WILSHIRE ASSOCIATES

Wilshire Consulting

Employees' Retirement Fund of the City of Dallas

Executive Summary of Performance

Fourth Quarter 2019

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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 9.08% for the fourth quarter of 2019 and 31.02% for the full year. This marks the strongest year for U.S. equities since 2013. In December, the U.S. and China agreed to terms on a "Phase One" trade deal that is reported to reduce U.S. tariffs and increase Chinese purchases of some U.S. products. While few specific details have been released, China's top trade negotiator is scheduled to visit Washington to sign the deal in early January once the agreement is translated and formalized.

Large capitalization stocks outperformed small caps by a slim margin for the quarter as the Wilshire Large-Cap Index was up 9.09% versus 9.01% for the Wilshire US Small- Cap Index. The Wilshire US Micro-Cap Index was up 8.48% for the quarter and 17.79% for the one-year. Growth stocks led value during the fourth quarter and have outperformed during the past twelve months

All eleven major sectors were in positive territory during the fourth quarter. The strongest performing sectors were Health Care (+15.4%), Information Technology (+14.3%) and Financials (+10.0%). The worst performing sectors were Utilities (+0.4%) and Real Estate (+0.5%).

Fixed Income Market

The U.S. Treasury yield curve fell in the short portion of the curve but rose across intermediate and long-term maturities. The largest increase occurred with the 20-year Treasury, up 31 basis points. The 10-year Treasury yield ended the quarter at 1.92%, up 24 basis points from September. The Federal Open Market Committee decreased its overnight rate by 0.25% at the October meeting. The committee members are nearly unanimous about not changing rates at all during 2020 after being evenly split about future changes as they entered the fourth quarter. Credit spreads were down by quarter-end within both the investment grade and high yield markets.

Non-U.S. Markets

Equity markets outside of the U.S. produced very strong results in 2019, although they generally underperformed the U.S. equity market. News out of Britain is mixed with notable economic weakness in the manufacturing and services sectors. However, consumer sentiment surveys are improving after a fourth-quarter election resulted in strong support for a pro-Brexit government. Conditions in Germany are quite similar with signs of economic weakness but improving sentiment. Japan experienced its fourth consecutive quarter of expansion during 2019, while also beating forecasts, due mostly to capital expenditures and private consumption. Emerging Markets were up, in aggregate, for the quarter but generally trailed developed markets for the year. China benefitted from good news on the trade front although the country's economic growth has cooled to near 30-year lows.

Real Assets Markets

U.S. real estate securities were down during the fourth quarter but produced strong results for the year. Global real estate securities are up for both periods and exhibited double-digit gains for the year. Commodity results were positive for the quarter as crude oil rose 12.9% to $61.06 per barrel. Natural gas prices were down -6.1%, ending the quarter at $2.19 per million BTUs. MLPs were down for the quarter (-4.08%) but produced positive results for 2019. Finally, gold prices were up and finished at approximately $1,523 per troy ounce, up +3.9% from last quarter.

Summary of Index Returns

For Periods Ended December 31, 2019

	Quarter	One Year	Three Years	Five Years	Ten Years
Domestic Equity					
Standard & Poor's 500	9.07%	31.49%	15.27%	11.70%	13.56%
Wilshire 5000	9.08	31.02	14.52	11.38	13.44
Wilshire 4500	8.69	28.06	10.93	9.51	13.09
Wilshire Large Cap	9.09	31.51	15.18	11.72	13.54
Wilshire Small Cap	9.01	26.21	8.49	8.26	12.56
Wilshire Micro Cap	8.48	17.79	4.77	5.38	10.48
Domestic Equity					
Wilshire Large Value	7.12%	27.72%	11.79%	9.86%	12.55%
Wilshire Large Growth	11.24	35.79	18.69	13.54	14.51
Wilshire Mid Value	5.19	23.54	8.39	8.82	12.46
Wilshire Mid Growth	8.04	31.32	12.95	9.48	12.98
Wilshire Small Value	8.03	23.08	5.16	7.26	11.69
Wilshire Small Growth	10.08	29.49	11.81	9.14	13.32
International Equity					
MSCI All World ex U.S. (USD)	8.92%	21.52%	9.86%	5.51%	4.97%
MSCI EAFE	8.17	22.01	9.56	5.67	5.50
MSCI Europe	8.84	23.77	9.76	5.06	5.17
MSCI Pacific	7.03	19.25	9.35	7.00	6.32
MSCI Emerging Markets Index	11.84	18.43	11.57	5.61	3.68
Domestic Fixed Income					
Barclays Aggregate Bond	0.18%	8.72%	4.03%	3.05%	3.75%
Barclays Credit	1.05	13.80	5.75	4.39	5.32
Barclays Mortgage	0.71	6.35	3.25	2.58	3.15
Barclays Treasury	-0.79	6.86	3.31	2.36	3.13
Citigroup High Yield Cash Pay	2.82	14.06	6.09	5.84	7.23
Barclays US TIPS	0.79	8.43	3.32	2.62	3.36
91-Day Treasury Bill	0.46	2.28	1.67	1.07	0.58
Currency*					
Euro vs. $	2.96%	-1.81%	2.10%	-1.49%	-2.42%
Yen vs. $	-0.55	0.96	2.38	1.98	-1.54
Pound vs. $	7.50	4.02	2.35	-3.21	-1.96
Real Estate					
Wilshire REIT Index	-1.14%	25.76%	7.63%	6.87%	11.94%
Wilshire RESI	-1.07	25.79	7.88	7.21	12.11

*Positive values indicate dollar depreciation.

Total Fund Overview

Asset Class Performance

	Assets		Performance (%)					
	($Mil)	(%)	QTR	YTD	1-year	3-year	5-year	10-year
U.S. Equity	492.9	13.5	9.25	29.06	29.06	12.73	10.34	12.70
International Equity	536.5	14.7	10.52	22.60	22.60	9.60	6.18	6.44
Global Equity	255.0	7.0	7.74	22.83	22.83	11.53	7.40	
Global Low Volatility	376.1	10.3	3.52	21.54	21.54	11.97		
Real Estate	392.9	10.8	2.09	15.08	15.08	7.14	7.36	11.71
Global Fixed Income	519.7	14.2	0.16	9.02	9.02	4.22	3.40	4.48
High Yield	365.4	10.0	2.73	14.14	14.14	5.63	5.54	6.88
Credit Opportunities	179.8	4.9	2.35	11.97	11.97	6.34		
MLPs	236.1	6.5	-1.24	11.84	11.84	-2.37	-4.93	
Private Equity	258.8	7.1	1.98	11.69	11.69	14.32	12.04	11.78
Cash Equivalents	39.0	1.1	0.46	2.28	2.28	1.67	1.07	0.58
Total Fund	**3,652.4**	**100.0**	**4.28**	**17.58**	**17.58**	**8.39**	**6.45**	**8.56**
Asset Allocation Policy			**4.18**	**18.28**	**18.28**	**8.29**	**6.26**	**8.33**
Value Added vs Policy			*0.09*	*-0.70*	*-0.70*	*0.11*	*0.19*	*0.23*
Actuarial Rate			1.94	3.92	8.00	8.00	8.02	8.14
Wilshire 5000 Index			9.08	31.02	31.02	14.52	11.38	13.44
S&P 500 Index			9.07	31.49	31.49	15.27	11.70	13.56
MSCI ACWI x-U.S. IMI Index			9.20	21.63	21.63	9.84	5.71	5.21
MSCI EAFE Index			8.17	22.01	22.01	9.56	5.67	5.50
Bloomberg Aggregate Bond Index			0.18	8.72	8.72	4.03	3.05	3.75
Citigroup High Yield Cash Pay			2.82	14.06	14.06	6.09	5.84	7.23
Wilshire RE Securities Index			-1.07	25.79	25.79	7.88	7.21	12.11
91-Day Treasury Bill			0.46	2.28	2.28	1.67	1.07	0.58

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	1.83%
3Q18	3,544.4	31.6	75.1	3.3	101.0	3,598.8	2.74%
4Q18	3,598.8	27.5	73.9	3.5	(274.6)	3,274.3	-7.66%
1Q19	3,274.3	32.4	71.8	3.2	292.5	3,524.2	8.90%
2Q19	3,524.2	27.7	76.6	3.4	108.0	3,579.9	3.04%
3Q19	3,579.9	32.8	76.2	3.2	20.4	3,553.7	0.49%
4Q19	3,553.7	27.7	79.8	3.6	154.3	3,652.4	4.28%

- At the end of the fourth quarter of 2019, the Fund's market value was $3,652.4 million, which represented a increase of $98.7 million in total net asset value over the previous quarter. The change in the Fund's value was driven by $27.7 million in net contributions, $154.3 million gain on investments, $79.8 million in net distributions and $3.6 million in investment management fees.

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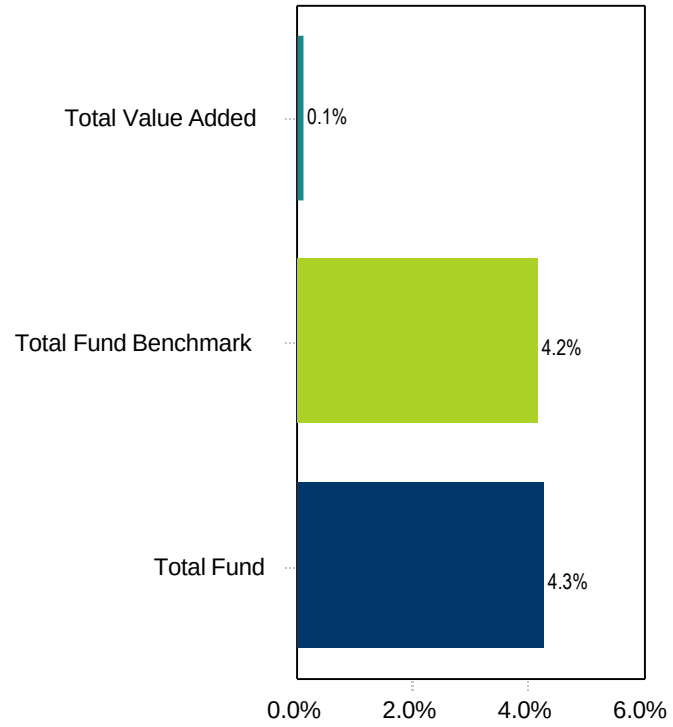
Total Fund Attribution

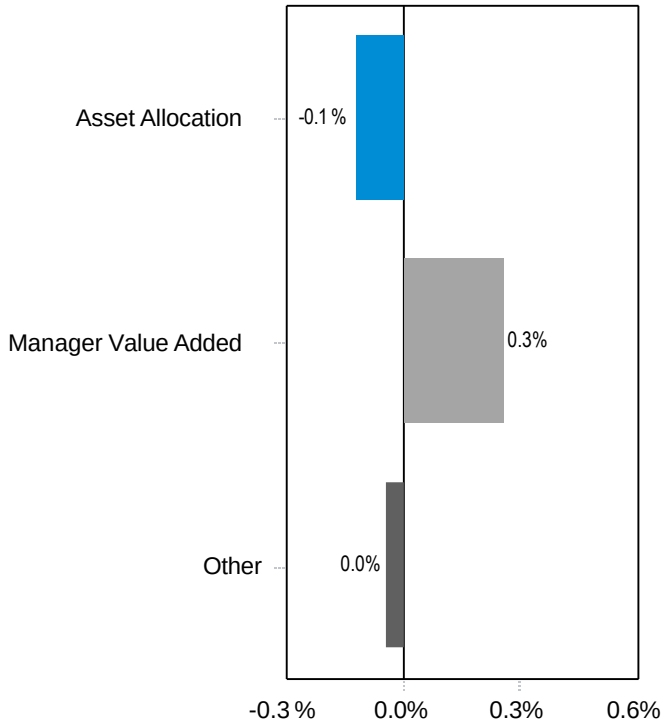
Dallas Total Fund

Periods Ended 1 Quarter Ending December 31, 2019

Total Fund Performance



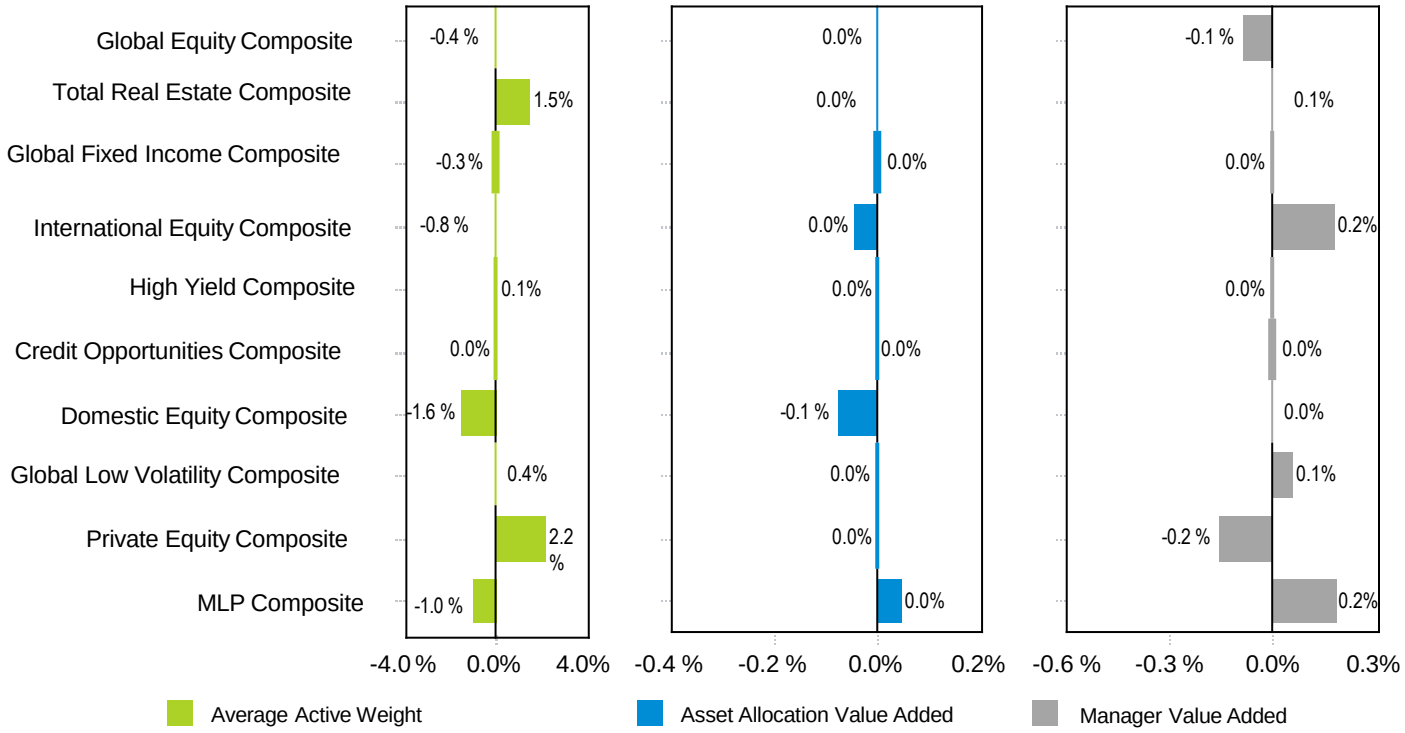
Total Value Added:0.1%



Total Asset Allocation:-0.1 %

Asset Allocation Value:-0.1%

Total Manager Value: 0.3%



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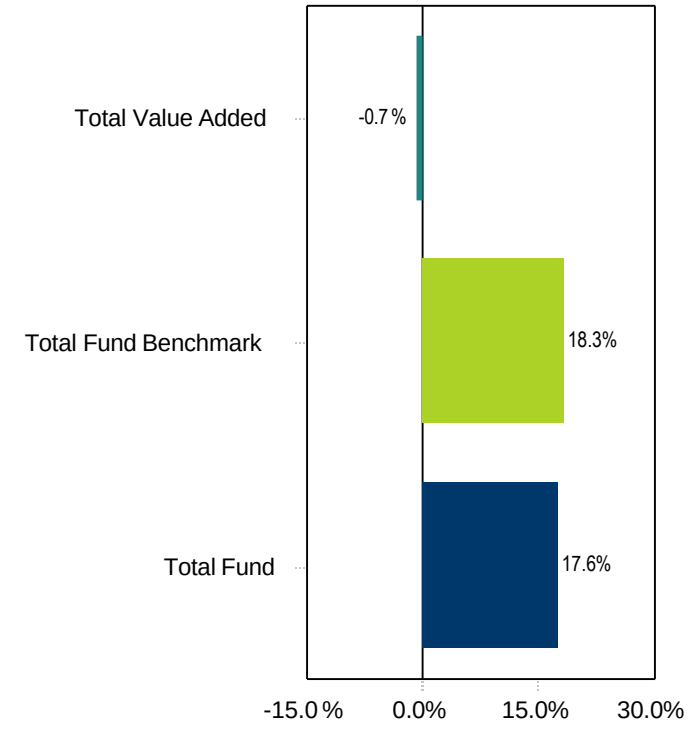
Total Fund Attribution

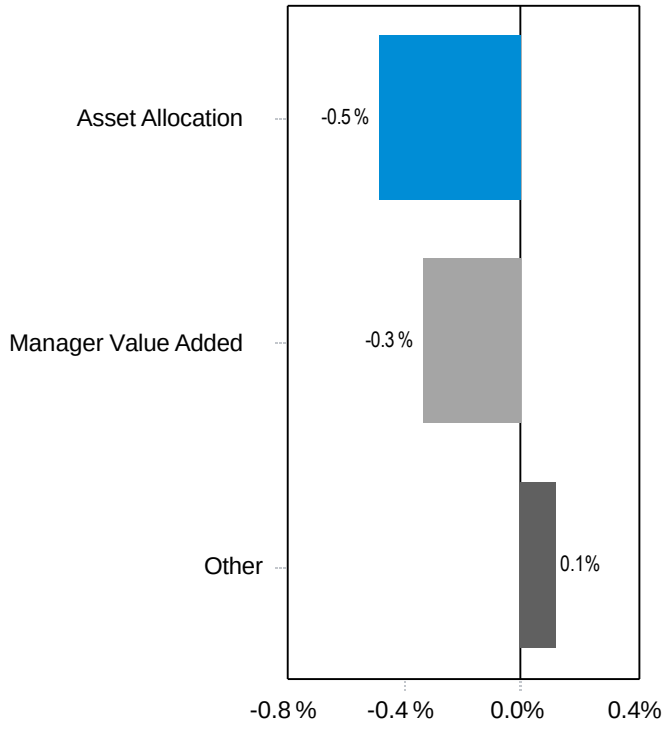
Dallas Total Fund

Periods Ended 1 Year Ending December 31, 2019

Total Fund Performance



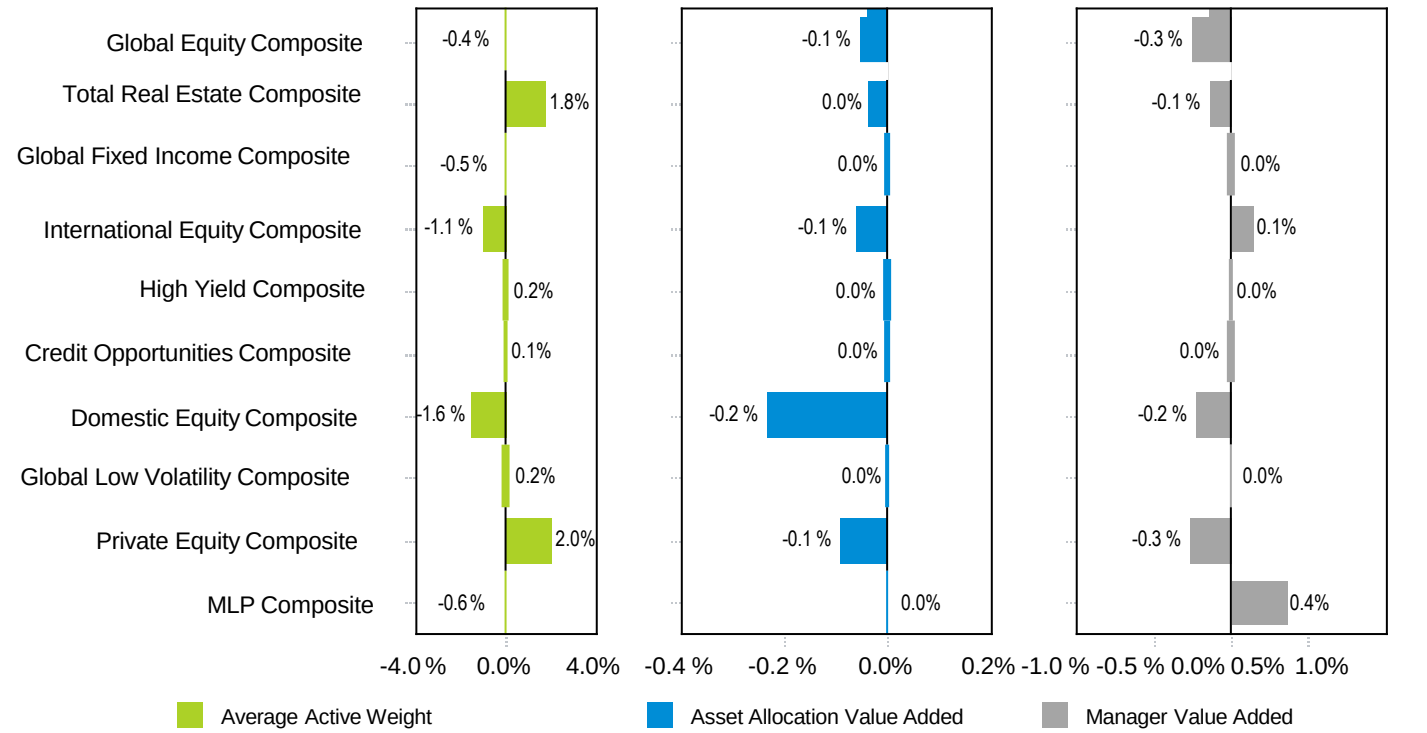
Total Value Added:-0.7 %



Total Asset Allocation:-0.5 %

Asset Allocation Value:-0.5%

Total Manager Value:-0.3%



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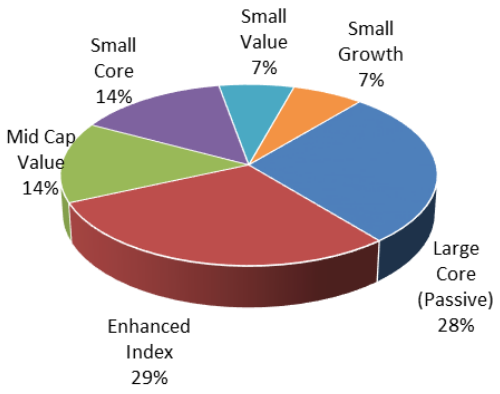
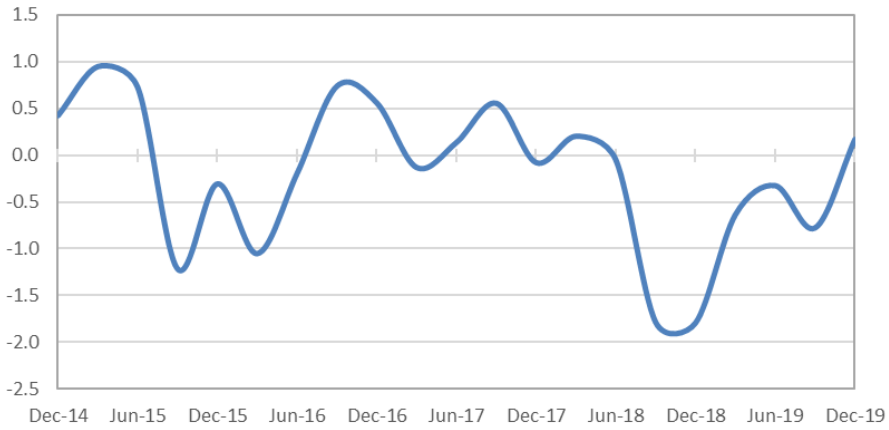
U.S. Equity Overview

U.S. 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)	**$ 492.9**	**9.36**	**29.61**	**29.61**	**13.16**	**10.74**	**13.10**
Total U.S. Equity (Net)		**9.25**	**29.06**	**29.06**	**12.73**	**10.34**	**12.70**
Custom Benchmark [1]		9.08	31.02	31.02	14.52	11.38	13.42
Net of Fee Value Added vs Benchmark		*0.17*	*-1.95*	*-1.95*	*-1.78*	*-1.04*	*-0.72*
Small Cap Composite	**$ 139.6**	7.91	22.66	22.66	7.22	8.08	11.59
Wilshire 5000 Index		9.08	31.02	31.02	14.52	11.38	13.44
S&P 500 Index		9.07	31.49	31.49	15.27	11.70	13.56
Russell 2000 Index		9.94	25.53	25.53	8.59	8.23	11.83

U.S. 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)	**$ 137.7**	**9.07**	**31.55**	**31.55**	**15.29**	**11.74**	**10.30**	**Dec-94**
Northern Trust S&P 500 (Net)		**9.07**	**31.55**	**31.55**	**15.29**	**11.73**	**10.26**	**Dec-94**
S&P 500 Index		9.07	31.49	31.49	15.27	11.70	10.22	Dec-94
Net of Fee Value Added vs Benchmark		*0.00*	*0.06*	*0.06*	*0.02*	*0.04*	*0.04*	
Enhanced Index								
T. Rowe Price (Gross)	**$ 144.5**	**9.37**	**33.05**	**33.05**	**16.71**	**12.82**	**10.02**	**Mar-06**
T. Rowe Price (Net)		**9.29**	**32.66**	**32.66**	**16.36**	**12.47**	**9.70**	**Mar-06**
S&P 500 Index		9.07	31.49	31.49	15.27	11.70	9.15	Mar-06
Net of Fee Value Added vs Benchmark		*0.22*	*1.17*	*1.17*	*1.09*	*0.77*	*0.56*	
Information Ratio				**1.11**	**1.02**	**0.64**		
Sharpe Ratio				**2.25**	**1.18**	**0.92**		

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

U.S. Equity Overview (Continued)

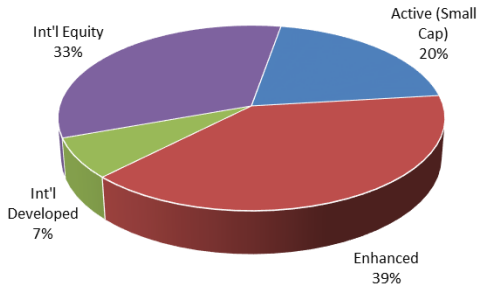
U.S. Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Small Core - Active								
Systematic Financial (Gross)	**$ 70.9**	**8.52**	**25.49**	**25.49**	**10.63**	**11.41**	**11.75**	**Jun-03**
Systematic Financial (Net)		**8.29**	**24.44**	**24.44**	**9.70**	**10.47**	**10.93**	**Jun-03**
Russell 2000 Index		9.94	25.53	25.53	8.59	8.23	9.39	Jun-03
Net of Fee Value Added vs Benchmark		*-1.65*	*-1.09*	*-1.09*	*1.11*	*2.24*	*1.54*	
Information Ratio				**-0.21**	**0.25**	**0.52**		
Sharpe Ratio				**1.19**	**0.50**	**0.61**		
Small Value - Active								
Channing Capital Management (Gross) *	**$ 35.2**	**7.96**	**25.95**	**25.95**	**4.11**	**6.93**	**6.97**	**Oct-13**
Channing Capital Management (Net) *		**7.71**	**24.76**	**24.76**	**3.12**	**5.91**	**5.98**	**Oct-13**
Russell 2000 Value Index		8.49	22.39	22.39	4.77	6.99	6.76	Oct-13
Net of Fee Value Added vs Benchmark		*-0.78*	*2.37*	*2.37*	*-1.65*	*-1.08*	*-0.78*	
Information Ratio				**0.44**	**-0.32**	**-0.22**		
Sharpe Ratio				**1.09**	**0.08**	**0.27**		
Small Growth - Active								
Redwood Investments (Gross) *	**$ 33.5**	**7.52**	**17.88**	**17.88**	**7.03**		**6.95**	**Sep-16**
Redwood Investments (Net) *		**7.33**	**17.07**	**17.07**	**6.35**		**6.32**	**Sep-16**
Russell 2000 Growth Index		11.39	28.48	28.48	12.49		12.69	
Net of Fee Value Added vs Benchmark		*-4.06*	*-11.41*	*-11.41*	*-6.15*		*-6.37*	
Information Ratio				**-1.45**	**-1.00**	**-.-**		
Sharpe Ratio				**0.77**	**0.27**	**-.-**		
Mid Cap Value - Active								
Smith Graham Mid Cap Value (Gross) *	**$ 71.1**	**12.32**	**29.59**	**29.59**			**5.45**	**Dec-17**
Smith Graham Mid Cap Value (Net) *		**12.11**	**28.62**	**28.62**			**4.73**	**Dec-17**
Russell Midcap Index		7.06	30.54	30.54			8.96	
Net of Fee Value Added vs Benchmark		*5.05*	*-1.92*	*-1.92*			*-4.23*	
Information Ratio				**-0.14**	**-.-**	**-.-**		
Sharpe Ratio				**1.12**	**-.-**	**-.-**		

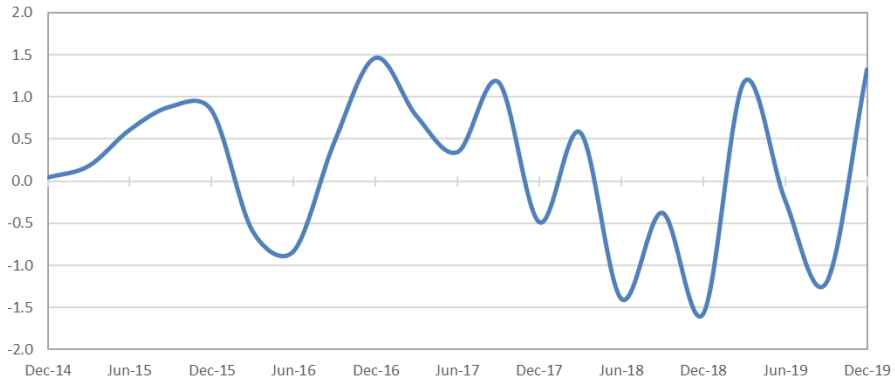
- The Fund's domestic equity composite generated a return of 9.25% (net of fees) during the fourth quarter of 2019, outperforming the Wilshire 5000 Total Market Index, which returned 9.08%. Relative performance was negative during the quarter for all active U.S. equity managers in the composite aside from Smith Graham. Following this quarter's results, the domestic equity composite is trailing its benchmark over the one-, three-, five- and ten-year periods.

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)	**$ 536.5**	**10.68**	**23.11**	**23.11**	**10.08**	**6.63**	**6.90**
Total International Equity (Net)		**10.52**	**22.60**	**22.60**	**9.60**	**6.18**	**6.44**
Custom Benchmark [1]		9.20	21.63	21.63	9.84	5.71	5.14
Net of Fee Value Added vs Benchmark		*1.32*	*0.97*	*0.97*	*-0.24*	*0.47*	*1.30*
MSCI ACWI x-US IMI (Net)		9.20	21.63	21.63	9.84	5.71	5.21
MSCI ACWI x-US (Net)		8.92	21.52	21.52	9.86	5.51	4.97
MSCI EAFE (Net)		8.17	22.01	22.01	9.56	5.67	5.50
MSCI Emerging Markets		11.84	18.44	18.44	11.57	5.61	3.68

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)	**$ 109.3**	**11.46**	**22.60**	**22.60**	**10.95**	**8.84**	**8.84**	**Mar-89**
Acadian International (Net)		**11.31**	**21.92**	**21.92**	**10.34**	**8.25**	**8.38**	**Mar-89**
Custom Benchmark		11.01	22.42	22.42	9.65	7.04		Mar-89
Net of Fee Value Added vs Benchmark		*0.30*	*-0.50*	*-0.50*	*0.69*	*1.21*		
Information Ratio				**-0.10**	**0.16**	**0.31**		
Sharpe Ratio				**1.38**	**0.62**	**0.53**		

[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)

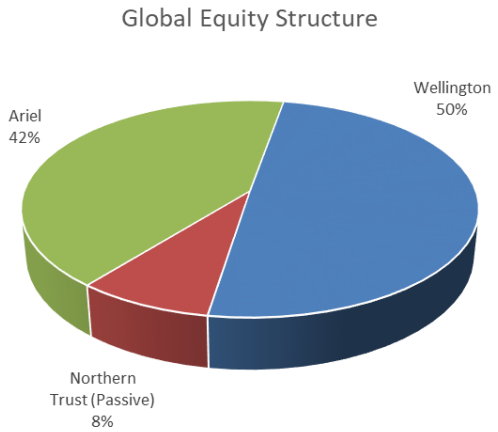
International Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Int'l Enhanced Index								
AQR Capital Management (Gross)	**$ 210.8**	**10.48**	**20.78**	**20.78**	**8.66**	**5.96**	**4.02**	**Mar-06**
AQR Capital Management (Net)		**10.32**	**20.26**	**20.26**	**8.09**	**5.37**	**3.50**	**Mar-06**
Custom Benchmark		8.92	21.51	21.51	9.87	5.51	3.21	Mar-06
Net of Fee Value Added vs Benchmark		*1.40*	*-1.25*	*-1.25*	*-1.78*	*-0.13*	*0.29*	
Information Ratio				**-0.34**	**-0.64**	**-0.05**		
Sharpe Ratio				**1.19**	**0.48**	**0.33**		
Int'l Developed								
Ativo International Developed (Gross) *	**$ 38.0**	**7.72**	**23.25**	**23.25**			**4.06**	**Dec-17**
Ativo International Developed (Net) *		**7.56**	**22.52**	**22.52**			**3.46**	**Dec-17**
MSCI EAFE Index		8.17	22.01	22.01			2.56	
Net of Fee Value Added vs Benchmark		*-0.61*	*0.51*	*0.51*			*0.89*	
Information Ratio				**0.19**	**-.-**	**-.-**		
Sharpe Ratio				**1.96**	**-.-**	**-.-**		
Int'l Equity (Active)								
Baillie Gifford (Gross)	**$ 91.9**	**12.62**					**17.20**	**Mar-19**
Baillie Gifford (Net)		**12.47**					**17.00**	**Mar-19**
MSCI ACWI x-US (Net)		8.92					10.15	
Net of Fee Value Added vs Benchmark		*3.55*					*6.85*	
Information Ratio				**-.-**	**-.-**	**-.-**		
Sharpe Ratio				**-.-**	**-.-**	**-.-**		
Int'l Equity (Active)								
Earnest Partners (Gross) *	**$ 86.5**	**9.49**					**10.12**	**Mar-19**
Earnest Partners (Net) *		**9.33**					**9.76**	**Mar-19**
MSCI ACWI x-US (Net)		8.92					10.15	
Net of Fee Value Added vs Benchmark		*0.41*					*-0.40*	
Information Ratio				**-.-**	**-.-**	**-.-**		
Sharpe Ratio				**-.-**	**-.-**	**-.-**		

- The Fund's international equity composite returned 10.52% (net of fees) during the fourth quarter of 2019, outperforming the MSCI ACWI x-US Investable Market Index (IMI) which returned 9.20%. Active management was nearly in-line across the board for the Fund's international equity program with all managers except Ativo outperforming their respective benchmarks. The program's long-standing small cap international equity mandate managed by Acadian succeeded in the fourth quarter, outperforming its benchmark by a modest margin ultimately leading to composite outperformance for the quarter. The recently funded Earnest Partners portfolio also outperformed its benchmark during the period but only modestly. The international equity composite is currently outperforming against its benchmark for the one-, five-, ten-, and since inception (12/89) periods.

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

Global Equity Overview



Global Equity Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total Global Equity (Gross)	**$ 255.0**	**7.89**	**23.51**	**23.51**	**12.05**	**7.90**	
Total Global Equity (Net)		**7.74**	**22.83**	**22.83**	**11.53**	**7.40**	
MSCI ACWI (Net)		8.95	26.60	26.60	12.44	8.41	
Net of Fee Value Added vs Index		*-1.21*	*-3.77*	*-3.77*	*-0.92*	*-1.01*	
MSCI ACWI IMI (Net)		9.05	26.35	26.35	12.09	8.34	8.91
MSCI ACWI (Net)		8.95	26.60	26.60	12.44	8.41	8.79
MSCI World (Net)		8.56	27.67	27.67	12.57	8.74	9.47

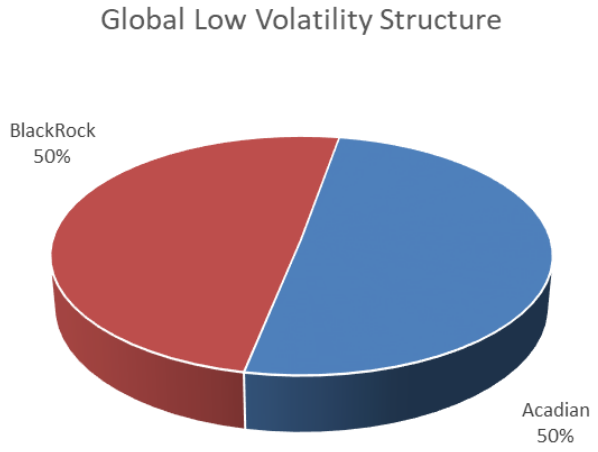
Global Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Equity - Active								
Wellington (Gross)	**$ 126.8**	**8.72**	**27.39**	**27.39**	**12.14**	**8.63**	**12.39**	**Jan-00**
Wellington (Net)		**8.56**	**26.65**	**26.65**	**11.49**	**8.01**	**11.76**	**Aug-12**
MSCI ACWI (Net)		8.95	26.60	26.60	12.44	8.41	10.15	Aug-12
Net of Fee Value Added vs Benchmark		*-0.39*	*0.05*	*0.05*	*-0.95*	*-0.39*	*1.61*	
Information Ratio				**0.01**	**-0.27**	**-0.12**		
Sharpe Ratio				**1.64**	**0.74**	**0.53**		
Global Equity - Active								
Ariel (Gross) *	**$ 107.0**	**6.71**	**18.61**	**18.61**			**6.10**	**Dec-17**
Ariel (Net) *		**6.55**	**17.89**	**17.89**			**5.50**	**Dec-17**
MSCI ACWI (Net)		8.95	26.60	26.60			7.09	
Net of Fee Value Added vs Benchmark		*-2.40*	*-8.71*	*-8.71*			*-1.59*	
Information Ratio				**-2.13**	-.-	-.-		
Sharpe Ratio				**1.31**	-.-	-.-		
Global Equity - Passive								
Northern Trust (Gross)	**$ 21.1**	**9.08**	**27.18**	**27.18**	**12.66**		**12.26**	**Oct-15**
Northern Trust (Net)		**9.08**	**27.14**	**27.14**	**12.61**		**12.22**	**Oct-15**
MSCI ACWI IMI (Net)		9.05	26.35	26.35	12.09		11.71	Oct-15
Net of Fee Value Added vs Benchmark		*0.03*	*0.79*	*0.79*	*0.52*		*0.51*	

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 first two years of performance. The new structure favors active management (currently 92% active/8% passive) versus the previous 50%/50% allocation between active and passively managed funds within the composite. During the fourth quarter the two actively managed strategies both underperformed their respective benchmarks while the passive Northern Trust strategy was in line with its benchmark. The global equity composite is currently trailing its benchmark all time periods including since inception (9/12).

Global Low Volatility Equity Overview



Global Low Volatility Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total Global Low Volatility (Gross)	**$ 376.1**	**3.60**	**21.80**	**21.80**	**12.17**		
Total Global Low Volatility (Net)		**3.52**	**21.54**	**21.54**	**11.97**		
MSCI ACWI Minimum Volatility (Net)		2.96	21.05	21.05	12.01		
Net of Fee Value Added vs Index		*0.56*	*0.48*	*0.48*	*-0.04*		
MSCI ACWI Minimum Volatility (Net)		2.96	21.05	21.05	12.01	9.18	10.31
MSCI World x-US Minimum Volatility (Net)		4.03	18.00	18.00	10.23	7.28	7.61
MSCI ACWI (Net)		8.95	26.60	26.60	12.44	8.41	8.79

Global Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Low Volatility - Active								
Acadian Global Low Vol (Gross)	**$ 189.6**	**4.09**	**21.98**	**21.98**	**11.76**		**9.68**	**Jun-15**
Acadian Global Low Vol (Net)		**3.95**	**21.50**	**21.50**	**11.39**		**9.33**	**Jun-15**
MSCI ACWI (Net)		8.95	26.60	26.60	12.44		8.75	Jun-15
Net of Fee Value Added vs MSCI ACWI		*-5.01*	*-5.10*	*-5.10*	*-1.06*		*0.58*	
MSCI ACWI Min Vol (Net)		2.96	21.05	21.05	12.01		9.71	Jun-15
Net of Fee Value Added vs MSCI ACWI Min Vol		*0.99*	*0.44*	*0.44*	*-0.62*		*-0.39*	
Information Ratio				**-0.59**	**-0.20**	**-.-**		
Sharpe Ratio				**2.30**	**1.11**	**-.-**		
Global Low Volatility - Passive								
BlackRock Global Low Vol (Gross)	**$ 186.5**	**3.10**	**21.62**	**21.62**	**12.56**		**10.26**	**Jun-15**
BlackRock Global Low Vol (Net)		**3.09**	**21.57**	**21.57**	**12.52**		**10.24**	**Jun-15**
MSCI ACWI Min Vol (Net)		2.96	21.05	21.05	12.01		9.71	Jun-15
Net of Fee Value Added vs Benchmark		*0.13*	*0.52*	*0.52*	*0.51*		*0.52*	

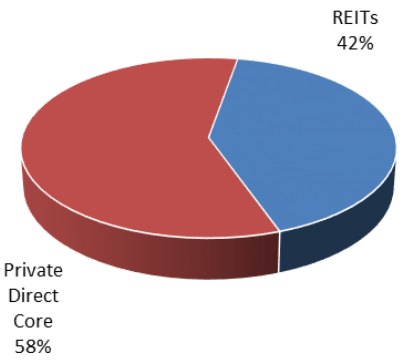
***Acadian Info Ratio/Sharpe Ratio statistics based on MSCI ACWI Min Vol benchmark.**

Global Low Volatility Equity Overview (Continued)

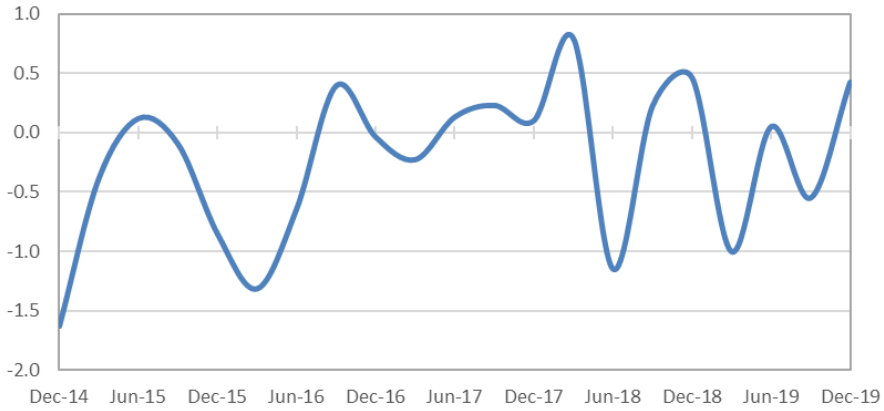
- In 2015, the Board elected to transfer assets from existing strategies elsewhere in the Fund into two new global low volatility equity portfolios. The first portfolio is actively-managed and run by Acadian. Its primary mandate is to provide the Fund with a better risk/return profile relative to the 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 slightly ahead of the MSCI ACWI Minimum Volatility Index across all time periods except the three-year.

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)	**$ 392.9**	**2.24**	**15.75**	**15.75**	**7.76**	**8.03**	**12.47**
Total Real Estate (Net)		**2.09**	**15.08**	**15.08**	**7.14**	**7.36**	**11.71**
Custom Benchmark [1]		1.67	16.24	16.24	7.26	7.24	11.73
Net of Fee Value Added vs Benchmark		*0.43*	*-1.16*	*-1.16*	*-0.12*	*0.12*	*-0.03*
REIT Strategies	$ 163.9	-1.04	27.11	27.11	8.32	6.76	11.95
Private Core Real Estate	$ 229.0	4.61	7.03	7.03	6.25	7.60	
Wilshire Real Estate Securities Index		-1.07	25.79	25.79	7.88	7.21	12.11
NCREIF Open Diversified Core Equity (Net)		1.29	4.41	4.41	6.14	7.99	

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)	**$ 81.7**	**-0.91**	**28.17**	**28.17**	**9.50**	**7.49**	**10.76**	**Sep-01**
Adelante Capital Management (Net)		**-1.05**	**27.45**	**27.45**	**8.88**	**6.88**	**10.17**	**Sep-01**
Wilshire Real Estate Securities		-1.07	25.79	25.79	7.88	7.21	10.52	Sep-01
Net of Fee Value Added vs Index		*0.02*	*1.65*	*1.65*	*1.00*	*-0.33*	*-0.34*	
Information Ratio				**1.09**	**0.62**	**-0.17**		
Sharpe Ratio				**2.18**	**0.61**	**0.44**		
CenterSquare (Gross)	**$ 82.2**	**-0.90**	**27.35**	**27.35**			**15.39**	**May-18**
CenterSquare (Net)		**-1.02**	**26.75**	**26.75**			**14.92**	**May-18**
Wilshire Real Estate Securities		-1.07	25.79	25.79			14.01	May-18
Net of Fee Value Added vs Index		*0.05*	*0.96*	*0.96*			*0.90*	
Information Ratio				**0.82**	**-.-**	**-.-**		
Sharpe Ratio				**2.02**	**-.-**	**-.-**		

[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)

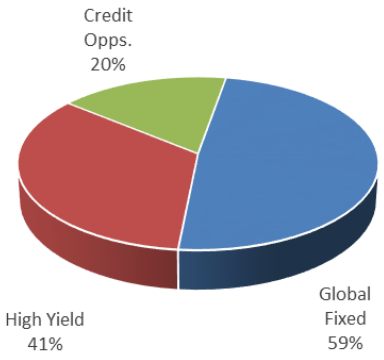
Real Estate Managers

	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)	**$ 86.5**	**-0.79**	**2.23**	**2.23**	**5.54**	**8.48**	**11.31**	**Aug-10**
Heitman America Real Estate Trust (Net)		**-1.01**	**1.32**	**1.32**	**4.60**	**7.52**	**10.28**	**Aug-10**
NCREIF Open-End Diversified Core (Net)		1.29	4.41	4.41	6.14	7.99	10.33	Aug-10
Net of Fee Value Added vs Index		*-2.30*	*-3.09*	*-3.09*	*-1.54*	*-0.47*	*-0.05*	
Invesco Core Real Estate USA (Gross)	**$ 72.7**	**2.53**	**7.56**	**7.56**	**9.07**	**10.60**	**12.03**	**Aug-10**
Invesco Core Real Estate USA (Net)		**2.31**	**6.64**	**6.64**	**8.15**	**9.66**	**11.06**	**Aug-10**
NCREIF Open-End Diversified Core (Net)		1.29	4.41	4.41	6.14	7.99	10.33	Aug-10
Net of Fee Value Added vs Index		*1.02*	*2.23*	*2.23*	*2.01*	*1.67*	*0.73*	
Invesco II	**$ 69.8**	**15.31**	**15.16**	**15.16**	**5.86**	**2.01**	**2.13**	**Oct-13**

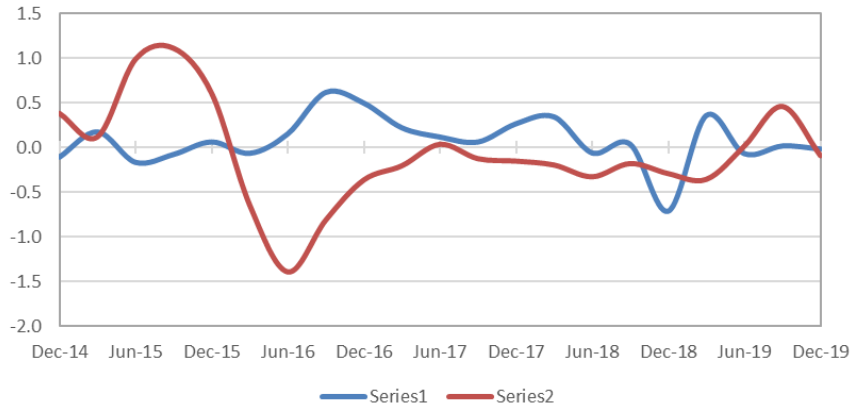
- The Fund's total real estate composite is comprised of both public market real estate securities (REITs) and private investment in direct core real estate. The total segment returned 2.09% (net of fees) during the fourth quarter, outperforming its benchmark (split 50% Wilshire Real Estate Securities Index, 39% NCREIF Open-End Diversified Core Index and 11% Invesco II Custom Benchmark) which returned 1.67%. On the public side, both REIT exposures slightly outperformed the Wilshire Real Estate Securities Index. On the private side, Invesco led the NCREIF ODCE Index while Heitman trailed. Currently, the Fund's total real estate composite continues to trail the benchmark since inception (12/89).

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)	**$ 519.7**	**0.22**	**9.25**	**9.25**	**4.44**	**3.61**	**4.68**
Global Fixed Income (Net)		**0.16**	**9.02**	**9.02**	**4.22**	**3.40**	**4.48**
Bloomberg Aggregate Bond Index		0.18	8.72	8.72	4.03	3.05	3.75
Net of Fee Value Added vs Benchmark		*-0.02*	*0.30*	*0.30*	*0.19*	*0.36*	*0.74*
High Yield (Gross)	**$ 365.4**	**2.86**	**14.67**	**14.67**	**6.13**	**6.05**	**7.39**
High Yield (Net)		**2.73**	**14.14**	**14.14**	**5.63**	**5.54**	**6.88**
Custom Benchmark [1]		2.82	14.06	14.06	6.09	5.84	7.23
Net of Fee Value Added vs Benchmark		*-0.08*	*0.08*	*0.08*	*-0.47*	*-0.30*	*-0.35*
Bloomberg Aggregate		0.18	8.72	8.72	4.03	3.05	3.75
Citigroup High Yield Cash Pay		2.82	14.06	14.06	6.09	5.84	7.23
BofA ML High Yield Master II		2.59	14.39	14.39	6.32	6.13	7.49

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)	**$ 225.3**	**0.33**	**9.50**	**9.50**	**4.76**	**4.02**	**4.93**	**May-07**
Securian Asset Mgmt. (Net)		**0.28**	**9.31**	**9.31**	**4.57**	**3.84**	**4.76**	**May-07**
Bloomberg Aggregate		0.18	8.72	8.72	4.03	3.05	4.37	**May-07**
Net of Fee Value Added vs Benchmark		*0.10*	*0.59*	*0.59*	*0.54*	*0.79*	*0.39*	
Information Ratio				**1.14**	**0.89**	**1.32**		
Sharpe Ratio				**2.18**	**1.09**	**0.97**		
Aberdeen (Gross)	**$ 224.5**	**0.16**	**9.64**	**9.64**	**4.27**	**3.34**	**4.97**	**Apr-07**
Aberdeen (Net)		**0.10**	**9.39**	**9.39**	**4.03**	**3.12**	**4.76**	**Apr-07**
Bloomberg Aggregate		0.18	8.72	8.72	4.03	3.05	4.22	Apr-07
Net of Fee Value Added vs Benchmark		*-0.08*	*0.67*	*0.67*	*0.00*	*0.08*	*0.54*	
Information Ratio				**0.94**	**0.00**	**0.09**		
Sharpe Ratio				**1.99**	**0.80**	**0.66**		

[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)	**$ 69.9**	**0.04**	**7.33**	**7.33**	**3.99**	**3.20**	**3.84**	**Oct-13**
Garcia Hamilton (Net)		**-0.03**	**7.06**	**7.06**	**3.73**	**2.94**	**3.58**	**Oct-13**
Bloomberg Aggregate		0.18	8.72	8.72	4.03	3.05	3.27	Oct-13
Net of Fee Value Added vs Benchmark		*-0.21*	*-1.66*	*-1.66*	*-0.30*	*-0.11*	*0.31*	
Information Ratio				**-1.77**	**-0.30**	**-0.10**		
Sharpe Ratio				**1.57**	**0.88**	**0.63**		

- The Fund's global fixed income segment returned 0.16% (net of fees) during the fourth quarter of 2019, slightly trailing the Bloomberg Aggregate Bond Index, which returned 0.18%. 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, one of the three actively managed portfolios *(Securian)* outperformed the Bloomberg Aggregate Index. Securian and Aberdeen (both with early 2007 inception dates) manage roughly the same level of assets for the Fund while the Garcia Hamilton portfolio has a smaller mandate. Therefore, quarter to quarter performance is largely driven by the results of the Securian 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. Following this period's results, the global fixed income composite continues to outperform against the Bloomberg Aggregate over the one-, three-, five- and ten-year periods.

Fixed Income Overview (Continued)

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)	**$ 183.0**	**2.65**	**13.70**	**13.70**	**5.52**	**5.45**	**7.25**	**Dec-96**
Oaktree Capital Management (Net)		**2.53**	**13.15**	**13.15**	**5.00**	**4.90**	**6.46**	**Dec-96**
Custom Benchmark		2.82	14.06	14.06	6.09	5.84		Dec-96
Net of Fee Value Added vs Benchmark		*-0.29*	*-0.91*	*-0.91*	*-1.10*	*-0.94*		
Information Ratio				**-1.46**	**-1.73**	**-1.29**		
Sharpe Ratio				**2.09**	**0.77**	**0.71**		
BlackRock High Yield (Gross)	**$ 182.5**	**3.06**	**15.65**	**15.65**	**6.74**	**6.18**	**7.02**	**Sep-06**
BlackRock High Yield (Net)		**2.94**	**15.13**	**15.13**	**6.26**	**5.70**	**6.55**	**Sep-06**
Citigroup High Yield Cash Pay		3.07	15.19	15.19	7.15	6.90	8.11	Sep-06
Net of Fee Value Added vs Benchmark		*-0.13*	*-0.07*	*-0.07*	*-0.89*	*-1.20*	*-1.56*	
Information Ratio				**1.71**	**0.35**	**-0.08**		
Sharpe Ratio				**2.61**	**1.11**	**0.95**		
Credit Opportunities								
Neuberger Berman (Gross)	**$ 179.8**	**2.42**	**12.33**	**12.33**	**6.66**		**7.82**	**Jan-16**
Neuberger Berman (Net)		**2.35**	**11.97**	**11.97**	**6.34**		**7.53**	**Jan-16**
Custom Benchmark		2.05	12.68	12.68	5.80		7.85	Jan-16
Net of Fee Value Added vs Benchmark		*0.31*	*-0.71*	*-0.71*	*0.54*		*-0.32*	
Information Ratio				**-0.53**	**0.46**	**-.-**		
Sharpe Ratio				**2.22**	**1.25**	**-.-**		

- The high yield composite returned 2.73% (net of fees) during the fourth quarter, trailing the Citigroup High Yield Cash Pay Index, which returned 2.82%. The composite is currently split equally between the two actively-managed strategies. During the period, both BlackRock and Oaktree trailed the benchmark. The high yield composite is currently underperforming its benchmark over all extended time periods greater than one year including since inception (03/97).

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

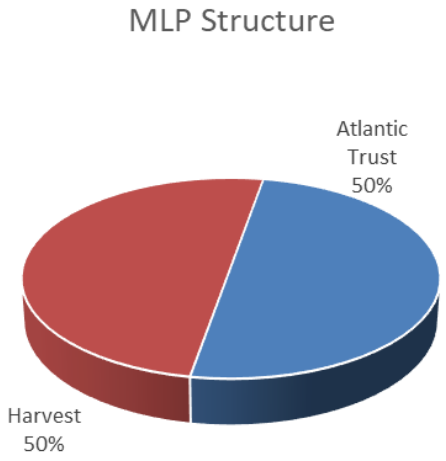
Private Equity Overview

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%	24,031,068	15,783,607	1.57	10.1%
Hamilton Lane Fund VII LP (Series B)	20,000,000	17,695,467	88.5%	8,719,708	10,653,539	1.09	1.8%
Hamilton Lane Fund VII LP (Total)	*50,000,000*	*42,992,714*	86.0%	*32,750,776*	*26,437,146*	1.38	6.8%
Hamilton Lane Secondary Fund II LP	25,000,000	22,848,181	91.4%	26,979,853	1,721,200	1.26	8.7%
Hamilton Lane Secondary Fund III LP	30,000,000	17,764,658	59.2%	18,329,971	10,936,334	1.65	19.3%
Hamilton Lane Secondary Fund IV LP	30,000,000	18,667,963	62.2%	2,239,655	22,071,148	1.30	25.4%
Hamilton Lane Fund VIII LP (Global)	30,000,000	16,412,837	54.7%	3,652,520	22,262,965	1.58	11.1%
GCM Grosvenor - Partnership, L.P.	75,000,000	81,462,229	108.6%	86,497,244	45,780,642	1.62	15.2%
GCM Grosvenor - Partnership II, L.P. (2014)	60,000,000	57,931,924	96.6%	18,872,856	51,030,350	1.21	12.1%
GCM Grosvenor - Partnership II, L.P. (2015)	20,000,000	26,063,160	130.3%	3,370,194	32,288,247	1.37	17.7%
GCM Grosvenor - Partnership II, L.P. (2017)	30,000,000	9,483,734	31.6%	104,310	9,302,680	0.99	-1.9%
Fairview Capital III *	40,000,000	31,880,328	79.7%	1,630,828	37,008,462	1.21	11.1%
Total Private Equity Program	**390,000,000**	**325,507,729**	**83.5%**	**194,428,207**	**258,839,174**	**1.39**	**12.7%**

- 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.

MLP Overview



MLP Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total MLPs (Gross)	**$ 236.1**	**-1.07**	**12.57**	**12.57**	**-1.73**	**-4.32**	
Total MLPs (Net)		**-1.24**	**11.84**	**11.84**	**-2.37**	**-4.93**	
Alerian MLP Index		-4.08	6.56	6.56	-4.45	-7.00	
Net of Fee Value Added vs Index		*2.84*	*5.29*	*5.29*	*2.07*	*2.07*	
Alerian MLP Index		-4.08	6.56	6.56	-4.45	-7.00	4.19
S&P MLP Index		-3.09	9.78	9.78	-2.90	-6.23	5.10
Bloomberg Commodities Index		4.42	7.69	7.69	-0.94	-3.92	-4.73

Managers

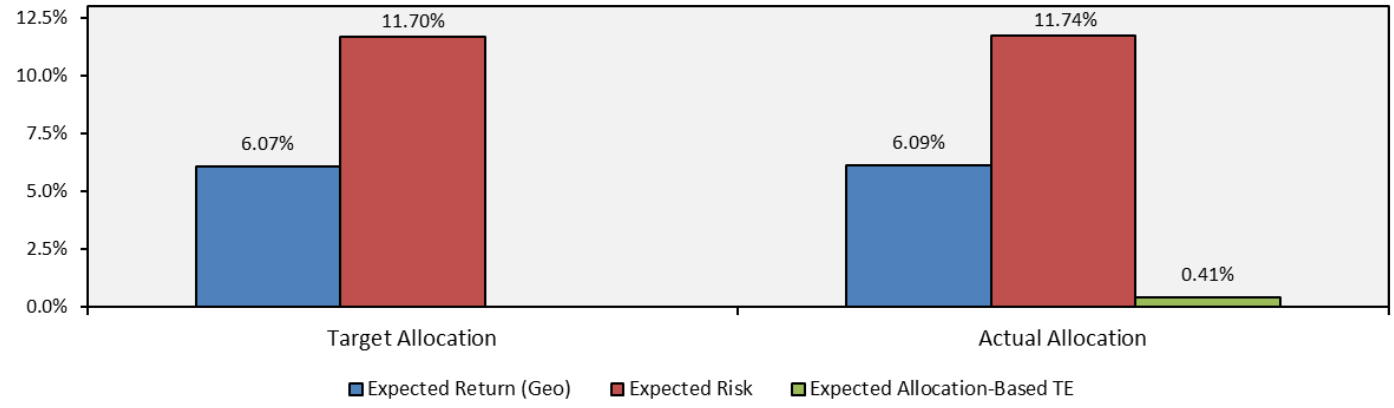
	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
MLPs								
Harvest Fund Advisors (Gross)	**$ 119.2**	**-0.71**	**15.06**	**15.06**	**-0.81**	**-4.15**	**4.88**	
Harvest Fund Advisors (Net)		**-0.90**	**14.20**	**14.20**	**-1.55**	**-4.85**	**4.15**	**Dec-11**
Alerian MLP Index		-4.08	6.56	6.56	-4.45	-7.00	-0.32	Dec-11
Net of Fee Value Added vs Benchmark		*3.17*	*7.65*	*7.65*	*2.90*	*2.15*	*4.47*	
Information Ratio				**1.65**	**0.86**	**0.60**		
Sharpe Ratio				**0.57**	**-0.17**	**-0.29**		
Atlantic Trust CIBC (Gross)	**$ 116.9**	**-1.44**	**10.15**	**10.15**	**-2.72**	**-4.53**	**5.23**	
Atlantic Trust CIBC (Net)		**-1.58**	**9.53**	**9.53**	**-3.27**	**-5.06**	**4.65**	**Dec-11**
Alerian MLP Index		-4.08	6.56	6.56	-4.45	-7.00	-0.32	Dec-11
Net of Fee Value Added vs Benchmark		*2.50*	*2.98*	*2.98*	*1.18*	*1.94*	*4.97*	
Information Ratio				**0.59**	**0.35**	**0.50**		
Sharpe Ratio				**0.34**	**-0.26**	**-0.29**		

MLP Overview (Continued)

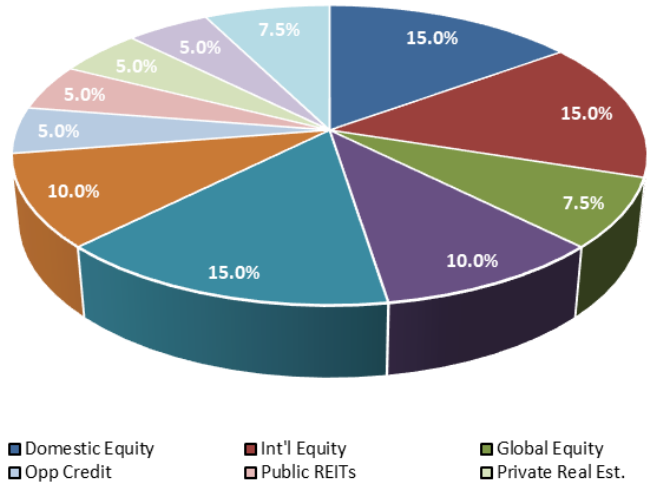
- The Fund's Master Limited Partnership (MLP) program is comprised of two individual managers, Harvest Fund Advisors and Atlantic Trust (formerly Invesco), with the mandates essentially split evenly between the two. Commodity results were positive for the quarter as crude oil rose 12.9% to $61.06 per barrel. Natural gas prices were down -6.1%, ending the quarter at $2.19 per million BTUs. MLPs were down for the quarter (-4.08%) but produces positive results for 2019. The return of crude price stability following the Saudi Arabia facility attacks has resulted in a broad decline in energy stocks including MLPs. For much of the year, crude production stability, shareholder friendly actions, and the lack of surprises, have been favorable to the MLP space.

Appendix: Risk Analysis & Performance Objectives

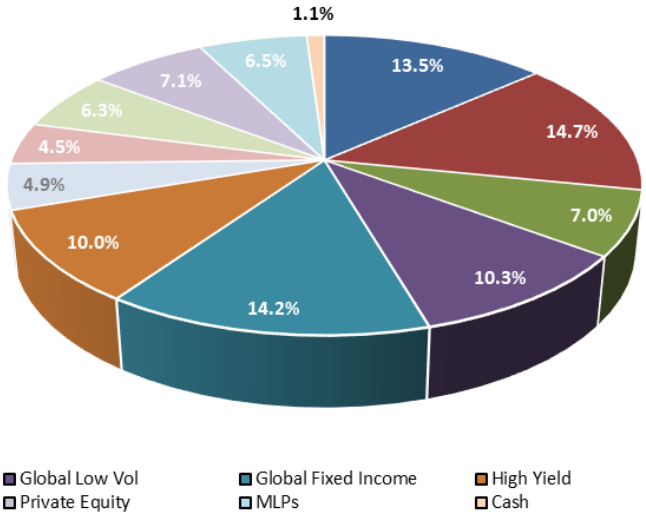
Expected Return and Risk



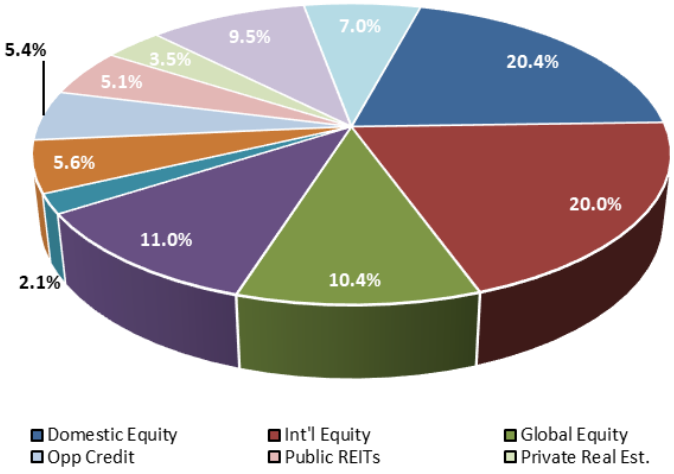
Target Asset Allocation



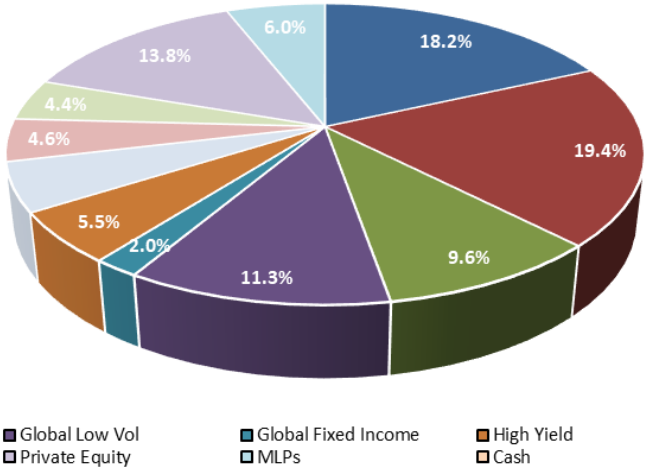
Actual Asset Allocation



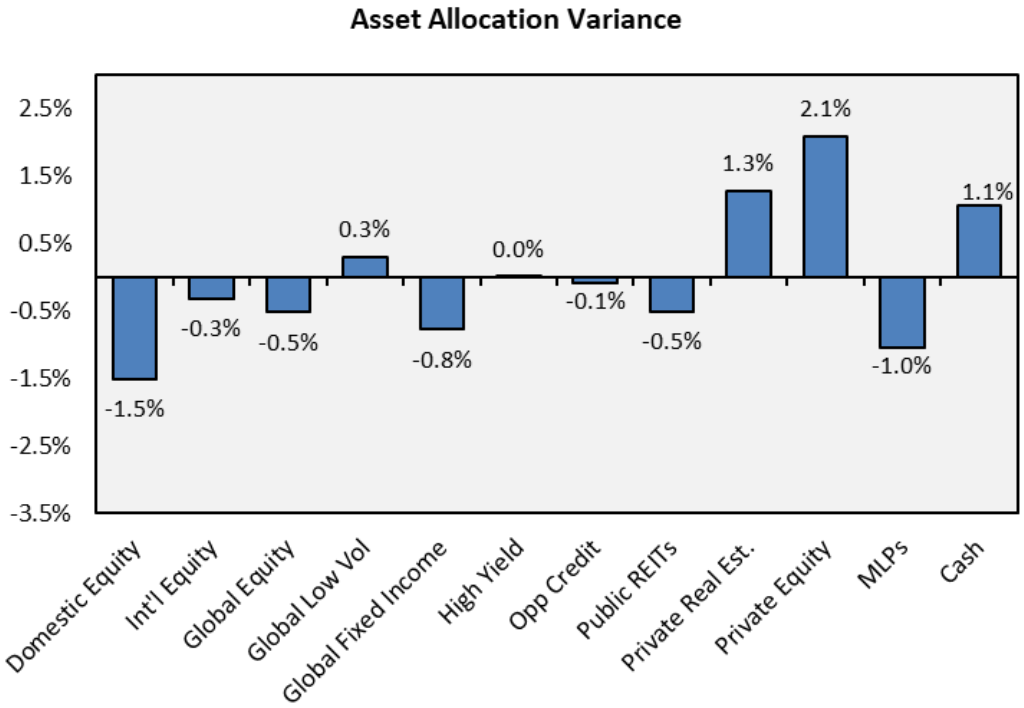
Contribution to Total Risk - Target Allocation

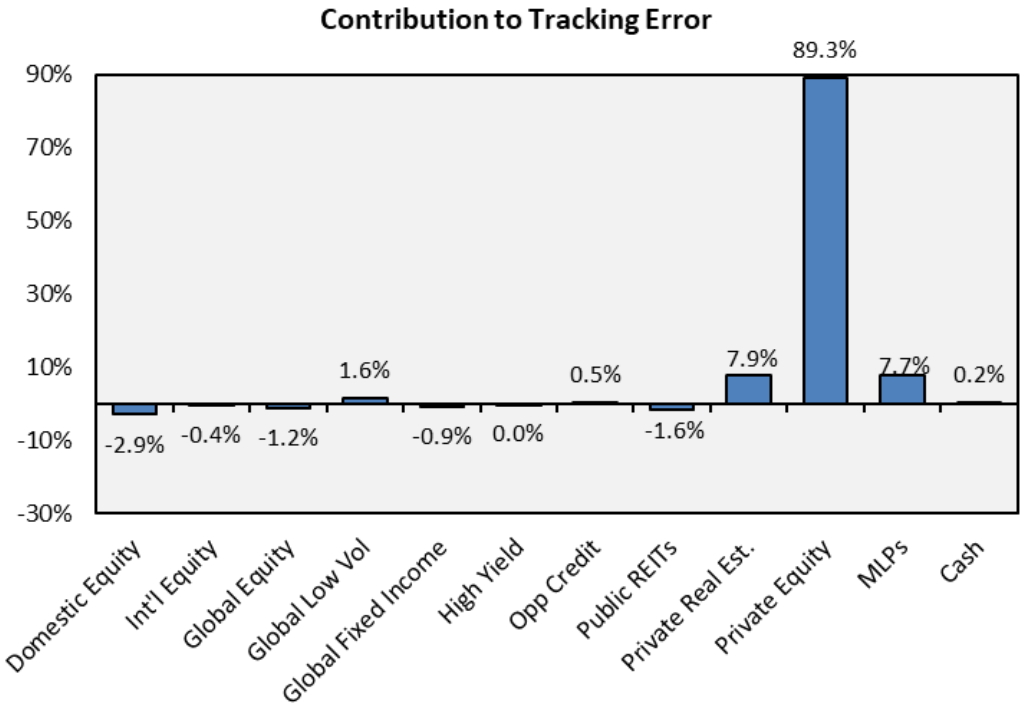


Contribution to Total Risk - Actual Allocation



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 0.41% (for the one-year period) at quarter-end. Overweight allocations to private real estate and private equity provided the largest contributions to tracking error at the total fund level.

Manager Risk Statistics

U.S. Equity				
T. Rowe Price (Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	13.19	12.29	12.20	12.66
Standard Deviation (Index)	12.89	12.10	11.98	12.46
Sharpe Ratio	2.25	1.18	0.92	1.04
Sharpe Ratio (Index)	2.21	1.11	0.88	1.04
Excess Risk	0.80	0.92	1.07	0.98
Information Ratio	1.11	1.02	0.64	0.20

Systematic (Small Core)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	18.23	15.65	15.17	17.11
Standard Deviation (Index)	17.84	15.93	16.04	17.00
Sharpe Ratio	1.19	0.50	0.61	0.74
Sharpe Ratio (Index)	1.27	0.43	0.44	0.66
Excess Risk	4.20	4.08	3.97	3.59
Information Ratio	-0.21	0.25	0.52	0.37

Channing Capital (Small Value)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	20.2	17.37	17.61	*n/a*
Standard Deviation (Index)	18.26	15.90	15.88	*n/a*
Sharpe Ratio	1.09	0.08	0.27	*n/a*
Sharpe Ratio (Index)	1.08	0.19	0.37	*n/a*
Excess Risk	4.40	4.96	4.63	*n/a*
Information Ratio	0.44	-0.32	-0.22	*n/a*

Redwood (Small Growth)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	18.65	*16.93*	*n/a*	*n/a*
Standard Deviation (Index)	18.35	*16.60*	*n/a*	*n/a*
Sharpe Ratio	0.77	*0.27*	*n/a*	*n/a*
Sharpe Ratio (Index)	1.40	*0.64*	*n/a*	*n/a*
Excess Risk	6.13	*5.49*	*n/a*	*n/a*
Information Ratio	-1.45	*-1.00*	*n/a*	*n/a*

Smith Graham (Mid-Cap)	1 Yr	*3 Yr*	*5 Yr*	*10 Yr*
Standard Deviation	22.9	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	14.88	*n/a*	*n/a*	*n/a*
Sharpe Ratio	1.12	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	1.86	*n/a*	*n/a*	*n/a*
Excess Risk	10.84	*n/a*	*n/a*	*n/a*
Information Ratio	-0.14	*n/a*	*n/a*	*n/a*

Real Estate Investment Trusts				
Adelante (REIT)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.28	11.57	13.03	14.66
Standard Deviation (Index)	11.52	12.05	13.57	15.33
Sharpe Ratio	2.18	0.61	0.44	0.79
Sharpe Ratio (Index)	2.00	0.51	0.45	0.75
Excess Risk	1.21	1.49	1.75	1.71
Information Ratio	1.09	0.62	-0.17	0.09

Real Estate Investment Trusts				
Centersquare (REIT)	1 Yr	*3 Yr*	*5 Yr*	*10 Yr*
Standard Deviation	11.9	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	11.52	*n/a*	*n/a*	*n/a*
Sharpe Ratio	2.02	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	2.00	*n/a*	*n/a*	*n/a*
Excess Risk	1.07	*n/a*	*n/a*	*n/a*
Information Ratio	0.82	*n/a*	*n/a*	*n/a*

Non-U.S. Equity				
Acadian (Int'l Small Cap)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	13.89	13.68	13.47	15.69
Standard Deviation (Index)	12.27	11.77	12.46	14.88
Sharpe Ratio	1.38	0.62	0.53	0.58
Sharpe Ratio (Index)	1.61	0.67	0.47	0.42
Excess Risk	3.95	3.83	3.61	3.46
Information Ratio	-0.10	0.16	0.31	0.77

AQR (Int'l Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	14.76	13.12	12.86	15.46
Standard Deviation (Index)	12.71	11.51	12.53	14.56
Sharpe Ratio	1.19	0.48	0.33	0.33
Sharpe Ratio (Index)	1.48	0.70	0.35	0.29
Excess Risk	2.98	2.54	2.54	2.48
Information Ratio	-0.34	-0.64	-0.05	0.33

Ativo (Int'l Developed)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	10.21	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	11.53	*n/a*	*n/a*	*n/a*
Sharpe Ratio	1.96	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	1.67	*n/a*	*n/a*	*n/a*
Excess Risk	3.06	*n/a*	*n/a*	*n/a*
Information Ratio	0.19	*n/a*	*n/a*	*n/a*

Global Equity				
Wellington (Global Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	14.50	13.10	13.04	*n/a*
Standard Deviation (Index)	12.64	11.38	11.78	*n/a*
Sharpe Ratio	1.64	0.74	0.53	*n/a*
Sharpe Ratio (Index)	1.88	0.93	0.62	*n/a*
Excess Risk	2.55	3.12	3.13	*n/a*
Information Ratio	0.01	-0.27	-0.12	*n/a*

Ariel (Global Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.79	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	12.64	*n/a*	*n/a*	*n/a*
Sharpe Ratio	1.31	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	1.88	*n/a*	*n/a*	*n/a*
Excess Risk	3.16	*n/a*	*n/a*	*n/a*
Information Ratio	-2.13	*n/a*	*n/a*	*n/a*

Global Low Volatility				
Acadian (Global Low Volatility)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	8.17	8.61	*n/a*	*n/a*
Standard Deviation (Index)	12.64	11.38	*n/a*	*n/a*
Sharpe Ratio	2.30	1.11	*n/a*	*n/a*
Sharpe Ratio (Index)	1.88	0.93	*n/a*	*n/a*
Excess Risk	6.81	4.72	*n/a*	*n/a*
Information Ratio	-0.59	-0.20	*n/a*	*n/a*

Fixed Income (Core)				
Securian (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	3.15	2.62	2.83	2.79
Standard Deviation (Index)	3.43	2.91	3.06	2.87
Sharpe Ratio	2.18	1.09	0.97	1.53
Sharpe Ratio (Index)	1.84	0.80	0.64	1.09
Excess Risk	0.47	0.59	0.58	0.66
Information Ratio	1.14	0.89	1.32	1.63

Manager Risk Statistics

High Yield Fixed Income				
BlackRock (High Yield)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	4.81	4.06	4.82	5.28
Standard Deviation (Index)	5.18	4.19	5.53	5.81
Sharpe Ratio	2.61	1.11	0.95	1.23
Sharpe Ratio (Index)	2.22	1.04	0.85	1.14
Excess Risk	0.54	0.44	1.67	1.30
Information Ratio	1.71	0.35	-0.08	-0.07

Oaktree (High Yield)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	5.08	4.28	5.31	5.46
Standard Deviation (Index)	5.18	4.19	5.53	5.81
Sharpe Ratio	2.09	0.77	0.71	1.07
Sharpe Ratio (Index)	2.22	1.04	0.85	1.14
Excess Risk	0.54	0.59	0.69	1.05
Information Ratio	-1.46	-1.73	-1.29	-0.68

Neuberger Berman (Credit Opps)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	4.29	3.70	*n/a*	*n/a*
Standard Deviation (Index)	4.07	3.38	*n/a*	*n/a*
Sharpe Ratio	2.22	1.25	*n/a*	*n/a*
Sharpe Ratio (Index)	2.50	1.20	*n/a*	*n/a*
Excess Risk	1.05	1.15	*n/a*	*n/a*
Information Ratio	-0.53	0.46	*n/a*	*n/a*

Fixed Income (Core)				
Aberdeen (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	3.50	2.90	3.07	3.02
Standard Deviation (Index)	3.43	2.91	3.06	2.87
Sharpe Ratio	1.99	0.80	0.66	1.17
Sharpe Ratio (Index)	1.84	0.80	0.64	1.09
Excess Risk	0.66	0.85	0.89	1.14
Information Ratio	0.94	0.00	0.09	0.33

Garcia Hamilton (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.97	2.31	2.93	*n/a*
Standard Deviation (Index)	3.43	2.91	3.06	*n/a*
Sharpe Ratio	1.57	0.88	0.63	*n/a*
Sharpe Ratio (Index)	1.84	0.80	0.64	1.09
Excess Risk	0.86	0.97	1.08	*n/a*
Information Ratio	-1.77	-0.3	-0.1	*n/a*

Master Limited Partnerships				
Harvest (MLP)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	20.42	18.82	20.40	*n/a*
Standard Deviation (Index)	19.58	17.95	19.76	*n/a*
Sharpe Ratio	0.57	-0.17	-0.29	*n/a*
Sharpe Ratio (Index)	0.21	-0.34	-0.4	*n/a*
Excess Risk	4.36	3.54	3.86	*n/a*
Information Ratio	1.65	0.86	0.60	*n/a*

Atlantic Trust CIBC (MLP)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	20.56	18.34	20.78	*19.99*
Standard Deviation (Index)	19.58	17.95	19.76	*17.25*
Sharpe Ratio	0.34	-0.26	-0.29	*0.27*
Sharpe Ratio (Index)	0.21	-0.34	-0.4	*0.21*
Excess Risk	4.74	3.58	4.16	*8.87*
Information Ratio	0.59	0.35	0.50	*0.19*

Manager Performance Objectives

Domestic Equity	3-year	5-year	Since Inception	Inception Date
Enhanced Index				
T. Rowe Price (Net)	**16.36**	**12.47**	**9.70**	**Mar-06**
S&P 500 Index + 1%	16.42	12.81	10.28	Mar-06
Net of Fee Value Added vs Objective	*-0.06*	*-0.34*	*-0.58*	
S&P 500 Index	15.27	11.70	9.15	Mar-06
Net of Fee Value Added vs Benchmark	*1.09*	*0.77*	*0.56*	
Small Core - Active				
Systematic Financial (Net)	**9.70**	**10.47**	**10.93**	**Jun-03**
Russell 2000 Index + 1.25%	9.95	9.58	10.76	Jun-03
Net of Fee Value Added vs Objective	*-0.25*	*0.89*	*0.17*	
Russell 2000 Index	8.59	8.23	9.39	Jun-03
Net of Fee Value Added vs Benchmark	*1.11*	*2.24*	*1.54*	
Small Value - Active				
Channing Capital Management (Net) *	**3.12**	**5.91**	**5.98**	**Oct-13**
Russell 2000 Value Index + 1.25%	6.09	8.33	8.09	Oct-13
Net of Fee Value Added vs Objective	*-2.97*	*-2.42*	*-2.11*	
Russell 2000 Value Index	4.77	6.99	6.76	Oct-13
Net of Fee Value Added vs Benchmark	*-1.65*	*-1.08*	*-0.78*	
Small Growth - Active				
Redwood Investments (Net) *	**6.35**		**6.32**	**Sep-16**
Russell 2000 Growth Index + 1.50%	14.18		14.52	Sep-16
Net of Fee Value Added vs Objective	*-7.83*		*-8.20*	
Russell 2000 Growth Index	12.49		12.69	
Net of Fee Value Added vs Benchmark	*-6.15*		*-6.37*	
Mid Cap Value - Active				
Smith Graham Mid Cap Value (Net) *	**-.-**	**-.-**	**4.73**	**Dec-17**
Russell Midcap Index + 2%	-.-	-.-	11.14	**Dec-17**
Net of Fee Value Added vs Objective			*-6.41*	
Russell Midcap Index	-.-	-.-	8.96	
Net of Fee Value Added vs Benchmark			*-4.23*	

Manager Performance Objectives

International Equity	3-year	5-year	Since Inception	
Int'l Small Cap - Active				
Acadian International (Net)	**10.34**	**8.25**	**8.38**	**Mar-89**
Custom Benchmark + 2%	11.85	9.19	8.13	Mar-89
Net of Fee Value Added vs Objective	*-1.51*	*-0.94*	*0.25*	
Custom Benchmark	9.65	7.04		Mar-89
Net of Fee Value Added vs Benchmark	*0.69*	*1.21*		
Int'l Enhanced Index				
AQR Capital Management (Net)	**8.09**	**5.37**	**3.50**	**Mar-06**
Custom Benchmark + 1.5%	11.51	7.09	4.76	Mar-06
Net of Fee Value Added vs Objective	*-3.42*	*-1.72*	*-1.26*	
Custom Benchmark	9.87	5.51	3.21	Mar-06
Net of Fee Value Added vs Benchmark	*-1.78*	*-0.13*	*0.29*	
Int'l Developed				
Ativo International Developed (Net) *	**-.-**	**-.-**	**3.46**	**Dec-17**
MSCI EAFE Index + 2%	-.-	-.-	5.32	
Net of Fee Value Added vs Objective			*-1.86*	
MSCI EAFE Index	-.-	-.-	2.56	
Net of Fee Value Added vs Benchmark			*0.89*	
Int'l Equity (Active)				
Baillie Gifford (Net)	**-.-**	**-.-**	**17.00**	**Mar-19**
MSCI ACWI x-US (Net) + 2%	-.-	-.-	12.65	
Net of Fee Value Added vs Objective			*4.35*	
MSCI ACWI x-US (Net)	-.-	-.-	10.15	
Net of Fee Value Added vs Benchmark			*6.85*	
Int'l Equity (Active)				
Earnest Partners (Net) *	**-.-**	**-.-**	**9.76**	**Mar-19**
MSCI ACWI x-US (Net) + 2%	-.-	-.-	12.65	
Net of Fee Value Added vs Objective			*-2.89*	
MSCI ACWI x-US (Net)	-.-	-.-	10.15	
Net of Fee Value Added vs Benchmark			*-0.40*	

Manager Performance Objectives

Global Equity	3-year	5-year	Since Inception	Inception Date
Global Equity - Active				
Wellington (Net)	**11.49**	**8.01**	**11.76**	**Aug-12**
MSCI ACWI (Net) + 2%	14.69	10.58	12.36	Aug-12
Net of Fee Value Added vs Objective	*-3.20*	*-2.57*	*-0.60*	
MSCI ACWI (Net)	12.44	8.41	10.15	Aug-12
Net of Fee Value Added vs Benchmark	*-0.95*	*-0.39*	*1.61*	
Global Equity - Active				
Ariel (Net) *	**-.-**	**-.-**	**5.50**	**Dec-17**
MSCI ACWI (Net) + 1.5%	-.-	-.-	8.70	
Net of Fee Value Added vs Objective			*-3.20*	
MSCI ACWI (Net)	-.-	-.-	7.09	
Net of Fee Value Added vs Benchmark			*-1.59*	

	3-year	5-year	Since Inception	Inception Date
Global Low Volatility - Active				
Acadian Global Low Vol (Net)	**11.39**		**9.33**	**Jun-15**
MSCI ACWI (Net) + 2%	14.69		10.19	Jun-15
Net of Fee Value Added vs Objective	*-3.30*		*-0.86*	
MSCI ACWI (Net)	12.44		8.75	Jun-15
Net of Fee Value Added vs MSCI ACWI	*-1.06*		*0.58*	
MSCI ACWI Min Vol (Net)	12.01		9.71	Jun-15
Net of Fee Value Added vs MSCI ACWI Min Vol	*-0.62*		*-0.39*	

Manager Performance Objectives

Real Estate	3-year	5-year	Since Inception	Inception Date
Real Estate Securities - Public				
Adelante Capital Management (Net)	**8.88**	**6.88**	**10.17**	**Sep-01**
Wilshire Real Estate Securities + 1%	8.96	8.28	11.62	Sep-01
Net of Fee Value Added vs Objective	*-0.08*	*-1.40*	*-1.45*	
Wilshire Real Estate Securities	7.88	7.21	10.52	Sep-01
Net of Fee Value Added vs Index	*1.00*	*-0.33*	*-0.34*	
CenterSquare (Net)	**-.-**	**-.-**	**14.92**	**May-18**
Wilshire Real Estate Securities + 1%	-.-	-.-	15.15	May-18
Net of Fee Value Added vs Objective			*-0.23*	
Wilshire Real Estate Securities	-.-	-.-	14.01	May-18
Net of Fee Value Added vs Index			*0.90*	

Manager Performance Objectives

Fixed Income	3-year	5-year	Since Inception	Inception Date
Global Fixed Income				
Securian Asset Mgmt. (Net)	**4.57**	**3.84**	**4.76**	**May-07**
Bloomberg Aggregate + 0.5%	4.55	3.56	4.83	**May-07**
Net of Fee Value Added vs Objective	*0.02*	*0.28*	*-0.07*	
Bloomberg Aggregate	4.03	3.05	4.37	**May-07**
Net of Fee Value Added vs Benchmark	*0.54*	*0.79*	*0.39*	
Aberdeen (Net)	**4.03**	**3.12**	**4.76**	**Apr-07**
Bloomberg Aggregate + 0.5%	4.55	3.56	4.74	Apr-07
Net of Fee Value Added vs Objective	*-0.52*	*-0.44*	*0.02*	
Bloomberg Aggregate	4.03	3.05	4.22	Apr-07
Net of Fee Value Added vs Benchmark	*0.00*	*0.08*	*0.54*	
Garcia Hamilton (Net)	**3.73**	**2.94**	**3.58**	**Oct-13**
Bloomberg Aggregate + 0.5%	4.55	3.56	3.79	Oct-13
Net of Fee Value Added vs Objective	*-0.82*	*-0.62*	*-0.21*	
Bloomberg Aggregate	4.03	3.05	3.27	Oct-13
Net of Fee Value Added vs Benchmark	*-0.30*	*-0.11*	*0.31*	

	3-year	5-year	Since Inception	Inception Date
High Yield				
Oaktree Capital Management (Net)	**5.00**	**4.90**	**6.46**	**Dec-96**
Performance Objective	7.15	6.90	8.14	Dec-96
Net of Fee Value Added vs Objective	*-2.15*	*-2.00*	*-1.68*	
Custom Benchmark	6.09	5.84		Dec-96
Net of Fee Value Added vs Benchmark	*-1.10*	*-0.94*		
BlackRock High Yield (Net)	**6.26**	**5.70**	**6.55**	**Sep-06**
Citigroup High Yield Cash Pay + 1%	7.15	6.90	8.11	Sep-06
Net of Fee Value Added vs Objective	*-0.89*	*-1.20*	*-1.56*	
Citigroup High Yield Cash Pay	7.15	6.90	8.11	Sep-06
Net of Fee Value Added vs Benchmark	*-0.89*	*-1.20*	*-1.56*	
Credit Opportunities				
Neuberger Berman (Net)	**6.34**		**7.53**	**Jan-16**
Custom Benchmark + 1%	6.86		8.93	Jan-16
Net of Fee Value Added vs Objective	*-0.52*		*-1.40*	
Custom Benchmark	5.80		7.85	Jan-16
Net of Fee Value Added vs Benchmark	*0.54*		*-0.32*	

Manager Performance Objectives

MLP's	3-year	5-year	Since Inception	Inception Date
MLPs				
Harvest Fund Advisors (Net)	**-1.55**	**-4.85**	**4.15**	**Dec-11**
Alerian MLP Index + 1.5%	-3.00	-5.58	1.90	Dec-11
Net of Fee Value Added vs Objective	*1.45*	*0.73*	*2.25*	
Alerian MLP Index	-4.45	-7.00	-0.32	Dec-11
Net of Fee Value Added vs Benchmark	*2.90*	*2.15*	*4.47*	
Atlantic Trust CIBC (Net)	**-3.27**	**-5.06**	**4.65**	**Dec-11**
Alerian MLP Index + 1.5%	-3.00	-5.58	1.90	Dec-11
Net of Fee Value Added vs Objective	*-0.27*	*0.52*	*2.75*	
Alerian MLP Index	-4.45	-7.00	-0.32	Dec-11
Net of Fee Value Added vs Benchmark	*1.18*	*1.94*	*4.97*	