



OKLAHOMA TEACHERS

RETIREMENT SYSTEM

BOARD OF TRUSTEES
Investment Committee
MEETING

March 22, 2016

MEETING DOCUMENTS

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TEACHERS' RETIREMENT SYSTEM OF OKLAHOMA
Investment Committee Meeting
Tuesday, March 22, 2016 – 3:00 PM
TRS Administration Board Room
2500 N. Lincoln Blvd., 5th Floor, Oklahoma City, OK

AGENDA

- 1. CALL TO ORDER**
- 2. DISCUSSION AND POSSIBLE ACTION ON INVESTMENT CONSULTANT MONTHLY REPORT**
- 3. DISCUSSION AND POSSIBLE ACTION ON QUARTERLY REAL ESTATE REPORT**
- 4. DISCUSSION AND POSSIBLE ACTION ON MANAGER STATUS REPORT** *The Investment Committee may recommend through motion to the Board of Trustees to make any changes to the status of any manager (on watch, alert, remove them from that status, or terminate (and select transition manager and reallocate funds if necessary)) based on the information available at the meeting.*
- 5. DISCUSSION AND ACTION ON INTERNATIONAL EQUITY MANAGER SELECTION INCLUDING:**
 - A. Selection of International Equity Managers**
 - B. Negotiations of Contracts**
 - C. Structure Options**
 - D. Transition Manager**
- 6. DISCUSSION ON REAL ESTATE BROKERAGE SERVICES RFP**
- 7. PRESENTATION BY WELLINGTON MIDCAP PORTFOLIO MANAGEMENT**
- 8. DISCUSSION AND POSSIBLE ACTION ON AMENDMENT TO WELLINGTON INVESTMENT MANAGEMENT AGREEMENT**
- 9. DISCUSSION AND POSSIBLE ACTION TO ADOPT AMENDMENTS TO INVESTMENT POLICY STATEMENT**
- 10. DISCUSSION ON CHIEF INVESTMENT OFFICER REPORT**
- 11. QUESTIONS AND COMMENTS FROM TRUSTEES**
- 12. ADJOURNMENT**

ALL BOARD MEMBERS ARE ENCOURAGED TO ATTEND INVESTMENT COMMITTEE MEETINGS

INVESTMENT COMMITTEE:

Chair: Vernon Florence

Members: Bill Peacher, Roger Gaddis, Jill Geiger, Gary Trennepohl

Market Overview (Domestic Equity vs. Domestic Fixed)

- For the month, large cap domestic equities underperformed domestic fixed income with the Russell 1000 Index returning -0.03% versus 0.71% for the Barclays Aggregate Index.
- For the year, the Russell 1000 Index is trailing the Barclays Aggregate Index with a return of -5.41% vs. 2.10%, respectively.

Broad Equity Market Overview

- Small cap domestic equities were the best equity performers for the month with the Russell 2000 Index returning 0.00%.
- Large cap domestic equities underperformed small cap domestic equities for the month (by -0.03%) with the Russell 1000 Index returning -0.03%.
- For the month, international equities underperformed both small cap domestic equities (by -1.14%) and large cap domestic equities (by -1.11%) with the ACWI ex USA Index returning -1.14%.
- On a year-to-date basis, large cap domestic equities are the best performing equity asset class with the Russell 1000 returning -5.41%.
- International equities are trailing large cap domestic equities for the year (by -2.45%) with the ACWI ex USA Index returning -7.87%.
- For the year, small cap domestic equities are trailing both large cap domestic equities (by -3.38%) and international equities (by -0.93%) with the Russell 2000 Index returning -8.80%.

Broad Fixed Market Overview

- For the month, global fixed ex US securities outperformed domestic fixed securities, with the Global Agg ex US returning 3.49%.
- Domestic fixed trailed global fixed ex US (by -2.78%) for the month with the BC Agg returning 0.71%.
- For the year, global fixed ex US securities are outperforming domestic fixed securities with the Global Agg ex US returning 4.00%.
- Year-to-date, domestic fixed securities are trailing global fixed ex US securities by -1.91% with the BC Agg returning 2.10%.

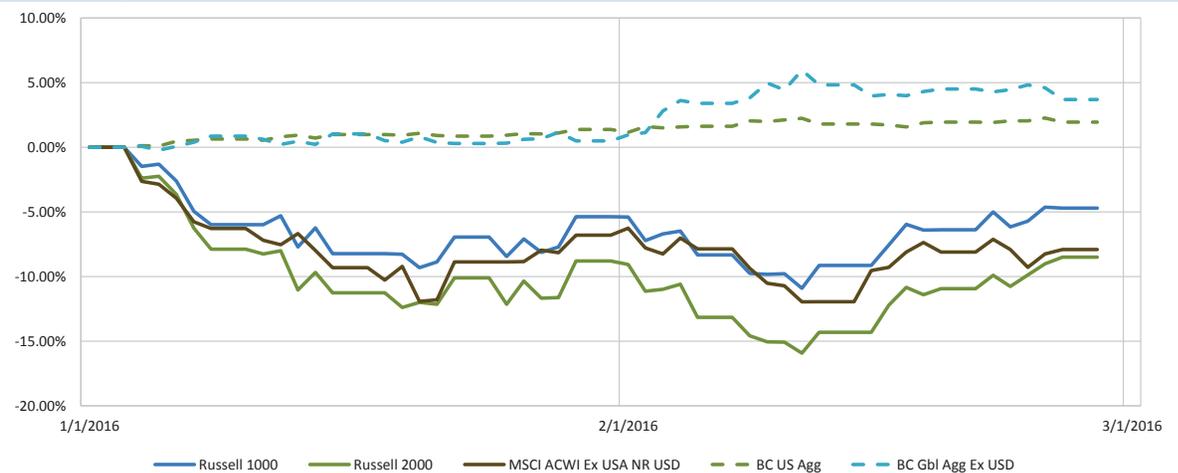
Equity Sector Performance For The Month

- The top three performing sectors for large cap domestic equities were: Materials (return 6.90%), Industrials (return 3.94%) and Telecommunication Services (return 2.34%)
- The bottom three performing sectors for large cap domestic equities were: Financials (return -2.63%), Energy (return -2.19%) and Information Technology (return -1.18%)
- The top three performing sectors for small cap domestic equities were: Telecommunication Services (return 7.02%), Materials (return 2.86%) and Consumer Discretionary (return 2.64%)
- The bottom three performing sectors for small cap domestic equities were: Energy (return -8.54%), Health Care (return -4.41%) and Financials (return -0.32%)
- The top three performing sectors for international equities were: Materials (return 6.19%), Energy (return 2.16%) and Industrials (return 0.73%)
- The bottom three performing sectors for international equities were: Financials (return -3.20%), Health Care (return -2.76%) and Utilities (return -2.37%)

Fixed Income Sector Performance For The Month

- The sector performance for domestic fixed income in order of best performing to worst was: Treasury (return 0.86%), Corporate (return 0.84%) and MBS (return 0.40%)
- The sector performance for Global ex US fixed income in order of best performing to worst was: Treasury (return 4.11%), MBS (return 1.15%) and Corporate (return 1.06%)

2016 Market Daily Index Total Return Performance



2016 Market Monthly Index Total Return Performance

	1/31/16	2/29/16	3/31/16	4/30/16	5/31/16	6/30/16	7/31/16	8/31/16	9/30/16	10/31/16	11/30/16	12/31/16	YTD
Russell 1000	-5.38%	-0.03%											-5.41%
Russell 2000	-8.79%	0.00%											-8.80%
MSCI AC World Index EX USA	-6.80%	-1.14%											-7.87%
BC Agg	1.38%	0.71%											2.10%
BC Global Agg ex USD	0.50%	3.49%											4.00%

Equity Sector Performance

	Month-To-Date			Year-To-Date		
	Russell 1000	Russell 2000	ACWI ex USA	Russell 1000	Russell 2000	ACWI ex USA
Energy	-2.19%	-8.54%	2.16%	-5.58%	-21.97%	-0.50%
Materials	6.90%	2.86%	6.19%	-3.82%	-7.00%	-3.63%
Industrials	3.94%	1.98%	0.73%	-2.36%	-5.62%	-5.35%
Consumer Discretionary	0.69%	2.64%	-2.30%	-4.79%	-3.73%	-9.57%
Consumer Staples	0.21%	2.10%	-1.92%	0.61%	-2.17%	-2.93%
Health Care	-0.44%	-4.41%	-2.76%	-8.79%	-22.90%	-9.44%
Financials	-2.63%	-0.32%	-3.20%	-10.95%	-7.19%	-13.26%
Information Technology	-1.18%	0.33%	-0.78%	-6.57%	-7.86%	-8.27%
Telecommunication Services	2.34%	7.02%	-0.01%	8.46%	3.03%	-3.25%
Utilities	1.88%	0.47%	-2.37%	6.72%	4.43%	-5.21%

Fixed Sector & Quality Performance

	Month-To-Date		Year-To-Date	
	BC Agg.	Global ex USD	BC Agg.	Global ex USD
Treasury	0.86%	4.11%	2.95%	4.84%
MBS	0.40%	1.15%	1.71%	1.27%
Corporate	0.84%	1.06%	1.36%	0.63%
Aaa	0.67%	1.93%	2.41%	2.72%
Aa	0.71%	0.97%	2.00%	1.48%
A	0.84%	7.32%	1.81%	7.83%
Baa	0.84%	0.64%	0.64%	0.84%

Manager Profile - Epoch Small Cap International



Asset Class:	International Small Cap
Status:	In Compliance
Portfolio Size:	\$186,656,844
Inception Date:	12/1/2011
Initial Funding:	\$62,000,000
Contributions:	\$73,500,000
Withdrawals:	\$0
Annual Management Fee:	First \$100 million 0.75%; Next \$100 million 0.70%; Thereafter 0.65%
Fees Paid 12 Month Trailing:	\$1,461,713
Location:	New York, New York
Structure:	Publicly Traded (ticker: EPHC)
Portfolio Management Team:	Eric Citerne, Managing Director, PM and Senior Research Analyst John Morgan, Managing Director, PM and Senior Research Analyst Michael Welhoelter, Managing Director, PM & Quantitative Research & Risk Matt Chan, Director, Senior Research Analyst Wei Huang, Director, Research Analyst
Represented by:	Tom Pernice, Managing Director, Client Relations Eric Citerne, Managing Director, PM and Senior Research Analyst

Notes:

The Epoch International Small Cap strategy pursues long-term capital appreciation by investing in growing, attractively valued non-U.S. companies with market capitalizations below \$5 billion. It offers investors access to under-researched companies with high return potential in growing segments of non-U.S. markets. The strategy aims to exploit inefficiencies in the asset class by identifying long-term investment themes and selecting individual companies using a free cash flow valuation methodology. Their bottom-up security selection and risk management process leads to a portfolio of 125-175 stocks.

Founded: 2004
AUM 12.31.2015: \$41.9 billion
Total International Small Cap AUM 12.31.2015: \$984 million

Return Profile	Since Inception	Last 5 Years	Last 3 Years	Last Year	Last Quarter	Last Month
Epoch Small Cap International	7.5	-	3.9	-5.7	-9.2	-1.3
<i>MSCI EAFE Small Cap</i>	<i>9.6</i>	<i>-</i>	<i>5.6</i>	<i>-5.1</i>	<i>-7.3</i>	<i>-0.1</i>

Risk Characteristics	Number of Holdings	Average Market Cap	Dividend Yield	P/E Ratio	P/B Ratio
Epoch Small Cap International	129	2708	2.5	17.7	1.7
<i>MSCI EAFE Small Cap</i>	<i>2195</i>	<i>2139</i>	<i>2.5</i>	<i>14.9</i>	<i>1.4</i>

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Manager Profile - Wasatch Small Cap International



Asset Class:	International Small Cap
Status:	In Compliance
Portfolio Size:	\$200,011,121
Inception Date:	12/1/2011
Initial Funding:	\$62,000,000
Contributions:	\$80,222,242
Withdrawals:	\$0
Annual Management Fee:	First \$40 million 1.00%; Next \$60 million 0.90%; Thereafter 0.80%
Fees Paid 12 Month Trailing:	\$1,735,198
Location:	Salt Lake City, Utah
Structure:	Privately Held
Portfolio Management Team:	Roger Edgley, Director of Institutional Research, Lead Portfolio Manager Ken Applegate, Portfolio Manager Linda Lasater, Associate Portfolio Manager Kabir Goyal, Associate Portfolio Manager
Represented by:	Roger Edgley, Director of Institutional Research, Lead Portfolio Manager Dustin McCarty, Vice President of Institutional Marketing

Notes:

Wasatch manages international small cap equities with a preference for growing companies. The firm uses extensive quantitative tools to identify attractive investment opportunities.

Founded: 1975
AUM: \$14.8 billion
Total International Small Cap AUM: \$2.8 billion

Return Profile	Since Inception	Last 5 Years	Last 3 Years	Last Year	Last Quarter	Last Month
Wasatch Small Cap International	13.4	-	6.1	-0.6	-6.5	-0.8
<i>MSCI EAFE Small Cap</i>	<i>9.6</i>	<i>-</i>	<i>5.6</i>	<i>-5.1</i>	<i>-7.3</i>	<i>-0.1</i>

Risk Characteristics	Number of Holdings	Average Market Cap	Dividend Yield	P/E Ratio	P/B Ratio
Wasatch Small Cap International	90	2630	1.1	34.7	7.0
<i>MSCI EAFE Small Cap</i>	<i>2195</i>	<i>2139</i>	<i>2.5</i>	<i>14.9</i>	<i>1.4</i>

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Monthly Asset Allocation Review



Asset Class	Total Market Value	Current Percentage	Target Percentage	Difference	Notes
All Cap/Large Cap	2,166,876,543	17.0%	17.0%	0.0%	Excess allocation bound for Private Equity, MLPs, International Equity, and Real Estate
Mid Cap	1,822,411,838	14.3%	13.0%	1.3%	
Small Cap	1,324,426,965	10.4%	10.0%	0.4%	
Total Domestic Equity	5,313,715,346	41.8%	40.0%	1.8%	
Large Cap International Equity	1,195,395,917	9.4%	11.5%	-2.1%	
Small Cap International Equity	769,953,531	6.1%	6.0%	0.1%	
Total International Equity	1,965,349,448	15.5%	17.5%	-2.0%	
Core Fixed Income	2,172,457,137	17.1%	17.5%	-0.4%	
High Yield Fixed Income	737,755,858	5.8%	6.0%	-0.2%	
MLPs	768,319,660	6.0%	7.0%	-1.0%	
Private Equity	631,916,499	5.0%	5.0%	0.0%	
Real Estate	911,408,186	7.2%	7.0%	0.2%	
Opportunistic Assets	160,344,497	1.3%	0.0%	1.3%	
Total Non-Core Assets	3,209,744,700	25.2%	25.0%	0.2%	
Cash	55,401,980	0.4%	0.0%	0.4%	
Composite	12,716,668,613	100.0%	100.0%	0.0%	

Total Fund + Class Composite Summary

As of February 29, 2016



	Market Value	Inception Date	Time Since Inception (Years)	Since Inception	10 Years	5 Years	3 Years	1 Year	Calendar YTD	Last Quarter	Last Month
Total Fund (Gross of Fees)	12,716,668,613	12/1/1991	24.3	8.9	6.1	6.7	5.9	-10.1	-4.5	-6.9	0.3
Total Fund (Net of Fees)				8.6	5.7	6.3	5.5	-10.4	-4.6	-7.0	0.2
<i>Allocation Index</i>				8.7	5.2	6.4	4.9	-5.7	-4.2	-6.3	-4.2
<i>Actuarial Assumption</i>				8.0	8.0	8.0	8.0	8.0	6.2	1.9	0.6
Total Domestic Equity	5,313,715,346 41.8%	4/1/1990	25.9	10.1	6.1	8.5	9.1	-12.2	-6.3	-10.0	0.3
<i>S&P 500</i>				9.2	6.4	10.1	10.8	-6.2	-5.1	-6.6	-0.1
Total All Cap Equity	462,557,571 3.6%	9/1/2006	9.5	5.8	-	7.8	8.4	-12.7	-7.4	-10.4	-1.3
<i>Russell 3000</i>				6.5	-	9.6	10.1	-7.8	-5.7	-7.6	0.0
Total Large Cap Active Equity	1,026,264,721 8.1%	1/1/1995	21.2	9.7	5.7	10.6	10.6	-10.2	-5.7	-8.4	-1.0
<i>S&P 500</i>				9.1	6.4	10.1	10.8	-6.2	-5.1	-6.6	-0.1
Total Mid Cap Equity	1,822,411,838 14.3%	11/1/1998	17.3	9.2	7.3	8.4	8.8	-14.7	-7.3	-11.7	1.2
<i>Russell Mid Cap</i>				8.6	6.9	8.9	9.1	-11.3	-5.5	-8.0	1.1
Total Small Cap Equity	1,324,426,965 10.4%	2/1/1998	18.1	8.4	5.8	6.5	9.0	-11.7	-5.3	-9.7	1.0
<i>Russell 2000</i>				6.4	4.9	6.1	5.7	-15.0	-8.8	-13.4	0.0
Total International Equity	1,965,349,448 15.5%	2/1/1998	18.1	7.8	2.8	1.7	1.7	-12.4	-9.2	-9.6	-1.5
<i>MSCI ACWI ex-US</i>				4.5	1.9	-0.9	-1.8	-17.0	-7.8	-9.5	-1.1
Large Cap International Equity	1,195,395,917 9.4%	2/1/1998	18.1	1.2	-	1.7	0.6	-15.7	-9.0	-10.2	-1.8
<i>MSCI ACWI ex-US</i>				-0.7	-	-0.9	-1.8	-17.0	-7.8	-9.5	-1.1
Small Cap International Equity	769,953,531 6.1%	12/1/2011	16.9	10.6	-	-	4.7	-6.5	-9.5	-8.5	-1.1
<i>MSCI EAFE Small Cap</i>				9.6	-	-	5.6	-5.1	-8.0	-7.3	-0.1
Core Fixed Income (ex- High Yield)	2,172,457,137 17.1%	4/1/1990	25.9	7.0	6.3	5.3	2.6	-1.4	2.2	1.2	1.0
<i>Barclays Aggregate</i>				6.4	4.7	3.6	2.2	1.5	2.1	1.8	0.7
Active Duration Fixed Income	347,768,638 2.7%	11/1/2004	11.3	8.6	8.3	12.1	7.1	2.8	8.9	8.9	3.2
<i>Barclays Aggregate</i>				4.4	4.7	3.6	2.2	1.5	2.1	1.8	0.7
Master Limited Partnerships	768,319,660 6.0%	2/28/2011	5.0	3.3	-	2.9	-5.6	-42.6	-13.5	-19.3	1.1
<i>Alerian MLP Index</i>				-2.3	-	-2.3	-11.1	-39.7	-11.5	-14.7	-0.5
High Yield Bonds	737,755,858 5.8%	2/1/2009	7.1	11.0	-	4.7	1.6	-6.1	-1.5	-4.0	0.4
<i>ML High Yield II</i>				11.5	-	3.9	0.7	-8.5	-1.1	-3.7	0.5
Core Real Estate	745,437,124 5.9%	4/1/2011	4.9	-	-	-	-	-	-	-	-
<i>NCREIF</i>				-	-	-	-	-	-	-	-
Non-Core Real Estate	165,971,062 1.3%	7/1/2014	1.7	-	-	-	-	-	-	-	-
<i>NCREIF</i>				-	-	-	-	-	-	-	-
Cash	55,401,980 0.4%	4/1/1990	25.9	-	-	-	-	-	-	-	-
<i>91 Day T-bill</i>				-	1.2	0.1	0.0	0.0	0.0	0.0	0.0

Equity Portfolios Summary

As of February 29, 2016



	Market Value	Inception Date	Time Since Inception (Years)	Since Inception	10 Years	5 Years	3 Years	1 Year	Calendar YTD	Last Quarter	Last Month
All Cap / Large Cap Domestic											
Hotchkis & Wiley Large Cap	498,224,165	4/1/1990	25.9	10.1	3.9	8.6	8.5	-16.2	-8.5	-12.9	-2.2
<i>Russell 1000 Value</i>	3.9%			9.5	5.1	8.8	8.3	-9.4	-5.2	-7.2	0.0
Sawgrass	528,040,556	7/1/2006	9.7	8.1	-	12.5	12.7	-3.8	-2.9	-3.8	0.1
<i>Russell 1000 Growth</i>	4.2%			8.3	-	10.9	12.5	-5.1	-5.6	-7.0	0.0
ARI All Cap - terminated	410,617	9/1/2006	9.5	-	-	-	-	-	-	-	-
<i>Russell 3000</i>	0.0%			6.5	-	9.6	10.1	-7.8	-5.7	-7.6	0.0
EPOCH All Cap	462,146,954	9/1/2006	9.5	6.8	-	8.7	10.5	-11.7	-7.5	-10.3	-0.4
<i>Russell 3000</i>	3.6%			6.5	-	9.6	10.1	-7.8	-5.7	-7.6	0.0
Passive Domestic Equity											
NT Cap Weighted Passive	484,929,024	4/1/2012	3.9	11.2	-	-	10.9	-5.8	-5.1	-6.6	-0.1
<i>S&P 500 Cap Weighted</i>	3.8%			10.8	-	-	10.8	-6.2	-5.1	-6.6	-0.1
SSGA Eq Weighted Passive	193,125,228	4/1/2012	3.9	11.5	-	-	10.3	-9.4	-4.5	-6.7	1.1
<i>S&P 500 Equal Weighted</i>	1.5%			11.3	-	-	10.5	-9.1	-4.5	-6.8	1.1
Mid Cap Domestic Equity											
Frontier Capital	469,533,450	6/1/2002	13.8	9.4	8.8	9.0	10.0	-10.2	-7.7	-10.5	-0.1
<i>Russell Mid Cap Growth</i>	3.7%			8.5	7.0	8.8	9.9	-10.8	-6.1	-8.2	1.6
Wellington Management	416,454,843	9/1/1998	17.5	9.2	6.0	4.9	8.4	-16.2	-5.9	-10.5	3.2
<i>Russell Mid Cap Growth</i>	3.3%			8.2	7.0	8.8	9.9	-10.8	-6.1	-8.2	1.6
AJO Partners	511,978,642	8/1/1998	17.6	10.1	7.4	10.5	10.6	-11.1	-5.5	-10.0	3.2
<i>Russell MidCap</i>	4.0%			9.6	6.9	8.9	9.1	-11.3	-5.5	-8.0	1.1
Hotchkis & Wiley Mid Cap	424,444,904	8/1/2002	13.6	11.5	6.6	8.7	5.5	-21.8	-10.3	-16.1	-1.8
<i>Russell MidCap Value</i>	3.3%			10.1	6.5	8.9	8.3	-11.7	-4.9	-7.8	0.7
Small Cap Domestic Equity											
Shapiro Capital Management	564,529,091	2/1/1998	18.1	9.0	7.5	6.7	7.6	-18.6	-3.7	-8.9	2.1
<i>Russell 2000</i>	4.4%			6.4	4.9	6.1	5.7	-15.0	-8.8	-13.4	0.0
Geneva Capital	197,996,112	6/1/2013	2.7	8.7	-	-	-	-2.9	-8.1	-11.2	-1.8
<i>Russell 2000 Growth</i>	1.6%			4.1	-	-	-	-16.6	-11.5	-15.7	-0.7
Wasatch Advisors	185,397,486	6/1/2013	2.7	5.8	-	-	-	-8.8	-8.7	-11.9	-0.7
<i>Russell 2000 Growth</i>	1.5%			4.1	-	-	-	-16.6	-11.5	-15.7	-0.7
Cove Street Capital	99,541,505	6/1/2013	2.7	3.3	-	-	-	-6.5	-4.4	-9.4	2.4
<i>Russell 2000 Value</i>	0.8%			2.2	-	-	-	-13.3	-6.1	-11.0	0.7
Frontier Capital	155,426,065	6/1/2013	2.7	8.9	-	-	-	-5.4	-4.0	-9.5	2.1
<i>Russell 2000 Value</i>	1.2%			2.2	-	-	-	-13.3	-6.1	-11.0	0.7
Neumeier Poma	121,536,705	6/1/2013	2.7	10.5	-	-	-	-4.9	-4.9	-8.4	1.4
<i>Russell 2000 Value</i>	1.0%			2.2	-	-	-	-13.3	-6.1	-11.0	0.7
International Large Cap Equity											
Causeway Capital	451,282,534	5/1/2003	12.8	7.9	2.7	1.2	-0.3	-17.3	-9.2	-10.4	-1.7
<i>MSCI ACWI Ex US</i>	3.5%			-0.7	-	-0.9	-1.8	-17.0	-7.8	-9.5	-1.1
Northern Trust Passive	744,113,382	9/1/2013	2.5	-2.9	-	-	-	-14.8	-8.9	-10.1	-1.8
<i>MSCI EAFE</i>	5.9%			-3.2	-	-	-	-14.8	-8.9	-10.1	-1.8
International Small Cap Equity											
ARI Small Cap International	190,097,074	12/1/2011	4.2	8.3	-	-	3.0	-11.6	-7.3	-7.5	0.3
<i>MSCI EAFE Small Cap</i>	1.5%			9.6	-	-	5.6	-5.1	-8.0	-7.3	-0.1
Epoch Small Cap International	186,656,844	12/1/2011	4.2	7.5	-	-	3.9	-5.7	-10.0	-9.2	-1.3
<i>MSCI EAFE Small Cap</i>	1.5%			9.6	-	-	5.6	-5.1	-8.0	-7.3	-0.1
Wasatch Small Cap International	200,011,121	12/1/2011	4.2	13.4	-	-	6.1	-0.6	-8.9	-6.5	-0.8
<i>MSCI EAFE Small Cap</i>	1.6%			9.6	-	-	5.6	-5.1	-8.0	-7.3	-0.1
Wellington Small Cap International	193,188,492	12/1/2011	4.2	11.3	-	-	5.8	-7.7	-11.5	-10.9	-2.6
<i>MSCI EAFE Small Cap</i>	1.5%			9.6	-	-	5.6	-5.1	-8.0	-7.3	-0.1

Fixed Income Portfolios Summary

As of February 29, 2016



	Market Value	Inception Date	Time Since Inception (Years)	Since Inception	10 Years	5 Years	3 Years	1 Year	Calendar YTD	Last Quarter	Last Month	
Core Fixed Income												
Loomis Sayles	604,788,080	8/1/1999	16.6	6.4	7.0	4.6	1.5	-3.4	1.0	-0.5	0.9	
<i>Barclays Aggregate</i>	4.8%			5.4	4.7	3.6	2.2	1.5	2.1	1.8	0.7	
Lord Abbett	619,826,597	11/1/2004	11.3	5.6	5.9	4.6	2.2	-0.2	1.2	0.5	0.6	
<i>Barclays Aggregate</i>	4.9%			4.4	4.7	3.6	2.2	1.5	2.1	1.8	0.7	
Mackay Shields	600,073,822	11/1/2004	11.3	5.4	5.8	4.1	1.2	-3.1	0.8	-0.4	0.5	
<i>Barclays Aggregate</i>	4.7%			4.4	4.7	3.6	2.2	1.5	2.1	1.8	0.7	
Active Duration Fixed Income												
Hoisington	347,768,638	11/1/2004	11.3	8.6	8.3	12.1	7.1	2.8	8.9	8.9	3.2	
<i>Barclays Aggregate</i>	2.7%			4.4	4.7	3.6	2.2	1.5	2.1	1.8	0.7	
High Yield Fixed Income												
Loomis Sayles High Yield	236,466,932	2/1/2009	7.1	10.5	-	3.2	-0.2	-9.8	-2.4	-5.5	0.3	
<i>Merrill Lynch High Yield II</i>	1.9%			11.5	-	3.9	0.7	-8.5	-1.1	-3.7	0.5	
Lord Abbett High Yield	252,626,790	2/1/2009	7.1	12.0	-	5.8	3.0	-4.3	-1.1	-3.0	0.5	
<i>Merrill Lynch High Yield II</i>	2.0%			11.5	-	3.9	0.7	-8.5	-1.1	-3.7	0.5	
Mackay Shields High Yield	248,662,136	2/1/2009	7.1	10.4	-	4.9	1.7	-4.9	-1.1	-3.4	0.5	
<i>Merrill Lynch High Yield II</i>	2.0%			11.5	-	3.9	0.7	-8.5	-1.1	-3.7	0.5	

Non-Traditional Portfolios Summary
As of February 29, 2016 (unless otherwise noted)



Master Limited Partnerships

	Market Value	Inception Date	Time Since Inception (Years)	Since Inception	10 Years	5 Years	3 Years	1 Year	Calendar YTD	Last Quarter	Last Month
Chickasaw Capital MLP <i>Alerian MLP Index</i>	300,556,724 2.4%	2/28/2011	5.0	8.1 -2.3	-	8.1 -2.3	-1.9 -11.1	-41.1 -39.7	-14.3 -11.5	-17.9 -14.7	0.6 -0.5
Cushing MLP Management <i>Alerian MLP Index</i>	286,122,353 2.2%	2/28/2011	5.0	3.7 -2.3	-	3.7 -2.3	-3.9 -11.1	-42.7 -39.7	-10.3 -11.5	-17.9 -14.7	3.4 -0.5
ARI MLP <i>Alerian MLP Index</i>	181,640,583 1.4%	2/28/2011	5.0	-1.4 -2.3	-	-1.4 -2.3	-10.1 -11.1	-44.7 -39.7	-16.5 -11.5	-23.1 -14.7	-1.4 -0.5

Private Equity

	Market Value	Inception Date	Time Since Inception (Years)	\$ Committed	\$ Contributed as of 2/29/2016	% Called	\$ Return as of 2/29/2016	IRR Inception	IRR 3 Year	IRR 1 Year	Performance as of
Legacy Private Equity Portfolio <i>Russell 1000 + 4%</i>	43,864,159 0.3%	10/1/2008	7.4	\$97,500,000	\$95,480,850	97.9%	\$87,673,786	11.2% 14.0%	11.1% 19.0%	2.1% 4.9%	9/30/2015
Franklin Park Private Equity <i>Russell 1000 + 4%</i>	588,052,340 4.6%	4/1/2010	5.9	\$1,200,000,000	\$585,037,500	48.8%	\$111,966,249	12.9% 15.9%	16.2% 19.0%	14.2% 4.9%	9/30/2015

Real Estate

	Market Value	Inception Date	Time Since Inception (Years)	\$ Committed	\$ Contributed as of 2/29/2016	% Called	Time Weighted Trailing Two Year Return (Annualized) ¹	Time Weighted Trailing One Year Return ¹	Performance as of
AEW Real Estate <i>NFI-ODCE</i>	255,110,350 2.0%	5/1/2011	4.8	\$165,500,000	\$165,500,000	100%	11.6% 14.4%	12.7% 14.7%	12/31/2015
Heilman Real Estate <i>NFI-ODCE</i>	257,795,592 2.0%	5/1/2011	4.8	\$157,400,000	\$157,400,000	100%	12.9% 14.4%	15.6% 14.7%	12/31/2015
L&B Real Estate <i>NFI-ODCE</i>	232,531,182 1.8%	4/1/2011	4.9	\$150,000,000	\$150,000,000	100%	14.2% 14.4%	15.8% 14.7%	12/31/2015
American Realty <i>NFI-ODCE</i>	12,398,858 0.1%	12/1/2014	1.2	\$53,750,000	\$13,745,100	26%	-	18.6% 14.7%	12/31/2015
Antheus Capital <i>NFI-ODCE</i>	26,875,000 0.2%	10/1/2014	1.4	\$53,750,000	\$26,875,000	50%	-	-	-
Dune <i>NFI-ODCE</i>	31,962,173 0.3%	10/1/2014	1.4	\$53,750,000	\$27,493,125	51%	-	28.1% 14.7%	9/30/2015
GreenOak Real Estate <i>NFI-ODCE</i>	27,280,783 0.2%	10/1/2014	1.4	\$50,000,000	\$26,890,038	54%	-	-	-
L&B Golden Driller <i>NFI-ODCE</i>	26,742,549 0.2%	7/1/2014	1.7	\$60,000,000	\$26,790,000	45%	-	-	-
Landmark Realty <i>NFI-ODCE</i>	12,878,044 0.1%	12/1/2014	1.2	\$35,000,000	\$12,322,603	35%	-	-	-
Starwood <i>NFI-ODCE</i>	27,833,655 0.0%	11/1/2015	0.3	\$53,750,000	\$27,950,000	52%	-	-	-

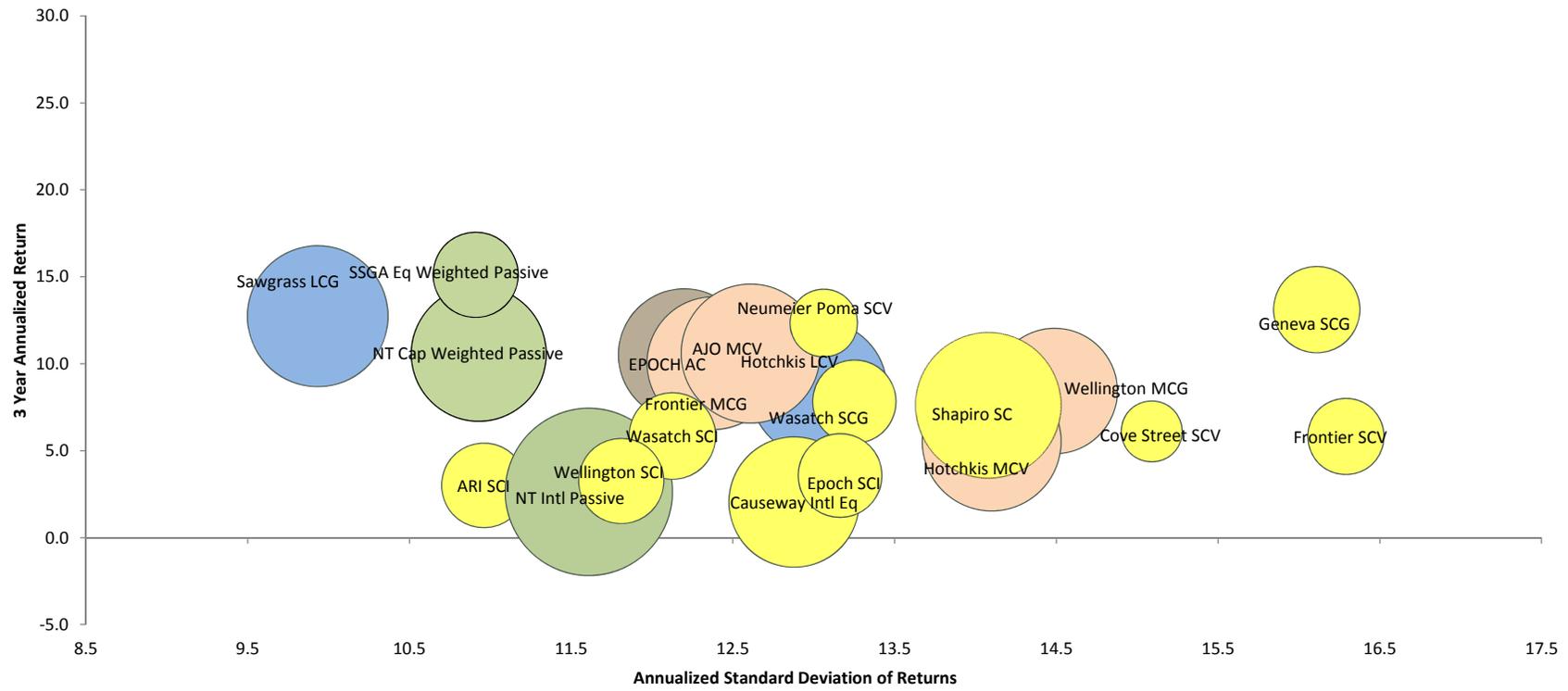
¹Performance shown Net of Fees.

Preliminary data displayed where final audited figures are unavailable.

Opportunistic Fixed Income

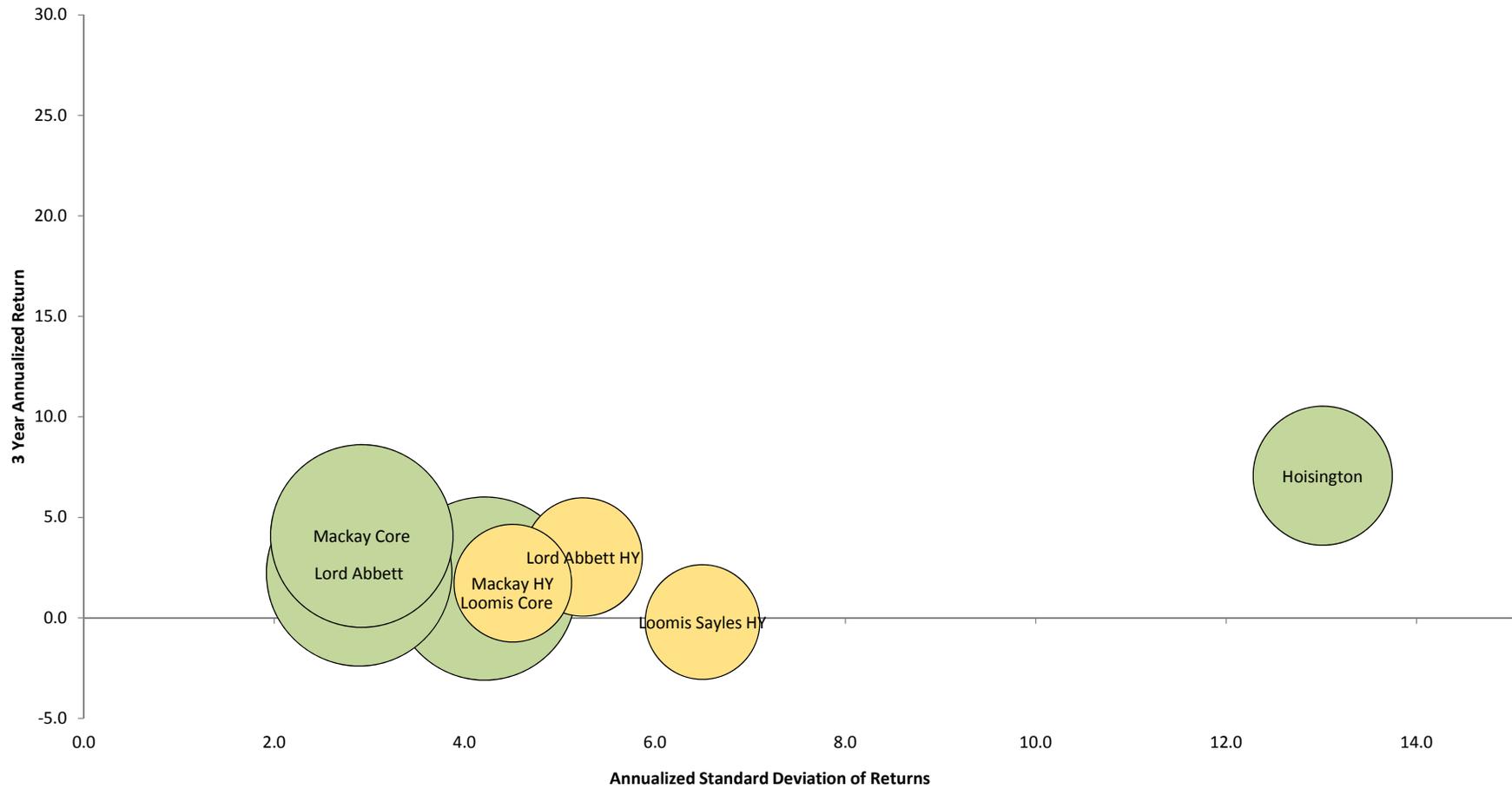
	Market Value	Inception Date	Time Since Inception (Years)	\$ Committed	\$ Contributed as of 2/29/2016	% Called ³	\$ Return as of 2/29/2016	Time Weighted Return Since Inception (Annualized)	Time Weighted One Year Return	Performance as of
PIMCO BRAVO <i>Barclays Aggregate</i>	26,222,404 0.2%	3/31/2011	4.9	\$100,000,000	\$100,000,000	100%	\$156,225,033	19.7% 3.6%	4.5% 1.9%	9/30/2015
PIMCO BRAVO II <i>Barclays Aggregate</i>	134,122,094 1.1%	3/31/2013	2.9	\$150,000,000	\$120,000,000	80%	\$0	18.8% 1.7%	8.8% 1.9%	9/30/2015

Three Year Risk/Return Review - Equity Portfolios



¹Actual OTRS results used when available, composite when necessary.

Three Year Risk/Return Review - Fixed Income Portfolios



¹Actual OTRS results used when available, composite when necessary.
Please note difference in standard deviation axis from previous page.



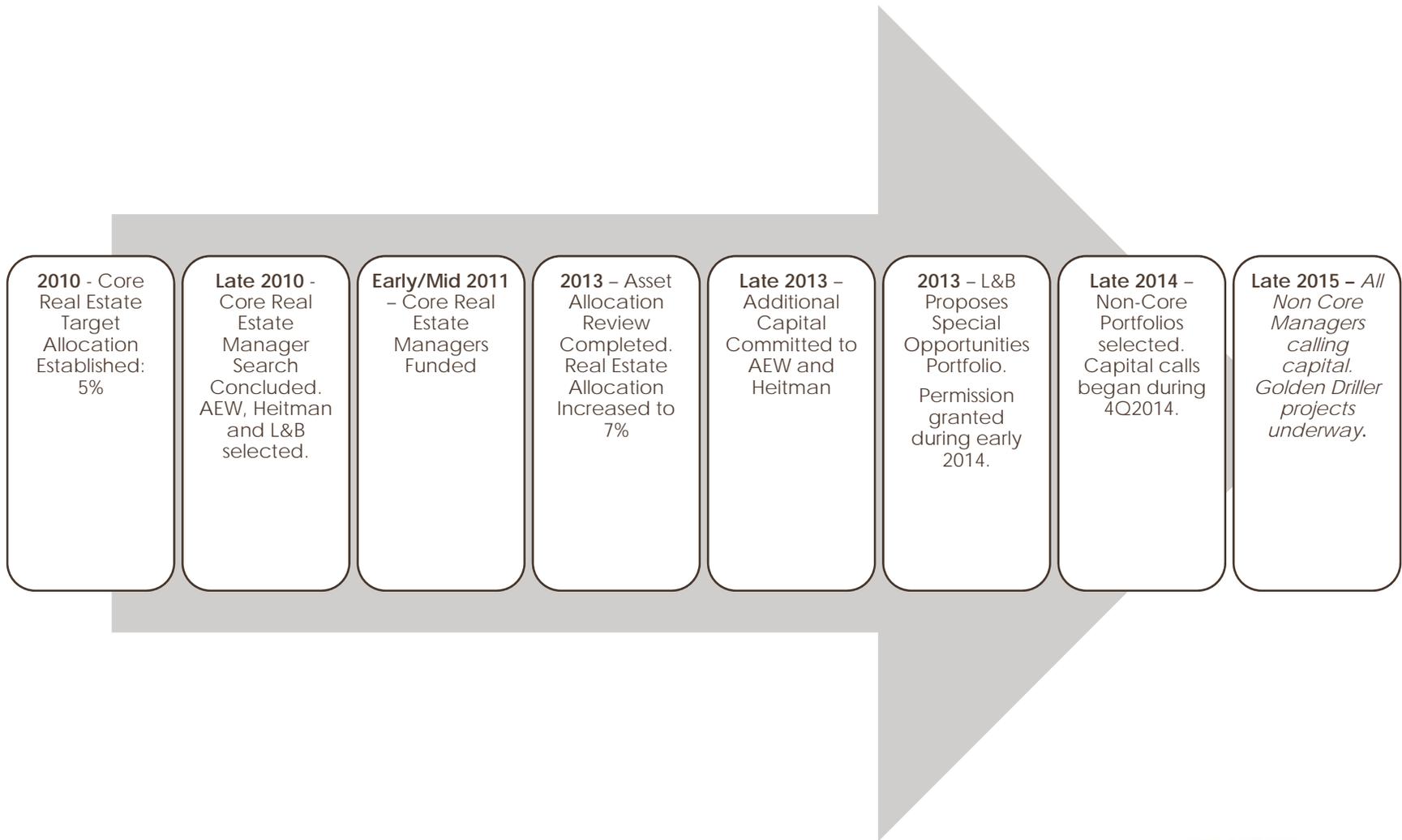
OKLAHOMA TEACHERS RETIREMENT SYSTEM

real estate portfolio
executive summary report
fourth quarter, 2015

Real Estate Portfolio Overview

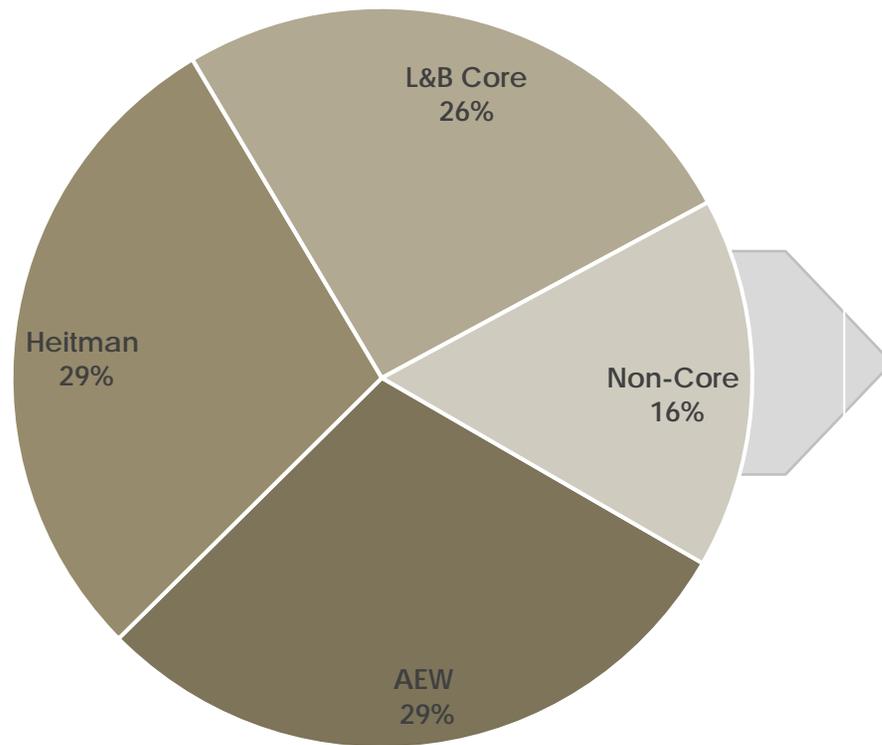
- ▶ The OTRS real estate portfolio was initially funded during April/May of 2011. Three managers were selected after an extensive search process. Each was initially funded with \$150 million.
- ▶ The total real estate allocation target is now 7% of the total fund. The target allocation is based on the net amount invested by the System in real estate assets. The target allocation for real estate was increased from 5% to 7% during 2013.
- ▶ The current portfolio is focused on U.S. based core assets. Core real estate is generally defined as high-quality, low risk, diversified portfolio of stable, income-producing assets. It has expanded beyond core to higher risk/higher return investments.
- ▶ The investments have been successful. We are in the second stage of the real estate investment program. This stage is intended to provide additional diversification and return potential by investing in non-core funds. A search was completed in September 2014 to invest in value-added and opportunistic properties. Six firms were selected to invest approximately \$50 million each. Follow-on searches will be required to replenish funds that reach liquidation. Many of the non-core funds will have life spans between five and ten years.
- ▶ The current performance benchmark is the NCREIF Fund Index – Open End Diversified Core Equity (NFI-ODCE). The index is a fund-level capitalization weighted, time weighted index that includes property investments at ownership share, cash balance and leverage. The returns reflect the funds' actual ownership positions and financing strategy. We believe the new non-core managers should be compared to the NCREIF Closed End Value Add Index. Summaries of both appear in this report's appendix.

Real Estate Portfolio Timeline



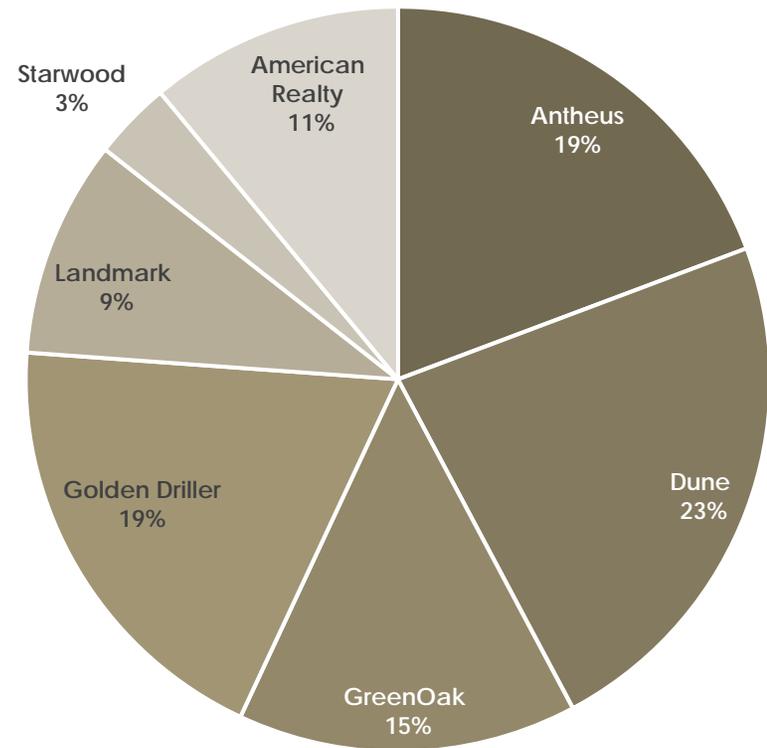
Real Estate Allocation Review: By Market Value

Composite Real Estate Allocation



Total Real Estate Market Value: \$860,649,970

Non-Core Real Estate



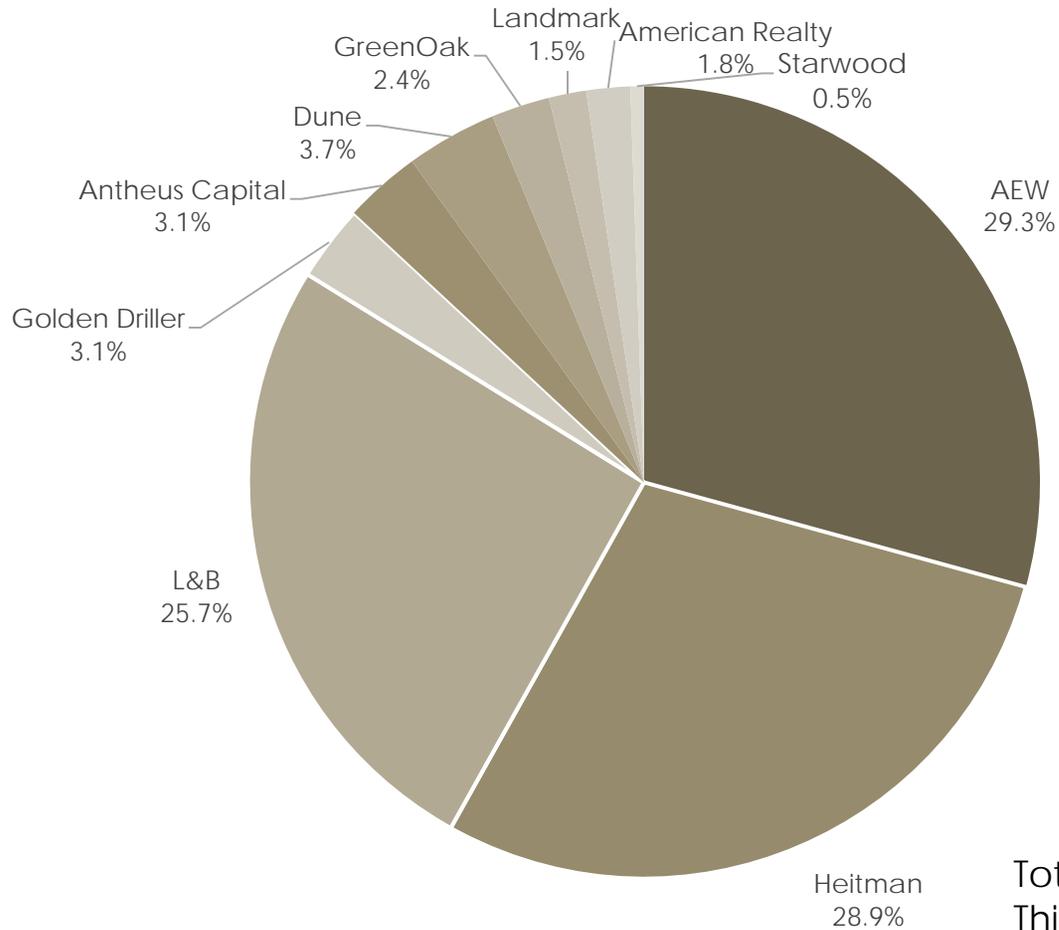
Total Non-Core Market Value: \$139,360,675

OTRS Real Estate Capital Contributed

As of December 31, 2015

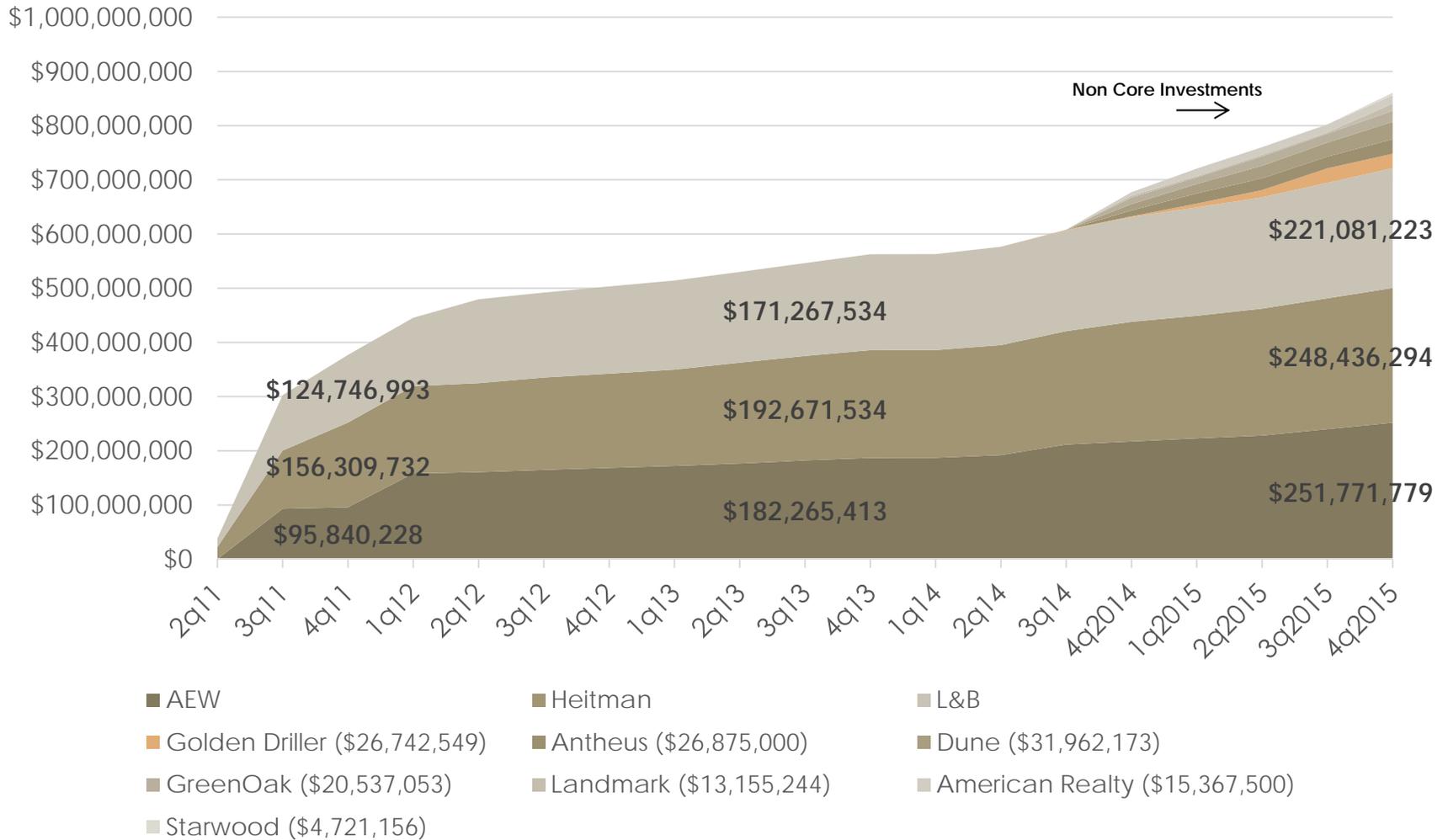
	Capital Committed	Capital Contributed	% Called
AEW	\$165,500,000	\$165,000,000	100%
L&B Core	\$150,000,000	\$150,000,000	100%
Heitman	\$157,400,000	\$157,400,000	100%
American Realty	\$53,750,000	\$13,745,100	26%
Antheus	\$53,750,000	\$26,875,000	50%
Dune	\$53,750,000	\$21,435,612	40%
Golden Driller	\$60,000,000	\$26,790,000	45%
GreenOak	\$50,000,000	\$20,146,308	40%
Landmark	\$35,000,000	\$12,322,603	35%
Starwood	\$43,750,000	\$4,837,500	9%
	\$822,900,000	\$598,552,123	73%

Allocation of Real Estate Portfolio – Net Exposure As of December 31, 2015

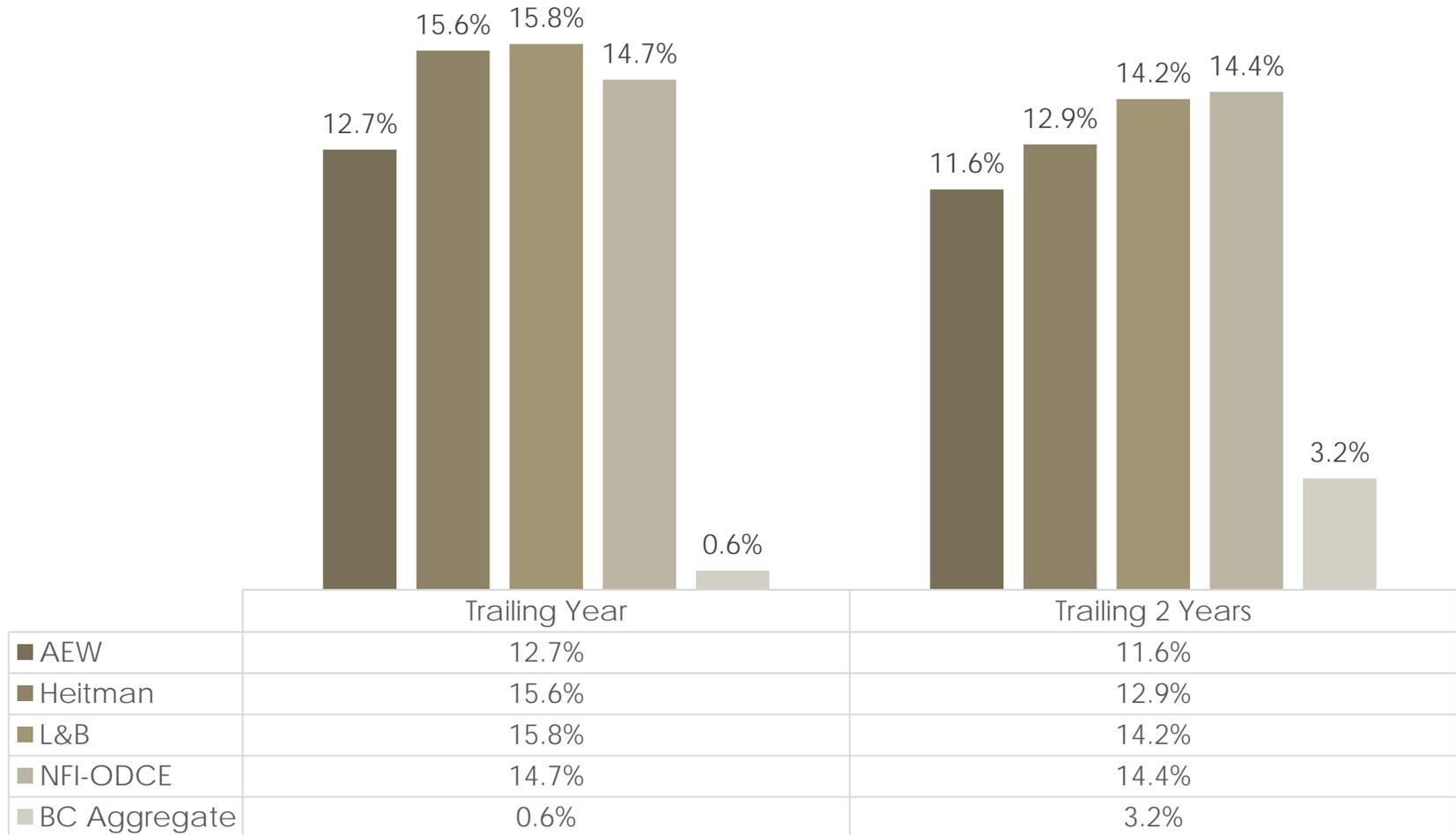


Total Market Value: **\$860,649,970**
This composed **6.5%** of the total portfolio.

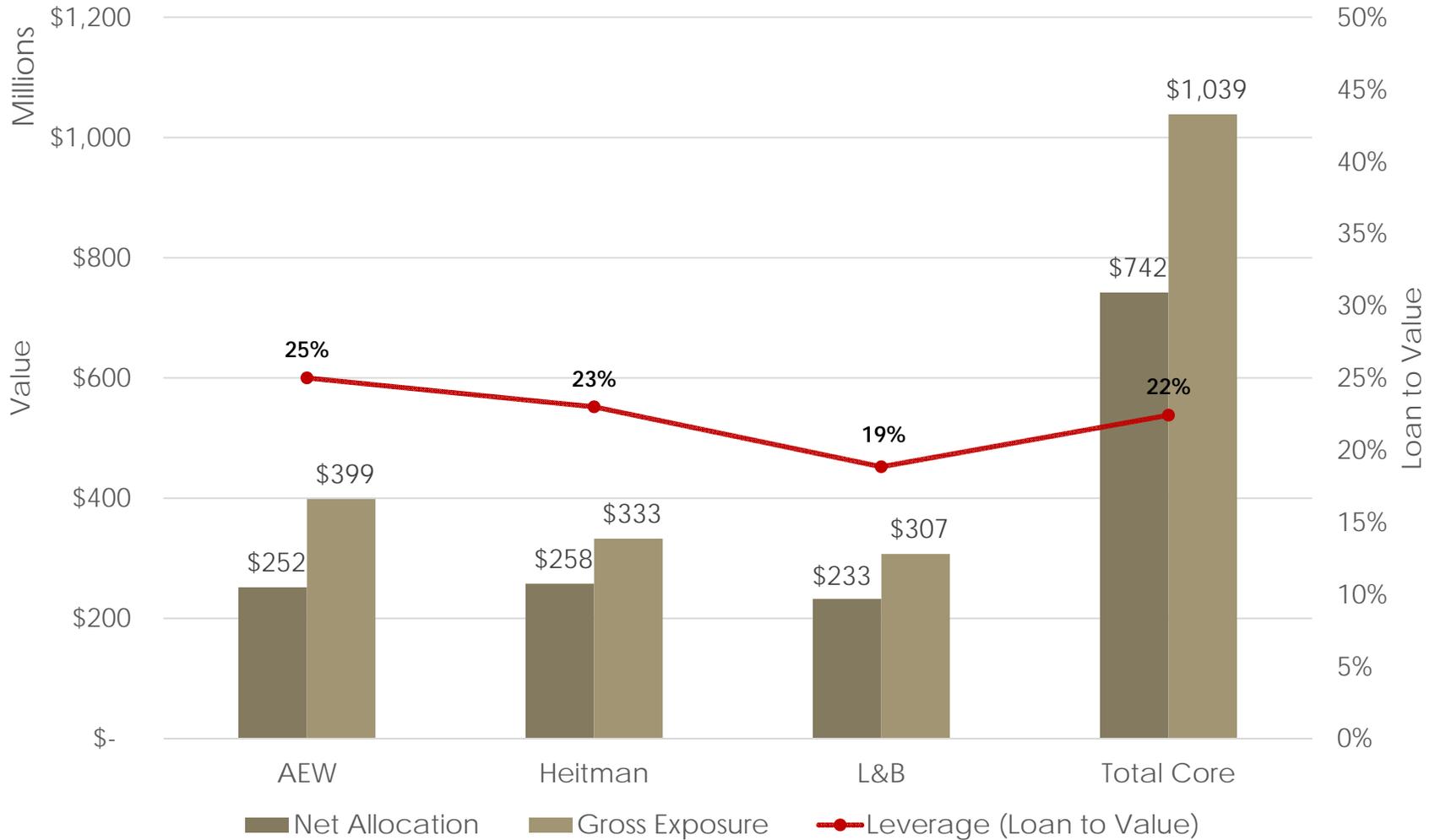
Allocation History – Market Values/Quarterly Observations



Core Real Estate Performance Comparison – Net of Fees Periods Ended December 31, 2015

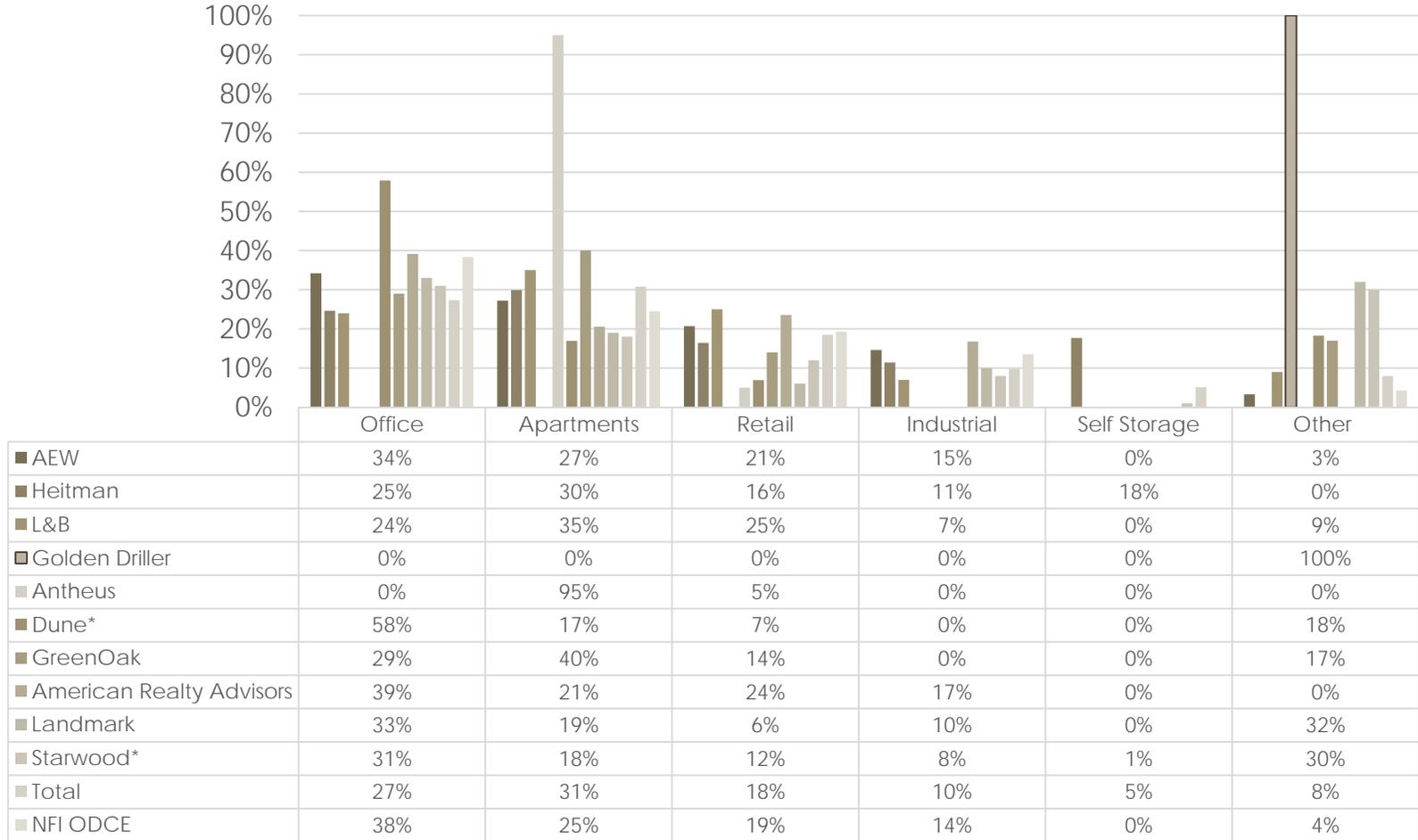


Allocation of Core Real Estate Portfolio – Net vs. Gross Exposure As of December 31, 2015



Property Type Diversification – Net Exposure

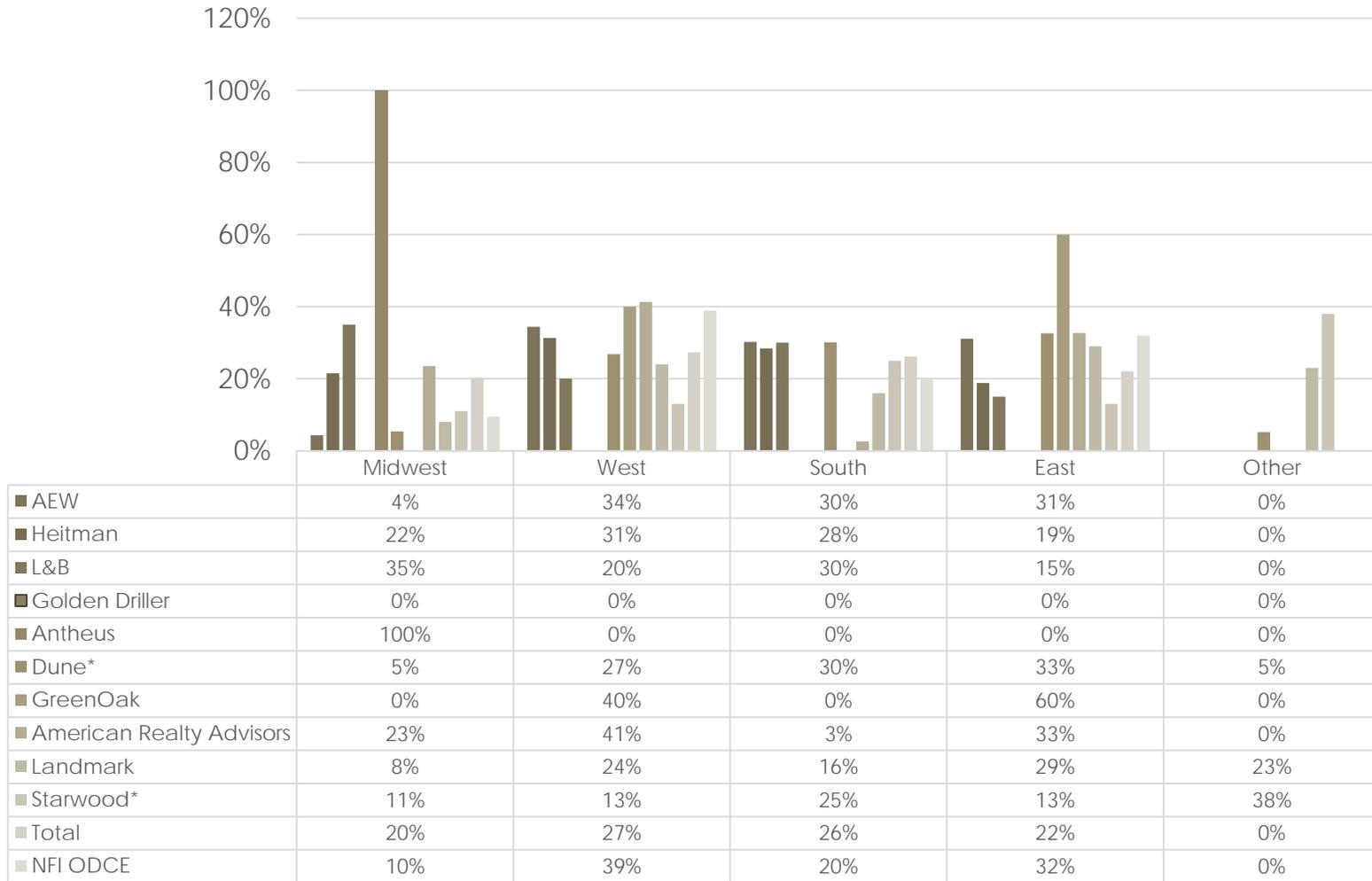
As of December 31, 2015



*Property Type Diversification as of 9/30/2015.

Geographic Diversification – Net Exposure

As of December 31, 2015



*Geographic Diversification as of 9/30/2015.

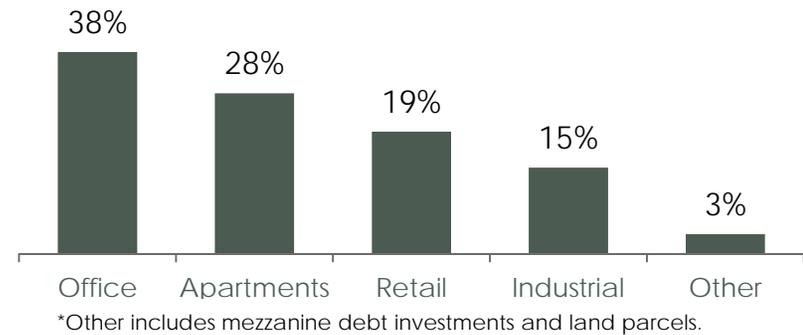
Core Real Estate Investments

AEW Capital Management – Core Real Estate



Location: Boston, Massachusetts
OTRS Initial Commitment: \$150 million
OTRS Total Commitment: \$165 million
Fund Name: AEW Core Property Trust
Fund Type: Open Ended Private REIT
Fund Size (Net): \$5.2 billion
Fund Size (Gross): \$8.2 billion
Number of Investments: 64
Firm AUM: \$30 billion
Inception Date: Fourth Quarter, 2007
Fund Manager: Dan Bradley and Jon Martin
Investment Process: Research driven strategy that combines long-term economic forecasts with on-the-ground market knowledge that builds diversified portfolios of apartments, retail, office, industrial, and to a smaller extent, hotel properties. Portfolios will be diversified among major growing metropolitan markets with barriers to new supply. The portfolio will feature high-quality assets designed to provide durable income and reasonable capital appreciation. The fund will only invest in the U.S. No single investment may exceed 25% of the fund's net asset value. Non-core assets limited to 15% of net asset value. 30% maximum leverage at the total fund level.
Status: In Compliance

Property Type Diversification



	AEW	NFI ODCE
2015 YTD Income Return	5.43%	4.76%
2015 YTD Appreciation Return	7.80%	9.88%
Current Occupancy	96.0%	-
OTRS Ownership of Fund	4.8%	-

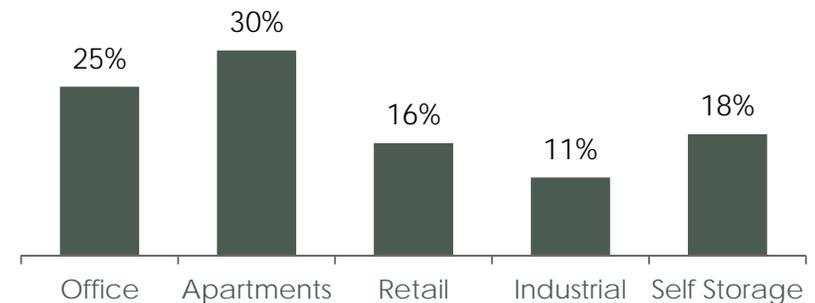
2015 NOI Growth: 4.1%

Heitman Capital Management – Core Real Estate

Location: Chicago, Illinois
OTRS Initial Commitment: \$150 million
OTRS Total Commitment: \$157 million
Fund Name: Heitman Capital Management
Fund Type: Open Ended Partnership
Fund Size (Net): \$5.8 billion
Fund Size (Gross): \$7.6 billion
Number of Investments: 78
Firm AUM: \$35 billion
Fund Inception Date: Second Quarter, 2007
Fund Manager: David Perisho and Blaise Keane
Investment Process: Acquire strong properties on a direct basis to deliver returns 1.0% over the relevant benchmark index over a rolling five year period. The portfolio will remain flexible as to property type concentration but will be adequately diversified. Heitman will buy in major markets. Properties will be well-constructed and have proximity to amenities and transportation networks. The fund will invest only in the U.S. and Canada. No more than 10% of the fund will be invested in Canada. Up to 15% of the fund will be invested in value-added properties. The maximum investment in a single property will be 15%. Leverage is capped at 30% of the fund.
Status: **In compliance;** Noncompliance for Real Estate funds will not concentrate, in any single property, the greater of \$100 million or 25% of the total Gross Asset Value (GAV) of the overall investment Fund.



Property Type Diversification



	Heitman	NFI ODCE
2015 YTD Income Return	5.07%	4.76%
2015 YTD Appreciation Return	10.95%	9.88%
Current Occupancy	93.4%	-
OTRS Ownership of Fund	4.4%	-

2015 NOI Growth: 6.6%



L&B Realty Advisers - Core Real Estate

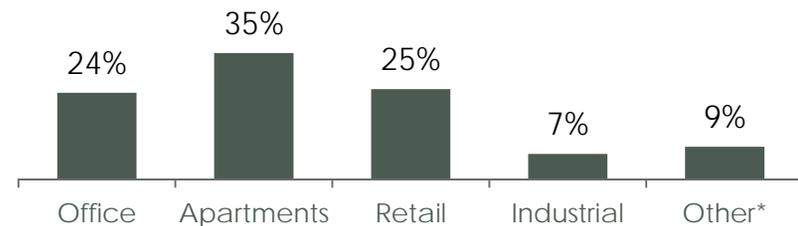


Location: Dallas, Texas
OTRS Initial Commitment: \$150 million
OTRS Total Commitment: \$150 million
Fund Name: L&B Core Income Partners, L.P.
Fund Type: Open Ended Partnership
Fund Size (Net): \$506 million
Fund Size (Gross): \$669 million
Number of Investments: 10
Firm AUM: \$7.6 billion
Inception Date: Second Quarter, 2011
Fund Manager: Christian Metten

Investment Process: The fund will invest in a diversified portfolio of core properties that are well-leased by credit-worthy tenants. The primary objective is protection of capital and limited downside risk. Assets will be appropriately priced and utilize reasonable leverage. The portfolio will concentrate on stable, enduring assets but can allocate up to 15% to non-core assets. All investments will be in the U.S. Maximum leverage at the fund level is 35%; maximum leverage for individual properties is 50%. Average investment is \$50 million in equity. This fund was recently added to the NFI ODCE Index.

Status: In compliance

Property Type Diversification



*60% Office and 40% Retail.

	L&B	NFI ODCE
2015 YTD Income Return	3.03%	4.76%
2015 YTD Appreciation Return	9.61%	9.88%
Current Occupancy	87.7%	-
OTRS Ownership of Fund	45.9%	-

2015 NOI Growth: 8.2%



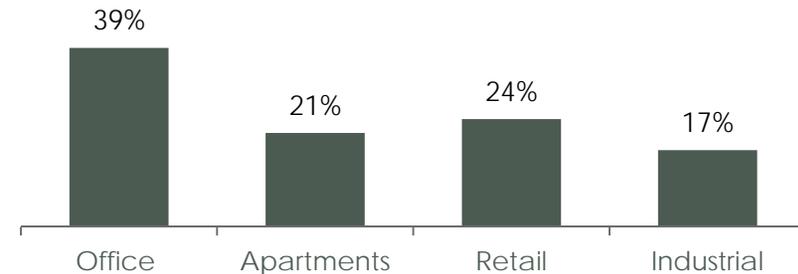
Non-Core Real Estate Investments

American Realty Advisors

Location: Glendale, California
OTRS Initial Commitment: \$54 million
OTRS Total Commitment: \$54 million
Fund Name: American Realty Strategic Value Realty Fund
Fund Type: Open Ended Diversified Value Added
Fund Size (Net): \$280 million
Fund Size (Gross): \$562 million
Number of Investments: 13
Firm AUM: \$7.4 billion
Inception Date: Fourth Quarter, 2014
Fund Manager: Kurt Helgelson and Douglas Rush
Investment Process: Team based process that views each acquisition as an operating asset and also a part of the overall portfolio. Acquisitions are reviewed by Investment Committee. Named portfolio manager is Chairman of the Investment Committee. Portfolio currently has a focus on the West and Midwest (~80% of portfolio). Largest sector allocation is Office which accounts for 49% of the portfolio. Investment process follows these steps: market/submarket research, acquisition underwriting and due diligence, active operational management and a well-defined hold/exit strategy. Risk of each asset is continuously evaluated and managed. Purchases are generally mid to lower market, or between \$10 - \$50 million.
Status: **In compliance**



Property Type Diversification



Current Occupancy is 79%.
OTRS owns 4.5% of the fund.



Antheus Capital, LLC

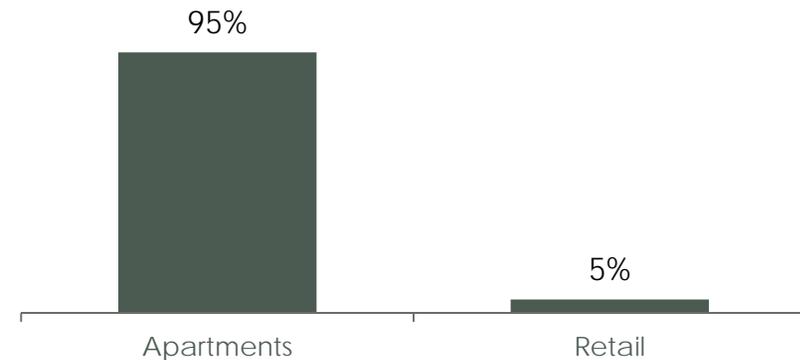
Location: Englewood, New Jersey
OTRS Initial Commitment: \$54 million
OTRS Total Commitment: \$54 million
Fund Name: Lyrical-OTRS Realty Partners IV, LP
Fund Type: Close End Value Added Fund
Fund Size (Gross): \$168 million
Number of Investments: 18
Firm AUM: \$1.0 billion
Inception Date: Fourth Quarter, 2014

Fund Manager: Eli Ungar and David Gefsky
Investment Process: Extremely hands on investment process that currently manages a diversified portfolio of multi-family investments in two sub-markets where they seek deep property by property knowledge and a dominant market share. Currently, their portfolio owns over 6,000 apartment units in Chicago, Kansas City, and St. Louis in areas that exhibit strong, structural supply/demand conditions that cannot be easily reversed and ultimately benefit apartment owners. The team seeks areas where supply/demand remains in disequilibrium and favorable to long-term growth rates of rental income. Operating expenses for their properties tend to remain flat after initial investment, allowing them to compound a growing level of net operating expenses. The team focuses on year over year operating success rather than "trades". The fund expects to deploy equally between Chicago, Kansas City and St. Louis. Property acquisitions are moving forward at a deliberate pace. The location of the Barack Obama presidential library was announced to be at the South side of Chicago. This should be positive for the portfolio's holdings in the Hyde Park neighborhood.

Status: In compliance



Property Type Diversification



OTRS owns 100% of Lyrical-OTRS Realty Partners IV, LP.
 OTRS owns 32% of LARP IV-Blue Holdings, LLC which consists of Lyrical-Antheus Realty Partners IV, LP & side cars including Lyrical-OTRS Realty Partners IV, LP.

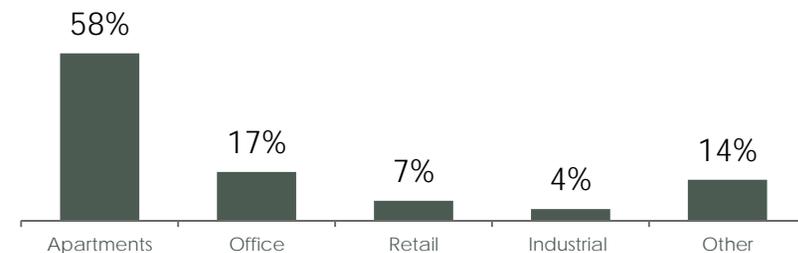
Dune Real Estate Partners

Location: New York, New York
OTRS Initial Commitment: \$54 million
OTRS Total Commitment: \$54 million
Fund Name: Dune Real Estate Fund III, LP
Fund Type: Close Ended Opportunistic
Fund Size (Net): \$960 million
Number of Investments: 14
Firm AUM: \$4.1 billion
Inception Date: Fourth Quarter, 2014
Fund Manager: Dan Neidich and Cia Buckley Marakovits
Investment Process: Partner driven model that seeks to exploit the talent and experience of a highly experienced group of real estate professionals. The fund will broadly focus on opportunities resulting from the unprecedented deleveraging of the capital market. The fund will seek opportunities created by distress and dislocation through three themes: Distressed Assets, Deep Value-add, and Contrarian Investments. Distressed assets will be creatively acquired, recapitalized and/or restructured through sub- or non-performing commercial mortgages or real estate loans. Deep value-add projects will seek to stabilize and reposition underperforming assets through renovation, re-leasing and capital investment. Contrarian assets will be acquired to exploit oversold conditions through deeply discounted purchased of unpopular assets.
Status: **In compliance**

All data as of 9/30/2015.



Property Type Diversification



Other includes Senior Housing (5%), Hotel (5%) and Residential Land (4%).

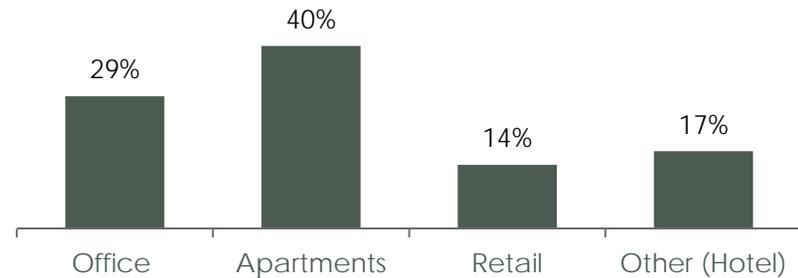
OTRS owns 5.6% of the fund.
Occupancy: N/A

GreenOak Real Estate, LP

Location: New York, New York
OTRS Initial Commitment: \$50 million
OTRS Total Commitment: \$50 million
Fund Name: GreenOak Real Estate Partners US Fund II
Fund Type: Close Ended Opportunistic
Fund Size (Net): \$756 million
Number of Investments: 16
Firm AUM: \$5.6 billion
Inception Date: Fourth Quarter, 2014
Fund Manager: Sonny Kalsi, Chris Niehaus, John Carrefiell, Fred Schmidt, Andrew Yoon
Investment Process: Fund will focus on high barrier to entry markets that possess size, supply constraints, significant demand growth and liquidity. Undervalued properties will be targeted in off market transactions. Assets will be recapitalized – the fund will target assets acquired or financed during the 2005-2008 vintages. Mid market properties will be targeted – properties owned primarily by families, private investors or smaller institutions who are not willing to expend capital to maintain competitiveness or professionally manage the asset. The fund will also allocate to improvable assets with good locations.
Status: In compliance



Property Type Diversification



Current Occupancy is 79%.
 OTRS owns 7.2% of the fund.

Landmark Partners

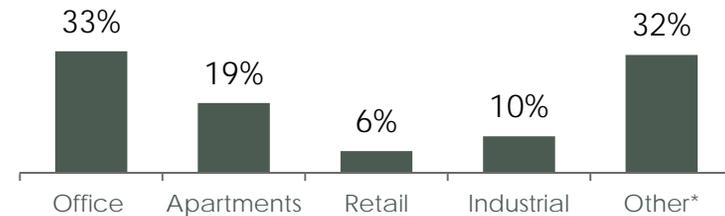
Location: Simsbury, Connecticut
OTRS Initial Commitment: \$35 million
OTRS Total Commitment: \$35 million
Fund Name: Landmark Real Estate Fund VII
Fund Type: Close Ended Real Estate Secondaries
Fund Size (Net): \$1.6 billion
Number of Investments: 5
Firm AUM: \$14.9 billion
Inception Date: Fourth Quarter, 2014
Fund Manager: Francisco Borges, Timothy Haviland, Chad Alfeld, Robert Dombi, Raul Mehlman, James Sunday

Investment Process: Landmark is a pioneer in the construction of portfolios through secondary market transactions. The firm will seek to build a portfolio diversified across vintage years, geographies, managers and strategies. Investing in secondaries generally allows for faster deployment of capital as sellers come to market. Sellers generally are forced to sell their interests at a discount, benefitting an established buyer such as Landmark. Secondary interests are usually seasoned assets that generate income and distributions immediately. This produces current cash flow and minimizes J-curve impact. Investments are generally held until full fund level distribution.

Status: In compliance



Property Type Diversification



*Includes Mixed-Use (10%), Land (9%), Lodging (6%), Other (4%), and Cash (3%).

OTRS owns 3.0% of the fund.

L&B Realty Advisers – Golden Driller Fund

Location: Dallas, Texas
OTRS Initial Commitment: \$60 million
OTRS Total Commitment: \$60 million
Fund Name: L&B Golden Driller
Fund Type: Separate Account Limited Partnership
Number of Working Investments: 3
Firm AUM: \$7.6 billion
Inception Date: Second Quarter, 2014
Fund Manager: Christian Metten
Investment Process: The fund will invest in a focused portfolio composed of up to three property types: Retirement Homes/Memory Care facilities, Build to Core Office, and Special Opportunities. The primary objective is protection of capital and appreciation. Assets will be conservatively underwritten and utilize reasonable leverage (up to 65%). The portfolio will invest a geographically diversified portfolio of non-core development properties. The Retirement Homes/Memory Care will focus on demographically advantaged areas and construct new facilities. Build to Core will construct high quality office buildings in attractive infill areas. Special opportunities will target unique properties with a focus on long-term income production.
Status: **In Compliance**



Property Type Diversification



PROGRESS UPDATE: The fund is currently working on three retirement home/memory care facilities. Two in Florida and one in Texas. The Texas property (Dallas) is the newest and largest project. The two Florida projects have capital commitments of \$15.9 and \$15.9 million respectively. The Texas project is expected to have a capital commitment of \$29.6 million. Total beds for all three are expected to be 448 with roughly two thirds assisted living and one third memory care. Palm Beach Gardens site has been cleared, and foundation is being poured. Land close for Park Cities (Dallas) occurred on September 3, 2015. Site work will begin 2016. Demolition of existing structures occurred in November, and formal groundbreaking for the project is March 30. Wellington site work will begin in June.

No Build to Core or Special Opportunities projects have been started.

Golden Driller – Project Timelines

	HarborChase of Palm Beach Gardens	HarborChase of Wellington Crossing	HarborChase of Park Cities
Government Approvals Completed	February, 2015	June, 2015	April, 2015
Land Closing	March, 2015	June, 2015	September, 2015
Loan Closing	September, 2015	<i>May, 2016</i>	<i>April, 2016</i>
Commence Construction	September, 2015	<i>June, 2016</i>	<i>April, 2016</i>
Sitework/Garage Complete	January, 2016	<i>July, 2016</i>	<i>October, 2016</i>
Foundation Complete	<i>March, 2016</i>	<i>October, 2016</i>	<i>October, 2016</i>
Vertical Construction Complete	<i>July, 2016</i>	<i>February, 2017</i>	<i>March, 2017</i>
Open Sales Office	<i>September, 2016</i>	<i>March, 2017</i>	<i>April, 2017</i>
Hire/Train Staff	<i>February, 2017</i>	<i>August, 2017</i>	<i>September, 2017</i>
Construction Complete	<i>March, 2017</i>	<i>September, 2017</i>	<i>October, 2017</i>

Golden Driller – Project Economics

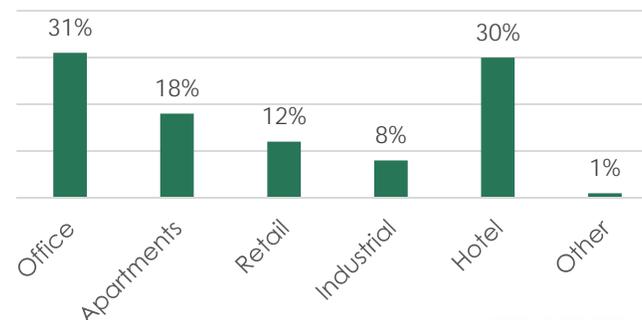
	HarborChase of Palm Beach Gardens	HarborChase of Wellington Crossing	HarborChase of Park Cities
Units/Beds	120/140	136/154	134/154
Cost	\$38,031,832	\$39,806,518	\$72,522,346
Debt	\$22,175,000	\$23,883,911	\$42,913,653
Equity	\$15,856,832	\$15,922,607	\$29,608,783
Stabilized NOI	\$3,674,083	\$4,130,116	\$7,196,470
Return on Cost	9.7%	10.4%	9.9%
Project IRR	23.7%	27.1%	24.5%
Estimated Sales Price (Year 5)	\$63,544,790	\$71,381,403	\$123,936,809
Debt	\$21,660,174	\$22,698,520	\$42,123,901
Equity	\$15,856,832	\$15,922,607	\$29,608,783
Transaction Cost	\$953,172	\$1,070,721	\$1,859,052
Estimated Profit	\$25,074,612	\$31,689,555	\$50,345,073

Starwood

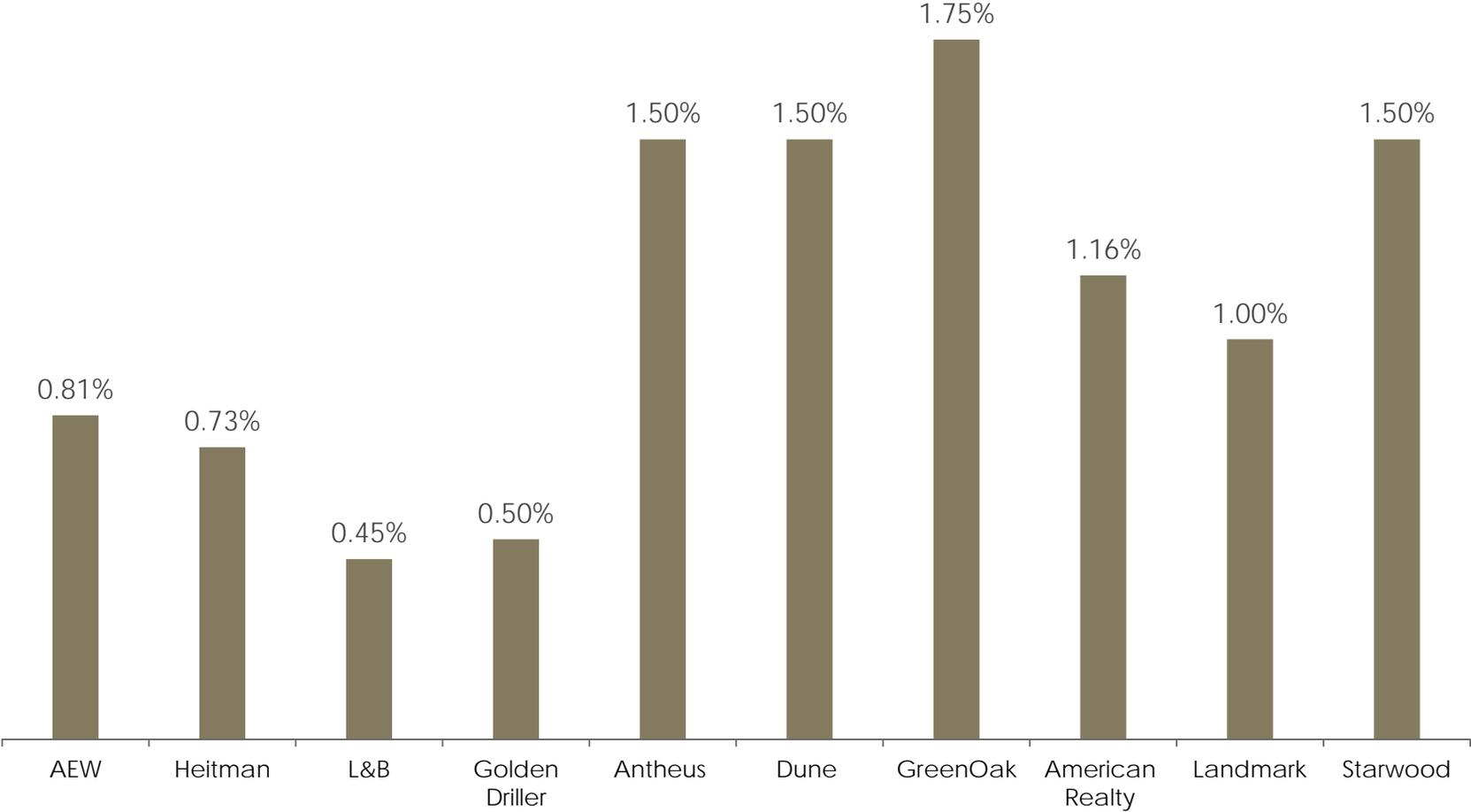
Location: Simsbury, Connecticut
OTRS Initial Commitment: \$44 million
OTRS Total Commitment: \$54 million
Fund Name: Starwood Distressed Opportunity Fund
Fund Type: Large Real Estate Specialist
Fund Size (Net): \$5.6 billion
Number of Investments: 36
Firm AUM: \$44.5 billion
Inception Date: Second Quarter, 2014
Fund Manager: Barry Sternlicht
Investment Process: The fund will target investments with average equity of \$75 - \$100 million. The firm adheres to an established set of investment principles: buy below replacement cost, use appropriate leverage (amount and duration), invest when supply is low, avoid overconcentration by diversifying across risk spectrum, geographic areas, asset type and capital structure; invest alongside LPs, and anticipate opportunities created by capital flows. The fund will invest in a **global portfolio** via purchases of non-performing loans, individual assets and portfolios of assets or companies. Purchases will **focus on the US and Europe** although investment opportunities in other regions will be considered.
Status: **In compliance**; Noncompliance for purchase privately placed or other non-marketable debt, except securities issued under Rule 144A.



Property Type Diversification



Annual Management Fee Comparison



Quarterly Performance History (Net of fees) Core Real Estate Portfolios

	AEW	Heitman	L&B	NFI-ODCE
4q2011	3.1%	2.2%	1.1%	3.0%
1q 2012	2.2%	3.3%	1.2%	2.8%
2q 2012	1.7%	2.3%	1.5%	2.6%
3q 2012	2.8%	4.0%	1.4%	2.8%
4q 2012	2.5%	2.5%	2.6%	2.4%
1q 2013	2.0%	2.8%	2.3%	2.7%
2q 2013	3.1%	4.6%	2.0%	3.9%
3q 2013	3.5%	3.9%	2.4%	3.6%
4q 2013	3.2%	3.4%	3.6%	3.2%
1q 2014	2.3%	2.3%	2.6%	3.2%
2q 2014	2.3%	3.3%	2.7%	2.9%
3q 2014	2.8%	3.0%	3.8%	3.2%
4q 2014	2.9%	1.6%	3.5%	3.0%
1q 2015	2.0%	3.6%	2.6%	3.4%
2q 2015	4.0%	4.1%	3.8%	3.8%
3q 2015	2.9%	3.3%	3.6%	3.7%
4q 2015	3.2%	3.8%	5.1%	3.3%
Trailing Year	12.7%	15.6%	15.8%	14.7%
Trailing 2 Years (annualized)	11.6%	12.9%	14.2%	14.4%



Market Value History: Core Real Estate Portfolios

	AEW	Heitman	L&B	Total Core Real Estate Allocation
3q2011	90,000,000	103,805,311	101,880,905	295,686,216
4q2011	93,120,246	153,469,336	123,615,184	370,204,766
1q 2012	155,840,225	156,309,732	124,746,993	436,896,950
2q 2012	158,158,228	161,159,299	153,000,101	472,317,628
3q 2012	160,527,947	164,136,057	154,879,803	479,543,807
4q 2012	164,777,493	170,260,588	156,919,704	491,957,785
1q 2013	168,556,340	173,735,967	160,874,997	503,167,304
2q 2013	171,755,602	178,076,841	164,376,355	514,208,798
3q 2013	176,850,639	185,778,492	167,448,015	530,077,146
4q 2013	182,265,413	192,671,534	171,267,534	546,204,481
1q 2014	187,076,961	198,670,499	177,162,997	562,910,457
2q 2014	192,034,573	202,938,892	181,572,977	576,546,442
3q 2014	211,466,008	209,148,481	186,245,204	606,859,693
4q 2014	217,202,202	220,910,082	193,249,745	631,362,029
1Q2015	222,919,382	226,216,090	200,132,898	649,268,370
2Q2015	228,186,225	234,063,491	205,521,951	667,771,667
3Q2015	239,901,108	241,296,083	213,297,215	694,494,406
4Q2015	251,771,779	248,436,294	221,081,223	721,289,295

Market Value History: Non-Core Real Estate Portfolios

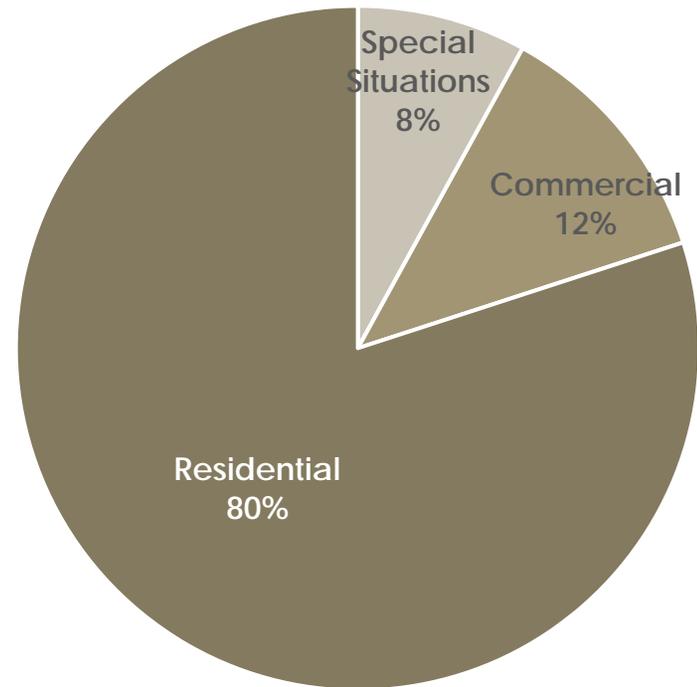
	Golden Driller	American Realty	Antheus	Dune	GreenOak	Landmark	Starwood	Total Non-Core Real Estate Allocation
3q 2014	940,000							940,000
4q 2014	1,341,974	6,358,900	10,750,005	11,662,556	12,221,254	3,323,561		45,658,250
1Q2015	6,726,614	13,750,236	18,812,505	17,310,090	12,398,914	2,336,002		71,334,361
2Q2015	13,242,860	14,249,432	21,500,005	23,292,365	17,293,761	2,875,739		92,454,162
3Q2015	26,742,860	14,751,826	21,500,000	25,890,872	16,427,624	2,357,992		107,671,174
4Q2015	26,742,549	15,367,500	26,875,000	31,962,173	20,537,053	13,155,244	4,721,156	139,360,675

Other Non-Liquid Assets

Opportunistic Investments

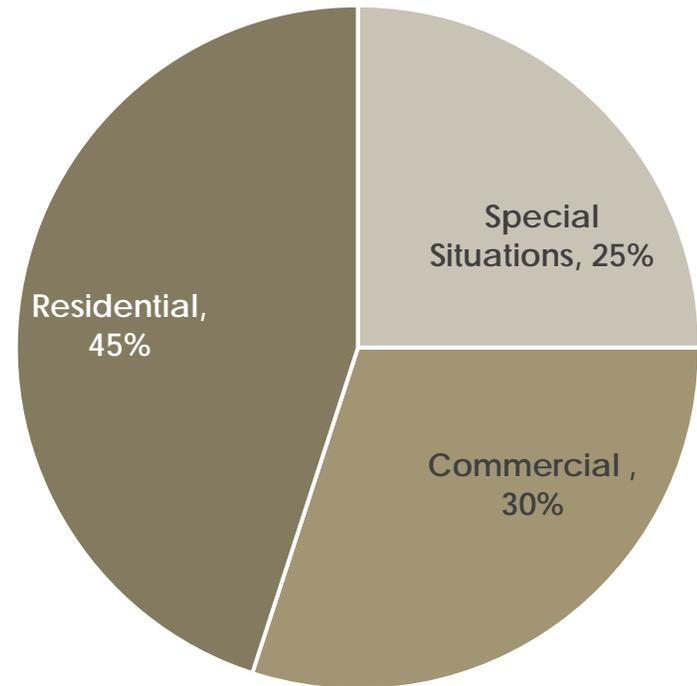
PIMCO Bravo Fund I

- Portfolio Data
 - Original Commitment: \$100 million
 - Capital Called: \$100 million
 - Percent of Capital Called: 100%
 - Market Value: \$30,564,951
 - Total Distributions: \$151,882,485
 - Net Since Inception IRR: **23.1%**
 - Multiple on Called Capital: 1.83x
 - Quarterly Return: -0.5%
- Important Dates
 - Final Close: 7/13/2011
 - Investment Period End Date: 1/13/2014
 - End of Fund Term (without extensions): 7/13/2016
 - End of Fund Term (fully extended): 7/13/2018



PIMCO Bravo II Fund

- Portfolio Data
 - Original Commitment: \$150 million
 - Capital Called: \$120 million
 - Percent of Capital Called: 80%
 - Market Value: \$134,122,094
 - Net Since Inception IRR: **14.0%**
 - Multiple on Called Capital: 1.15x
 - Quarterly Return: 3.7%
 - Geographic Exposure:
 - 63% United States
 - 37% Europe
- Important Dates
 - Investment Period End Date: 3/14/2017
 - End of Fund Term (without extensions): 3/14/2019
 - End of Fund Term (fully extended): 3/14/2022



Appendix

Index Definitions

Index Definition: NFI ODCE

- ▶ NCREIF FUND INDEX – OPEN END DIVERSIFIED CORE EQUITY (NFI-ODCE) The NFI-ODCE is a capitalization-weighted, gross of fee, time-weighted return index with an inception date of December 31, 1977. Supplemental data is also provided, such as equal-weight and net of fee returns, for informational purposes and additional analysis. Open-end Funds are generally defined as infinite-life vehicles consisting of multiple investors who have the ability to enter or exit the fund on a periodic basis, subject to contribution and/or redemption requests, thereby providing a degree of potential investment liquidity. The term Diversified Core Equity style typically reflects lower risk investment strategies utilizing low leverage and generally represented by equity ownership positions in stable U.S. operating properties. The NFI-ODCE, like the NCREIF Property Index (NPI) and other stock and bond indices, is a capitalization-weighted index based on each fund's Net Invested Capital, which is defined as Beginning Market Value Net Assets (BMV), adjusted for Weighted Cash Flows (WCF) during the period. To the extent WCF are not available; which may be the case for older liquidated funds, BMV is used. Indices are typically capitalization-weighted, as they better represent the universe and the performance of the overall marketplace. Total Return of any capitalization-weighted Index is, therefore, more influenced by the larger funds (based on Net Invested Capital) included in the Index.

Index Definition: NFI CEV

- ▶ NFI-CEV (Closed-End Value-Fund Index) is the latest performance benchmark for real estate portfolios. It was first released during the fourth quarter of 2014 in preliminary form which is subject to change. The benchmark tracks funds back to the 1999 vintage year. The current index is comprised of 38 closed end value added funds totaling \$22 billion in gross real estate. All funds included are still active as of current quarter end date. The current report contains current quarter and one year returns, internal rate of return summary and balance sheet information. Future reports will contain expanded data points. The index data is expected to be released roughly 65 days after each calendar quarter end. The index will be maintained in preliminary status for at least one year. For the year ended December 31, 2014, the index produced a total gross of fee return of 20.14%. 6.58% of the return was income while 12.93% was appreciation. Total leverage was 46.4% and occupancy was 86.8%.



OKLAHOMA TEACHERS
RETIREMENT SYSTEM

International Equity Portfolio Structure Analysis

Determining the optimal portfolio structure among
existing international equity managers and
international equity search finalists

Investment Committee Meeting

March 22, 2016



Introduction & Modeling Approach

- The final step to complete the international equity search process begun in May of 2015 is to determine the best way of combining existing international equity managers with finalist firms interviewed by the Board on 2/24/16. The goal is to find the portfolio allocation which is expected to produce the highest return at the level of risk at which the Board is comfortable.
- The appropriate modeling process to address this problem is mean-variance optimization (MVO), otherwise known as efficient frontier analysis. (Efficient portfolios are those that exhibit the highest returns per unit of risk and they collectively form the efficient frontier.) MVO requires three inputs namely, expected returns, expected risk and expected correlations. For portfolio structure optimizations within an asset class where correlations are high (≥ 0.90), MVO analysis can be extended to benchmark-relative data. Correlations are high among the international equity segments examined, so the benchmark-relative approach was applied. The inputs for the MVO analysis are therefore expected excess returns (α^*), expected excess risk (tracking error or TE) and expected excess return correlations
- The Investment Committee has reviewed MVO analysis based upon preliminary estimates of alpha, tracking error and excess return correlations, however, the following analysis is based upon a thorough review and refinement of these estimates and is limited to only the finalist firms and it includes the existing international equity managers. The benchmark index to which the managers and the international small cap allocation are compared is the MSCI ACWI x US IMI index. This broad index includes equities from all developed and emerging markets excluding the US and includes large, mid and small cap companies.

** Excess returns do not meet the technical definition of alpha except in the case where Beta equals one, however, making this simplifying assumption for this analysis is not expected to materially affect the results.*



Introduction & Modeling Approach

- The eight investment manager products and the composite examined are listed below:

Status	Product/Composite short name	Product/Composite long name	Monthly Return History	
			From	To
Current	Intl Small Cap	OK TRS International Small Cap Composite	1/31/2012	1/31/2016
Prospective	SSGA Emg Sm Cap	SSGA Active Emerging Markets Small Cap Strategy	10/31/2007	1/31/2016
Current	NT EAFE	Northern Trust EAFE Index	10/31/2013	1/31/2016
Current	Causeway	Causeway International Opportunities	5/31/2003	1/31/2016
Prospective	Wellington	Wellington International Quality Growth	8/31/2009	1/31/2016
Prospective	Vontobel	Vontobel Internatioal Equities - High Quality Growth at Sensible Prices	2/29/2000	1/31/2016
Prospective	Tocqueville	Tocqueville International Multi Cap Equity Strategy	7/31/2001	1/31/2016
Prospective	Allianz	Allianz Best Styles	4/30/2010	1/31/2016

- The process for refining correlation estimates involved examining historical patterns of excess return correlations between composites and indices and the process for refining alpha and tracking error estimates was to examine historical annualized 36 month rolling period alphas and tracking errors. Another refinement relative to the previously reviewed analysis has to do with constraints applied to potential allocations. MVO, left unconstrained, can produce impractical allocations (overly small or overly large allocations) to individual managers so constraints are employed and practical allocations are evaluated for their efficiency.
- Using the refined modeling inputs, two scenarios were examined: one with the SSGA Emerging Markets Small Cap allocation and one without. The scenario with SSGA Emerging Markets Small Cap constrained the SSGA allocation to a maximum of 7.5%. The second scenario constrains the SSGA allocation to a maximum of 0%. In both scenarios, the maximum for the remaining individual managers is 50 % and the international small cap allocation is constrained to a minimum of 20% and a maximum of 35%.



Executive Summary

- The MVO modeling process identified several efficient portfolios that are superior to the existing structure in terms of delivering higher expected returns (alpha) per unit of risk (tracking error).
- After excluding Vontobel due to professionals turnover and reviewing potential solutions, additional modeling to evaluate six specific practical portfolios was performed. The characteristics of these portfolios are shown in the table below.
- Each portfolio has advantages relative to the current portfolio, however, the portfolio with the most attractive set of characteristics is **Portfolio 5** with a 67% increase in net IR, a 53% increase in net alpha and an 8% reduction in risk all of which would be worth the 38% increase in fees.

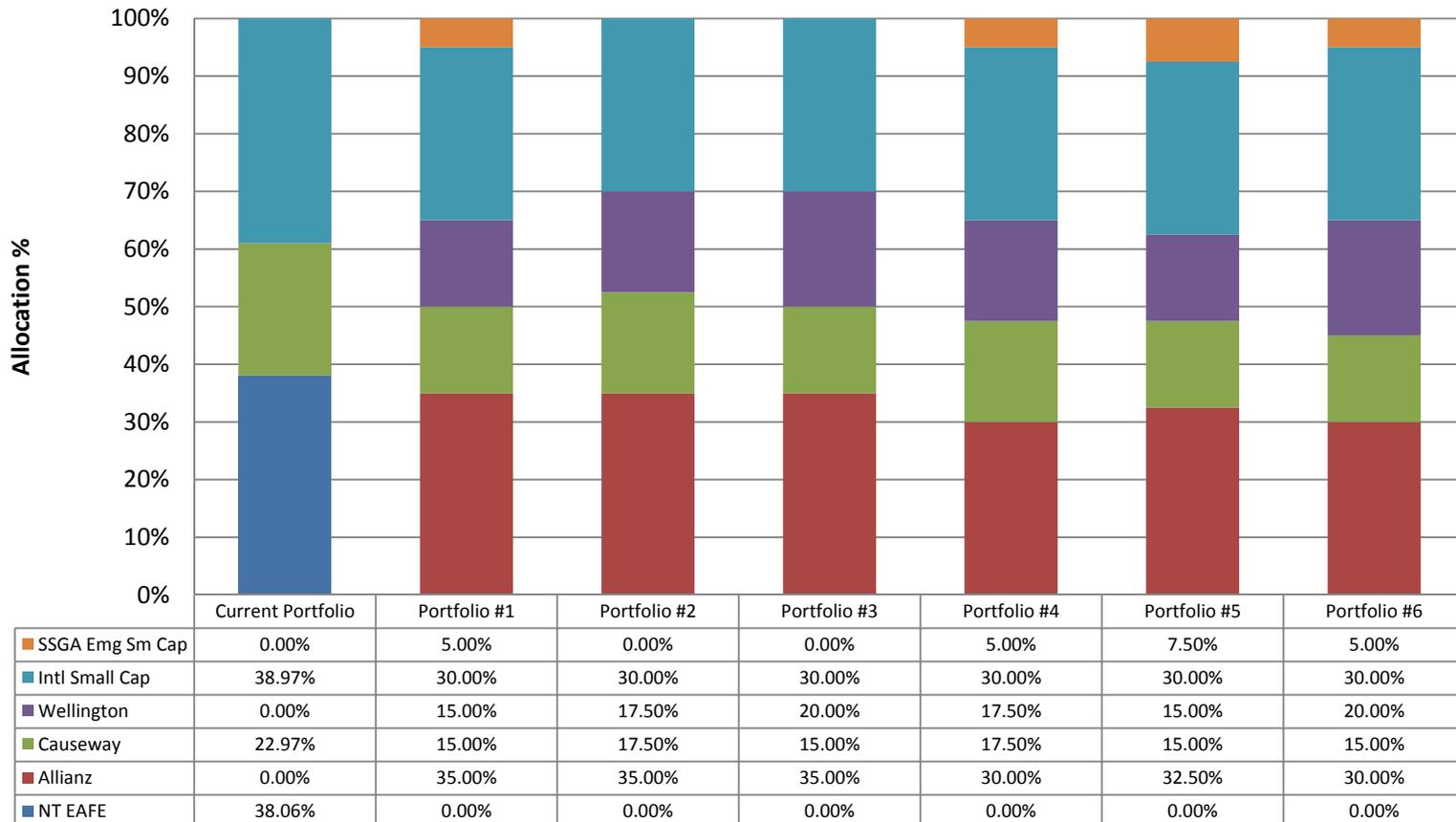
Expected Return and Risk Estimates and Change vs Current Portfolio						
Portfolio Name	Gross Excess Return (alpha)	Excess Risk (Tracking Error)	Gross Info. Ratio (alpha/TE)	Fee Est in BPs	Net Excess Return (alpha)	Net Info. Ratio (alpha/TE)
Current Portfolio	2.21%	2.44%	0.91	36.3	1.85%	0.76
Portfolio #1	3.26%	2.21%	1.48	49.0	2.77%	1.25
Portfolio #2	3.14%	2.31%	1.36	47.4	2.67%	1.15
Portfolio #3	3.19%	2.38%	1.34	48.1	2.71%	1.14
Portfolio #4	3.29%	2.30%	1.43	49.8	2.80%	1.21
Portfolio #5	3.34%	2.24%	1.49	50.0	2.84%	1.27
Portfolio #6	3.34%	2.37%	1.41	50.5	2.83%	1.19
% Change vs Current						
Portfolio #1	47%	-9%	63%	35%	50%	65%
Portfolio #2	42%	-5%	50%	30%	44%	52%
Portfolio #3	44%	-2%	48%	32%	46%	50%
Portfolio #4	49%	-6%	58%	37%	51%	60%
Portfolio #5	51%	-8%	64%	38%	53%	67%
Portfolio #6	51%	-3%	55%	39%	53%	57%



Executive Summary

- As of March 14, 2016 the International Large Cap allocation was at \$1,267 million and the International Small Cap allocation was at \$809 million for a total International Equity allocation of \$2.076 billion. The target allocation of the international equity portfolio is 17.5% or \$2.307 billion.
- The current and proposed potential allocations of the international equity portfolios from the previous page are shown in the chart below. The proposed potential allocations of the international equity portfolio are shown in the chart below. Portfolios 1, 4, 5 and 6 include an allocation to the SSGA emerging markets small cap while Portfolios 2 and 3 do not.

Current Portfolio vs Alternative Structures





Executive Summary

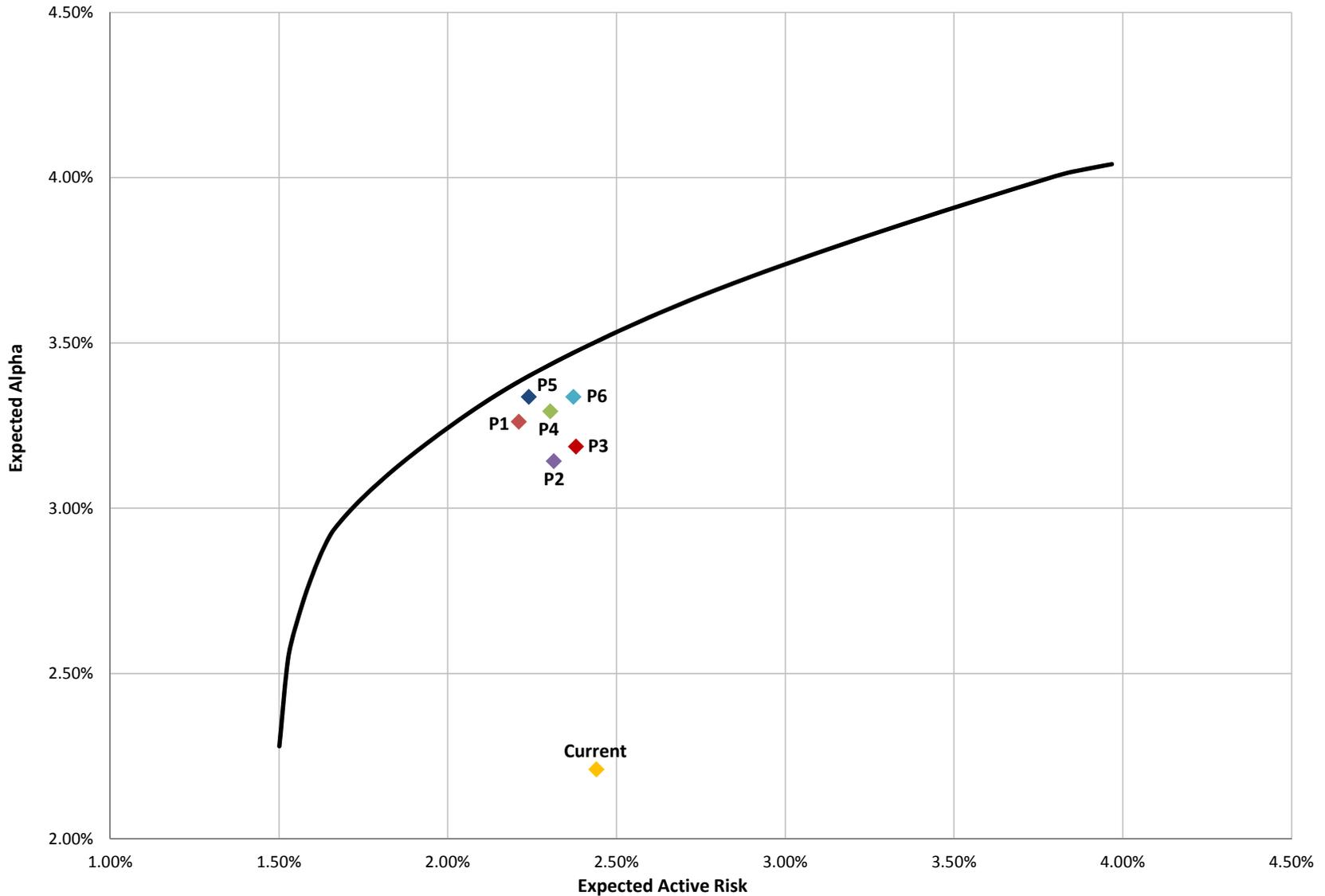
- The same proposed potential allocations of the international equity portfolio from the previous page are shown in the chart below, however the table shows dollar allocations in millions using the international equity target allocation of 17.5% or \$2.307 billion as of March 14, 2016.

Current Portfolio vs Alternative Structures (table below in \$millions)





Efficient Frontier along with Portfolios 1 thru 6 and Current





Portfolio Modeling Estimates

- The estimates used in the portfolio modeling are shown below. Alongside the alpha and tracking error estimates are averages of historical 3 year rolling alpha and tracking error for comparative purposes.

	Estimate	Historical	Estimate	Historical				
Portfolio Description	Gross Excess Return (alpha)	Avg of 3Y Rolling alpha	Excess Risk (Tracking Error)	Avg of 3Y Rolling Tracking Error	Gross Info. Ratio (alpha/TE)	Fee Est in BPs	Net Excess Return (alpha)	Net Info. Ratio (alpha/TE)
Int'l Small Cap	4.50%	6.38%	4.75%	4.10%	0.95	0.80%	3.70%	0.78
SSGA Emg Mkt Sm Cap	5.25%	7.75%	9.00%	9.33%	0.58	0.69%	4.56%	0.51
NT EAFE Index	0.00%	-1.01%	2.50%	2.52%	0.00	0.03%	-0.03%	-0.01
Causeway Lg Val	2.00%	0.50%	4.00%	4.13%	0.50	0.36%	1.64%	0.41
Wellington Lg Gr	3.75%	9.48%	5.60%	5.55%	0.67	0.56%	3.19%	0.57
Vontobel Lg Gr	2.50%	2.38%	7.00%	6.76%	0.36	0.67%	1.83%	0.26
Tocqueville Val	2.50%	1.36%	5.50%	5.39%	0.45	0.65%	1.85%	0.34
Alliance Core	2.25%	3.01%	2.00%	1.77%	1.13	0.30%	1.95%	0.98
Correlation of Excess Return Estimates								
Portfolio Description	Int'l Small Cap	SSGA Emg Mkt Sm Cap	NT EAFE Index	Causeway Lg Val	Wellington Lg Gr	Vontobel Lg Gr	Tocqueville Val	Alliance Core
Int'l Small Cap	1							
SSGA Emg Mkt Sm Cap	-0.02	1						
NT EAFE Index	0.04	-0.39	1					
Causeway Lg Val	0.04	-0.11	0.28	1				
Wellington Lg Gr	0.38	0.00	0.27	0.05	1			
Vontobel Lg Gr	0.06	0.01	0.25	-0.22	0.60	1		
Tocqueville Val	0.40	-0.25	0.30	0.19	0.44	0.22	1	
Alliance Core	0.02	0.00	0.04	0.04	0.07	-0.18	0.10	1



Appendix A

Evaluation of Fees at Various levels of Assets Under Management

- The following two pages show investment management fees by manager as well as the international small cap equity composite. The analysis shows fees at various percentages of the total international equity allocation which is set at the round number of \$2 billion (it is currently at approximately \$1.96 billion). Allocation percentage ranges are chosen to be consistent with ranges from the efficient frontier analysis.
- The concept of a “fair” fee is evaluated by considering the following question: “How much of the total expected gross alpha should the investment manager get for providing active investment management services and how much should the client keep for putting capital at risk with the investment manager?”. In the analysis, a fee is deemed fair if the System keeps at least 80% of the total expected alpha and the investment manager keeps 20% or less. Fair fees are shown in green and less than fair are shown in red.



Appendix B

Refinement of Modeling Estimates for Expected Excess Returns (alpha)

- The following page shows rolling 3 year excess returns for composites and managers. For the analysis, monthly return histories going back as far as 2000 were used with a minimum of 5 years (60 months). The international equity composite was short of the 60 month minimum by 11 months so the MSCI World Small Cap Index returns were used for as proxies for the 11 missing months. Likewise, the Northern EAFE Index fund has only a 28 months of live returns, however, being an index fund, it was considered reasonable to use the MSCI EAFE index returns to complete the series in order to have returns going back 15 years.
- For each chart the rolling 3 year historical excess return is represented by the variable blue line and the estimate used in the modeling is the green horizontal line. The comparison between the two lines shows how well historical returns have matched the modeling estimate.



Appendix C

Refinement of Modeling Estimates for Expected Excess Risk (Tracking Error)

- The following page shows rolling 3 year tracking errors for composites and managers. The same approach and excess returns data as described in Appendix B were used to produce annualized tracking error statistics.
- Similar to Appendix B, for each chart the rolling 3 year historical tracking error is represented by the variable blue line and the estimate used in the modeling is the green horizontal line. The comparison between the two lines shows how well historical tracking errors have matched the modeling estimate.



Appendix D

Refinement of Modeling Estimates for Expected Excess Return Correlations

- The following pages show historical correlations of excess returns among the eight return histories as described in Appendices B & C.
- For the eight excess return histories examined there are 28 unique pairs of correlations. The 28 correlation triangles used to refine the correlation estimates are shown on the following pages.

Teachers' Retirement System of Oklahoma

Request for Proposals

#715-16-_____

Real Estate Broker Services for the Acquisition of Investment Property

The Board of Trustees of the Teachers' Retirement System of Oklahoma (TRS) is seeking proposals from real estate brokers in the Oklahoma City metropolitan area, to assist the Board in finding a commercial office building for an investment and for the possible headquarters of TRS. The broker will serve as a "Buyer's Agent" to help the Board evaluate the suitability of any prospective property and to negotiate on its behalf if necessary.

I. INSTRUCTIONS AND GUIDELINES FOR SUBMITTING PROPOSALS

A. *Deadline and Number of Copies Needed* – Proposals shall be delivered electronically or physically by **4:30 PM, Monday, April _____, 2016**. Vendors submitting a proposal electronically must submit the document .pdf format capable of a word search in the document. As an alternative, Vendors may submit proposals in hard copy. If this option is chosen TRS requires the delivery of one (1) original and four (4) copies of the proposal. Both methods require delivery to the Business Manager of TRS. Electronic submissions should be sent to Donna Spurrier at Donna.Spurrier@trs.ok.gov. Hard copy submission should be delivered to:

Donna Spurrier, Business Manager
Teachers' Retirement System of Oklahoma
2500 N. Lincoln Blvd., 5th Floor
Oklahoma City, OK 73105

B. *Requests for Additional Information from Vendor* - TRS reserves the right to request additional information from any or all Vendors to assist in the evaluation process. However, no Vendor may contact any member of the TRS Board of Trustees or TRS staff during the solicitation process. Contacts should be limited to the TRS Business Manager. (See par. E below.)

C. *Selection Period* - The Vendor selection period begins on the date this RFP is issued and ends on the date the contract is awarded by TRS.

D. *Proposals Become Property of the State* - All materials submitted by Vendors become irrevocable and the sole property of TRS and will not be returned. All proposals submitted and the information contained therein shall be subject to the public disclosure provisions of the Oklahoma Open Records Act after they are opened and discussed by the Board. Title 51 Oklahoma Statutes, §24A.10.

E. *Questions and Clarification by Vendors* - All questions and requests for clarification related to the RFP process, its provisions, meaning or interpretation, should be submitted to the TRS Business Manager. In an effort to clarify any issues in this RFP, TRS will respond only to questions presented through email. Questions should be submitted to Donna Spurrier at Donna.Spurrier@trs.ok.gov. These questions will be consolidated into a single Q&A document which will be posted on the TRS website. No Vendor may contact the TRS Board of Trustees or TRS staff regarding this RFP during the solicitation process except through this Q&A process.

All questions must be received by TRS by **4:30 PM** Central Time on **Friday, April __, 2016**. The Q&A document will be posted on the TRS website at www.ok.gov/trs on or after **Friday, May __, 2016**. This will be the only distribution method for the Q&A document.

F. *Negotiations* - TRS reserves the right to enter into a negotiation process for the top ranked proposal or proposals when it is considered in the best interests of TRS. This negotiation process will involve all parts of the proposal, including the fee proposal submitted by the prospective vendor.

G. *Evaluation of Proposals* – Proposals will be evaluated based on best value. Best value will include an analysis of: (1) Vendor’s understanding of the project, (2) soundness of the approach and quality of the work plan, (3) Vendor’s qualifications including its established record of success in similar transactions, (4) individual qualifications of Vendor’s assigned staff, and (5) the outcome of reference checks on the Vendor.

During the evaluation process, TRS may, at its sole discretion, request any or all Vendors to make oral presentations. If oral presentations are required, it is highly recommended that the lead staff person for the Vendor be present at the finalist’s presentation. All costs associated with such presentation are the responsibility of the Vendor. No costs will be reimbursed by TRS for finalist presentations.

H. *RFP Amendments* - TRS reserves the right to amend this Request for Proposal (RFP) before the due date. Vendors are responsible to check the TRS website for scheduling changes and other amendments to the RFP.

III. BACKGROUND INFORMATION ON TRS

A. Retirement Plans Managed

TRS administers a defined benefit plan for education employees across the state. For more specific information about TRS, see the agency's website at www.ok.gov/trs. The most recent Comprehensive Annual Financial Report for TRS is available on the TRS website at https://www.ok.gov/TRS/Publications/Annual_Report.html.

B. Board of Trustees

TRS is administered by a Board of Trustees composed of 13 voting members and one nonvoting member. The voting members are appointed by various state officials as well as ex officio members. The chief executive officer of the agency is the Executive Director. The Executive Director is appointed by and reports to the Board of Trustees.

All members of the Board of Trustees are fiduciaries of the plans. With the defined benefit assets, Trustees are subject to the "prudent investor" rule. 70 Oklahoma Statutes, §17-106.1(A)(2). The Board has adopted an Investment Policy Statement that governs many of the aspects of its investment program. An acquisition of an office building which may be used to house TRS is not directly covered under the current policy, but if the Board decides to acquire a commercial office building, it is the intent of the Board to amend its policy to include such an asset class.

The Board, its Investment Committee, its external investment consultant, and the TRS staff, share certain aspects of oversight of investment managers. The external Investment Consultant and the TRS Chief Investment Officer, monitor and report on the performance of external investment managers, actively participate in the search for new investment managers, and recommend termination of existing managers. Both the external consultant and the CIO analyze investment costs and recommend changes to the plans' structures.

C. TRS Staff

TRS staff is headed by the Executive Director of TRS. TRS has approximately 35 full-time employees. The current location of the TRS office is the Hodge Building at 2500 N. Lincoln Blvd. in Oklahoma City. TRS currently occupies 18,412 net usable square feet on the 5th floor of the Hodge Building.

IV. OFFICE BUILDING LISTINGS

The office buildings TRS may be interested in are those that have at least 50,000 square feet of usable space, and no more than 300,000 square feet of usable space. The building must be within the city limits of Oklahoma City, and TRS' preference is the building be located within a 15 mile radius of the State Capitol at 2300 N. Lincoln Blvd, Oklahoma City, OK.

V. ACTING AS BUYER'S BROKER

A. TRS seeks a real estate broker to act as the Buyer's Broker and agent for TRS as a potential purchaser of commercial real property in Oklahoma City. Vendor will identify and evaluate property for its suitability as an investment property for TRS and a potential property to house the TRS staff. The Vendor will prepare an adequate market study on the status of the Oklahoma City office market (including an environmental, legal, and economic perspective), research, evaluate, and analyze potential property to identify likely costs of repair or improvement of the property, and forecast net operating income and a capitalization rate TRS might expect to receive on the property.

B. The Vendor will assist in the preparation of any contract for purchase should TRS acquire any property identified by the Vendor. TRS will also have its own legal counsel engaged in the negotiation and review process of any such contract.

C. The Vendor will recommend any amenities or improvements to the property that would make the property more attractive to tenants to increase the return on investment.

VI. REQUEST FOR PROPOSAL CONTENT

The proposal must include the information listed below. The proposal should be formatted on consecutively numbered pages and include a table of contents. Proposals are to address all questions posed in the order in which they appear in this RFP.

A. RFP Cover Sheet (see part II)

The Vendor must fill out and submit the Cover Sheet set forth in Section II of this RFP with the proposal.

B. Cover Letter

The Vendor must include a cover letter, which will be an integral part of the proposal. The letter must be signed by an individual authorized to bind the Vendor contractually. It must include the following elements:

1. A statement regarding the Vendor's legal structure (e.g., an Oklahoma corporation), federal tax identification number, and principal place of business.
2. Vendor's primary contact person on this RFP who has authority to answer questions regarding the proposal:
 - a. Contact's Name
 - b. Contact's Title
 - c. Contact's Address

- d. Contact's Phone and Facsimile numbers
- e. Contact's E-mail address
- 3. A statement that the Vendor's proposal meets all the requirements of this RFP.
- 4. A statement that the Vendor acknowledges and agrees that all documents submitted under this request may be subject to disclosure under Oklahoma's Open Records Act, that any resulting contract and services will be subject to and interpreted by Oklahoma law, and this RFP and the Vendor's response will be incorporated by reference to any resulting contract.
- 5. Minimum Qualifications of Vendor
 - a. The successful vendor must have been in business in the Oklahoma City area for a minimum of five (5) years.
 - b. The individual assigned to the contract as the lead staff person must have a minimum of five (5) years of professional experience in commercial real estate.
 - c. The individual assigned to the contract as the lead staff person must be a licensed real estate broker with the Oklahoma Real Estate Commission. This person cannot be under any disciplinary order by the Commission.
- 6. Commission or Fee – The Vendor shall disclose the commission or fee that the Broker will earn if the property is sold to TRS.

C. Questionnaire

Provide the following information:

- 1. Vendor's office locations, identifying which location will be assigned this project.
- 2. Vendor's organizational structure, including subsidiary and affiliated companies.
- 3. Has the Vendor undergone any material change in its organizational structure or ownership within the last 18 months? If yes, describe the change. Is any material change in ownership or structure under review or being contemplated?
- 4. A description of the Vendor's data and research capacity, and demonstrated expertise of finding quality commercial property. Include comments regarding your company's database of existing commercial property that may be attractive to TRS.
- 5. A description of any material litigation to which your company is currently a party.
- 6. A list and description of litigation brought against your company by existing or former clients over the last five (5) years.

7. A list and description of any inquiries or enforcement actions by the Oklahoma Real Estate Commission involving you or your firm over the last five (5) years.

8. Describe any professional relationship involving any member of the TRS Board of Trustees or staff, for the past five (5) years, with a statement explaining why such relationships do not constitute a conflict of interest relating to performing the proposed review.

D. Understanding of Project

1. Describe in detail your organization's understanding of the services requested by TRS under this engagement.

2. Describe areas or processes, not included in the scope of this engagement, which your company may examine in order to provide more complete services and consulting support on this project.

3. Provide a narrative that supports why your company believes it is qualified to undertake the proposed engagement.

E. Work Plan

The proposal should set forth a work plan including:

1. A detailed explanation of the process you would use from commencement through referral of a potential property. This should include how you identify and evaluate these properties.

2. A description of how the Vendor will consult with and make presentations to the Executive Director, the Chief Investment Officer and designated board members during the project, and assist the TRS Board and staff in narrowing the number of possible properties to those that best meet TRS' needs.

3. A proposed timetable for performing the services under this contract.

4. A complete list of methodologies, variables and assumptions in deriving the cash flow and financial analysis of the property.

F. Vendor Personnel

1. For each individual you propose to assign to this engagement, provide a narrative biography including name, title, date of hire, experience in commercial property transactions, and education.

2. Describe your firm's procedures if a key person assigned to this engagement leaves your firm during the engagement.

G. References

Provide a statement describing similar work that your firm has performed over the last five (5) years related to this project with comparable organizations. The statement should include:

1. The name, address, and phone number of the client.
2. The name and phone number of a responsible official who may be contacted as a general reference.
3. A summary description of the project and significant work completed. Describe comparable projects not successfully completed and comment on the reasons they were unsuccessful.
4. The start and end date of the projects described in question 3 above.

H. Fee Proposal

1. Provide a proposal regarding the fee to be paid to your firm for the services identified in this RFP. The fee should be expressed in a commission should there be a completed purchase, and be inclusive of all travel and other out-of-pocket expenses.
2. Payment of fees will be made when and if a property is purchased by TRS and the transaction is closed. The successful vendor must present an invoice for services (i.e. the commission). TRS will not reimburse the Vendor for any costs associated with the procurement of property if the purchase of a suitable property is not undertaken by the Board and closed.

I. Additional Information

The Vendor should provide any other information it believes relevant to this assignment.

VI. SELECTION CRITERIA

Proposals will be evaluated by TRS, and the Board will make any final decision to award the contract.

During the evaluation process TRS may, at its discretion, request any or all Vendors to make oral presentations. Such presentations will provide Vendors with an opportunity to answer questions regarding the Vendor's proposal. Not all Vendors may be asked to participate.

There are no expressed or implied obligations by TRS to reimburse responding Vendors for any expenses incurred in preparing proposals in response to this RFP.

In the event none of the proposals are satisfactory to TRS, no selection will be made. The Board reserves the right to award all, part, or none of this contract.

VII. ADDITIONAL CONTRACT TERMS AND CONDITIONS FOR PART TWO

A. *Modifications* - Any modification to the contract shall be in writing and agreed to by both the Vendor and TRS prior to any change in services.

B. *Termination* - It is agreed by both parties this contract may be terminated by either party by written notice delivered by mail at least 30 days prior to the termination date.

C. *Cancellation* - In the event the Vendor fails to meet the terms and conditions of this contract or fails to provide services under the contract, TRS may cancel the contract upon written notice of default to the Vendor. Such cancellation shall not be an exclusive remedy but shall be in addition to any other rights and remedies provided by law.

D. *Subcontracting* - The services to be performed under this contract shall not be subcontracted in whole or in part to any other person or entity without the prior written consent of TRS.

E. *Compliance with Law* - Vendor shall be subject to all applicable state and federal laws, rules and regulations and all amendments thereto. It is the Vendor's responsibility to comply with all applicable state and federal laws, rules, and regulations without reliance on or direction by TRS.

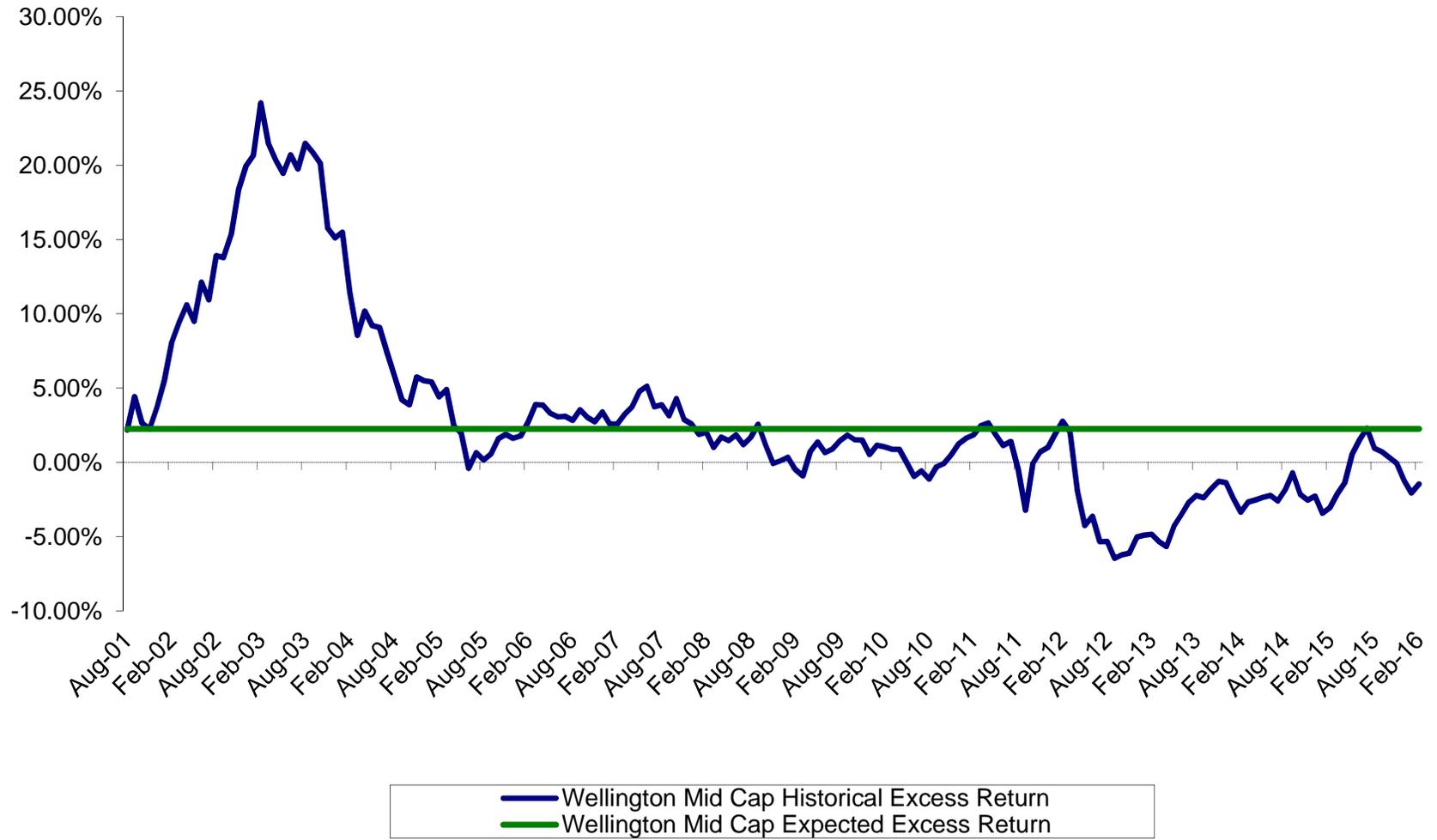
F. *Contract Jurisdiction* - The resulting contract shall be governed by the laws of the State of Oklahoma. In the event any litigation shall occur concerning the terms and conditions of this contract or the rights and duties of the parties, the parties agree that such suit shall be brought in the Courts of the State of Oklahoma.

G. *Limitation of Liability* - The Vendor agrees to indemnify TRS and the State of Oklahoma regarding all damages, expenses, fines, judgments and costs, including attorney fees, arising from negligence, acts or omissions of Vendor, Vendor's agents, subcontractors and assigns with the performance of this contract. Without waiving any defense or immunity, and subject to the Oklahoma Governmental Tort Claims Acts, TRS agrees to bear all expenses, fines, judgments, and costs which may arise from any acts or omission of its officials or employees in connection with this contract.

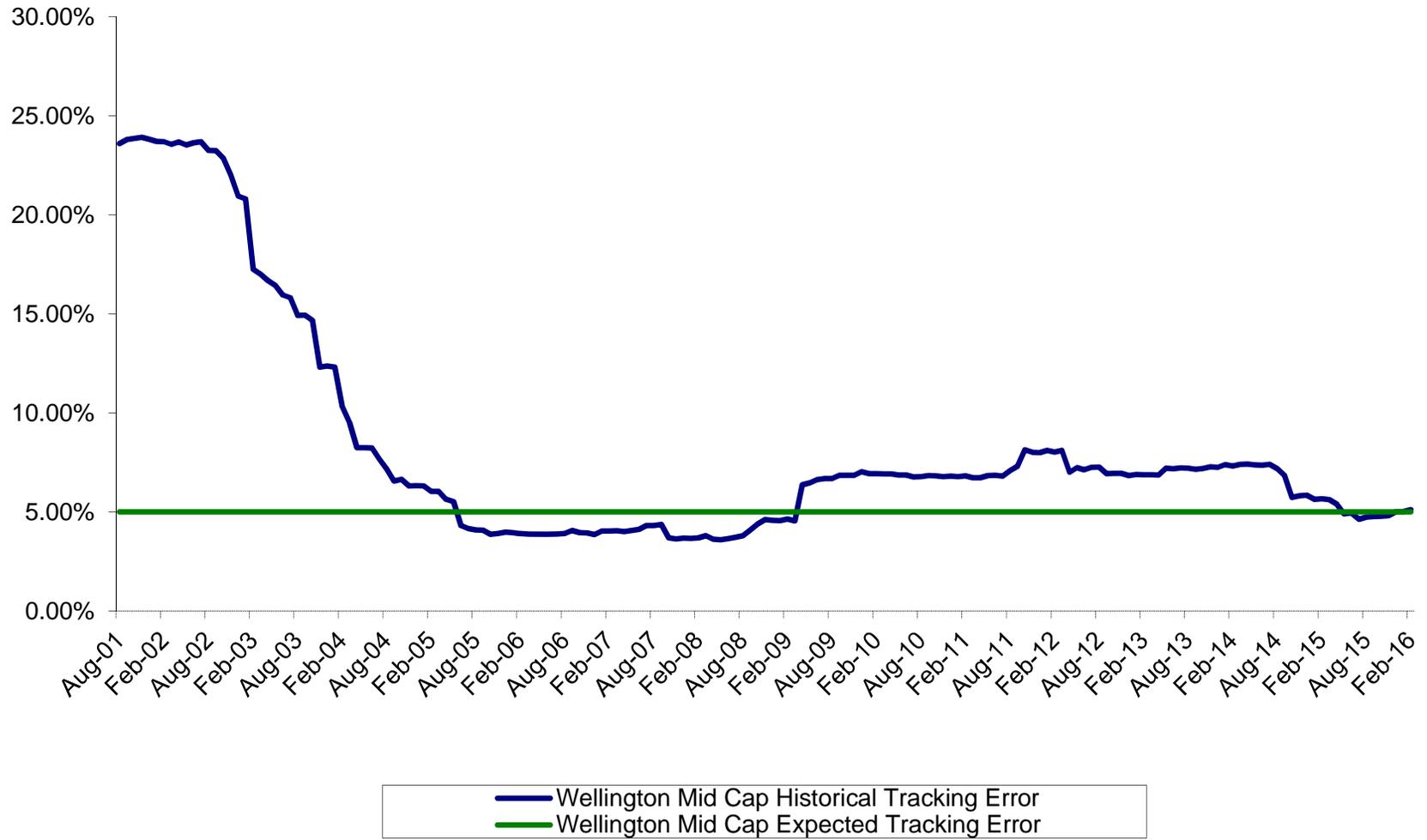
H. *Employment Relationship* - This contract does not create an employment relationship. Individuals performing services required by this contract are not employees of TRS. Vendor's employees shall not be considered employees of TRS for any purpose and as such shall not be eligible for benefits accruing to state employees.

I. *Force Majeure* - Neither party shall be liable for any damages resulting from any delay in delivery or failure to give notice of delay, which directly or indirectly results from the elements, acts of God, delays in transportation, or delays in delivery by any cause beyond their reasonable control.

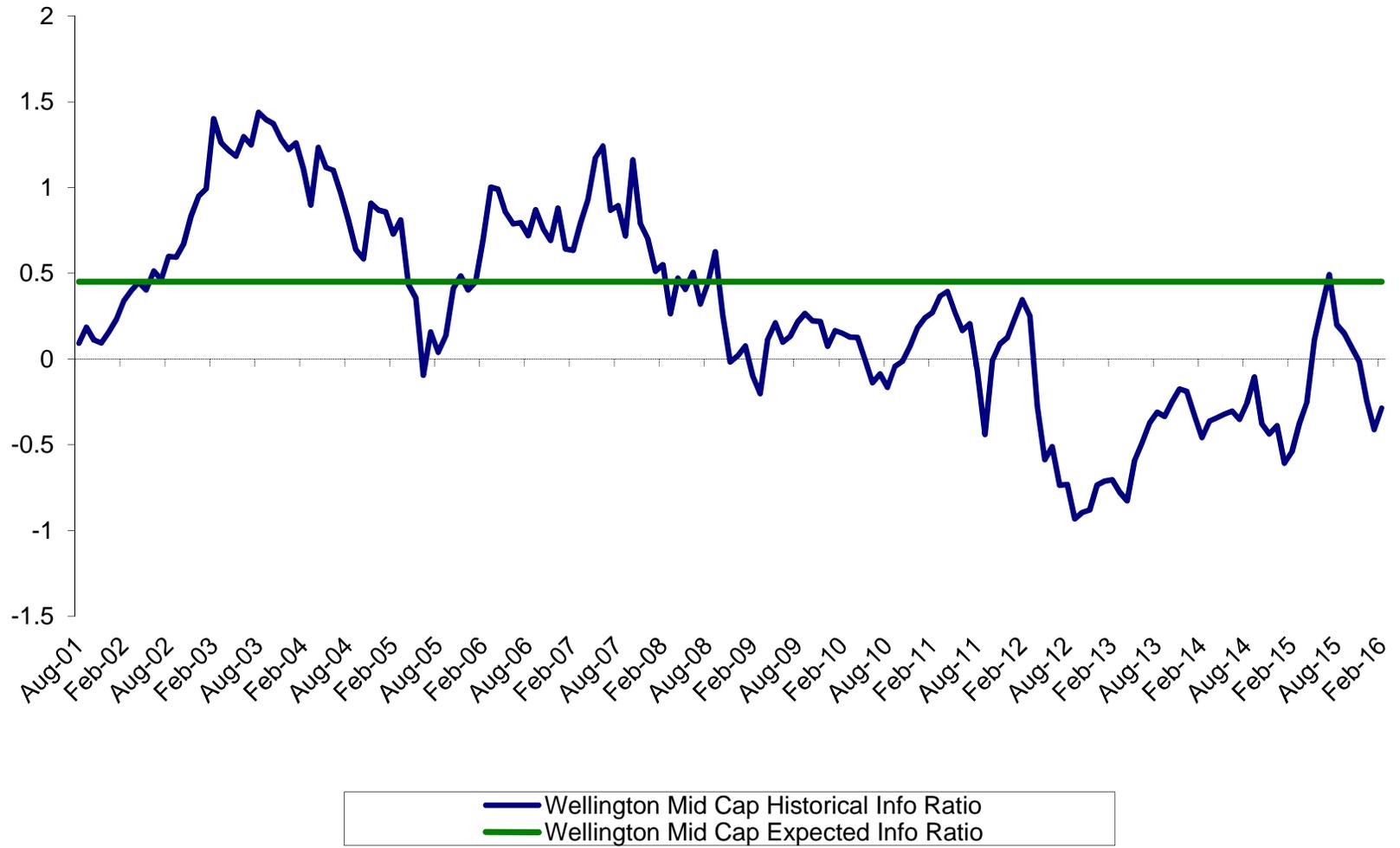
Annualized Rolling 3yr Excess Return vs Russell Mid Cap Growth



Annualized Rolling 3yr Tracking Error vs Russell Mid Cap Growth



Annualized Rolling 3yr Information Ratio vs Russell Mid Cap Growth



TEACHERS' RETIREMENT SYSTEM OF OKLAHOMA

INVESTMENT POLICY STATEMENT

~~REVISED JULY, 2015~~ DRAFT REVISION STAGE 3 MARCH, 2016

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I. INTRODUCTION AND STATEMENTS OF PURPOSE, PHILOSOPHY AND ETHICS

The Board of Trustees of the Teachers' Retirement System of Oklahoma, as the governing body for the System, deems it prudent and necessary to maintain this Investment Policy Statement to act as the principal governing document for the investment of System assets.

A. Legal Authority and System Description

The System is established by statute; the legal authority and description of the System are detailed below.

Constitutional Authority

Section 62 of Article 5 of the Oklahoma Constitution was added as a result of the passage of State Question 306 on July 14, 1942. This section reads:

“The Legislature may enact laws to provide for the retirement for meritorious service of teachers and other employees in the public schools, colleges and universities in this State supported wholly or in part by public funds, and may provide for payments to be made and accumulated from public funds, either of the State or of the several school districts. Payments from public funds shall be made in conformity to equality and uniformity within the same classifications according to duration of service and remuneration received during such service.”

Statutory Authority

As a result of the passage of State Question 306, the Legislature enacted House Bill 297 in the 1943 legislative session that created the Oklahoma Teachers Retirement System (“System”). The legislation has been changed substantially in the years since its creation and is currently codified in Oklahoma Statutes Title 70, Sections 17-101 et. seq. (NOTE: In the remainder of this document, statutory references will follow the notation O.S. 70 § 17-101 to reference Oklahoma Statutes Title 70, Section 17-101.)

Purpose of System

In O.S. 70 § 17-102, paragraph 1 creates the Oklahoma Teachers Retirement System and outlines the purpose of the System as follows:

“A retirement system is hereby established and placed under the management of the Board of Trustees for the purpose of providing retirement allowances and other benefits under the provisions of this act for teachers of the State of Oklahoma.”

Board of Trustees Powers

The second paragraph of O.S. 70 § 17-102 provides the broad terms of the powers entrusted to the Board of Trustees (“Board”):

“The Board of Trustees shall have the power and privileges of a corporation and shall be known as the "Board of Trustees of the Teachers' Retirement System of Oklahoma", and by such name all of its business shall be transacted, all of its funds invested, and all of its cash and securities and other property held in trust for the purpose for which received.”

Further powers vested upon the Board are set forth in O.S. 70 § 17-106, in part:

“(1) The general administration and responsibility for the proper operation of the retirement system and for making effective the provisions of the act are hereby vested in a Board of Trustees which shall be known as the Board of Trustees and shall be organized immediately after a majority of the trustees provided for in this section shall have qualified and taken the oath of office.”

and:

“(10) Subject to the limitations of this act, the Board of Trustees shall, from time to time, establish rules and regulations for the administration of the funds created by this act and for the transaction of its business.

Finally, O.S. 70 § 17-106.1, in part, defines the duties of the Board in relation to investment of fund assets:

“A. The Board of Trustees of the Teachers’ Retirement System of Oklahoma shall discharge their duties with respect to the System solely in the interest of the participants and beneficiaries and:

1. For the exclusive purpose of:
 - a. providing benefits to participants and their beneficiaries, and
 - b. defraying reasonable expenses of administering the System;
2. With the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims;
3. By diversifying the investments of the System so as to minimize the risk of large losses, unless under the circumstances it is clearly prudent not to do so; and
4. In accordance with the laws, documents and instruments governing the System.”

B. Statement of Purpose

A primary purpose of this investment policy statement is to guide fiduciaries, including the Board of Trustees, System staff, investment managers, consultants and others responsible for overseeing and investing the assets of the Fund. This policy also communicates foundational tenets underlying its formulation. This policy provides

specific guidance regarding investment objectives, asset allocation, risk management and the means by which investment objectives are intended to be achieved. Additional specific guidance is given in defining roles, delegated duties and accountabilities of System fiduciaries as well as setting forth logical, disciplined procedures for making decisions.

C. Statement of Investment Philosophy

Since this policy is a communication tool for System fiduciaries, interested stakeholders as well as other external parties, the Board recognizes that it is important to articulate the underlying beliefs that are foundational in its formulation. Key aspects of the Board's investment philosophy are summarized in the following statements.

1. The Fund has an infinite time horizon and the assets should be invested and managed accordingly.
2. A central tenet in investing is the tradeoff between risk and return, meaning that the pursuit of higher expected returns is accompanied with higher expected risk. Bearing some degree of investment risk is necessary in the pursuit of investment return objectives.
3. Investment risk comes in many forms. The most common risk is the volatility of periodic returns measured by the statistical term known as standard deviation. Additionally, there are a variety of other risks to be considered. A partial list of these risks would include the risk of permanent loss of capital, the risk of not meeting objectives, illiquidity risk, credit risk, interest rate risk, inflation risk, leverage risk, concentration risk and manager risk. A primary focus of this investment policy is to balance, manage and, to the extent possible, control these various risks.
4. Funds with long term investment horizons are able to pursue higher expected returns associated with higher risk portfolios because they are able to remain invested when periodic declines in market values occur.
5. The Fund will best contribute to the primary goal of providing benefits to participants and their beneficiaries by realizing high risk-adjusted net returns.
6. The Board acknowledges that while other institutions may make investment decisions to pursue various worthy causes that may be admirable in their own right, the Board's investment decisions are made to achieve the primary goal of providing benefits to participants and their beneficiaries and defraying reasonable expenses.
7. Long-term investing success is best accomplished by adhering to a long-term strategic asset allocation rather than engaging in short term tactical market timing among asset classes.
8. Diversification among asset classes and securities is the primary means of controlling the risk of an investment portfolio.
9. The primary factor determining portfolio risk and return is how the portfolio is allocated among asset classes.

10. The decision-making process for investments should be both disciplined and logical deriving support from current academic theory and the application of rigorous analysis.
11. In less efficient markets where the probabilities of achieving net-of-fee outperformance relative to a passive market index are higher, active management is preferred. In more efficient markets where the probabilities of achieving net-of-fee outperformance relative to a passive market index are lower, low-cost index management is preferred.
12. Certain asset classes are only accessible in the form of private market interests which have very limited liquidity and normally higher costs relative to public market instruments. Investing a portion of the Fund in these illiquid asset classes is reasonable to the extent that they offer some desirable combination of the following relative to available public market asset classes: higher expected net return and/or risk reduction through diversification.

D. Statement of Ethical Standards

The Board of Trustees is committed to maintaining and promoting the highest ethical standards among Board members and among all parties involved in the administration of fund assets.

The Board expects all parties involved in the administration of fund assets, including all System fiduciaries, to conduct their activities according to the highest ethical standards adhering likewise to the principles expressed in the Board of Trustee Policy Manual Chapter 6 – Ethical and Fiduciary Conduct. Given the nature of fund management and investing, particular attention will be given to conflicts of interest. All parties involved in the administration of fund assets should be free of conflicts of interest to avoid even the appearance of not acting in the sole interests of System participants and their beneficiaries. Where any involved party becomes aware of an actual or potential conflict of interest it is their duty to disclose the conflict so that the Board may assess its seriousness.

II. STATEMENT OF ROLES DUTIES AND RESPONSIBILITIES

Comment [KS1]: Moved intact to Section IV

A. Board of Trustees

The Board of Trustees has the final decision making authority for the System. The Investment Committee of the Board has the authority to make investment recommendations to the Board. The Board evaluates and decides whether or not to take action on recommendations from the Investment Committee. The Investment Committee's authority and responsibilities are set forth in the Investment Committee Charter contained in the Board of Trustees Policy Manual.

Trustee duties and responsibilities are listed in summary as follows:

duties and responsibilities of the Board of Trustees include:

1. Adopt, and when deemed necessary, amend this Establish the Investment Policy Statement.
2. Determine delegated duties to be performed by other qualified fiduciaries in order to ensure that the Fund is properly administered and regularly evaluated to assess progress towards achieving established objectives.
3. Receive and evaluate reports, presentations and other materials provided by investment consultant(s), staff, investment managers, and other retained advisors to monitor the administration of Fund assets in accordance with policy objectives and to regularly assess progress towards achieving the goals and objectives defined herein, including the asset allocation, in accordance with the goals and objectives outlined above.
2. Review, at least annually, and modify, as necessary, policy objectives and guidelines, including the development of asset allocation strategies, recommendations on long term asset allocation and the appropriate mix of investment manager styles and strategies.
3. Provide overall policy direction to staff, Investment Consultant(s), Investment Managers, Custodian, Securities Lending Agent and Transition Manager(s) in the execution of the investment policy.
4. Select and contract with qualified professional advisory organizations to perform functions deemed necessary by the Board to manage the Fund in accordance with policy. Common professional advisory organizations would include and retain qualified Investment Consultant(s), Investment Managers, global Custodians and Securities Lending Agents, to advise and manage assets in furtherance of the goals and objectives outlined above.
5. Monitor and review Evaluating the performance of retained professional advisory organizations and staff Investment Managers, Custodian and Securities Lending Agent to determine assess fulfillment of duties, achievement of goals and compliance with policy guidelines.

Comment [KS2]: Moved in substance to Section III.

Comment [KS3]: Seems redundant given Sect I B. regarding purpose

6. Annually conduct a formal review of the performance of Investment Consultant(s), normally to be performed in the month of April.
7. ~~When necessary, terminate~~ Terminating the contracts with any retained professional advisory organization when deemed necessary. ~~Investment Consultant(s), Investment Managers, Custodian or Securities Lending Agent.~~
Review and approve the Investment Staff Annual Work Plan.
Monitor investment activity for compliance with Board policies and adherence by Investment Managers to strategy and direction.
Review overall investment performance to determine whether it meets established benchmarks.
8. ~~Monitor/Review~~ all costs of investment operations at least annually.

Comment [KS4]: 9, 10 and 11 seem redundant to 3 above

B. Staff

~~The~~ A summary of the duties and responsibilities of the ~~Investment Staff~~ is as follows ~~include:~~

1. Provide the Board and the Investment Committee with reports, presentations and any other materials to assist them in the fulfillment of their duties and responsibilities.
- 1-2. ~~Serve~~ as the primary liaison between the Board of Trustees and the Investment Consultant(s), Investment Managers, Custodian, Securities Lending Agent and Transition Manager(s).
- 2-3. ~~Implement~~ Board decisions regarding asset allocation, investment structure, portfolio rebalancing procedures and retention of Investment Consultant(s), Investment Managers, Custodian and Securities Lending Agent.
- 3-4. ~~Coordinate the search, selection, and evaluation and retention decisions of processes for~~ Investment Consultant(s), Investment Managers, Custodian and Securities Lending Agent on behalf of the Board of Trustees.
- 4-5. ~~Monitor and review the performance of~~ the total fund, asset class composites, and Investment Managers, Custodian and Securities Lending Agent ~~to evaluate performance,~~ achievement of objectives and compliance with policy guidelines.
- 5-6. ~~Monitor and review all costs of investment operations including, but not limited to, fees paid to~~ Investment Consultant(s), Investment Managers, and Custodian, Securities Lending Agent and Transition Manager(s); fees netted against System accounts paid to Investment Managers, Custodian, Securities Lending Agent and

~~Transition Manager(s); trading costs and foreign exchange as well as portfolio transactions costs.~~

~~6-7. Manage the liquidity in the Total Portfolio to ensure timely payment of Client benefit payments and plan expenses and the investment of contributions consistent with established asset allocation and portfolio rebalancing policies.~~

~~7-8. Conduct the search and selection of ~~T~~transition ~~M~~anager(s) in collaboration with the ~~I~~nvestment ~~C~~onsultant(s) as directed by the Board.~~

~~8-9. Conduct due diligence in collaboration with the ~~I~~nvestment ~~C~~onsultant(s) when ~~I~~nvestment ~~M~~anagers fail to meet the expectations of the Board or are formally placed 'On Alert' or "On Notice" ~~on the Investment Consultant's Monthly Manager Status Report.~~~~

~~9-10. ~~Explore, r~~Research, ~~analyze~~ and review ~~new innovative~~ investment ideas and ~~managers concepts~~ in collaboration with the ~~I~~nvestment ~~C~~onsultant(s) in an effort to ~~keep the system current with investment options~~ identify potential modifications to improve the investment portfolio.~~

~~10-11. ~~Review weekly with the Investment Consultant~~Monitor the status and performance of ~~current the total fund, asset class composites and~~ ~~I~~nvestment ~~M~~anagers ~~and to~~ determine if any issues need to be addressed by the ~~Staff Investment Committee~~ or the Board of Trustees.~~

~~INVESTMENT STAFF REPORTING REQUIREMENTS~~

Comment [KS5]: Moved intact to Section VI. Evaluation and Review

~~As Necessary (based on occurrence and on a timely basis)~~

- ~~1. Review any material Investment Policy compliance violations.~~
- ~~2. Review pertinent information regarding due diligence on Managers that have failed to meet the expectations of the Board or are placed 'On Alert' or "On Notice" on the Investment Consultant's Monthly Manager Status Report.~~

~~Monthly~~

- ~~a) Review presenting Investment Managers' portfolio characteristics including relevant benchmark comparisons, portfolio performance, liquidity, holdings and holdings overlap between managers.~~

~~Quarterly~~

- ~~1. Review all costs of trading.~~
- ~~2. Certify to Board that Investment Consultant has certified their compliance with all requirements of this Investment Policy Statement. Report to the Board if any Investment Consultant(s) have failed to certify their compliance, and make recommendations as to any action Board should consider.~~

~~3. Report to the Board if any Investment Managers have failed to certify their compliance, and make recommendations as to any action Board should consider.~~

~~4. Other comments or information as required.~~

Annually

~~1. Present Investment Staff Annual Work Plan to Board of Trustees for Review.~~

~~2. Review of investment oversight process, total fund construction and evaluation of investment manager's portfolio.~~

~~3. Review all costs of investment operations including, but not limited to, fees netted against system accounts and fees paid to Investment Consultant(s), Investment Managers, Custodian, Securities Lending Agent and Transition Manager(s).~~

~~4. The General Counsel shall review the ADV filed with the SEC by the Investment Consultant and advise of any material findings and/or changes.~~

~~Review all form ADV's filed with the SEC on all Investment Managers and advise the board on any material changes and/or findings.~~

C. Investment Consultant

~~The A summary of the duties and responsibilities of the Investment Consultant(s) retained by the Board is as follows include:~~

~~1. Be appointed, and act as, aAcknowledge status as a fiduciary for to the System and remain in compliance both with this investment policy and with the current executed contract with the System.~~

~~2. Provide the Board and the Investment Committee with reports, presentations and any other materials to assist them in the fulfillment of their duties and responsibilities.~~

~~3. Assist the Board in developing and modifying policy objectives and guidelines, including the development of asset allocation strategies, recommendations on long-term asset allocation and the appropriate mix of investment manager styles and strategies.~~

~~4. Assist the Board by monitoring compliance with this Investment Policy.~~

~~5. Provide assistance in investment performance calculation, evaluation, and analysis.~~

~~6. Provide assistance in Investment Manager searches and selection.~~

~~7. Provide assistance in Custodian, Securities Lending Agent, Transition Manager and Commission Recapture Agent searches and selection.~~

- 7.8. Provide timely information, written and/or oral, on investment strategies, instruments, ~~M~~managers and other related issues, as requested by the Board.
- 8.9. Monitor the Board's investment managers and notify the Board and staff of any material changes in the ~~I~~investment ~~M~~managers' ~~firm's~~ organizational structure, ~~or~~ their staffing personnel or if there are performance issues.
- 9.10. Certify on a quarterly basis, in writing to the Board, the ~~I~~investment ~~C~~onsultant's compliance with this Statement as it currently exists or as modified in the future.
- 10.11. Reporting to the Board at their request. The ~~I~~investment ~~C~~onsultant shall report to the Board as ~~outlined detailed in Section VI of this policy below~~. Monthly All reports should be timely submitted, in writing within 15 days of the end of each month.
- 11.12. Review ~~weekly~~ with the ~~S~~taff the status and performance of current ~~I~~investment ~~M~~anagers and determine if any issues need to be addressed by the ~~S~~taff or the Board of Trustees.
- 12.13. Provide assistance Collaborate with Staff in the search and selection of ~~T~~ransition ~~M~~anager(s) as directed by the Board.
- 13.14. Provide assistance Collaborate with Staff in the conduct of due diligence when ~~I~~investment ~~M~~anagers fail to meet the expectations of the Board or are placed 'On Alert' or 'On Notice'; ~~on the Investment Consultant's Monthly Manager Status Report.~~
- 14.15. Explore, research, analyze and review new investment ideas and managers in collaboration with the ~~S~~taff in an effort to keep the system current with investment options.

INVESTMENT CONSULTANT REPORTING REQUIREMENTS

Comment [KS6]: Moved intact to Section VI. Evaluation and Review

~~As Necessary~~ (based on occurrence and on a timely basis)

~~1. Review of Investment Consultant Organizational Structure~~

- ~~a. Organizational changes (i.e., ownership).~~
- ~~b. Any departures/additions to consulting staff.~~
- ~~c. Material changes in assets under advisement.~~

~~Monthly~~

- ~~a. Performance Review.~~
- ~~i. Present total fund, asset class and Investment Manager gross returns and net of fee returns for last month, last quarter, year to date, fiscal year to date, last~~

~~year, last three years, last five years, last ten years, and since inception versus designated benchmarks.~~

~~ii. Compare actual asset allocation to target asset allocation and make recommendations for rebalancing.~~

~~iii. Present manager status summary, including any recommended changes.~~

~~b. Other comments or information as required.~~

~~Quarterly~~

~~a. Performance Review.~~

~~i. Present total fund, asset class and Investment Manager returns and peer group rankings for last calendar quarter, year to date, fiscal year to date, last year, last three years, last five years and since inception versus designated benchmarks.~~

~~ii. Review and analysis of any outstanding investment manager policy exceptions.~~

~~b. Other comments or information as required.~~

~~e. Certify to Board that Investment Consultant is in compliance with all requirements of this Investment Policy Statement.~~

~~d. Certify to Board that Investment Managers have certified their compliance with all requirements of this Investment Policy Statement. Report to the Board if any Investment Managers have failed to certify their compliance, and make recommendations as to any action Board should consider.~~

~~Annually~~

~~a. Review of investment oversight process, total fund construction and evaluation of investment manager's portfolio.~~

~~a. Brief review of the Investment Consultant's oversight process.~~

~~b. Critical analysis of the performance of the total fund, with particular attention paid to asset categories and Investment Managers that underperformed their relative benchmarks and the actuarially assumed rate of return.~~

~~c. Review of the asset allocation strategy used over the past year and underlying rationale.~~

~~d. Evaluation of strategies success/disappointments.~~

~~e. Current asset allocation strategy and underlying rationale.~~

- ~~b. Review of revenue sources and conflict of interest disclosure.~~
 - ~~a. Provide the board with financial information regarding annual brokerage revenues, conference fees and sponsorships, and other monies received from money managers versus consulting revenues received directly from clients.~~
 - ~~b. Disclose all brokerage and other compensation, including conference fees, consulting fees and sponsorships, received by the consultant from the System's managers.~~
 - ~~c. Disclose any compensation received by the Investment Consultant from any Investment Manager or other vendor it recommends hiring.~~
 - ~~d. Disclose any affiliated Investment Management Firm.~~
 - ~~e. Disclose any affiliated Investment Management firm. Summary of Investment Guidelines.~~
 - ~~i. Discuss adherence to guidelines.~~
 - ~~ii. Comments, concerns, or suggestions regarding the policy statement.~~

D. Investment Managers

~~A summary of the~~ The duties and responsibilities of each ~~of the~~ investment managers retained by the Board ~~include~~ is as follows:

- ~~1. Acknowledge status as a fiduciary to the System and remain in compliance both with this investment policy and with the current executed contract with the System. Be appointed, and act as, a fiduciary for the System.~~
- ~~1.2. Provide the Board, the Investment Committee, the staff and the investment consultant(s) with reports, presentations and any other materials to assist them in the fulfillment of their duties and responsibilities.~~
- ~~2.3. Managing Manage~~ the Fund's assets in accordance with the policy guidelines and objectives expressed herein.
- ~~3.4. Prudently selecting~~ investments based on thorough evaluation of all risks applicable to stated mandate.
- ~~4.5. Working~~ with the ~~C~~ustodian and the ~~I~~nvestment ~~C~~onsultant to verify monthly accounting and performance reports.
- ~~5.6. Certify on a quarterly basis, in writing to the Board, the Investment Manager's compliance with this Statement as it currently exists or as modified in the future.~~
- ~~6.7. Reporting~~ to the Board at their request. Each manager shall report to the Board and the Investment Consultant ~~as outlined below. Monthly reports should be~~

~~submitted in writing within 15 days of the end of each month according to the reporting requirements set forth in Section VI of this policy.~~

~~8. It is the responsibility of each Investment Manager to act as a fiduciary in adopting and adhering to proxy voting policies, and the manager certifies/acknowledging that its proxy voting policies may affect the value of their respective portfolio.~~

~~7.9. Seek to obtain best execution in all securities transactions to minimize the costs of trading.~~

~~INVESTMENT MANAGER REPORTING REQUIREMENTS~~

Comment [KS7]: Moved intact to Section VI. Evaluation and Review

~~As Necessary (based on occurrence and on a timely basis)~~

~~a. Review of Organizational Structure:~~

~~a. Organizational changes (i.e., ownership):~~

~~b. Discussion of any material changes to the investment process:~~

~~c. Any departures/additions to investment staff:~~

~~d. Material changes in assets under management:~~

~~Monthly~~

~~All Managers with at least monthly reconciliation and valuation will provide:~~

~~a. Performance Review:~~

~~i. Present total fund and asset class returns for last month, calendar quarter, year to date, last year, last three years, last five years and since inception versus designated benchmarks:~~

~~ii. Present total fund net of fees returns for last month, calendar quarter, year to date, last year, last three years, last five years and since inception:~~

~~iii. Discuss performance relative to benchmarks; provide attribution analysis that identifies returns due to allocation and selection decisions:~~

~~iv. Provide portfolio characteristics:~~

~~v. Risk and Return Attribution analysis of any granted exceptions to investment policy analysis:~~

~~b. Provide Portfolio Holdings:~~

~~i. Present book value and current market value:~~

~~ii. List individual securities by sector.~~

~~e. Other Comments or Information.~~

~~**Quarterly**~~

~~a. Summary of Investment Guidelines.~~

~~i. Discuss adherence to guidelines.~~

~~ii. Comments, concerns, or suggestions regarding the policy statement.~~

~~b. Certify to Board and the Investment Consultant that Manager is in compliance with all requirements of this Investment Policy Statement. Said certification shall be in writing and shall be received by the Board and Investment Consultant no later than 30 days after the end of each calendar quarter.~~

~~c. Any Manager that manages a particular mandate that does not reconcile assets and provide market value of assets on a monthly basis will provide monthly performance and holdings reporting on a quarterly basis.~~

~~**Annually**~~

~~a. Review of Investment Process and Evaluation of Portfolio Management Process.~~

~~a. Brief review of investment process.~~

~~b. Investment strategy used over the past year and underlying rationale.~~

~~c. Evaluation of strategies success/disappointments.~~

~~d. Current investment strategy and underlying rationale.~~

~~b. Provide, in either printed form or electronic access to, Form ADV filed with the Securities and Exchange Commission.~~

~~c. Each manager, as pertinent to their applicable mandate, will report at least annually to the Board of Trustees their respective commissions recapture program on behalf of the Teachers' System. Each advisor shall provide:~~

~~a. A copy of its monitoring procedures.~~

~~b. A statement demonstrating compliance with Section 28(e) of the Securities Exchange Act of 1934, and/or other applicable laws.~~

~~c. Analysis of execution.~~

- ~~d. Each manager, as pertinent to their applicable mandate, will report annually to the Board of Trustees a record of proxy policies, as well as voting record for the previous 12-month period.~~

E. Custodian

~~A summary of the~~ The duties and responsibilities of the custodian bank(s) retained by the System will be responsible for performing the following functions is as follows:

- ~~1. Acknowledge status as a fiduciary to the System and remain in compliance both with this investment policy and with the current executed contract with the System. Be appointed, and act as, a fiduciary for the System.~~
- ~~2. Provide the Board, the Investment Committee, the staff and the investment consultant(s) with reports, presentations and any other materials to assist them in the fulfillment of their duties and responsibilities.~~
- ~~3. Accept daily instructions from designated staff.~~
- ~~4. Notify investment managers of proxies, tenders, rights, fractional shares or other dispositions of holdings.~~
- ~~5. Safekeeping of securities.~~
- ~~6. Timely collection of interest and dividends.~~
- ~~7. Daily cash sweep of idle principal and income cash balances.~~
- ~~8. Processing of and maintain records of all investment manager transactions.~~
- ~~9. Collection of proceeds from maturing securities.~~
- ~~10. Disbursement of all income or principal cash balances as directed.~~
- ~~10. Providing monthly statements by investment account and a consolidated statement of all assets.~~
~~Provide monthly exchange traded funds and cash position by investment manager.~~
- ~~11. Provide written statements revealing monthly~~ Perform regular reconciliations of holdings and transactions with the System's retained custody and investment managers on at least a monthly basis² accounting statements.
- ~~12. Working~~ with the System's staff and the investment consultant to ensure accuracy in reporting.
- ~~13. Manage and administer the System's directed brokerage program.~~

~~13-14.~~ Monitor compliance with this Investment Policies Statement, provide applicable research to ensure the validity of suspected breaches, and submit appropriate commentary offering a recommendation to the reported breach.

~~14-15.~~ Participate in an annual review of compliance with OTRS staff, to determine the effectiveness of investment policy testing. Providing required reports to assist the System's staff and vendors with compliance with the Governmental Accounting Standards Board, the Internal Revenue Service, the Securities and Exchange Commission, the Financial Industry Regulatory Authority and other regulatory agencies.

~~15-16.~~ ~~Monitoring-Monitor, file and reporting-ofreport on securities class action lawsuitsuits related to securities fraud claimsand collect and record settlement and-proceeds,-and-collection-of-subsequent-proceeds.~~

~~16-17.~~ Processing and ~~filing-fileof~~ Foreign Tax Reclaims on behalf of the System.

F. Securities Lending Agent

~~A summary of the duties and responsibilities of T~~the securities lending agent ~~will be responsible for managing the securities lending program including the following functionsretained by the System is as follows:~~

~~1.~~ Acknowledge status as a fiduciary to the System and remain in compliance both with this investment policy and with the current executed contract with the System.

~~1-2.~~ Provide the Board, the Investment Committee, the staff and the investment consultant(s) with reports, presentations and any other materials to assist them in the fulfillment of their duties and responsibilities.~~Be appointed, and act as, a fiduciary for the System.~~

~~2-3.~~ Arrange terms and conditions of securities loans.

~~3-4.~~ Monitor the market value of the securities lent and mark to market at least daily and ensure that any necessary calls for additional collateral are made and that such collateral is obtained on a timely basis.

~~4-5.~~ Direct the investment of cash received as collateral in accordance with direction from the Board, provided that such investments are consistent with guidelines provided in this document.

~~5-6.~~ Notify the Board of any changes to the investment guidelines in the Securities and Exchange Commission's rule 2A7 for consideration by the Board.

~~6-7.~~ Notify OTRS staff in the event that a recalled security has not been returned by a borrowing party within 10 days of the request.

G. Transition Manager

The Transition Managers shall manage the transition of assets from one or more investment managers or asset categories to one or more other investment managers or asset categories. Transition managers shall be selected among those approved by the Board. Transition managers shall be utilized when such employment is likely to present significant opportunities for cost savings, technical efficiencies or other benefits to the System.

A summary of the duties and responsibilities of Transition Managers retained by the System is as follows:~~shall be responsible for managing transitions including the following functions:~~

1. Acknowledge status as a fiduciary to the System and remain in compliance both with this investment policy and with the current executed contract with the System~~Be appointed, and act as, a fiduciary for the System.~~
2. Provide a pre-trade analysis, which will include, among other things, a trading liquidity analysis, portfolio sector analysis, volatility analysis, and estimated transaction costs.
3. Provide a detailed written plan of transition execution.
4. Provide a post-trade analysis, comparing the actual costs with the pre trade estimates. The report will also include various trading statistics, benchmarking information, and detailed trade reports.
5. In all securities transactions, transition managers shall seek to obtain best execution to minimize the costs of trading.

III. PROCEDURES

A. Investment Policy Review

In order to keep the Investment Policy current, the Board will at least annually, review and modify, as deemed necessary any portions of the policy. The annual review will consider, but not be limited to, the following: objectives and guidelines, the development of asset allocation strategies, recommendations on long-term asset allocation and the appropriate mix of investment manager styles and strategies.

The Board, both upon their own initiative and upon consideration of the advice and recommendations of staff, consultants, the investment managers and other fund professionals involved with the assets, may amend policy guidelines. Proposed modifications should be documented in writing to the Board.

B. Investment Manager Policy Exceptions

Requests for an exception to invest in securities precluded by section V. A. or the applicable mandate's specific policies, should be submitted in writing to the Board of Trustees and include justification for such request, proposed process for providing quarterly reporting on attribution analysis of the contribution of the allowed exception, and a requested time period, up to three years. Exception requests will undergo a reevaluation and approval process at the end of each term.

C. Third Party Marketing and Referrals Disclosure Policy

The Teachers' Retirement System of Oklahoma requires transparency and full disclosure of all relationships in proposed and committed investments with any third parties. A "third party marketer" is a person who represents an asset management firm or any other type of investment services provider, as an independent contractor rather than as an employee of the firm, for the purpose of making presentations or securing contracts with OTRS for the firm or provider. Any such third party marketer must disclose himself or herself as a third party marketer before at the same time as contacting any member of the Board of Trustees, employee of OTRS or the outside investment consultant for OTRS. In addition, firms submitting investment proposals for consideration by Teachers' Retirement System of Oklahoma (including any sub-managers or consultants engaged by such firms) are hereby required to disclose the identity of all third-party marketers and/or individuals by whom the firm has been referred to Teachers' Retirement System of Oklahoma and further indicate those so identified that stand to receive fees or other consideration in the event that a contract between the firm and the Teachers' Retirement System of Oklahoma is secured. Any consideration paid or benefits received, or any relationship between such firm (including any sub-managers or consultants engaged by such firms) and third party marketing entities and/or individuals, shall be disclosed. The disclosure requirements established by this Policy apply throughout the term of any contractual relationship Teachers' Retirement System of Oklahoma may have with any firm and represents a continuing obligation of disclosure. This Policy becomes effective immediately and applies to all firms currently managing Teachers' Retirement System of Oklahoma assets. All firms submitting investment proposals must make the disclosures required by this

Policy prior to any action being taken on the firm's investment proposal by the Board, as well as comply with the continuing obligation of disclosure.

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Investment Portfolio as of March 14, 2016

Asset allocation vs Policy Targets

Accounts	Market Value	Accruals	Market Value and Accr	%Allocation	Target Allocation	Min % Allocation	Max % Allocation
Cash and Equivalents	\$48,356,552.83	\$4,546.99	\$48,361,099.82	0.37%	0.0%	0.0%	0.0%
Core Plus Fixed Income	\$2,160,487,543.07	\$20,277,474.51	\$2,180,765,017.58	16.54%	17.5%	15.8%	19.3%
Domestic All Cap Equity	\$484,759,914.84	\$1,170,230.48	\$485,930,145.32	3.69%	7.0%	6.3%	7.7%
Domestic Large Cap Equity	\$1,769,273,092.26	\$3,519,572.98	\$1,772,792,665.24	13.45%	10.0%	9.0%	11.0%
Domestic Mid Cap Equity	\$1,937,504,770.29	\$4,563,912.66	\$1,942,068,682.95	14.73%	13.0%	11.7%	14.3%
Domestic Small Cap Equity	\$1,403,465,495.27	\$1,200,074.06	\$1,404,665,569.33	10.65%	10.0%	9.0%	11.0%
High-Yield Fixed Income	\$749,927,753.30	\$14,456,377.98	\$764,384,131.28	5.80%	6.0%	5.4%	6.6%
International Lg Cap Equity	\$1,259,442,472.17	\$8,020,534.74	\$1,267,463,006.91	9.61%	11.5%	10.4%	12.7%
International Sm Cap Equity	\$806,953,164.59	\$2,336,087.19	\$809,289,251.78	6.14%	6.0%	5.4%	6.6%
Master Limited Partnerships	\$805,557,625.79	\$910,204.31	\$806,467,830.10	6.12%	7.0%	6.3%	7.7%
Opportunistic	\$160,344,498.53	\$0.56	\$160,344,499.09	1.22%	0.0%	0.0%	5.0%
Private Equity	\$631,916,499.00	\$0.00	\$631,916,499.00	4.79%	5.0%	4.5%	5.5%
Real Estate	\$909,112,794.23	\$0.00	\$909,112,794.23	6.90%	7.0%	6.3%	7.7%
Grand Total	\$13,127,102,176.17	\$56,459,016.46	\$13,183,561,192.63	100.00%			

Accounts	\$Variance to Target	%Variance to Target	Target Mkt Value	\$ Below Min	\$ Above Max	Min \$ Allocation	Max \$ Allocation
Cash and Equivalents	\$48,361,099.82	0.37%	\$0.00		\$48,361,099.82	\$0.00	\$0.00
Core Plus Fixed Income	-\$126,358,191.13	-0.96%	\$2,307,123,208.71			\$2,076,410,887.84	\$2,537,835,529.58
Domestic All Cap Equity	-\$436,919,138.16	-3.31%	\$922,849,283.48	\$344,634,209.82		\$830,564,355.14	\$1,015,134,211.83
Domestic Large Cap Equity	\$454,436,545.98	3.45%	\$1,318,356,119.26		\$322,600,934.05	\$1,186,520,507.34	\$1,450,191,731.19
Domestic Mid Cap Equity	\$228,205,727.91	1.73%	\$1,713,862,955.04		\$56,819,432.40	\$1,542,476,659.54	\$1,885,249,250.55
Domestic Small Cap Equity	\$86,309,450.07	0.65%	\$1,318,356,119.26			\$1,186,520,507.34	\$1,450,191,731.19
High-Yield Fixed Income	-\$26,629,540.28	-0.20%	\$791,013,671.56			\$711,912,304.40	\$870,115,038.71
International Lg Cap Equity	-\$248,646,530.24	-1.89%	\$1,516,109,537.15	\$97,035,576.53		\$1,364,498,583.44	\$1,667,720,490.87
International Sm Cap Equity	\$18,275,580.22	0.14%	\$791,013,671.56			\$711,912,304.40	\$870,115,038.71
Master Limited Partnerships	-\$116,381,453.38	-0.88%	\$922,849,283.48	\$24,096,525.04		\$830,564,355.14	\$1,015,134,211.83
Opportunistic	\$160,344,499.09	1.22%	\$0.00			\$0.00	\$659,178,059.63
Private Equity	-\$27,261,560.63	-0.21%	\$659,178,059.63			\$593,260,253.67	\$725,095,865.59
Real Estate	-\$13,736,489.25	-0.10%	\$922,849,283.48			\$830,564,355.14	\$1,015,134,211.83
Grand Total	\$0.00	0.00%	\$13,183,561,192.63				



Investment Portfolio as of March 14, 2016
Allocation by Investment Account and Asset Class

Accounts	Market Value	Accruals	Market Value and Accruals	%Allocation	Accounts
*OTRS-CUSTOM CASH FLOW-SL					
*OTRS-CUSTOM CASH FLOW-SL	\$48,356,552.83	\$4,546.99	\$48,361,099.82	0.37%	
*OTRS-CUSTOM CASH FLOW-SL Total	\$48,356,552.83	\$4,546.99	\$48,361,099.82	0.37%	1
Core Plus Fixed Income					
OTRS-HOISINGTON INVESTMENT	\$338,278,697.78	\$2,149,304.39	\$340,428,002.17	2.58%	
OTRS-LOOMIS SAYLES CORE PLUS	\$606,278,452.98	\$6,123,116.35	\$612,401,569.33	4.65%	
OTRS-LORD ABBETT CORE PLUS	\$617,621,100.70	\$5,100,813.84	\$622,721,914.54	4.72%	
OTRS-MACKAY SHIELDS CORE PLUS	\$598,309,291.61	\$6,904,239.93	\$605,213,531.54	4.59%	
Core Plus Fixed Income Total	\$2,160,487,543.07	\$20,277,474.51	\$2,180,765,017.58	16.54%	4
Domestic All Cap Equity					
OTRS-ADVISORY RESEARCH ALL	\$299,756.48	\$30,726.49	\$330,482.97	0.00%	
OTRS-EPOCH INVESTMENTS	\$484,460,158.36	\$1,139,503.99	\$485,599,662.35	3.68%	
Domestic All Cap Equity Total	\$484,759,914.84	\$1,170,230.48	\$485,930,145.32	3.69%	2
Domestic Large Cap Equity					
OTRS-HOTCHKIS & WILEY LG CAP	\$540,288,362.76	\$1,624,057.18	\$541,912,419.94	4.11%	
OTRS-NORTHERN TRUST S&P 500	\$479,635,159.66	\$845,984.71	\$480,481,144.37	3.64%	
OTRS-SAWGRASS LG CAP	\$545,668,050.70	\$552,412.15	\$546,220,462.85	4.14%	
OTRS-SSGA S&P EQUAL WEIGHT	\$203,681,519.14	\$497,118.94	\$204,178,638.08	1.55%	
Domestic Large Cap Equity Total	\$1,769,273,092.26	\$3,519,572.98	\$1,772,792,665.24	13.45%	4
Domestic Mid Cap Equity					
OTRS-ARONSON, JOHNSON & ORTIZ	\$539,654,745.44	\$2,315,573.58	\$541,970,319.02	4.11%	
OTRS-FRONTIER MID CAP	\$490,254,301.42	\$359,511.09	\$490,613,812.51	3.72%	
OTRS-HOTCHKIS & WILEY MID CAP	\$469,718,027.21	\$1,553,630.64	\$471,271,657.85	3.57%	
OTRS-WELLINGTON MID CAP	\$437,877,696.22	\$335,197.35	\$438,212,893.57	3.32%	
Domestic Mid Cap Equity Total	\$1,937,504,770.29	\$4,563,912.66	\$1,942,068,682.95	14.73%	4
Domestic Small Cap Equity					
OTRS-COVE STREET	\$106,288,741.28	\$27,186.17	\$106,315,927.45	0.81%	
OTRS-FRONTIER CAP SMALL CAP	\$163,344,851.91	\$184,945.62	\$163,529,797.53	1.24%	
OTRS-GENEVA CAPITAL	\$207,520,612.05	\$101,564.85	\$207,622,176.90	1.57%	
OTRS-NEUMEIER POMA SMALL CAP	\$126,786,665.40	\$92,690.27	\$126,879,355.67	0.96%	
OTRS-SHAPIRO CAP SMALL CAP	\$606,351,646.75	\$701,322.77	\$607,052,969.52	4.60%	
OTRS-WASATCH ADV SMALL CAP	\$193,172,977.88	\$92,364.38	\$193,265,342.26	1.47%	
Domestic Small Cap Equity Total	\$1,403,465,495.27	\$1,200,074.06	\$1,404,665,569.33	10.65%	6
High-Yield Fixed Income					
OTRS-LOOMIS SAYLES HIGH YIELD	\$241,828,177.69	\$4,342,143.92	\$246,170,321.61	1.87%	
OTRS-LORD ABBETT HIGH YIELD	\$255,987,517.54	\$5,023,727.66	\$261,011,245.20	1.98%	
OTRS-MACKAY SHIELDS HIGH YIELD	\$252,112,058.07	\$5,090,506.40	\$257,202,564.47	1.95%	
High-Yield Fixed Income Total	\$749,927,753.30	\$14,456,377.98	\$764,384,131.28	5.80%	3
International Lg Cap Equity					
OTRS-CAUSEWAY CAPITAL	\$474,099,648.48	\$2,883,810.08	\$476,983,458.56	3.62%	
OTRS-NORTHERN TRUST INTL	\$785,342,823.69	\$5,136,724.66	\$790,479,548.35	6.00%	
International Lg Cap Equity Total	\$1,259,442,472.17	\$8,020,534.74	\$1,267,463,006.91	9.61%	2
International Sm Cap Equity					
OTRS-ADVISORY RESEARCH INTL	\$200,934,694.49	\$922,827.89	\$201,857,522.38	1.53%	
OTRS-EPOCH INTL	\$195,337,335.27	\$542,485.74	\$195,879,821.01	1.49%	
OTRS-WASATCH INTL	\$207,246,433.79	\$348,180.07	\$207,594,613.86	1.57%	
OTRS-WELLINGTON INTL	\$203,434,701.04	\$522,593.49	\$203,957,294.53	1.55%	
International Sm Cap Equity Total	\$806,953,164.59	\$2,336,087.19	\$809,289,251.78	6.14%	4
Master Limited Partnerships					
OTRS-ADVISORY RESEARCH	\$192,406,279.64	\$145,792.27	\$192,552,071.91	1.46%	
OTRS-CHICKASAW CAPITAL	\$313,190,227.36	\$571,376.18	\$313,761,603.54	2.38%	
OTRS-CUSHING ASSET	\$299,961,118.79	\$193,035.86	\$300,154,154.65	2.28%	
Master Limited Partnerships Total	\$805,557,625.79	\$910,204.31	\$806,467,830.10	6.12%	3
Opportunistic					
*OTRS-PIMCO BRAVO II-SL	\$134,122,093.77	\$0.00	\$134,122,093.77	1.02%	
*OTRS-PIMCO BRAVO-SL	\$26,222,404.76	\$0.56	\$26,222,405.32	0.20%	
Opportunistic Total	\$160,344,498.53	\$0.56	\$160,344,499.09	1.22%	2
Private Equity					
*OTRS-LEGACY LP-SL	\$43,864,159.00	\$0.00	\$43,864,159.00	0.33%	
OTRS-FRANKLIN PARK-SL	\$588,052,340.00	\$0.00	\$588,052,340.00	4.46%	
Private Equity Total	\$631,916,499.00	\$0.00	\$631,916,499.00	4.79%	2
Real Estate					
*OTRS-AEW REAL ESTATE-SL	\$252,204,324.95	\$0.00	\$252,204,324.95	1.91%	
*OTRS-AMERICAN REALTY ADV-SL	\$12,398,858.05	\$0.00	\$12,398,858.05	0.09%	
*OTRS-ANTHEUS CAPITAL-SL	\$26,875,000.00	\$0.00	\$26,875,000.00	0.20%	
*OTRS-DUNE REAL ESTATE-SL	\$32,572,806.00	\$0.00	\$32,572,806.00	0.25%	
*OTRS-GREENOAK REAL ESTATE-SL	\$27,280,783.00	\$0.00	\$27,280,783.00	0.21%	
*OTRS-HEITMAN REAL ESTATE-SL	\$257,795,592.05	\$0.00	\$257,795,592.05	1.96%	
*OTRS-L&B GOLDEN DRILLER-SL	\$26,742,549.00	\$0.00	\$26,742,549.00	0.20%	
*OTRS-L&B REAL ESTATE-SL	\$232,531,182.18	\$0.00	\$232,531,182.18	1.76%	
*OTRS-LANDMARK REALTY ADV-SL	\$12,878,044.00	\$0.00	\$12,878,044.00	0.10%	
*OTRS-STARWOOD CAPITAL-SL	\$27,833,655.00	\$0.00	\$27,833,655.00	0.21%	
Real Estate Total	\$909,112,794.23	\$0.00	\$909,112,794.23	6.90%	10
Grand Total	\$13,127,102,176.17	\$56,459,016.46	\$13,183,561,192.63	100.00%	47



OKLAHOMA TEACHERS RETIREMENT SYSTEM

Investment Portfolio as of March 14, 2016 Allocation by Investment Management Firm

Firms	Market Value and Accruals	%Allocation	# Firms
NORTHERN TRUST	\$1,319,321,792.54	10.01%	
HOTCHKIS & WILEY	\$1,013,184,077.79	7.69%	
LORD ABBETT	\$883,733,159.74	6.70%	
MACKAY SHIELDS	\$862,416,096.01	6.54%	
LOOMIS SAYLES	\$858,571,890.94	6.51%	
EPOCH INVESTMENTS	\$681,479,483.36	5.17%	
FRONTIER	\$654,143,610.04	4.96%	
WELLINGTON	\$642,170,188.10	4.87%	
FRANKLIN PARK	\$631,916,499.00	4.79%	
SHAPIRO CAP	\$607,052,969.52	4.60%	
SAWGRASS	\$546,220,462.85	4.14%	
ARONSON, JOHNSON & ORTIZ	\$541,970,319.02	4.11%	
CAUSEWAY CAPITAL	\$476,983,458.56	3.62%	
WASATCH	\$400,859,956.12	3.04%	
ADVISORY RESEARCH	\$394,740,077.26	2.99%	
HOISINGTON INVESTMENT	\$340,428,002.17	2.58%	
CHICKASAW CAPITAL	\$313,761,603.54	2.38%	
CUSHING ASSET	\$300,154,154.65	2.28%	
L&B REAL ESTATE	\$259,273,731.18	1.97%	
HEITMAN REAL ESTATE	\$257,795,592.05	1.96%	
AEW REAL ESTATE	\$252,204,324.95	1.91%	
GENEVA CAPITAL	\$207,622,176.90	1.57%	
SSGA	\$204,178,638.08	1.55%	
PIMCO	\$160,344,499.09	1.22%	
NEUMEIER POMA	\$126,879,355.67	0.96%	
COVE STREET	\$106,315,927.45	0.81%	
DUNE REAL ESTATE	\$32,572,806.00	0.25%	
STARWOOD CAPITAL	\$27,833,655.00	0.21%	
GREENOAK REAL ESTATE	\$27,280,783.00	0.21%	
ANTHEUS CAPITAL	\$26,875,000.00	0.20%	
LANDMARK REALTY ADV	\$12,878,044.00	0.10%	
AMERICAN REALTY ADV	\$12,398,858.05	0.09%	
Grand Total	\$13,183,561,192.63	100.00%	32



Correlations ACWI x US to World x US Sm Cap

To	From														
	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15
1-02	0.89														
1-03	0.87	0.86													
1-04	0.90	0.89	0.87												
1-05	0.90	0.89	0.89	0.89											
1-06	0.90	0.90	0.91	0.92	0.96										
1-07	0.90	0.89	0.90	0.91	0.93	0.91									
1-08	0.90	0.89	0.91	0.91	0.93	0.92	0.93								
1-09	0.93	0.94	0.95	0.96	0.96	0.96	0.96	0.98							
1-10	0.94	0.94	0.95	0.96	0.96	0.96	0.97	0.98	0.96						
1-11	0.94	0.95	0.96	0.96	0.96	0.96	0.97	0.98	0.97	0.98					
1-12	0.95	0.95	0.96	0.96	0.97	0.97	0.97	0.98	0.97	0.98	0.99				
1-13	0.95	0.95	0.96	0.96	0.97	0.97	0.97	0.98	0.97	0.98	0.98	0.97			
1-14	0.95	0.95	0.96	0.96	0.97	0.97	0.97	0.98	0.97	0.97	0.97	0.96	0.95		
1-15	0.95	0.95	0.96	0.96	0.96	0.96	0.97	0.97	0.97	0.97	0.96	0.94	0.91	0.89	
1-16	0.95	0.95	0.96	0.96	0.96	0.96	0.96	0.97	0.96	0.96	0.96	0.94	0.93	0.92	0.96



Correlations ACWI x US to EM Sm Cap

To	From														
	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15
1-02	0.74														
1-03	0.77	0.83													
1-04	0.82	0.87	0.86												
1-05	0.81	0.85	0.86	0.86											
1-06	0.83	0.86	0.88	0.90	0.93										
1-07	0.83	0.86	0.88	0.89	0.91	0.89									
1-08	0.83	0.86	0.88	0.89	0.89	0.88	0.89								
1-09	0.89	0.91	0.93	0.94	0.94	0.94	0.95	0.96							
1-10	0.90	0.92	0.93	0.94	0.94	0.95	0.95	0.96	0.95						
1-11	0.90	0.92	0.93	0.93	0.93	0.94	0.94	0.95	0.92	0.93					
1-12	0.90	0.92	0.93	0.93	0.93	0.93	0.94	0.94	0.92	0.92	0.92				
1-13	0.90	0.91	0.92	0.92	0.93	0.93	0.93	0.94	0.91	0.91	0.91	0.91			
1-14	0.90	0.91	0.92	0.92	0.92	0.92	0.92	0.93	0.91	0.90	0.90	0.88	0.84		
1-15	0.90	0.91	0.92	0.92	0.92	0.92	0.92	0.93	0.91	0.90	0.89	0.87	0.83	0.86	
1-16	0.89	0.90	0.91	0.91	0.91	0.91	0.92	0.92	0.90	0.89	0.87	0.85	0.82	0.82	0.80



Correlations

World x US SmCp to EM SmCp

To	From														
	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15
1-02	0.75														
1-03	0.73	0.71													
1-04	0.78	0.80	0.83												
1-05	0.78	0.79	0.81	0.78											
1-06	0.79	0.80	0.82	0.83	0.87										
1-07	0.79	0.81	0.82	0.83	0.86	0.84									
1-08	0.80	0.81	0.82	0.83	0.85	0.86	0.90								
1-09	0.87	0.89	0.91	0.92	0.93	0.94	0.95	0.96							
1-10	0.88	0.89	0.91	0.91	0.93	0.93	0.94	0.95	0.88						
1-11	0.88	0.89	0.90	0.91	0.92	0.92	0.92	0.94	0.88	0.93					
1-12	0.88	0.90	0.91	0.91	0.92	0.92	0.92	0.93	0.90	0.92	0.93				
1-13	0.88	0.90	0.90	0.91	0.92	0.92	0.92	0.93	0.90	0.92	0.92	0.92			
1-14	0.88	0.89	0.90	0.90	0.91	0.91	0.91	0.92	0.89	0.90	0.90	0.86	0.82		
1-15	0.88	0.89	0.90	0.90	0.90	0.90	0.91	0.92	0.88	0.89	0.87	0.83	0.73	0.79	
1-16	0.87	0.88	0.89	0.89	0.90	0.90	0.90	0.91	0.87	0.87	0.86	0.81	0.76	0.75	0.79



Correlations BofAML HY Index to Ru3000

From																															
To	1-87	1-88	1-89	1-90	1-91	1-92	1-93	1-94	1-95	1-96	1-97	1-98	1-99	1-00	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15		
1-88	-0.15																														
1-89	-0.11	0.01																													
1-90	-0.01	0.28	0.38																												
1-91	0.26	0.55	0.62	0.75																											
1-92	0.31	0.52	0.57	0.65	0.53																										
1-93	0.30	0.50	0.54	0.62	0.46	0.07																									
1-94	0.29	0.47	0.51	0.57	0.37	-0.07	-0.20																								
1-95	0.32	0.49	0.53	0.59	0.47	0.37	0.45	0.63																							
1-96	0.32	0.49	0.53	0.58	0.45	0.41	0.49	0.66	0.11																						
1-97	0.32	0.47	0.50	0.53	0.39	0.34	0.39	0.50	0.18	0.14																					
1-98	0.33	0.47	0.50	0.53	0.41	0.40	0.45	0.53	0.41	0.47	0.70																				
1-99	0.37	0.50	0.52	0.54	0.47	0.50	0.53	0.59	0.57	0.60	0.68	0.74																			
1-00	0.38	0.49	0.51	0.53	0.47	0.49	0.53	0.58	0.57	0.59	0.66	0.68	0.53																		
1-01	0.38	0.49	0.50	0.52	0.47	0.48	0.50	0.54	0.52	0.53	0.56	0.55	0.42	0.41																	
1-02	0.42	0.52	0.53	0.55	0.52	0.53	0.55	0.58	0.57	0.57	0.60	0.59	0.53	0.54	0.66																
1-03	0.46	0.55	0.56	0.58	0.55	0.56	0.57	0.59	0.59	0.58	0.60	0.59	0.57	0.59	0.66	0.69															
1-04	0.46	0.54	0.55	0.56	0.54	0.54	0.56	0.57	0.56	0.56	0.58	0.57	0.57	0.59	0.64	0.63	0.13														
1-05	0.45	0.53	0.54	0.56	0.53	0.54	0.55	0.56	0.55	0.55	0.57	0.56	0.56	0.58	0.62	0.60	0.31	0.32													
1-06	0.45	0.53	0.54	0.55	0.53	0.54	0.55	0.56	0.55	0.55	0.56	0.56	0.55	0.57	0.61	0.59	0.39	0.42	0.59												
1-07	0.46	0.53	0.54	0.56	0.53	0.54	0.55	0.56	0.56	0.55	0.57	0.56	0.56	0.58	0.62	0.59	0.42	0.48	0.62	0.83											
1-08	0.46	0.53	0.54	0.56	0.53	0.54	0.55	0.56	0.55	0.55	0.56	0.56	0.55	0.57	0.60	0.57	0.46	0.48	0.54	0.54	0.41										
1-09	0.49	0.55	0.55	0.56	0.55	0.55	0.55	0.56	0.56	0.55	0.56	0.56	0.57	0.58	0.60	0.61	0.60	0.61	0.63	0.63	0.61	0.64									
1-10	0.53	0.58	0.59	0.60	0.59	0.59	0.60	0.60	0.60	0.60	0.61	0.62	0.63	0.65	0.67	0.68	0.69	0.71	0.72	0.73	0.74	0.77	0.93								
1-11	0.52	0.57	0.58	0.59	0.58	0.58	0.59	0.59	0.59	0.59	0.60	0.60	0.61	0.63	0.64	0.65	0.64	0.66	0.67	0.68	0.68	0.69	0.70	0.38							
1-12	0.52	0.57	0.58	0.59	0.58	0.58	0.59	0.59	0.59	0.59	0.60	0.60	0.61	0.62	0.64	0.64	0.63	0.65	0.66	0.66	0.66	0.66	0.67	0.69	0.55	0.68					
1-13	0.52	0.57	0.58	0.59	0.58	0.58	0.58	0.59	0.59	0.59	0.59	0.60	0.60	0.62	0.63	0.63	0.62	0.63	0.64	0.65	0.65	0.66	0.66	0.66	0.52	0.61	0.34				
1-14	0.52	0.56	0.57	0.58	0.57	0.57	0.57	0.58	0.58	0.58	0.58	0.58	0.59	0.59	0.60	0.62	0.61	0.60	0.62	0.62	0.63	0.63	0.63	0.61	0.44	0.47	0.13	-0.01			
1-15	0.51	0.56	0.56	0.57	0.56	0.56	0.56	0.57	0.57	0.57	0.57	0.58	0.58	0.59	0.60	0.60	0.59	0.60	0.61	0.61	0.61	0.61	0.61	0.58	0.38	0.38	0.07	-0.05	-0.15		
1-16	0.50	0.55	0.55	0.56	0.55	0.55	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.57	0.58	0.59	0.58	0.57	0.58	0.59	0.59	0.59	0.58	0.59	0.55	0.37	0.36	0.20	0.16	0.14	0.19



Correlations BofAML HY Index to BC Agg

From																														
To	1-87	1-88	1-89	1-90	1-91	1-92	1-93	1-94	1-95	1-96	1-97	1-98	1-99	1-00	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15	
1-88	0.75																													
1-89	0.59	0.04																												
1-90	0.52	0.31	0.61																											
1-91	0.43	0.30	0.41	0.38																										
1-92	0.38	0.26	0.30	0.24	-0.02																									
1-93	0.38	0.26	0.29	0.24	0.12	0.37																								
1-94	0.36	0.24	0.26	0.22	0.12	0.17	-0.07																							
1-95	0.42	0.34	0.37	0.39	0.46	0.61	0.65	0.80																						
1-96	0.43	0.35	0.38	0.38	0.44	0.60	0.64	0.75	0.29																					
1-97	0.43	0.36	0.39	0.40	0.47	0.61	0.64	0.73	0.60	0.70																				
1-98	0.43	0.37	0.39	0.40	0.47	0.60	0.62	0.69	0.57	0.61	0.51																			
1-99	0.36	0.30	0.31	0.31	0.31	0.35	0.34	0.37	0.15	0.04	-0.15	-0.70																		
1-00	0.38	0.31	0.33	0.33	0.35	0.38	0.37	0.40	0.25	0.14	0.03	-0.29	0.29																	
1-01	0.36	0.30	0.32	0.32	0.32	0.34	0.33	0.35	0.23	0.17	0.12	0.01	0.31	0.47																
1-02	0.33	0.28	0.29	0.29	0.28	0.29	0.28	0.29	0.19	0.13	0.09	0.01	0.19	0.23	0.02															
1-03	0.27	0.21	0.22	0.21	0.19	0.18	0.16	0.17	0.08	0.03	-0.01	-0.07	0.02	0.00	-0.13	-0.24														
1-04	0.27	0.22	0.23	0.22	0.21	0.20	0.19	0.20	0.13	0.09	0.06	0.03	0.11	0.08	0.03	0.04	0.58													
1-05	0.29	0.24	0.25	0.24	0.23	0.23	0.22	0.22	0.16	0.13	0.11	0.08	0.15	0.13	0.11	0.14	0.59	0.70												
1-06	0.29	0.25	0.26	0.25	0.25	0.24	0.23	0.24	0.18	0.15	0.13	0.10	0.18	0.16	0.15	0.19	0.55	0.59	0.46											
1-07	0.29	0.25	0.26	0.26	0.25	0.24	0.23	0.24	0.18	0.15	0.14	0.11	0.18	0.16	0.15	0.20	0.55	0.57	0.48	0.54										
1-08	0.29	0.25	0.26	0.25	0.24	0.24	0.23	0.23	0.18	0.15	0.13	0.11	0.17	0.16	0.15	0.18	0.42	0.39	0.27	0.16	0.25									
1-09	0.33	0.31	0.32	0.32	0.31	0.31	0.31	0.32	0.30	0.28	0.29	0.28	0.32	0.32	0.32	0.35	0.45	0.47	0.48	0.51	0.56	0.59								
1-10	0.31	0.29	0.30	0.30	0.30	0.30	0.30	0.30	0.29	0.28	0.28	0.28	0.31	0.31	0.32	0.34	0.43	0.44	0.45	0.46	0.48	0.53	0.24							
1-11	0.30	0.28	0.29	0.29	0.29	0.29	0.29	0.29	0.27	0.27	0.27	0.26	0.30	0.30	0.30	0.33	0.40	0.41	0.42	0.42	0.43	0.48	0.19	-0.12						
1-12	0.29	0.27	0.28	0.28	0.27	0.27	0.27	0.27	0.25	0.25	0.25	0.24	0.28	0.27	0.28	0.30	0.37	0.37	0.37	0.37	0.38	0.41	0.03	-0.35	-0.50					
1-13	0.29	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.25	0.24	0.24	0.24	0.27	0.27	0.27	0.29	0.36	0.36	0.36	0.35	0.36	0.39	0.06	-0.27	-0.35	0.07				
1-14	0.29	0.27	0.28	0.28	0.28	0.27	0.27	0.28	0.26	0.25	0.25	0.24	0.28	0.27	0.28	0.30	0.36	0.36	0.36	0.36	0.36	0.39	0.17	0.02	0.05	0.50	0.69			
1-15	0.29	0.27	0.28	0.28	0.28	0.27	0.27	0.28	0.26	0.25	0.25	0.24	0.28	0.27	0.28	0.30	0.36	0.36	0.35	0.35	0.36	0.38	0.17	0.06	0.10	0.38	0.49	0.42		
1-16	0.30	0.28	0.28	0.29	0.28	0.28	0.28	0.28	0.26	0.25	0.25	0.25	0.28	0.28	0.28	0.30	0.36	0.36	0.35	0.35	0.35	0.38	0.20	0.11	0.14	0.30	0.35	0.29	-0.11	



Correlations BofAML HY Index to HIMCO

From																														
To	1-87	1-88	1-89	1-90	1-91	1-92	1-93	1-94	1-95	1-96	1-97	1-98	1-99	1-00	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15	
1-88	0.31																													
1-89	0.28	0.12																												
1-90	0.24	0.04	0.28																											
1-91	0.23	0.22	0.28	0.26																										
1-92	0.14	0.09	0.09	0.07	0.00																									
1-93	0.16	0.12	0.12	0.11	0.10	0.48																								
1-94	0.13	0.09	0.09	0.06	0.01	0.12	-0.13																							
1-95	0.26	0.25	0.25	0.28	0.38	0.57	0.58	0.76																						
1-96	0.25	0.25	0.25	0.26	0.34	0.52	0.53	0.65	0.12																					
1-97	0.26	0.27	0.27	0.29	0.38	0.53	0.54	0.63	0.52	0.67																				
1-98	0.27	0.27	0.27	0.28	0.37	0.51	0.51	0.58	0.45	0.52	0.36																			
1-99	0.18	0.17	0.17	0.17	0.20	0.25	0.24	0.26	0.07	-0.02	-0.20	-0.67																		
1-00	0.20	0.19	0.19	0.20	0.24	0.28	0.27	0.29	0.15	0.06	-0.04	-0.35	0.12																	
1-01	0.17	0.16	0.16	0.17	0.19	0.22	0.20	0.21	0.10	0.03	-0.03	-0.18	0.05	0.02																
1-02	0.17	0.16	0.16	0.17	0.18	0.20	0.19	0.19	0.11	0.06	0.02	-0.06	0.08	0.10	0.13															
1-03	0.10	0.09	0.09	0.09	0.09	0.10	0.08	0.08	0.01	-0.03	-0.07	-0.13	-0.06	-0.07	-0.10	-0.26														
1-04	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.08	0.06	0.03	0.00	0.07	0.06	0.07	0.04	0.55													
1-05	0.15	0.15	0.15	0.15	0.16	0.17	0.16	0.17	0.12	0.10	0.08	0.06	0.13	0.11	0.13	0.12	0.52	0.67												
1-06	0.17	0.16	0.16	0.17	0.18	0.19	0.18	0.18	0.14	0.12	0.10	0.08	0.15	0.14	0.16	0.16	0.48	0.54	0.41											
1-07	0.16	0.16	0.16	0.17	0.18	0.18	0.18	0.18	0.14	0.12	0.10	0.08	0.15	0.14	0.16	0.17	0.46	0.47	0.33	0.32										
1-08	0.16	0.15	0.16	0.16	0.17	0.17	0.17	0.17	0.13	0.11	0.10	0.08	0.14	0.13	0.15	0.14	0.36	0.32	0.18	0.03	0.07									
1-09	0.15	0.15	0.15	0.15	0.15	0.16	0.15	0.16	0.13	0.12	0.12	0.11	0.14	0.14	0.14	0.14	0.20	0.18	0.15	0.14	0.18	0.19								
1-10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.08	0.07	0.06	0.05	0.07	0.07	0.07	0.07	0.11	0.08	0.05	0.03	0.03	0.04	-0.13							
1-11	0.09	0.08	0.08	0.09	0.09	0.09	0.08	0.08	0.06	0.05	0.04	0.04	0.06	0.05	0.06	0.05	0.08	0.05	0.03	0.01	0.01	0.01	-0.17	-0.26						
1-12	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.02	0.01	0.01	0.00	0.02	0.01	0.01	0.00	0.03	-0.01	-0.03	-0.05	-0.05	-0.06	-0.35	-0.51	-0.63					
1-13	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.01	0.00	-0.01	0.01	0.00	0.01	0.00	0.02	-0.01	-0.03	-0.05	-0.06	-0.06	-0.31	-0.44	-0.51	-0.15				
1-14	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.03	0.02	0.02	0.01	0.03	0.02	0.02	0.02	0.04	0.01	-0.01	-0.02	-0.03	-0.03	-0.20	-0.23	-0.21	0.31	0.71			
1-15	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.03	0.03	0.02	0.01	0.03	0.02	0.02	0.02	0.04	0.01	-0.01	-0.02	-0.02	-0.02	-0.20	-0.19	-0.15	0.21	0.44	0.40		
1-16	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.04	0.03	0.02	0.01	0.03	0.03	0.03	0.02	0.05	0.02	0.00	-0.01	-0.02	-0.02	-0.15	-0.12	-0.08	0.15	0.28	0.21	-0.33	



Correlations BC Agg to Ru 3000

From																														
To	1-87	1-88	1-89	1-90	1-91	1-92	1-93	1-94	1-95	1-96	1-97	1-98	1-99	1-00	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15	
1-88	-0.26																													
1-89	-0.04	0.78																												
1-90	0.07	0.53	0.41																											
1-91	0.20	0.59	0.57	0.76																										
1-92	0.24	0.57	0.55	0.65	0.51																									
1-93	0.24	0.53	0.50	0.55	0.39	0.16																								
1-94	0.24	0.52	0.49	0.53	0.39	0.24	0.37																							
1-95	0.29	0.55	0.52	0.56	0.51	0.51	0.64	0.71																						
1-96	0.30	0.54	0.51	0.54	0.49	0.51	0.61	0.67	0.10																					
1-97	0.29	0.50	0.48	0.49	0.45	0.44	0.50	0.53	0.30	0.33																				
1-98	0.32	0.52	0.50	0.52	0.49	0.49	0.54	0.56	0.45	0.51	0.72																			
1-99	0.26	0.41	0.38	0.38	0.32	0.29	0.31	0.31	0.17	0.18	0.13	-0.39																		
1-00	0.26	0.40	0.37	0.37	0.32	0.29	0.31	0.32	0.22	0.22	0.20	-0.05	0.32																	
1-01	0.25	0.38	0.35	0.35	0.30	0.27	0.28	0.28	0.20	0.19	0.18	0.01	0.20	0.41																
1-02	0.20	0.30	0.27	0.26	0.20	0.16	0.17	0.16	0.08	0.05	0.02	-0.15	-0.10	-0.12	-0.51															
1-03	0.13	0.20	0.18	0.16	0.09	0.05	0.04	0.03	-0.05	-0.09	-0.13	-0.29	-0.29	-0.34	-0.62	-0.72														
1-04	0.11	0.18	0.15	0.13	0.07	0.03	0.02	0.01	-0.06	-0.10	-0.13	-0.26	-0.25	-0.30	-0.45	-0.43	-0.12													
1-05	0.11	0.17	0.14	0.12	0.07	0.03	0.02	0.01	-0.05	-0.09	-0.12	-0.23	-0.22	-0.27	-0.38	-0.34	-0.05	0.03												
1-06	0.10	0.16	0.14	0.12	0.06	0.02	0.02	0.01	-0.05	-0.09	-0.12	-0.23	-0.22	-0.27	-0.37	-0.33	-0.06	-0.05	-0.14											
1-07	0.11	0.16	0.14	0.12	0.06	0.02	0.02	0.01	-0.05	-0.08	-0.11	-0.21	-0.21	-0.25	-0.34	-0.29	-0.02	0.01	0.01	0.24										
1-08	0.09	0.14	0.12	0.09	0.04	0.00	0.00	-0.01	-0.07	-0.11	-0.14	-0.23	-0.23	-0.27	-0.36	-0.32	-0.15	-0.18	-0.27	-0.31	-0.54									
1-09	0.13	0.18	0.16	0.15	0.11	0.07	0.07	0.06	0.03	0.00	-0.02	-0.08	-0.07	-0.07	-0.12	-0.06	0.11	0.15	0.17	0.24	0.28	0.42								
1-10	0.14	0.19	0.17	0.16	0.12	0.09	0.09	0.08	0.05	0.03	0.02	-0.04	-0.02	-0.03	-0.06	0.01	0.15	0.20	0.23	0.28	0.30	0.41	0.33							
1-11	0.11	0.16	0.14	0.13	0.09	0.06	0.06	0.05	0.02	0.00	-0.02	-0.07	-0.05	-0.07	-0.10	-0.04	0.08	0.11	0.12	0.15	0.15	0.23	-0.05	-0.55						
1-12	0.10	0.15	0.13	0.11	0.07	0.05	0.05	0.04	0.01	-0.02	-0.03	-0.08	-0.07	-0.08	-0.11	-0.06	0.05	0.07	0.08	0.10	0.10	0.17	-0.13	-0.46	-0.31					
1-13	0.09	0.13	0.11	0.10	0.06	0.03	0.03	0.02	-0.01	-0.03	-0.05	-0.10	-0.09	-0.10	-0.13	-0.08	0.02	0.03	0.04	0.05	0.05	0.10	-0.18	-0.48	-0.43	-0.64				
1-14	0.09	0.13	0.11	0.09	0.06	0.03	0.03	0.02	-0.01	-0.03	-0.05	-0.10	-0.09	-0.10	-0.12	-0.08	0.01	0.03	0.03	0.04	0.03	0.08	-0.13	-0.34	-0.27	-0.22	0.06			
1-15	0.09	0.13	0.11	0.09	0.06	0.03	0.03	0.02	-0.01	-0.03	-0.04	-0.09	-0.08	-0.09	-0.12	-0.07	0.02	0.03	0.03	0.04	0.04	0.09	-0.11	-0.28	-0.20	-0.13	0.06	0.17		
1-16	0.08	0.12	0.10	0.09	0.05	0.03	0.02	0.02	-0.01	-0.04	-0.05	-0.10	-0.09	-0.10	-0.12	-0.08	0.01	0.02	0.02	0.03	0.02	0.06	-0.11	-0.26	-0.19	-0.16	-0.05	-0.07	-0.36	



Correlations BC Agg to HIMCO

From

To	1-87	1-88	1-89	1-90	1-91	1-92	1-93	1-94	1-95	1-96	1-97	1-98	1-99	1-00	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15	
1-88	0.51																													
1-89	0.42	0.08																												
1-90	0.42	0.45	0.55																											
1-91	0.41	0.37	0.41	0.38																										
1-92	0.50	0.50	0.57	0.70	0.96																									
1-93	0.55	0.57	0.63	0.75	0.92	0.88																								
1-94	0.56	0.58	0.64	0.76	0.89	0.87	0.94																							
1-95	0.64	0.69	0.75	0.84	0.92	0.92	0.94	0.94																						
1-96	0.67	0.72	0.77	0.85	0.92	0.92	0.94	0.94	0.93																					
1-97	0.70	0.75	0.80	0.87	0.93	0.93	0.95	0.95	0.96	0.98																				
1-98	0.72	0.77	0.81	0.88	0.93	0.94	0.95	0.95	0.96	0.97	0.97																			
1-99	0.72	0.77	0.81	0.88	0.93	0.93	0.94	0.94	0.95	0.96	0.94	0.88																		
1-00	0.73	0.78	0.82	0.88	0.92	0.92	0.93	0.93	0.94	0.93	0.91	0.86	0.74																	
1-01	0.72	0.76	0.80	0.86	0.90	0.90	0.91	0.90	0.90	0.89	0.85	0.79	0.75	0.56																
1-02	0.73	0.77	0.81	0.86	0.90	0.90	0.91	0.90	0.90	0.89	0.86	0.83	0.82	0.82	0.93															
1-03	0.74	0.78	0.82	0.86	0.90	0.90	0.91	0.91	0.91	0.90	0.88	0.86	0.86	0.87	0.94	0.95														
1-04	0.76	0.80	0.83	0.88	0.91	0.91	0.92	0.92	0.92	0.92	0.91	0.90	0.90	0.91	0.95	0.97	0.98													
1-05	0.77	0.81	0.84	0.88	0.91	0.91	0.92	0.92	0.92	0.92	0.92	0.91	0.90	0.90	0.91	0.94	0.95	0.96	0.95											
1-06	0.77	0.81	0.84	0.88	0.91	0.91	0.92	0.92	0.92	0.92	0.91	0.90	0.90	0.91	0.94	0.95	0.96	0.95	0.97											
1-07	0.78	0.81	0.84	0.88	0.91	0.91	0.92	0.92	0.92	0.92	0.91	0.90	0.90	0.91	0.94	0.95	0.95	0.93	0.94	0.92										
1-08	0.78	0.81	0.84	0.88	0.91	0.91	0.92	0.92	0.92	0.92	0.91	0.91	0.90	0.90	0.91	0.94	0.94	0.94	0.92	0.92	0.90	0.89								
1-09	0.76	0.79	0.82	0.85	0.87	0.88	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.88	0.88	0.88	0.85	0.84	0.82	0.81	0.83								
1-10	0.75	0.78	0.80	0.84	0.86	0.86	0.86	0.86	0.86	0.86	0.85	0.84	0.84	0.84	0.86	0.85	0.84	0.81	0.80	0.78	0.77	0.76	0.71							
1-11	0.74	0.77	0.79	0.82	0.85	0.85	0.85	0.85	0.85	0.84	0.84	0.83	0.83	0.83	0.84	0.83	0.82	0.79	0.78	0.77	0.76	0.75	0.69	0.74						
1-12	0.72	0.75	0.77	0.80	0.82	0.82	0.82	0.82	0.82	0.81	0.80	0.80	0.79	0.79	0.80	0.80	0.79	0.76	0.75	0.73	0.71	0.71	0.62	0.65	0.53					
1-13	0.72	0.74	0.76	0.79	0.81	0.81	0.82	0.82	0.81	0.81	0.80	0.79	0.79	0.79	0.80	0.80	0.79	0.76	0.75	0.74	0.73	0.72	0.67	0.72	0.71	0.87				
1-14	0.72	0.75	0.77	0.80	0.82	0.82	0.82	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.81	0.80	0.80	0.77	0.76	0.75	0.74	0.74	0.70	0.74	0.75	0.84	0.89			
1-15	0.72	0.75	0.77	0.79	0.81	0.82	0.82	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.81	0.81	0.80	0.78	0.77	0.76	0.75	0.75	0.75	0.71	0.76	0.77	0.86	0.89	0.89	
1-16	0.73	0.75	0.77	0.80	0.82	0.82	0.82	0.82	0.82	0.82	0.81	0.81	0.80	0.80	0.80	0.82	0.81	0.81	0.78	0.78	0.77	0.76	0.76	0.74	0.78	0.80	0.88	0.91	0.92	0.94



Correlations Ru3000 to HIMCO

From

To	1-87	1-88	1-89	1-90	1-91	1-92	1-93	1-94	1-95	1-96	1-97	1-98	1-99	1-00	1-01	1-02	1-03	1-04	1-05	1-06	1-07	1-08	1-09	1-10	1-11	1-12	1-13	1-14	1-15	
1-88	-0.85																													
1-89	-0.79	0.02																												
1-90	-0.71	-0.15	-0.16																											
1-91	-0.48	0.20	0.26	0.46																										
1-92	-0.11	0.34	0.37	0.45	0.55																									
1-93	-0.06	0.32	0.35	0.42	0.50	0.44																								
1-94	-0.01	0.30	0.33	0.39	0.45	0.43	0.42																							
1-95	0.08	0.35	0.37	0.43	0.50	0.52	0.54	0.54																						
1-96	0.10	0.33	0.35	0.39	0.45	0.46	0.47	0.50	-0.07																					
1-97	0.11	0.30	0.32	0.35	0.40	0.38	0.38	0.40	0.24	0.31																				
1-98	0.18	0.36	0.38	0.41	0.45	0.45	0.46	0.47	0.40	0.48	0.67																			
1-99	0.09	0.21	0.22	0.24	0.24	0.20	0.19	0.18	0.07	0.07	-0.02	-0.62																		
1-00	0.09	0.20	0.21	0.22	0.23	0.19	0.18	0.18	0.10	0.09	0.04	-0.27	0.06																	
1-01	0.10	0.20	0.21	0.22	0.22	0.19	0.18	0.17	0.11	0.10	0.07	-0.14	0.11	0.30																
1-02	0.04	0.12	0.13	0.13	0.13	0.09	0.08	0.07	0.01	-0.01	-0.04	-0.22	-0.13	-0.12	-0.41															
1-03	-0.05	0.01	0.02	0.02	0.01	-0.03	-0.05	-0.06	-0.12	-0.16	-0.19	-0.35	-0.33	-0.35	-0.57	-0.72														
1-04	-0.05	0.01	0.01	0.01	0.00	-0.04	-0.05	-0.06	-0.11	-0.14	-0.16	-0.28	-0.25	-0.27	-0.38	-0.38	-0.04													
1-05	-0.05	0.00	0.01	0.01	0.00	-0.04	-0.05	-0.06	-0.10	-0.13	-0.16	-0.26	-0.23	-0.24	-0.33	-0.33	-0.06	-0.04												
1-06	-0.05	0.00	0.00	0.00	-0.01	-0.04	-0.05	-0.07	-0.11	-0.13	-0.16	-0.25	-0.23	-0.24	-0.32	-0.31	-0.10	-0.14	-0.23											
1-07	-0.05	0.00	0.00	0.00	-0.01	-0.04	-0.05	-0.06	-0.10	-0.13	-0.15	-0.24	-0.22	-0.23	-0.30	-0.29	-0.08	-0.11	-0.13	0.02										
1-08	-0.07	-0.02	-0.02	-0.02	-0.03	-0.06	-0.07	-0.09	-0.13	-0.15	-0.17	-0.26	-0.24	-0.25	-0.32	-0.32	-0.16	-0.23	-0.30	-0.34	-0.54									
1-09	-0.04	-0.01	-0.01	-0.01	-0.01	-0.04	-0.04	-0.05	-0.08	-0.10	-0.11	-0.17	-0.14	-0.14	-0.18	-0.15	-0.04	-0.04	-0.04	-0.01	0.03	0.13								
1-10	-0.05	-0.02	-0.02	-0.02	-0.02	-0.05	-0.05	-0.06	-0.08	-0.10	-0.11	-0.16	-0.14	-0.15	-0.18	-0.15	-0.06	-0.06	-0.07	-0.06	-0.05	-0.01	-0.04							
1-11	-0.10	-0.07	-0.07	-0.07	-0.08	-0.11	-0.11	-0.12	-0.15	-0.16	-0.18	-0.23	-0.21	-0.22	-0.25	-0.24	-0.17	-0.19	-0.20	-0.20	-0.21	-0.19	-0.43	-0.79						
1-12	-0.15	-0.13	-0.13	-0.13	-0.14	-0.16	-0.17	-0.18	-0.20	-0.22	-0.23	-0.28	-0.27	-0.28	-0.31	-0.30	-0.26	-0.28	-0.30	-0.30	-0.31	-0.29	-0.58	-0.81	-0.83					
1-13	-0.17	-0.15	-0.15	-0.15	-0.16	-0.19	-0.19	-0.20	-0.22	-0.24	-0.25	-0.30	-0.29	-0.30	-0.33	-0.33	-0.30	-0.32	-0.34	-0.34	-0.35	-0.34	-0.60	-0.80	-0.82	-0.86				
1-14	-0.17	-0.16	-0.16	-0.16	-0.17	-0.19	-0.20	-0.21	-0.23	-0.24	-0.26	-0.30	-0.30	-0.31	-0.34	-0.34	-0.30	-0.33	-0.34	-0.34	-0.35	-0.34	-0.57	-0.74	-0.72	-0.62	-0.31			
1-15	-0.17	-0.15	-0.15	-0.16	-0.17	-0.19	-0.19	-0.20	-0.22	-0.24	-0.25	-0.29	-0.29	-0.30	-0.32	-0.32	-0.29	-0.31	-0.32	-0.33	-0.34	-0.33	-0.54	-0.68	-0.64	-0.49	-0.26	-0.09		
1-16	-0.17	-0.16	-0.16	-0.16	-0.17	-0.19	-0.20	-0.21	-0.23	-0.24	-0.25	-0.30	-0.29	-0.30	-0.32	-0.32	-0.29	-0.31	-0.32	-0.33	-0.34	-0.33	-0.51	-0.61	-0.56	-0.42	-0.26	-0.20	-0.46	