WILSHIRE ASSOCIATES

Wilshire Consulting

Employees' Retirement Fund of the City of Dallas

Executive Summary of Performance

Fourth Quarter 2017

Wilshire Associates Incorporated
1299 Ocean Avenue, Suite 700
Santa Monica, CA 90401
Phone: 310-451-3051
contactconsulting@wilshire.com

Capital Market Overview

U.S. Equity Market

The U.S. stock market, represented by the Wilshire 5000 Total Market Index, was up 6.39% for the fourth quarter of 2017. This marks the ninth consecutive year of positive gains for the broad U.S. equity market. What made the past year particularly impressive was the relative lack of volatility. The largest drawdown for the year was -2.75% and there were only 4 trading days where the market was down 1% or more, making 2017 one of the least volatile years in nearly four decades. Several factors contributed to this success including a rebound in global economic growth and continued strength domestically. Investors also responded positively to the largest overhaul of the U.S. tax system in 30 years.

Large capitalization stocks outperformed small caps with the Wilshire Large-Cap Index up 6.70% versus a gain of 3.56% for the Wilshire US Small-Cap Index. The large-cap segment of the market far outpaced small-caps for the full year, as well. The Wilshire US Micro-Cap Index was up 2.34% for the quarter and 15.66% for the one-year. Growth stocks led value during the fourth quarter in both large- and small-cap spaces and lead for the past twelve months.

Each of the eleven major sectors produced positive gains during the quarter. The best performing sectors were Consumer Discretionary (+9.1%), IT (+8.6%) and Financials (+8.0%). Utilities were the laggard but were up slightly (0.7%).

The third quarter of 2017 was the second consecutive quarter of real GDP growth in excess of 3%, annualized, since mid-2014. Personal consumption, the largest component of GDP, has been relatively steady since recovering from the 2008 recession while private fixed investment (nonresidential) has been on the rise more recently. Businesses seem to be gaining confidence in the global economy and have been increasing spending on equipment while growing inventories during the quarter, contributing more than three-quarters of a percent to real GDP growth. Strong retail sales during the fourth quarter have helped raise expectations for economic

Fixed Income Market

The U.S. Treasury yield curve continued to flatten during the quarter with short to intermediate term rates rising and long-term yields falling. The bellwether 10-year Treasury yield ended the quarter at 2.40%, up slightly but approximately equal to year-end 2016. The Federal Open Market Committee decided to increase its overnight rate by 25 basis points in December to a range of 1.25% to 1.50% and began their balance sheet reduction program. Credit spreads continued to tighten during the quarter, most noticeably with investment grade credit. High yield spreads, which have averaged 6% during the past decade, were below 4% during the quarter and stood at 3.4% as-of December 31.

Non-U.S. Markets

Equity markets outside of the U.S. produced strong returns during the fourth quarter of 2017, in both developed and emerging markets. The U.S. dollar continued to weaken, providing an additional boost for U.S. investors holding foreign currencies. Japan was one of the strongest developed markets during the quarter due to simulative policies by both the Bank of Japan and the national government. Japan is now experiencing its strongest economy in more than a decade. Emerging Markets led all global equities during 2017 and produced their second consecutive positive annual gain. In fact, their nearly 40% return was the strongest year for broad emerging markets equity since they recovered from the global financial crisis in 2009.

Real Assets Markets

Real estate securities were up in the U.S. during the fourth quarter with a stronger return globally, due in part to a weakening dollar. Commodities were up for the quarter as crude oil rose 16.9% to $60.42 per barrel. Oil prices finished the year up, increasing 12.5% broadly. Natural gas prices were down for the quarter with a loss of -1.8%, ending the quarter at $2.95 per million BTUs. MLP returns were negative for the quarter and for the past 12 months. Finally, gold prices were up and finished at approximately $1,309 per troy ounce, up 1.9% from last quarter.

Summary of Index Returns

For Periods Ended December 31, 2017

	Quarter	One Year	Three Years	Five Years	Ten Years
Domestic Equity					
Standard & Poor's 500	6.64%	21.83%	11.41%	15.79%	8.49%
Wilshire 5000	6.39	20.99	11.36	15.67	8.64
Wilshire 4500	4.78	17.84	10.79	15.23	9.45
Wilshire Large Cap	6.70	21.84	11.55	15.82	8.51
Wilshire Small Cap	3.56	13.45	9.73	14.43	9.86
Wilshire Micro Cap	2.34	15.66	9.33	14.86	8.26
Domestic Equity					
Wilshire Large Value	6.09%	16.31%	10.03%	14.41%	7.25%
Wilshire Large Growth	7.33	27.71	12.95	17.25	9.74
Wilshire Mid Value	5.55	12.61	10.50	14.50	9.57
Wilshire Mid Growth	6.69	22.56	10.19	15.26	9.92
Wilshire Small Value	2.97	7.42	9.46	13.87	9.75
Wilshire Small Growth	4.15	19.55	9.82	14.89	9.89
International Equity					
MSCI All World ex U.S. (USD)	5.00%	27.19%	7.83%	6.80%	1.84%
MSCI All World ex U.S. (local currency)	4.58	18.88	9.60	11.19	4.03
MSCI EAFE	4.23	25.03	7.79	7.90	1.94
MSCI Europe	2.21	25.50	6.69	7.37	1.34
MSCI Pacific	7.99	24.63	10.16	8.99	3.34
MSCI Emerging Markets Index	7.43	37.28	9.10	4.35	1.68
Domestic Fixed Income					
Barclays Aggregate Bond	0.39%	3.54%	2.24%	2.10%	4.01%
Barclays Credit	1.05	6.18	3.63	3.24	5.42
Barclays Mortgage	0.15	2.47	1.88	2.04	3.84
Barclays Treasury	0.05	2.31	1.40	1.27	3.31
Citigroup High Yield Cash Pay	0.51	7.01	5.97	5.35	7.58
Barclays US TIPS	1.26	3.01	2.05	0.13	3.53
91-Day Treasury Bill	0.28	0.85	0.41	0.27	0.39
International Fixed Income					
Citigroup Non-U.S. Gov. Bond	1.57%	10.33%	1.99%	-0.29%	2.44%
Citigroup World Gov. Bond	1.04	7.49	1.74	0.12	2.67
Citigroup Hedged Non-U.S. Gov.	1.10	2.06	2.90	3.94	4.20
Currency*					
Euro vs. $	1.57%	13.85%	-0.26%	-1.85%	-1.95%
Yen vs. $	-0.08	3.54	2.10	-5.15	-0.08
Pound vs. $	0.83	9.48	-4.63	-3.61	-3.79
Real Estate					
Wilshire REIT Index	1.70%	4.18%	5.21%	9.35%	7.28%
Wilshire RESI	1.72	4.84	5.75	9.70	7.36

Total Fund Overview

Asset Class Performance

	Assets ($Mil)	Assets (%)	QTR	YTD	1-year	3-year	5-year	10-year
			Performance (%)					
U.S. Equity	548.3	15.2	6.31	21.54	21.54	11.53	15.48	8.59
International Equity	566.9	15.7	4.73	29.91	29.91	10.02	9.03	3.61
Global Equity	186.4	5.2	5.49	24.49	24.49	8.64	10.03	-.-
Global Low Volatility	375.4	10.4	4.87	19.53	19.53	-.-	-.-	-.-
Real Estate	395.1	11.0	1.70	5.71	5.71	7.03	9.67	6.69
Global Fixed Income	482.2	13.4	0.65	4.23	4.23	2.87	2.67	4.19
High Yield	445.9	12.4	0.36	6.55	6.55	5.79	5.19	6.98
Credit Opportunities	91.8	2.5	1.35	9.73	9.73	-.-	-.-	-.-
MLPs	267.9	7.4	-0.34	-6.51	-6.51	-7.94	4.79	-.-
Private Equity	215.7	6.0	3.28	16.21	16.21	11.09	11.99	-.-
Cash Equivalents	32.3	0.9	0.28	0.85	0.85	0.40	0.27	0.39
Total Fund	**3,607.8**	**100.0**	**2.97**	**13.29**	**13.29**	**6.74**	**8.65**	**6.22**
Asset Allocation Policy			**2.74**	**12.07**	**12.07**	**6.18**	**8.09**	**5.98**
Value Added vs Policy			*0.23*	*1.22*	*1.22*	*0.56*	*0.56*	*0.24*
Actuarial Rate			1.94	8.00	8.00	8.00	8.10	8.17
Wilshire 5000 Index			6.39	20.99	20.99	11.35	15.67	8.64
S&P 500 Index			6.64	21.83	21.83	11.41	15.79	8.49
MSCI ACWI x-U.S. IMI Index			5.23	27.81	27.81	8.38	7.22	2.20
MSCI EAFE Index			4.23	25.03	25.03	7.79	7.90	1.94
Bloomberg Aggregate Bond Index			0.39	3.54	3.54	2.24	2.10	4.01
Citigroup High Yield Cash Pay			0.51	7.01	7.01	5.97	5.35	7.58
Wilshire RE Securities Index			1.72	4.84	4.84	5.75	9.70	7.36
91-Day Treasury Bill			0.28	0.85	0.85	0.41	0.27	0.39

Total Fund Asset Growth

($Millions)	Beg. Mkt Value	Net Contrib.	Net Distrib.	Investment Fees	Investment Gain/Loss	End Mkt Value	Total Return
1Q14	3,332.1	26.1	62.0	4.3	76.3	3,368.2	2.21%
2Q14	3,368.2	25.4	58.8	3.9	148.0	3,479.0	4.26%
3Q14	3,479.0	22.6	62.0	2.5	(39.5)	3,397.5	-1.21%
4Q14	3,397.5	30.7	62.8	3.3	40.4	3,402.5	1.16%
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	2.97%

- At the end of the fourth quarter of 2017, the Fund's market value was $3,607.8 million, which represented an increase of $61.2 million in total net asset value over the previous quarter. The change in the Fund's value was driven by $31.1 million in net contributions and a $107.5 million gain on investments. Meanwhile, $74.1 million in net distributions and $3.3 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	14.4	6.31	15.0	6.39	-0.64	-0.08	0.00	0.00	-0.01	-0.01
International Equity	15.8	4.73	15.0	5.23	0.83	-0.49	0.02	0.00	-0.07	-0.06
Global Equity	5.3	5.49	5.0	5.73	0.32	-0.24	0.01	0.00	-0.01	0.00
Global Low Volatility	10.3	4.87	10.0	4.76	0.32	0.11	0.00	0.00	0.01	0.01
Public REITs	4.7	2.02	5.0	1.72	-0.29	0.30	0.00	0.00	0.02	0.01
Direct Core Real Estate	6.4	1.46	5.0	1.45	1.35	0.02	-0.02	0.00	0.00	-0.02
Global Fixed Income	13.6	0.65	15.0	0.39	-1.40	0.26	0.03	0.00	0.04	0.07
High Yield	12.6	0.36	12.5	0.51	0.13	-0.15	0.00	0.00	-0.02	-0.02
Credit Opportunities	2.6	1.35	2.5	0.90	0.08	0.46	0.00	0.00	0.01	0.01
Public Real Assets	7.4	-0.34	10.0	-0.95	-2.64	0.61	0.08	-0.02	0.07	0.13
Private Equity	5.9	3.28	5.0	0.38	0.95	2.90	-0.01	0.01	0.14	0.14
Cash Equivalents	1.0	0.28	0.0	0.28	0.98	0.00	-0.03	0.00	0.00	-0.03
Monthly Linked Return	**100.0**	**2.98**	**100.0**	**2.74**		**0.24**	**0.07**	**-0.01**	**0.17**	**0.24**
Trading/Hedging		*-0.01*		*0.00*		*-0.01*				***-0.01***
Total		**2.97**		**2.74**		**0.23**				**0.23**

2.74	**Asset Allocation Policy**
0.07	Actual/Tactical Asset Allocation
0.17	Active Management
-0.01	Interaction
-0.01	Trading
2.97	**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	14.53	21.54	15.00	20.99	-0.5	0.55	-0.03	0.00	0.08	0.05
International Equity	15.39	29.91	15.00	27.81	0.4	2.10	0.04	0.00	0.28	0.32
Global Equity	5.10	24.49	5.00	23.97	0.1	0.52	0.01	0.00	0.02	0.03
Global Low Volatility	10.16	19.57	10.00	17.93	0.2	1.64	0.00	0.01	0.15	0.16
Public REITs	4.71	5.17	5.00	4.84	-0.3	0.34	0.01	0.00	0.02	0.03
Direct Core Real Estate	6.29	6.10	5.00	5.99	1.3	0.10	-0.08	0.00	0.01	-0.07
Global Fixed Income	13.65	4.23	15.00	3.54	-1.4	0.69	0.11	-0.01	0.11	0.22
High Yield	12.55	6.55	12.50	7.01	0.0	-0.46	-0.01	0.00	-0.06	-0.07
Credit Opportunities	2.54	9.73	2.50	7.26	0.0	2.47	0.00	0.00	0.06	0.06
Public Real Assets	8.05	-6.51	10.00	-6.52	-2.0	0.01	0.37	-0.01	0.00	0.36
Private Equity	5.57	16.21	5.00	12.15	0.6	4.06	0.00	0.02	0.15	0.17
Cash	1.47	0.85	0.00	0.85	1.5	0.00	-0.19	0.00	0.00	-0.19
Monthly Linked Return	**100.00**	**13.14**	**100.00**	**12.07**		**1.06**	**0.23**	**0.00**	**0.83**	**1.06**
Trading		0.15		0.00		0.15				**0.14**
Total		***13.29***		***12.07***		***1.21***				***1.21***

12.07	**Strategic Policy Allocation**
0.23	Actual/Tactical Asset Allocation
0.83	Active Management
0.00	Interaction
0.14	Trading
13.29	Total 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.
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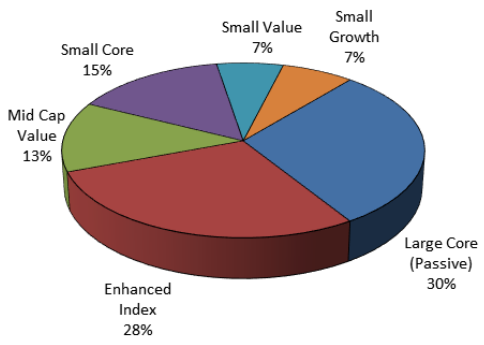
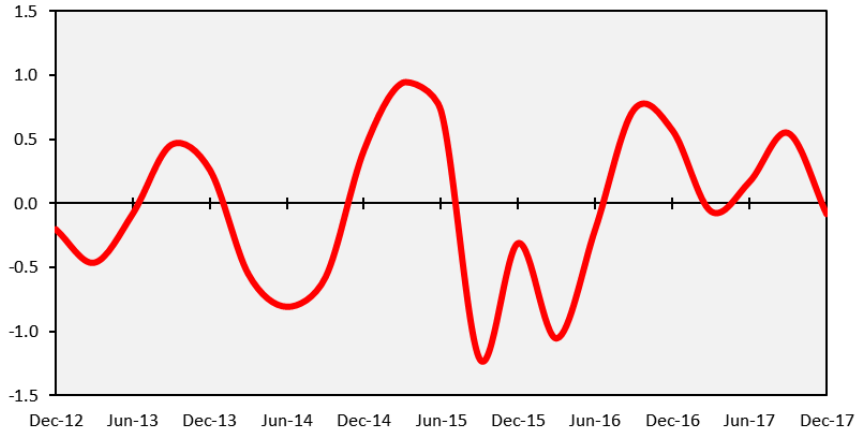
- ***Interaction:*** Captures the interaction of managers' performance and asset class weighting differences.
- ***Actual Return:*** The actual return of the asset classes if allocations to them were static during the quarter. These returns will not match exactly with the actual segment returns since 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)	QTR	YTD	1-year	3-year	5-year	10-year
		Performance					
Total U.S. Equity (Gross)	**$ 548.3**	**6.40**	**21.91**	**21.91**	**11.90**	**15.88**	**8.96**
Total U.S. Equity (Net)		**6.31**	**21.54**	**21.54**	**11.53**	**15.48**	**8.59**
Custom Benchmark [1]		6.39	20.99	20.99	11.35	15.67	8.64
Net of Fee Value Added vs Benchmark		*-0.08*	*0.55*	*0.55*	*0.18*	*-0.19*	*-0.05*
Enhanced Composite	**$ 155.5**	6.60	24.03	24.03	11.35	15.47	8.43
Small Cap Composite	**$ 157.7**	5.07	18.09	18.09	12.20	15.40	9.27
Wilshire 5000 Index		6.39	20.99	20.99	11.35	15.67	8.64
S&P 500 Index		6.64	21.83	21.83	11.41	15.79	8.49
Russell 2000 Index		3.34	14.65	14.65	9.96	14.12	8.71

Domestic Equity Managers

	Assets (Millions)	QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
		Performance (%)						
Large Core - Passive								
Northern Trust S&P 500 (Gross)	**$ 163.8**	**6.64**	**21.82**	**21.82**	**11.46**	**15.84**	**10.12**	**Dec-94**
Northern Trust S&P 500 (Net)		**6.64**	**21.82**	**21.82**	**11.45**	**15.83**	**10.10**	**Dec-94**
S&P 500 Index		6.64	21.83	21.83	11.41	15.79	10.05	Dec-94
Net of Fee Value Added vs Benchmark		*0.00*	*-0.01*	*-0.01*	*0.04*	*0.04*	*0.05*	
Enhanced Index								
T. Rowe Price (Gross)	**$ 155.5**	**6.68**	**24.39**	**24.39**	**12.67**	**16.60**	**9.52**	**Mar-06**
T. Rowe Price (Net)		**6.60**	**24.03**	**24.03**	**12.30**	**16.23**	**9.20**	**Mar-06**
S&P 500 Index + 1%		6.89	22.83	22.83	12.41	16.79	9.65	Mar-06
Net of Fee Value Added vs Objective		*-0.29*	*1.20*	*1.20*	*-0.11*	*-0.56*	*-0.45*	
S&P 500 Index		6.64	21.83	21.83	11.41	15.79	8.65	Mar-06
Net of Fee Value Added vs Benchmark		*-0.04*	*2.20*	*2.20*	*0.89*	*0.44*	*0.55*	
Information Ratio				**1.54**	**0.64**	**0.34**		
Sharpe Ratio				**5.69**	**1.15**	**1.66**		

[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)	**$ 82.5**	**6.99**	**25.53**	**25.53**	**16.75**	**19.12**	**12.87**	**Jun-03**
Systematic Financial (Net)		**6.77**	**24.50**	**24.50**	**15.77**	**18.12**	**12.08**	**Jun-03**
Russell 2000 Index + 1.25%		3.65	15.90	15.90	11.21	15.37	11.16	Jun-03
Net of Fee Value Added vs Objective		*3.12*	*8.60*	*8.60*	*4.56*	*2.75*	*0.92*	
Russell 2000 Index		3.34	14.65	14.65	9.96	14.12	9.91	Jun-03
Net of Fee Value Added vs Benchmark		*3.43*	*9.85*	*9.85*	*5.81*	*4.00*	*2.17*	
Information Ratio				**2.25**	**1.38**	**0.98**		
Sharpe Ratio				**2.91**	**1.19**	**1.37**		
Small Value - Active								
Channing Capital Management (Gross)	**$ 36.1**	**2.55**	**7.43**	**7.43**	**9.99**	**-.-**	**9.23**	**Oct-13**
Channing Capital Management (Net)		**2.31**	**6.40**	**6.40**	**8.95**	**-.-**	**8.24**	**Oct-13**
Russell 2000 Value Index + 1.25%		2.36	9.09	9.09	10.80	-.-	9.76	Oct-13
Net of Fee Value Added vs Objective		*-0.05*	*-2.69*	*-2.69*	*-1.85*		*-1.52*	
Russell 2000 Value Index		2.05	7.84	7.84	9.55	-.-	8.51	Oct-13
Net of Fee Value Added vs Benchmark		*0.26*	*-1.44*	*-1.44*	*-0.60*		*-0.27*	
Information Ratio				**-0.32**	**-0.13**	**-.-**		
Sharpe Ratio				**0.67**	**0.55**	**-.-**		
Small Growth - Active								
Redwood Investments (Gross)	**$ 39.2**	**4.33**	**18.18**	**18.18**	**-.-**	**-.-**	**15.63**	**Sep-16**
Redwood Investments (Net)		**4.15**	**17.58**	**17.58**	**-.-**	**-.-**	**15.16**	**Sep-16**
Russell 2000 Growth Index + 1.50%		4.96	23.67	23.67	-.-	-.-	22.21	Sep-16
Net of Fee Value Added vs Objective		*-0.81*	*-6.09*	*-6.09*			*-7.05*	
Russell 2000 Growth Index		4.59	22.17	22.17	-.-	-.-	20.71	
Net of Fee Value Added vs Benchmark		*-0.44*	*-4.59*	*-4.59*			*-5.55*	
Information Ratio				**-0.75**	**-.-**	**-.-**		
Sharpe Ratio				**2.00**	**-.-**	**-.-**		
Mid Cap Value - Active								
Smith Graham Mid Cap Value (Gross)	**$ 71.2**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**Dec-17**
Smith Graham Mid Cap Value (Net)		**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**Dec-17**

- The Fund's domestic equity composite generated a return of 6.31% (net of fees) during the fourth quarter of 2017, slightly trailing the Wilshire 5000 Total Market Index which returned 6.39%. Overall, composite performance trailed the benchmark during the period due to modest underperformance from the T. Rowe Price enhanced index strategy coupled with similar underperformance from Redwood's small cap growth exposure. The domestic equity composite is currently outperforming against its benchmark over the one- and three-year periods but continues to trail its custom benchmark over the five- and ten-year periods.

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, matching the risk and return profile of the benchmark index and exhibiting very low tracking error over all time periods.

Domestic Equity Overview (Continued)

T. Rowe Price (Enhanced)

- T. Rowe Price manages the Fund's enhanced equity index portfolio. The T. Rowe Price portfolio returned 6.60% (net of fees) during the fourth quarter, just slightly underperforming its benchmark index (S&P 500) which returned 6.64%. The portfolio largely kept pace with its benchmark during the period but relative outperformance was negated by a lackluster stock picking decisions within a few specific market segments. Stock selection was weakest within the financials, utilities and consumer staples sectors. Here, the portfolio's holdings delivered performance below that of the respective benchmark holdings which ultimately led to this periods slight underperformance versus the benchmark. Sector positioning modestly added to the portfolio's performance during the period. The portfolio's tactical overweight allocation to the technology sector which led the market over the period served as the largest driver of outperformance from a sector positioning standpoint. 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 $196,736 million). The portfolio is currently outperforming against its benchmark over the one-, three-, and five-year periods as well as since inception (+55 bps) (3/06).

Systematic Financial (Small-Cap Core)

- Systematic Financial manages the Fund's small-cap core portfolio. The Systematic portfolio returned 6.77% (net of fees) during the fourth quarter, outperforming its benchmark (Russell 2000) which returned 3.34%. During the period small cap stocks as represented by the Russell 2000 Index continued to bleed higher but trailed their larger capitalization counterparts. Against this backdrop the Systematic portfolio was able to outpace its benchmark as a result of strong individual stock selection decisions. The bulk of this period's outperformance can be pinned to stock picking decisions within the health care segment. Here the portfolio posted returns well above those of the benchmark, clocking in at 44.79% versus 2.41% for that of the benchmark. Similarly, the portfolio's holdings in the consumer discretionary and information technology sectors were able to outperform their respective benchmark holdings. Meanwhile, sector positioning was also modestly additive during the period providing an additional boost to the portfolio's return. The Systematic portfolio continues to hold relatively cheaper (or undervalued) stocks when compared to benchmark, with a current average P/E ratio of 28.08 (Russell 2000 P/E ratio is 58.63). 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. The Systematic portfolio is outperforming against its benchmark over the one-, three- and five-year periods as well as since inception (+217 bps) (6/03).

Channing Capital Management (Small-Cap Value)

- Channing Capital manages the Fund's small-cap value portfolio. The Channing portfolio returned 2.31% (net of fees) during the fourth quarter, outperforming its benchmark (Russell 2000 Value) which returned 2.05%. Favorable stock selection contributed to this period's outperformance relative to the benchmark. Particularly large gains were incurred within the financials and materials sectors. Here, the portfolio's holdings returned 4.30% and 10.74% versus 0.77% and 3.99% for the respective benchmark holdings. Several positions within the portfolio (very concentrated), posted double digit returns in what was an upbeat period in the small cap value space. Most notably, "Artisan Partners", which returned 23.17% for the period, was the single best performer in the portfolio. Several other positions also followed suit posting significant gains in the current period. Sector weighting decisions were slightly negative for the period providing a small drag to the portfolio's return relative to the benchmark.

Domestic Equity Overview (Continued)

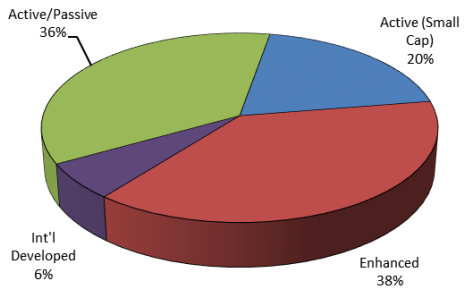
To date, the Channing portfolio is consistently positioned with an underweight allocation to consumer discretionary (3% portfolio weight vs. 11% benchmark weight) with significant overweight allocation to industrials (23% portfolio weight vs 12% benchmark weight). The Channing portfolio is currently underperforming against its benchmark since inception (-27 bps) (12/13).

Redwood Investments (Small-Cap Growth)

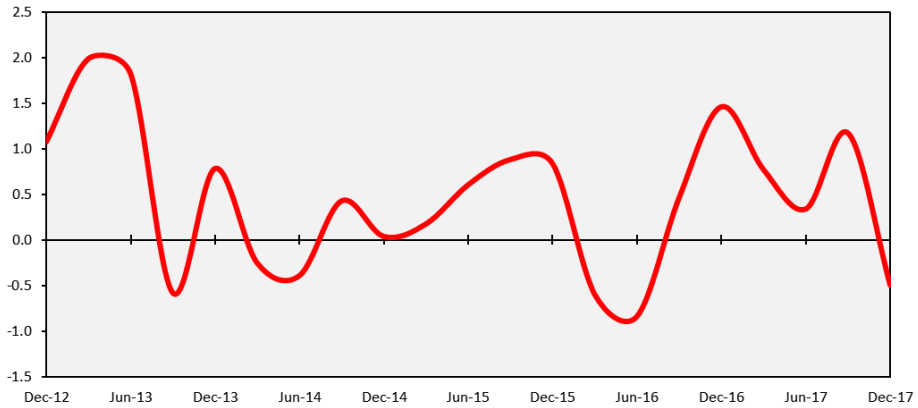
- Redwood Investments manages the Fund's small-cap growth portfolio which was funded in September 2016. The Redwood portfolio returned 4.15% (net of fees) during the fourth quarter, underperforming its benchmark (Russell 2000 Growth) which returned 4.59%. During the quarter, quality and valuation were modestly correlated to returns while estimate revisions had little to no correlation to returns in the small cap growth space. The portfolio currently holds 54 securities which is considerably more concentrated than the benchmark, as such, individual stock selection typically emerges as the predominant driver of performance in any given period. During the quarter, stock selection decisions were detractive as a whole led by the information technology and health care segments of the market. Although stock selection detracted from relative performance, stock selection within Consumer Discretionary and Industrials positively impacted returns. Stocks contributing most to relative underperformance included: Quantenna Communications, Impinj, OSI Systems and Puma Biotechnology. During the quarter the strategy increased its exposure to consumer companies focused on lifestyle, health and experiences while actively avoiding consumer discretionary companies suffering from intense competition. Lastly, the strategy increased its exposure to industrials, materials and energy on a quarter-over-quarter basis. The Redwood portfolio is currently underperforming against its benchmark since inception (-555 bps) (09/16).

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)	**$ 566.9**	**4.86**	**30.48**	**30.48**	**10.49**	**9.49**	**4.07**
Total International Equity (Net)		**4.73**	**29.91**	**29.91**	**10.02**	**9.03**	**3.61**
Custom Benchmark [1]		5.23	27.81	27.81	8.38	7.22	2.09
Net of Fee Value Added vs Benchmark		*-0.50*	*2.10*	*2.10*	*1.64*	*1.81*	*1.52*
MSCI ACWI x-US IMI (Net)		5.23	27.81	27.81	8.38	7.22	2.20
MSCI ACWI x-US (Net)		5.00	27.19	27.19	7.83	6.80	1.84
MSCI EAFE (Net)		4.23	25.03	25.03	7.79	7.90	1.94
MSCI Emerging Markets		7.43	37.28	37.28	9.10	4.35	1.68

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)	**$ 111.8**	**4.63**	**38.90**	**38.90**	**15.80**	**13.18**	**11.00**	**Mar-89**
Acadian International (Net)		**4.49**	**38.32**	**38.32**	**15.25**	**12.61**	**9.10**	**Mar-89**
Custom Benchmark + 2%		7.06	33.64	33.64	13.96	12.03	8.42	Mar-89
Net of Fee Value Added vs Objective		*-2.57*	*4.68*	*4.68*	*1.29*	*0.58*	*0.68*	
Custom Benchmark		6.56	31.64	31.64	11.96	10.03	6.42	Mar-89
Net of Fee Value Added vs Benchmark		*-2.07*	*6.68*	*6.68*	*3.29*	*2.58*	*2.68*	
Information Ratio				**1.72**	**0.92**	**0.67**		
Sharpe Ratio				**8.62**	**1.26**	**1.03**		

[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)	**$ 216.3**	**4.79**	**29.59**	**29.59**	**10.50**	**9.71**	**4.80**	**Mar-06**
AQR Capital Management (Net)		**4.65**	**28.86**	**28.86**	**9.86**	**9.06**	**4.28**	**Mar-06**
Custom Benchmark + 1.5%		5.38	28.69	28.69	9.33	8.30	4.90	Mar-06
Net of Fee Value Added vs Objective		*-0.73*	*0.17*	*0.17*	*0.53*	*0.76*	*-0.62*	
Custom Benchmark		5.00	27.19	27.19	7.83	6.80	3.40	Mar-06
Net of Fee Value Added vs Benchmark		*-0.35*	*1.67*	*1.67*	*2.03*	*2.26*	*0.88*	
Information Ratio				**0.90**	**0.88**	**0.96**		
Sharpe Ratio				**6.28**	**0.85**	**0.80**		
Int'l Active/Passive								
Baring International (Gross)	**$ 203.4**	**5.01**	**27.32**	**27.32**	**7.85**	**7.26**	**7.13**	**Mar-88**
Baring International (Net)		**4.92**	**26.98**	**26.98**	**7.63**	**7.00**	**6.96**	**Mar-88**
Custom Benchmark + 1.25%		5.32	28.44	28.44	9.08	8.05	6.73	Mar-88
Net of Fee Value Added vs Objective		*-0.40*	*-1.46*	*-1.46*	*-1.45*	*-1.05*	*0.23*	
Custom Benchmark		5.00	27.19	27.19	7.83	6.80	5.48	Mar-88
Net of Fee Value Added vs Benchmark		*-0.08*	*-0.21*	*-0.21*	*-0.20*	*0.20*	*1.48*	
Information Ratio				**-0.30**	**-0.14**	**0.12**		
Sharpe Ratio				**7.09**	**0.59**	**0.59**		
Int'l Developed								
Ativo International Developed (Gross)	**$ 35.5**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**Dec-17**
Ativo International Developed (Net)		**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**Dec-17**

- The Fund's international equity composite returned 4.73% (net of fees) during the fourth quarter of 2017, underperforming the MSCI ACWI x-US Investable Market Index (IMI) which returned 5.23%. Each of the segment's non-U.S. strategies underperformed against their respective benchmarks in what was generally a favorable market environment for international stocks. The Fund's international small cap equity manager, Acadian International provided the lowest return in both absolute and relative terms during the period. Meanwhile, the AQR and Barings portfolio's also trailed the benchmark during the period by a modest margin. During the period the composite introduced an international developed exposure managed by Ativo. Performance tracking for the newly added fund will begin following its first full period of performance in Q1 2018. Despite this period's underperformance, the international equity composite is outperforming against its benchmark for the one-, three-, five- and ten-periods periods, as well as since inception (12/89).

Acadian (International Small-Cap)

Acadian International manages the Fund's active small-cap international equity portfolio. During the fourth quarter the Acadian portfolio returned 4.49% (net of fees), underperforming against its benchmark (MSCI ACWI x-US Small Cap) which returned 6.56% for the period. For the fourth 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 a combination of stock selection and an

[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%.

overweight position in China, stock selection in Germany, and an underweight position in India. More successful investments included a combination of stock selection and underweight positions in Italy and Sweden, along with stock selection in the U.K. Specifically, Evotec slid after the German drug discovery and development firm posted a drop in third-quarter net income from a year earlier and BYD Electronic International retreated after Credit Suisse lowered its price target for the Chinese wireless component maker. 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 (+268 bps) (3/89).

AQR Capital Management (International Enhanced)

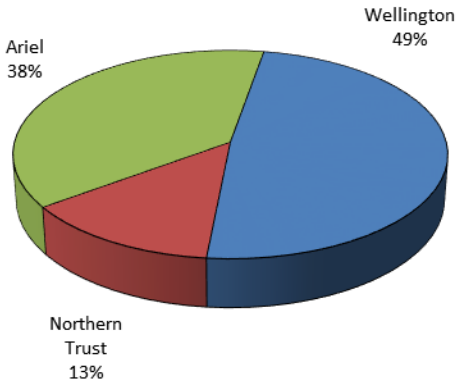
- AQR Capital manages the Fund's enhanced international equity portfolio. The AQR portfolio returned 4.65% (net of fees) during the fourth quarter, underperforming its benchmark (MSCI ACWI x-US) which returned 5.00%. Country and sector weighting decisions proved to be the main driver of this period's underperformance. Underweight allocations to India and China proved costly as both markets delivered strong returns to close out the year. Overweight allocations to Spain and Italy also weighed on performance with these markets delivering negative returns in the fourth quarter. Overall, individual stock selection was negative and weakest within the markets of Japan and France. Sector weighting decisions in these two countries further detracted from performance relative to the benchmark. Meanwhile, the portfolio benefitted from strong individual stock selection decisions within the markets of Canada and Germany. Here, the portfolio's holdings posted returns well in excess of the respective benchmark holdings providing a notable measure of value added. The AQR portfolio is outperforming against its benchmark for one-, three- and five-year periods, as well as since inception (+88 bps) (03/06).

Baring (International Active/Passive)

- Baring International, the Fund's international equity large-cap manager, manages an active/passive portfolio. The objective is to actively manage the broad-based country and sector allocations, while passively managing security selection by investing in market indexes. During the fourth quarter, the Baring portfolio returned 4.92% (net of fees), slightly underperforming its benchmark (MSCI ACWI x-US) which returned 5.00%. Overall, this quarter's results were driven by unfavorable country and sector positioning decisions. From a geographical standpoint, the portfolio's Chinese, Australian and Spanish holdings all trailed their respective benchmark holdings. From a sector performance standpoint, the portfolio's telecommunication services, consumer staples and utilities segments posted returns below that of their respective benchmark holdings. The portfolio's financial sector holdings also delivered negative excess returns albeit on a lesser scale. On an absolute basis, the portfolios Japanese, Chinese and U.K. holdings provided the largest contributions to overall performance while the portfolio's financials, technology and material holdings turned in the strongest results from an individual sector standpoint. The Baring portfolio is currently outperforming against its benchmark over the five-year period as well as since inception (+148 bps) (03/88).

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)	**$ 186.4**	**5.57**	**24.91**	**24.91**	**9.10**	**10.59**	**-.-**
Total Global Equity (Net)		**5.49**	**24.49**	**24.49**	**8.64**	**10.03**	**-.-**
MSCI ACWI (Net)		5.73	23.97	23.97	9.29	10.80	-.-
Net of Fee Value Added vs Index		*-0.24*	*0.52*	*0.52*	*-0.65*	*-0.77*	
MSCI ACWI IMI (Net)		5.72	23.94	23.94	9.52	11.00	4.97
MSCI ACWI (Net)		5.73	23.97	23.97	9.29	10.80	4.65
MSCI World (Net)		5.50	22.39	22.39	9.26	11.63	5.03

Global Equity Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Equity - Active								
Wellington (Gross)	**$ 90.9**	**5.43**	**25.44**	**25.44**	**10.40**	**14.17**	**14.86**	**Aug-12**
Wellington (Net)		**5.27**	**24.70**	**24.70**	**9.78**	**13.52**	**14.24**	**Aug-12**
MSCI ACWI (Net) + 2%		6.22	25.97	25.97	11.29	12.80	13.32	Aug-12
Net of Fee Value Added vs Objective		*-0.95*	*-1.27*	*-1.27*	*-1.51*	*0.72*	*0.92*	
MSCI ACWI (Net)		5.73	23.97	23.97	9.29	10.80	11.32	Aug-12
Net of Fee Value Added vs Benchmark		*-0.46*	*0.73*	*0.73*	*0.49*	*2.72*	*2.92*	
Information Ratio				**0.22**	**0.15**	**0.75**		
Sharpe Ratio				**5.64**	**0.83**	**1.23**		
Global Equity - Passive								
Northern Trust (Gross)	**$ 25.0**	**5.78**	**24.45**	**24.45**	**-.-**	**-.-**	**16.97**	**Oct-15**
Northern Trust (Net)		**5.78**	**24.34**	**24.34**	**-.-**	**-.-**	**16.90**	**Oct-15**
MSCI ACWI IMI (Net)		5.72	23.94	23.94	-.-	-.-	16.46	Oct-15
Net of Fee Value Added vs Benchmark		*0.06*	*0.40*	*0.40*			*0.44*	
Global Equity - Active								
Ariel (Gross)	**$ 70.5**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**Dec-17**
Ariel (Net)		**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**Dec-17**

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 recently added an exposure to the Ariel Global Product strategy which will begin performance tracking in Q1 of 2018. The new structure favors active management (currently 87% active/13% passive) versus the previous 50%/50% allocation between active and passively managed funds within the composite. The Wellington portfolio underperformed its benchmark index during the fourth quarter, in turn, pushing composite performance as a whole below that of the benchmark. The passively-managed Northern Trust strategy is performing in line with expectations, closely tracking the risk/return profile of the benchmark. The global equity composite is currently outperforming over the one-year (+52 bps) period but continues to trail its benchmark since inception (9/12).

Wellington (Active)

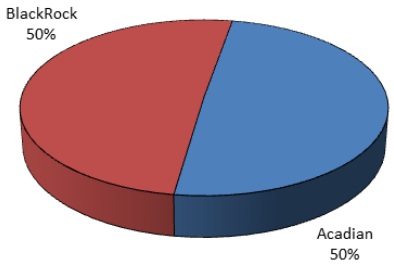
- Wellington manages the Fund's active global equity portfolio. During the fourth quarter, the Wellington portfolio returned 5.27% (net of fees), underperforming its benchmark (MSCI ACWI) which returned 5.73%. The portfolio underperformed the benchmark during the fourth quarter driven by negative stock selection. Sector allocations were modestly additive to relative performance due to the portfolio's underweight to health care and overweight to information technology. Information technology holdings positively contributed to relative performance for 2017, but the sector was the weakest performer during the last 6 weeks of the year and many of the portfolio's semiconductor and software holdings were not spared. The portfolio's underperformance was partially offset by positive stock selection within the industrials and financials sectors, where management had reasonable success both during the fourth quarter and throughout the year. Management sees the newly enacted tax reform legislation in the US benefitting banks and information technology companies so they added a number of stocks within these sectors that should benefit from a strong consumer and technology investments paid for by corporate tax savings. In Asia, the portfolio's exposure to Japan remains underweight, with an overweight to China. The Wellington portfolio is outperforming for the one-, three- and five-year periods as well as since inception (+292 bps) (09/12).

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 13.5% 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 (+44) basis points since inception.

Global Low Volatility Equity Overview

Global Low Volatility Structure



Global Low Volatility Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total Global Low Volatility (Gross)	**$ 375.4**	**4.92**	**19.74**	**19.74**	**-.-**	**-.-**	**-.-**
Total Global Low Volatility (Net)		**4.87**	**19.53**	**19.53**	**-.-**	**-.-**	**-.-**
MSCI ACWI Minimum Volatility (Net)		4.76	17.93	17.93	-.-	-.-	-.-
Net of Fee Value Added vs Index		*0.11*	*1.60*	*1.60*			
MSCI ACWI Minimum Volatility (Net)		4.76	17.93	17.93	9.20	11.05	6.91
MSCI World x-US Minimum Volatility (Net)		3.81	21.06	21.06	8.69	8.77	4.84
MSCI ACWI (Net)		5.73	23.97	23.97	9.29	10.80	4.65

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)	**$ 188.5**	**4.97**	**20.91**	**20.91**	**-.-**	**-.-**	**11.50**	**Jun-15**
Acadian Global Low Vol (Net)		**4.88**	**20.50**	**20.50**	**-.-**	**-.-**	**11.15**	**Jun-15**
MSCI ACWI (Net) + 2%		6.22	25.97	25.97	-.-	-.-	12.09	Jun-15
Net of Fee Value Added vs Objective		*-1.34*	*-5.47*	*-5.47*			*-0.94*	
MSCI ACWI (Net)		5.73	23.97	23.97	-.-	-.-	10.09	Jun-15
Net of Fee Value Added vs MSCI ACWI		*-0.85*	*-3.47*	*-3.47*			*1.06*	
MSCI ACWI Min Vol (Net)		4.76	17.93	17.93	-.-	-.-	10.16	Jun-15
Net of Fee Value Added vs MSCI ACWI Min Vol		*0.12*	*2.57*	*2.57*			*0.99*	
Information Ratio				**0.72**	**-.-**	**-.-**		
Sharpe Ratio				**5.41**	**-.-**	**-.-**		
Global Low Volatility - Passive								
BlackRock Global Low Vol (Gross)	**$ 186.9**	**4.86**	**18.58**	**18.58**	**-.-**	**-.-**	**10.74**	**Jun-15**
BlackRock Global Low Vol (Net)		**4.86**	**18.56**	**18.56**	**-.-**	**-.-**	**10.74**	**Jun-15**
MSCI ACWI Min Vol (Net)		4.76	17.93	17.93	-.-	-.-	10.16	Jun-15
Net of Fee Value Added vs Benchmark		*0.10*	*0.63*	*0.63*			*0.58*	

***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)

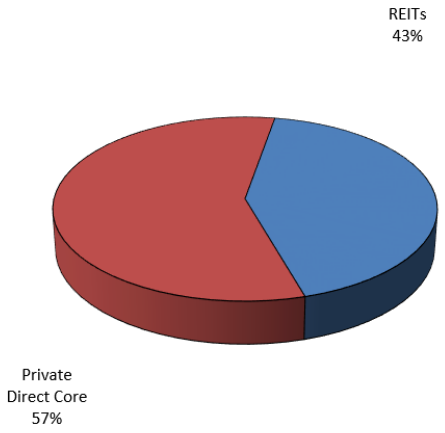
- Acadian manages the Fund's active global low volatility equity portfolio. The strategy was funded during June of 2015 and has recently completed its second year of performance within the Fund. During the fourth quarter, the Acadian portfolio returned 4.88% (net of fees). The portfolio's primary benchmark 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 able to outperform the MSCI ACWI Minimum Volatility index but unable to outperform the MSCI ACWI index. Relative to the primary cap-weighted benchmark, the portfolio had much greater exposure to the lowest-volatility securities from within the opportunity set, which had a negative impact on the overall portfolio's performance. From a sector perspective, the portfolio did not benefit from a relatively smaller exposure to information technology. A lack of exposure to Microsoft was a key source of negative return differential. Shares rose after the U.S. software giant reported fiscal first-quarter earnings that topped analysts' estimates. From a country perspective, the portfolio did not benefit from stock selection in Japan and the U.K. GlaxoSmithKline was a key source of negative return differential. Shares slid after the U.K. drug maker opted against committing to a dividend payout beyond 2018. The Acadian portfolio is currently outperforming its primary benchmark since inception (+106 bps) (07/15). The portfolio has also outpaced its secondary minimum volatility benchmark since inception (+99 bps).

BlackRock (Global Low Volatility – Passive)

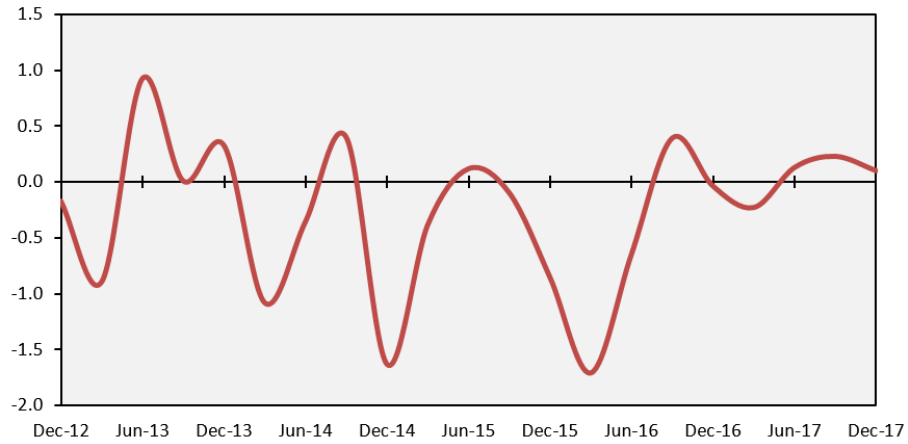
- BlackRock manages the Fund's passive global volatility equity strategy. Like Acadian above, this strategy is relatively new within the Fund having been funded at the end of June 2015. The BlackRock portfolio is intended to provide a low-cost, highly diversified global equity investment strategy focused 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 (+58 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)	**$ 395.1**	**1.86**	**6.38**	**6.38**	**7.75**	**10.45**	**7.43**
Total Real Estate (Net)		**1.70**	**5.71**	**5.71**	**7.03**	**9.67**	**6.69**
Custom Benchmark [1]		1.60	5.47	5.47	6.62	9.40	7.26
Net of Fee Value Added vs Benchmark		*0.10*	*0.24*	*0.24*	*0.41*	*0.27*	*-0.57*
REIT Strategies	$ 168.7	2.02	5.17	5.17	4.70	9.16	6.52
Private Core Real Estate	$ 226.4	1.46	6.10	6.10	8.46	10.00	-.-
Wilshire Real Estate Securities Index		1.72	4.84	4.84	5.75	9.70	7.36
NCREIF Open Diversified Core Equity (Net)		1.85	6.66	6.66	9.42	10.51	-.-

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)	**$ 86.1**	**2.34**	**7.84**	**7.84**	**5.64**	**10.25**	**10.81**	**Sep-01**
Adelante Capital Management (Net)		**2.19**	**7.23**	**7.23**	**5.04**	**9.62**	**10.23**	**Sep-01**
Wilshire Real Estate Securities + 1%		1.97	5.84	5.84	6.75	10.70	11.65	Sep-01
Net of Fee Value Added vs Objective		*0.22*	*1.39*	*1.39*	*-1.71*	*-1.08*	*-1.42*	
Wilshire Real Estate Securities		1.72	4.84	4.84	5.75	9.70	10.65	Sep-01
Net of Fee Value Added vs Index		*0.47*	*2.39*	*2.39*	*-0.71*	*-0.08*	*-0.42*	
Information Ratio				**1.91**	**-0.36**	**-0.04**		
Sharpe Ratio				**1.16**	**0.36**	**0.73**		
BlackRock REIT	**$ 82.6**	**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**3.10**	**Oct-17**
BlackRock REIT		**-.-**	**-.-**	**-.-**	**-.-**	**-.-**	**3.10**	**Oct-17**
Wilshire Real Estate Securities		-.-	-.-	-.-	-.-	-.-	2.62	Oct-17
Net of Fee Value Added vs Index							*0.47*	

[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)	**$ 90.4**	**2.06**	**6.96**	**6.96**	**10.98**	**11.84**	**13.22**	**Aug-10**
Heitman America Real Estate Trust (Net)		**1.83**	**6.01**	**6.01**	**10.00**	**10.86**	**12.15**	**Aug-10**
NCREIF Open-End Diversified Core (Net)		1.85	6.66	6.66	9.42	10.51	11.62	Aug-10
Net of Fee Value Added vs Index		*-0.02*	*-0.65*	*-0.65*	*0.58*	*0.35*	*0.53*	
Invesco Core Real Estate USA (Gross)	**$ 73.4**	**2.48**	**9.36**	**9.36**	**11.73**	**12.43**	**12.92**	**Aug-10**
Invesco Core Real Estate USA (Net)		**2.26**	**8.41**	**8.41**	**10.77**	**11.45**	**11.93**	**Aug-10**
NCREIF Open-End Diversified Core (Net)		1.85	6.66	6.66	9.42	10.51	11.62	Aug-10
Net of Fee Value Added vs Index		*0.41*	*1.75*	*1.75*	*1.35*	*0.94*	*0.31*	
Invesco II	**$ 62.6**	**0.01**	**2.99**	**2.99**	**-1.39**	**-.-**	**-0.34**	**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 1.70% (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 1.60%. On the public side, the Adelante portfolio outperformed the Wilshire Real Estate Securities Index mostly as a result of favorable stock selection decisions. Meanwhile the Security Capital portfolio was terminated and has been replaced with the BlackRock REIT index fund as a placeholder as the committee contemplates adding another actively managed REIT exposure. On the private side, the Invesco portfolio managed to outperform relative to the NCREIF Open-End Diversified Core Index while the Heitman exposure performed in-line with the benchmark. Currently, the Fund's total real estate composite is outperforming its benchmark over the one-, three- 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 fourth quarter, the Adelante portfolio returned 2.19% (net of fees), outperforming its benchmark index (Wilshire Real Estate Securities) which returned 1.72%. For the fourth consecutive quarter, security selection served as the predominant driver of quarterly outperformance. Security selection was most additive within the hotel, diversified and health care segments of the REIT market. Here the portfolio holdings delivered returns significantly higher than the respective benchmark holdings. Similarly, albeit on a lesser scale the portfolio's local retail, manufactured homes and single family housing holdings posted returns in excess of their respective benchmark holdings. From a sector positioning standpoint, the portfolio was aided by an overweight allocation to the regional retail sector which was among the best performing sectors in the space during the period. The Fund also benefited from an underweight exposure to the health care segment of the market which was the weakest performing segment during the quarter. The portfolio has delivered four consecutive quarters of favorable performance relative to the benchmark but continues to underperform its benchmark over the three- and five-year periods as well as since inception (09/01).

Heitman (Direct Core Real Estate)

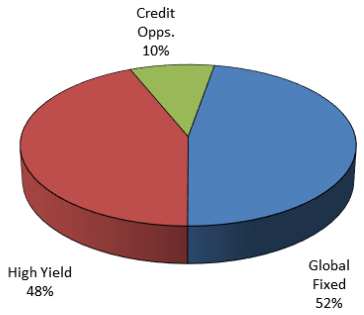
- Heitman manages one of the Fund's three direct core real estate portfolios. The Heitman portfolio returned 1.83% (net of fees) during the fourth quarter, slightly underperforming its benchmark (NCREIF Open End Diversified Core Index) which returned 1.85%. Valuation increases during the period were driven in large part by the Fund's industrial investments. The portfolio continues to remain well leased with an overall leasing level of 94% at quarter end. Year over year same-property net operating income through the fourth quarter increased 1.60% with the office and industrial sectors achieving the largest percent increases. The Fund anticipates paying a dividend in January of around $12.72 per share, providing investors with additional yield. At quarter end the portfolio's allocation is well diversified across the apartment (25% allocation), office (23%), retail (21%), self-storage (18%) and industrial (13%) segments of the market. The portfolio is also well diversified across the U.S. geographical landscape allocating 39% of the portfolio to the Western region of the U.S., 22% to the Southern region, 17% to the Midwest region and 22% to the Eastern region of the country. Two acquisitions were completed during the quarter at a total equity cost of $276.6 million. The new investments included an office asset in Denver, Colorado and an industrial asset in Perris, California. There were no property dispositions for the Fund in the fourth quarter. The Heitman portfolio is currently outperforming its benchmark over all measured periods greater than one-year including since inception (+53 bps) (08/10).

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

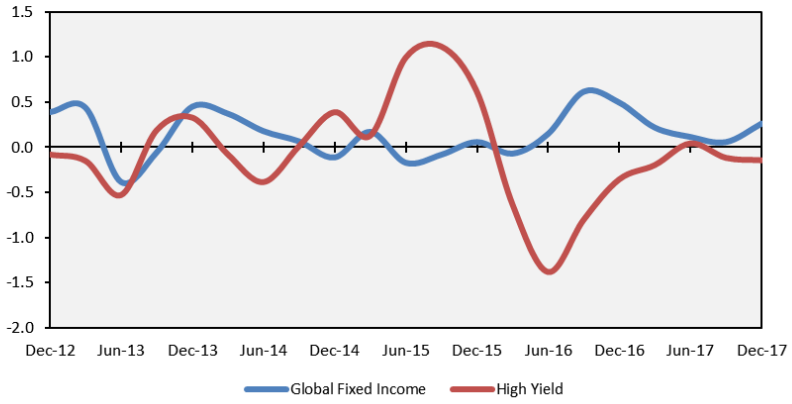
- Invesco manages two of the Fund's three direct core real estate portfolios. The Invesco Core Real Estate-USA portfolio returned 2.26% (net of fees) during the fourth quarter, outperforming its benchmark (NCREIF Open End Diversified Core Index) which returned 1.85%. The total return of 2.26%, comprised of 0.87% income and 1.39% appreciation. The Fund produced gross unlevered appreciation of 122 bps on the total portfolio for the quarter. Appreciation in the Core Portfolio was broad based throughout the commercial sector. The Fund ended the quarter 93.5% leased, which is down 100 bps from the prior quarter due to specific manage-to-core assets and up 40 bps over the prior year. The portfolio holds 91 investments that are diversified across the United States with a large allocation to the west coast region. Three areas in California; the San Francisco Bay Area, Los Angeles and Orange County alone make up 36% of the portfolio's total value. During the quarter, the Fund closed on a joint venture land acquisition for a future self-storage development property located in the Los Angeles Area for a gross purchase price of $6.8 million. In addition, the Fund closed on two dispositions during the quarter for a total gross sales price of $85.8 million: Matthews Township, a retail property in Matthews, NC and The Pointe at Westchester, an apartment property located in West Chester, PA. The Invesco portfolio is currently outperforming its benchmark over all measured periods including since inception (+31 bps) (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)	**$ 482.2**	**0.71**	**4.45**	**4.45**	**3.07**	**2.85**	**4.39**
Global Fixed Income (Net)		**0.65**	**4.23**	**4.23**	**2.87**	**2.67**	**4.19**
Barclays Aggregate Bond Index		0.39	3.54	3.54	2.24	2.10	4.01
Net of Fee Value Added vs Benchmark		*0.26*	*0.69*	*0.69*	*0.63*	*0.57*	*0.18*
High Yield (Gross)	**$ 445.9**	**0.48**	**7.04**	**7.04**	**6.30**	**5.69**	**7.49**
High Yield (Net)		**0.36**	**6.55**	**6.55**	**5.79**	**5.19**	**6.98**
Custom Benchmark [1]		0.51	7.01	7.01	5.97	5.35	7.58
Net of Fee Value Added vs Benchmark		*-0.15*	*-0.46*	*-0.46*	*-0.18*	*-0.16*	*-0.60*
Bloomberg Aggregate		0.39	3.54	3.54	2.24	2.10	4.01
Citigroup High Yield Cash Pay		0.51	7.01	7.01	5.97	5.35	7.58
BofA ML High Yield Master II		0.41	7.47	7.47	6.38	5.80	7.88

Global Fixed Income Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
Global Fixed Income								
Advantus Capital Mgmt. (Gross)	**$ 206.3**	**0.73**	**4.92**	**4.92**	**3.59**	**3.32**	**4.98**	**Apr-07**
Advantus Capital Mgmt. (Net)		**0.68**	**4.74**	**4.74**	**3.41**	**3.15**	**4.81**	**Apr-07**
Bloomberg Aggregate + 0.5%		0.51	4.04	4.04	2.74	2.60	4.88	Apr-07
Net of Fee Value Added vs Objective		*0.17*	*0.70*	*0.70*	*0.67*	*0.55*	*-0.07*	
Bloomberg Aggregate		0.39	3.54	3.54	2.24	2.10	4.38	Apr-07
Net of Fee Value Added vs Benchmark		*0.29*	*1.20*	*1.20*	*1.17*	*1.05*	*0.43*	
Information Ratio				**4.95**	**2.39**	**2.18**		
Sharpe Ratio				**2.69**	**1.11**	**1.03**		
Aberdeen (Gross)	**$ 207.3**	**0.63**	**4.19**	**4.19**	**2.70**	**2.36**	**5.10**	**Apr-07**
Aberdeen (Net)		**0.57**	**3.95**	**3.95**	**2.50**	**2.19**	**4.89**	**Apr-07**
Bloomberg Aggregate + 0.5%		0.51	4.04	4.04	2.74	2.60	4.71	Apr-07
Net of Fee Value Added vs Objective		*0.06*	*-0.09*	*-0.09*	*-0.24*	*-0.41*	*0.18*	
Bloomberg Aggregate		0.39	3.54	3.54	2.24	2.10	4.21	Apr-07
Net of Fee Value Added vs Benchmark		*0.18*	*0.41*	*0.41*	*0.26*	*0.09*	*0.68*	
Information Ratio				**1.96**	**0.32**	**0.11**		
Sharpe Ratio				**2.20**	**0.74**	**0.64**		

[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)	**$ 68.6**	**0.89**	**3.83**	**3.83**	**2.63**	**-.-**	**3.72**	**Oct-13**
Garcia Hamilton (Net)		**0.82**	**3.56**	**3.56**	**2.37**	**-.-**	**3.47**	**Oct-13**
Bloomberg Aggregate + 0.5%		0.51	4.04	4.04	2.74	-.-	3.30	Oct-13
Net of Fee Value Added vs Objective		*0.31*	*-0.48*	*-0.48*	*-0.37*		*0.17*	
Bloomberg Aggregate		0.39	3.54	3.54	2.24	-.-	2.80	Oct-13
Net of Fee Value Added vs Benchmark		*0.43*	*0.02*	*0.02*	*0.13*		*0.67*	
Information Ratio				**0.03**	**0.11**	**-.-**		
Sharpe Ratio				**1.97**	**0.63**	**-.-**		

- The Fund's global fixed income segment returned 0.65% (net of fees) during the fourth quarter of 2017, outperforming the Bloomberg Aggregate Bond Index, which returned 0.39%. The segment is comprised of three actively managed strategies: (1) Advantus Capital Management, (2) Aberdeen Asset Management, and (3) Garcia Hamilton. During the period, all three of the portfolios managed to outperform the Bloomberg Aggregate Index. Advantus 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- and five- and ten-year periods.

Advantus Capital Management (Core Fixed Income)

- Advantus Capital manages one of the Fund's three global fixed income portfolios. During the fourth quarter, the Advantus portfolio returned 0.68% (net of fees), outperforming its benchmark (Bloomberg Aggregate) which returned 0.39% for the quarter. The Advantus portfolio has a persistent and long-standing underweight allocation to government/agency securities (including Treasuries), which most recently made up less than 20% of the portfolio compared to 37% for the benchmark. During the quarter U.S. Treasury securities gained 0.05% (as measured by the Bloomberg U.S. Treasury Index), while the Corporate segment was able to manage higher advance (as measured by the Bloomberg Corporate Index which returned 1.17%) during the period. With Treasury securities across all maturity buckets lagging the broader core fixed income market space, the portfolio's tactical underweight exposure here proved beneficial. Additionally, the portfolio had a slightly lower weighted-average credit quality (rating of A for the portfolio vs. AA for the benchmark). In the current market environment, investors continued to seek out opportunities to increase the yield of their fixed income portfolios. One way to do this is by moving down the quality spectrum, incrementally further away from the safest investment-grade securities. This has in turn increased the demand among this segment of the bond market, pushing prices higher and producing higher overall returns for investors. In the investment-grade corporate space A-rated issues returned 1.15% for the period versus a 0.70% return for AA corporate issues. The portfolio also had a higher exposure to long-dated bonds (those maturing in twenty-years or more) which comprised 24% of the portfolio versus 13% of the benchmark. The Advantus portfolio is currently outperforming against its benchmark over the one-, three- and five-year periods as well as since inception (+43 bps) (06/07).

Fixed Income Overview (Continued)

Aberdeen (Core Fixed Income)

- Aberdeen (formerly Artio Global Investors) manages another of the Fund's global fixed income portfolios. During the fourth quarter the Aberdeen portfolio returned 0.57% (net of fees), outperforming its benchmark the Bloomberg Aggregate Index which returned 0.39% during the period. The strategy's investments in its core U.S. market segment comprised roughly two-thirds of the relative outperformance for the quarter. Security selection was the primary contributor to the outperformance, with the bulk of the alpha emanating from investment-grade corporate credits, augmented by taxable municipal bonds and Treasury Inflation-Protected Securities (TIPS). The strategy's holdings in mortgage-backed securities (MBS) detracted marginally from performance for the quarter. Sector allocation decisions benefited the strategy's performance, led by underweight allocations to U.S. Treasuries relative to the benchmark. An overweight allocation to commercial mortgage-backed securities (CMBS), an underweight to agency MBS and an overweight to non-agency MBS also bolstered the strategy's performance. Conversely, the strategy's overweight position in asset-backed securities (ABS) was a detractor despite the sector's strong performance relative to the yield curve. The Aberdeen portfolio is outperforming against its benchmark over the one-, three- and five-year periods, as well as since inception (+68 bps) (06/07).

Garcia Hamilton (Core Fixed Income)

- Garcia Hamilton is the Fund's third global fixed income manager. During the fourth quarter, the portfolio returned 0.82% (net of fees), outperforming its benchmark index (Bloomberg Aggregate Index) which returned 0.39%. 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. At the end of the quarter these holdings comprised 53% of the portfolio compared to 41% for the benchmark. This sector allocation variance had a modestly negative impact on the overall portfolio, as U.S. Treasury securities generally lagged the rest of the core fixed income market space, specifically the corporate sector. For the past several periods the portfolio has maintained a shorter duration than the benchmark and a "barbell" yield curve positioning. This positioning has benefitted as rates have risen and the yield curve flattened. The credit quality of the portfolio (AA) closely matched that of the Bloomberg Aggregate Index (also AA), such that this was not a meaningful source of added or detracted value although lower quality issues have largely outperformed their higher rated counterparts over the course of the past two years. The Garcia Hamilton portfolio is currently outperforming against its benchmark over the one-year and three-year periods as well as since inception (+67 bps) (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)	**$ 222.6**	**0.24**	**6.74**	**6.74**	**5.82**	**5.27**	**7.47**	**Dec-96**
Oaktree Capital Management (Net)		**0.12**	**6.22**	**6.22**	**5.24**	**4.74**	**6.96**	**Dec-96**
Performance Objective		0.76	8.01	8.01	6.97	6.35	8.06	Dec-96
Net of Fee Value Added vs Objective		*-0.64*	*-1.79*	*-1.79*	*-1.73*	*-1.61*	*-1.10*	
Custom Benchmark		0.51	7.01	7.01	5.97	5.35	7.06	Dec-96
Net of Fee Value Added vs Benchmark		*-0.39*	*-0.79*	*-0.79*	*-0.73*	*-0.61*	*-0.10*	
Information Ratio				**-0.94**	**-0.87**	**-0.77**		
Sharpe Ratio				**2.28**	**0.86**	**0.85**		
BlackRock High Yield (Gross)	**$ 223.4**	**0.72**	**7.35**	**7.35**	**6.00**	**5.64**	**7.14**	**Sep-06**
BlackRock High Yield (Net)		**0.61**	**6.88**	**6.88**	**5.53**	**5.15**	**6.66**	**Sep-06**
Citigroup High Yield Cash Pay + 1%		0.76	8.01	8.01	6.97	6.35	8.29	Sep-06
Net of Fee Value Added vs Objective		*-0.15*	*-1.13*	*-1.13*	*-1.44*	*-1.20*	*-1.63*	
Citigroup High Yield Cash Pay		0.51	7.01	7.01	5.97	5.35	7.29	Sep-06
Net of Fee Value Added vs Benchmark		*0.10*	*-0.13*	*-0.13*	*-0.44*	*-0.20*	*-0.63*	
Information Ratio				**-0.36**	**-0.20**	**-0.11**		
Sharpe Ratio				**3.16**	**1.04**	**1.03**		
Credit Opportunities								
Neuberger Berman (Gross)	**$ 91.8**	**1.46**	**10.00**	**10.00**	**-.-**	**-.-**	**10.81**	**Jan-16**
Neuberger Berman (Net)		**1.35**	**9.73**	**9.73**	**-.-**	**-.-**	**10.59**	**Jan-16**
Custom Benchmark + 1%		1.15	8.26	8.26	-.-	-.-	11.82	Jan-16
Net of Fee Value Added vs Objective		*0.20*	*1.47*	*1.47*			*-1.23*	
Custom Benchmark		0.90	7.26	7.26	-.-	-.-	10.82	Jan-16
Net of Fee Value Added vs Benchmark		*0.45*	*2.47*	*2.47*			*-0.23*	
Information Ratio				**2.19**	**-.-**	**-.-**		
Sharpe Ratio				**4.03**	**-.-**	**-.-**		

- The high yield composite returned 0.36% (net of fees) during the fourth quarter, underperforming against the Citigroup High Yield Cash Pay Index which returned 0.51%. The composite is currently split equally between the two actively-managed strategies. In a period that high yield issues continued to melt higher, the Fund's BlackRock exposure managed to outpace the benchmark while the Oaktree portfolio trailed the benchmark modestly. 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 0.12% (net of fees) during the fourth quarter, underperforming its benchmark (Citigroup High Yield Cash Pay) which returned 0.51%. The portfolio is currently positioned with an overweight allocation to the utilities sector along with an underweight allocation to industrials (70% vs. 88% in the benchmark). This mismatch was detractive as industrial issues performed well into year-end while utilities issues generally

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

Fixed Income Overview (Continued)

lagged the overall high yield market. A lower weighted-average credit quality (B) relative to the benchmark index (BB) had a minimal impact on performance during the period as lower rated high yield issues performed similarly to their higher rated counterparts (the CCC-rated component of the Citigroup High Yield index returned 0.67% while the BB-rated component returned 0.64%). The portfolio is currently positioned with a slightly lower current yield, suggesting that the price performance of its bond holdings has been mildly more resilient to downwards pressures that the benchmark. Additionally, the portfolio maintains a slightly higher effective duration of its portfolio relative to the benchmark, as it has over the last couple of years; this indicates that the portfolio has greater price sensitivity to changes in interest rates. Given the prevailing low level or rates, it stands to reason that they are bound to head higher over some indeterminate period going forward. The Oaktree portfolio is currently underperforming over the one-, three- and five-year periods, as well as since inception (-10 bps) (03/97).

BlackRock (High Yield Fixed Income)

- BlackRock manages the Fund's other high yield fixed income portfolio. During the fourth quarter, the BlackRock portfolio returned 0.61%, outperforming its benchmark (Citigroup High Yield Cash Pay) which returned 0.51%. The portfolio outperformed the benchmark during the period as a result of favorable individual sector/issue selection along with favorable positioning in anticipation of interest rates. A lower weighted-average credit quality (B) relative to the benchmark index (BB) had a minimal impact on performance during the period as lower rated high yield issues performed similarly to their higher rated counterparts (the CCC-rated component of the Citigroup High Yield index returned 0.67% while the BB-rated component returned 0.64%). An underweight exposure to industrial sector bonds was slightly detractive but strong individual issue selection within this sector outweighed the negative effect of this strategic underweighting. The portfolio is exhibiting a slightly lower 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 January 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 1.35% 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 0.90%. Performance during the period was led by the portfolios CLO and non-agency securities which continued to post positive gains into year end. The most notable detractors during the period included the portfolio's local currency emerging market securities and loan issues. As of quarter end, the portfolio maintains a notable overweight to the U.S. market with underweight positions in Asia and the Middle East. 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 underperforming its custom benchmark since its inception (-23 bps) (01/16).

Private Equity Overview

Private Equity Composite

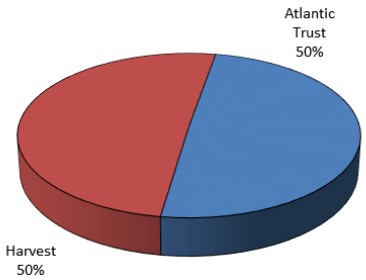
	Total Commitment	Cumulative Capital Called		Cumulative Distributions	Capital Balance	Multiple	Calculated IRR
Hamilton Lane Fund VII LP (Series A)	30,000,000	25,297,247	84.3%	15,551,488	21,343,199	1.46	10.6%
Hamilton Lane Fund VII LP (Series B)	20,000,000	17,695,467	88.5%	6,424,192	12,491,788	1.07	1.9%
Hamilton Lane Fund VII LP (Total)	*50,000,000*	*42,992,714*	86.0%	*21,975,680*	*33,834,987*	1.30	7.2%
Hamilton Lane Secondary Fund II LP	25,000,000	22,820,158	91.3%	25,931,924	2,719,367	1.26	9.3%
Hamilton Lane Secondary Fund III LP	30,000,000	17,762,479	59.2%	14,106,878	15,916,781	1.69	27.1%
Hamilton Lane Secondary Fund IV LP	30,000,000	4,247,418	14.2%	204,691	5,554,300	1.36	-
Hamilton Lane Fund VIII LP (Global)	30,000,000	16,078,923	53.6%	2,568,375	19,653,702	1.38	13.0%
GCM Grosvenor - Partnership, L.P.	75,000,000	73,623,289	98.2%	58,266,402	50,775,346	1.48	14.7%
GCM Grosvenor - Partnership II, L.P. (2014)	60,000,000	46,644,131	77.7%	9,503,119	39,731,452	1.06	5.7%
GCM Grosvenor - Partnership II, L.P. (2015)	20,000,000	14,856,938	74.3%	167,191	15,385,828	1.05	6.1%
Fairview Capital III	40,000,000	12,572,289	31.4%	-	12,771,259	1.02	1.5%
Total Private Equity Program	**360,000,000**	**251,598,339**	**69.9%**	**132,724,260**	**215,723,777**	**1.38**	**12.8%**

- 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.

** Total Private Equity capital balance includes cash reserves*

MLP Overview

MLP Structure



MLP Composite

	Assets (Millions)	Performance QTR	YTD	1-year	3-year	5-year	10-year
Total MLPs (Gross)	**$ 267.9**	**-0.17**	**-5.91**	**-5.91**	**-7.35**	**5.47**	**-.-**
Total MLPs (Net)		**-0.34**	**-6.51**	**-6.51**	**-7.94**	**4.79**	**-.-**
Alerian MLP Index		-0.95	-6.52	-6.52	-9.33	-0.06	-.-
Net of Fee Value Added vs Index		*0.61*	*0.01*	*0.01*	*1.39*	*4.85*	
Alerian MLP Index		-0.95	-6.52	-6.52	-9.33	-0.06	6.04
S&P MLP Index		-0.29	-5.58	-5.58	-9.24	0.87	6.26
Bloomberg Commodities Index		4.71	1.70	1.70	-5.03	-8.45	-6.83

Managers

	Assets (Millions)	Performance (%) QTR	YTD	1-year	3-year	5-year	Since Inception	Inception Date
MLPs								
Harvest Fund Advisors (Gross)	**$ 132.9**	**-0.16**	**-4.89**	**-4.89**	**-7.62**	**5.01**	**6.10**	
Harvest Fund Advisors (Net)		**-0.35**	**-5.60**	**-5.60**	**-8.28**	**4.28**	**5.38**	**Dec-11**
Alerian MLP Index + 1.5%		-0.58	-5.02	-5.02	-7.83	1.44	2.23	Dec-11
Net of Fee Value Added vs Objective		*0.23*	*-0.58*	*-0.58*	*-0.45*	*2.84*	*3.15*	
Alerian MLP Index		-0.95	-6.52	-6.52	-9.33	-0.06	0.73	Dec-11
Net of Fee Value Added vs Benchmark		*0.60*	*0.92*	*0.92*	*1.05*	*4.34*	*4.65*	
Information Ratio				**0.42**	**0.31**	**1.01**		
Sharpe Ratio				**-0.59**	**-0.44**	**0.23**		
Atlantic Trust CIBC (Gross)	**$ 135.0**	**-0.19**	**-6.88**	**-6.88**	**-7.09**	**5.17**	**7.23**	
Atlantic Trust CIBC (Net)		**-0.33**	**-7.39**	**-7.39**	**-7.59**	**4.59**	**6.65**	**Dec-11**
Alerian MLP Index + 1.5%		-0.58	-5.02	-5.02	-7.83	1.44	2.23	Dec-11
Net of Fee Value Added vs Objective		*0.25*	*-2.37*	*-2.37*	*0.24*	*3.15*	*4.42*	
Alerian MLP Index		-0.95	-6.52	-6.52	-9.33	-0.06	0.73	Dec-11
Net of Fee Value Added vs Benchmark		*0.62*	*-0.87*	*-0.87*	*1.74*	*4.65*	*5.92*	
Information Ratio				**-0.30**	**0.43**	**1.09**		
Sharpe Ratio				**-0.71**	**-0.38**	**0.23**		

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. Inflation linked assets struggled overall, particularly relative to robust equity markets as 2017 served as a painful reminder of the cyclicality of the energy market. The performance of midstream master limited partnerships declined for the period despite strong performance in the final month of the year. Amidst the continued volatility in the space, both of the MLP strategies were able to outpace the benchmark in the during the quarter. 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)

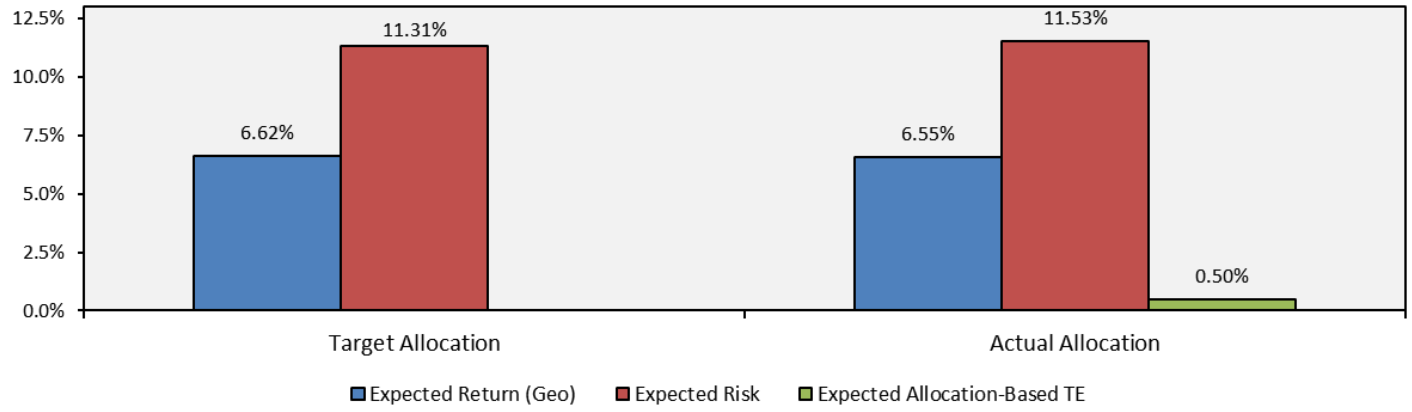
- Harvest Fund Advisors manages one of the Fund's two MLP portfolios. During the fourth quarter the Harvest portfolio returned -0.35% (net of fees), outperforming its benchmark (Alerian MLP Index) which returned -0.95%. Since the Harvest portfolio typically has approximately anywhere from 96% to 100% 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 Q4. 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 (+465 bps) (12/11)

Atlantic Trust (MLPs)

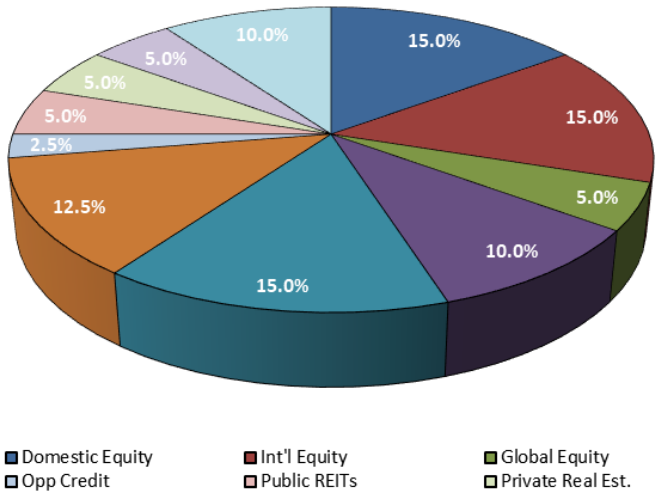
- Atlantic Trust CIBC (formerly Invesco) manages the Fund's other MLP portfolio. During the fourth quarter, the Atlantic Trust portfolio returned -0.33% (net of fees), outpacing its benchmark (Alerian MLP Index) which returned -0.95%. It is important to note that the Atlantic Trust portfolio (containing 32 stocks) is more concentrated than the Harvest portfolio (44 stocks) as well as the benchmark (63 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 -0.35% loss for the period outperforming the respective benchmark holdings which returned -1.04%. This was driven at least in part by the fact that many of the portfolio's larger holdings were among its best performers during the period. Most notably, Enterprise Prods. Partners, the portfolio's largest single holding, delivered strong returns in what was a muted period for MLP stocks in general. 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 lower dividend growth over the five-year period relative to the benchmark. The Atlantic Trust MLP portfolio is outperforming against its benchmark for the three- and five-year periods as well as since inception (+592) (12/11)

Appendix: Risk Analysis

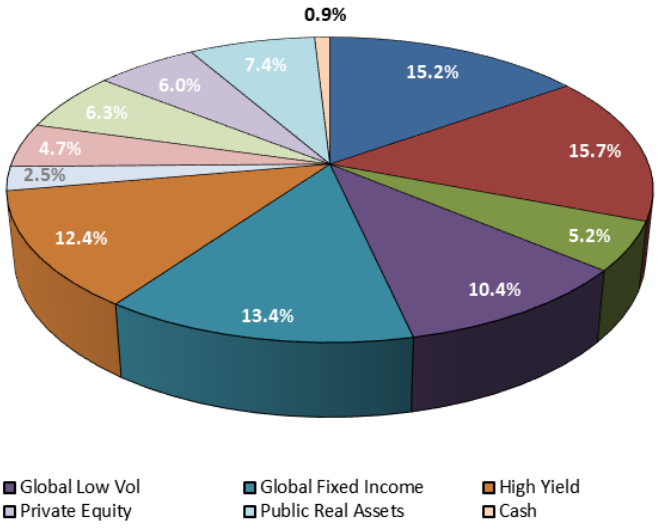
Expected Return and Risk



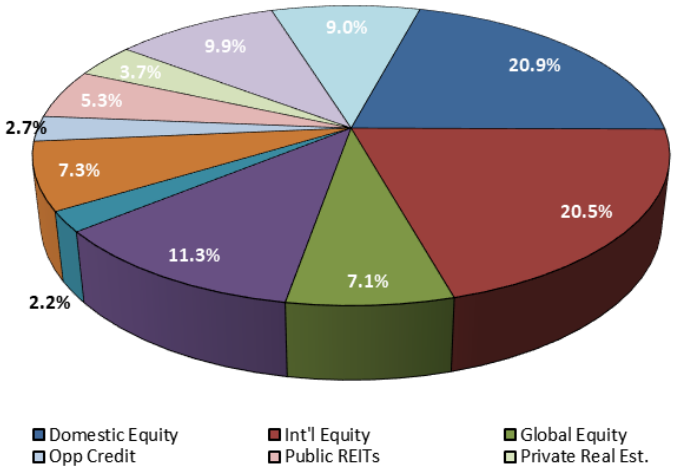
Target Asset Allocation



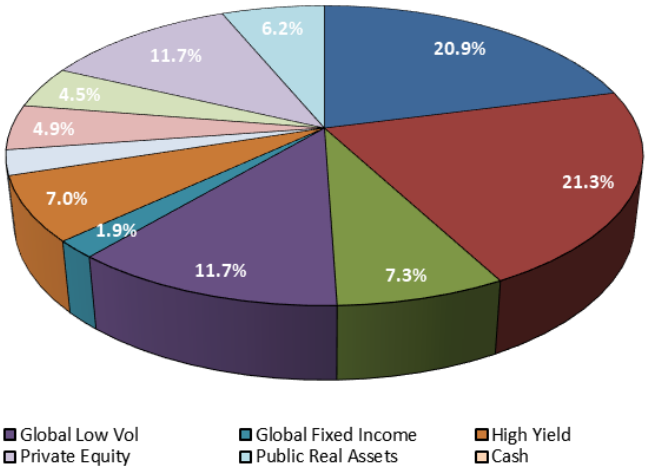
Actual Asset Allocation



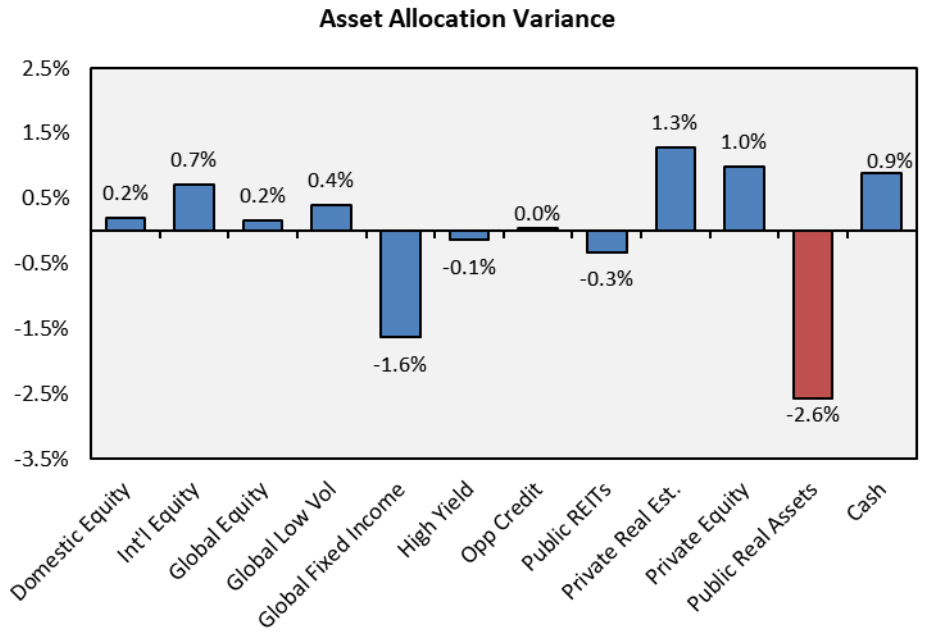
Contribution to Total Risk - Target Allocation

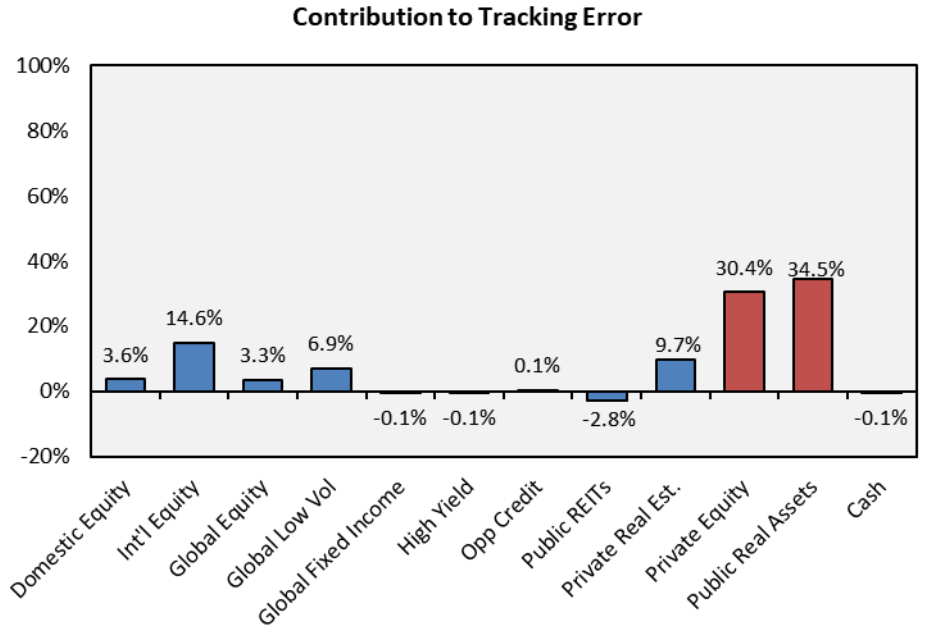


Contribution to Total Risk - Actual Allocation



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 0.50% (for the one-year period) at quarter-end. The Fund's public real assets segment was the largest contributor to the overall tracking error. This is largely attributable to the fact that the public real assets composite currently sits around 2.6% underweight to its target allocation. The private equity and international equity 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	4.04	10.31	9.62	15.15
Standard Deviation (Index)	3.94	10.07	9.49	15.08
Sharpe Ratio	5.69	1.15	1.66	0.57
Sharpe Ratio (Index)	5.29	1.09	1.63	0.54
Excess Risk	1.17	1.25	1.11	1.14
Information Ratio	1.54	0.64	0.34	0.40

Systematic (Small Core)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	8.07	12.86	13.01	20.30
Standard Deviation (Index)	7.76	14.11	13.91	19.90
Sharpe Ratio	2.91	1.19	1.37	0.55
Sharpe Ratio (Index)	1.76	0.67	0.99	0.42
Excess Risk	3.82	3.84	3.58	3.89
Information Ratio	2.25	1.38	0.98	0.69

Channing Capital (Small Value)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	8.24	*15.53*	*n/a*	*n/a*
Standard Deviation (Index)	9.68	*14.17*	*n/a*	*n/a*
Sharpe Ratio	0.67	*0.55*	*n/a*	*n/a*
Sharpe Ratio (Index)	0.72	*0.64*	*n/a*	*n/a*
Excess Risk	4.22	*4.13*	*n/a*	*n/a*
Information Ratio	-0.32	*-0.13*	*n/a*	*n/a*

Non-U.S. Equity				
Acadian (Int'l Small Cap)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	4.31	11.72	11.94	20.50
Standard Deviation (Index)	3.49	11.69	11.37	19.53
Sharpe Ratio	8.62	1.26	1.03	0.36
Sharpe Ratio (Index)	8.75	0.98	0.86	0.22
Excess Risk	2.95	3.19	3.49	3.62
Information Ratio	1.72	0.92	0.67	0.83

AQR (Int'l Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	4.43	11.05	10.97	19.18
Standard Deviation (Index)	3.88	12.03	11.50	18.37
Sharpe Ratio	6.28	0.85	0.80	0.13
Sharpe Ratio (Index)	6.74	0.61	0.57	0.06
Excess Risk	1.46	2.14	2.20	2.52
Information Ratio	0.90	0.88	0.96	0.58

Baring (Int'l Enhanced Index)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	3.66	12.12	11.47	18.97
Standard Deviation (Index)	3.88	12.03	11.50	18.94
Sharpe Ratio	7.09	0.59	0.59	0.08
Sharpe Ratio (Index)	6.74	0.61	0.57	0.08
Excess Risk	0.54	1.40	1.54	1.65
Information Ratio	-0.30	-0.14	0.12	0.03

Global Equity				
Wellington (Global Equity)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	4.19	11.18	*10.72*	*n/a*
Standard Deviation (Index)	2.84	10.51	*9.93*	*n/a*
Sharpe Ratio	5.64	0.83	*1.23*	*n/a*
Sharpe Ratio (Index)	8.07	0.84	*1.06*	*n/a*
Excess Risk	2.69	3.00	*3.28*	*n/a*
Information Ratio	0.22	0.15	*0.75*	*n/a*

Acadian (Global Low Volatility)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	3.60	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	3.96	*n/a*	*n/a*	*n/a*
Sharpe Ratio	5.41	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	4.28	*n/a*	*n/a*	*n/a*
Excess Risk	3.01	*n/a*	*n/a*	*n/a*
Information Ratio	0.72	*n/a*	*n/a*	*n/a*

Redwood Investments	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	8.31	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	5.97	*n/a*	*n/a*	*n/a*
Sharpe Ratio	2.00	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	3.54	*n/a*	*n/a*	*n/a*
Excess Risk	5.03	*n/a*	*n/a*	*n/a*
Information Ratio	-0.75	*n/a*	*n/a*	*n/a*

Fixed Income (Core)				
Advantus Capital (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	1.43	2.69	2.80	*3.26*
Standard Deviation (Index)	1.52	2.81	2.85	*3.24*
Sharpe Ratio	2.69	1.11	1.03	*1.31*
Sharpe Ratio (Index)	1.75	0.65	0.64	*1.11*
Excess Risk	0.23	0.48	0.47	*1.74*
Information Ratio	4.95	2.39	2.18	*0.36*

Aberdeen (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	1.39	2.83	3.02	3.74
Standard Deviation (Index)	1.52	2.81	2.85	3.24
Sharpe Ratio	2.20	0.74	0.64	1.12
Sharpe Ratio (Index)	1.75	0.65	0.64	1.11
Excess Risk	0.20	0.79	0.83	1.42
Information Ratio	1.96	0.32	0.11	0.41

Garcia Hamilton (Core Fixed Income)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	1.36	*3.10*	*n/a*	*n/a*
Standard Deviation (Index)	1.52	*2.81*	*n/a*	*n/a*
Sharpe Ratio	1.97	*0.63*	*n/a*	*n/a*
Sharpe Ratio (Index)	1.75	*0.65*	*n/a*	*n/a*
Excess Risk	0.80	*1.11*	*n/a*	*n/a*
Information Ratio	0.03	*0.11*	*n/a*	*n/a*

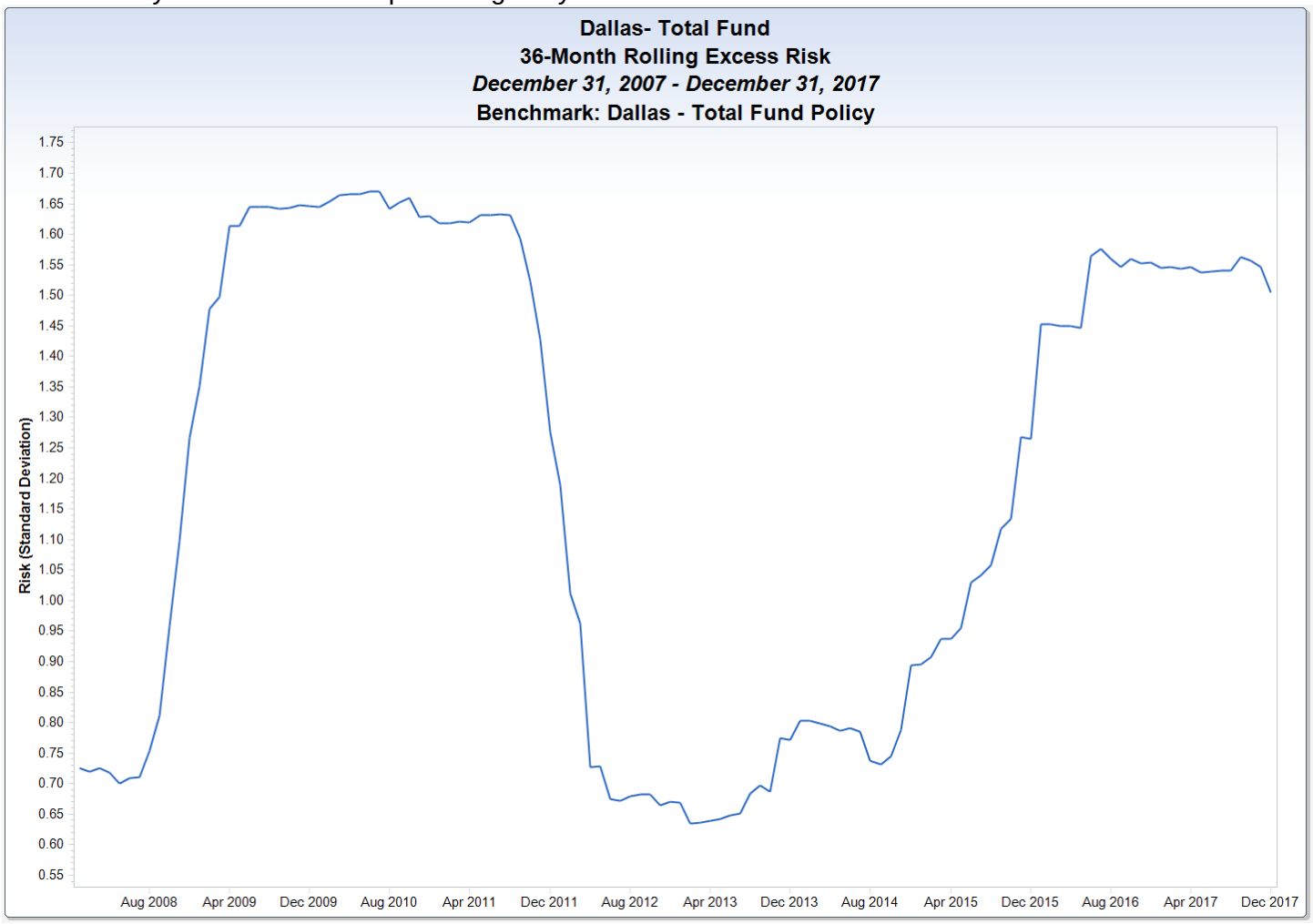
High Yield Fixed Income				
BlackRock (High Yield)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	1.89	4.88	4.74	8.55
Standard Deviation (Index)	2.08	5.95	5.44	*10.41*
Sharpe Ratio	3.16	1.04	1.03	0.75
Sharpe Ratio (Index)	2.94	0.93	0.93	0.69
Excess Risk	0.34	2.13	1.68	2.87
Information Ratio	-0.36	-0.20	-0.11	-0.25

Oaktree (High Yield)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.34	5.57	5.28	8.86
Standard Deviation (Index)	2.08	5.95	5.44	*10.41*
Sharpe Ratio	2.28	0.86	0.85	0.74
Sharpe Ratio (Index)	2.94	0.93	0.93	0.69
Excess Risk	0.79	0.79	0.76	2.72
Information Ratio	-0.94	-0.87	-0.77	-0.21

Master Limited Partnerships				
Harvest (MLP)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	10.91	19.57	*17.70*	*n/a*
Standard Deviation (Index)	11.11	19.33	*17.70*	*n/a*
Sharpe Ratio	-0.59	-0.44	*0.23*	*n/a*
Sharpe Ratio (Index)	-0.66	-0.50	*-0.02*	*n/a*
Excess Risk	2.33	3.76	*4.28*	*n/a*
Information Ratio	0.42	0.31	*1.01*	*n/a*

Atlantic Trust CIBC (MLP)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	11.55	20.82	18.38	*n/a*
Standard Deviation (Index)	11.11	19.33	*17.70*	*n/a*
Sharpe Ratio	-0.71	-0.38	0.23	*n/a*
Sharpe Ratio (Index)	-0.66	-0.50	-0.02	*n/a*
Excess Risk	3.10	4.44	4.29	*n/a*
Information Ratio	-0.30	0.43	1.09	*n/a*

Real Estate Investment Trusts				
Adelante (REIT)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	5.47	12.70	12.84	24.33
Standard Deviation (Index)	5.68	13.25	13.56	25.80
Sharpe Ratio	1.16	0.36	0.73	0.25
Sharpe Ratio (Index)	0.70	0.40	0.69	0.27
Excess Risk	1.20	1.86	1.81	3.09
Information Ratio	1.91	-0.36	-0.04	-0.29

Neuberger Berman (Credit Opps)	1 Yr	3 Yr	5 Yr	10 Yr
Standard Deviation	2.18	*n/a*	*n/a*	*n/a*
Standard Deviation (Index)	1.56	*n/a*	*n/a*	*n/a*
Sharpe Ratio	4.03	*n/a*	*n/a*	*n/a*
Sharpe Ratio (Index)	4.07	*n/a*	*n/a*	*n/a*
Excess Risk	1.05	*n/a*	*n/a*	*n/a*
Information Ratio	2.19	*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: