10.00		
Apr-2008			
Russell 1000 Value Index	20.00		
Bloomberg Barclays Intermediate US Govt/Credit Idx	25.00		
S&P MidCap 400 Index	10.00		
Barclays Aggregate A+	15.00		
Russell 2000 Value Index	10.00		
Russell 1000 Growth Index	20.00		
Apr-2009	00.00		
Russell 1000 Value Index	20.00		
Bloomberg Barclays Intermediate US Govt/Credit Idx	20.00		
S&P MidCap 400 Index	10.00		
Barclays Aggregate A+	20.00		
Russell 2000 Value Index	10.00		
Russell 1000 Growth Index	20.00		



Total Equity Historical Hybrid Co	omposition	Total Fixed Income Historical Hybrid Composition	
Allocation Mandate	Weight (%)	Allocation Mandate	Weight
Jan-1998			(%)
S&P 500 Index	100.00	Jan-1998	
Jan. 2000		ICE BofAML Govt/ Corp Master	100.00
Jan-2000 S&P 500 Index	83.30	Jan-2000	
MSCI EAFE Index	83.30 16.70	Blmbg. Barc. U.S. Aggregate Index	100.00
MSCI EAFE IIIdex	10.70	Billing. Balo. 6.6. Aggregate mack	100.00
Apr-2004		Jan-2007	
S&P 500 Index	83.30	Bloomberg Barclays Intermediate US Govt/Credit Idx	60.00
Russell 2000 Value Index	16.70	Blmbg. Barc. U.S. Corporate A+ Index	40.00
Jan-2008		Apr-2008	
S&P 500 Index	66.60	Bloomberg Barclays Intermediate US Govt/Credit Idx	62.50
Russell 2000 Value Index	16.70	Blmbg. Barc. U.S. Corporate A+ Index	37.50
S&P MidCap 400 Index	16.70		
		Apr-2009	
Apr-2008		Bloomberg Barclays Intermediate US Govt/Credit Idx	50.00
Russell 1000 Growth Index	33.30	Blmbg. Barc. U.S. Aggregate: A+	50.00
Russell 2000 Value Index	16.70		
S&P MidCap 400 Index	16.70		
Russell 1000 Value Index	33.30		
Jul-2010			
Russell 1000 Growth Index	25.83		
Russell 2500 Index	16.67		
S&P MidCap 400 Index	16.67		
Russell 1000 Value Index	25.83		
MSCI EAFE Index	15.00		



	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Ceredex Equity	0.58	23,882,645	137,472	0.75 % of First \$10 M 0.45 % of Next \$40 M 0.25 % Thereafter
Rhumbline R1000G	0.05	13,262,466	6,631	0.05 % of Assets
Polen Capital	0.60	13,743,383	82,460	0.60 % of Assets
Mutual of America Equity	0.07	16,238,583	11,367	0.07 % of Assets
Great Lakes SMID Cap	0.55	8,064,909	44,357	0.55 % of First \$50 M 0.45 % of Next \$50 M 0.35 % Thereafter
Vanguard R2000 (VRTIX)	0.08	7,880,759	6,305	0.08 % of Assets
JPM International Equity	0.75	5,742,218	43,067	0.75 % of Assets
Vanguard Intl Eq (VTMGX)	0.09	6,564,686	5,908	0.09 % of Assets
Total Equity Composite	0.35	95,386,808	337,603	
GHA EXCL A+ Fixed Income	0.25	18,998,385	47,496	0.25 % of Assets
GHA A+ Fixed Income	0.25	23,823,667	59,559	0.25 % of Assets
Total Fixed Income Composite	0.25	42,822,052	107,055	
Barings Real Estate	1.10	6,520,896	71,730	1.10 % of Assets
ASB Real Estate	1.23	5,371,373	66,214	1.25 % of First \$5 M 1.00 % of Next \$10 M 0.90 % of Next \$60 M 0.75 % Thereafter
Total Real Estate	1.16	11,892,270	137,944	
R&D Cash		617,899	-	
Total Fund Composite	0.39	150,719,028	582,601	

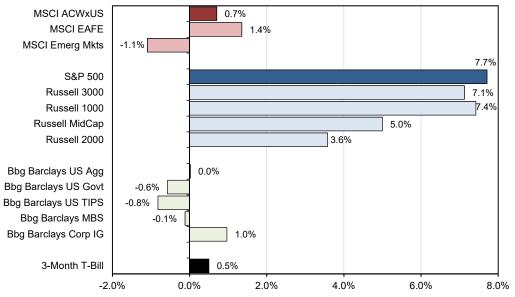


**3rd Quarter 2018 Market Environment** 

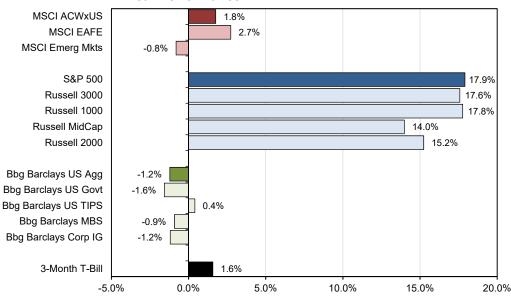


- Market returns were mixed across major equity and fixed income indices for the 3rd guarter of 2018 with many themes from the 2nd guarter repeating during the current period. Broad domestic equity indices pushed higher on continued strength in both economic and corporate earnings data. Corporate earnings continue to benefit from fiscal stimulus tailwinds in the form of the late 2017 tax reform. International indices underperformed domestic indices during the period, posting more muted returns in US dollar (USD) terms, as investors weighed relatively soft economic data, a strengthening USD and geopolitical concerns, especially around global trade relations. Fixed income returns were flat for the quarter as interest rates continued to rise. Domestic stocks rose as concerns around ongoing monetary policy tightening by the Federal Reserve (Fed) and an escalating trade war between the US and China were not substantial enough to dampen investor enthusiasm around the ongoing strength of the US economy. The US stock market represented by the Russell 3000 Index returned 7.1% and 17.6% for the guarter and 1-year period respectively.
- International equity returns finished the quarter slightly positive with the MSCI ACWI ex US Index returning 0.7%. Developed market stocks pushed higher through the period, however, relatively subdued economic growth and ongoing political and trade uncertainty tempered returns versus domestic equities. The developed market MSCI EAFE Index gained 1.4% during the quarter. Emerging market stocks struggled in comparison, posting negative returns for the period, as trade tensions grew between the US and China. In addition, a strengthening USD caused headwinds for most international markets, but caused particular difficulties for emerging market countries that issue debt in USD. The MSCI Emerging Markets Index posted a small decline of -1.1% during the 3rd quarter. The relative outperformance of developed markets can also be seen in the 1-year period with the MSCI EAFE and MSCI Emerging Markets indices returning 2.7% and -0.8% respectively.
- Interest rates on the US Treasury Yield Curve continued their year-to-date rise during the 3rd quarter as investor expectations for further Fed tightening of monetary policy increased during the period. The yield curve did flatten slightly as interest rates had the greatest increase in short-term maturities, but overall, the shift in rates was fairly consistent throughout the entire curve. The Fed did implement another interest rate increase following their September meeting citing the continued strength of the US economy and stable inflation. The broad market Bloomberg Barclays US Aggregate Index was flat for the quarter returning 0.0% and is slightly negative over the 1-year period returning -1.2%. Corporate issues rebounded following underperformance during the first half of the year and were the only investment grade sector to post a positive return during the quarter, as they benefitted from tightening credit spreads and strong investor demand.



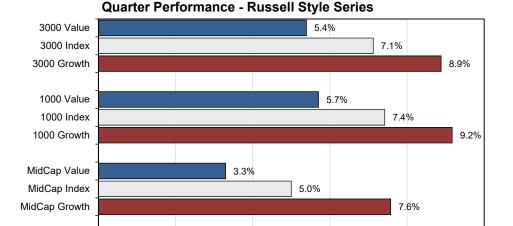


### 1-Year Performance





- US equity index returns were positive across the style and capitalization spectrum during the 3rd quarter of 2018. US equity markets were pushed higher by the ongoing strength in US economic data and corporate earnings. Positive data releases in GDP, unemployment, retail sales, consumer consumption and investor sentiment highlighted the continued health of the US economy. Corporate earnings released during the guarter were also impressive. Earnings reported for S&P 500 companies were up over 20% on a year-over-year basis for the second straight quarter as corporate profits continued to benefit from the new tax code. The current expansion in US equity markets now marks the longest bull market in history. While the positive economic data drove returns through the guarter, trade negotiations with China broke down with both the US and China instituting several rounds of new tariffs during the period. Currently the US is imposing tariffs on \$250 billion of Chinese imports with China placing tariffs on \$110 billion worth of goods. Further action has been threatened by both countries. While negotiations with China have been unsuccessful, progress was made in the renegotiation of the North American Free Trade Agreement (NAFTA) and discussions with the European Union (EU) appear to be moving ahead productively.
- During the quarter, large cap stocks outperformed mid and small cap equities across growth, value and core indices. The large cap Russell 1000 Index returned 7.4% for the quarter versus a 3.6% return for the Russell 2000 Index. The Russell 1000 benefitted from strong performance from some of its largest exposures. Apple Inc, Microsoft Corp and Amazon.com Inc alone make up over 10% of the index and posted quarterly returns of 22.4%, 16.4% and 17.8% respectively. Those same three stocks have gained 48.7%, 56.3% and 108.4% over the 1-year period. This strong performance from some of the index's largest constituents has helped large caps outperform small caps over the 1-year period as well with the Russell 1000 returning 17.8% over the trailing year while the Russell 2000 posted a still solid return of 15.2%.
- Growth stocks outperformed value stocks across the market cap spectrum during the 3rd quarter. The large cap Russell 1000 Growth Index was the best performing style index for the period returning a notable 9.2% for the quarter. The outperformance of growth indices relative to value indices is also evident over the 1-year period as growth indices continue to show significant outperformance relative to their value counterparts. The returns for growth indices more than double the returns of the corresponding value indices over the last 12 months. Growth benchmarks benefitted from larger exposures to more cyclical names within the information technology, consumer discretionary, health care and industrials sectors. They also benefitted from underweights to more defensive sectors such as REITs and utilities.



3.6%

4.0%

5.5%

6.0%

8.0%

1.6%

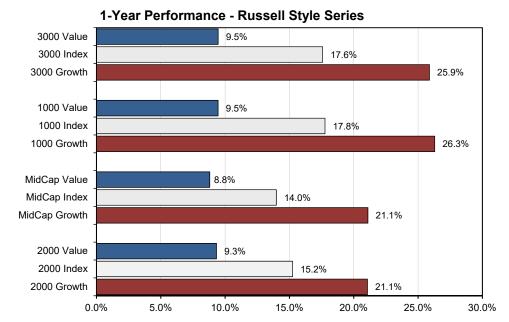
2.0%

2000 Value

2000 Index

2000 Growth

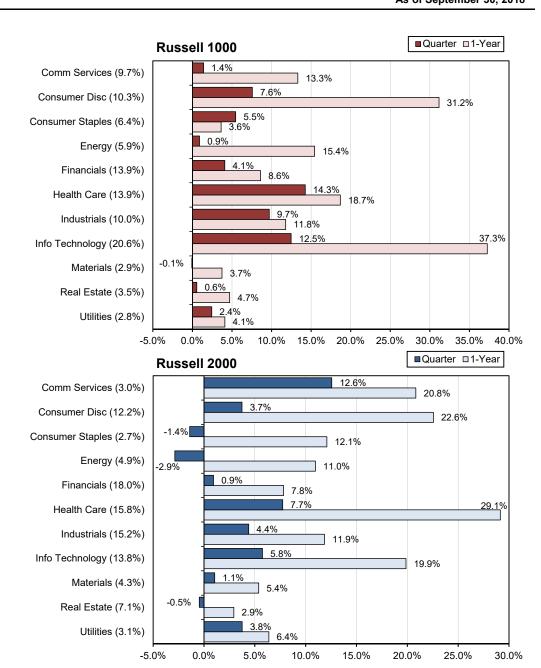
0.0%





10.0%

- Both S&P Dow Jones Indices and MSCI made changes to the Global Industry Classification Standard (GICS) sector configurations of their indices, creating a new GICS sector classification called Communication Services which replaced the Telecommunications sector on September 28, 2018. The Communication Services sector is comprised of companies in the Telecommunications sector, as well as certain companies formerly classified as Consumer Discretionary and Information Technology. As a result, the sector, went from a weighting of about 2% of the Russell 1000 Index to almost 10% post reclassification. Notable names now classified under Communication Services include Netflix, Alphabet, Facebook and Disney. This is just the second change to the GICS classifications since 1999.
- Sector performance was broadly positive across large cap sectors for the 3rd quarter. Ten of eleven sectors had positive returns for the quarter with four outpacing the Russell 1000 Index return. The consumer discretionary sector continues to do well on the back of strong retail sales and increased consumer spending, gaining 7.6% for the period. Health care and technology stocks increased 14.3% and 12.5% during the quarter respectively, with companies in both sectors reporting strong earnings. Industrials benefitted from continued economic strength returning 9.7%. The largest detractors for the guarter were the materials, real estate and energy sectors which returned -0.1%, 0.6% and 0.9% respectively. Over the trailing 1-year period, all large cap all sectors were positive. The information technology and consumer discretionary sectors were the best performers, returning over 30% over the last 12 months, and six of eleven sectors have returns over 10% for the year.
- Quarterly results for small cap sectors were generally lower relative to their large capitalization counterparts. Nine of eleven sectors had positive returns during the period with six of eleven economic sectors outpacing the Russell 2000 Index return for the quarter. Energy, consumer staples and real estate posted negative returns for the period returning -2.9%, -1.4% and -0.5% respectively. Communications services and health care were the best performers returning 12.6% and 7.7%. Over the trailing 1-year period, all eleven sectors posted gains. Health care stocks were the best performers within the Russell 2000 for the trailing year returning a solid 29.1%. Communication services, technology, and consumer discretionary also had particularly robust returns for the 1-year period.
- Using S&P 500 sector valuations as a proxy for the market, forward P/E ratios for seven of the eleven GICS sectors were higher than their long-term averages at quarter-end. Using these historical P/E measures, the utilities, consumer discretionary and real estate sectors appear the most extended. In contrast the financials, technology and health care sectors were trading at a discount to their long-term average P/E ratios.





Services sector.

Top 10 Weighted Stocks						
Russell 1000	Weight 1-Qtr 1-Year Sec Return Return					
Apple Inc	3.97%	22.4%	48.7%	Information Technology		
Microsoft Corp	3.15%	16.4%	56.3%	Information Technology		
Amazon.com Inc	2.96%	17.8%	108.4%	Consumer Discretionary		
Berkshire Hathaway Inc B	1.51%	14.7%	16.8%	Financials		
Facebook Inc A	1.42%	-15.4%	-3.8%	Communication Services		
JPMorgan Chase & Co	1.37%	8.9%	20.7%	Financials		
Johnson & Johnson	1.35%	14.6%	9.1%	Health Care		
Alphabet Inc Class C	1.32%	7.0%	24.4%	Communication Services		
Alphabet Inc A	1.31%	6.9%	24.0%	Communication Services		
Exxon Mobil Corp	1.31%	3.8%	7.9%	Energy		

Top 10 Weighted Stocks					
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector	
Five Below Inc	0.31%	33.1%	137.0%	Consumer Discretionary	
Etsy Inc	0.27%	21.8%	204.4%	Consumer Discretionary	
Integrated Device Technology Inc	0.27%	47.5%	76.9%	Information Technology	
LivaNova PLC	0.27%	24.2%	76.9%	Health Care	
Haemonetics Corp	0.26%	27.8%	155.4%	Health Care	
Teladoc Health Inc	0.25%	48.8%	160.5%	Health Care	
Ligand Pharmaceuticals Inc	0.25%	32.5%	101.6%	Health Care	
HubSpot Inc	0.24%	20.4%	79.6%	Information Technology	
Primerica Inc	0.23%	21.3%	49.2%	Financials	
HealthEquity Inc	0.22%	25.7%	86.7%	Health Care	

Top 10 Performing Stocks (by Quarter)					
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector	
Advanced Micro Devices Inc	0.10%	106.1%	142.3%	Information Technology	
Square Inc A	0.10%	60.6%	243.7%	Information Technology	
Paycom Software Inc	0.03%	57.2%	107.3%	Information Technology	
Twilio Inc A	0.02%	54.0%	189.0%	Information Technology	
Atlassian Corporation PLC A	0.03%	53.8%	173.5%	Information Technology	
Molina Healthcare Inc	0.03%	51.8%	116.3%	Health Care	
DexCom Inc	0.05%	50.6%	192.4%	Health Care	
Match Group Inc	0.01%	49.5%	149.7%	Communication Services	
Fortinet Inc	0.05%	47.8%	157.4%	Information Technology	
IAC/InterActiveCorp	0.06%	42.1%	84.3%	Communication Services	

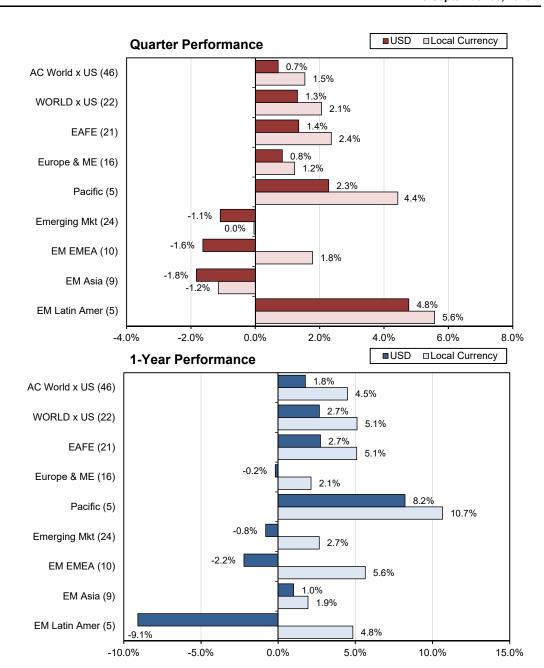
Top 10 Performing Stocks (by Quarter)					
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector	
CareDx Inc	0.04%	135.7%	679.7%	Health Care	
Reata Pharmaceuticals Inc A	0.07%	133.8%	162.9%	Health Care	
Invitae Corp	0.05%	127.6%	78.5%	Health Care	
RigNet Inc	0.01%	97.6%	18.3%	Energy	
Tandem Diabetes Care Inc	0.10%	94.6%	486.8%	Health Care	
Health Insurance Innovations Inc	0.03%	90.6%	325.2%	Financials	
Funko Inc Class A	0.01%	88.8%	N/A	Consumer Discretionary	
LSB Industries Inc	0.01%	84.5%	23.2%	Materials	
Viking Therapeutics Inc	0.04%	83.6%	812.0%	Health Care	
Ra Pharmaceuticals Inc	0.01%	81.8%	23.9%	Health Care	

Bottom 10 Performing Stocks (by Quarter)					
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector	
Floor & Decor Holdings Inc	0.01%	-38.8%	-22.5%	Consumer Discretionary	
Twitter Inc	0.07%	-34.8%	68.7%	Communication Services	
IPG Photonics Corp	0.02%	-29.3%	-15.7%	Information Technology	
Visteon Corp	0.01%	-28.1%	-24.9%	Consumer Discretionary	
Zillow Group Inc A	0.01%	-26.0%	10.1%	Communication Services	
Zillow Group Inc C	0.02%	-25.1%	10.0%	Communication Services	
Western Digital Corp	0.06%	-23.7%	-30.4%	Information Technology	
Wynn Resorts Ltd	0.05%	-23.7%	-13.3%	Consumer Discretionary	
Extraction Oil & Gas Inc	0.00%	-23.1%	-26.6%	Energy	
Tesla Inc	0.13%	-22.8%	-22.4%	Consumer Discretionary	

Bottom 10 Performing Stocks (by Quarter)					
Russell 2000	Sector				
Vital Therapies Inc	0.00%	-96.0%	-94.5%	Health Care	
GTx Inc	0.00%	-89.7%	-81.4%	Health Care	
Ampio Pharmaceuticals Inc	0.00%	-76.9%	-16.9%	Health Care	
Innovate Biopharmaceuticals Inc	0.01%	-71.0%	-2.4%	Health Care	
Zion Oil & Gas Inc	0.00%	-68.4%	-62.5%	Energy	
Endologix Inc	0.01%	-66.3%	-57.2%	Health Care	
Lannett Co Inc	0.01%	-65.1%	-74.3%	Health Care	
Maiden Holdings Ltd	0.01%	-62.6%	-61.1%	Financials	
Diebold Nixdorf Inc	0.02%	-62.3%	-80.1%	Information Technology	
Sears Holdings Corp	0.00%	-59.2%	-86.7%	Consumer Discretionary	



- Broad international equity returns were mixed for the quarter. Most developed markets were positive in local currency and USD terms whereas emerging markets were negative in both local currency and USD terms. Performance was largely driven by the same catalysts as the US equity markets for the second straight quarter. We saw global macroeconomic data slow, but remain generally positive through the period, with returns being tempered by global trade tensions and ongoing political uncertainty. The USD continued to strengthen against most currencies for the period as relatively strong US economic fundamentals and the continued divergence in global monetary policy hurt US investors in international markets. The MSCI ACWI ex US Index gained 1.5% in local currency terms and 0.7% in USD terms during the 3rd quarter. Returns over the 1-year period are modestly positive in both local currency and USD terms with the MSCI ACWI ex US returning 4.5% and 1.8% respectively.
- Third quarter results for developed market international indices were positive in local currency terms and USD terms with the MSCI EAFE Index returning 2.4% and 1.4% respectively. Returns were dampened for US investors as continued strength in the USD pushed returns lower. Developed markets were pushed higher by broadly positive, but slowing, global economic and earnings data despite several significant political events in Europe during the quarter. Concerns over a "no deal" Brexit and worries over a pending budget approval in Italy weighed on returns, while markets were encouraged by progress in trade negotiations between the US and the eurozone and signs of continued political stability in Japan. The MSCI EAFE Index returned 5.1% and 2.7% for the last twelve months in local currency and USD terms respectively.
- Emerging markets underperformed relative to developed markets for the 3rd quarter, posting a flat return in local currency terms that was exacerbated by the rising USD. The MSCI Emerging Markets Index returned 0.0% and -1.1% in local currency and USD terms respectively. Returns in emerging markets were the hurt by the deterioration in trade negotiations between the US and China followed by several rounds of new tariffs enacted by both countries. Emerging market stocks were also negatively affected by rising US interest rates coupled with an appreciating USD. Many emerging market countries and companies issue debt denominated in USD and the combination of higher interest rates and a relatively weaker local currency can put stress on the balance sheets of these borrowers, especially those heavily dependent on external capital. This was particularly problematic for Turkey, Argentina and South Africa during the 3rd quarter with Argentina having to expedite their request for an emergency bailout of \$50 billion from the World Monetary Fund. In positive news, Mexico and the US made progress toward the renegotiation of NAFTA. One year returns for the MSCI Emerging Market Index were 2.7% in local currency terms and -0.8% in USD terms.



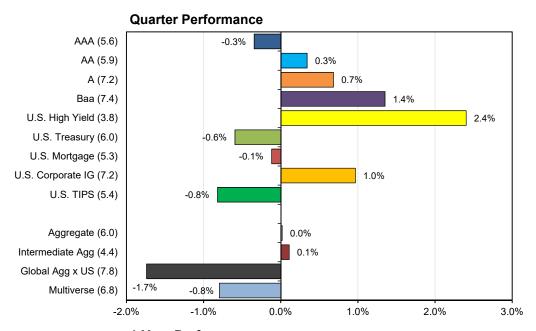


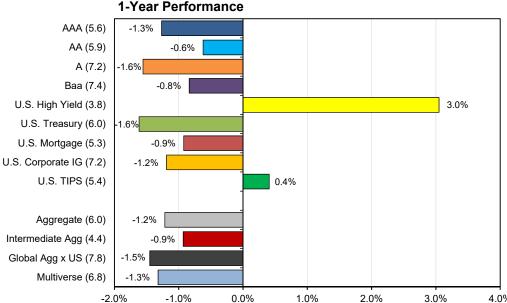
MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.4%	3.3%	-2.4%
Consumer Discretionary	11.1%	-0.5%	3.3%
Consumer Staples	11.3%	-0.1%	2.5%
Energy	6.0%	3.5%	24.6%
Financials	19.8%	0.9%	-4.0%
Health Care	10.9%	5.6%	7.1%
Industrials	14.3%	2.6%	4.2%
Information Technology	6.2%	0.3%	7.4%
Materials	8.1%	0.4%	5.1%
Real Estate	3.5%	-3.0%	1.0%
Utilities	3.3%	-0.6%	0.7%
Total	100.0%	1.4%	2.7%
MSCI - ACWIXUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	7.6%	-3.0%	-4.1%
Consumer Discretionary	10.7%	-3.2%	-1.4%
Consumer Staples	9.7%	-0.6%	1.6%
Energy	7.1%	4.1%	18.3%
Financials	22.0%	1.7%	-1.9%
Health Care	8.3%	4.5%	7.6%
Industrials	11.7%	2.8%	3.8%
Information Technology	8.5%	1.3%	5.6%
Materials	8.2%	0.4%	5.2%
Real Estate	3.2%	-3.5%	-2.7%
Utilities	3.0%	-0.9%	-1.2%
Total	100.0%	0.7%	1.8%
MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	14.8%	-9.4%	-6.0%
Consumer Discretionary	11.3%	-9.9%	-13.2%
Consumer Staples	6.7%	-2.9%	-1.9%
Energy	6.3%	14.5%	26.0%
Financials	23.3%	1.5%	0.4%
Health Care	3.1%	-7.2%	11.4%
Industrials	5.3%	2.5%	-4.3%
Information Technology	15.9%	2.2%	2.3%
Materials	7.8%	4.5%	8.6%
Real Estate	2.9%	-5.6%	-15.1%
Utilities	2.5%	-1.9%	-5.4%
Total	100.0%	-1.1%	-0.8%

	MSCI-EAFE	MSCI-ACWIXUS	Quarter	1- Year
Country	Weight	Weight	Return	Return
Japan	24.6%	16.9%	3.7%	10.2%
United Kingdom	17.5%	12.0%	-1.7%	2.9%
France	11.2%	7.7%	2.8%	4.2%
Germany	9.4%	6.5%	-0.6%	-5.4%
Switzerland	8.3%	5.7%	7.3%	1.6%
Australia	6.8%	4.7%	-0.9%	4.4%
Hong Kong	3.5%	2.4%	-1.0%	2.9%
Netherlands	3.3%	2.3%	-1.5%	-1.6%
Spain	3.0%	2.0%	-2.4%	-9.7%
Sweden	2.7%	1.9%	7.0%	-3.3%
Italy	2.3%	1.6%	-4.5%	-8.9%
Denmark	1.7%	1.2%	2.3%	-4.2%
Singapore	1.3%	0.9%	2.2%	6.9%
Finland	1.1%	0.7%	3.2%	10.3%
Belgium	1.0%	0.7%	-5.2%	-11.8%
Norway	0.8%	0.5%	6.7%	13.7%
Israel	0.6%	0.4%	5.1%	14.9%
Ireland	0.5%	0.4%	-5.4%	-6.1%
Austria	0.2%	0.2%	0.2%	-3.1%
New Zealand	0.2%	0.2%	2.4%	4.4%
Portugal	0.2%	0.1%	-0.6%	1.7%
Total EAFE Countries	100.0%	68.7%	1.4%	2.7%
Canada		6.7%	0.8%	1.9%
Total Developed Countries		75.3%	1.3%	2.7%
China		7.6%	-7.5%	-2.2%
Korea		3.7%	0.7%	1.4%
Taiwan		3.0%	6.5%	9.7%
India		2.1%	-2.3%	1.1%
Brazil		1.5%	6.1%	-14.0%
South Africa		1.5%	-7.4%	-5.1%
Russia		0.9%	6.2%	13.7%
Mexico		0.8%	6.9%	-4.4%
Thailand		0.6%	13.6%	15.2%
Malaysia		0.6%	3.8%	7.6%
Indonesia		0.5%	2.0%	-10.4%
Poland		0.3%	10.6%	-5.0%
Chile		0.3%	-2.0%	-5.7%
Philippines		0.2%	1.0%	-15.6%
Qatar		0.2%	12.8%	25.3%
United Arab Emirates		0.2%	3.1%	-6.9%
Turkey		0.2%	-20.5%	-41.7%
Colombia		0.1%	-2.5%	10.0%
Peru		0.1%	-2.1%	12.2%
Greece		0.1%	-17.6%	-14.8%
Hungary		0.1%	4.7%	-5.0%
Czech Republic		0.1%	4.0%	12.8%
Egypt		0.1%	-6.8%	-7.1%
Pakistan		0.0%	-4.9%	-20.6%
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Total Emerging Countries		24.7%	-1.1%	-0.8%



- Broad fixed income benchmarks had mixed results during the 3rd quarter. Interest rates rose across all maturities on the US Treasury Yield Curve. The Federal Open Market Committee (FOMC), decided to increase short-term interest rates by 25 basis points at their September meeting citing continued strength in the economy and stable inflation. This is the third rate hike of 2018. The current Fed Funds Rate target range sits at 2.00%-2.25%. The FOMC also changed the language used in its policy statement, removing the word "accommodative", which investors took as a signal that the Fed plans to continue its trend of monetary policy tightening. The yield curve continued to flatten, although very gradually, as short-term yields rose at a greater rate than long-term yields during the quarter. The difference in yields between the 2year and 10-year Treasury now sits at just 0.24%. As the curve continues to flatten, it moves closer to becoming "inverted", which happens when shortterm maturities have greater yields than long-term securities. Historically, an inverted yield curve has signaled a greater probability of a recession. The Fed is also continuing the reduction of the size of its balance sheet by slowing its pace of reinvestment as the securities it holds mature. The Bloomberg Barclays US Aggregate Index was flat during the quarter, posting a 0.0% return. Over the 1-year period the index has fallen -1.2%.
- Within investment grade credit, lower quality corporate issues outperformed higher quality issues as credit spreads tightened steadily over the quarter. On an absolute basis, without negating the duration differences in the sub-indices, Baa rated credit was the best performing investment grade credit quality segment returning 1.4% for the quarter, while AAA was the worst performing, falling -0.3%. High yield debt outperformed relative to investment grade credit, returning 2.0%, as spreads tightened to a greater degree for these issues and the index benefitted from less sensitivity to rising interest rates due to its lower duration. Returns are negative for all investment grade quality segments when viewed over the 1-year period while high yield continues to outperform with a return of 3.0%.
- Of the Bloomberg Barclays US Aggregate Index's three broad sectors, US investment grade corporates were the best performing investment grade sector through the quarter, returning 1.0%, and the only sector to post a positive return for the period. Corporate credit outperformed as credit spreads tightened. Demand for these securities outweighed supply for the period despite considerable new issuance and a headwind from the sectors higher duration relative to other index sectors. Treasuries were the worst performing sector posting a -0.6% return. Over the 1-year period, all three broad investment grade sectors posted losses with mortgages, investment grade credit and Treasuries falling -0.9%, -1.2% and -1.6% respectively.

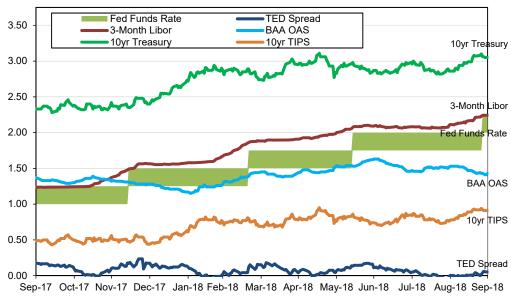


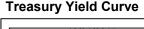


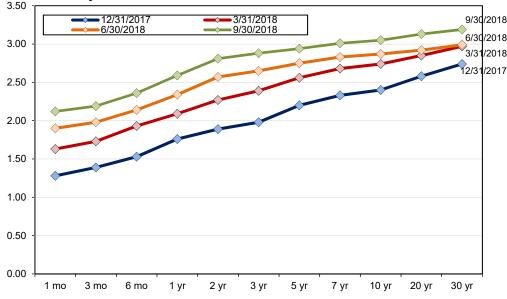


- Global fixed income indices continue to struggle relative to their domestic counterparts, underperforming during the 3rd quarter. These indices have lower yields and their relatively high duration acted as a headwind to performance in the current quarter as interest rates increased. The returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. During the 3rd quarter the USD strengthened against most other currencies, negatively impacting the returns on global bond indices. The return on global bonds, as represented by the Bloomberg Barclays Global Aggregate ex US Index, was -1.7% and -1.5% for the guarter and 1-year period respectively. As the global economy continues to recover, several international central banks have started to move toward less accommodative postures. Notably, the ECB, began to slow its monthly bond purchase program in September, reducing new purchases to 15 billion euro per month from 30 billion euro per month, as well as forecasting an end to the program by the end of the year assuming the eurozone recovery continues to flourish. However, they have indicated a continuation of reinvestment in maturing securities and would likely not raise interest rates from current levels until summer 2019. The Bank of England increased interest rates by 0.25% during the guarter citing improvement in their near-term economic outlook and the Bank of Japan has changed its policy to allow flexibility for future tightening in the future.
- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the line graphs to the right. The '1-Year Trailing Market Rates' chart illustrates that the 10-year Treasury yield (green line) rose steadily during the end of the 3rd quarter, ending the period at 3.05%. The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-Treasury issues. This line illustrates a steady increase in credit spreads through the first two quarters of 2018, followed by a smooth decline during the 3rd quarter. This decline is equivalent to an interest rate decrease on corporate bonds, which produces an additional tailwind for corporate bond index returns. These credit spreads have tightened by about 20 basis points over the last 3-months. The green band across the graph illustrates the gradual increase in the Federal Funds Rate (three increases in the last twelve months) due to the continued unwinding of accommodative US monetary policy.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. As mentioned, the yield curve continues to flatten as yields on shorter-term maturities have risen more than interest rates on the long end of the curve. The upward momentum of interest rates as well as a general flattening of the yield curve are clearly visible over the last twelve months.

# 1-Year Trailing Market Rates









# **Disclosures**

# Disclosures as they pertain to GHA balanced account:

• Due to the balanced account, Total Equity, Total Fixed Income Composites, GHA LCG, and GHA EXCL A+ returns are shown as segment level returns that do not include their respective cash balances and returns prior to 12/31/2017.



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- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.

### Alpha

- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.

### Beta

- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.

### Consistency

- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.

### Distributed to Paid In (DPI)

- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.

### **Down Market Capture**

- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance

### **Downside Risk**

- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.

### **Excess Return**

- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.

### Excess Risk

- A measure of the standard deviation of a portfolio's performance relative to the risk free return.

### Information Ratio

- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.

### **Public Market Equivalent (PME)**

- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.

### R-Squared

- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.

### Return

- Compounded rate of return for the period.

### Sharpe Ratio

- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.

### Standard Deviation

- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.

### Total Value to Paid In (TVPI)

- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life

### **Tracking Error**

- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.

### **Treynor Ratio**

- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.

### **Up Market Capture**

- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



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