WILSHIRE ASSOCIATES

Wilshire Consulting

Employees' Retirement Fund of the City of Dallas

Executive Summary of Performance

Second Quarter 2018

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Capital Market Overview

U.S. Equity Market

The U.S. stock market, represented by the Wilshire 5000 Total Market Index, was up 3.83% for the second quarter of 2018, rebounding from only the second negative quarter in nearly six years. Volatility has returned this year but is approximately in line with long-term historical figures. Although there have been more up days than down during 2018, the daily losses have been more substantial. The average daily loss has been approximately 34% greater than the average daily gain, a spread not seen in more than a decade. Trade and tariffs continued to help drive markets this spring as did increased anti-euro sentiment in Italy. Strong gains in personal income and consumer spending during the second quarter have left room for optimism.

Large capitalization stocks far underperformed small caps as the Wilshire Large-Cap Index was up +3.41% versus a gain of +7.87% for the Wilshire US Small-Cap Index. The large-cap segment of the market trailed small-caps for the past twelve months, as well. The Wilshire US Micro-Cap Index was up +9.21% for the quarter and 19.37% for the one-year. Growth stocks have been generally outpacing value except for the most recent quarter within the small-cap space, where value led growth. Sector performance was mixed with seven of the eleven major sectors producing gains. The best performing sector, by far, was Energy (+14.2%) while Financials (-2.4%) and Industrials (-2.2%) were the main detractors from total return.

Fixed Income Market

The U.S. Treasury yield curve rose across all maturities during the quarter with the biggest increases occurring in the short to intermediate segment of the curve. The bellwether 10-year Treasury yield ended the quarter at 2.85%, up 11 basis points from March. The Federal Open Market Committee decided to increase its overnight rate by 25 basis points in June to a range of 1.75% to 2.00%. There was little indication that the Fed is looking to change course and expressed generally strong sentiment towards the health of the economy. Credit spreads widened during the quarter within investment grade credit but were little changed for the high yield market.

Non-U.S. Markets

Equity markets outside of the U.S. produced mixed results during the second quarter of 2018 while currency had a major effect on U.S.-based investors. As global growth slowed and the Federal Reserve adopted a more aggressive stance on interest rates, the U.S. dollar was up approximately 5% versus a basket of international currencies. Equity price volatility affected global markets as tensions seemed to escalate between the U.S. and its major trading partners. It is yet to be seen, however, how much of the threatened tariffs and retaliation is actually implemented. The European Union faces a fresh challenge with political developments in Italy, already being rattled by the Greek financial crisis and Brexit in past years. The broad developed markets index, however, was in positive territory for the quarter in local currency terms.

Real Assets Markets

Real estate securities rebounded strongly during the quarter on solid economic fundamentals and are back in positive territory for the year. Commodities were up big for the quarter as crude oil rose 14.2% to $74.15 per barrel. Natural gas prices were up +7.0%, ending the quarter at $2.92 per million BTUs. MLP returns were back in positive territory for the quarter (+11.80%) but are down for the past twelve months (-4.58%). Finally, gold prices were down and finished at approximately $1,255 per troy ounce, down -5.5% from last quarter.

Summary of Index Returns

For Periods Ended June 30, 2018

	Quarter	One Year	Three Years	Five Years	Ten Years
Domestic Equity					
Standard & Poor's 500	3.44%	14.38%	11.93%	13.42%	10.17%
Wilshire 5000	3.83	14.66	11.85	13.36	10.23
Wilshire 4500	6.02	16.45	11.21	13.26	10.98
Wilshire Large Cap	3.41	14.42	12.00	13.47	10.07
Wilshire Small Cap	7.87	16.87	10.80	12.56	11.71
Wilshire Micro Cap	9.21	19.37	10.47	12.32	10.94
Domestic Equity					
Wilshire Large Value	2.14%	9.37%	10.24%	10.89%	8.90%
Wilshire Large Growth	4.82	19.67	13.54	16.19	11.26
Wilshire Mid Value	5.97	12.65	10.85	12.09	11.00
Wilshire Mid Growth	2.88	17.00	9.39	12.70	10.91
Wilshire Small Value	9.30	13.69	11.10	12.19	11.72
Wilshire Small Growth	6.43	19.92	10.18	12.76	11.61
International Equity					
MSCI All World ex U.S. (USD)	-2.61%	7.28%	5.07%	5.99%	2.54%
MSCI All World ex U.S. (local currency)	1.80	8.18	6.57	9.52	5.46
MSCI EAFE	-1.24	6.84	4.90	6.44	2.84
MSCI Europe	-1.27	5.28	4.22	6.21	2.36
MSCI Pacific	-1.35	9.90	6.36	6.92	3.95
MSCI Emerging Markets Index	-7.96	8.20	5.60	5.01	2.26
Domestic Fixed Income					
Barclays Aggregate Bond	-0.16%	-0.40%	1.72%	2.27%	3.72%
Barclays Credit	-0.88	-0.65	2.86	3.37	5.15
Barclays Mortgage	0.24	0.15	1.46	2.25	3.54
Barclays Treasury	0.10	-0.65	1.02	1.48	2.97
Citigroup High Yield Cash Pay	1.09	2.74	5.19	5.11	7.75
Barclays US TIPS	0.77	2.11	1.93	1.68	3.03
91-Day Treasury Bill	0.46	1.36	0.68	0.42	0.35
International Fixed Income					
Citigroup Non-U.S. Gov. Bond	-5.11%	3.22%	3.74%	1.01%	1.78%
Citigroup World Gov. Bond	-3.35	1.90	2.81	1.11	2.07
Citigroup Hedged Non-U.S. Gov.	0.23	3.57	3.85	4.30	4.41
Currency*					
Euro vs. $	-5.07%	2.37%	1.57%	-2.12%	-2.95%
Yen vs. $	-3.99	1.44	3.38	-2.15	-0.44
Pound vs. $	-5.88	1.64	-5.67	-2.74	-4.02
Real Estate					
Wilshire REIT Index	9.73%	3.88%	7.84%	8.42%	7.81%
Wilshire RESI	9.74	4.00	8.27	8.80	7.91

*Positive values indicate dollar depreciation.

Total Fund Overview

Asset Class Performance

	Assets ($Mil)	Assets (%)	Performance (%) QTR	YTD	1-year	3-year	5-year	10-year
U.S. Equity	544.7	15.4	3.77	3.19	15.35	11.47	13.32	10.19
International Equity	506.3	14.3	-4.01	-4.48	7.45	6.47	7.19	4.14
Global Equity	182.0	5.1	0.50	1.21	11.58	8.12	9.00	-.-
Global Low Volatility	362.8	10.2	-0.11	-0.98	6.65	8.68	-.-	-.-
Real Estate	400.6	11.3	4.53	2.15	5.18	6.99	8.78	7.26
Global Fixed Income	475.7	13.4	-0.22	-1.34	0.21	2.44	2.89	4.09
High Yield	355.1	10.0	0.77	-0.20	1.97	4.45	4.99	7.02
Credit Opportunities	180.9	5.1	-0.32	-0.92	3.38	-.-	-.-	-.-
MLPs	278.5	7.9	14.58	3.99	1.04	-5.02	1.07	-.-
Private Equity	209.9	5.9	3.70	6.87	16.62	11.51	12.26	-.-
Cash Equivalents	47.8	1.3	0.45	0.81	1.36	0.67	0.42	0.36
Total Fund	**3,544.4**	**100.0**	**1.85**	**0.73**	**6.99**	**6.14**	**7.54**	**7.03**
Asset Allocation Policy			**2.12**	**0.16**	**5.78**	**5.71**	**7.03**	**6.74**
Value Added vs Policy			*-0.27*	*0.57*	*1.21*	*0.43*	*0.51*	*0.29*
Actuarial Rate			1.94	3.92	8.00	8.00	8.07	8.16
Wilshire 5000 Index			3.83	3.04	14.66	11.85	13.36	10.23
S&P 500 Index			3.44	2.65	14.38	11.93	13.42	10.17
MSCI ACWI x-U.S. IMI Index			-2.61	-3.65	7.74	5.46	6.39	2.93
MSCI EAFE Index			-1.24	-2.75	6.84	4.90	6.44	2.84
Bloomberg Aggregate Bond Index			-0.16	-1.62	-0.40	1.72	2.27	3.72
Citigroup High Yield Cash Pay			1.09	0.28	2.74	5.19	5.11	7.75
Wilshire RE Securities Index			9.74	1.60	4.00	8.27	8.80	7.91
91-Day Treasury Bill			0.46	0.81	1.36	0.68	0.42	0.35

Total Fund Asset Growth

($Millions)	Beg. Mkt Value	Net Contrib.	Net Distrib.	Investment Fees	Investment Gain/Loss	End Mkt Value	Total Return
1Q15	3,402.5	36.1	73.5	3.5	85.2	3,446.8	2.40%
2Q15	3,446.8	44.4	83.3	3.7	6.5	3,410.6	0.08%
3Q15	3,410.6	29.6	69.6	3.4	(202.7)	3,164.5	-6.08%
4Q15	3,164.5	49.4	82.5	3.2	71.0	3,199.2	2.12%
1Q16	3,199.2	89.0	127.7	3.0	40.9	3,198.3	1.28%
2Q16	3,198.3	70.8	105.2	2.8	116.2	3,277.3	3.54%
3Q16	3,277.3	32.9	67.4	2.9	117.3	3,357.2	3.48%
4Q16	3,357.2	28.1	66.0	3.0	21.4	3,337.8	0.62%
1Q17	3,337.8	36.2	74.6	2.6	140.0	3,436.7	4.15%
2Q17	3,436.7	24.9	68.7	3.2	86.6	3,476.4	2.46%
3Q17	3,476.4	47.8	84.0	3.5	110.0	3,546.6	3.10%
4Q17	3,546.6	31.1	74.1	3.3	107.5	3,607.8	3.02%
1Q18	3,607.8	31.9	74.7	3.1	(37.9)	3,524.0	-1.09%
2Q18	3,524.0	27.2	71.0	3.6	68.0	3,544.4	1.85%

- At the end of the second quarter of 2018, the Fund's market value was $3,544.4 million, which represented an increase of $20.5 million in total net asset value over the previous quarter. The change in the Fund's value was driven by $27.2 million in net contributions and a $68.0 million gain on investments. Meanwhile, $71.0 million in net distributions and $3.6 million in investment management fees flowed out of the Fund.

Quarterly Total Fund Attribution vs. Policy

Asset Class	Assets (%)		Policy (%)		Difference (%)		Total Fund Return Contribution (%)			
	Weight	Return	Weight	Return	Weight	Return	Actual Allocation	Interaction	Active Management	Total
U.S. Equity	15.1	3.77	15.0	3.83	0.09	-0.05	0.00	0.00	-0.01	-0.01
International Equity	15.1	-4.01	15.0	-2.61	0.08	-1.40	0.01	0.00	-0.22	-0.21
Global Equity	5.1	0.50	5.0	0.53	0.13	-0.04	0.00	0.00	0.00	0.00
Global Low Volatility	10.3	-0.11	10.0	0.42	0.34	-0.54	-0.01	0.00	-0.05	-0.06
Public REITs	4.5	8.65	5.0	9.74	-0.49	-1.10	-0.03	0.01	-0.05	-0.08
Direct Core Real Estate	6.5	1.70	5.0	1.72	1.48	-0.01	-0.01	0.00	0.00	-0.01
Global Fixed Income	13.4	-0.22	15.0	-0.16	-1.57	-0.07	0.03	0.00	-0.01	0.02
High Yield	12.5	0.77	12.5	1.09	0.00	-0.32	0.01	0.00	-0.04	-0.03
Credit Opportunities	2.6	-0.32	3.3	-0.63	-0.76	0.31	0.00	0.00	0.00	0.01
Public Real Assets	7.4	14.58	10.0	11.80	-2.60	2.78	-0.29	-0.06	0.26	-0.09
Private Equity	6.4	3.70	5.0	1.19	1.36	2.51	-0.01	0.04	0.12	0.14
Cash Equivalents	1.1	0.45	0.0	0.46	1.12	0.00	-0.02	0.00	0.00	-0.02
Monthly Linked Return	**100.0**	**1.78**	**100.0**	**2.12**		**-0.34**	**-0.32**	**-0.02**	**0.00**	**-0.34**
Trading/Hedging		*0.06*		*0.00*		*0.06*				***0.06***
Total		**1.85**		**2.12**		**-0.28**				**-0.28**

2.12	**Asset Allocation Policy**
-0.32	Actual/Tactical Asset Allocation
0.00	Active Management
-0.02	Interaction
0.06	Trading
1.85	**Total Fund Return**

**Note: factors may not sum exactly to total return due to rounding.*

The Total Fund attribution table, shown above, displays the return contribution of each asset class to the Total Fund's overall return. The attribution provides some insights as to whether tactical allocation and active management within asset classes helped or hurt performance during the quarter.

- ***Strategic Policy:*** The contribution to total return from each asset class, calculated as the percentage allocated to each asset class multiplied by the benchmark for that asset class.
- ***Actual Allocation:*** The return contribution during the quarter due to differences in the actual allocation from the policy allocation (i.e.: the actual allocation to U.S. equity was higher than the policy allocation). A positive number would indicate an overweight allocation benefited performance, and vice versa.
- ***Active Management:*** The return contribution from active management. This number would be positive if the asset class outperformed the designated policy index and vice versa (i.e.: the U.S. equity segment outperformed the policy index, the Wilshire 5000 Index, during the quarter and contributed positively to active management).
- ***Interaction:*** Captures the interaction of managers' performance and asset class weighting differences.
- ***Actual Return:*** The actual return of the asset classes if allocations to them were static during the quarter. These returns will not match exactly with the actual segment returns since asset class allocations change during the quarter due to market movement, cash flows, etc.

One-Year Total Fund Attribution vs. Policy

Asset Class	Assets (%)		Policy (%)		Difference (%)		Total Fund Return Contribution (%)			
	Weight	Return	Weight	Return	Weight	Return	Actual Allocation	Interaction	Active Management	Total
U.S. Equity	14.72	15.35	15.00	14.66	-0.3	0.69	-0.02	0.00	0.10	0.07
International Equity	15.61	7.45	15.00	7.74	0.6	-0.30	0.04	0.01	-0.04	0.01
Global Equity	5.20	11.58	5.00	10.72	0.2	0.85	0.01	0.00	0.04	0.05
Global Low Volatility	10.30	6.65	10.00	7.33	0.3	-0.68	-0.01	0.00	-0.07	-0.07
Public REITs	4.59	4.24	5.00	4.00	-0.4	0.25	-0.02	0.00	0.01	-0.01
Direct Core Real Estate	6.36	5.84	5.00	5.96	1.4	-0.12	0.00	0.00	-0.01	-0.01
Global Fixed Income	13.47	0.21	15.00	-0.40	-1.5	0.60	0.07	-0.01	0.09	0.16
High Yield	12.50	1.97	12.29	2.74	0.2	-0.76	0.00	0.00	-0.10	-0.10
Credit Opportunities	2.56	3.38	2.71	1.75	-0.2	1.63	0.00	0.01	0.04	0.04
Public Real Assets	7.50	1.04	10.00	-4.58	-2.5	5.62	0.17	-0.16	0.61	0.62
Private Equity	5.99	16.62	5.00	14.35	1.0	2.26	0.07	0.03	0.11	0.21
Cash	1.20	1.36	0.00	1.36	1.2	0.00	-0.06	0.00	0.00	-0.06
Monthly Linked Return	**100.00**	**6.69**	**100.00**	**5.78**		**0.91**	**0.25**	**-0.13**	**0.79**	**0.91**
Trading		0.30		0.00		0.30				**0.26**
Total		***6.99***		***5.78***		***1.21***				***1.21***

5.78	**Strategic Policy Allocation**
0.25	Actual/Tactical Asset Allocation
0.79	Active Management
-0.13	Interaction
0.26	Trading
6.99	Total Return

**Note: factors may not sum exactly to total return due to rounding.*

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- ***Strategic Policy:*** The contribution to total return from each asset class, calculated as the percentage allocated to each asset class multiplied by the benchmark for that asset class.
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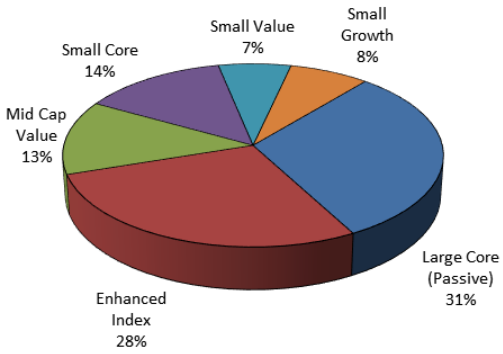
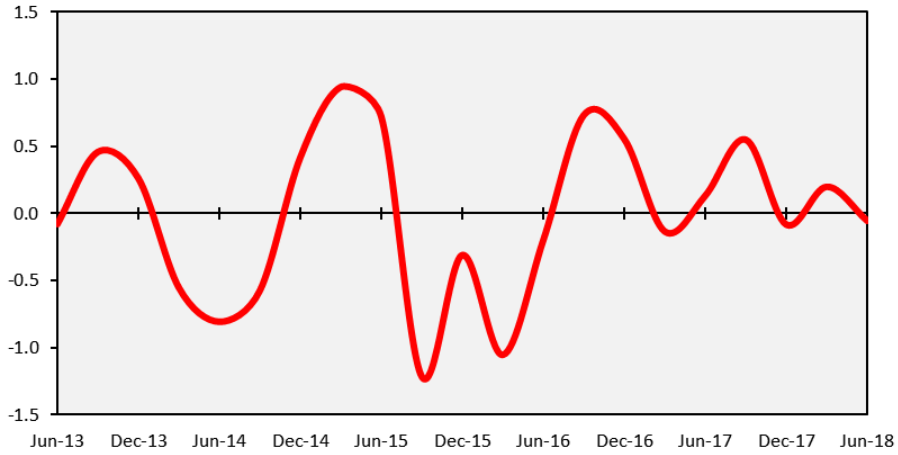
- ***Interaction:*** Captures the interaction of managers' performance and asset class weighting differences.
- ***Actual Return:*** The actual return of the asset classes if allocations to them were static during the quarter. These returns will not match exactly with the actual segment returns since asset class allocations change during the quarter due to market movement, cash flows, etc.

Domestic Equity Overview

Domestic Equity Structure



U.S. Equity Composite
Quarterly Excess Return



Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total U.S. Equity (Gross)	**$ 544.7**	**3.88**	**3.39**	**15.75**	**11.87**	**13.71**	**10.56**
Total U.S. Equity (Net)		**3.77**	**3.19**	**15.35**	**11.47**	**13.32**	**10.19**
Custom Benchmark [1]		3.83	3.04	14.66	11.85	13.36	10.23
Net of Fee Value Added vs Benchmark		*-0.06*	*0.15*	*0.69*	*-0.38*	*-0.04*	*-0.04*
Small Cap Composite	**$ 152.2**	5.06	3.70	16.28	10.88	13.40	10.94
Wilshire 5000 Index		3.83	3.04	14.66	11.85	13.36	10.23
S&P 500 Index		3.44	2.65	14.38	11.93	13.42	10.17
Russell 2000 Index		7.75	7.66	17.57	10.96	12.46	10.60

Domestic Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Large Core - Passive								
Northern Trust S&P 500 (Gross)	**$ 168.1**	**3.43**	**2.64**	**14.37**	**11.94**	**13.46**	**10.02**	**Dec-94**
Northern Trust S&P 500 (Net)		**3.43**	**2.64**	**14.37**	**11.94**	**13.45**	**10.00**	**Dec-94**
S&P 500 Index		3.44	2.65	14.38	11.93	13.42	9.95	Dec-94
Net of Fee Value Added vs Benchmark		*-0.01*	*-0.01*	*-0.01*	*0.01*	*0.03*	*0.05*	
Enhanced Index								
T. Rowe Price (Gross)	**$ 151.4**	**3.74**	**3.70**	**15.74**	**13.17**	**14.44**	**9.44**	**Mar-06**
T. Rowe Price (Net)		**3.66**	**3.54**	**15.39**	**12.81**	**14.08**	**9.12**	**Mar-06**
S&P 500 Index + 1%		3.69	3.15	15.38	12.93	14.42	9.51	Mar-06
Net of Fee Value Added vs Objective		*-0.03*	*0.39*	*0.01*	*-0.12*	*-0.34*	*-0.39*	
S&P 500 Index		3.44	2.65	14.38	11.93	13.42	8.51	Mar-06
Net of Fee Value Added vs Benchmark		*0.22*	*0.89*	*1.01*	*0.88*	*0.66*	*0.61*	
Information Ratio				**0.90**	**0.61**	**0.51**		
Sharpe Ratio				**1.61**	**1.16**	**1.37**		

[1] Domestic Equity Custom Benchmark: Wilshire 5000 Index (3q99 – Present); S&P 500 Index (1q90 – 2q99).

Domestic Equity Overview (Continued)

Domestic Equity Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
		Performance (%)						
Small Core - Active								
Systematic Financial (Gross)	**$ 74.2**	**4.37**	**4.10**	**20.69**	**15.35**	**16.40**	**12.72**	**Jun-03**
Systematic Financial (Net)		**4.14**	**3.67**	**19.70**	**14.37**	**15.42**	**11.92**	**Jun-03**
Russell 2000 Index + 1.25%		8.06	8.29	18.82	12.21	13.71	11.36	Jun-03
Net of Fee Value Added vs Objective		*-3.92*	*-4.62*	*0.88*	*2.16*	*1.71*	*0.56*	
Russell 2000 Index		7.75	7.66	17.57	10.96	12.46	10.11	Jun-03
Net of Fee Value Added vs Benchmark		*-3.61*	*-3.99*	*2.13*	*3.41*	*2.96*	*1.81*	
Information Ratio				**0.47**	**0.79**	**0.70**		
Sharpe Ratio				**1.63**	**1.04**	**1.14**		
Small Value - Active								
Channing Capital Management (Gross) *	**$ 37.1**	**4.73**	**3.34**	**11.87**	**9.40**	**-.-**	**8.96**	**Oct-13**
Channing Capital Management (Net) *		**4.49**	**2.86**	**10.83**	**8.37**	**-.-**	**7.98**	**Oct-13**
Russell 2000 Value Index + 1.25%		8.61	6.07	14.35	12.47	-.-	10.05	Oct-13
Net of Fee Value Added vs Objective		*-4.12*	*-3.21*	*-3.52*	*-4.10*		*-2.07*	
Russell 2000 Value Index		8.30	5.44	13.10	11.22	-.-	8.80	Oct-13
Net of Fee Value Added vs Benchmark		*-3.81*	*-2.58*	*-2.27*	*-2.85*		*-0.82*	
Information Ratio				**-0.44**	**-0.64**	**-.-**		
Sharpe Ratio				**1.05**	**0.52**	**-.-**		
Small Growth - Active								
Redwood Investments (Gross) *	**$ 40.9**	**7.58**	**4.73**	**15.17**	**-.-**	**-.-**	**13.90**	**Sep-16**
Redwood Investments (Net) *		**7.39**	**4.36**	**14.38**	**-.-**	**-.-**	**13.34**	**Sep-16**
Russell 2000 Growth Index + 1.50%		7.61	10.45	23.36	-.-	-.-	22.10	Sep-16
Net of Fee Value Added vs Objective		*-0.22*	*-6.09*	*-8.98*			*-8.76*	
Russell 2000 Growth Index		7.23	9.70	21.86	-.-	-.-	20.60	
Net of Fee Value Added vs Benchmark		*0.16*	*-5.34*	*-7.48*			*-7.26*	
Information Ratio				**-1.12**	**-.-**	**-.-**		
Sharpe Ratio				**1.10**	**-.-**	**-.-**		
Mid Cap Value - Active								
Smith Graham Mid Cap Value (Gross) *	**$ 71.2**	**2.41**	**2.80**	**-.-**	**-.-**	**-.-**	**2.80**	**Dec-17**
Smith Graham Mid Cap Value (Net) *		**2.22**	**2.55**	**-.-**	**-.-**	**-.-**	**2.55**	**Dec-17**
Russell Midcap Index + 2%		3.32	3.34	-.-	-.-	-.-	3.34	**Dec-17**
Net of Fee Value Added vs Objective		*-1.10*	*-0.79*				*-0.79*	
Russell Midcap Index		2.82	2.35	-.-	-.-	-.-	2.35	
Net of Fee Value Added vs Benchmark		*-0.60*	*0.20*				*0.20*	
Information Ratio				**-.-**	**-.-**	**-.-**		
Sharpe Ratio				**-.-**	**-.-**	**-.-**		

- The Fund's domestic equity composite generated a return of 3.77% (net of fees) during the second quarter of 2018, trailing the Wilshire 5000 Total Market Index, which returned 3.83%. Overall, relative performance was mixed amongst the domestic equity managers with the small cap managers Systematic and Channing dragging the composite results down as a whole. The domestic equity composite is currently outperforming against its benchmark over the one-year period but continues to trail its custom benchmark over the three-, five- and ten-year periods.

Domestic Equity Overview (Continued)

Northern Trust (Passive)

- Northern Trust manages a passive large-cap core equity portfolio for the Fund, which is designed to track the S&P 500 Index and replicate the performance of overall market. To date, the passive large-cap core portfolio is performing in line with expectations, mirroring the risk and return profile of the benchmark index and exhibiting very low tracking error over all time periods.

T. Rowe Price (Enhanced)

- T. Rowe Price manages the Fund's enhanced equity index portfolio. The T. Rowe Price portfolio returned 3.66% (net of fees) during the second quarter, outperforming its benchmark index (S&P 500) which returned 3.44%. The portfolio led its benchmark as a result on favorable stock picking decisions concentrated within a few specific sectors. Stock selection was strongest within the information technology, health care and financials sectors. Here, the portfolio's holdings delivered performance above that of the respective benchmark holdings, which ultimately led to this period's outperformance versus the benchmark. Sector positioning was slightly negative for the period largely due to a modest underweight exposure to the strong performing energy sector during the period. Historically, the portfolio's overall sector allocation does not deviate too broadly from the Standard & Poor's 500 (approximately +/- 1%) which means the bulk of the value-added will come from stock selection. The T. Rowe portfolio remains highly concentrated in large-capitalization stocks (with an average market cap of $209,187 million). The portfolio is currently outperforming against its benchmark over the one-, three-, and five-year periods as well as since inception (3/06).

Systematic Financial (Small-Cap Core)

- Systematic Financial manages the Fund's small-cap core portfolio. The Systematic portfolio returned 4.14% (net of fees) during the second quarter, underperforming its benchmark (Russell 2000) which returned 7.75%. During the period small cap stocks as represented by the Russell 2000 Index posted strong returns and outpaced their larger capitalization counterparts. Against this backdrop, the Systematic portfolio trailed its benchmark as a result of unfavorable individual stock selection decisions. Stock selection suffered in 9 of the 11 GICS sectors during the quarter. Most notably, the portfolio's technology and financials holdings significantly trailed those of the respective benchmark holdings. Strategic sector positioning also weighed on performance during the period led by an underweight (4% portfolio weight vs. 17% benchmark weight) to the health care sector, which delivered strong positive returns during the period. The Systematic portfolio continues to hold relatively cheaper (or undervalued) stocks when compared to benchmark, with a current average P/E ratio of 23.83 (Russell 2000 P/E ratio is 50.30). The portfolio also continues to exhibit a large historical overweight allocation to financials, albeit smaller in the most recent period, which accounts for around 24% of the portfolio's total net asset value compared to approximately 18% for the benchmark. Despite this quarter's relative underperformance, the Systematic portfolio is outperforming against its benchmark over the one-, three- and five-year periods as well as since inception (6/03).

Channing Capital Management (Small-Cap Value)

- Channing Capital manages the Fund's small-cap value portfolio. The Channing portfolio returned 4.49% (net of fees) during the second quarter, underperforming its benchmark (Russell 2000 Value) which returned 8.30%. Weak stock selection contributed to this period's underperformance relative to the benchmark. Particularly large losses were incurred within the industrials and energy sectors. Here, the portfolio's holdings returned 1.93% and 3.44% versus 5.96% and 22.07% for the respective benchmark holdings. Several positions within the portfolio (very concentrated), posted negative returns in what was a strong period in the small cap value space. Most notably, "Callon Petroleum Company", which returned (–)

Domestic Equity Overview (Continued)

18.88% for the period, was the worst performer in the portfolio. Several other positions followed suit posting negative returns in the current period. Sector weighting decisions were also negative for the period providing an additional drag to the portfolio's return relative to the benchmark. To date, the Channing portfolio is consistently positioned with an underweight allocation to consumer discretionary (5% portfolio weight vs. 11% benchmark weight) with significant overweight allocation to industrials (22% portfolio weight vs 12% benchmark weight). The Channing portfolio is currently underperforming against its benchmark since inception (12/13).

Redwood Investments (Small-Cap Growth)

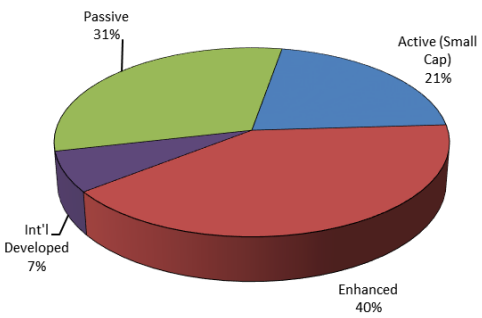
- Redwood Investments manages the Fund's small-cap growth portfolio, which was funded in late 2016. The Redwood portfolio returned 7.39% (net of fees) during the second quarter, outperforming its benchmark (Russell 2000 Growth) which returned 7.23%. The portfolio currently holds 51 securities which is considerably more concentrated than the benchmark, as such, individual stock selection typically emerges as the predominant driver of relative performance in any given period. During the quarter, several stocks within the portfolio delivered returns in excess of 20%. Within the health care sector alone, the portfolio's holdings returned 16.5% vs. 9.2% for the respective benchmark holdings. Several health care holdings experienced substantial gains during the quarter leading to outperformance relative to the benchmark. Similarly, the portfolio's industrial and materials stocks delivered performance well above that of the respective benchmark holdings. Sector positioning on the other hand was detractive during the period driven by an underweight to consumer staples and an overweight to financials. The Redwood portfolio is currently underperforming against its benchmark since inception (09/16).

Smith, Graham & Co. (Mid-Cap Value)

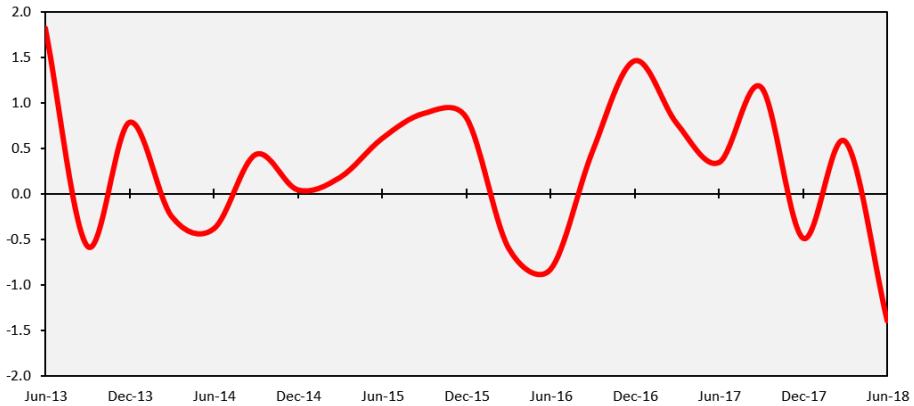
- Smith, Graham & Co. manages the Fund's mid-cap value portfolio, which was funded in December of 2017. The mid-cap portfolio returned 2.22% (net of fees) during the second quarter, underperforming its benchmark (Russell 2000 Growth) which returned 2.82%. During the quarter, the portfolio's strongest sector performance relative to the Russell Midcap Index sectors was in Energy, Health Care and Utilities. The portfolio sectors with the weakest performance compared to the Russell Midcap Index sectors were Financial Services, Consumer Staples and Technology. The stocks that contributed the most to absolute performance during the quarter were HollyFrontier (Energy), Andeavor (Energy), Macy's (Consumer Discretionary) WellCare Health Plans (Health Care) and Vishay Intertechnology (Technology). The stocks that detracted the most from absolute performance were: Western Digital (Technology), Lincoln National (Financial Services), Southwest Airlines (Producer Durables), Stifel Financial (Financial Services) and Raytheon (Producer Durables). During the quarter, one new position was established in Huntsman Corporation (Materials & Processing) and no positions were eliminated. After completing its second quarter of performance within the Fund the Smith Graham portfolio leads its benchmark since inception (12/17).

International Equity Overview

International Equity Structure



International Equity Composite Quarterly Excess Return



International Equity Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total International Equity (Gross)	**$ 506.3**	**-3.92**	**-4.27**	**7.94**	**6.96**	**7.64**	**4.60**
Total International Equity (Net)		**-4.01**	**-4.48**	**7.45**	**6.47**	**7.19**	**4.14**
Custom Benchmark [1]		-2.61	-3.65	7.74	5.46	6.39	2.80
Net of Fee Value Added vs Benchmark		*-1.40*	*-0.83*	*-0.29*	*1.01*	*0.80*	*1.34*
MSCI ACWI x-US IMI (Net)		-2.61	-3.65	7.74	5.46	6.39	2.93
MSCI ACWI x-US (Net)		-2.61	-3.77	7.28	5.07	5.99	2.54
MSCI EAFE (Net)		-1.24	-2.75	6.84	4.90	6.44	2.84
MSCI Emerging Markets		-7.96	-6.65	8.20	5.60	5.01	2.26

International Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Int'l Small Cap - Active								
Acadian International (Gross)	**$ 107.7**	**-4.20**	**-3.47**	**11.60**	**11.73**	**10.83**	**9.25**	**Mar-89**
Acadian International (Net)		**-4.33**	**-3.73**	**11.00**	**11.15**	**10.29**	**8.80**	**Mar-89**
Custom Benchmark + 2%		-2.10	-1.95	12.57	9.94	10.98	8.20	Mar-89
Net of Fee Value Added vs Objective		*-2.23*	*-1.78*	*-1.57*	*1.21*	*-0.69*	*0.60*	
Custom Benchmark		-2.60	-2.94	10.57	7.94	8.98	6.20	Mar-89
Net of Fee Value Added vs Benchmark		*-1.73*	*-0.79*	*0.43*	*3.21*	*1.31*	*2.60*	
Information Ratio				**0.08**	**0.79**	**0.33**		
Sharpe Ratio				**0.82**	**0.84**	**0.81**		

[2] International Equity Custom Benchmark: MSCI ACWI x-US IMI (2q10 – Present); MSCI ACWI x-US (1q99 – 1q10); Wilshire Non-US/Non-SA (2q96 – 4q98); MSCI EAFE (4q89 – 1q96)

[3] Acadian Custom Benchmark: MSCI ACWI x-US Small Cap (3q09 – Present); MSCI EAFE Small Cap (4q99 – 2q09); S&P/Citigroup Eur/Pac EMI Index (2q96 – 3q99); MSCI EAFE (2q89 – 1q96). Performance Objective: Custom Benchmark +2% (1q05 – Present); +1% (2q89 – 4q04).

International Equity Overview (Continued)

International Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Int'l Enhanced Index								
AQR Capital Management (Gross)	**$ 204.9**	**-5.31**	**-5.15**	**6.80**	**7.04**	**7.51**	**4.15**	**Mar-06**
AQR Capital Management (Net)		**-5.45**	**-5.43**	**6.19**	**6.41**	**6.87**	**3.63**	**Mar-06**
Custom Benchmark + 1.5%		-2.24	-3.02	8.78	6.57	7.49	4.44	Mar-06
Net of Fee Value Added vs Objective		*-3.21*	*-2.41*	*-2.59*	*-0.16*	*-0.62*	*-0.81*	
Custom Benchmark		-2.61	-3.77	7.28	5.07	5.99	2.94	Mar-06
Net of Fee Value Added vs Benchmark		*-2.84*	*-1.66*	*-1.09*	*1.34*	*0.88*	*0.69*	
Information Ratio				**-0.37**	**0.53**	**0.36**		
Sharpe Ratio				**0.43**	**0.48**	**0.57**		
Int'l Developed								
Ativo International Developed (Gross) *	**$ 35.2**	**1.32**	**-0.43**	**-.-**	**-.-**	**-.-**	**-0.43**	**Dec-17**
Ativo International Developed (Net) *		**1.17**	**-0.62**	**-.-**	**-.-**	**-.-**	**-0.62**	**Dec-17**
MSCI EAFE Index + 2%		-0.74	-1.76	-.-	-.-	-.-	-1.76	
Net of Fee Value Added vs Objective		*1.91*	*1.14*				*1.14*	
MSCI EAFE Index		-1.24	-2.75	-.-	-.-	-.-	-2.75	
Net of Fee Value Added vs Benchmark		*2.41*	*2.13*				*2.13*	
Information Ratio				**-.-**	**-.-**	**-.-**		
Sharpe Ratio				**-.-**	**-.-**	**-.-**		
Passive International Equity								
BlackRock ACWI Ex-U.S. (Gross)	**$ 158.5**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-1.87**	**May-18**
BlackRock ACWI Ex-U.S. (Net)		**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-1.87**	**May-18**
MSCI ACWI x-US (Net)		-.-	-.-	-.-	-.-	-.-	-1.88	
Net of Fee Value Added vs Benchmark							*0.01*	

- The Fund's international equity composite returned -4.01% (net of fees) during the second quarter of 2018, underperforming the MSCI ACWI x-US Investable Market Index (IMI) which returned -2.61%. During the period the Acadian and AQR strategies struggled in what was another challenging period for international stocks. The lone bright spot within the composite was the newly funded Ativo International Developed strategy, which delivered very strong performance in both absolute and relative terms. Despite this outsized performance, the strategy represents a much smaller portion of the overall composite therefore its impact was not strong enough to move the composite's performance above that of the policy. The international equity composite is outperforming against its benchmark for the three-, five- and ten-periods periods, as well as since inception (12/89).

[4] Baring Custom Benchmark: MSCI ACWI x-US (2q02 – Present); PMSCI ACWI x-US (G) (3q01 – 1q02); MSCI ACWI x-US (2q99 – 2q01); Wilshire Non-US/Non-SA (2q96 – 1q99); MSCI EAFE (2q88 – 1q96) . Performance objective: Custom Benchmark + 2%.

[5] AQR Custom Benchmark: MSCI ACWI x-US (2q10 – Present); MSCI EAFE (1q06 – 1q10); Performance Objective: Custom Benchmark + 1.5%.

Acadian (International Small-Cap)

- Acadian International manages the Fund's active small-cap international equity portfolio. During the second quarter the Acadian portfolio returned -4.33% (net of fees), underperforming against its benchmark (MSCI ACWI x-US Small Cap) which returned -2.60% for the period. For the second quarter, the portfolio underperformed its benchmark, as losses incurred from stock selection were joined with value lost from country allocations. Key sources of negative active return included stock selection in Japan and Germany, along with an overweight position in Thailand. Most notably 'Leopalace21' tumbled after the Japanese property developer disclosed that over 200 of its buildings did not abide by Japan's Basic Building Laws. Similarly, shares of Thai financial services provider Thanachart Capital were pressured amid escalating trade war tensions, rising U.S. interest rates, and a weaker baht. More successful investments included stock selection in France, an overweight position in Canada, and a combination of stock selection and an underweight position in Brazil. As of quarter-end, the Acadian portfolio is outperforming against its benchmark for the one-, three- and five-year periods as well as since inception (3/89).

AQR Capital Management (International Enhanced)

- AQR Capital manages the Fund's enhanced international equity portfolio. The AQR portfolio returned -5.45% (net of fees) during the second quarter, underperforming its benchmark (MSCI ACWI x-US) which returned -2.61. During the second quarter, the portfolio found itself on the wrong side of the trade in several cases, ultimately leading to this period's relative underperformance. Stock selection suffered the most within several of the large global equity markets including Japan, Germany and the United Kingdom. Here, the portfolio's holdings delivered performance well below that of their respective benchmark holdings. Sector weighting decisions detracted an additional layer of value relative to the benchmark, pushing the portfolio's performance lower in the second quarter. At the end of the period the portfolio held underweight allocations to Japan and China with overweights to Switzerland and Germany. Overall, country weighting decisions were the lone bright spot during the period, providing a modest contribution to overall return. The AQR portfolio is outperforming against its benchmark for three-, five-, and ten-year periods as well as since inception (03/06).

Ativo (International Developed)

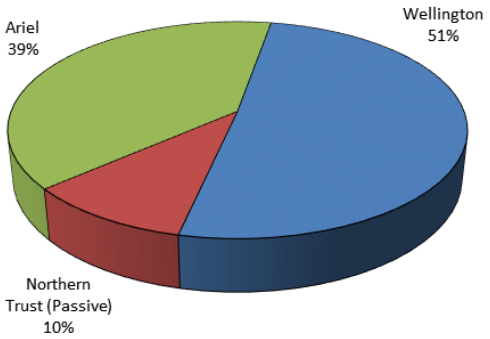
- Ativo manages the Fund's enhanced international developed equity portfolio. During the second quarter the Ativo portfolio returned 1.17% outperforming the MSCI EAFE Index, which returned -1.24%. Outperformance during the quarter was largely due to stock selection decisions, which were positive in nearly all regions and sectors. Stock selection generated the most alpha in Europe ex-EMU and within the industrials and materials sectors. Stock selection also added substantial value in Canada, financials, and health care. Areas of relative weakness included stock selection within the consumer discretionary sector as well as an underweight to energy. The most significant changes to portfolio positioning during the quarter were adding exposure to Pacific ex Japan, Canada and the real estate sector and reducing exposure to Europe ex-EMU and consumer discretionary. All other changes to active regional and sector exposures were less that 2%. At quarter-end, the largest overweights were in Pacific ex-Japan, EMU and the industrials and real estate sectors. Conversely, the largest underweights were in Europe ex EMU, health care, materials, and financials. After completing its second quarter of performance within the Fund the Ativo portfolio currently leads its benchmark since inception (12/17).

BlackRock (ACWI Ex-U.S. Passive)

- BlackRock manages the Fund's passive international equity exposure. The BlackRock MSCI ACWI Ex-U.S. Fund is an index fund designed to track the performance of the MSCI All-Country World Ex-U.S. Index. This fund will provide broad equity exposure and diversification benefits as it holds large-, mid-, and small-capitalization stocks across the world's developed and emerging market regions.

Global Equity Overview

Global Equity Structure



Global Equity Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total Global Equity (Gross)	**$ 182.0**	**0.64**	**1.45**	**12.03**	**8.55**	**9.56**	**-.-**
Total Global Equity (Net)		**0.50**	**1.21**	**11.58**	**8.12**	**9.00**	**-.-**
MSCI ACWI (Net)		0.53	-0.43	10.72	8.18	9.41	-.-
Net of Fee Value Added vs Index		*-0.03*	*1.64*	*0.86*	*-0.06*	*-0.41*	
MSCI ACWI IMI (Net)		0.72	-0.18	11.14	8.34	9.59	6.14
MSCI ACWI (Net)		0.53	-0.43	10.72	8.18	9.41	5.79
MSCI World (Net)		1.73	0.43	11.08	8.48	9.94	6.26

Global Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Equity - Active								
Wellington (Gross)	**$ 92.1**	**0.49**	**1.69**	**11.33**	**8.66**	**11.96**	**13.83**	**Jan-00**
Wellington (Net)		**0.34**	**1.38**	**10.66**	**7.99**	**11.32**	**13.21**	**Aug-12**
MSCI ACWI (Net) + 2%		1.03	0.56	12.72	10.18	11.41	12.22	Aug-12
Net of Fee Value Added vs Objective		*-0.69*	*0.82*	*-2.06*	*-2.19*	*-0.09*	*0.99*	
MSCI ACWI (Net)		0.53	-0.43	10.72	8.18	9.41	10.22	Aug-12
Net of Fee Value Added vs Benchmark		*-0.19*	*1.81*	*-0.06*	*-0.19*	*1.91*	*2.99*	
Information Ratio				**-0.02**	**-0.06**	**0.54**		
Sharpe Ratio				**1.01**	**0.63**	**0.99**		
Global Equity - Active								
Ariel (Gross) *	**$ 71.4**	**0.83**	**1.51**	**-.-**	**-.-**	**-.-**	**1.51**	**Dec-17**
Ariel (Net) *		**0.66**	**1.30**	**-.-**	**-.-**	**-.-**	**1.30**	**Dec-17**
MSCI ACWI (Net) + 1.5%		0.91	0.31	-.-	-.-	-.-	0.31	
Net of Fee Value Added vs Objective		*-0.25*	*0.99*				*0.99*	
MSCI ACWI (Net)		0.53	-0.43	-.-	-.-	-.-	-0.43	
Net of Fee Value Added vs Benchmark		*0.13*	*1.73*				*1.73*	
Global Equity - Passive								
Northern Trust (Gross)	**$ 18.5**	**0.66**	**0.11**	**11.64**	**-.-**	**-.-**	**13.73**	**Oct-15**
Northern Trust (Net)		**0.66**	**0.11**	**11.61**	**-.-**	**-.-**	**13.68**	**Oct-15**
MSCI ACWI IMI (Net)		0.72	-0.18	11.14	-.-	-.-	13.20	Oct-15
Net of Fee Value Added vs Benchmark		*-0.06*	*0.29*	*0.47*			*0.48*	

Global Equity Overview (Continued)

- The global equity composite is comprised of an actively-managed strategy (with a U.S. bias relative to the benchmark) managed by Wellington. This strategy is complemented by a passively-managed strategy provided by Northern Trust. The composite also recently added an exposure to the Ariel Global Product strategy which has recently completed its second full quarter of performance. The new structure favors active management (currently 90% active/10% passive) versus the previous 50%/50% allocation between active and passively managed funds within the composite. During the second quarter the newly funded Ariel strategy outperformed the benchmark while the Wellington strategy mildly trailed the benchmark. The global equity composite is currently outperforming over the one-year period but continues to trail its benchmark since inception (9/12).

Wellington (Active)

- Wellington manages the Fund's active global equity portfolio. During the second quarter, the Wellington portfolio returned 0.34% (net of fees), underperforming its benchmark (MSCI ACWI Index) which returned 0.53%. The Global Opportunities portfolio underperformed the benchmark during the second quarter driven by negative stock selection. Sector allocations were additive to relative performance due to the portfolio's underweight to financials and overweight to information technology. Stock selection detracted in information technology, energy, and materials. In information technology, a position in Flex, a US-based company that designs, manufactures, and services consumer electronics for original equipment manufacturers, detracted most. The stock struggled after the company reported weaker-than-expected fourth quarter earnings results and guidance due to a decline in profitability. The portfolio's underperformance was partially offset by positive stock selection within the consumer discretionary and financials sectors. In consumer discretionary, Nike was the top contributor. The stock price rose following the company's better-than-expected fourth-quarter earnings results. During the quarter, the Fund initiated several positions in energy companies and sold some positions within the financials sector. The Wellington portfolio is outperforming for the five-year period as well as since inception (09/12).

Ariel (Active)

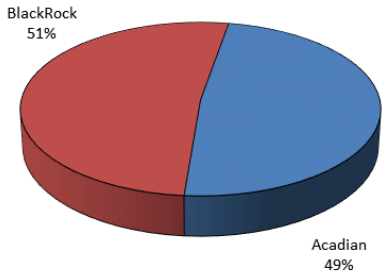
- Ariel manages the Fund's other active global equity portfolio. During the period the Ariel portfolio returned 0.66% (net of fees), outperforming its benchmark (MSCI ACWI Index) which returned 0.53%. The team's bottom up research continues to identify compelling investment ideas primarily within the telecommunication services and health care sectors. Although the telecom sector has underperformed in recent months, they continue to believe the sector offers the most attractive risk/reward opportunities, as such the team has been selectively adding to existing positions. Meanwhile, Ariel continues to underweight financials and industrials where stock selection as well as positioning contributed positively to performance during the quarter. Two notable contributors during the period were Microsoft and Baidu. Microsoft continued to outperform in the second quarter and was once again a top contributor in the global portfolio. The software company reported better than expected earnings due to strong commercial renewal activity and continued uptake of Windows 10 and Office 365. Similarly, Baidu, the Chinese technology behemoth saw its stock price rise after reporting higher than consensus sales and earnings per share due to robust online advertising revenue growth and higher margins. After completing its second quarter of performance within the Fund the Ariel portfolio leads its benchmark since inception (12/17).

Northern Trust (Passive)

- In the fall of 2015 the Fund added a new global equity manager to the segment. Managed by Northern Trust, this strategy gives the Fund broadly diversified exposure to global stocks via a passively managed investment vehicle, which will result in lower turnover and costs incurred. At quarter-end the strategy represented approximately 10% of the segment's total value. After its second full year of performance, the Northern Trust portfolio continues to closely track the risk profile while modestly outperforming its benchmark index MSCI ACWI (+48) basis points since inception.

Global Low Volatility Equity Overview

Global Low Volatility Structure



Global Low Volatility Composite

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	10-year
		Performance					
Total Global Low Volatility (Gross)	**$ 362.8**	**-0.02**	**-0.89**	**6.85**	**8.87**	**-.-**	**-.-**
Total Global Low Volatility (Net)		**-0.11**	**-0.98**	**6.65**	**8.68**	**-.-**	**-.-**
MSCI ACWI Minimum Volatility (Net)		0.42	-0.32	7.33	8.28	-.-	-.-
Net of Fee Value Added vs Index		*-0.53*	*-0.66*	*-0.68*	*0.40*		
MSCI ACWI Minimum Volatility (Net)		0.42	-0.32	7.33	8.28	9.03	7.70
MSCI World x-US Minimum Volatility (Net)		-0.49	-0.89	6.24	6.60	8.01	5.77
MSCI ACWI (Net)		0.53	-0.43	10.72	8.18	9.41	5.79

Global Equity Managers

Global Low Volatility - Active								
Acadian Global Low Vol (Gross)	**$ 176.1**	**-0.74**	**-1.73**	**5.83**	**8.86**	**-.-**	**8.86**	**Jun-15**
Acadian Global Low Vol (Net)		**-0.91**	**-1.90**	**5.47**	**8.51**	**-.-**	**8.51**	**Jun-15**
MSCI ACWI (Net) + 2%		1.03	0.56	12.72	10.18	-.-	10.18	Jun-15
Net of Fee Value Added vs Objective		*-1.94*	*-2.46*	*-7.25*	*-1.67*		*-1.67*	
MSCI ACWI (Net)		0.53	-0.43	10.72	8.18	-.-	8.18	Jun-15
Net of Fee Value Added vs MSCI ACWI		*-1.44*	*-1.47*	*-5.25*	*0.33*		*0.33*	
MSCI ACWI Min Vol (Net)		0.42	-0.32	7.33	8.28	-.-	8.28	Jun-15
Net of Fee Value Added vs MSCI ACWI Min Vol		*-1.33*	*-1.58*	*-1.86*	*0.23*		*0.23*	
Information Ratio				**-0.69**	**0.08**	**-.-**		
Sharpe Ratio				**0.56**	**0.88**	**-.-**		
Global Low Volatility - Passive								
BlackRock Global Low Vol (Gross)	**$ 186.7**	**0.67**	**-0.08**	**7.85**	**8.85**	**-.-**	**8.85**	**Jun-15**
BlackRock Global Low Vol (Net)		**0.66**	**-0.10**	**7.81**	**8.83**	**-.-**	**8.83**	**Jun-15**
MSCI ACWI Min Vol (Net)		0.42	-0.32	7.33	8.28	-.-	8.28	Jun-15
Net of Fee Value Added vs Benchmark		*0.24*	*0.22*	*0.48*	*0.55*		*0.55*	

***Acadian Info Ratio/Sharpe Ratio statistics based on MSCI ACWI Min Vol benchmark.**

Global Low Volatility Equity Overview (Continued)

- In mid-2015, the Board elected to transfer assets from existing strategies elsewhere in the Fund into two new global low volatility equity portfolios. The first portfolio is actively-managed and run by Acadian. Its primary mandate is to provide the Fund with a better risk/return profile relative to the broad MSCI ACWI, its primary benchmark (the Acadian portfolio's performance is also measured against the MSCI ACWI Minimum Volatility as a secondary benchmark). The second portfolio is a passively-managed index fund provided through BlackRock. Taken together, both funds will add diversification benefits to the existing suite of public equity managers. Since its inception within the Fund, the global low volatility equity composite is outperforming the MSCI ACWI Minimum Volatility Index.

Acadian (Global Low Volatility – Active)

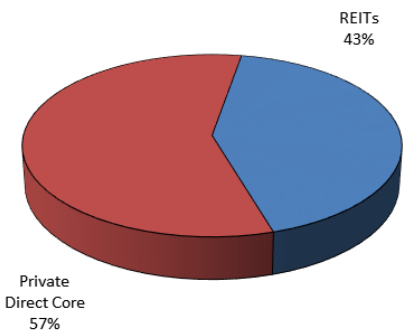
- Acadian manages the Fund's active global low volatility equity portfolio. The strategy was funded during June of 2015 and has recently completed its third year of performance within the Fund. During the second quarter, the Acadian portfolio returned -0.91% (net of fees). The portfolio's primary benchmark is the traditional cap-weighted MSCI All-Country World Index (ACWI). In addition, the portfolio is viewed in comparison to its secondary benchmark, the MSCI ACWI Minimum Volatility. The Acadian portfolio has wide dispersion in its economic sector allocations as compared to the cap-weighted index, potentially leading to a higher degree of tracking error (this difference is reduced when comparing against the secondary minimum volatility benchmark). During the quarter, the Acadian portfolio was unable to outperform each of its respective benchmarks. For the second quarter in a row, the portfolio underperformed its benchmark, as losses incurred from stock selection were joined with value lost from country allocations. Key sources of negative active return included stock selection in Japan and Germany, along with an overweight position in Thailand. More successful investments included stock selection in France, an overweight position in Canada, and a combination of stock selection and an underweight position in Brazil. The Acadian portfolio is currently outperforming its primary benchmark since inception (+33 bps) (07/15). The portfolio has also outpaced its secondary minimum volatility benchmark since inception (+23 bps).

BlackRock (Global Low Volatility – Passive)

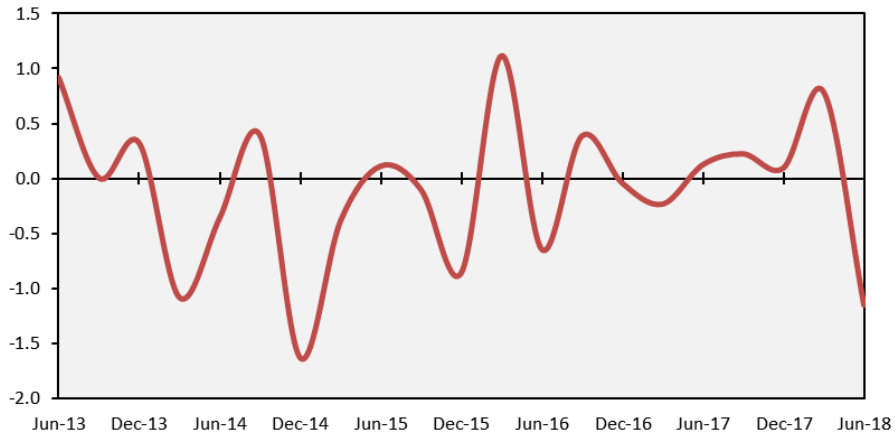
- BlackRock manages the Fund's passive global volatility equity strategy. Like Acadian above, this strategy is relatively new within the Fund having been funded at the end of June 2015. The BlackRock portfolio is intended to provide a low-cost, highly diversified global equity investment strategy focused on minimizing volatility. The BlackRock portfolio is benchmark against the MSCI ACWI Minimum Volatility. To date, the portfolio continues to perform in line with expectations, closely tracking the risk profile of the benchmark index while outperforming the benchmark (+55 bps) since inception.

Real Estate Overview

Real Estate Structure



Total Real Estate Composite
Quarterly Excess Return



Real Estate Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total Real Estate (Gross)	**$ 400.6**	**4.66**	**2.41**	**5.78**	**7.67**	**9.53**	**8.00**
Total Real Estate (Net)		**4.53**	**2.15**	**5.18**	**6.99**	**8.78**	**7.26**
Custom Benchmark [1]		5.68	2.43	5.13	7.56	8.62	7.89
Net of Fee Value Added vs Benchmark		*-1.15*	*-0.28*	*0.05*	*-0.57*	*0.16*	*-0.63*
REIT Strategies	$ 170.4	8.65	1.02	4.24	6.93	8.25	6.97
Private Core Real Estate	$ 230.2	1.70	2.96	5.85	6.91	9.10	-.-
Wilshire Real Estate Securities Index		9.74	1.60	4.00	8.27	8.80	7.91
NCREIF Open Diversified Core Equity (Net)		1.85	3.86	7.51	8.39	10.04	-.-

Real Estate Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Real Estate Securities - Public								
Adelante Capital Management (Gross)	**$ 86.3**	**7.55**	**0.56**	**4.53**	**7.22**	**9.20**	**10.51**	**Sep-01**
Adelante Capital Management (Net)		**7.39**	**0.28**	**3.94**	**6.61**	**8.58**	**9.93**	**Sep-01**
Wilshire Real Estate Securities + 1%		9.99	2.10	5.00	9.27	9.80	11.42	Sep-01
Net of Fee Value Added vs Objective		*-2.60*	*-1.82*	*-1.06*	*-2.66*	*-1.22*	*-1.49*	
Wilshire Real Estate Securities		9.74	1.60	4.00	8.27	8.80	10.42	Sep-01
Net of Fee Value Added vs Index		*-2.35*	*-1.32*	*-0.06*	*-1.66*	*-0.22*	*-0.49*	
Information Ratio				**-0.03**	**-0.83**	**-0.11**		
Sharpe Ratio				**0.24**	**0.47**	**0.63**		
CenterSquare (Gross)	**$ 84.1**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**4.58**	**May-18**
CenterSquare (Net)		**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**4.58**	**May-18**
Wilshire Real Estate Securities + 1%		-.-	-.-	-.-	-.-	-.-	4.51	May-18
Net of Fee Value Added vs Objective							*0.07*	
Wilshire Real Estate Securities		-.-	-.-	-.-	-.-	-.-	4.42	May-18
Net of Fee Value Added vs Index							*0.16*	

[6] Real Estate Custom Benchmark: 50% Wilshire RESI / 39% NCREIF ODCE NOF/11% Invesco Custom Benchmark (4q13 – Present); Wilshire RESI (4q89 – 4q10).

Real Estate Overview (Continued)

Real Estate Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Direct Core Real Estate - Private								
Heitman America Real Estate Trust (Gross)	**$ 92.5**	**2.12**	**4.35**	**8.61**	**9.68**	**11.19**	**12.93**	**Aug-10**
Heitman America Real Estate Trust (Net)		**1.89**	**3.89**	**7.65**	**8.71**	**10.22**	**11.87**	**Aug-10**
NCREIF Open-End Diversified Core (Net)		1.85	3.86	7.51	8.39	10.04	11.37	Aug-10
Net of Fee Value Added vs Index		*0.04*	*0.03*	*0.14*	*0.32*	*0.18*	*0.50*	
Invesco Core Real Estate USA (Gross)	**$ 75.3**	**2.09**	**4.83**	**9.24**	**10.21**	**11.74**	**12.72**	**Aug-10**
Invesco Core Real Estate USA (Net)		**1.86**	**4.38**	**8.30**	**9.26**	**10.76**	**11.73**	**Aug-10**
NCREIF Open-End Diversified Core (Net)		1.85	3.86	7.51	8.39	10.04	11.37	Aug-10
Net of Fee Value Added vs Index		*0.01*	*0.52*	*0.79*	*0.87*	*0.72*	*0.36*	
Invesco II	**$ 62.4**	**1.25**	**0.02**	**0.58**	**-0.38**	**-.-**	**-0.23**	**Oct-13**

- The Fund's total real estate composite is comprised of both public market real estate securities (REITs) and private investment in direct core real estate. The total segment returned 4.53% (net of fees) during the second quarter, underperforming its benchmark (split 50% Wilshire Real Estate Securities Index, 39% NCREIF Open-End Diversified Core Index and 11% Invesco II Custom Benchmark) which returned 5.68%. On the public side, the Adelante portfolio underperformed the Wilshire Real Estate Securities Index mostly as a result of unfavorable stock selection decisions. Meanwhile the CenterSquare REIT was funded in May and has performed well in its first month and a half of performance. On the private side, both the Invesco and Heitman portfolio's managed to outperform relative to the NCREIF Open-End Diversified Core Index accruing positively to the composites total return. Currently, the Fund's total real estate composite is outperforming its benchmark over the one- and five-year periods but continues to trail the benchmark since inception (12/89).

Adelante Capital Management (REITs)

- Adelante Capital manages one of the Fund's real estate securities (REIT) portfolios. During the second quarter, the Adelante portfolio returned 7.39% (net of fees), underperforming its benchmark index (Wilshire Real Estate Securities) which returned 9.74%. After five consecutive quarters of outperformance, the Fund's performance trailed is benchmark despite posting a solid return in absolute terms. Security selection was most detractive within the hotel, health care and industrial mixed segments of the REIT market. Here the portfolio holdings delivered returns significantly lower than the respective benchmark holdings. Similarly, albeit on a lesser scale the portfolio's apartments, storage and single family housing holdings posted returns below that of their respective benchmark holdings. From a sector positioning standpoint, the portfolio suffered from an underweight allocation to the health care sector and an elevated cash position. During the period the portfolio purchased five new issues (Alexander & Baldwin Inc., Diamond Rock Hospitality, Duke Realty Corp, Mid-America Apartment Communities & Ventas, Inc.) and sold three securities (Hilton, LaSalle Hotel Properties & VICI Properties). Following this quarter's underperformance the portfolio is now underperforming its benchmark over the one-, three-, five- and ten-year periods as well as since inception (09/01).

CenterSquare (REITs)

- CenterSquare manages the Fund's recently hired real estate securities (REIT) portfolio. The portfolio recently completed its first full month of performance within the Fund and leads its benchmark over that time period.

Heitman (Direct Core Real Estate)

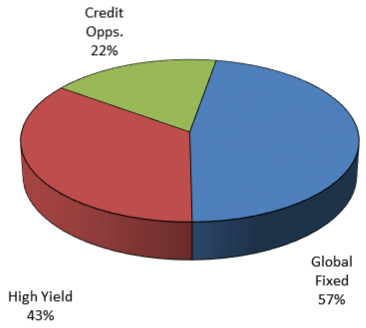
- Heitman manages one of the Fund's three direct core real estate portfolios. The Heitman portfolio returned 1.89% (net of fees) during the second quarter, outperforming its benchmark (NCREIF Open End Diversified Core Index) which returned 1.85%. The appreciation return for the period was comprised of 89 basis points related to property valuation and approximated 17 basis points related to the valuation of the Fund's debt. The portfolio continues to remain well leased with an overall leasing level of 96% at quarter end. Year over year same-property net operating income decreased 1.6% through the second quarter of 2018 reflecting downtime related to recent leasing activity. The Fund anticipates paying a dividend in July of around $12.55 per share, providing investors with additional yield. At quarter end the portfolio's allocation is well diversified across the apartment (22% allocation), office (28%), retail (21%), self-storage (18%) and industrial (11%) segments of the market. The portfolio is also well diversified across the U.S. geographical landscape allocating 36% of the portfolio to the Western region of the U.S., 21% to the Southern region, 18% to the Midwest region and 25% to the Eastern region of the country. Two acquisitions were completed during the quarter at a total equity cost of $337.6 million. The new investments included an office asset in Boston, Massachusetts and an apartment asset in Boca Raton, Florida. The Heitman portfolio is currently outperforming its benchmark over all measured periods greater than one-year including since inception (08/10).

Invesco Core Real Estate-USA (Direct Core Real Estate)

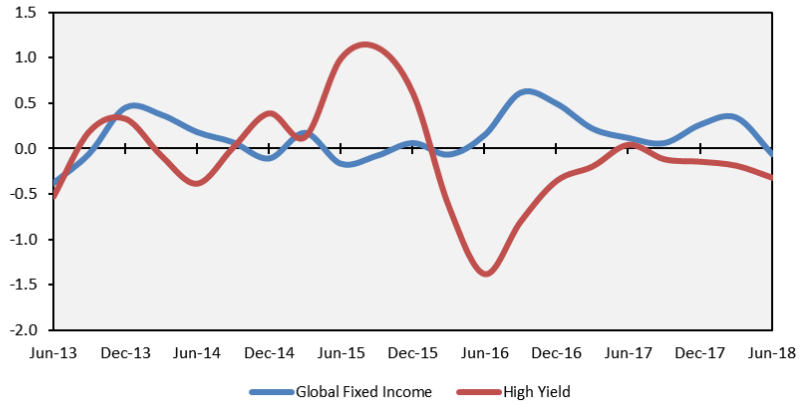
- Invesco manages two of the Fund's three direct core real estate portfolios. The Invesco Core Real Estate-USA portfolio returned 1.86% (net of fees) during the second quarter, performing in-line with its benchmark (NCREIF Open End Diversified Core Index) which returned 1.85%. The total return of 1.86% comprised of 0.96% income and 89% appreciation. Appreciation in the Core Portfolio was primarily driven by the office and industrial sectors. As a result of an increase in U.S. Treasury rates, debt mark-to-market had a positive 13 bps and 54 bps impact to the current quarter and one year returns, respectively. The Fund ended the quarter at 93.1% leased, which is up 120 bps from the prior quarter primarily as a result of strong leasing within the Manage-to-Core Portfolio. Meanwhile, the Core Portfolio NOI is currently tracking slightly ahead of budget, which is expected to deliver 12.6% growth for 2018. During the quarter, the Fund closed on two acquisitions for a total gross purchase price of $231.5M: a value-add, four-building office/life science portfolio located in Cambridge, MA and an office property located in the Meatpacking District of Manhattan. The Fund also refinanced the Legacy West construction loan to a new 12-year fixed-rate loan and paid off a $103.5M secured asset-level loan. The Invesco portfolio is currently outperforming its benchmark over all measured periods including since inception (08/10).

Fixed Income Overview

Fixed Income Structure



Global Fixed Income and High Yield Quarterly Excess Return



Fixed Income Composites

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Global Fixed Income (Gross)	**$ 475.7**	**-0.17**	**-1.24**	**0.42**	**2.65**	**3.08**	**4.29**
Global Fixed Income (Net)		**-0.22**	**-1.34**	**0.21**	**2.44**	**2.89**	**4.09**
Bloomberg Aggregate Bond Index		-0.16	-1.62	-0.40	1.72	2.27	3.72
Net of Fee Value Added vs Benchmark		*-0.06*	*0.28*	*0.61*	*0.72*	*0.62*	*0.37*
High Yield (Gross)	**$ 355.1**	**0.89**	**0.03**	**2.50**	**4.93**	**5.49**	**7.52**
High Yield (Net)		**0.77**	**-0.20**	**1.97**	**4.45**	**4.99**	**7.02**
Custom Benchmark [1]		1.09	0.28	2.74	5.19	5.11	7.75
Net of Fee Value Added vs Benchmark		*-0.32*	*-0.48*	*-0.77*	*-0.74*	*-0.12*	*-0.73*
Bloomberg Aggregate		-0.16	-1.62	-0.40	1.72	2.27	3.72
Citigroup High Yield Cash Pay		1.09	0.28	2.74	5.19	5.11	7.75
BofA ML High Yield Master II		1.02	0.09	2.53	5.55	5.51	8.03

Global Fixed Income Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Fixed Income								
Securian Asset Mgmt. (Gross)	**$ 203.8**	**0.01**	**-1.14**	**0.76**	**2.98**	**3.49**	**4.64**	**May-07**
Securian Asset Mgmt. (Net)		**-0.04**	**-1.23**	**0.59**	**2.80**	**3.32**	**4.47**	**May-07**
Bloomberg Aggregate + 0.5%		-0.03	-1.37	0.10	2.22	2.77	4.53	**May-07**
Net of Fee Value Added vs Objective		*-0.01*	*0.14*	*0.49*	*0.58*	*0.55*	*-0.06*	
Bloomberg Aggregate		-0.16	-1.62	-0.40	1.72	2.27	4.03	**May-07**
Net of Fee Value Added vs Benchmark		*0.12*	*0.39*	*0.99*	*1.08*	*1.05*	*0.44*	
Information Ratio				**1.85**	**1.92**	**2.14**		
Sharpe Ratio				**-0.38**	**0.87**	**1.13**		
Aberdeen (Gross)	**$ 203.5**	**-0.59**	**-1.71**	**-0.21**	**2.27**	**2.56**	**4.70**	**Apr-07**
Aberdeen (Net)		**-0.65**	**-1.83**	**-0.45**	**2.05**	**2.39**	**4.49**	**Apr-07**
Bloomberg Aggregate + 0.5%		-0.03	-1.37	0.10	2.22	2.77	4.37	Apr-07
Net of Fee Value Added vs Objective		*-0.62*	*-0.46*	*-0.55*	*-0.17*	*-0.38*	*0.12*	
Bloomberg Aggregate		-0.16	-1.62	-0.40	1.72	2.27	3.87	Apr-07
Net of Fee Value Added vs Benchmark		*-0.49*	*-0.21*	*-0.05*	*0.33*	*0.12*	*0.62*	
Information Ratio				**-0.10**	**0.40**	**0.15**		
Sharpe Ratio				**-0.86**	**0.51**	**0.73**		

[7] High Yield Custom Benchmark: Citigroup High Yield Cash Pay (4q99 – Present); Citigroup High Yield Composite Index (1q97 – 3q99).

Fixed Income Overview (Continued)

Global Fixed Income Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Fixed Income								
Garcia Hamilton (Gross)	**$ 68.5**	**0.55**	**-0.08**	**1.34**	**2.87**	**-.-**	**3.30**	**Oct-13**
Garcia Hamilton (Net)		**0.48**	**-0.21**	**1.08**	**2.60**	**-.-**	**3.05**	**Oct-13**
Bloomberg Aggregate + 0.5%		-0.03	-1.37	0.10	2.22	-.-	2.64	Oct-13
Net of Fee Value Added vs Objective		*0.51*	*1.16*	*0.98*	*0.38*		*0.41*	
Bloomberg Aggregate		-0.16	-1.62	-0.40	1.72	-.-	2.14	Oct-13
Net of Fee Value Added vs Benchmark		*0.64*	*1.41*	*1.48*	*0.88*		*0.91*	
Information Ratio				**1.60**	**0.86**	**-.-**		
Sharpe Ratio				**-0.15**	**0.79**	**-.-**		

- The Fund's global fixed income segment returned -0.22% (net of fees) during the second quarter of 2018, slightly trailing the Bloomberg Aggregate Bond Index, which returned -0.16%. The segment is comprised of three actively managed strategies: (1) Securian Asset Management (previously Advantus Capital Management), (2) Aberdeen Asset Management, and (3) Garcia Hamilton. During the period, two of the three portfolios managed to outperform the Bloomberg Aggregate Index. Securian and Aberdeen (both with early 2007 inception dates) manage roughly the same level of assets for the Fund, the newer Garcia Hamilton portfolio (late 2013 inception) has a smaller mandate. Therefore, quarter to quarter performance is largely driven by the results of the Advantus and Aberdeen accounts while the Garcia Hamilton account does not have the ability to move the needle as much, so to speak, on account of its smaller size. The global fixed income composite is outperforming against the Bloomberg Aggregate over the one-, three-, five- and ten-year periods.

Securian Asset Management (Core Fixed Income)

- Securian Asset Management (*formerly Advantus*) manages one of the Fund's three global fixed income portfolios. During the second quarter, the Securian portfolio returned -0.04% (net of fees), outperforming its benchmark (Bloomberg Aggregate) which returned -0.16% for the quarter. The portfolio's performance relative to its benchmark during the quarter was driven by positive security selection results in industrials, utilities and local authorities. The portfolio's return was negatively impacted by adverse security selection results in the financial institutions sector, particularly in long-dated bonds. Within financials, exposure to insurance fell due to positions that were called during the quarter; management also sold positions in REIT debt. In the industrials sector, they added positions in short-dated autos in the consumer-cyclical space and also added positions in communications while reducing positions in consumer-non cyclicals. The portfolio was also adversely impacted by its overweight allocation to several non-government sectors, including utilities, local authorities and insurance companies. Exposure to the securitized sector fell by about 1%, primarily due to agency MBS. The Fund remains overweight ABS, CMBS and non-Agency MBS, while it remains underweight Agency MBS. Lastly, the portfolio's yield curve positioning had a positive impact on performance relative to the benchmark during the quarter and the Fund's duration positioning remains slightly shorter than that of the benchmark at quarter end. The Securian portfolio is currently outperforming against its benchmark over the one-, three- and five-year periods as well as since inception (06/07).

Fixed Income Overview (Continued)

Aberdeen (Core Fixed Income)

- Aberdeen manages another of the Fund's global fixed income portfolios. During the second quarter the Aberdeen portfolio returned -0.65% (net of fees), underperforming its benchmark the Bloomberg Aggregate Index which returned -0.16% during the period. The strategy's investment in its U.S. core market detracted slightly from performance for the quarter. The strategy's yield-curve positioning produced positive alpha. Sector allocation decisions weighed on the strategy's performance, particularly from an overweight position in corporate bonds. The strategy's neutral exposure to mortgage-backed securities (MBS) relative to the benchmark prevented underperformance in that sector, as management reduced the underweight allocation to agency MBS and added to positions in non-agency MBS. Sizable holdings in asset-backed securities (ABS) contributed to the strategy's performance, largely counterbalancing the adverse impact of an underweight allocation to U.S. Treasuries. Overall security selection had a minor negative impact on the strategy's performance, most notably holdings in the corporate sector. Lastly, the strategy's international exposure to both bonds and currencies significantly hampered performance for the quarter. The strategy's investments in the commodity market segment were the main detractors from performance, as local currency government bonds in South Africa and Russia experienced sizable declines. Despite mild underperformance in the current period, the Aberdeen portfolio is outperforming against its benchmark over the three- and five-year periods, as well as since inception (06/07).

Garcia Hamilton (Core Fixed Income)

- Garcia Hamilton is the Fund's third global fixed income manager. During the second quarter, the portfolio returned 0.48% (net of fees), outperforming its benchmark index (Bloomberg Aggregate Index) which returned -0.16%. Unlike the two other strategies in the Fund's global fixed income segment (Advantus and Aberdeen), the Garcia Hamilton portfolio has typically maintained exposure to government and agency bonds (predominantly Treasuries) at a level that is greater than or equal to the benchmark. As of quarter end, the portfolio held approximately 35% in the corporate sector versus the index weighting of 25%. In the agency and agency MBS sectors, the portfolio held approximately 7% and 11% versus the benchmark weightings of 7% and 28%, respectively. Duration positioning was a positive contributor to relative performance as management maintained a shorter duration than the benchmark during a period of rising rates. An underweight to fixed rate corporate bonds and agencies was also a positive contributor this quarter as corporate and agency spreads widened. The average yield of the portfolio was marginally lower than the benchmark due to a shorter duration and higher quality profile. As of quarter end management believes the market has overreacted to the geopolitical environment and has underestimated the impact of future Fed rate hikes and quantitative tightening. Therefore, the team is maintaining a shorter duration than the benchmark index in anticipation of higher interest rates. Additionally, they further reduced their exposure to the long end as the yield curve has flattened significantly since they initiated a "barbell" positioning. The Garcia Hamilton portfolio is currently outperforming against its benchmark over the one-year and three-year periods as well as since inception (12/13).

Fixed Income Overview (Continued) [8]

High Yield/Credit Opportunities Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
High Yield								
Oaktree Capital Management (Gross)	**$ 176.1**	**0.84**	**-0.23**	**1.74**	**4.82**	**4.97**	**7.28**	**Dec-96**
Oaktree Capital Management (Net)		**0.72**	**-0.47**	**1.25**	**4.29**	**4.45**	**6.77**	**Dec-96**
Performance Objective		1.34	0.78	3.74	6.19	6.11	7.91	Dec-96
Net of Fee Value Added vs Objective		*-0.62*	*-1.25*	*-2.49*	*-1.90*	*-1.66*	*-1.14*	
Custom Benchmark		1.09	0.28	2.74	5.19	5.11	6.91	Dec-96
Net of Fee Value Added vs Benchmark		*-0.37*	*-0.75*	*-1.49*	*-0.90*	*-0.66*	*-0.14*	
Information Ratio				**-4.46**	**-1.07**	**-0.90**		
Sharpe Ratio				**-0.05**	**0.67**	**0.80**		
BlackRock High Yield (Gross)	**$ 179.0**	**0.93**	**0.29**	**3.26**	**4.29**	**5.54**	**6.85**	**Sep-06**
BlackRock High Yield (Net)		**0.82**	**0.07**	**2.70**	**3.82**	**5.05**	**6.37**	**Sep-06**
Citigroup High Yield Cash Pay + 1%		1.34	0.78	3.74	6.19	6.11	8.00	Sep-06
Net of Fee Value Added vs Objective		*-0.52*	*-0.71*	*-1.04*	*-2.37*	*-1.06*	*-1.63*	
Citigroup High Yield Cash Pay		1.09	0.28	2.74	5.19	5.11	7.00	Sep-06
Net of Fee Value Added vs Benchmark		*-0.27*	*-0.21*	*-0.04*	*-1.37*	*-0.06*	*-0.63*	
Information Ratio				**-0.11**	**-0.84**	**-0.04**		
Sharpe Ratio				**0.64**	**0.65**	**1.03**		
Credit Opportunities								
Neuberger Berman (Gross)	**$ 180.9**	**-0.23**	**-0.73**	**3.73**	**-.-**	**-.-**	**8.15**	**Jan-16**
Neuberger Berman (Net)		**-0.32**	**-0.92**	**3.38**	**-.-**	**-.-**	**7.90**	**Jan-16**
Custom Benchmark + 1%		-0.38	-0.54	2.75	-.-	-.-	9.02	Jan-16
Net of Fee Value Added vs Objective		*0.06*	*-0.38*	*0.63*			*-1.12*	
Custom Benchmark		-0.63	-1.04	1.75	-.-	-.-	8.02	Jan-16
Net of Fee Value Added vs Benchmark		*0.31*	*0.12*	*1.63*			*-0.12*	
Information Ratio				**1.55**	**-.-**	**-.-**		
Sharpe Ratio				**0.87**	**-.-**	**-.-**		

- The high yield composite returned 0.77% (net of fees) during the second quarter, underperforming against the Citigroup High Yield Cash Pay Index, which returned 1.09%. The composite is currently split equally between the two actively-managed strategies. During the period, neither of the Fund's high yield exposures managed to outpace the benchmark. The high yield composite is currently underperforming its benchmark over extended time periods greater than one year including since inception (03/97).

Oaktree Capital Management (High Yield Fixed Income)

- Oaktree Capital manages one of the Fund's two high yield fixed income portfolios. The Oaktree portfolio returned 0.72% (net of fees) during the second quarter, underperforming its benchmark (Citigroup High Yield Cash Pay) which returned 1.09%. During the period Oaktree benefited from good credit selection in the retail sector, but consistent with their disciplined approach, the portfolio didn't hold enough risky higher-spread securities to gain an edge. The second quarter in the high yield bond market was a replay of the first, with the asset class trouncing investment grade securities but, once again, failing to earn its coupon. Investors continued to favor lower-rated securities, with stressed bonds (issues with spreads greater than

[8] Oaktree Capital Management Performance Objective: Citigroup High Yield Cash Pay + 1% (4q99 – Present); Citigroup High Yield Composite Index + 1% (2q97 – Present).

800 basis points) ranking as the top performers. In this environment, CCC-rated securities, up 2.6%, routed the BB/B-rated segment by 170 basis points. The strength of CCCs in 2018 has come as a surprise. The bottom tier typically surges in rallying markets, not when the return on the asset class is barely positive. Yet over the past six months, CCC credits have earned 3.8%. The Oaktree portfolio is currently underperforming over the one-, three- and five-year periods, as well as since inception (03/97).

BlackRock (High Yield Fixed Income)

- BlackRock manages the Fund's other high yield fixed income portfolio. During the second quarter, the BlackRock portfolio returned 0.82%, underperforming its benchmark (Citigroup High Yield Cash Pay) which returned -1.09%. The portfolio outperformed the benchmark during the period as a result of unfavorable individual sector/issue selection and positioning relative to the benchmark. In a continuation of previous periods, lower quality issues (CCC) within the high yield space outperformed higher rated issues. Despite exhibiting a slightly lower credit quality (B) relative to the benchmark (BB), the portfolio did not hold enough CCC issues to keep pace with the benchmark. The portfolio maintains a more defensive posture relative to the benchmark, similar to that of its companion strategy managed by Oaktree. The portfolio is exhibiting a slightly higher current yield relative to the benchmark while the effective duration of the portfolio sits moderately above that of the benchmark, pointing to increase price sensitivity to sudden changes in the prevailing interest rates. The BlackRock portfolio is currently underperforming over the one-, three- and five-year periods as well as since inception period (-63 bps) (09/06).

Neuberger Berman (Credit Opportunities)

- Neuberger Berman manages the Fund's credit opportunities portfolio. During the beginning of 2016 the Neuberger Berman Credit Opportunities portfolio was funded to further diversify the plan's fixed income basket. Now in its second year of performance the portfolio returned -0.32% for the period, outperforming its custom benchmark (*33% ML High Yield Master II Index/33% S&P LSTA Leveraged Loan Index/33% JPM EMBI Global Diversified Index*) which returned -0.63%. Performance during the period was aided by both stock selection and strategic positioning relative to the benchmark. Security selection was strongest within the US denominated high yield and US denominated investment grade credit sectors. Underweight allocations to emerging market issues also provided a large source of value added relative to the benchmark. On the other hand, an overweight (6.84% portfolio weight vs. 0% benchmark weight) to CLO's aided performance during the period. As of quarter end, the portfolio maintains a notable overweight to Latin America with underweight positions in the US and Asia Ex-Japan. Meanwhile, the credit quality of the portfolio (B) closely matched that of its custom benchmark (also B), such that this was not a meaningful source of added or detracted value. The Neuberger Berman portfolio is currently leads its benchmark over the one-year period but is slightly underperforming its custom benchmark since inception (-12 bps) (01/16).

Private Equity Overview

Private Equity Composite

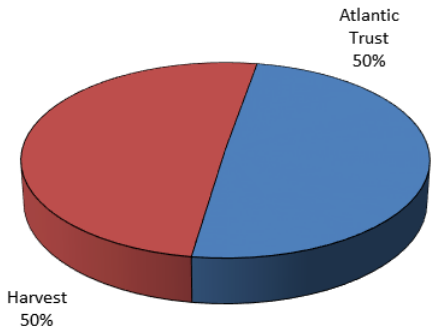
	Total Commitment	Cumulative Capital Called		Cumulative Distributions	Capital Balance	Multiple	Calculated IRR
Hamilton Lane Fund VII LP (Series A)	30,000,000	25,297,247	84.3%	18,391,835	19,357,173	1.49	10.5%
Hamilton Lane Fund VII LP (Series B)	20,000,000	17,695,467	88.5%	6,792,033	12,745,814	1.10	2.5%
Hamilton Lane Fund VII LP (Total)	*50,000,000*	*42,992,714*	86.0%	*25,183,868*	*32,102,987*	1.33	7.3%
Hamilton Lane Secondary Fund II LP	25,000,000	22,820,158	91.3%	25,931,924	2,532,782	1.25	9.0%
Hamilton Lane Secondary Fund III LP	30,000,000	17,762,479	59.2%	14,106,878	14,379,450	1.60	22.5%
Hamilton Lane Secondary Fund IV LP	30,000,000	7,624,815	25.4%	204,691	11,903,033	1.59	-
Hamilton Lane Fund VIII LP (Global)	30,000,000	16,078,923	53.6%	2,568,375	20,909,827	1.46	13.0%
GCM Grosvenor - Partnership, L.P.	75,000,000	77,763,727	103.7%	65,778,390	56,807,697	1.58	14.8%
GCM Grosvenor - Partnership II, L.P. (2014)	60,000,000	48,716,656	81.2%	13,433,004	41,203,736	1.12	5.5%
GCM Grosvenor - Partnership II, L.P. (2015)	20,000,000	18,247,037	91.2%	473,008	19,697,987	1.11	7.5%
GCM Grosvenor - Partnership II, L.P. (2017)	30,000,000	1,329,864	4.4%	-	1,298,669	0.98	-
Fairview Capital III *	40,000,000	16,452,853	41.1%	1,630,828	16,424,565	1.10	7.6%
Total Private Equity Program	**390,000,000**	**269,789,226**	**69.2%**	**149,310,966**	**209,909,399**	**1.33**	**12.2%**

- Multiple calculation = (market value + distributions) / capital called
- Internal Rate of Return shown here is calculated by Wilshire based on cumulative cash flows and annualized since inception.

- GCM capital balances obtained from second quarter manager PCAP statements. Values may differ from custodian. Factors may not sum to total.

MLP Overview

MLP Structure



MLP Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total MLPs (Gross)	**$ 278.5**	**14.76**	**4.33**	**1.71**	**-4.39**	**1.74**	**-.-**
Total MLPs (Net)		**14.58**	**3.99**	**1.04**	**-5.02**	**1.07**	**-.-**
Alerian MLP Index		11.80	-0.63	-4.58	-5.93	-4.09	-.-
Net of Fee Value Added vs Index		*2.78*	*4.62*	*5.62*	*0.91*	*5.16*	
Alerian MLP Index		11.80	-0.63	-4.58	-5.93	-4.09	6.46
S&P MLP Index		13.15	1.01	-1.76	-6.32	-3.03	7.04
Bloomberg Commodities Index		0.40	0.00	7.35	-4.54	-6.40	-9.04

Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
MLPs								
Harvest Fund Advisors (Gross)	**$ 139.0**	**14.52**	**4.83**	**2.66**	**-4.66**	**1.31**	**6.39**	
Harvest Fund Advisors (Net)		**14.30**	**4.45**	**1.90**	**-5.37**	**0.60**	**5.66**	**Dec-11**
Alerian MLP Index + 1.5%		12.17	0.11	-3.08	-4.43	-2.59	2.07	Dec-11
Net of Fee Value Added vs Objective		*2.13*	*4.34*	*4.98*	*-0.94*	*3.19*	*3.59*	
Alerian MLP Index		11.80	-0.63	-4.58	-5.93	-4.09	0.57	Dec-11
Net of Fee Value Added vs Benchmark		*2.50*	*5.08*	*6.48*	*0.56*	*4.69*	*5.09*	
Information Ratio				**2.64**	**0.19**	**1.15**		
Sharpe Ratio				**0.03**	**-0.28**	**0.01**		
Atlantic Trust CIBC (Gross)	**$ 139.5**	**15.01**	**3.83**	**0.78**	**-4.13**	**1.46**	**7.28**	
Atlantic Trust CIBC (Net)		**14.85**	**3.54**	**0.21**	**-4.67**	**0.87**	**6.70**	**Dec-11**
Alerian MLP Index + 1.5%		12.17	0.11	-3.08	-4.43	-2.59	2.07	Dec-11
Net of Fee Value Added vs Objective		*2.68*	*3.43*	*3.29*	*-0.24*	*3.46*	*4.63*	
Alerian MLP Index		11.80	-0.63	-4.58	-5.93	-4.09	0.57	Dec-11
Net of Fee Value Added vs Benchmark		*3.05*	*4.17*	*4.79*	*1.26*	*4.96*	*6.13*	
Information Ratio				**1.87**	**0.34**	**1.22**		
Sharpe Ratio				**-0.06**	**-0.24**	**0.02**		

MLP Overview (Continued)

- The Fund's Master Limited Partnership (MLP) program is comprised of two individual managers, Harvest Fund Advisors and Atlantic Trust (formerly Invesco), with the mandates essentially split evenly between the two. For the first time in over a year, stock prices for the midstream sector and the overall energy sector more closely tracked the positive midstream operating results and crude oil price increases. Against this backdrop energy equities were the best performing sector in the S&P 500 Index for the first quarter in two years. Amidst this backdrop, both of the MLP strategies were able to outpace the benchmark during the period. The MLP composite is currently outperforming over the one-, three- and five-year periods as well as since inception (09/12).

Harvest Fund Advisors (MLPs)

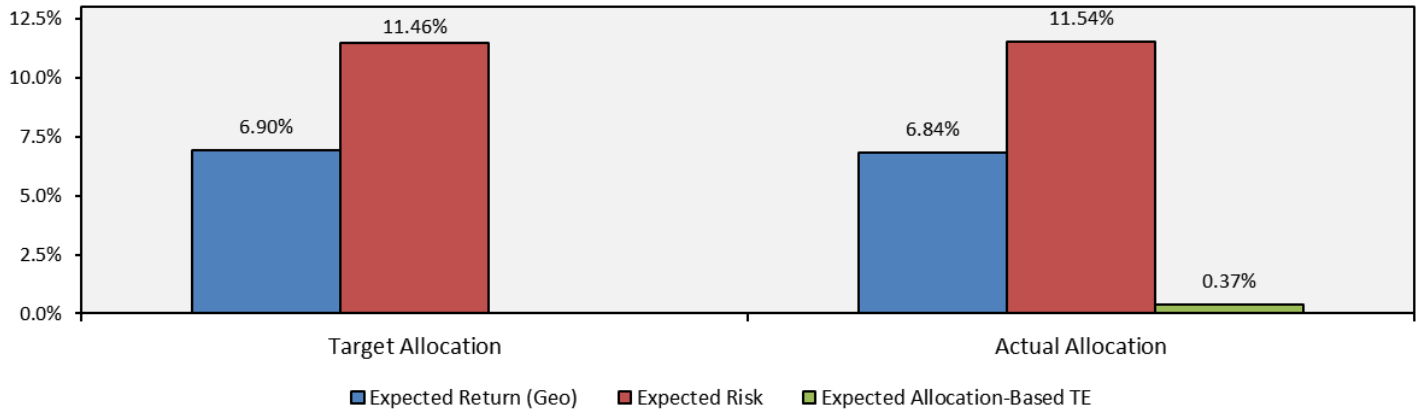
- Harvest Fund Advisors manages one of the Fund's two MLP portfolios. During the second quarter the Harvest portfolio returned 14.30% (net of fees), outperforming its benchmark (Alerian MLP Index) which returned 11.80%. Since the Harvest portfolio typically has approximately anywhere from 96% to 100% of its value invested in energy sector MLPs, sector weighting has not historically been a meaningful source of added or detracted value. However, given the continued unpredictability in the energy market over the past few years coupled with high degrees of performance dispersion across different segments of the market, sector weighting is playing an increasingly important role. As of quarter end the portfolio maintained a small out-of-benchmark position in the materials (less than 1% weight) segment of the market. The ongoing wide dispersion in performance among different midstream companies is at least partially driven by balance sheet strength – those carrying lest debt burden have been able to maintain dividend growth investors expect, which in turn helps to somewhat buoy the market price of the stock. During the period the portfolio's energy holdings delivered performance in excess of the benchmark leading to outperformance relative to the benchmark in Q2. The portfolio has a lower current yield along with the expectation of comparable dividend growth over the five-year period relative to the benchmark. The Harvest Fund Advisors MLP portfolio continues to outperform against its benchmark for the one-, three- and five-year periods, as well as since inception (12/11)

Atlantic Trust (MLPs)

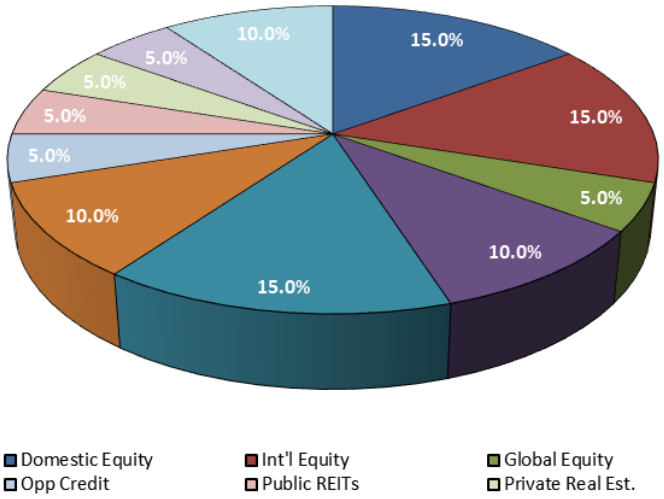
- Atlantic Trust CIBC (formerly Invesco) manages the Fund's other MLP portfolio. During the second quarter, the Atlantic Trust portfolio returned 14.85% (net of fees), outpacing its benchmark (Alerian MLP Index) which returned 11.80%. It is important to note that the Atlantic Trust portfolio (containing 32 stocks) is more concentrated than the Harvest portfolio (40 stocks) as well as the benchmark (44 stocks). As a result, many of its position sizes are relatively much larger and have a greater impact on the overall return. The portfolio's outperformance during the period was primarily as a result of favorable stock selection, which was confined to the energy segment (this is of course the dominant segment in the market space, comprising over 96% of the benchmark's total asset value). The portfolio's energy-focused MLP stocks generated a 14.72% return for the period outperforming the respective benchmark holdings which returned 11.91%. This was driven at least in part by the fact that several of the portfolio's larger holdings were among its best performers during the period. Most notably, Energy Transfer Equity, the portfolio's second largest single holding, returned 26.67% in the current period alone. The portfolio continues to succeed in retaining a mix of higher quality names from within this segment, which has allowed it to recoup some of the losses it experienced elsewhere in the portfolio. The portfolio has lower current yield with the expectation of slightly higher dividend growth over the five-year period relative to the benchmark. The Atlantic Trust MLP portfolio is outperforming against its benchmark for the one-, three- and five-year periods as well as since inception (12/11)

Appendix: Risk Analysis

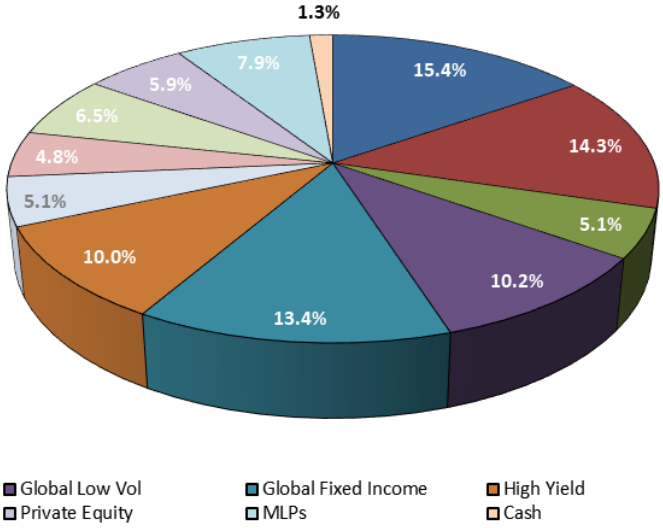
Expected Return and Risk



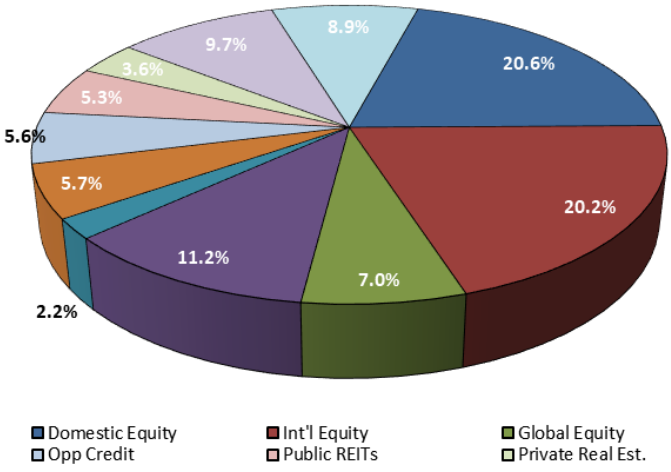
Target Asset Allocation



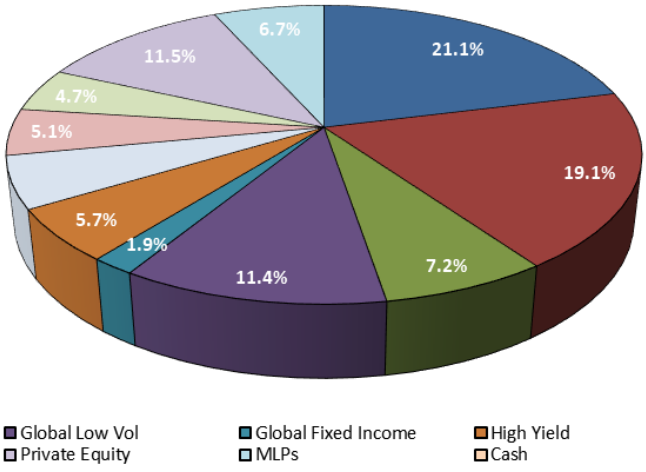
Actual Asset Allocation



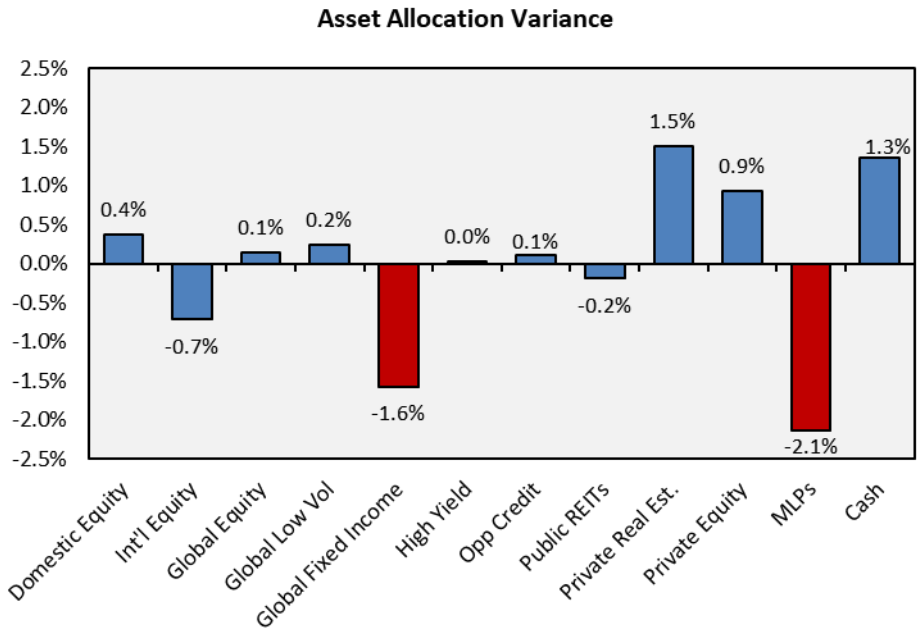
Contribution to Total Risk - Target Allocation

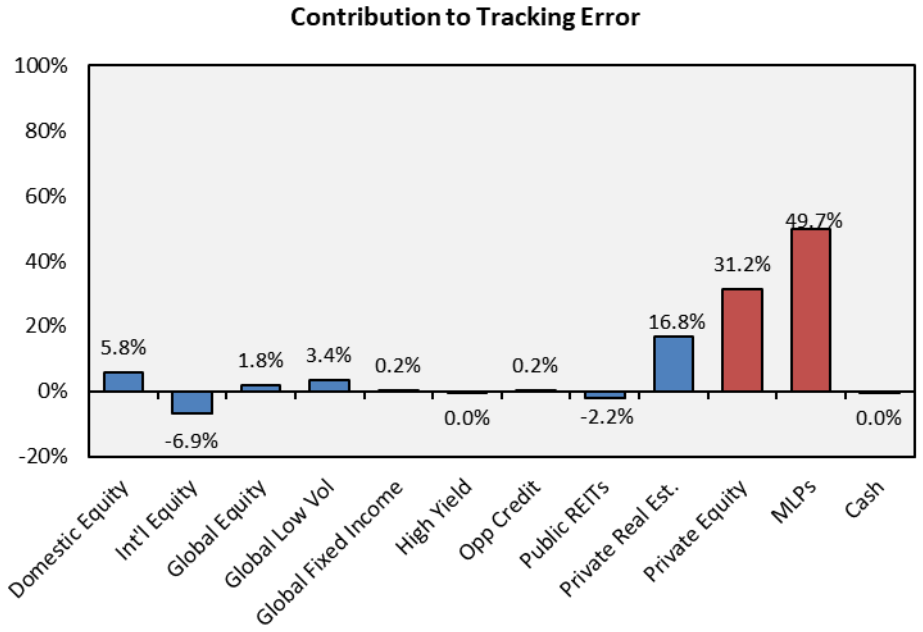


Contribution to Total Risk - Actual Allocation



Expected Return and Tracking Error based on Wilshire's Asset Assumptions





- The variance between the Fund's actual asset allocation and the target allocation is a source of tracking error for the Fund. This "asset allocation tracking error" is currently forecasted to be 0.37% (for the one-year period) at quarter-end. The Fund's MLP segment was the largest contributor to the overall tracking error. This is largely attributable to the fact that the MLP composite currently sits around 2.1% underweight to its target allocation. The Private Equity and Private Real Estate segments also contributed towards tracking error albeit on a lesser scale.

Manager Risk Statistics

U.S. Equity				
T. Rowe Price (Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	8.62	10.36	9.93	14.77
Standard Deviation (Index)	8.60	10.16	9.81	14.71
Sharpe Ratio	1.61	1.16	1.37	0.69
Sharpe Ratio (Index)	1.49	1.10	1.32	0.66
Excess Risk	0.98	1.27	1.13	1.11
Information Ratio	0.90	0.61	0.51	0.33

Systematic (Small Core)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.07	13.09	13.09	19.80
Standard Deviation (Index)	9.83	14.06	13.91	19.57
Sharpe Ratio	1.63	1.04	1.14	0.67
Sharpe Ratio (Index)	1.63	0.73	0.86	0.52
Excess Risk	3.87	3.91	3.78	3.62
Information Ratio	0.47	0.79	0.70	0.76

Channing Capital (Small Value)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	8.91	*14.84*	*n/a*	*n/a*
Standard Deviation (Index)	11.31	*14.29*	*n/a*	*n/a*
Sharpe Ratio	1.05	*0.52*	*n/a*	*n/a*
Sharpe Ratio (Index)	1.02	*0.73*	*n/a*	*n/a*
Excess Risk	4.52	*3.97*	*n/a*	*n/a*
Information Ratio	-0.44	*-0.64*	*n/a*	*n/a*

Non-U.S. Equity				
Acadian (Int'l Small Cap)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.59	12.43	12.08	20.12
Standard Deviation (Index)	9.04	11.65	11.37	19.15
Sharpe Ratio	0.82	0.84	0.81	0.41
Sharpe Ratio (Index)	1.00	0.62	0.75	0.27
Excess Risk	4.81	3.74	3.67	3.70
Information Ratio	0.08	0.79	0.33	0.83

AQR (Int'l Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.05	11.83	11.31	18.98
Standard Deviation (Index)	9.89	12.17	11.65	18.04
Sharpe Ratio	0.43	0.48	0.57	0.14
Sharpe Ratio (Index)	0.59	0.36	0.48	0.12
Excess Risk	2.76	2.40	2.27	2.54
Information Ratio	-0.37	0.53	0.36	0.34

Redwood (Small Growth)(U.S.)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.66	n/a	n/a	n/a
Standard Deviation (Index)	8.87	n/a	n/a	n/a
Sharpe Ratio	1.10	n/a	n/a	n/a
Sharpe Ratio (Index)	2.28	n/a	n/a	n/a
Excess Risk	5.50	n/a	n/a	n/a
Information Ratio	-1.12	n/a	n/a	n/a

Global Equity				
Wellington (Global Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	9.11	11.55	*10.95*	*n/a*
Standard Deviation (Index)	8.63	10.67	*10.18*	*n/a*
Sharpe Ratio	1.01	0.63	*0.99*	*n/a*
Sharpe Ratio (Index)	1.07	0.70	*0.88*	*n/a*
Excess Risk	3.15	3.09	*3.22*	*n/a*
Information Ratio	-0.02	-0.06	*0.54*	*n/a*

Acadian (Global Low Volatility)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	7.21	*8.80*	*n/a*	*n/a*
Standard Deviation (Index)	6.19	*8.36*	*n/a*	*n/a*
Sharpe Ratio	0.56	*0.88*	*n/a*	*n/a*
Sharpe Ratio (Index)	0.95	*0.90*	*n/a*	*n/a*
Excess Risk	2.50	*2.61*	*n/a*	*n/a*
Information Ratio	-0.69	*0.08*	*n/a*	*n/a*

Fixed Income (Core)				
Securian (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	1.99	2.41	2.56	*3.26*
Standard Deviation (Index)	2.37	2.65	2.70	*3.27*
Sharpe Ratio	-0.38	0.87	1.13	*1.32*
Sharpe Ratio (Index)	-0.73	0.39	0.68	*1.03*
Excess Risk	0.53	0.55	0.48	*1.67*
Information Ratio	1.85	1.92	2.14	*0.55*

Aberdeen (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.07	2.65	2.67	3.76
Standard Deviation (Index)	2.37	2.65	2.70	3.27
Sharpe Ratio	-0.86	0.51	0.73	1.03
Sharpe Ratio (Index)	-0.73	0.39	0.68	1.03
Excess Risk	0.53	0.81	0.72	1.41
Information Ratio	-0.10	0.40	0.15	0.36

Garcia Hamilton (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	1.79	*2.41*	*n/a*	*n/a*
Standard Deviation (Index)	2.37	2.65	*n/a*	*n/a*
Sharpe Ratio	-0.15	*0.79*	*n/a*	*n/a*
Sharpe Ratio (Index)	-0.73	*0.39*	*n/a*	*n/a*
Excess Risk	0.93	*1.00*	*n/a*	*n/a*
Information Ratio	1.60	*0.86*	*n/a*	*n/a*

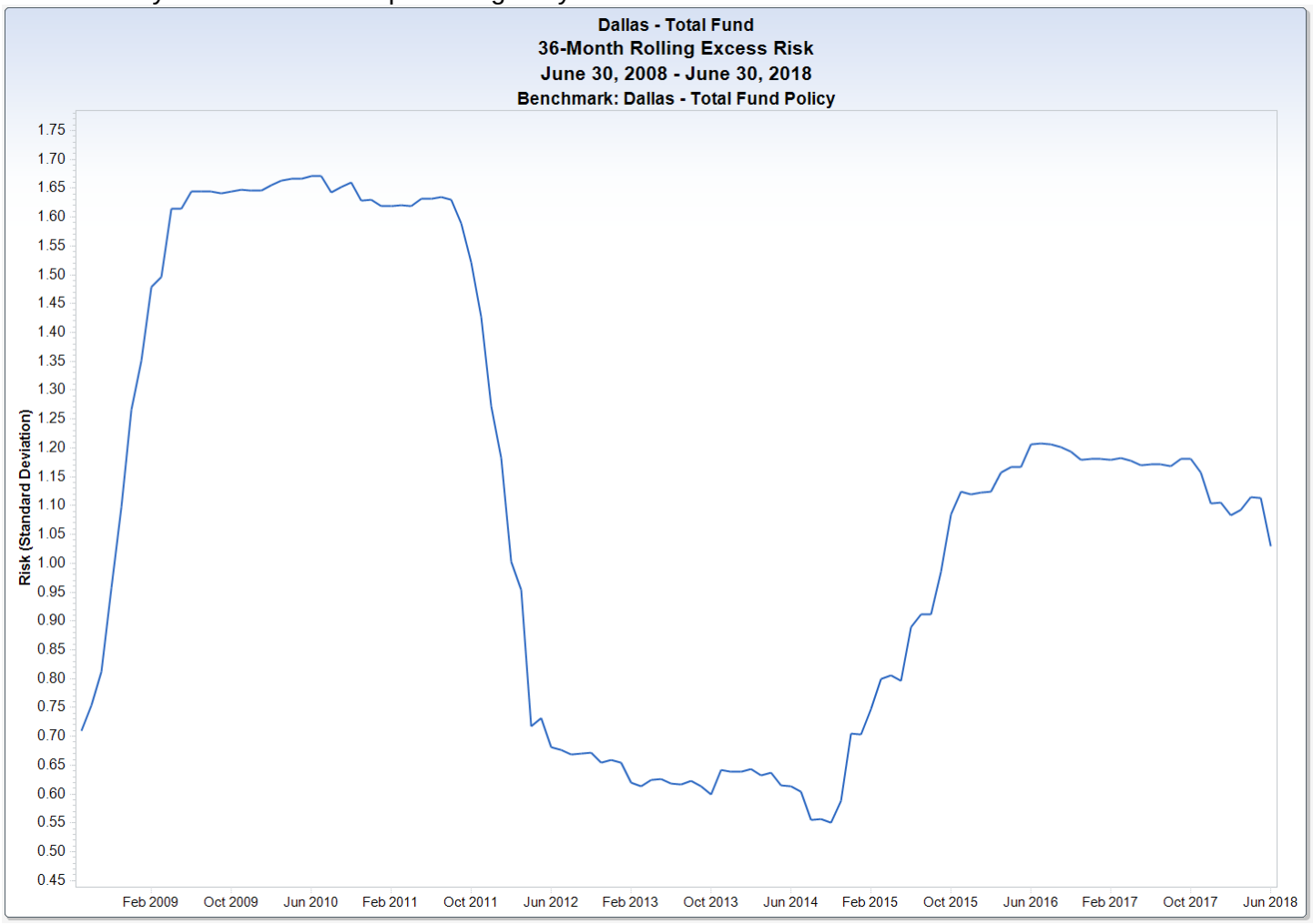
High Yield Fixed Income				
BlackRock (High Yield)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.05	4.79	4.48	8.45
Standard Deviation (Index)	2.15	5.75	5.24	10.25
Sharpe Ratio	0.64	0.65	1.03	0.76
Sharpe Ratio (Index)	0.63	0.78	0.89	0.72
Excess Risk	0.36	1.55	1.67	2.80
Information Ratio	-0.11	-0.84	-0.04	-0.31

Oaktree (High Yield)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.15	5.37	5.01	8.76
Standard Deviation (Index)	2.15	5.75	5.24	10.25
Sharpe Ratio	-0.05	0.67	0.80	0.75
Sharpe Ratio (Index)	0.63	0.78	0.89	0.72
Excess Risk	0.32	0.80	0.70	2.68
Information Ratio	-4.46	-1.07	-0.90	-0.27

Master Limited Partnerships				
Harvest (MLP)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	19.24	21.25	*18.28*	*n/a*
Standard Deviation (Index)	19.15	20.44	*18.06*	*n/a*
Sharpe Ratio	0.03	-0.28	*0.01*	*n/a*
Sharpe Ratio (Index)	-0.31	-0.32	*-0.25*	*n/a*
Excess Risk	2.57	3.11	*4.27*	*n/a*
Information Ratio	2.64	0.19	*1.15*	*n/a*

Atlantic Trust CIBC (MLP)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	19.52	22.20	18.91	*n/a*
Standard Deviation (Index)	19.15	20.44	*18.06*	*n/a*
Sharpe Ratio	-0.06	-0.24	0.02	*n/a*
Sharpe Ratio (Index)	-0.31	-0.32	-0.25	*n/a*
Excess Risk	2.69	3.91	4.23	*n/a*
Information Ratio	1.87	0.34	1.22	*n/a*

Real Estate Investment Trusts				
Adelante (REIT)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	10.56	12.60	12.97	24.05
Standard Deviation (Index)	11.97	13.35	13.78	25.60
Sharpe Ratio	0.24	0.47	0.63	0.27
Sharpe Ratio (Index)	0.22	0.56	0.61	0.29
Excess Risk	1.99	1.86	1.83	3.11
Information Ratio	-0.03	-0.83	-0.11	-0.31

Neuberger Berman (Credit Opps)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.30	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	1.72	*n/a*	*n/a*	*n/a*
Sharpe Ratio	0.87	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	0.22	*n/a*	*n/a*	*n/a*
Excess Risk	1.03	*n/a*	*n/a*	*n/a*
Information Ratio	1.55	*n/a*	*n/a*	*n/a*

- Below is a historical visualization of realized tracking error ("ex-post") for the Employees' Retirement Fund of the City of Dallas over the preceding ten years: