



# RETIREMENT BOARD OF ALLEGHENY COUNTY

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## Emerging Manager Program

March 17, 2016



**Margaret Belmondo, CIMA®**, Director  
**Perry Giovannelli**, Senior Managing Consultant

Two Logan Square, Suite 1600  
18th and Arch Streets  
Philadelphia, PA 19103  
(215) 567-6100  
(215) 567-4180 fax

# **Emerging Managers Program**



**RBAC Emerging Managers Program**  
**Asset Allocation & Performance - Preliminary**  
**As of December 31, 2015**

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Quarter	2015	1 Year	2 Years	3 Years	5 Years	Since Inception	Inception Date
<b>Domestic Equity</b>	<b>18,905,239</b>	<b>44.95</b>	<b>3.09</b>	<b>-4.50</b>	<b>-4.50</b>	<b>1.66</b>	<b>N/A</b>	<b>N/A</b>	<b>1.66</b>	<b>01/01/2014</b>
Fragasso Financial Advisors	7,197,109	17.11	3.87	-4.84	-4.84	5.22	12.76	N/A	11.55	09/01/2012
<i>S&amp;P 500</i>			<i>7.04</i>	<i>1.38</i>	<i>1.38</i>	<i>7.36</i>	<i>15.13</i>	<i>12.57</i>	<i>14.26</i>	<i>09/01/2012</i>
Emerald Advisers, Inc	2,001,675	4.76	N/A	N/A	N/A	N/A	N/A	N/A	0.08	11/01/2015
<i>Russell 3000 Growth Index</i>			<i>7.09</i>	<i>5.09</i>	<i>5.09</i>	<i>8.71</i>	<i>16.62</i>	<i>13.30</i>	<i>-1.20</i>	<i>11/01/2015</i>
Apex Capital Management	4,515,000	10.74	2.91	-1.02	-1.02	4.02	14.65	N/A	14.95	12/01/2011
<i>Russell 2500 Growth Index</i>			<i>3.81</i>	<i>-0.19</i>	<i>-0.19</i>	<i>3.37</i>	<i>14.54</i>	<i>11.43</i>	<i>14.27</i>	<i>12/01/2011</i>
CIM Investment Management SCC	5,167,455	12.29	2.49	-5.76	-5.76	0.11	N/A	N/A	0.11	01/01/2014
<i>Russell 2000 Index</i>			<i>3.59</i>	<i>-4.41</i>	<i>-4.41</i>	<i>0.13</i>	<i>11.65</i>	<i>9.19</i>	<i>0.13</i>	<i>01/01/2014</i>
Cleveland Capital (residual)	24,000	0.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	07/01/2009
<b>Global Equity</b>	<b>2,433,824</b>	<b>5.79</b>	<b>2.38</b>	<b>-4.29</b>	<b>-4.29</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.42</b>	<b>12/01/2014</b>
Fusion Investment Group	2,433,824	5.79	2.38	-4.29	-4.29	N/A	N/A	N/A	-3.42	12/01/2014
<i>MSCI AC World Index</i>			<i>5.15</i>	<i>-1.84</i>	<i>-1.84</i>	<i>1.38</i>	<i>8.26</i>	<i>6.66</i>	<i>-3.41</i>	<i>12/01/2014</i>
<b>Fixed Income</b>	<b>5,224,447</b>	<b>12.42</b>	<b>0.08</b>	<b>1.17</b>	<b>1.17</b>	<b>2.11</b>	<b>N/A</b>	<b>N/A</b>	<b>2.11</b>	<b>01/01/2014</b>
Swarthmore Group	2,708,017	6.44	-0.02	1.37	1.37	2.22	1.01	N/A	1.37	07/01/2012
<i>Barclays Intermediate U.S. Gov/Credit</i>			<i>-0.69</i>	<i>1.07</i>	<i>1.07</i>	<i>2.09</i>	<i>1.10</i>	<i>2.58</i>	<i>1.44</i>	<i>07/01/2012</i>
StoneRidge PMG Advisors, LLC	2,516,430	5.98	0.18	N/A	N/A	N/A	N/A	N/A	0.67	08/01/2015
<i>40 BC Interm Gov't/ 60 BC Interm Credit</i>			<i>-0.61</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>-0.14</i>	<i>08/01/2015</i>

Returns are gross of fees and are expressed as percentages.  
Performance prior to 1/1/14 are based on information supplied by the managers.  
\* Manager reports on a semi-annual basis.



**RBAC Emerging Managers Program**  
**Asset Allocation & Performance - Preliminary**  
**As of December 31, 2015**

	Allocation		Performance(%)							
	Market Value (\$)	%	1 Quarter	2015	1 Year	2 Years	3 Years	5 Years	Since Inception	Inception Date
<b>Alternatives</b>	<b>15,491,280</b>	<b>36.84</b>	<b>2.82</b>	<b>6.63</b>	<b>6.63</b>	<b>12.53</b>	<b>N/A</b>	<b>N/A</b>	<b>12.53</b>	<b>01/01/2014</b>
ERECT Fund II	6,991,829	16.63	3.35	7.25	7.25	7.11	8.14	8.65	6.92	07/01/2005
<i>NCREIF Property Index</i>			<i>2.91</i>	<i>13.33</i>	<i>13.33</i>	<i>12.57</i>	<i>12.04</i>	<i>12.18</i>	<i>8.37</i>	<i>07/01/2005</i>
<i>NCREIF Fund Index-ODCE (VW)</i>			<i>3.34</i>	<i>15.01</i>	<i>15.01</i>	<i>13.75</i>	<i>13.81</i>	<i>13.66</i>	<i>7.21</i>	<i>07/01/2005</i>
Washington Alliance *	5,464,953	12.99	2.91	10.30	10.30	14.39	N/A	N/A	16.29	09/01/2013
<i>NCREIF Property Index</i>			<i>2.91</i>	<i>13.33</i>	<i>13.33</i>	<i>12.57</i>	<i>12.04</i>	<i>12.18</i>	<i>12.18</i>	<i>09/01/2013</i>
Charlestown Capital *	3,034,499	7.22	2.13	1.89	1.89	31.87	21.08	N/A	32.54	01/01/2012
<i>CA US Private Equity Index</i>			<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>01/01/2012</i>
<b>Total Fund - EM Program</b>	<b>42,054,790</b>	<b>100.00</b>	<b>2.51</b>	<b>0.30</b>	<b>0.30</b>	<b>5.65</b>	<b>N/A</b>	<b>N/A</b>	<b>5.65</b>	<b>01/01/2014</b>

Note: At any point in time a private equity portfolio's valuation may be different from market prices due to an inherent lag effect in the industry. The reporting lag inherent in this process means that there can be a valuation lag of a quarter or, in some cases, even longer. For Private Equity and other illiquid asset classes shown herein, performance is calculated for the relevant period(s) using a roll-forward valuation approach whereby the last reported valuation is adjusted for cash flows to provide an initial estimated valuation, typically resulting in a zero return for the lagging period. Performance is adjusted and finalized when the updated valuation is reported. The roll-forward valuation methodology described is consistent with guidance provided within the CFA Institute's Global Investment Performance Standards (GIPS). Performance is calculated using the Modified-Dietz time weighted methodology to maintain consistency with the other returns in this exhibit. For since inception IRR performance, please refer to the fund-specific overview page.

Returns are gross of fees and are expressed as percentages.  
Performance prior to 1/1/14 are based on information supplied by the managers.  
\* Manager reports on a semi-annual basis.

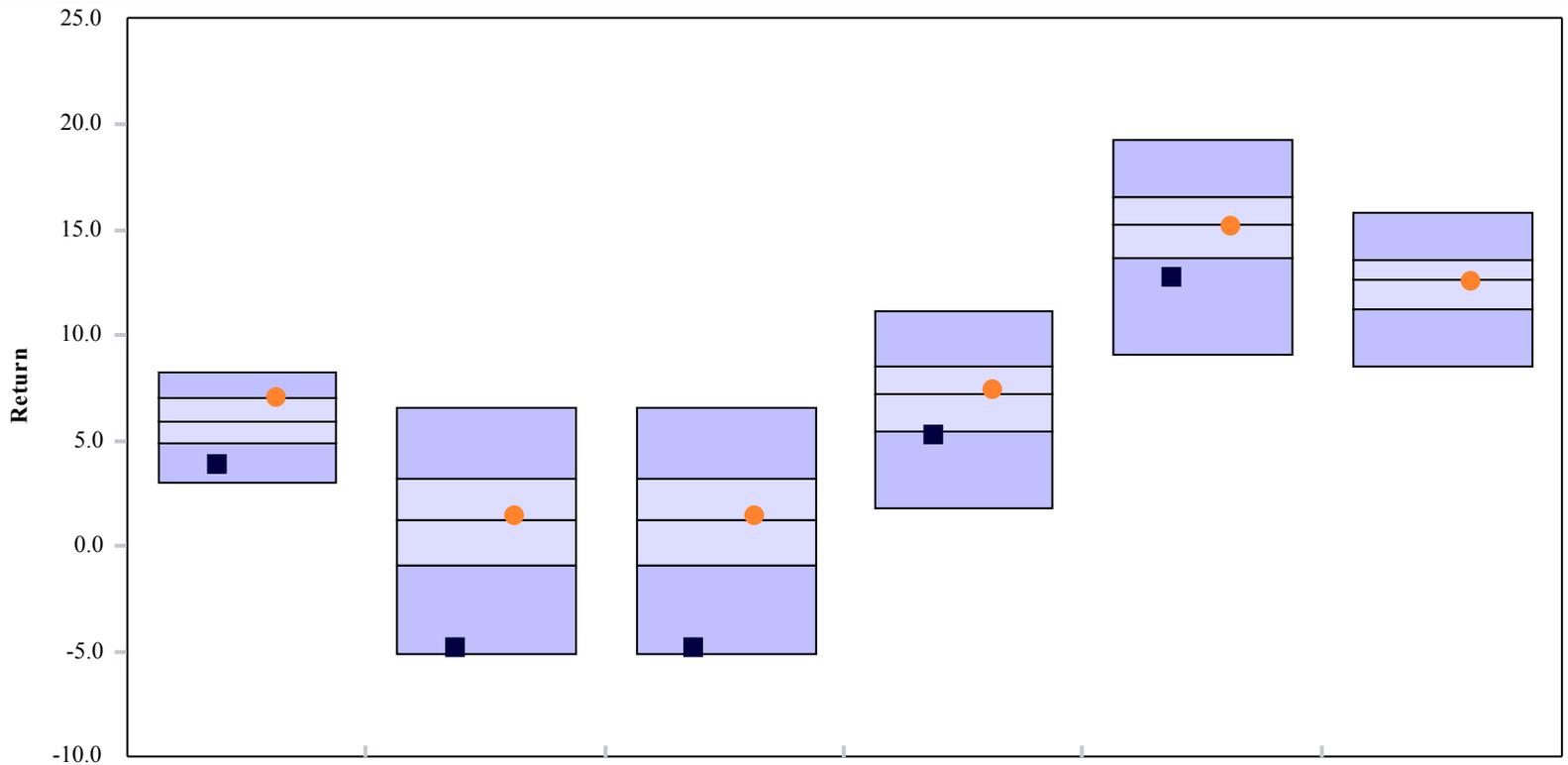


**Private Equity Summary of Partnership  
RBAC Emerging Managers Program  
As of December 31, 2015**

<b>Partnerships</b>	<b>Investment Strategy</b>	<b>Vintage Year</b>	<b>Capital Commitment (\$000)</b>	<b>Drawn Down (\$000)</b>	<b>Distributed (\$000)</b>	<b>Market Value (\$000)</b>	<b>IRR (%)</b>	<b>Commitment Date</b>
Charlestown Capital	Venture Capital	2015	1,000.00	1,000.00	0.11	3,034.50	32.24	01/01/2012
Washington Alliance	Real Estate	2013	5,000.00	5,000.00	683.53	5,464.95	14.55	09/01/2013



**Peer Group Analysis**  
**IM U.S. Large Cap Core Equity (SA+CF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**



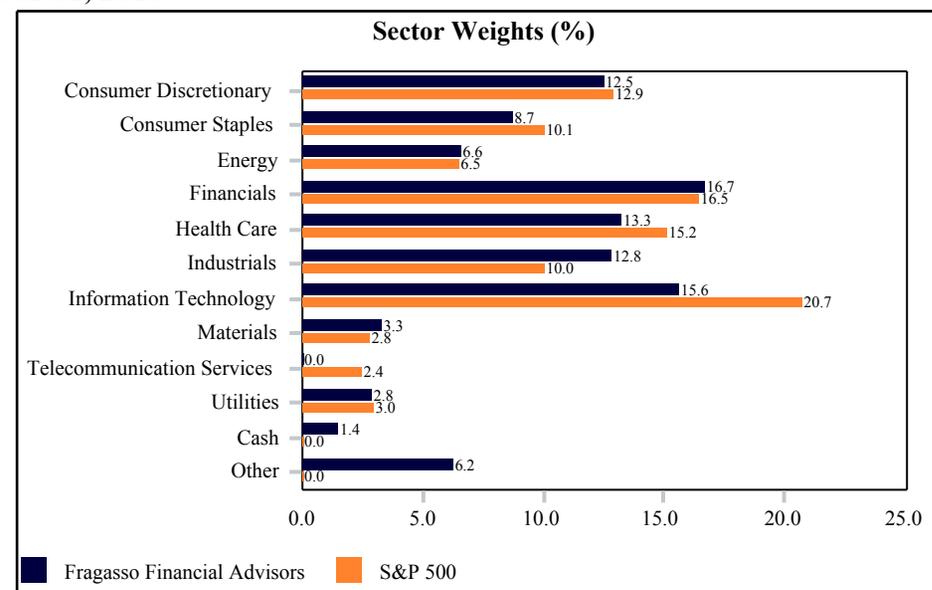
	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ Fragasso Financial Advisors	3.87 (89)	-4.84 (95)	-4.84 (95)	5.22 (78)	12.76 (84)	N/A
● S&P 500	7.04 (25)	1.38 (50)	1.38 (50)	7.36 (46)	15.13 (53)	12.57 (53)
5th Percentile	8.21	6.59	6.59	11.15	19.26	15.86
1st Quartile	7.01	3.17	3.17	8.55	16.57	13.59
Median	5.94	1.27	1.27	7.18	15.27	12.63
3rd Quartile	4.92	-0.95	-0.95	5.42	13.63	11.23
95th Percentile	2.96	-5.10	-5.10	1.78	9.11	8.50
Population	295	295	295	289	284	258

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.



**Portfolio Characteristics**  
**Fragasso Financial Advisors vs. S&P 500**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	116,339	137,342
Median Mkt. Cap (\$M)	51,119	17,669
Price/Earnings ratio	14.99	19.30
Price/Book ratio	2.46	3.10
5 Yr. EPS Growth Rate (%)	11.53	7.89
Current Yield (%)	2.29	2.17
Number of Stocks	39	504

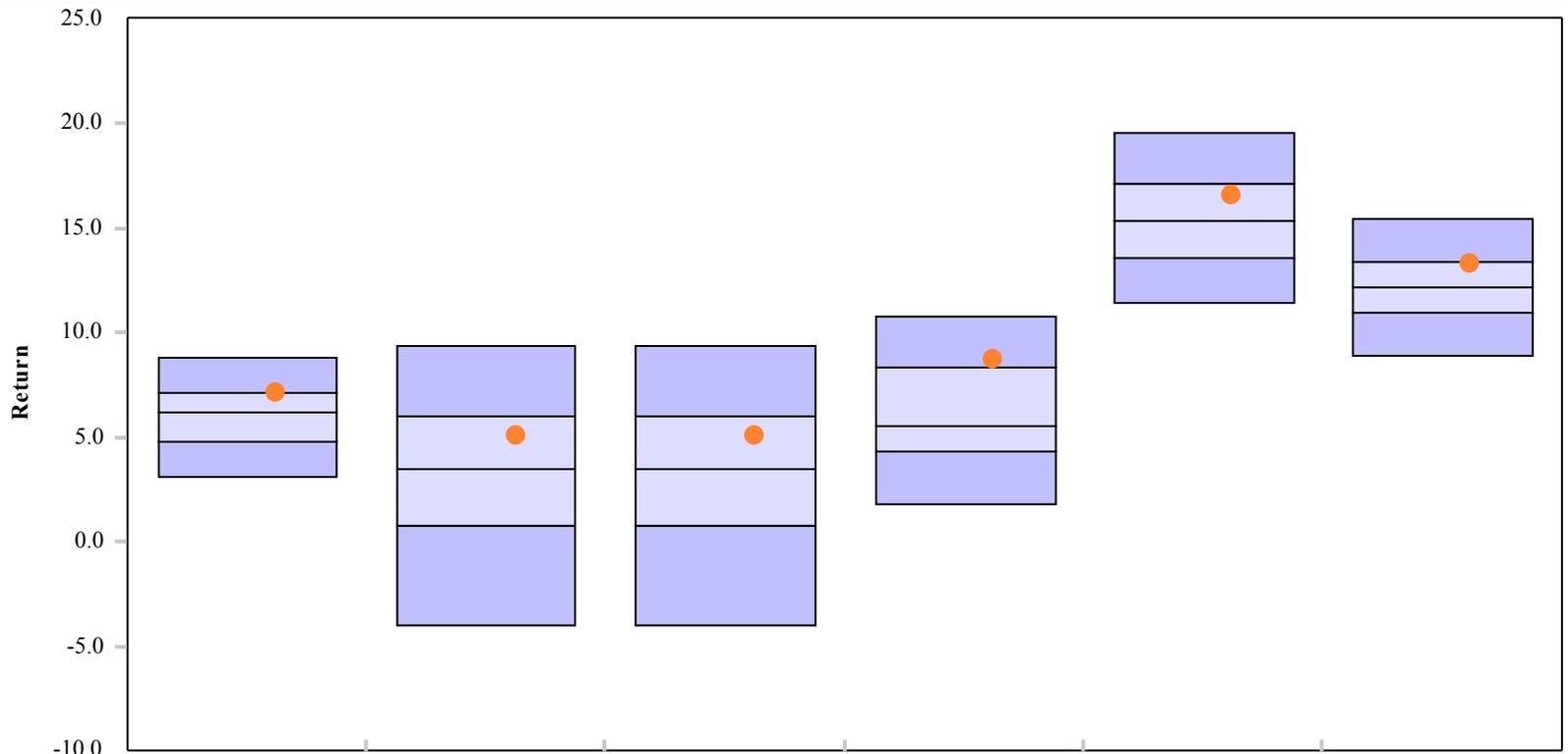


Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Express Scripts Holding Co	3.28	0.33	2.95	7.97
Ball Corp	3.26	0.06	3.20	17.15
Berkshire Hathaway Inc	3.19	1.38	1.81	1.26
Procter & Gamble Co (The)	3.12	1.21	1.91	11.38
Microsoft Corp	3.10	2.48	0.62	26.20
Fifth Third Bancorp	2.94	0.09	2.85	6.97
International Business Machines Corp	2.93	0.69	2.24	-4.18
Alphabet Inc	2.92	1.27	1.65	21.87
PNC Financial Services Group Inc.	2.88	0.27	2.61	7.47
PPL Corp	2.85	0.13	2.72	4.95
% of Portfolio	30.47	7.91		

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	3.10	2.48	0.62	26.20
Alphabet Inc	2.92	1.27	1.65	21.87
Ball Corp	3.26	0.06	3.20	17.15
L-3 Communications Holdings Inc	2.84	0.05	2.79	14.97
Masco Corp	2.76	0.05	2.71	12.79
Fluor Corp	2.63	0.04	2.59	11.98
Goodyear Tire & Rubber Co	2.77	0.05	2.72	11.63
Procter & Gamble Co (The)	3.12	1.21	1.91	11.38
Johnson & Johnson	2.57	1.59	0.98	10.84
American Tower Corp	2.35	0.23	2.12	10.77
% of Portfolio	28.32	7.03		



**Peer Group Analysis**  
**IM U.S. All Cap Growth Equity (SA+CF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**



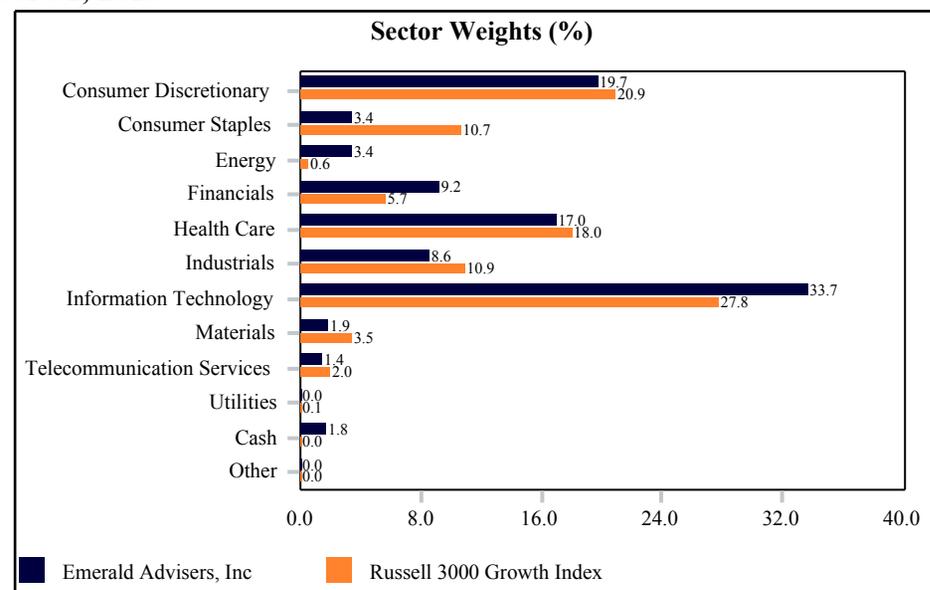
	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ Emerald Advisers, Inc	N/A	N/A	N/A	N/A	N/A	N/A
● Russell 3000 Growth Index	7.09 (26)	5.09 (39)	5.09 (39)	8.71 (22)	16.62 (31)	13.30 (27)
5th Percentile	8.79	9.39	9.39	10.74	19.61	15.45
1st Quartile	7.10	6.03	6.03	8.35	17.18	13.44
Median	6.21	3.52	3.52	5.50	15.34	12.20
3rd Quartile	4.79	0.77	0.77	4.33	13.54	10.95
95th Percentile	3.13	-4.03	-4.03	1.80	11.39	8.93
Population	43	42	42	42	41	40

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.



**Portfolio Characteristics**  
**Emerald Advisers, Inc vs. Russell 3000 Growth Index**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	86,801	124,029
Median Mkt. Cap (\$M)	3,572	1,581
Price/Earnings ratio	24.73	22.26
Price/Book ratio	4.13	5.26
5 Yr. EPS Growth Rate (%)	18.21	12.61
Current Yield (%)	0.53	1.53
Number of Stocks	97	1,838

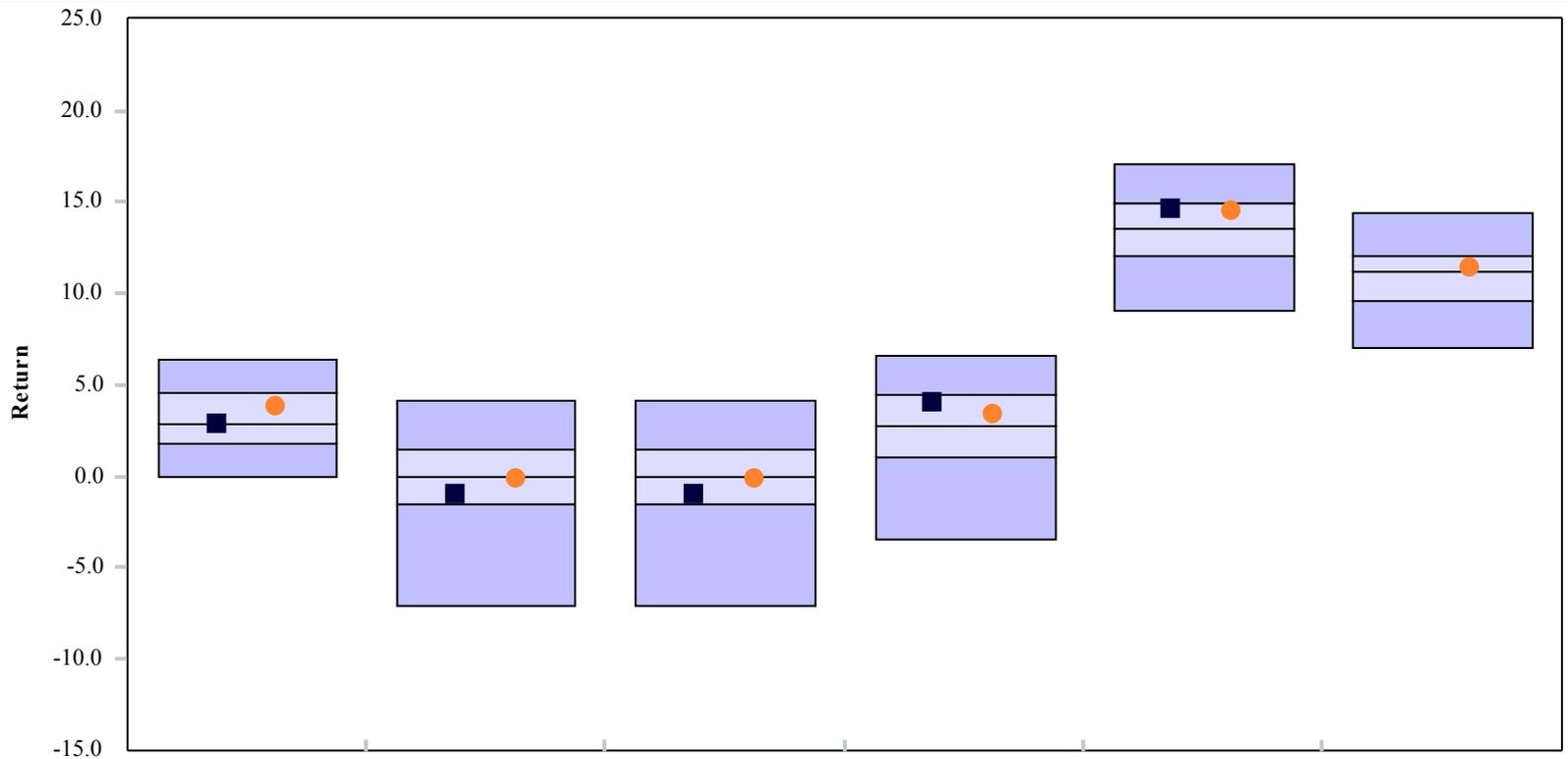


Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Facebook Inc	4.20	1.99	2.21	16.42
Apple Inc	3.57	5.32	-1.75	-4.16
Microsoft Corp	3.04	2.23	0.81	26.20
Southwest Airlines Co.	2.83	0.25	2.58	13.39
Alphabet Inc	2.38	1.97	0.41	21.87
Akorn Inc	2.20	0.03	2.17	30.89
Starbucks Corp	2.10	0.79	1.31	5.96
Walt Disney Co (The)	2.09	1.56	0.53	3.48
Alphabet Inc	2.09	1.96	0.13	24.73
Customers Bancorp Inc	1.96	0.00	1.96	5.91
% of Portfolio	26.46	16.10		

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Relypsa Inc	1.28	0.01	1.27	53.11
Dicerna Pharmaceuticals Inc	0.39	0.00	0.39	44.58
Alarm.com Holdings Inc	0.93	0.00	0.93	43.05
Amazon.com Inc	1.90	2.26	-0.36	32.04
Akorn Inc	2.20	0.03	2.17	30.89
ORBCOMM Inc	0.75	0.00	0.75	29.75
Bonanza Creek Energy Inc	0.84	0.00	0.84	29.48
TETRA Technologies Inc.	0.70	0.00	0.70	27.24
Microsoft Corp	3.04	2.23	0.81	26.20
Pieris Pharmaceuticals Inc	0.45	0.00	0.45	25.14
% of Portfolio	12.48	4.53		



**Peer Group Analysis**  
**IM U.S. SMID Cap Growth Equity (SA+CF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**



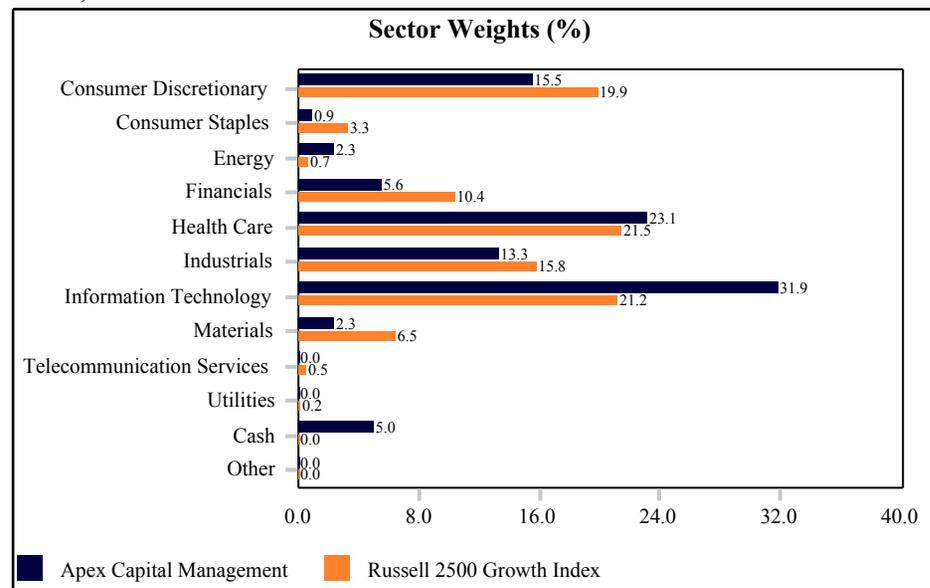
	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ Apex Capital Management	2.91 (50)	-1.02 (59)	-1.02 (59)	4.02 (31)	14.65 (33)	N/A
● Russell 2500 Growth Index	3.81 (36)	-0.19 (53)	-0.19 (53)	3.37 (41)	14.54 (35)	11.43 (47)
5th Percentile	6.42	4.11	4.11	6.63	17.09	14.37
1st Quartile	4.54	1.47	1.47	4.45	14.98	12.09
Median	2.90	0.03	0.03	2.70	13.56	11.20
3rd Quartile	1.76	-1.50	-1.50	1.03	12.08	9.65
95th Percentile	0.01	-7.07	-7.07	-3.46	9.04	7.00
Population	65	64	64	62	57	54

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.



**Portfolio Characteristics**  
**Apex Capital Management vs. Russell 2500 Growth Index**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	5,369	4,354
Median Mkt. Cap (\$M)	4,365	1,091
Price/Earnings ratio	24.21	22.82
Price/Book ratio	4.28	4.12
5 Yr. EPS Growth Rate (%)	18.67	16.04
Current Yield (%)	0.49	0.88
Number of Stocks	79	1,505



**Top Ten Equity Holdings**

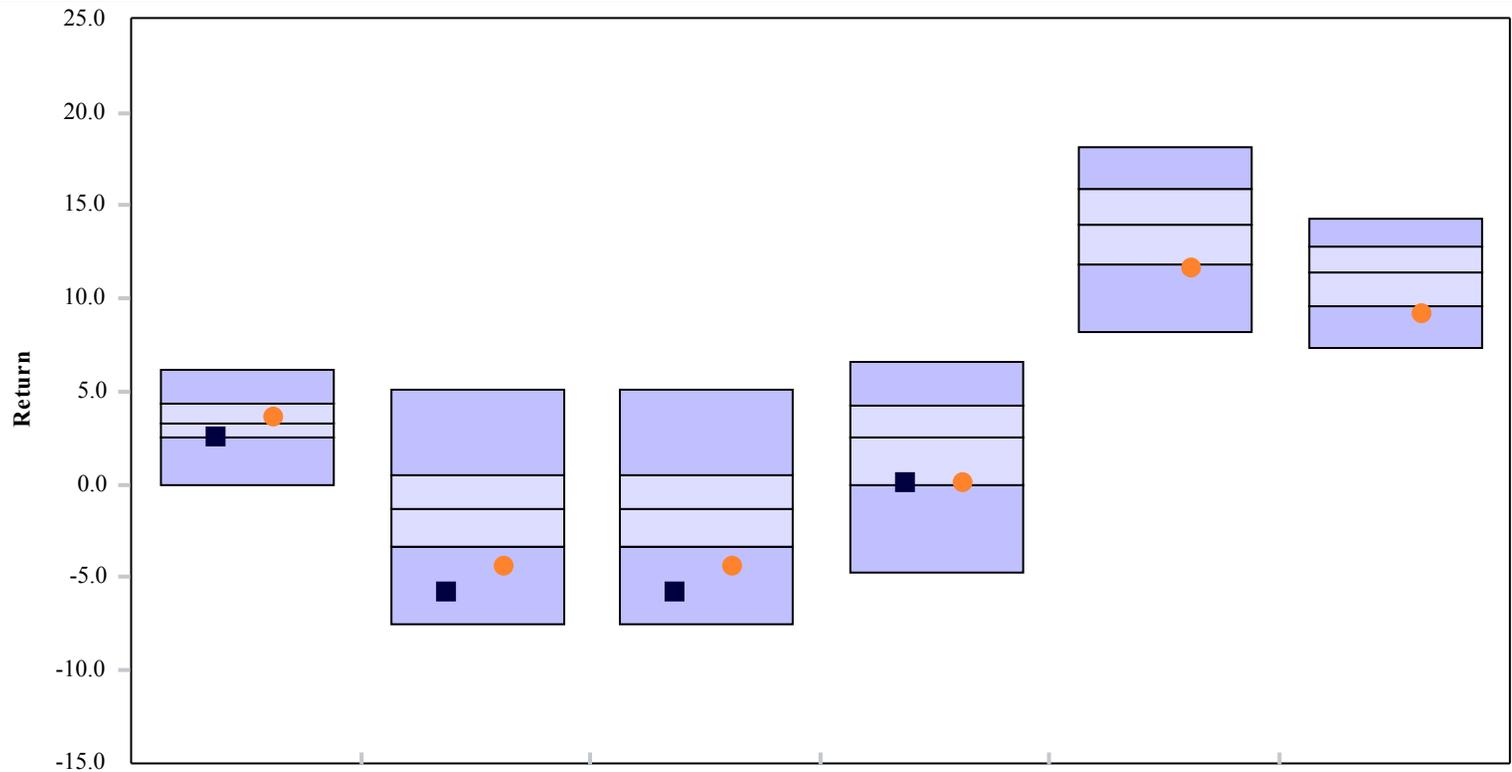
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
CASH	4.98	0.00	4.98	N/A
Total System Services Inc.	2.80	0.44	2.36	9.82
Global Payments Inc.	2.62	0.46	2.16	12.47
Heartland Payment Systems Inc	2.50	0.18	2.32	50.67
Autoliv Inc	2.39	0.00	2.39	14.98
Foot Locker Inc.	2.36	0.42	1.94	-9.23
CBRE Group Inc	2.12	0.00	2.12	8.06
Tableau Software Inc	2.05	0.25	1.80	18.10
IAC/InterActiveCorp	1.93	0.23	1.70	-7.52
First Republic Bank	1.89	0.00	1.89	5.49
% of Portfolio	25.64	1.98		

**Ten Best Performers**

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Ophthotech Corp	1.01	0.10	0.91	93.80
Ionis Pharmaceuticals Inc	1.81	0.39	1.42	53.22
Heartland Payment Systems Inc	2.50	0.18	2.32	50.67
KapStone Paper & Packaging Corp	1.02	0.10	0.92	37.43
Tandem Diabetes Care Inc	0.22	0.01	0.21	34.05
Akorn Inc	1.56	0.16	1.40	30.89
MercadoLibre Inc	1.85	0.00	1.85	25.68
Veeva Systems Inc	0.55	0.11	0.44	23.24
Centene Corp	1.71	0.42	1.29	21.35
MarketAxess Holdings Inc	0.74	0.22	0.52	20.39
% of Portfolio	12.97	1.69		



**Peer Group Analysis**  
**IM U.S. Small Cap Core Equity (SA+CF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**



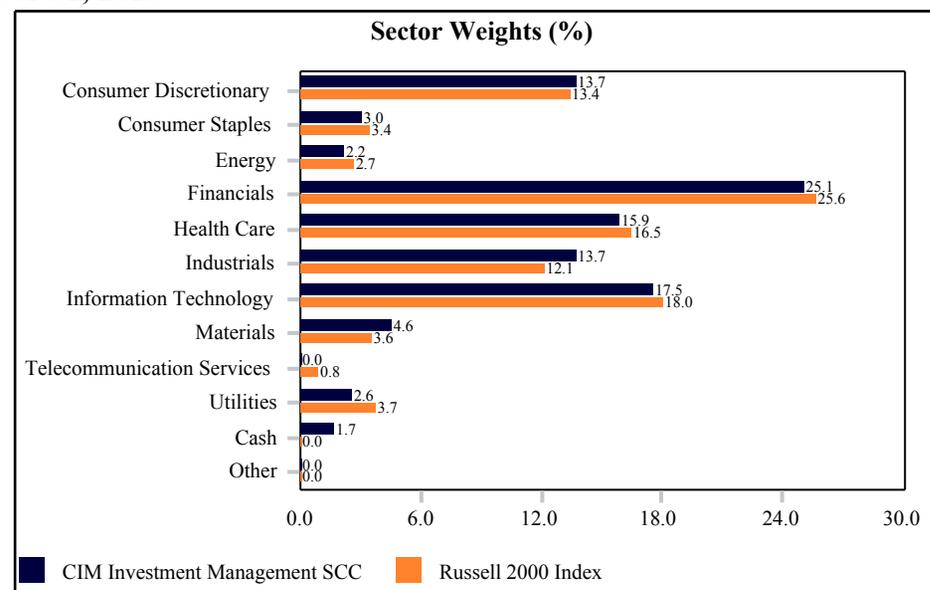
	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ CIM Investment Management SCC	2.49 (76)	-5.76 (91)	-5.76 (91)	0.11 (75)	N/A	N/A
● Russell 2000 Index	3.59 (41)	-4.41 (82)	-4.41 (82)	0.13 (75)	11.65 (79)	9.19 (81)
5th Percentile	6.20	5.06	5.06	6.55	18.15	14.26
1st Quartile	4.37	0.55	0.55	4.30	15.88	12.78
Median	3.32	-1.36	-1.36	2.54	14.02	11.42
3rd Quartile	2.51	-3.34	-3.34	-0.01	11.84	9.63
95th Percentile	-0.01	-7.46	-7.46	-4.70	8.26	7.34
Population	143	142	142	140	138	129

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.



**Portfolio Characteristics**  
**CIM Investment Management SCC vs. Russell 2000 Index**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	2,171	1,881
Median Mkt. Cap (\$M)	1,917	684
Price/Earnings ratio	19.88	19.45
Price/Book ratio	2.30	2.35
5 Yr. EPS Growth Rate (%)	14.32	10.91
Current Yield (%)	1.32	1.51
Number of Stocks	169	1,988

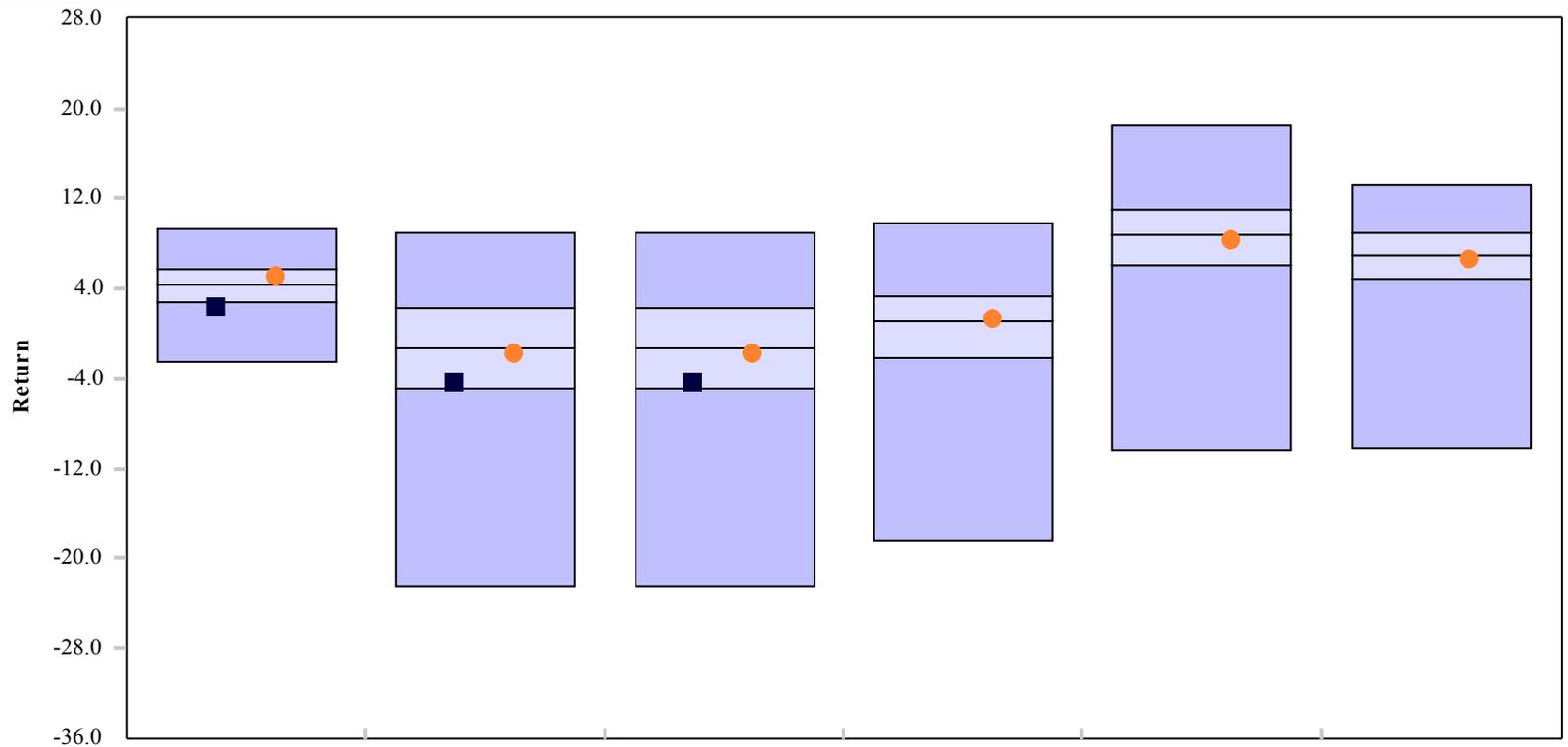


Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
CASH	1.72	0.00	1.72	N/A
On Assignment Inc	1.21	0.14	1.07	21.82
New Jersey Resources Corp	1.11	0.17	0.94	10.69
Healthcare Realty Trust Inc	1.09	0.17	0.92	15.32
Molina Healthcare Inc.	1.08	0.14	0.94	-12.66
STERIS plc	1.08	0.38	0.70	16.37
RLJ Lodging Trust	1.06	0.17	0.89	-13.14
AMC Entertainment Holdings Inc	1.02	0.03	0.99	-3.95
Columbia Banking System Inc	1.01	0.11	0.90	5.23
West Pharmaceutical Services Inc.	1.01	0.26	0.75	11.51
% of Portfolio	11.39	1.57		

Ten Best Performers				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Pacira Pharmaceuticals Inc	0.55	0.17	0.38	86.84
TrueCar Inc	0.63	0.03	0.60	83.11
Celldex Therapeutics Inc	0.80	0.09	0.71	48.77
Dermira Inc	0.74	0.03	0.71	48.29
Hawaiian Holdings Inc.	0.81	0.10	0.71	43.15
KapStone Paper & Packaging Corp	0.46	0.11	0.35	37.43
U S Silica Holdings Inc	0.25	0.06	0.19	33.35
TESARO Inc	0.76	0.07	0.69	30.47
Kulicke and Soffa Industries Inc	0.50	0.00	0.50	27.12
Ligand Pharmaceuticals Inc	0.88	0.11	0.77	26.58
% of Portfolio	6.38	0.77		



**Peer Group Analysis**  
**IM Global Equity (SA+CF+MF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

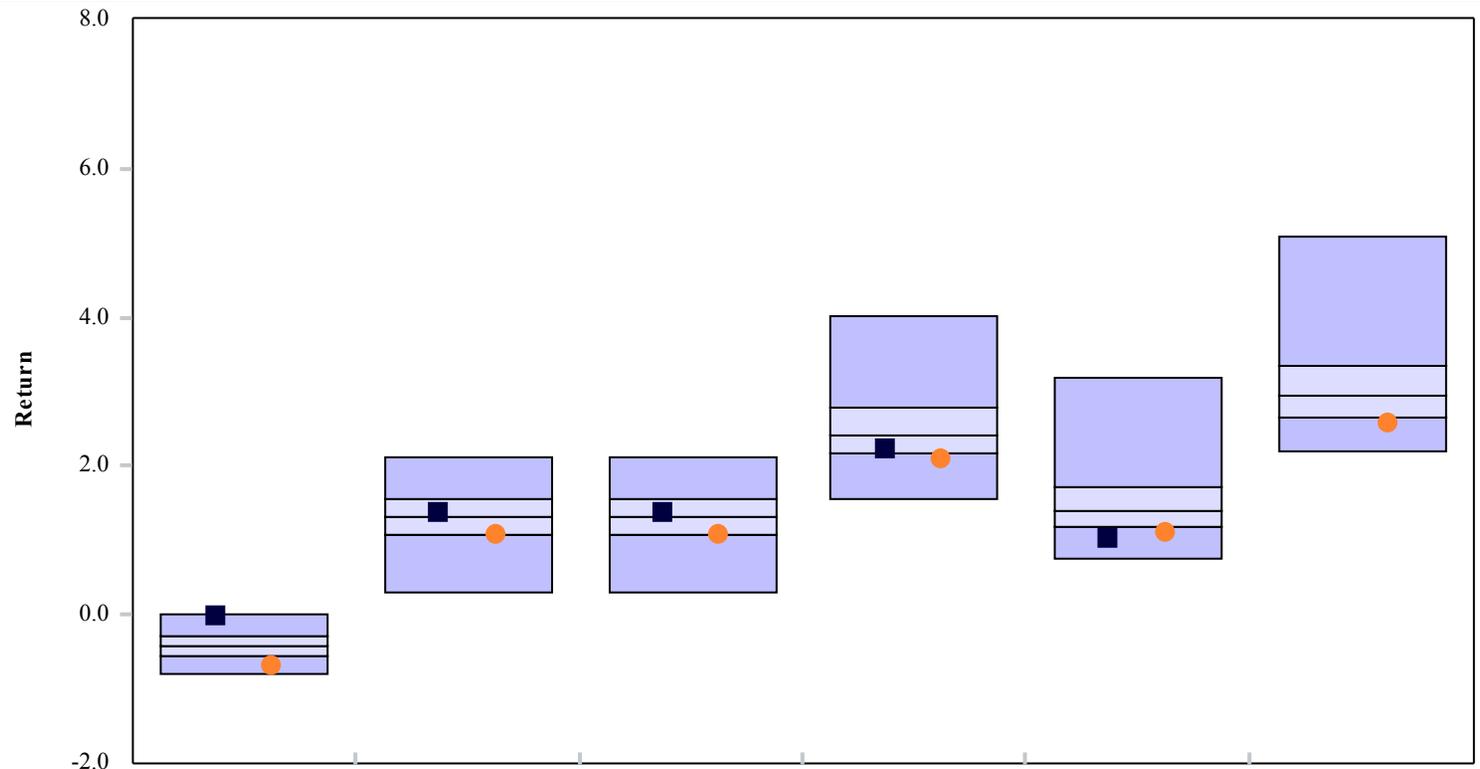


	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ Fusion Investment Group	2.38 (80)	-4.29 (73)	-4.29 (73)	N/A	N/A	N/A
● MSCI AC World Index	5.15 (36)	-1.84 (56)	-1.84 (56)	1.38 (46)	8.26 (56)	6.66 (56)
5th Percentile	9.39	8.95	8.95	9.83	18.61	13.21
1st Quartile	5.76	2.35	2.35	3.30	11.02	8.94
Median	4.43	-1.23	-1.23	1.07	8.80	7.01
3rd Quartile	2.89	-4.87	-4.87	-2.09	6.09	4.93
95th Percentile	-2.50	-22.55	-22.55	-18.44	-10.40	-10.19
Population	1,820	1,738	1,738	1,633	1,504	1,214

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.



**Peer Group Analysis**  
**IM U.S. Intermediate Duration (SA+CF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**



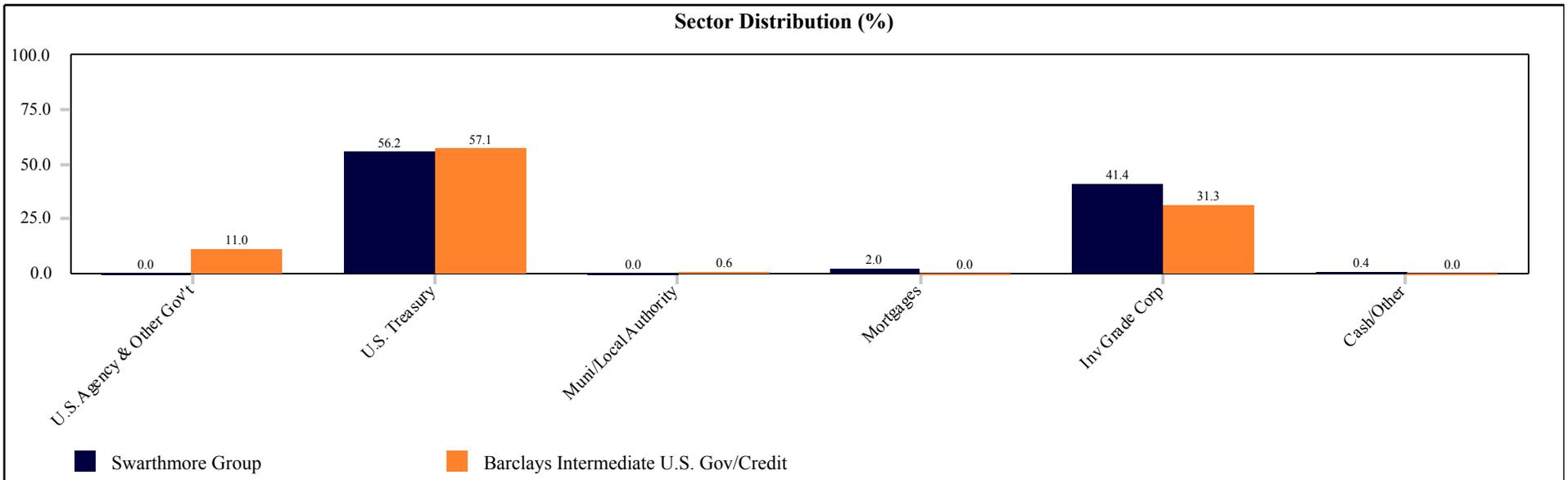
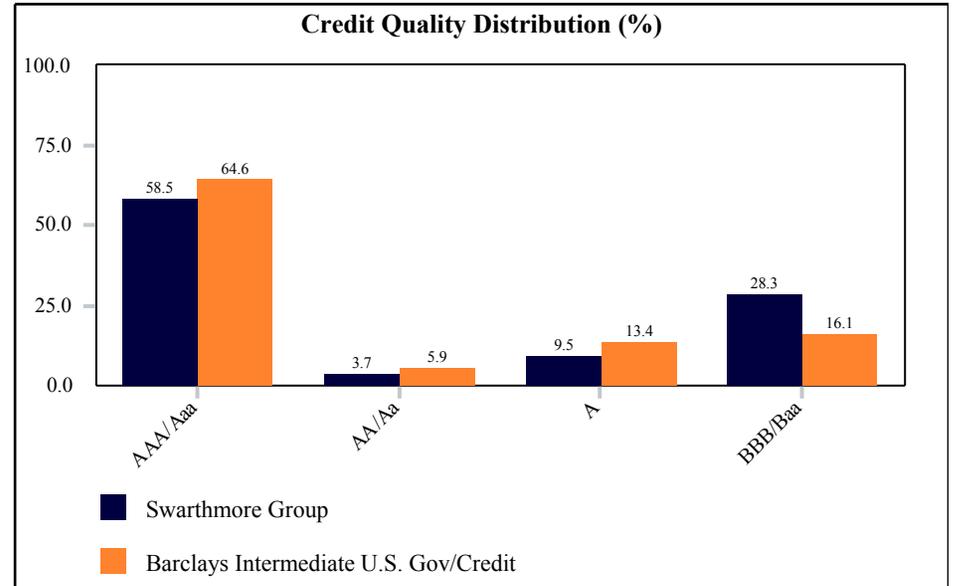
	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ Swarthmore Group	-0.02 (7)	1.37 (41)	1.37 (41)	2.22 (71)	1.01 (91)	N/A
● Barclays Intermediate U.S. Gov/Credit	-0.69 (90)	1.07 (76)	1.07 (76)	2.09 (81)	1.10 (86)	2.58 (79)
5th Percentile	0.01	2.13	2.13	4.02	3.19	5.10
1st Quartile	-0.29	1.55	1.55	2.78	1.72	3.34
Median	-0.43	1.30	1.30	2.41	1.41	2.95
3rd Quartile	-0.56	1.08	1.08	2.16	1.19	2.65
95th Percentile	-0.80	0.30	0.30	1.56	0.76	2.21
Population	155	154	154	154	152	146

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.

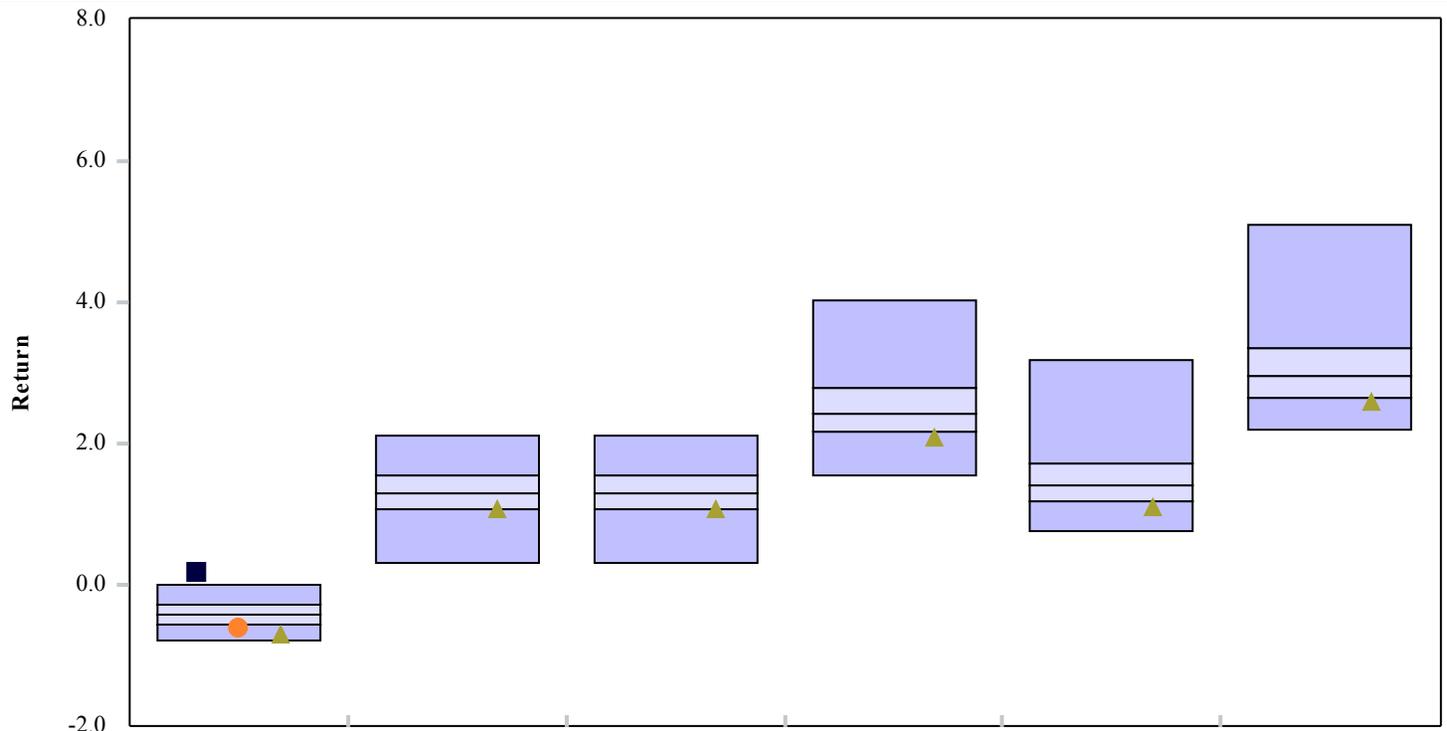


**Portfolio Characteristics**  
**Swarthmore Group vs. Barclays Intermediate U.S. Gov/Credit**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

Portfolio Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	1.90	2.06
Avg. Maturity	4.29	4.31
Coupon Rate (%)	2.00	2.50
Effective Duration	3.96	3.97
Avg. Quality	AA	AA



**Peer Group Analysis**  
**IM U.S. Intermediate Duration (SA+CF)**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**



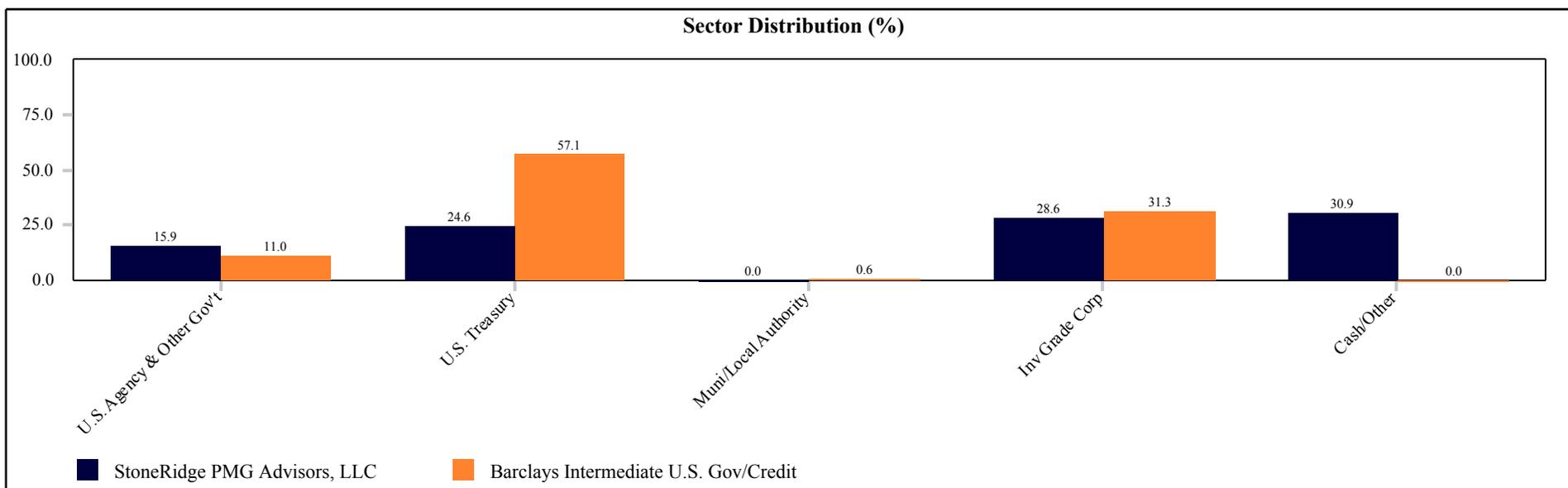
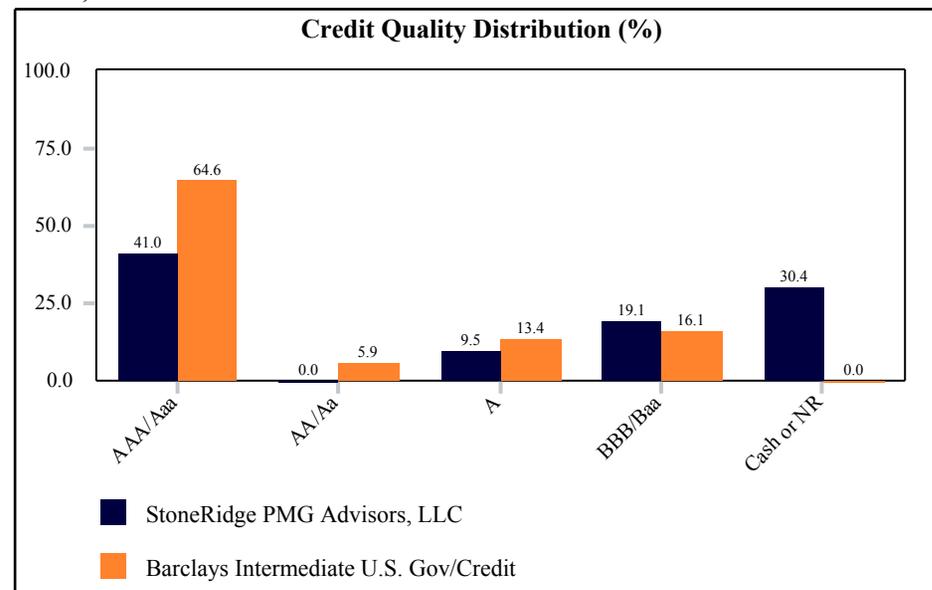
	<b>1 Quarter</b>	<b>2015</b>	<b>1 Year</b>	<b>2 Years</b>	<b>3 Years</b>	<b>5 Years</b>
■ StoneRidge PMG Advisors, LLC	0.18 (3)	N/A	N/A	N/A	N/A	N/A
● 40 BC Interm Gov't/ 60 BC Interm Credit	-0.61 (78)	N/A	N/A	N/A	N/A	N/A
▲ Barclays Intermediate U.S. Gov/Credit	-0.69 (90)	1.07 (76)	1.07 (76)	2.09 (81)	1.10 (86)	2.58 (79)
5th Percentile	0.01	2.13	2.13	4.02	3.19	5.10
1st Quartile	-0.29	1.55	1.55	2.78	1.72	3.34
Median	-0.43	1.30	1.30	2.41	1.41	2.95
3rd Quartile	-0.56	1.08	1.08	2.16	1.19	2.65
95th Percentile	-0.80	0.30	0.30	1.56	0.76	2.21
Population	155	154	154	154	152	146

Parenteses contain percentile rankings.  
Returns are expressed as percentages.  
Calculation based on quarterly periodicity.  
Returns are gross of fees.



**Portfolio Characteristics**  
**StoneRidge PMG Advisors, LLC vs. Barclays Intermediate U.S. Gov/Credit**  
**RBAC Emerging Managers Program**  
**As of December 31, 2015**

Portfolio Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	3.50	2.06
Avg. Maturity	2.33	4.31
Coupon Rate (%)	3.26	2.50
Effective Duration	1.99	3.97
Avg. Quality	AA	AA



**RBAC Emerging Managers Program**  
As of December 31, 2015

Emerging Managers	Firm AUM (\$000)	Strategy Assets (\$000)	Allegheny's MV (\$000)	% of Firm AUM ( < 10%)	% of Strategy Assets ( < 25%)	City/State	Emerging (E), Minority (M), Local (L)	Allegheny's Inception Date
<b>Domestic Equity</b>								
Fragasso Financial Advisors - <i>Large Cap Value</i>	\$831,000	\$65,000	\$7,197	0.87%	11.07%	Pittsburgh, PA	E,L	8/31/2012
Emerald Advisers - All Cap Growth	\$4,100,000	\$29,000	\$2,002	0.05%	6.90%	Leola, PA	E,L	10/31/2015
Apex Capital Management - <i>SMID Growth</i>	\$7,100,000	\$5,400,000	\$4,515	0.06%	0.08%	Dayton, OH	E,M,L	11/30/2011
CIM Investment Management - <i>Small Cap Core</i>	\$1,100,000	\$35,800	\$5,167	0.47%	14.43%	Pittsburgh, PA	E,L	12/31/2013
Domestic Equity - Emerging			\$18,881					
Domestic Equity - Total Fund <sup>1</sup>			\$160,782					
<b>% of Asset Class <sup>2</sup></b>			<b>12%</b>					
<b>Global Core Equity</b>								
Fusion Investment Group - <i>Domestic and Int'l</i>	\$160,000	\$13,000	\$2,434	1.52%	18.72%	Pittsburgh, PA	E,L	11/30/2014
<b>Fixed Income</b>								
Swarthmore Group - <i>Intermediate</i>	\$2,023,000	\$264,000	\$2,708	0.13%	1.03%	Philadelphia, PA	E,M,L	6/30/2012
Stoneridge PMG - <i>Enhanced Limited Maturity Strategy</i>	\$1,366,000	\$31,160	\$2,516	0.18%	8.07%	Philadelphia, PA	E,M,L	7/1/2015
Fixed Income - Emerging			\$5,224					
Fixed Income - Total Fund <sup>1</sup>			\$67,283					
<b>% of Asset Class <sup>2</sup></b>			<b>8%</b>					
<b>Private Equity</b>								
Charlestown Capital	\$29,900	\$29,900	\$3,035	10.15%	10.15%	Wayne, PA	E,L	11/30/2011
Private Equity - Emerging			\$3,035					
Private Equity - Total Fund <sup>1</sup>			\$115,348					
<b>% of Asset Class <sup>2</sup></b>			<b>3%</b>					
<b>Real Estate</b>								
ERECT Fund II <sup>4</sup>	\$186,000	\$64,300	\$6,992	3.76%	10.87%	Pittsburgh, PA	E,L	5/31/2005
Washington Alliance <sup>4,5</sup>	\$140,000	\$52,500	\$10,465	7.48%	19.93%	Pittsburgh, PA	E,M	7/31/2013
Real Estate - Emerging			\$17,457					
Real Estate - Total Fund <sup>1</sup>			\$103,517					
<b>% of Asset Class <sup>2</sup></b>			<b>17%</b>					
<b>Emerging Managers - Currently Funded (\$ and %)</b>			<b>\$47,031</b>	<b>5.75%</b>	<b>(of Plan Assets)</b>			
<b>Emerging Managers - Maximum Allocation (\$ and %)</b>			<b>\$61,315</b>	<b>7.50%</b>	<b>(of Plan Assets)</b>			
<b>Total Plan Market Value <sup>1</sup></b>			<b>\$817,531</b>					



**Footnotes:**

<sup>1</sup> Total plan market value and total asset class values are based on Wilshire's monthly flash report.

<sup>2</sup> Per IPS, maximum of 25% of any asset class may be allocated to emerging managers.

<sup>3</sup> Fusion's Global Equity assets consists of 4 groups: Sub-Advisor blended accounts, Core Equity, Tactical Equity and a few internal blended accounts.

<sup>4</sup> Firm and Strategy values are as of 9/30/2015.

<sup>5</sup> Value includes an additional \$5M allocation to the manager.

**Emerging Manager Program Eligibility Criteria:**

To participate in the Program managers must meet the following minimum criteria:

1. The firm must maintain its headquarters in the tri-state area of Pennsylvania, Ohio or West Virginia.
2. The firm must be a Registered Investment Advisor under the Investment Advisors Act of 1940;
3. The firm must have experience in the management of institutional portfolios operated under prudent investor standards;

In addition, the firm is expected to comply with the following additional criteria, subject to final discretion of the Board:

4. Have a minimum of \$50 million in assets under management, but no more than \$3 billion in assets under management, at the time of hire;
5. The firm and / or the firm's principals in former associations should have a verifiable, historical 3 year performance record for the product being offered, compliant with Global Investment Performance Standards (GIPS®), and the principals must have at least five years of related investment management experience;
6. Have at least three distinctly different clients;
7. At the time of hiring and with each additional funding, the Fund should not comprise more than 25% of the capital in the manager's investment portfolio or 10% of the manager's total assets under management;
8. The manager should be willing to charge a fee no greater than those charged by the current Fund managers with similar characteristics in the corresponding asset class.

## PERFORMANCE EVALUATION AND REPORTING SERVICES INFORMATION DISCLAIMER

PFM Advisors has exercised reasonable professional care in the preparation of this performance report. However, information in this report on market indices and security characteristics, as well as information incorporated in the Market Commentary section, is received from sources external to PFM Advisors.

PFM Advisors relies on the client's custodian for security holdings and market values. Transaction dates reported by the custodian may differ from money manager statements. While efforts are made to ensure the data contained herein is accurate and complete, we disclaim all responsibility for any errors that may occur.





# PFM Asset Management LLC

UPDATE

## Apex Capital Management MONEY MANAGER ALERT March 3, 2016

### EVENT

Apex Capital Management (“Apex”) has announced that it has been acquired by Fiera Capital Corporation (“Fiera Capital”), a publicly traded asset management firm headquartered in Canada. The transaction is expected to be finalized by May 2016.

### SUMMARY

Apex Capital Management is an independent growth equity manager with approximately \$7.1 billion in assets under advisory and management as of December 31, 2015. It was founded in 1987 and is headquartered in Dayton, OH. The firm is 100% employee-owned – 69% belonging to the founder Nitin Kumbhani and 31% belonging to other key employees. Apex qualified as a Minority-owned Business Entity, being majority Asian-owned. The Retirement Board of Allegheny County has been invested in their SMID growth strategy since December 2011.

On March 1, 2016, Apex announced that it will be acquired by Fiera Capital for a total of \$145 million. Apex believes that their partnership with Fiera will increase their growth in assets under management and accelerate their acquisition of new clients. They anticipate benefitting from Fiera Capital’s resources, marketing expertise, and enhanced research capabilities. Fiera Capital, with clients based mostly outside the U.S., will double their presence in U.S. institutional and sub-advisory retail markets.

The principals and employees of Apex will substitute all their equity in Apex Capital Management for 9.3% of Fiera Capital shares outstanding, and have all signed long-term employment agreements. Nitin Kumbhani, the current Chief Investment Officer of Apex Capital and its founder, will assume a new role within Fiera Capital as Vice Chairman and Chief of Growth Equity Strategies at Fiera Capital, as well as serve as a member of the Board of Directors.

### ASSESSMENT

After the acquisition is made, Apex assures that there will be no changes to the portfolio management team, the investment management fees, or the investment philosophy and process. Essentially, Apex will exist as an independently-operating boutique within the larger Fiera Capital umbrella. The *Apex Capital Management* brand name will remain for at least a year, after which all branding and marketing will be under the Fiera Capital name.

### ACTION ITEM

The Research Group at PFM has discussed this development and understands that an Emerging Manager is typically characterized as either a firm with less than a 3-year track record, a firm with less than \$5 billion in assets under management, and/or one that is a Women or Minority-owned Business Entity (“MWBE”). Apex, with more than a 20-year investment track record, \$70 billion in firm assets under Fiera Capital, and 100% owned by their parent company, will no longer be classified as an Emerging Manager.

We appreciate your continued confidence in PFM. Should you have any specific questions or wish to discuss this topic in more detail, please feel free to contact your client manager.

Sincerely,

**PFM Asset Management LLC**



# PFM Asset Management LLC

UPDATE

## StoneRidge PMG Advisors LLC MONEY MANAGER RECOMMENDATION March 10, 2016

### BACKGROUND

In April 2015 PFM Advisors proposed investing in a new fixed income strategy that combined intermediate duration management by StoneRidge Investment Partners LLC (Malvern, PA) with a marketplace lending fund managed by Emerald Advisers, Inc. of Leola, PA. The initial investment was \$2.5 million. We recommend matching the initial contribution, effectively doubling the assets managed.

### SUMMARY

There have been several organizational changes of note since the initial investment last summer. StoneRidge Investment Partners LLC acquired PMG Advisors of West Conshohocken, PA. Craig Moyer and other fixed income personnel re-located to the PMG location under a re-branded firm StoneRidge PMG Advisors LLC. Additionally, the joint venture with Emerald was formalized under the name EmStone Advisers, LLC. Both companies are majority owned by Belraith, a holding company led by Steve Sanders.

The strategy combines an intermediate government/credit fixed income portfolio managed by StoneRidge PMG with an approximate allocation of 30% directed to the Emerald Managed Yield Plus collective investment trust. That portfolio consists of consumer loans from peer-to-peer lending sites such as Prosper. The result is a lower duration strategy that produces higher income associated with long duration investments. Through February, the strategy has kept pace with its blended benchmark – a 60%/40% split between Barclays Intermediate Credit and Barclays Intermediate Government indices. With York County funding a new allocation at month-end, the Emerald loan product will increase to \$10.5 million in assets. The current portion held by Allegheny County is approximately \$760,000.

### RECOMMENDATION

PFM recommends funding another \$2.5 million to this strategy as it continues to build an investor base. We believe the combination of StoneRidge and PMG creates a stronger fixed income unit and would like to continue funding this strategy that provides access to the consumer loan product and its relatively steady income stream.

Sincerely,

**PFM Asset Management LLC**



# PFM Asset Management LLC

UPDATE

## **Fragasso Financial Advisors MONEY MANAGER ALERT March 8, 2016**

### **EVENT**

Fragasso Financial Advisors (“Fragasso”) has continued to underperform investment return expectations. The firm also lost its Chief Investment Officer, Andrei Voicu, during the third quarter of 2015, and has since replaced him with two new members of the investment management team – Michael Goodwin and Matthew Karr.

### **SUMMARY**

Fragasso has been managing assets for the Retirement Board of Allegheny County (“Allegheny”) since August 2012. Fragasso’s investment philosophy combines both bottom-up and top-down economic analysis to identify the most attractive investments. Fragasso’s bottom-up process is fundamentally oriented, looking for sustainable cash flow generative businesses with healthy balance sheets. Fragasso’s top-down process employs a separate macro-team that is responsible for macroeconomic analysis and determining which sectors to overweight and which to underweight.

Fragasso’s portfolio construction is also quite unique. Unlike other managers that chose to have conviction weighted portfolio holdings, Fragasso chooses to be equally-weighted and rebalances their portfolio every quarter in order to maintain that equal-weighting. The overall portfolio typically has between 35 and 50 holdings. Despite the portfolio’s equal-weighting on an individual security basis, sector positioning can often be conviction driven, and it is the job of the macro analytical team to determine the direction of their sector positioning. In addition to individual securities, Fragasso often employs the use of S&P sector ETFs (SPDRs) to augment their sector positioning.

After the departure of Andrei Voicu, the current investment team includes Lisa Brignoni, Director of Portfolio Management, Michael Godwin, Manager of Portfolio Strategy, Matthew Karr, Manager of Investment Research, and his investment analyst, Madison Nestor.

### **ASSESSMENT**

Fragasso has underperformed their benchmark (S&P 500 Index) since Allegheny’s initial investment in 2012 by over 500 basis points. We believe the underperformance is due to a combination of systematic portfolio quarterly rebalancing, which at times might be biased towards losing positions whilst underweighting winning positions, as well as the sector bets the Fragasso team explicitly makes. A portfolio’s sector positioning could have a positive effect or a negative effect on overall performance, however, sector positioning reduces idiosyncratic risk and increases systematic risk.

We have also seen relative performance worsen after the departure of Andrei Voicu, although we acknowledge market volatility picked up in that period as well.

### **ACTION ITEM**

The Research Group at PFM has discussed this development and recommends putting Fragasso Financial Advisors on Watch-list in order to monitor the investment team’s transition, portfolio performance and allocation decisions more closely.

Sincerely,

**PFM Asset Management LLC**