



**RVK**

# North Dakota Board of University and School Lands

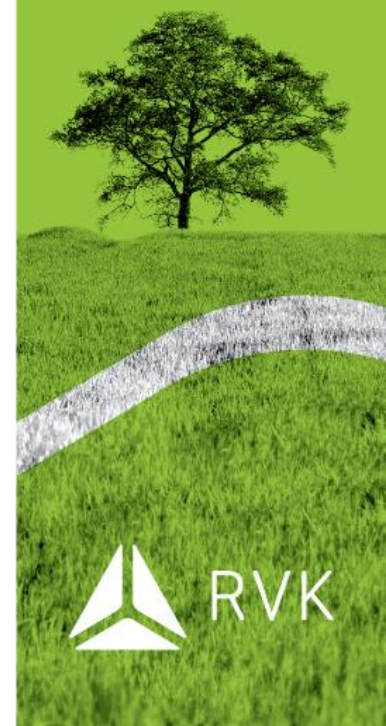
## Investment Performance Analysis

Period Ended: December 31, 2016



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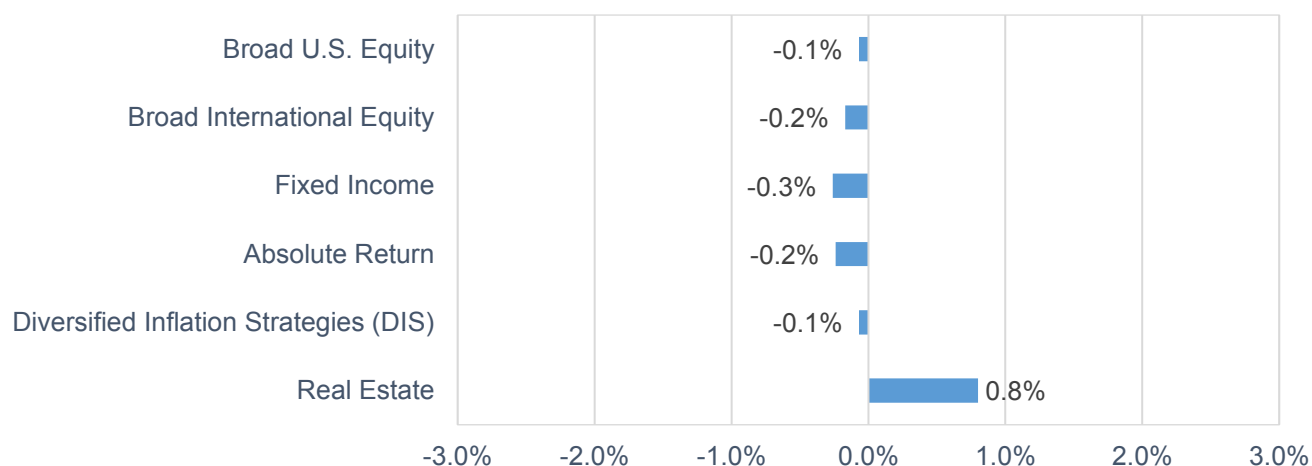
# Board Executive Summary



# Board Executive Summary

	Market Value (\$) as of 12/31/16	Allocation (%)	Target Asset Allocation
Broad U.S. Equity	657,409,342	16.9%	17.0%
Broad International Equity	575,563,916	14.8%	15.0%
Fixed Income	882,840,000	22.7%	23.0%
Absolute Return	767,229,519	19.8%	20.0%
Diversified Inflation Strategies (DIS)	385,689,300	9.9%	10.0%
Real Estate	613,562,041	15.8%	15.0%
Total Fund	3,882,294,117	100.0%	100.0%

## Asset Allocation vs. Target Allocation Differences



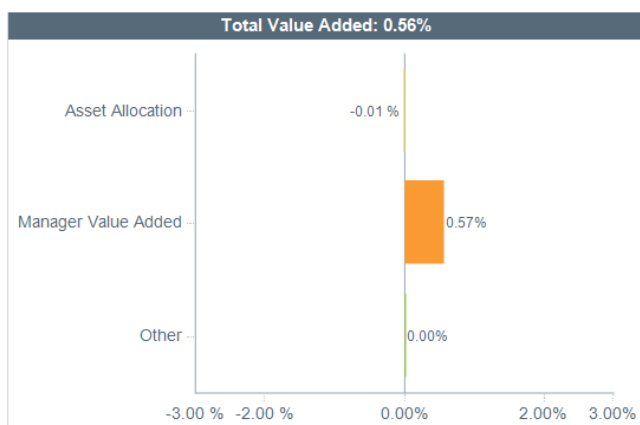
- The Land Board's assets totaled \$3.9 billion as of December 31, 2016, up approximately \$48 million from the previous quarter. The Total Fund remained in line with its target allocations.
- The Total Fund increased its real estate allocation from 14.9% at the end of the third quarter to 15.8% as of December 31, after the remaining committed capital for JP Morgan Income and Growth was called in early October. The Land Board's real estate portfolio is now fully funded.
- There were no additional significant changes to the Total Fund during the fourth quarter.

## Total Fund Performance

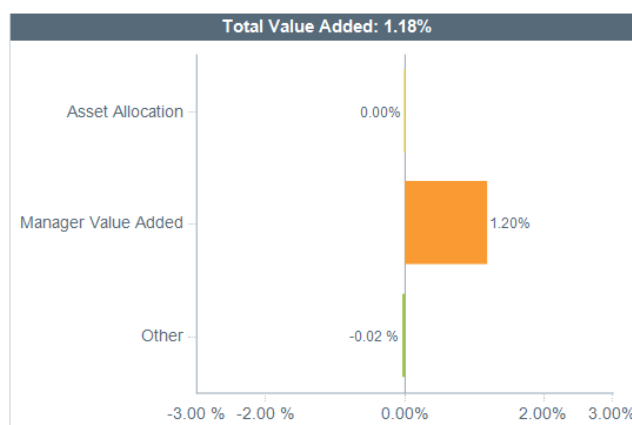
	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Total Fund (Net)</b>	<b>0.5</b>	<b>8.7</b>	<b>8.7</b>	<b>2.8</b>	<b>6.5</b>	<b>6.7</b>	<b>-4.6</b>	<b>4.8</b>	<b>13.2</b>	<b>6.6</b>	<b>08/01/1995</b>
Target Allocation Index	0.0	7.9	7.9	4.4	7.6	7.6	-0.9	6.5	13.1	N/A	
<b>Total Fund (Gross)</b>	<b>0.6</b>	<b>9.2</b>	<b>9.2</b>	<b>3.2</b>	<b>6.8</b>	<b>7.0</b>	<b>-4.2</b>	<b>5.1</b>	<b>13.4</b>	<b>8.5</b>	<b>07/01/2009</b>
Target Allocation Index (Gross)	0.1	8.0	8.0	4.5	7.7	7.7	-0.8	6.6	13.1	N/A	

- The Total Fund returned 0.5% (net of fees) during the quarter, 47 basis points above its target allocation index. Outperformance from select active managers added value, while positive returns in broad U.S. equity, diversified inflation strategies, and real estate offset losses by broad international equity, fixed income, and absolute return.
- Equity provided the largest absolute gains, returning 4.5%, 30 basis points above its index. Fixed income returned -2.3% for the fourth quarter, but outperformed its custom benchmark and the Bloomberg U.S. Aggregate Index by 137 and 71 basis points, respectively. Diversified inflation strategies returned 2.0% for the quarter and 20.0% in 2016. The portfolio's real estate composite gained 2.7% during the quarter and 11.5% since its inception in July 2015.
- The Total Fund ended 2016 with an annual return of 8.7%, outperforming its benchmark by 80 basis points. Relative performance was aided by all asset classes outperforming their respective benchmarks, as the majority of active managers added value during the year.

**Total Fund QTD Attribution  
(versus Target Allocation)**



**Total Fund Trailing 1-Year Attribution  
(versus Target Allocation)**



## Broad U.S. Equity<sup>1</sup>

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Broad U.S. Equity</b>	<b>4.5</b>	<b>13.5</b>	<b>13.5</b>	<b>8.5</b>	<b>13.5</b>	<b>12.2</b>	<b>0.2</b>	<b>12.4</b>	<b>28.3</b>	<b>14.7</b>	<b>07/01/2009</b>
Russell 3000 Index	4.2	12.7	12.7	8.4	14.7	12.9	0.5	12.6	33.6	15.2	
Difference	0.3	0.7	0.7	0.1	-1.2	-0.7	-0.3	-0.1	-5.3	-0.5	
IM U.S. Equity (SA+CF) Median	4.8	12.9	12.9	7.8	14.6	13.1	-0.5	10.0	35.8	15.4	
Rank	52	48	48	38	70	73	44	34	91	68	

- U.S. equity markets started the fourth quarter with a slight decline, fueled largely by uncertainty surrounding the presidential election. However, results swiftly shifted post-election, and all major indices finished the quarter and year in positive territory, with the Russell 3000 Index returning 4.2% and 12.7%, respectively.
- The Total Fund's U.S. equity composite outperformed the Russell 3000 Index during the fourth quarter. The composite's index fund returned 3.8% and the NT Small Cap Core fund gained 6.9%, underperforming the Russell 2000 Index by 191 basis points.
- The NT Fund, which invests in four concentrated small cap managers, was hurt by its underweight to the banking industry, which rallied following the election. In addition, holdings in the industrial and technology sectors underperformed. The fund's dedicated growth managers also detracted from relative performance, as small cap growth did not benefit as much from the post-election stock rally as small cap core and small cap value.
- Since the U.S. equity composite was restructured in 2014, it has closely tracked the performance of its benchmark as expected, given its high allocation to passive strategies.

## Broad International Equity

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Broad International Equity</b>	<b>-1.2</b>	<b>5.0</b>	<b>5.0</b>	<b>-1.8</b>	<b>7.1</b>	<b>3.8</b>	<b>-5.1</b>	<b>-4.9</b>	<b>26.5</b>	<b>6.3</b>	<b>07/01/2009</b>
MSCI ACW Ex U.S. Index (Net)	-1.3	4.5	4.5	-1.8	5.0	2.9	-5.7	-3.9	15.3	5.7	
Difference	0.0	0.5	0.5	0.0	2.1	0.9	0.6	-1.1	11.2	0.6	
IM International Large Cap Equity (SA+CF) Median	-2.1	1.4	1.4	-0.7	7.3	5.2	0.3	-3.8	22.6	7.8	
Rank	43	19	19	70	58	83	89	63	24	86	

- Developed international markets ended the quarter slightly negative, but were positive for the year. Cyclical sectors, such as financials and energy provided positive contributions for the quarter. By country, there were few bright spots, with only a couple European countries posting positive returns in Q4. Emerging markets had a difficult quarter and underperformed developed markets by a significant margin, as from fears that stimulus programs in the US could lead to higher bond yields and a stronger dollar weighed on emerging markets.
- The Total Fund's international equity composite tracked the MSCI All Country World Ex U.S. Index posting a -1.2% return for the quarter. Performance from the composite's active mandates detracted from the composite as both DFA Emerging Market Core Equity and Harding Loevner Emerging Market both underperformed the MSC Emerging Market Index.

<sup>1</sup> Throughout the Board summary, the Total Fund's composite asset class performance shown is gross of fees. Specific manager performance referenced is net of fees.

- Harding Loevner underperformed during the fourth quarter but returned 13.4% for the calendar year, 225 basis points above its benchmark. During the quarter, the fund lagged due to financial stocks and a large underweight to materials. By geography, performance was aided by an overweight to Russia but holdings in Brazil detracted from performance. Over the year, stock selection in financials and information technology were the main drivers of outperformance.
- DFA returned -5.1%, underperforming its benchmark by 94 basis points. Relative performance was hurt by the fund's tilt toward small cap stocks as large cap again outperformed during the quarter. While the fund benefitted from its value tilt and stock selection within China, an underweight to Russia detracted from relative performance.
- The international equity composite portfolio added value relative to the MSCI All Country World ex-U.S. Index over longer trailing periods and since its inception. Despite recent underperformance, both DFA and Harding Loevner have outperformed their benchmark since being added to the Land Board portfolio in July 2014.

## Fixed Income

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Fixed Income</b>	<b>-2.3</b>	<b>4.1</b>	<b>4.1</b>	<b>3.0</b>	<b>3.2</b>	<b>4.4</b>	<b>0.1</b>	<b>5.0</b>	<b>-0.4</b>	<b>5.0</b>	<b>07/01/2009</b>
Gbl Fixed Income Custom Index	-3.6	3.7	3.7	2.5	2.2	3.5	-0.5	4.3	-1.6	4.0	
Difference	1.4	0.5	0.5	0.6	1.0	0.9	0.6	0.7	1.2	1.0	
IM Global Fixed Income (SA+CF) Median	-1.5	5.7	5.7	2.4	3.4	4.0	-2.4	2.5	-0.1	4.6	
Rank	58	64	64	43	51	45	26	27	54	48	

- Recent and anticipated interest rate hikes negatively affected bond market returns for the quarter. Foreign debt from both developed and emerging markets declined significantly during the quarter as the US dollar strengthened.
- The portfolio's fixed income composite returned -2.3% in the fourth quarter, outperforming its custom global fixed income benchmark by 137 basis points. Most fixed income managers posted negative returns for the quarter, offsetting gains by Lazard High Yield and the farm and energy construction bank loans.
- The Payden & Rygel U.S. aggregate bond strategy fell 2.4%, but outperformed the Bloomberg U.S. Aggregate Index by 59 basis points. The portfolio benefitted from a lower duration versus the benchmark as rates rose during the fourth quarter.
- Brandywine returned -6.1% for the quarter compared to its benchmark return of -8.5%. The fund was hurt by bond holdings in Mexico, Indonesia, and Australia, which offset positive contributions from Japan and the U.S. Conversely, the fund benefitted from its currency exposure, which contributed 2.6% to relative performance.
- Lazard High Yield gained 0.9% for the quarter but trailed its benchmark by 42 basis points. The fund's underweight to lower quality securities was a main driver of underperformance was, as CCC rated issues again rallied. The portfolio's shorter duration versus that of the benchmark, helped relative performance.

## Absolute Return

	QTD	CYTD	1 Year	2015	Since Incep.	Inception Date
<b>Absolute Return</b>	<b>-0.2</b>	<b>8.5</b>	<b>8.5</b>	<b>-5.5</b>	<b>-0.2</b>	<b>07/01/2014</b>
Absolute Return Custom Index <sup>2</sup>	-0.4	6.2	6.2	-0.9	1.9	
Difference	0.2	2.2	2.2	-4.6	-2.1	
Consumer Price Index + 5%	1.2	7.2	7.2	5.8	5.5	
Difference	-1.5	1.3	1.3	-11.3	-5.7	

- Most GTAA managers underperformed an undiversified and static 60/40 portfolio of US large cap equity and US fixed income. Managers that focus on lower-volatility and low correlation alpha provided the strongest performance for the quarter, as long dollar, short US duration, and credit positions were rewarded in a welcome break from a challenging year for these managers.
- The Land Board's absolute return composite fell slightly during the fourth quarter with a return of -0.2% but outperformed its custom benchmark by 20 basis points and was up 8.5% for the full calendar year. While PIMCO trailed its benchmark during the quarter, GMO and Westwood outperformed their respective benchmarks.
- GMO declined 1.1% during the quarter but surpassed the return of the 60/40 benchmark by 104 basis points. Exposure to emerging market equity was the main detractor of performance; however, the fund's emerging market holdings beat the MSCI Emerging Markets Index. The fund's underweight to US financials, which GMO considers low quality, hurt performance as the sector performed well during the fourth quarter.
- PIMCO All Asset All Authority returned -0.9% for the quarter and trailed its benchmark by 44 basis points. Relative performance for the quarter was aided by alternatives, developed international equities, and credit strategies, while US fixed income and an overweight to emerging market bonds detracted from performance. The fund's trailing 1-year period return remains strong at 13.7%.
- During the fourth quarter, Westwood returned 0.7%, 225 basis points ahead of its custom benchmark. Financial stocks held in the portfolio benefitted from expectations of reduced regulation following the November election. Defense-related holdings also contributed toward the fund's outperformance.
- It is important to note that the GTAA funds have only been in the Total Fund for a relatively short time period. GTAA managers are expected to outperform their respective benchmarks during a full market cycle. Periods of underperformance are expected to occur.

## Diversified Inflation Strategies (DIS)

	QTD	CYTD	1 Year	2015	Since Incep.	Inception Date
<b>Diversified Inflation Strategies (DIS)</b>	<b>2.0</b>	<b>19.6</b>	<b>19.6</b>	<b>-23.9</b>	<b>0.8</b>	<b>04/01/2014</b>
DIS Custom Index	1.4	16.5	16.5	-18.9	0.3	
Difference	0.6	3.0	3.0	-5.0	0.5	

- While most diversified inflation strategies ended the year in positive territory, the fourth quarter proved challenging due to macroeconomic events. Managers with larger exposure to energy commodity and natural resource equity led during both the quarter and the year. Managers with

<sup>2</sup> The Absolute Return Custom Index consists of 60% MSCI ACW Investable Mkt Index (Net) and 40% Barclays U.S. Aggregate Bond Index.



larger infrastructure and REIT allocations posted negative performance during the quarter as these asset classes initially appeared correlated with increased bond yields. Those that structurally allocated to TIPS at the expense of REITs, infrastructure, and natural resource equity ended the quarter at the approximate mid-point of the group.

- The DIS composite gained 2.0% for the quarter and finished 2016 up 19.6%. The composite outperformed its benchmark over every trailing period through inception.
- Van Eck Natural Resources led the way for absolute performance with a fourth quarter return of 3.9% but trailed its benchmark, the S&P Global Natural Resource Sector Index. The fund's allocation gold mining companies continued to be the largest detractor of performance. Conversely, the fund's exposure and stock selection in the energy sector was the largest contributor to performance. In 2016, the fund gained 44.2% and significantly outperformed its benchmark.
- Harvest MLP gained 1.6%, trailing its benchmark by 177 basis points. For the full year, the fund returned 19.2%, though it underperformed by 271 basis points over the same time period. Underperformance was mostly driven by the fund's lack of exposure coal and propane which had strong performance during the year.
- Gresham Commodities posted a positive 3.8% for the quarter, 5.5% ahead of the Bloomberg Commodity ex-energy index, and returned 11.8% in 2016. During the quarter, the fund benefited from exposure to copper and a meaningful overweight allocation to livestock, the top performing sector. Additionally, the fund's underweight allocation to gold and silver, two of the worst performing commodities, helped relative performance.

## Real Estate

	QTD	CYTD	1 Year	Since Incep.	Inception Date
<b>Real Estate</b>	<b>2.7</b>	<b>9.8</b>	<b>9.8</b>	<b>11.5</b>	<b>07/01/2015</b>
NCREIF ODCE Index (Gross) (AWA)	2.1	8.8	8.8	10.8	
Difference	0.6	1.0	1.0	0.8	

- The NCREIF ODCE Index returned 2.1% for the quarter based on preliminary results, with a nearly equal share of returns coming from income and appreciation.
- The Land Board committed approximately \$562.5 million to private real estate, representing just over 15% of the Total Fund's assets. Real estate allocations are split among two core real estate managers and three core-plus real estate managers.
- The Land Board's real estate composite returned 2.7% for the quarter, 57 basis points above the NCREIF-ODCE Index.
- Morgan Stanley Prime Property Fund (core) returned 2.4% during the fourth quarter, outperforming the NCREIF-ODCE Index by 52 basis points.
- UBS Trumbull Property Fund (core) returned 1.2% during the quarter, underperforming the Index by 67 basis points.
- Jamestown Premier Property Fund (core-plus) returned -0.3% for the quarter, trailing the benchmark by 2.1%.
- Prologis USLF and JP Morgan U.S. Real Estate Income and Growth returned 5.5% and 3.3%, respectively, outperforming the benchmark by 360 and 141 basis points.
- As of December 31, 2016, the real estate portfolio is fully funded after the remaining outstanding capital for JP Morgan US Real Estate Income and Growth was called at the start of October.

Real Estate Manager	Real Estate Mandate	Capital Committed	Approximate Capital Called (as of 12/31)
Morgan Stanley Prime Property	Core	\$150 M	\$150 M
UBS Trumbull Property	Core	\$150 M	\$150 M
Jamestown Premier Property	Core-plus	\$75 M	\$75 M
Prologis U.S. Targeted Logistics	Core-plus	\$75 M	\$75 M
JP Morgan Income and Growth	Core-plus	\$113 M	\$113 M

North Dakota Board of University and School Lands  
Long-Term Monitoring Tool

As of December 31, 2016

Asset Allocation							
Asset Class	Market Value	Within Target Range?			Targets		
		Yes	No	Current (%)	Min.	Target	Max.
Broad US Equity	\$ 657,409,342	✓		16.93%	12%	17%	22%
Broad International Equity	\$ 575,563,916	✓		14.83%	10%	15%	20%
Fixed Income	\$ 882,840,000	✓		22.74%	18%	23%	28%
Absolute Return	\$ 767,229,519	✓		19.76%	15%	20%	25%
Diversified Inflation Strategies (DIS)	\$ 385,689,300	✓		9.93%	5%	10%	15%
Real Estate	\$ 613,562,041	✓		15.80%	10%	15%	20%
Total Fund	\$ 3,882,294,117			100.00%			

Monitoring Guideline (Over a Full Market Cycle of 5 Years)			Explanation
<b>Total Fund (Gross)</b>			
	Yes	No	
Total Fund returns exceed the Target Allocation Index (Gross) over a 5-year period.		✓	The Total Fund Composite returned 6.83% vs. 7.65% for the index.
<b>Broad US Equity Composite</b>			
	Yes	No	
The composite returns exceed the Russell 3000 Index over a 5 year period.		✓	The composite returned 13.32% vs. 14.67% for the index. Includes managers which are no longer in the portfolio.
Rank above the IM U.S. Equity Median.		✓	The composite has a ranking of 70 (gross of fees). Includes managers which are no longer in the portfolio.
<b>State Street S&amp;P 500 Index (CF)</b>			
	Yes	No	
The fund returns are in line with the S&P 500 Index (Cap Wtd) over a 5 year period.	✓		The fund returned 14.65% vs. 14.66% for the index.
Rank above the IM U.S. Large Cap Equity Median.	✓		The fund has a ranking of 44 (gross of fees).
<b>NT Small/Smid Composite</b>			
	Yes	No	
The fund returns exceed the Small/Smid Blended Index over a 5 year period.		✓	The fund returned 12.84% vs. 15.14% for the index. Mandate was altered June 2014 to a more concentrated small cap strategy; continue to monitor.
Rank above the IM US SMID Cap Core Equity Median.		✓	The fund has a ranking of 86 (gross of fees). Mandate was altered June 2014 to a more concentrated small cap strategy; continue to monitor.
<b>Broad International Equity Composite</b>			
	Yes	No	
The composite returns exceed the MSCI ACW Ex US Index (USD) (Net) over a 5 year period.	✓		The composite returned 6.66% vs. 5.00% for the index. Includes managers which are no longer in the portfolio. Current managers added July 2014.
Rank above the IM International Large Cap Equity Median.		✓	The composite has a ranking of 58 (gross of fees). Includes managers which are no longer in the portfolio. Current managers added July 2014.
<b>State Street World Ex US Index (CF)</b>			
	Yes	No	
The fund returns are in line with the MSCI Wrld Ex US Index (USD) (Net) over a 5 year period.			5 year data is unavailable.
Rank above the IM International Large Cap Equity Median.			5 year data is unavailable.
<b>DFA Emg Mkts Core Eq:I (DFCEX)</b>			
	Yes	No	
The fund returns exceed the MSCI Emg Mkts Index (USD) (Net) over a 5 year period.			5 year data is unavailable.
Rank above the IM Emerging Markets Equity Median.			5 year data is unavailable.
<b>Harding Loevner:IEM;II (HLEEX)</b>			
	Yes	No	
The fund returns exceed the MSCI Emg Mkts Index (USD) (Net) over a 5 year period.			5 year data is unavailable.
Rank above the IM Emerging Markets Equity Median.			5 year data is unavailable.
<b>Fixed Income Composite</b>			
	Yes	No	
The composite returns exceed the Global Fixed Income Custom Index over a 5 year period.	✓		The composite returned 2.96% vs. 2.21% for the index.
Rank above the IM Global Fixed Income Median.		✓	The composite has a ranking of 51 (gross of fees).
<b>Payden &amp; Rygel Long Term (SA)</b>			
	Yes	No	
The fund returns exceed the Bloomberg US Agg Bond Index over a 5 year period.	✓		The fund returned 3.47% vs. 2.23% for the index.
Rank above the IM U.S. Broad Market Core Fixed Income Median.	✓		The fund has a ranking of 11 (gross of fees).
<b>JP Morgan FI Intermediate Bond (SA)</b>			
	Yes	No	
The fund returns exceed the Bloomberg US Gov't/Credit: Int Trm Bond Index over a 5 year period.			5 year data is unavailable.
Rank above the IM U.S. Intermediate Duration Fixed Income Median.			5 year data is unavailable.
<b>FIA International Fixed Income (SA)</b>			
	Yes	No	
The fund returns exceed the Bloomberg Gbl Agg Ex USD Index (Hedged) over a 5 year period.		✓	The fund returned 4.31% vs. 4.50% for the index.
Rank above the IM International Fixed Income Median.	✓		The fund has a ranking of 26 (gross of fees).
<b>Brandywine Gbl Opp FI (CF)</b>			
	Yes	No	
The fund returns exceed the Citi Wrld Gov't Bond Index over a 5 year period.			5 year data is unavailable.
Rank above the IM Global Fixed Income Median.			5 year data is unavailable.
<b>Lazard High Yield (SA)</b>			
	Yes	No	
The fund returns exceed the BofA ML US Hi Yld BB-B Rated Index over a 5 year period.		✓	The fund returned 5.97% vs. 7.06% for the index.
Rank above the IM U.S. High Yield Bonds Median.		✓	The fund has a ranking of 76 (gross of fees).

Performance shown is net of fees except where noted.

**North Dakota Board of University and School Lands  
Long-Term Monitoring Tool**

**As of December 31, 2016**

<b>Payden:Low Dur;Inv (PYSBX)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the Bloomberg US Trsy: 1-3 Yr Index over a 5 year period.	✓		The fund returned 1.56% vs. 0.57% for the index.
Rank above the IM U.S. Short Duration Fixed Income Median.	✓		The fund has a ranking of 18 (gross of fees).
<b>Payden &amp; Rygel Cash (SA)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the BofA ML 3 Mo US T-Bill Index over a 5 year period.		✓	The fund returned 0.04% vs. 0.12% for the index.
<b>Absolute Return Composite</b>	<b>Yes</b>	<b>No</b>	
The composite returns exceed the Absolute Return Custom Index over a 5 year period.			5 year data is unavailable.
<b>GMO:Bchmk-Fr All;IV (GBMBX)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the 60% MSCI ACWI (Net)/40% B Gbl Agg Idx over a 5 year period.			5 year data is unavailable.
<b>PIMCO:All Ast Ath;Inst (PAUIX)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the All Asset Custom Index (EqI Wtd) over a 5 year period.			5 year data is unavailable.
<b>Westwood Income Opportunity (SA)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the Westwood Custom Index over a 5 year period.			5 year data is unavailable.
<b>Diversified Inflation Strategies (DIS) Composite</b>	<b>Yes</b>	<b>No</b>	
The composite returns exceed the DIS Custom Index over a 5 year period.			5 year data is unavailable.
<b>NT Common TIPS Index (CF)</b>	<b>Yes</b>	<b>No</b>	
The fund returns are in line with the Bloomberg US Trsy: US TIPS Index over a 5 year period.	✓		The fund returned 0.88% vs. 0.89% for the index.
Rank above the IM U.S. TIPS Median.		✓	The fund has a ranking of 54 (gross of fees).
<b>Gresham Commodities (SA)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the Bloomberg Cmdty Ex-Energy Index (TR) over a 5 year period.			5 year data is unavailable.
<b>Harvest MLP (SA)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the S&P MLP Index Index (TR) over a 5 year period.			5 year data is unavailable.
<b>Van Eck NR Equities (SA)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the S&P Gbl Natural Res Sect Index (TR) Index over a 5 year period.			5 year data is unavailable.
<b>Real Estate Composite</b>	<b>Yes</b>	<b>No</b>	
The composite returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
<b>Morgan Stanley Prime Property Fund (CF)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
<b>UBS Trumbull Property Fund, L.P. (CF)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
<b>Jamestown Premier Property Fund (CF)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
<b>Prologis USLF (CF)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
<b>JP Morgan US Real Estate Income and Growth, LP (CF)</b>	<b>Yes</b>	<b>No</b>	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.

<b>Color Key</b>
<b>Performance:</b>
<b>Green:</b> Manager outperformed benchmark.
<b>Yellow:</b> Manager underperformed benchmark by 100 basis points or less.
<b>Red:</b> Manager underperformed benchmark by more than 100 basis points.
<b>Peer Group Ranks:</b>
<b>Green:</b> Manager ranks in the top 50th percentile compared to its peers.
<b>Yellow:</b> Manager ranks between the 51st and 64th percentile compared to its peers.
<b>Red:</b> Manager ranks in the 65th percentile or lower compared to its peers.

Performance shown is net of fees except where noted.

# Capital Markets Review



Fourth Quarter Economic Environment

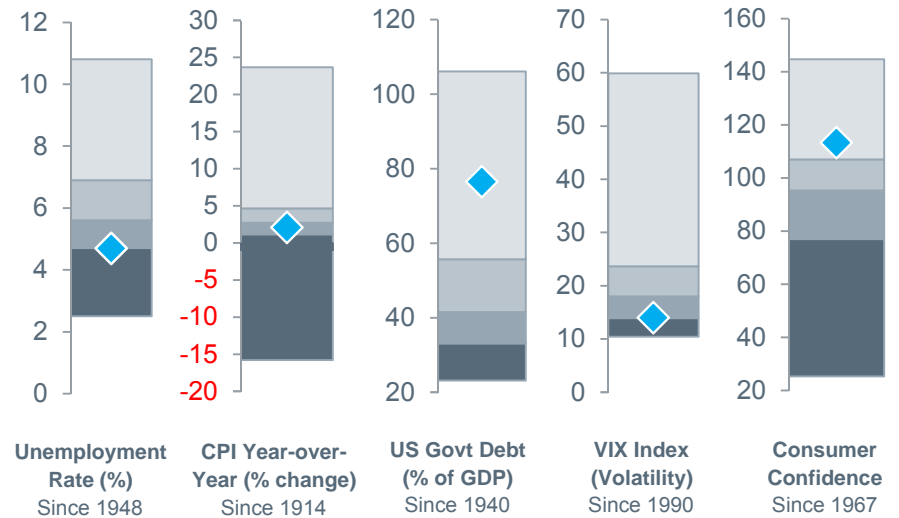
Key Economic Indicators

The surprising result of the United States presidential election produced an initial market shock, as US equity futures traded off nearly 5% during the night of November 8th. By morning however, the volatility and uncertainty gave way to renewed optimism for risk assets as markets contemplated the policy objectives and corresponding economic impact of the Trump administration's agenda. The bullish sentiment in the US cleared the path for the Federal Reserve Open Market Committee to raise the benchmark federal funds rate by 25 basis points during its December meeting. The move was widely anticipated, as economic data supported the Fed tightening at this point in the economic cycle. On November 30, 2016, OPEC announced a deal to cut oil production by 1.2 million barrels per day, the first cut since 2008, which drove the price of oil up nearly 10% on the day of the announcement. In Europe, the European Central Bank announced a moderation in the pace of asset purchases from €80 billion per month to €60 billion, but also extended the duration of the purchase program.

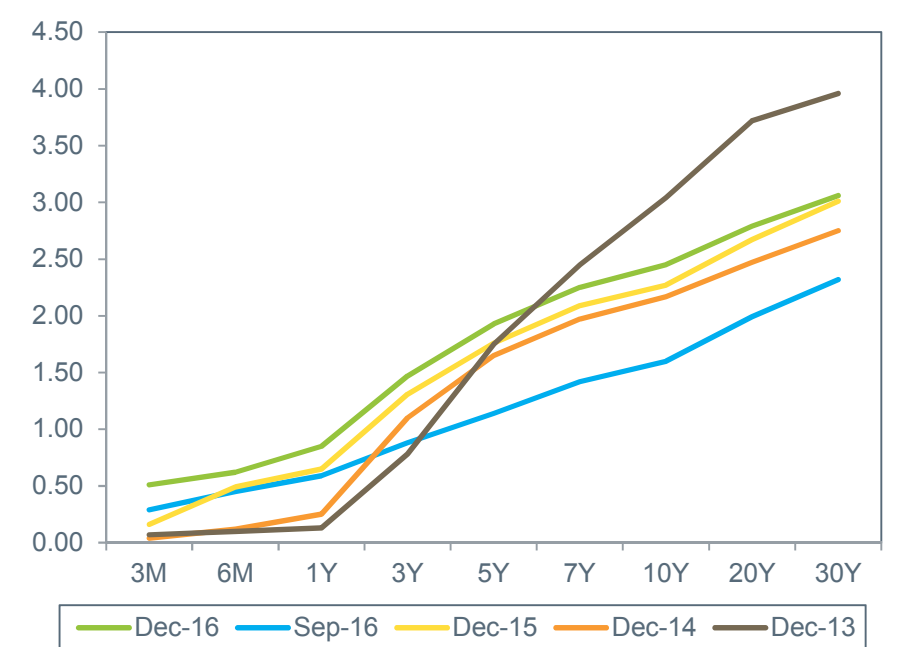
Economic Indicators	Dec-16	Sep-16	Dec-15	Dec-13	20 Yr
Federal Funds Rate (%)	0.55 ▲	0.29	0.20	0.07	2.35
Breakeven Infl. - 1 Yr (%)	1.27 ▲	0.95	0.85	1.50	N/A
Breakeven Infl. - 10 Yr (%)	1.97 ▲	1.61	1.58	2.23	N/A
CPI YoY (Headline) (%)	2.1 ▲	1.5	0.7	1.5	2.2
Unemployment Rate (%)	4.7 ▼	4.9	5.0	6.7	6.0
Real GDP YoY (%)	1.9 ▲	1.7	1.9	2.7	2.3
PMI - Manufacturing	54.50 ▲	51.70	47.90	56.00	52.20
USD Total Wtd Idx	95.76 ▲	90.01	94.25	76.15	86.86
WTI Crude Oil per Barrel (\$)	53.7 ▲	48.2	37.0	98.4	56.0
Gold Spot per Oz (\$)	1,152.3 ▼	1,315.8	1,061.4	1,205.7	784.3

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	3.82	11.96	11.96	14.66	6.95
Russell 2000	8.83	21.31	21.31	14.46	7.07
MSCI EAFE (Net)	-0.71	1.00	1.00	6.53	0.75
MSCI EAFE SC (Net)	-2.86	2.18	2.18	10.56	2.95
MSCI Emg Mkts (Net)	-4.16	11.19	11.19	1.28	1.84
Bloomberg US Agg Bond	-2.98	2.65	2.65	2.23	4.34
BofA ML 3 Mo US T-Bill	0.08	0.33	0.33	0.12	0.80
NCREIF ODCE (Gross)	2.11	8.77	8.77	12.21	5.82
Wilshire US REIT	-2.28	7.24	7.24	12.02	4.80
HFRI FOF Comp	0.88	0.53	0.53	3.42	1.31
Bloomberg Cmddy (TR)	2.66	11.74	11.74	-8.96	-5.58

Key Economic Indicators

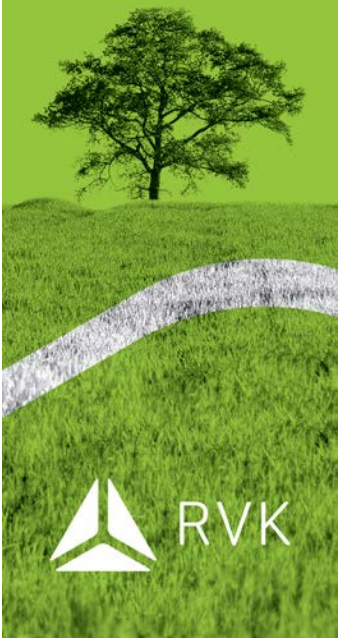


Treasury Yield Curve (%)



Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service. Breakeven Inflation does not have 20 years of history; therefore, its 20-year average is shown as N/A.

# Total Fund

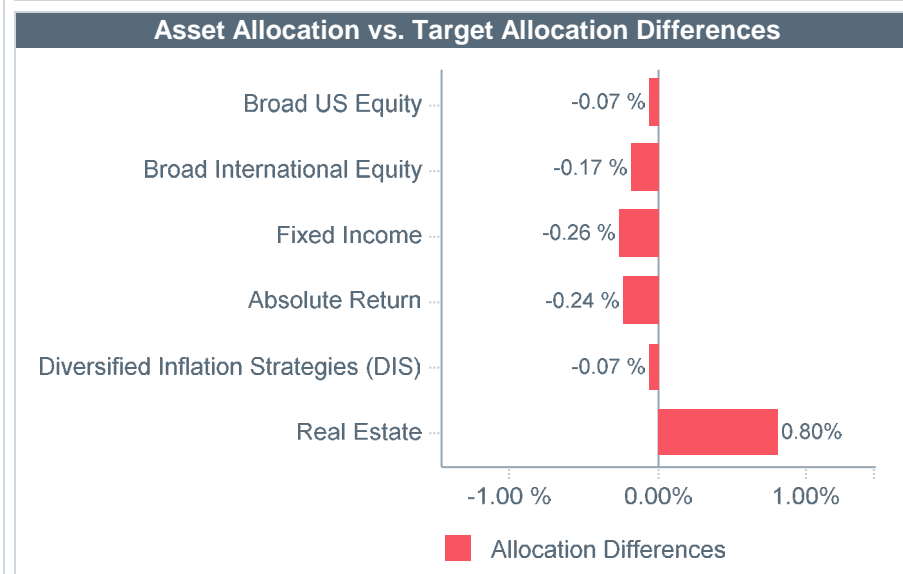


North Dakota Board of University and School Lands  
AA by Manager, AA vs. Target, and Schedule of Investable Assets

As of December 31, 2016

Asset Allocation by Manager		
	Market Value (\$)	Allocation (%)
<b>Broad US Equity</b>		
State Street S&P 500 Index (US Large Cap)	523,118,170	13.47
NT Small Cap Core (US Small Cap)	134,291,172	3.46
<b>Broad International Equity</b>		
State Street World Ex US Index (International Equity)	461,582,807	11.89
DFA Emg Mkts Core Eq:I (Emerging Markets Equity)	56,792,227	1.46
Harding Loevner:IEM;II (Emerging Markets Equity)	57,188,882	1.47
<b>Fixed Income</b>		
Payden & Rygel Long Term (Investment Grade US FI)	258,039,327	6.65
JP Morgan FI Intermediate Bond (Investment Grade US FI)	257,517,122	6.63
FIA International Fixed Income (International FI)	132,924,643	3.42
Brandywine Gbl Opp FI (Global FI)	86,864,149	2.24
Lazard High Yield (High Yield FI)	114,716,019	2.95
Payden:Low Dur;Inv (Low Duration FI)	192,384	0.00
Payden & Rygel Cash (Cash)	22,138,165	0.57
FLP (Loans)	9,179,724	0.24
ECLP (Loans)	1,268,466	0.03
<b>Absolute Return</b>		
GMO:Bchmk-Fr All;IV (GTAA)	252,169,968	6.50
PIMCO:All Ast Ath;Inst (GTAA)	259,259,305	6.68
Westwood Income Opportunity (GTAA)	255,800,246	6.59
<b>Diversified Inflation Strategies (DIS)</b>		
NT Common TIPS Index (TIPS)	72,898,821	1.88
Gresham Commodities (Commodities)	118,304,755	3.05
Harvest MLP (MLPs)	117,971,878	3.04
Van Eck NR Equities (Natural Resources)	76,513,846	1.97
<b>Real Estate</b>		
Morgan Stanley Prime Property Fund (Core Real Estate)	173,440,224	4.47
UBS Trumbull Property Fund, L.P. (Core Real Estate)	164,450,288	4.24
Jamestown Premier Property Fund (Core Plus Real Estate)	74,850,544	1.93
Prologis USLH (CF) (Core Plus Real Estate)	83,934,777	2.16
JP Morgan US RE Inc and Grth, LP (CF) (Core Plus Real Estate)	116,886,208	3.01

Asset Allocation vs. Target Allocation			
	Market Value (\$)	Allocation (%)	Target (%)
Broad US Equity	657,409,342	16.93	17.00
Broad International Equity	575,563,916	14.83	15.00
Fixed Income	882,840,000	22.74	23.00
Absolute Return	767,229,519	19.76	20.00
Diversified Inflation Strategies (DIS)	385,689,300	9.93	10.00
Real Estate	613,562,041	15.80	15.00
Total Fund	3,882,294,117	100.00	100.00



Schedule of Investable Assets						
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return	Unit Value
QTD	3,834,336,732	23,782,791	24,174,594	3,882,294,117	0.62	100.62

Allocations shown may not sum up to 100% exactly due to rounding. Performance shown is gross of fees.



North Dakota Board of University and School Lands  
Comparative Performance - Gross

As of December 31, 2016

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Total Fund (Net)</b>	<b>0.49</b>	<b>8.65</b>	<b>8.65</b>	<b>2.81</b>	<b>6.48</b>	<b>6.67</b>	<b>4.50</b>	<b>-4.55</b>	<b>4.78</b>	<b>13.15</b>	<b>6.62</b>	<b>08/01/1995</b>
Target Allocation Index (Net)	0.02	7.85	7.85	4.40	7.58	7.63	N/A	-0.93	6.50	13.12	N/A	
Difference	0.47	0.80	0.80	-1.59	-1.10	-0.96	N/A	-3.62	-1.72	0.03	N/A	
<b>Total Fund</b>	<b>0.62</b>	<b>9.17</b>	<b>9.17</b>	<b>3.21</b>	<b>6.83</b>	<b>6.99</b>	<b>N/A</b>	<b>-4.19</b>	<b>5.10</b>	<b>13.44</b>	<b>8.47</b>	<b>07/01/2009</b>
Target Allocation Index (Gross)	0.06	8.00	8.00	4.53	7.65	7.68	N/A	-0.78	6.58	13.12	9.39	
Difference	0.56	1.17	1.17	-1.32	-0.82	-0.69	N/A	-3.41	-1.48	0.32	-0.92	
<b>Broad US Equity</b>	<b>4.51</b>	<b>13.47</b>	<b>13.47</b>	<b>8.53</b>	<b>13.46</b>	<b>12.21</b>	<b>N/A</b>	<b>0.22</b>	<b>12.43</b>	<b>28.28</b>	<b>14.69</b>	<b>07/01/2009</b>
Russell 3000 Index	4.21	12.74	12.74	8.43	14.67	12.92	7.07	0.48	12.56	33.55	15.17	
Difference	0.30	0.73	0.73	0.10	-1.21	-0.71	N/A	-0.26	-0.13	-5.27	-0.48	
IM U.S. Equity (SA+CF) Median	4.76	12.86	12.86	7.82	14.62	13.13	7.85	-0.52	10.00	35.82	15.38	
<b>Broad International Equity</b>	<b>-1.24</b>	<b>5.02</b>	<b>5.02</b>	<b>-1.77</b>	<b>7.14</b>	<b>3.79</b>	<b>N/A</b>	<b>-5.06</b>	<b>-4.94</b>	<b>26.50</b>	<b>6.29</b>	<b>07/01/2009</b>
MSCI ACW Ex US Index (USD) (Net)	-1.25	4.50	4.50	-1.78	5.00	2.93	0.96	-5.66	-3.87	15.29	5.74	
Difference	0.01	0.52	0.52	0.01	2.14	0.86	N/A	0.60	-1.07	11.21	0.55	
IM International Large Cap Equity (SA+CF) Median	-2.10	1.44	1.44	-0.74	7.33	5.20	2.17	0.34	-3.78	22.55	7.82	
<b>Fixed Income</b>	<b>-2.27</b>	<b>4.13</b>	<b>4.13</b>	<b>3.04</b>	<b>3.19</b>	<b>4.39</b>	<b>N/A</b>	<b>0.07</b>	<b>4.97</b>	<b>-0.36</b>	<b>5.00</b>	<b>07/01/2009</b>
Global Fixed Income Custom Index	-3.64	3.66	3.66	2.45	2.21	3.53	4.30	-0.50	4.27	-1.55	4.00	
Difference	1.37	0.47	0.47	0.59	0.98	0.86	N/A	0.57	0.70	1.19	1.00	
Bloomberg US Agg Bond Index	-2.98	2.65	2.65	3.03	2.23	3.63	4.34	0.55	5.97	-2.02	3.92	
Difference	0.71	1.48	1.48	0.01	0.96	0.76	N/A	-0.48	-1.00	1.66	1.08	
IM Global Fixed Income (SA+CF) Median	-1.50	5.71	5.71	2.38	3.44	4.00	4.72	-2.40	2.47	-0.05	4.63	
<b>Absolute Return</b>	<b>-0.23</b>	<b>8.45</b>	<b>8.45</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-5.52</b>	<b>N/A</b>	<b>N/A</b>	<b>-0.20</b>	<b>07/01/2014</b>
Absolute Return Custom Index	-0.43	6.22	6.22	3.32	6.78	6.25	4.42	-0.88	4.77	12.74	1.85	
Difference	0.20	2.23	2.23	N/A	N/A	N/A	N/A	-4.64	N/A	N/A	-2.05	
Consumer Price Index+5%	1.23	7.18	7.18	6.24	6.43	6.69	6.90	5.77	5.79	6.58	5.54	
Difference	-1.46	1.27	1.27	N/A	N/A	N/A	N/A	-11.29	N/A	N/A	-5.74	
<b>Diversified Inflation Strategies (DIS)</b>	<b>2.00</b>	<b>19.55</b>	<b>19.55</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-23.87</b>	<b>N/A</b>	<b>N/A</b>	<b>0.75</b>	<b>04/01/2014</b>
DIS Custom Index	1.38	16.53	16.53	1.22	3.59	5.03	2.81	-18.88	9.69	-2.19	0.25	
Difference	0.62	3.02	3.02	N/A	N/A	N/A	N/A	-4.99	N/A	N/A	0.50	
<b>Real Estate</b>	<b>2.68</b>	<b>9.77</b>	<b>9.77</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>11.54</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	13.33	5.82	15.02	12.50	13.94	10.75	
Difference	0.57	1.00	1.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.79	

Performance shown is gross of fees except where noted. Composite inception dates are based on availability of data for each asset class. Please see the Addendum for custom index definitions. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Glossary.



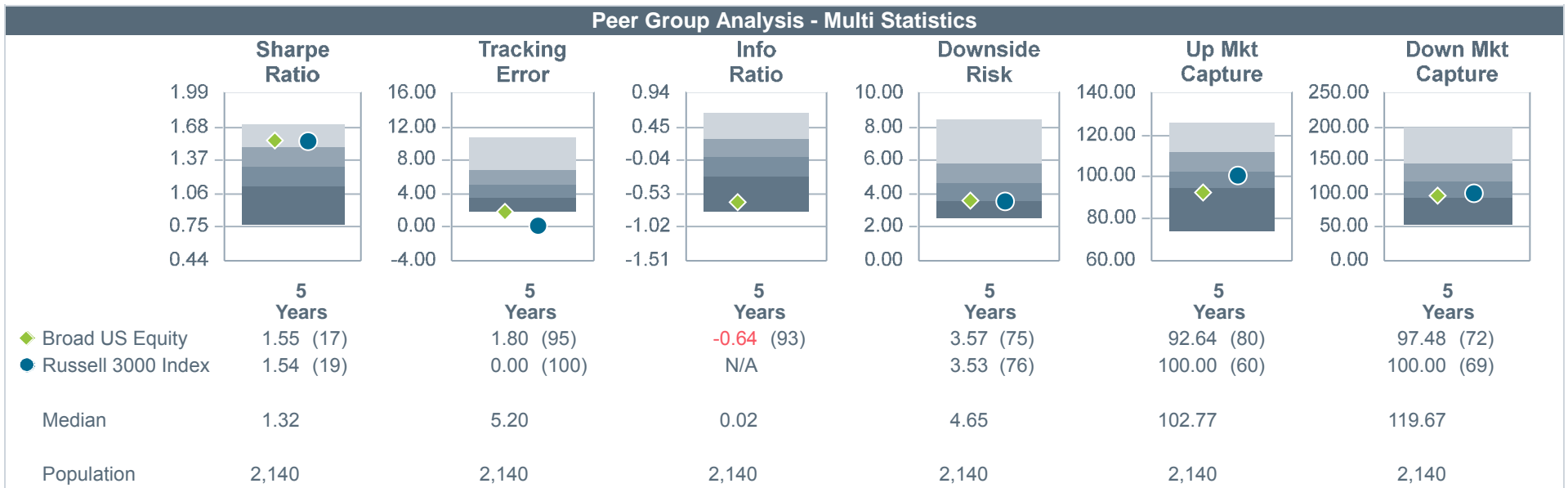
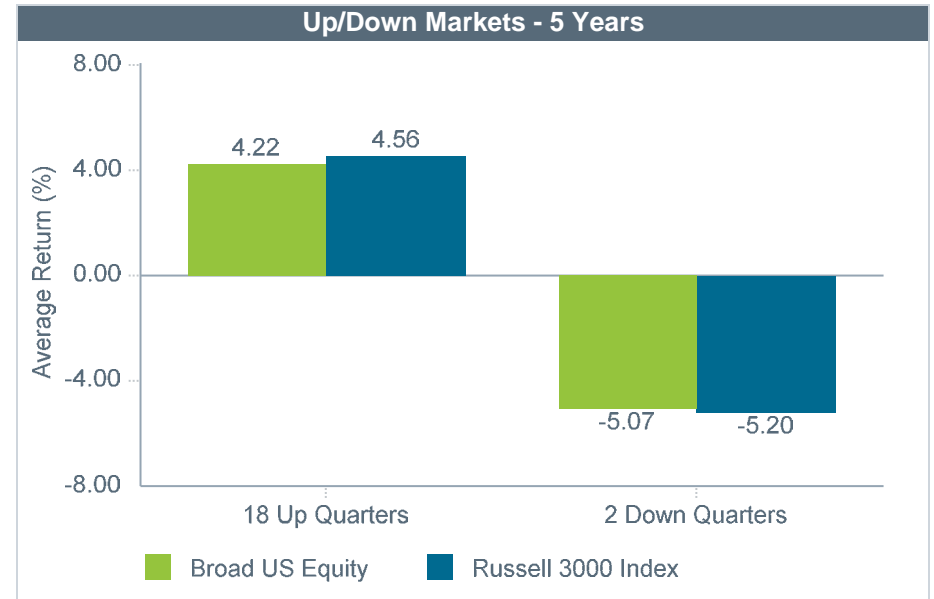
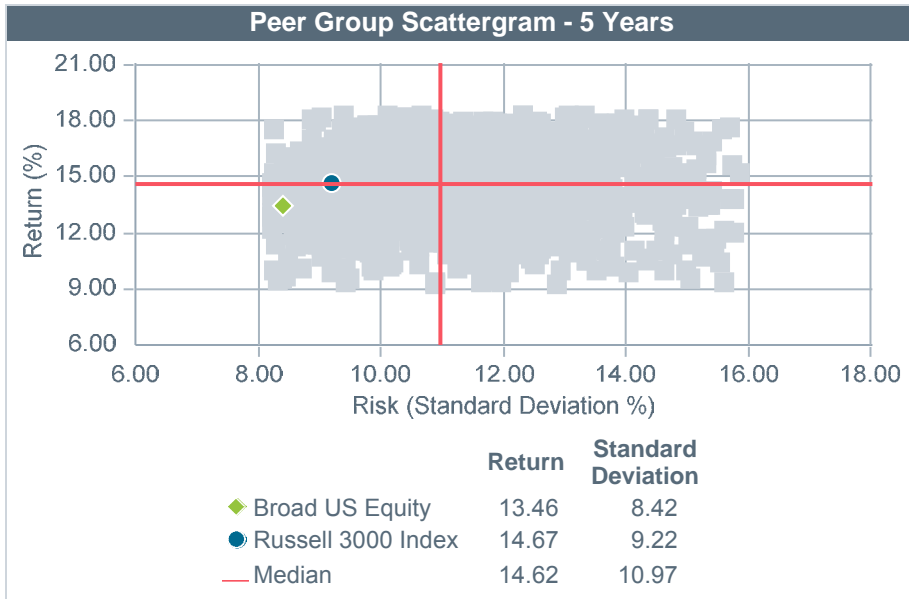
Comparative Performance													
	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Broad US Equity</b>	4.51	13.47	13.47	8.53	13.46	N/A	0.22	12.43	28.28	14.66	0.22	14.69	07/01/2009
Russell 3000 Index	4.21	12.74	12.74	8.43	14.67	7.07	0.48	12.56	33.55	16.42	1.03	15.17	
Difference	0.30	0.73	0.73	0.10	-1.21	N/A	-0.26	-0.13	-5.27	-1.76	-0.81	-0.48	
<b>State Street S&amp;P 500 Index (CF)</b>	3.84	12.00	12.00	8.89	14.67	N/A	1.41	13.69	32.38	15.98	2.12	8.56	04/01/2008
S&P 500 Index (Cap Wtd)	3.82	11.96	11.96	8.87	14.66	6.95	1.38	13.69	32.39	16.00	2.11	8.54	
Difference	0.02	0.04	0.04	0.02	0.01	N/A	0.03	0.00	-0.01	-0.02	0.01	0.02	
IM U.S. Large Cap Equity (SA+CF) Median	3.85	10.98	10.98	8.28	14.52	7.28	0.94	12.92	33.52	15.84	1.23	8.74	
Rank	51	41	41	31	44	N/A	45	37	65	48	41	59	
<b>NT Small Cap Core (CF)</b>	7.10	19.02	19.02	N/A	N/A	N/A	-5.35	N/A	N/A	N/A	N/A	4.62	07/01/2014
Russell 2000 Index	8.83	21.31	21.31	6.74	14.46	7.07	-4.41	4.89	38.82	16.35	-4.18	6.80	
Difference	-1.73	-2.29	-2.29	N/A	N/A	N/A	-0.94	N/A	N/A	N/A	N/A	-2.18	
IM U.S. Small Cap Core Equity (SA+CF) Median	9.70	20.73	20.73	8.51	16.17	8.38	-1.39	6.54	41.28	16.86	-1.38	8.66	
Rank	81	72	72	N/A	N/A	N/A	86	N/A	N/A	N/A	N/A	90	
<b>NT Small/Smid Composite</b>	7.10	19.02	19.02	5.21	13.64	7.14	-5.35	3.37	37.57	18.30	-4.56	10.34	03/01/1996
Small/Smid Blended Index	8.83	21.31	21.31	7.87	15.14	7.97	-4.41	8.25	36.80	17.88	-2.51	9.92	
Difference	-1.73	-2.29	-2.29	-2.66	-1.50	-0.83	-0.94	-4.88	0.77	0.42	-2.05	0.42	
IM U.S. SMID Cap Core Equity (SA+CF) Median	5.71	17.03	17.03	8.21	15.26	8.92	0.10	7.81	37.62	17.91	-0.97	N/A	
Rank	34	16	16	93	86	96	95	88	51	43	81	N/A	

Asset Allocation by Manager

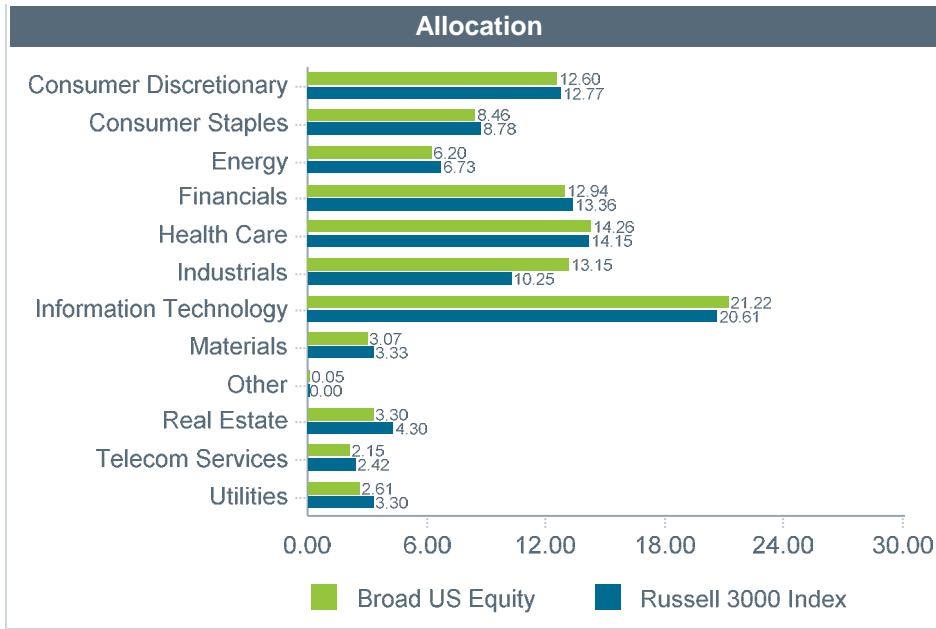


Performance shown is gross of fees. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Glossary.



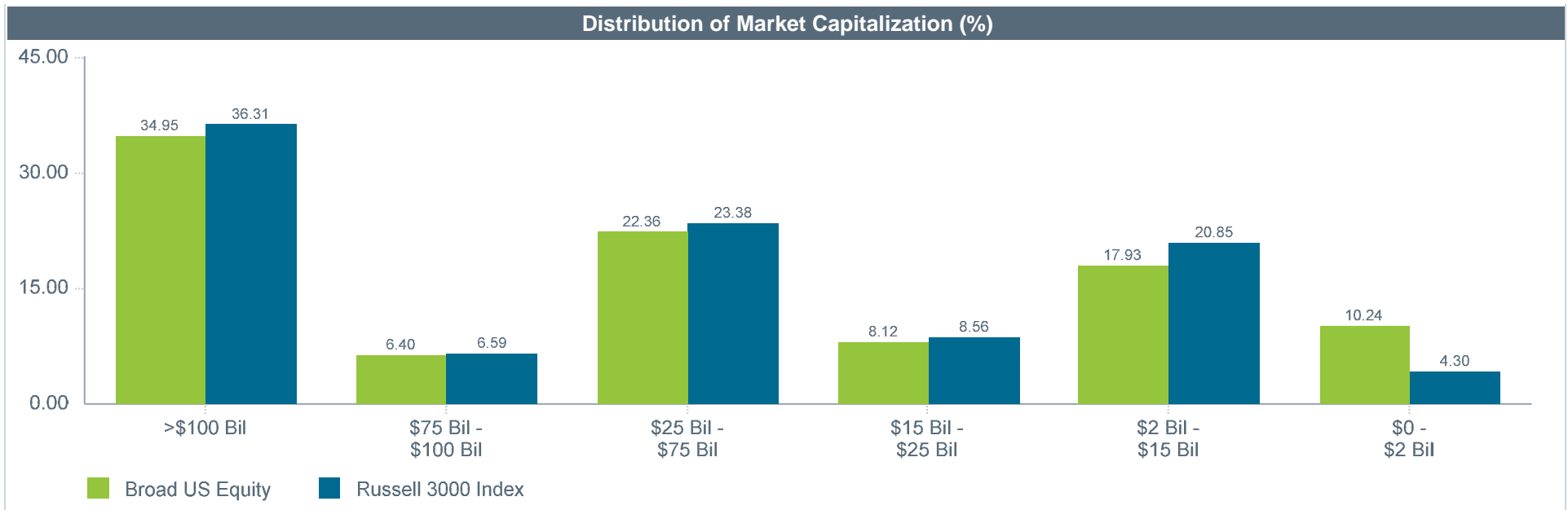


Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.



### Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	118,661	123,528
Median Mkt. Cap (\$M)	13,142	1,555
Price/Earnings Ratio	21.27	20.72
Price/Book Ratio	3.01	3.02
5 Yr. EPS Growth Rate (%)	10.51	9.96
Current Yield (%)	1.91	1.99
Beta (5 Years, Monthly)	0.98	1.00
Number of Securities	664	2,977



Allocation to "Other" consists of ETFs.

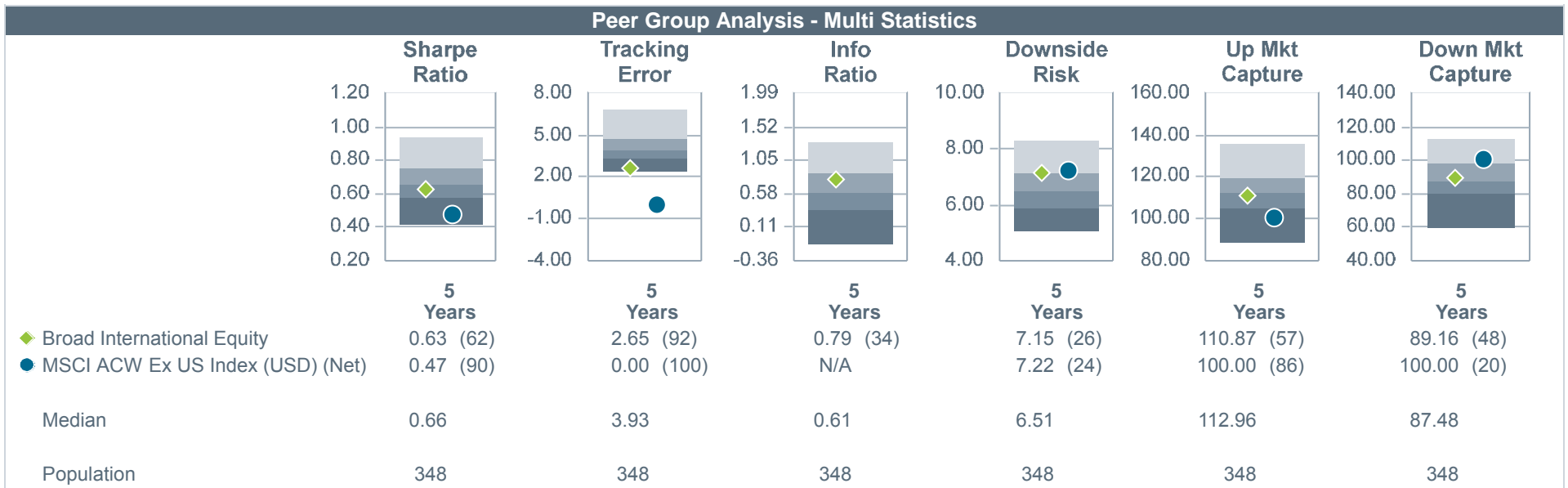
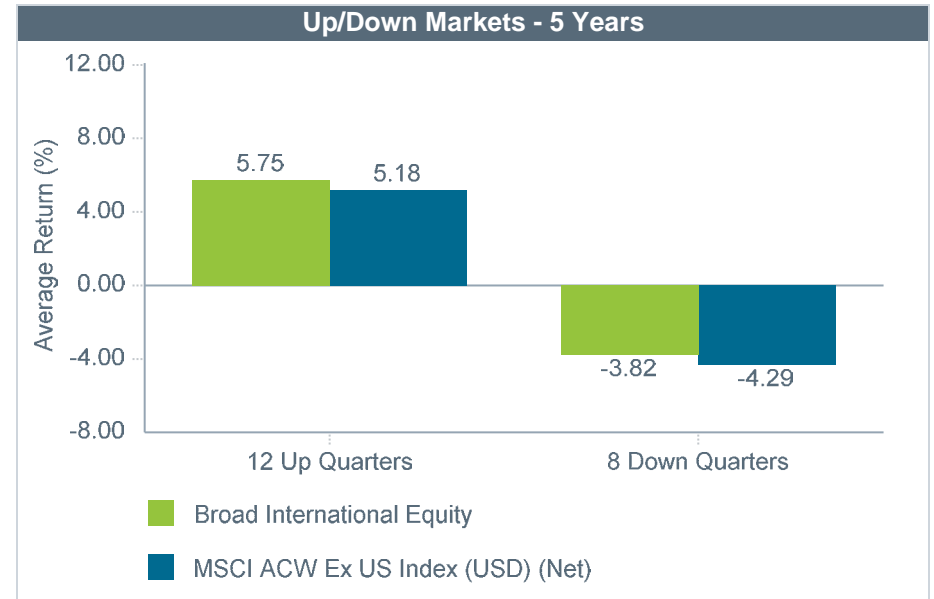
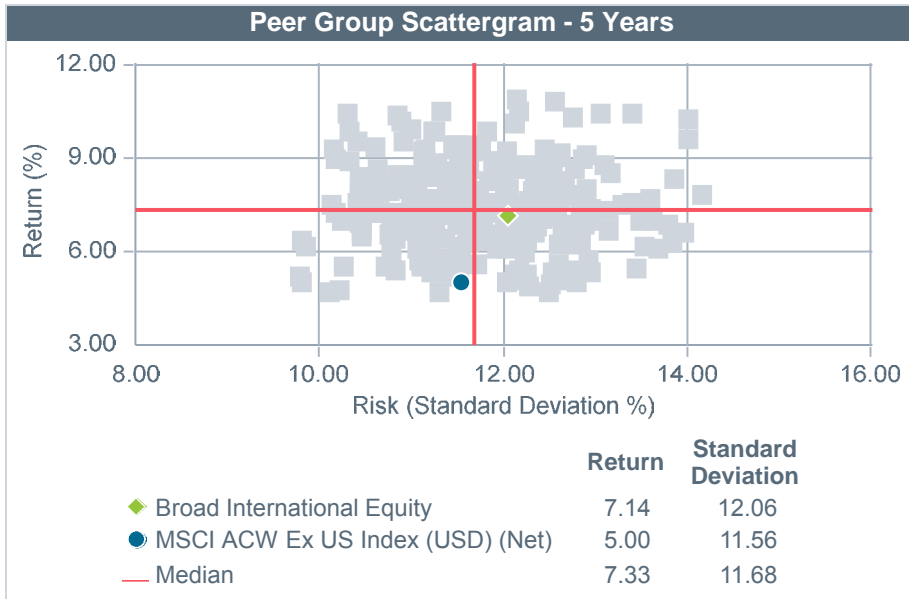
Comparative Performance													
	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Broad International Equity</b>	<b>-1.24</b>	<b>5.02</b>	<b>5.02</b>	<b>-1.77</b>	<b>7.14</b>	<b>N/A</b>	<b>-5.06</b>	<b>-4.94</b>	<b>26.50</b>	<b>17.72</b>	<b>-14.73</b>	<b>6.29</b>	<b>07/01/2009</b>
MSCI ACW Ex US Index (USD) (Net)	-1.25	4.50	4.50	-1.78	5.00	0.96	-5.66	-3.87	15.29	16.83	-13.71	5.74	
Difference	0.01	0.52	0.52	0.01	2.14	N/A	0.60	-1.07	11.21	0.89	-1.02	0.55	
<b>State Street World Ex US Index (CF)</b>	<b>-0.37</b>	<b>2.68</b>	<b>2.68</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.10</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.99</b>	<b>07/01/2014</b>
MSCI Wrld Ex US Index (USD) (Net)	-0.36	2.75	2.75	-1.59	6.07	0.86	-3.04	-4.32	21.02	16.41	-12.21	-3.94	
Difference	-0.01	-0.07	-0.07	N/A	N/A	N/A	-0.06	N/A	N/A	N/A	N/A	-0.05	
IM International Large Cap Equity (SA+CF) Median	-2.10	1.44	1.44	-0.74	7.33	2.17	0.34	-3.78	22.55	19.05	-11.60	-2.58	
Rank	28	38	38	N/A	N/A	N/A	77	N/A	N/A	N/A	N/A	77	
<b>DFA Emg Mkts Core Eq;I (DFCEX)</b>	<b>-4.95</b>	<b>13.05</b>	<b>13.05</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-14.33</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-4.28</b>	<b>07/01/2014</b>
MSCI Emg Mkts Index (USD) (Net)	-4.16	11.19	11.19	-2.55	1.28	1.84	-14.92	-2.19	-2.60	18.23	-18.42	-5.34	
Difference	-0.79	1.86	1.86	N/A	N/A	N/A	0.59	N/A	N/A	N/A	N/A	1.06	
IM Emerging Markets Equity (SA+CF) Median	-4.37	10.07	10.07	-1.39	3.30	3.05	-12.82	-0.18	0.81	20.53	-18.28	-4.40	
Rank	58	31	31	N/A	N/A	N/A	62	N/A	N/A	N/A	N/A	48	
<b>Harding Loevner:IEM;II (HLEEX)</b>	<b>-4.50</b>	<b>14.73</b>	<b>14.73</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-12.30</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.00</b>	<b>07/01/2014</b>
MSCI Emg Mkts Index (USD) (Net)	-4.16	11.19	11.19	-2.55	1.28	1.84	-14.92	-2.19	-2.60	18.23	-18.42	-5.34	
Difference	-0.34	3.54	3.54	N/A	N/A	N/A	2.62	N/A	N/A	N/A	N/A	2.34	
IM Emerging Markets Equity (SA+CF) Median	-4.37	10.07	10.07	-1.39	3.30	3.05	-12.82	-0.18	0.81	20.53	-18.28	-4.40	
Rank	53	20	20	N/A	N/A	N/A	47	N/A	N/A	N/A	N/A	27	

Asset Allocation by Manager



Performance shown is gross of fees. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Glossary.

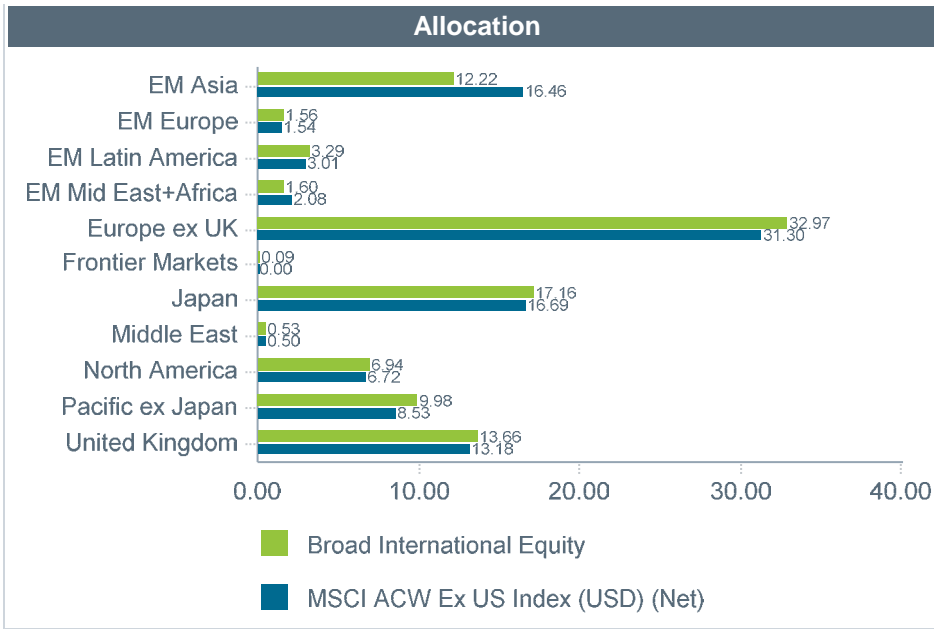




Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

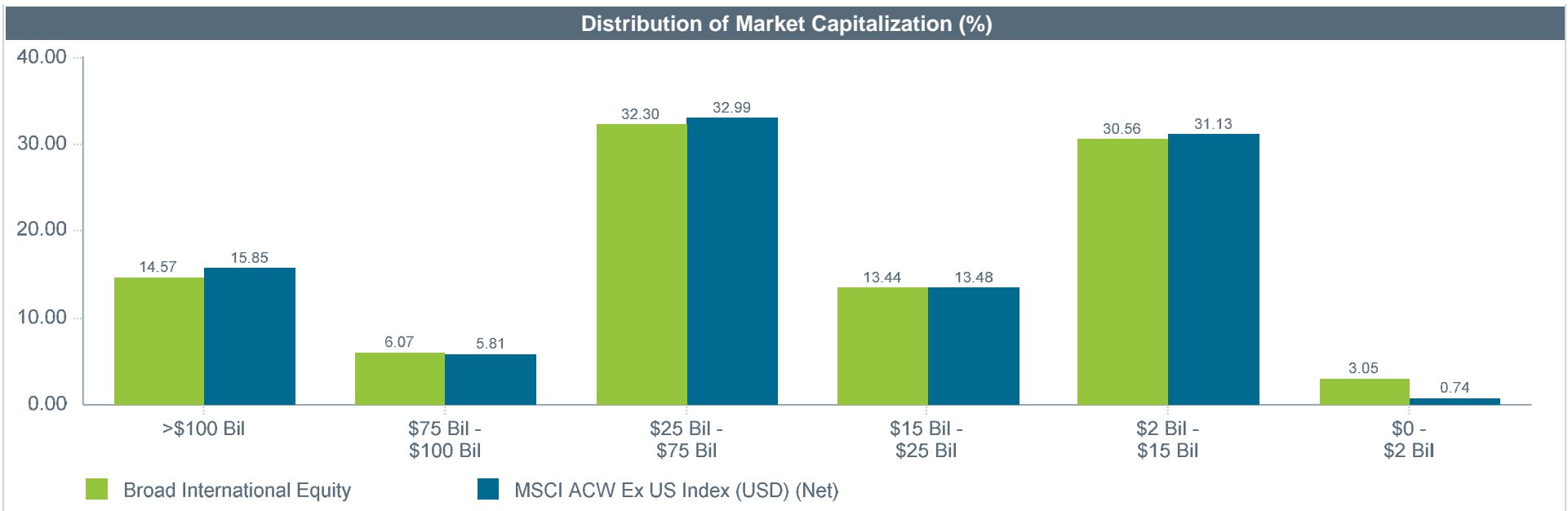
North Dakota Board of University and School Lands  
 Broad International Equity vs. MSCI ACW Ex US Index (USD) (Net)  
 Portfolio Characteristics

As of December 31, 2016



### Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	48,059	51,613
Median Mkt. Cap (\$M)	717	6,856
Price/Earnings Ratio	17.25	16.73
Price/Book Ratio	2.19	2.17
5 Yr. EPS Growth Rate (%)	4.87	5.28
Current Yield (%)	3.02	3.03
Beta (5 Years, Monthly)	1.02	1.00
Number of Securities	5,568	1,856



Comparative Performance													
	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Fixed Income</b>	<b>-2.27</b>	<b>4.13</b>	<b>4.13</b>	<b>3.04</b>	<b>3.19</b>	<b>N/A</b>	<b>0.07</b>	<b>4.97</b>	<b>-0.36</b>	<b>7.36</b>	<b>7.07</b>	<b>5.00</b>	<b>07/01/2009</b>
Global Fixed Income Custom Index	-3.64	3.66	3.66	2.45	2.21	4.30	-0.50	4.27	-1.55	5.37	6.95	4.00	
Difference	1.37	0.47	0.47	0.59	0.98	N/A	0.57	0.70	1.19	1.99	0.12	1.00	
Bloomberg US Agg Bond Index	-2.98	2.65	2.65	3.03	2.23	4.34	0.55	5.97	-2.02	4.21	7.84	3.92	
Difference	0.71	1.48	1.48	0.01	0.96	N/A	-0.48	-1.00	1.66	3.15	-0.77	1.08	
<b>Payden &amp; Rygel Long Term (SA)</b>	<b>-2.34</b>	<b>4.03</b>	<b>4.03</b>	<b>3.60</b>	<b>3.67</b>	<b>5.06</b>	<b>0.82</b>	<b>6.01</b>	<b>-1.25</b>	<b>9.04</b>	<b>5.48</b>	<b>6.15</b>	<b>08/01/1995</b>
Bloomberg US Agg Bond Index	-2.98	2.65	2.65	3.03	2.23	4.34	0.55	5.97	-2.02	4.21	7.84	5.41	
Difference	0.64	1.38	1.38	0.57	1.44	0.72	0.27	0.04	0.77	4.83	-2.36	0.74	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-2.80	3.10	3.10	3.33	2.82	4.83	0.82	6.14	-1.56	5.88	7.83	5.76	
Rank	8	18	18	32	11	32	49	63	34	5	97	13	
<b>JP Morgan FI Intermediate Bond (SA)</b>	<b>-2.06</b>	<b>1.99</b>	<b>1.99</b>	<b>2.49</b>	<b>N/A</b>	<b>N/A</b>	<b>1.53</b>	<b>3.97</b>	<b>-0.91</b>	<b>N/A</b>	<b>N/A</b>	<b>1.71</b>	<b>08/01/2012</b>
Bloomberg US Gov't/Credit: Int Trm Bond Index	-2.07	2.08	2.08	2.09	1.85	3.84	1.07	3.13	-0.86	3.89	5.80	1.39	
Difference	0.01	-0.09	-0.09	0.40	N/A	N/A	0.46	0.84	-0.05	N/A	N/A	0.32	
IM U.S. Intermediate Duration (SA+CF) Median	-1.84	2.39	2.39	2.46	2.30	4.30	1.30	3.56	-0.53	4.95	5.87	1.77	
Rank	82	76	76	49	N/A	N/A	31	34	74	N/A	N/A	56	
<b>FIA International Fixed Income (SA)</b>	<b>-3.43</b>	<b>3.54</b>	<b>3.54</b>	<b>5.33</b>	<b>4.56</b>	<b>5.07</b>	<b>-0.22</b>	<b>13.10</b>	<b>-0.80</b>	<b>7.81</b>	<b>5.11</b>	<b>5.10</b>	<b>05/01/2004</b>
Bloomberg Gbl Agg Ex USD Index (Hedged)	-1.86	4.90	4.90	4.97	4.50	4.41	1.36	8.79	1.18	6.46	3.94	4.51	
Difference	-1.57	-1.36	-1.36	0.36	0.06	0.66	-1.58	4.31	-1.98	1.35	1.17	0.59	
IM International Fixed Income (SA+CF) Median	-3.28	3.53	3.53	1.65	2.33	4.26	-1.37	2.80	-0.15	7.58	4.97	4.92	
Rank	51	50	50	17	26	32	49	5	54	50	45	48	

Asset Allocation by Manager



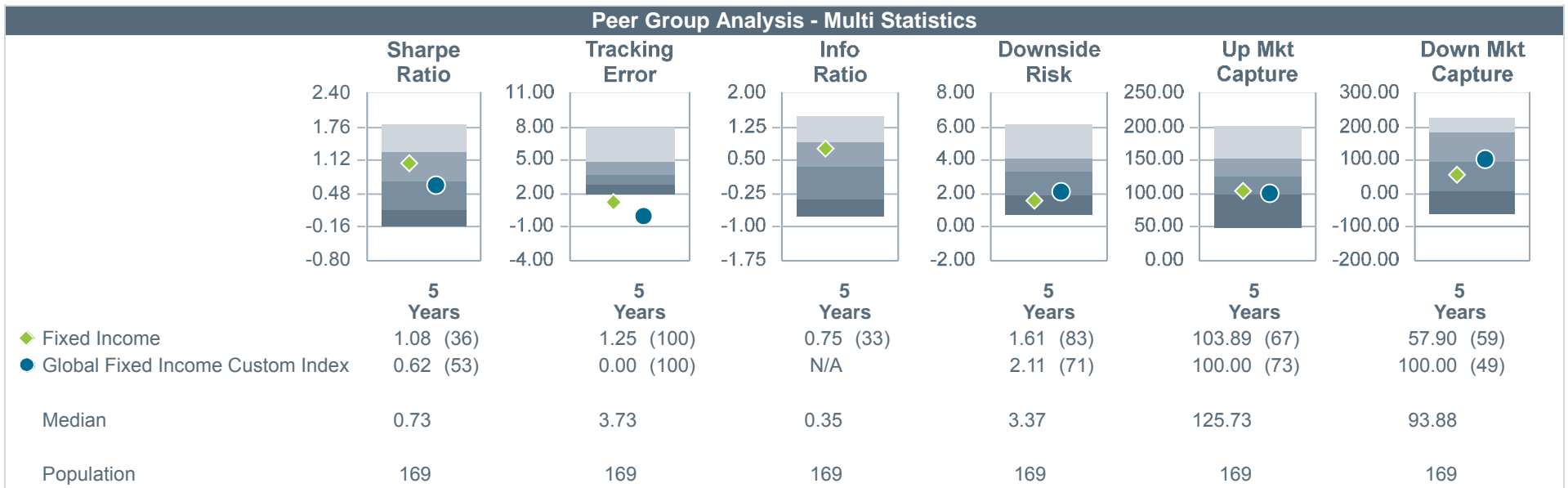
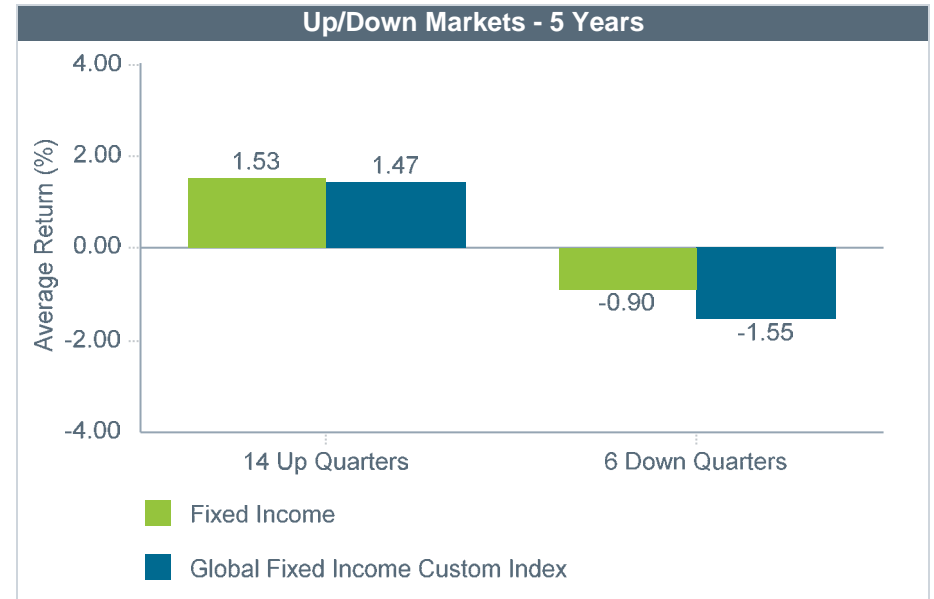
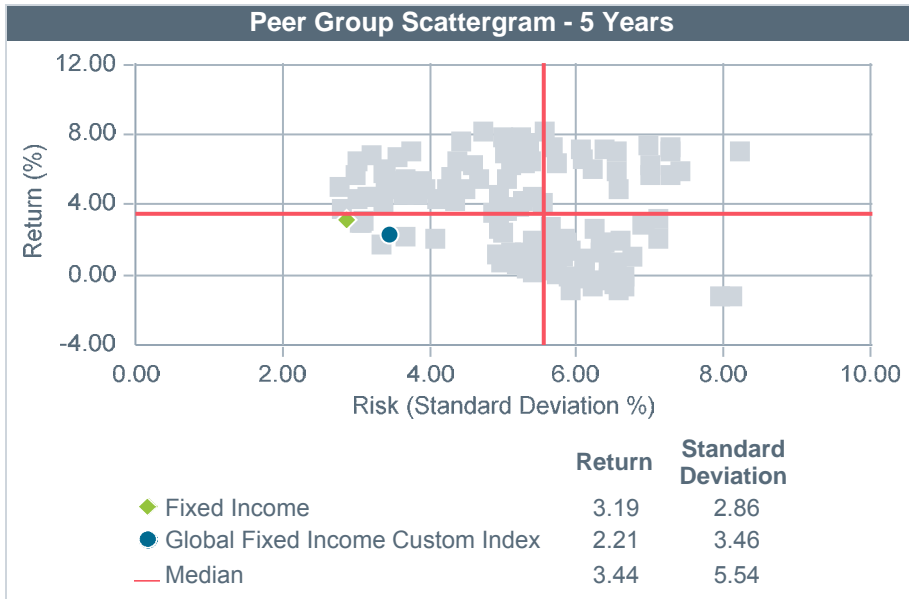
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Comparative Performance													
	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Brandywine Gbl Opp FI (CF)</b>	<b>-6.05</b>	<b>5.69</b>	<b>5.69</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-7.98</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-1.80</b>	<b>11/01/2014</b>
Citi Wrld Gov't Bond Index	-8.53	1.60	1.60	-0.84	-0.99	2.99	-3.57	-0.48	-4.00	1.65	6.35	-1.51	
Difference	2.48	4.09	4.09	N/A	N/A	N/A	-4.41	N/A	N/A	N/A	N/A	-0.29	
IM Global Fixed Income (SA+CF) Median	-1.50	5.71	5.71	2.38	3.44	4.72	-2.40	2.47	-0.05	9.52	4.82	1.60	
Rank	75	51	51	N/A	N/A	N/A	94	N/A	N/A	N/A	N/A	85	
<b>Lazard High Yield (SA)</b>	<b>0.92</b>	<b>9.91</b>	<b>9.91</b>	<b>4.52</b>	<b>6.29</b>	<b>6.59</b>	<b>-0.10</b>	<b>4.00</b>	<b>6.15</b>	<b>11.94</b>	<b>6.30</b>	<b>6.76</b>	<b>01/01/2004</b>
BofA ML US Hi Yld BB-B Rated Index	1.27	14.75	14.75	4.87	7.06	6.87	-2.86	3.47	6.31	14.71	5.43	7.12	
Difference	-0.35	-4.84	-4.84	-0.35	-0.77	-0.28	2.76	0.53	-0.16	-2.77	0.87	-0.36	
IM U.S. High Yield Bonds (SA+CF) Median	1.58	14.07	14.07	4.46	7.13	7.24	-2.21	2.61	7.50	15.34	5.26	7.56	
Rank	85	83	83	47	76	79	20	20	82	86	29	89	
<b>Payden:Low Dur;Inv (PYSBX)</b>	<b>-0.07</b>	<b>2.26</b>	<b>2.26</b>	<b>1.46</b>	<b>2.07</b>	<b>3.99</b>	<b>0.91</b>	<b>1.21</b>	<b>0.99</b>	<b>5.03</b>	<b>5.86</b>	<b>4.18</b>	<b>04/01/2002</b>
Bloomberg US Trsy: 1-3 Yr Index	-0.46	0.86	0.86	0.68	0.57	2.13	0.56	0.63	0.36	0.43	1.55	2.41	
Difference	0.39	1.40	1.40	0.78	1.50	1.86	0.35	0.58	0.63	4.60	4.31	1.77	
IM U.S. Short Duration Fixed Income (SA+CF) Median	-0.33	1.59	1.59	1.31	1.41	2.76	0.93	1.25	0.67	2.43	2.09	3.01	
Rank	18	21	21	35	18	5	57	55	24	8	1	1	
<b>Payden &amp; Rygel Cash (SA)</b>	<b>0.08</b>	<b>0.36</b>	<b>0.36</b>	<b>0.17</b>	<b>0.14</b>	<b>0.91</b>	<b>0.08</b>	<b>0.05</b>	<b>0.06</b>	<b>0.14</b>	<b>0.13</b>	<b>2.75</b>	<b>08/01/1995</b>
BofA ML 3 Mo US T-Bill Index	0.08	0.33	0.33	0.14	0.12	0.80	0.05	0.04	0.07	0.11	0.10	2.50	
Difference	0.00	0.03	0.03	0.03	0.02	0.11	0.03	0.01	-0.01	0.03	0.03	0.25	
<b>FLP (Loans)</b>	<b>1.55</b>	<b>6.12</b>	<b>6.12</b>	<b>6.02</b>	<b>5.89</b>	<b>6.43</b>	<b>6.09</b>	<b>5.85</b>	<b>5.52</b>	<b>5.89</b>	<b>6.36</b>	<b>7.35</b>	<b>08/01/1995</b>
<b>ECLP (Loans)</b>	<b>1.13</b>	<b>4.89</b>	<b>4.89</b>	<b>5.02</b>	<b>5.16</b>	<b>N/A</b>	<b>5.13</b>	<b>5.03</b>	<b>5.16</b>	<b>5.58</b>	<b>5.97</b>	<b>5.32</b>	<b>11/01/2010</b>

Performance shown is gross of fees, except for FLP & ECLP Bank Loans which are shown net of fees. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies.

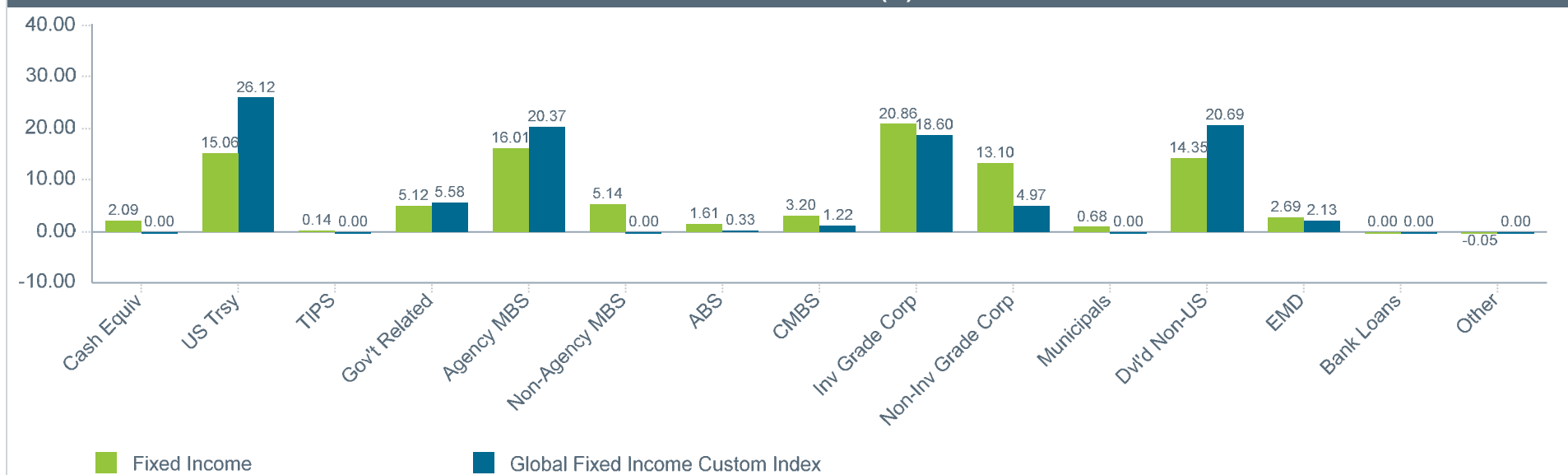


Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	4.81	5.95
Modified Duration	4.94	5.87
Avg. Maturity	6.81	8.13
Avg. Quality	A2	N/A
Coupon Rate (%)	3.72	3.33
Yield To Worst (%)	2.92	2.17
Current Yield (%)	3.59	N/A

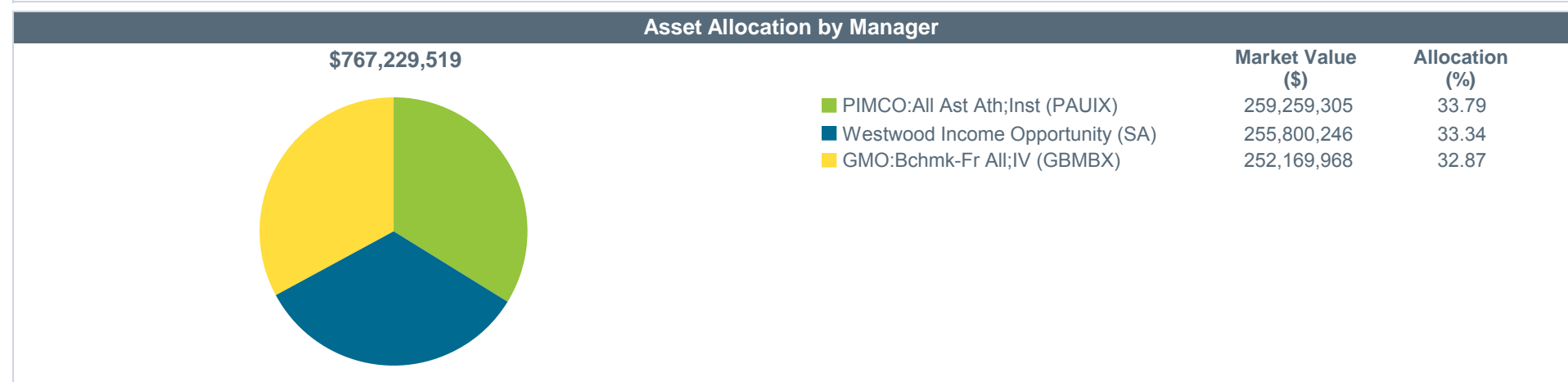
Sector Distribution (%)



FLP & ECLP Bank Loans are excluded from portfolio characteristics and sector distribution. Negative sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.



Comparative Performance													
	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Absolute Return</b>	<b>-0.23</b>	<b>8.45</b>	<b>8.45</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-5.52</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-0.20</b>	<b>07/01/2014</b>
Absolute Return Custom Index	-0.43	6.22	6.22	3.32	6.78	4.42	-0.88	4.77	12.74	11.63	-1.47	1.85	
Difference	0.20	2.23	2.23	N/A	N/A	N/A	-4.64	N/A	N/A	N/A	N/A	-2.05	
<b>GMO:Bchmk-Fr All;IV (GBMBX)</b>	<b>-0.90</b>	<b>4.35</b>	<b>4.35</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.43</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-0.85</b>	<b>07/01/2014</b>
60% MSCI ACWI (Net)/40% B Gbl Agg Idx	-2.16	5.69	5.69	1.94	5.76	3.76	-2.47	2.78	12.05	11.45	-2.07	0.08	
Difference	1.26	-1.34	-1.34	N/A	N/A	N/A	-0.96	N/A	N/A	N/A	N/A	-0.93	
<b>PIMCO:All Ast Ath;Inst (PAUIX)</b>	<b>-0.62</b>	<b>14.80</b>	<b>14.80</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-10.89</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-2.27</b>	<b>07/01/2014</b>
All Asset Custom Index (EqI Wtd)	-0.42	6.47	6.47	3.00	4.77	4.65	-1.07	3.73	6.10	8.92	3.48	1.83	
Difference	-0.20	8.33	8.33	N/A	N/A	N/A	-9.82	N/A	N/A	N/A	N/A	-4.10	
<b>Westwood Income Opportunity (SA)</b>	<b>0.85</b>	<b>6.47</b>	<b>6.47</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-2.07</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>2.50</b>	<b>07/01/2014</b>
Westwood Custom Index	-1.54	5.37	5.37	6.52	7.13	5.17	1.61	12.88	6.15	9.98	7.31	4.87	
Difference	2.39	1.10	1.10	N/A	N/A	N/A	-3.68	N/A	N/A	N/A	N/A	-2.37	



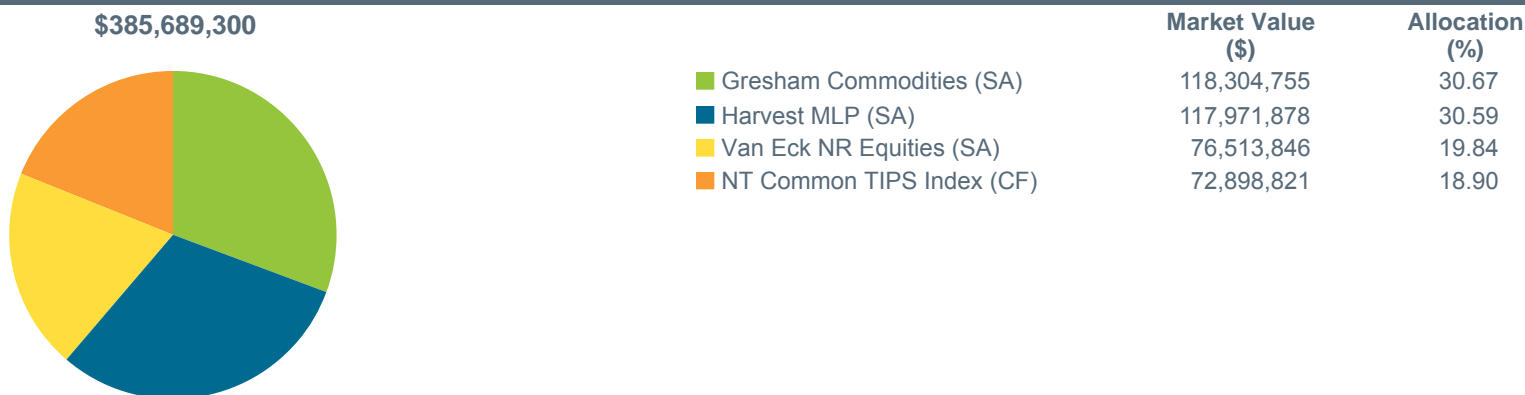
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Comparative Performance

	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Diversified Inflation Strategies (DIS)</b>	<b>2.00</b>	<b>19.55</b>	<b>19.55</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-23.87</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>0.75</b>	<b>04/01/2014</b>
DIS Custom Index	1.38	16.53	16.53	1.22	3.59	2.81	-18.88	9.69	-2.19	17.59	3.94	0.25	
Difference	0.62	3.02	3.02	N/A	N/A	N/A	-4.99	N/A	N/A	N/A	N/A	0.50	
<b>NT Common TIPS Index (CF)</b>	<b>-2.45</b>	<b>4.82</b>	<b>4.82</b>	<b>2.31</b>	<b>0.92</b>	<b>4.47</b>	<b>-1.48</b>	<b>3.69</b>	<b>-8.58</b>	<b>6.94</b>	<b>13.91</b>	<b>4.35</b>	<b>06/01/2004</b>
Bloomberg US Trsy: US TIPS Index	-2.41	4.68	4.68	2.26	0.89	4.36	-1.44	3.64	-8.61	6.98	13.56	4.24	
Difference	-0.04	0.14	0.14	0.05	0.03	0.11	-0.04	0.05	0.03	-0.04	0.35	0.11	
IM U.S. TIPS (SA+CF) Median	-2.38	4.67	4.67	2.26	0.93	4.43	-1.40	3.57	-8.24	7.02	13.50	4.29	
Rank	75	31	31	34	54	36	64	37	64	59	25	38	
<b>Gresham Commodities (SA)</b>	<b>3.90</b>	<b>12.44</b>	<b>12.44</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-9.94</b>	<b>07/01/2015</b>
Bloomberg Cmdty Ex-Energy Index (TR)	-1.70	7.77	7.77	-6.05	-6.62	-1.53	-17.74	-6.47	-16.76	2.85	-11.93	-4.94	
Difference	5.60	4.67	4.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-5.00	
<b>Harvest MLP (SA)</b>	<b>1.73</b>	<b>20.10</b>	<b>20.10</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-6.90</b>	<b>07/01/2015</b>
S&P MLP Index (TR)	3.32	21.95	21.95	-5.18	3.03	8.19	-35.07	7.66	29.75	4.95	14.47	-9.42	
Difference	-1.59	-1.85	-1.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.52	
<b>Van Eck NR Equities (SA)</b>	<b>4.09</b>	<b>45.15</b>	<b>45.15</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-0.51</b>	<b>07/01/2015</b>
S&P Gbl Natural Res Sect Index (TR)	6.69	32.28	32.28	-3.16	-0.24	1.07	-24.00	-9.66	1.55	7.15	-14.86	2.06	
Difference	-2.60	12.87	12.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-2.57	

Asset Allocation by Manager

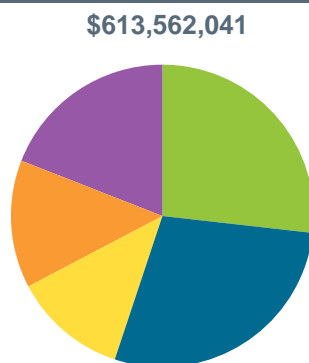


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Comparative Performance													
	QTD	CYTD	1 Year	3 Years	5 Years	10 Years	2015	2014	2013	2012	2011	Since Incep.	Inception Date
<b>Real Estate</b>	<b>2.68</b>	<b>9.77</b>	<b>9.77</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>11.54</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	5.82	15.02	12.50	13.94	10.94	15.99	10.75	
Difference	0.57	1.00	1.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.79	
<b>Morgan Stanley Prime Property Fund (CF)</b>	<b>2.68</b>	<b>10.43</b>	<b>10.43</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>12.07</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	5.82	15.02	12.50	13.94	10.94	15.99	10.75	
Difference	0.57	1.66	1.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.32	
<b>UBS Trumbull Property Fund, L.P. (CF)</b>	<b>1.46</b>	<b>7.21</b>	<b>7.21</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>9.28</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	5.82	15.02	12.50	13.94	10.94	15.99	10.75	
Difference	-0.65	-1.56	-1.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.47	
<b>Jamestown Premier Property Fund (CF)</b>	<b>-0.03</b>	<b>6.58</b>	<b>6.58</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>10.21</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	5.82	15.02	12.50	13.94	10.94	15.99	10.75	
Difference	-2.14	-2.19	-2.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.54	
<b>Prologis USLF (CF)</b>	<b>6.49</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>13.66</b>	<b>04/01/2016</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	5.82	15.02	12.50	13.94	10.94	15.99	6.45	
Difference	4.38	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.21	
<b>JP Morgan US Real Estate Income and Growth, LP (CF)</b>	<b>3.53</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.79</b>	<b>07/01/2016</b>
NCREIF ODCE Index (AWA) (Gross)	2.11	8.77	8.77	12.07	12.21	5.82	15.02	12.50	13.94	10.94	15.99	4.22	
Difference	1.42	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.57	

Asset Allocation by Manager



	Market Value (\$)	Allocation (%)
Morgan Stanley Prime Property Fund (CF)	173,440,224	28.27
UBS Trumbull Property Fund, L.P. (CF)	164,450,288	26.80
JP Morgan US Real Estate Income and Growth, LP (CF)	116,886,208	19.05
Prologis USLF (CF)	83,934,777	13.68
Jamestown Premier Property Fund (CF)	74,850,544	12.20

Performance shown is gross of fees. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. Actual funding date for Prologis USLF (CF) was April 14, 2016. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Glossary.

North Dakota Board of University and School Lands  
Comparative Performance - Net

As of December 31, 2016

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Total Fund</b>	<b>0.49</b>	<b>8.65</b>	<b>8.65</b>	<b>2.81</b>	<b>6.48</b>	<b>6.67</b>	<b>4.50</b>	<b>-4.55</b>	<b>4.78</b>	<b>13.15</b>	<b>6.62</b>	<b>08/01/1995</b>
Target Allocation Index (Net)	0.02	7.85	7.85	4.40	7.58	7.63	N/A	-0.93	6.50	13.12	N/A	
Difference	0.47	0.80	0.80	-1.59	-1.10	-0.96	N/A	-3.62	-1.72	0.03	N/A	
<b>Broad US Equity</b>	<b>4.47</b>	<b>13.29</b>	<b>13.29</b>	<b>8.38</b>	<b>13.32</b>	<b>12.07</b>	<b>N/A</b>	<b>0.08</b>	<b>12.29</b>	<b>28.14</b>	<b>14.54</b>	<b>07/01/2009</b>
Russell 3000 Index	4.21	12.74	12.74	8.43	14.67	12.92	7.07	0.48	12.56	33.55	15.17	
Difference	0.26	0.55	0.55	-0.05	-1.35	-0.85	N/A	-0.40	-0.27	-5.41	-0.63	
<b>State Street S&amp;P 500 Index (CF)</b>	<b>3.84</b>	<b>11.98</b>	<b>11.98</b>	<b>8.88</b>	<b>14.65</b>	<b>12.83</b>	<b>N/A</b>	<b>1.40</b>	<b>13.67</b>	<b>32.36</b>	<b>8.54</b>	<b>04/01/2008</b>
S&P 500 Index (Cap Wtd)	3.82	11.96	11.96	8.87	14.66	12.83	6.95	1.38	13.69	32.39	8.54	
Difference	0.02	0.02	0.02	0.01	-0.01	0.00	N/A	0.02	-0.02	-0.03	0.00	
<b>NT Small Cap Core (CF)</b>	<b>6.92</b>	<b>18.20</b>	<b>18.20</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-6.01</b>	<b>N/A</b>	<b>N/A</b>	<b>3.89</b>	<b>07/01/2014</b>
Russell 2000 Index	8.83	21.31	21.31	6.74	14.46	13.24	7.07	-4.41	4.89	38.82	6.80	
Difference	-1.91	-3.11	-3.11	N/A	N/A	N/A	N/A	-1.60	N/A	N/A	-2.91	
<b>NT Small/Smid Composite</b>	<b>6.92</b>	<b>18.20</b>	<b>18.20</b>	<b>4.47</b>	<b>12.84</b>	<b>11.53</b>	<b>6.38</b>	<b>-6.01</b>	<b>2.65</b>	<b>36.61</b>	<b>9.55</b>	<b>03/01/1996</b>
Small/Smid Blended Index	8.83	21.31	21.31	7.87	15.14	13.99	7.97	-4.41	8.25	36.80	9.92	
Difference	-1.91	-3.11	-3.11	-3.40	-2.30	-2.46	-1.59	-1.60	-5.60	-0.19	-0.37	
<b>Broad International Equity</b>	<b>-1.29</b>	<b>4.82</b>	<b>4.82</b>	<b>-2.01</b>	<b>6.66</b>	<b>3.30</b>	<b>N/A</b>	<b>-5.25</b>	<b>-5.28</b>	<b>25.44</b>	<b>5.78</b>	<b>07/01/2009</b>
MSCI ACW Ex US Index (USD) (Net)	-1.25	4.50	4.50	-1.78	5.00	2.93	0.96	-5.66	-3.87	15.29	5.74	
Difference	-0.04	0.32	0.32	-0.23	1.66	0.37	N/A	0.41	-1.41	10.15	0.04	
<b>State Street World Ex US Index (CF)</b>	<b>-0.37</b>	<b>2.66</b>	<b>2.66</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.12</b>	<b>N/A</b>	<b>N/A</b>	<b>-4.02</b>	<b>07/01/2014</b>
MSCI Wrld Ex US Index (USD) (Net)	-0.36	2.75	2.75	-1.59	6.07	3.64	0.86	-3.04	-4.32	21.02	-3.94	
Difference	-0.01	-0.09	-0.09	N/A	N/A	N/A	N/A	-0.08	N/A	N/A	-0.08	
<b>DFA Emg Mkts Core Eq;l (DFCEX)</b>	<b>-5.10</b>	<b>12.35</b>	<b>12.35</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-14.86</b>	<b>N/A</b>	<b>N/A</b>	<b>-4.87</b>	<b>07/01/2014</b>
MSCI Emg Mkts Index (USD) (Net)	-4.16	11.19	11.19	-2.55	1.28	0.47	1.84	-14.92	-2.19	-2.60	-5.34	
Difference	-0.94	1.16	1.16	N/A	N/A	N/A	N/A	0.06	N/A	N/A	0.47	
<b>Harding Loevner:IEM;II (HLEEX)</b>	<b>-4.78</b>	<b>13.44</b>	<b>13.44</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-13.31</b>	<b>N/A</b>	<b>N/A</b>	<b>-4.10</b>	<b>07/01/2014</b>
MSCI Emg Mkts Index (USD) (Net)	-4.16	11.19	11.19	-2.55	1.28	0.47	1.84	-14.92	-2.19	-2.60	-5.34	
Difference	-0.62	2.25	2.25	N/A	N/A	N/A	N/A	1.61	N/A	N/A	1.24	

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North Dakota Board of University and School Lands  
Comparative Performance - Net

As of December 31, 2016

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Fixed Income</b>	<b>-2.33</b>	<b>3.91</b>	<b>3.91</b>	<b>2.80</b>	<b>2.96</b>	<b>4.16</b>	<b>4.72</b>	<b>-0.15</b>	<b>4.72</b>	<b>-0.57</b>	<b>5.81</b>	<b>08/01/1995</b>
Global Fixed Income Custom Index	-3.64	3.66	3.66	2.45	2.21	3.53	4.30	-0.50	4.27	-1.55	N/A	
Difference	1.31	0.25	0.25	0.35	0.75	0.63	0.42	0.35	0.45	0.98	N/A	
Bloomberg US Agg Bond Index	-2.98	2.65	2.65	3.03	2.23	3.63	4.34	0.55	5.97	-2.02	5.41	
Difference	0.65	1.26	1.26	-0.23	0.73	0.53	0.38	-0.70	-1.25	1.45	0.40	
<b>Payden &amp; Rygel Long Term (SA)</b>	<b>-2.39</b>	<b>3.83</b>	<b>3.83</b>	<b>3.39</b>	<b>3.47</b>	<b>4.51</b>	<b>4.91</b>	<b>0.62</b>	<b>5.80</b>	<b>-1.45</b>	<b>6.02</b>	<b>08/01/1995</b>
Bloomberg US Agg Bond Index	-2.98	2.65	2.65	3.03	2.23	3.63	4.34	0.55	5.97	-2.02	5.41	
Difference	0.59	1.18	1.18	0.36	1.24	0.88	0.57	0.07	-0.17	0.57	0.61	
<b>JP Morgan FI Intermediate Bond (SA)</b>	<b>-2.08</b>	<b>1.88</b>	<b>1.88</b>	<b>2.38</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>1.42</b>	<b>3.86</b>	<b>-1.01</b>	<b>1.61</b>	<b>08/01/2012</b>
Bloomberg US Gov't/Credit: Int Trm Bond Index	-2.07	2.08	2.08	2.09	1.85	2.97	3.84	1.07	3.13	-0.86	1.39	
Difference	-0.01	-0.20	-0.20	0.29	N/A	N/A	N/A	0.35	0.73	-0.15	0.22	
<b>FIA International Fixed Income (SA)</b>	<b>-3.49</b>	<b>3.29</b>	<b>3.29</b>	<b>5.08</b>	<b>4.31</b>	<b>4.63</b>	<b>4.78</b>	<b>-0.46</b>	<b>12.84</b>	<b>-1.04</b>	<b>4.80</b>	<b>05/01/2004</b>
Bloomberg Gbl Agg Ex USD Index (Hedged)	-1.86	4.90	4.90	4.97	4.50	4.24	4.41	1.36	8.79	1.18	4.51	
Difference	-1.63	-1.61	-1.61	0.11	-0.19	0.39	0.37	-1.82	4.05	-2.22	0.29	
<b>Brandywine Gbl Opp FI (CF)</b>	<b>-6.14</b>	<b>5.28</b>	<b>5.28</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-8.31</b>	<b>N/A</b>	<b>N/A</b>	<b>-2.14</b>	<b>11/01/2014</b>
Citi Wrld Gov't Bond Index	-8.53	1.60	1.60	-0.84	-0.99	0.89	2.99	-3.57	-0.48	-4.00	-1.51	
Difference	2.39	3.68	3.68	N/A	N/A	N/A	N/A	-4.74	N/A	N/A	-0.63	
<b>Lazard High Yield (SA)</b>	<b>0.85</b>	<b>9.58</b>	<b>9.58</b>	<b>4.21</b>	<b>5.97</b>	<b>6.72</b>	<b>6.27</b>	<b>-0.41</b>	<b>3.69</b>	<b>5.83</b>	<b>6.44</b>	<b>01/01/2004</b>
BofA ML US Hi Yld BB-B Rated Index	1.27	14.75	14.75	4.87	7.06	7.86	6.87	-2.86	3.47	6.31	7.12	
Difference	-0.42	-5.17	-5.17	-0.66	-1.09	-1.14	-0.60	2.45	0.22	-0.48	-0.68	
<b>Payden:Low Dur;Inv (PYSBX)</b>	<b>-0.19</b>	<b>1.74</b>	<b>1.74</b>	<b>0.96</b>	<b>1.56</b>	<b>2.55</b>	<b>3.47</b>	<b>0.44</b>	<b>0.70</b>	<b>0.48</b>	<b>3.66</b>	<b>04/01/2002</b>
Bloomberg US Trsy: 1-3 Yr Index	-0.46	0.86	0.86	0.68	0.57	0.97	2.13	0.56	0.63	0.36	2.41	
Difference	0.27	0.88	0.88	0.28	0.99	1.58	1.34	-0.12	0.07	0.12	1.25	
<b>Payden &amp; Rygel Cash (SA)</b>	<b>0.06</b>	<b>0.24</b>	<b>0.24</b>	<b>0.06</b>	<b>0.04</b>	<b>0.04</b>	<b>0.81</b>	<b>-0.02</b>	<b>-0.04</b>	<b>-0.04</b>	<b>2.65</b>	<b>08/01/1995</b>
BofA ML 3 Mo US T-Bill Index	0.08	0.33	0.33	0.14	0.12	0.12	0.80	0.05	0.04	0.07	2.50	
Difference	-0.02	-0.09	-0.09	-0.08	-0.08	-0.08	0.01	-0.07	-0.08	-0.11	0.15	
<b>FLP (Loans)</b>	<b>1.55</b>	<b>6.12</b>	<b>6.12</b>	<b>6.02</b>	<b>5.89</b>	<b>6.05</b>	<b>6.43</b>	<b>6.09</b>	<b>5.85</b>	<b>5.52</b>	<b>7.35</b>	<b>08/01/1995</b>
<b>ECLP (Loans)</b>	<b>1.13</b>	<b>4.89</b>	<b>4.89</b>	<b>5.02</b>	<b>5.16</b>	<b>N/A</b>	<b>N/A</b>	<b>5.13</b>	<b>5.03</b>	<b>5.16</b>	<b>5.32</b>	<b>11/01/2010</b>

Performance shown is net of fees. Manager inception dates shown represent the first full month following initial funding. Composite inception dates are based on availability of data for each asset class. Please see the Addendum for custom index definitions. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Addendum and Glossary.



North Dakota Board of University and School Lands  
Comparative Performance - Net

As of December 31, 2016

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Absolute Return</b>	<b>-0.43</b>	<b>7.61</b>	<b>7.61</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-6.25</b>	<b>N/A</b>	<b>N/A</b>	<b>-0.97</b>	<b>07/01/2014</b>
Absolute Return Custom Index	-0.43	6.22	6.22	3.32	6.78	6.25	4.42	-0.88	4.77	12.74	1.85	
Difference	0.00	1.39	1.39	N/A	N/A	N/A	N/A	-5.37	N/A	N/A	-2.82	
<b>GMO:Bchmk-Fr All;IV (GBMBX)</b>	<b>-1.12</b>	<b>3.45</b>	<b>3.45</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-4.23</b>	<b>N/A</b>	<b>N/A</b>	<b>-1.69</b>	<b>07/01/2014</b>
60% MSCI ACWI (Net)/40% B Gbl Agg Idx	-2.16	5.69	5.69	1.94	5.76	5.21	3.76	-2.47	2.78	12.05	0.08	
Difference	1.04	-2.24	-2.24	N/A	N/A	N/A	N/A	-1.76	N/A	N/A	-1.77	
Consumer Price Index+5%	1.23	7.18	7.18	6.24	6.43	6.69	6.90	5.77	5.79	6.58	5.54	
Difference	-2.35	-3.73	-3.73	N/A	N/A	N/A	N/A	-10.00	N/A	N/A	-7.23	
<b>PIMCO:All Ast Ath;Inst (PAUIX)</b>	<b>-0.86</b>	<b>13.73</b>	<b>13.73</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-11.73</b>	<b>N/A</b>	<b>N/A</b>	<b>-3.19</b>	<b>07/01/2014</b>
All Asset Custom Index (EqI Wtd)	-0.42	6.47	6.47	3.00	4.77	5.14	4.65	-1.07	3.73	6.10	1.83	
Difference	-0.44	7.26	7.26	N/A	N/A	N/A	N/A	-10.66	N/A	N/A	-5.02	
Consumer Price Index+5%	1.23	7.18	7.18	6.24	6.43	6.69	6.90	5.77	5.79	6.58	5.54	
Difference	-2.09	6.55	6.55	N/A	N/A	N/A	N/A	-17.50	N/A	N/A	-8.73	
<b>Westwood Income Opportunity (SA)</b>	<b>0.71</b>	<b>5.90</b>	<b>5.90</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-2.61</b>	<b>N/A</b>	<b>N/A</b>	<b>1.94</b>	<b>07/01/2014</b>
Westwood Custom Index	-1.54	5.37	5.37	6.52	7.13	7.99	5.17	1.61	12.88	6.15	4.87	
Difference	2.25	0.53	0.53	N/A	N/A	N/A	N/A	-4.22	N/A	N/A	-2.93	
Consumer Price Index+5%	1.23	7.18	7.18	6.24	6.43	6.69	6.90	5.77	5.79	6.58	5.54	
Difference	-0.52	-1.28	-1.28	N/A	N/A	N/A	N/A	-8.38	N/A	N/A	-3.60	
<b>Diversified Inflation Strategies (DIS)</b>	<b>1.86</b>	<b>18.91</b>	<b>18.91</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-24.22</b>	<b>N/A</b>	<b>N/A</b>	<b>0.29</b>	<b>04/01/2014</b>
DIS Custom Index	1.38	16.53	16.53	1.22	3.59	5.03	2.81	-18.88	9.69	-2.19	0.25	
Difference	0.48	2.38	2.38	N/A	N/A	N/A	N/A	-5.34	N/A	N/A	0.04	
<b>NT Common TIPS Index (CF)</b>	<b>-2.46</b>	<b>4.77</b>	<b>4.77</b>	<b>2.26</b>	<b>0.88</b>	<b>3.43</b>	<b>4.42</b>	<b>-1.53</b>	<b>3.66</b>	<b>-8.61</b>	<b>4.30</b>	<b>06/01/2004</b>
Bloomberg US Trsy: US TIPS Index	-2.41	4.68	4.68	2.26	0.89	3.38	4.36	-1.44	3.64	-8.61	4.24	
Difference	-0.05	0.09	0.09	0.00	-0.01	0.05	0.06	-0.09	0.02	0.00	0.06	
<b>Gresham Commodities (SA)</b>	<b>3.75</b>	<b>11.76</b>	<b>11.76</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-10.49</b>	<b>07/01/2015</b>
Bloomberg Cmdty Ex-Energy Index (TR)	-1.70	7.77	7.77	-6.05	-6.62	-2.84	-1.53	-17.74	-6.47	-16.76	-4.94	
Difference	5.45	3.99	3.99	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-5.55	
<b>Harvest MLP (SA)</b>	<b>1.55</b>	<b>19.24</b>	<b>19.24</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-7.60</b>	<b>07/01/2015</b>
S&P MLP Index (TR)	3.32	21.95	21.95	-5.18	3.03	8.73	8.19	-35.07	7.66	29.75	-9.42	
Difference	-1.77	-2.71	-2.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.82	

Performance shown is net of fees. Manager inception dates shown represent the first full month following initial funding. Composite inception dates are based on availability of data for each asset class. Please see the Addendum for custom index definitions. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Addendum and Glossary.

North Dakota Board of University and School Lands  
Comparative Performance - Net

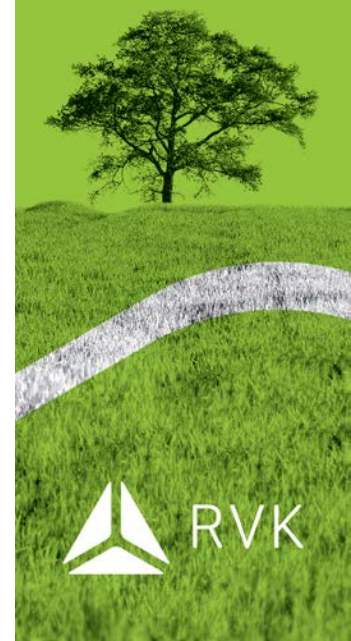
As of December 31, 2016

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2015	2014	2013	Since Incep.	Inception Date
<b>Van Eck NR Equities (SA)</b>	<b>3.91</b>	<b>44.23</b>	<b>44.23</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>-1.18</b>	<b>07/01/2015</b>
S&P Gbl Natural Res Sect Index (TR)	6.69	32.28	32.28	-3.16	-0.24	-0.97	1.07	-24.00	-9.66	1.55	2.06	
Difference	-2.78	11.95	11.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-3.24	
<b>Real Estate</b>	<b>2.32</b>	<b>8.48</b>	<b>8.48</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>10.17</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Net)	1.88	7.79	7.79	11.04	11.16	12.27	4.84	13.95	11.46	12.90	9.73	
Difference	0.44	0.69	0.69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.44	
<b>Morgan Stanley Prime Property Fund (CF)</b>	<b>2.40</b>	<b>9.23</b>	<b>9.23</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>10.80</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Net)	1.88	7.79	7.79	11.04	11.16	12.27	4.84	13.95	11.46	12.90	9.73	
Difference	0.52	1.44	1.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.07	
<b>UBS Trumbull Property Fund, L.P. (CF)</b>	<b>1.21</b>	<b>6.14</b>	<b>6.14</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>8.16</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Net)	1.88	7.79	7.79	11.04	11.16	12.27	4.84	13.95	11.46	12.90	9.73	
Difference	-0.67	-1.65	-1.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.57	
<b>Jamestown Premier Property Fund (CF)</b>	<b>-0.26</b>	<b>5.26</b>	<b>5.26</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>8.20</b>	<b>07/01/2015</b>
NCREIF ODCE Index (AWA) (Net)	1.88	7.79	7.79	11.04	11.16	12.27	4.84	13.95	11.46	12.90	9.73	
Difference	-2.14	-2.53	-2.53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-1.53	
<b>Prologis USLF (CF)</b>	<b>5.48</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>11.91</b>	<b>04/01/2016</b>
NCREIF ODCE Index (AWA) (Net)	1.88	7.79	7.79	11.04	11.16	12.27	4.84	13.95	11.46	12.90	5.72	
Difference	3.60	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.19	
<b>JP Morgan US Real Estate Income and Growth, LP (CF)</b>	<b>3.29</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>5.21</b>	<b>07/01/2016</b>
NCREIF ODCE Index (AWA) (Net)	1.88	7.79	7.79	11.04	11.16	12.27	4.84	13.95	11.46	12.90	3.75	
Difference	1.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.46	

• Actual funding date for Prologis USLF (CF) was April 14, 2016.

Performance shown is net of fees. Manager inception dates shown represent the first full month following initial funding. Composite inception dates are based on availability of data for each asset class. Please see the Addendum for custom index definitions. RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. RVK endorses GIPS and calculates performance for composites and investment managers using different methodologies. For additional information, please see the Addendum and Glossary.

# Addendum & Glossary



**Fee Schedules**

• State Street S&P 500 Index (CF):	0.012% on total market value
• NT Small Cap Core (CF):	0.70% on total market value
• State Street World Ex US Index (CF):	0.025% on total market value
• DFA Emg Mkts Core Eq;I (DFCEX):	0.61% on total market value
• Harding Loevner:IEM;II (HLEEX):	1.13% on total market value
• Payden & Rygel Long Term (SA):	0.20% on total market value
• JP Morgan FI Intermediate Bond (SA):	0.20% on the first \$75M, 0.18% thereafter
• FIA International Fixed Income (SA):	0.35% on the first \$30M, 0.25% on the next \$20M, 0.20% over \$50M
• Brandywine Gbl Opp FI (CF):	0.45% on the first \$50M, 0.40% on the next \$50M, 0.35% thereafter
• Lazard High Yield (SA):	0.30% on total market value
• Payden:Low Dur;Inv (PYSBX):	0.45% on total market value
• Payden & Rygel Cash (SA):	0.10% on total market value
• GMO:Bchmk-Fr All;IV (GBMBX):	0.89% on total market value
• PIMCO:All Ast Ath;Inst (PAUIX):	0.94% on total market value
• Westwood Income Opportunity (SA):	0.80% on the first \$25M, 0.65% on the next \$25M, 0.50% thereafter
• NT Common TIPS Index (CF):	0.06% on the first \$50M, 0.03% thereafter
• Gresham Commodities (SA):	0.67% on the first \$75M, 0.50% on the next \$75M, 0.40% thereafter
• Harvest MLP (SA):	0.75% on the first \$100M, and a 0.05% discount on each \$50M thereafter until \$300M, where it's 0.50%
• Van Eck NR Equities (SA):	0.75% on the first \$50M, 0.50% on the next \$200M, 0.475% thereafter
• Morgan Stanley Prime Property Fund (CF):	0.84% on total market value; Incentive fee: 5.0% * NAV * comparable property NOI growth (total capped at 0.35%)
• UBS Trumbull Property Fund, L.P. (CF):	0.955% on the first \$10M, 0.825% on the next \$15M, 0.805% on the next \$25M, 0.79% on the next \$50M, 0.67% on the next \$150M, and 0.6% thereafter, and a 0.15% incentive fee
• Jamestown Premier Property Fund (CF):	0.70% on total market value, plus 20% of returns greater than 7% and 25% of returns greater than 10%
• Prologis USLF (CF):	Priority Distribution: 7.5% of net operating income; Acquisition Fee: 0.90% of total acquisition cost on fund acquisitions; Renovation Fee: 0.70% per annum of the acquisition cost of the capital expenditures made with respect to renovation properties during the applicable renovation period * Fees are subject to a quarterly cap of 0.30% of the fund's NAV. Incentive fee of 15% over a 9% net IRR and 20% over a 12% net IRR is payable at the end of each three-year incentive period (next period ends June 30, 2017)
• JP Morgan US Real Estate Income and Growth, LP (CF)	1.25% on total market value * Beginning October 1st, 2016, a reduced fee schedule will be implemented as follows: 1.05% on the first \$50M, 0.90% on the next \$50M, 0.85% on the next \$50M, 0.80% on the next \$50M, and 0.75% thereafter

**Performance Related Comments**

- Manager inception dates shown represent the first full month following initial funding.
- RVK began monitoring the assets of North Dakota Board of University and School Lands in Q3 2014. Prior historical data was provided by North Dakota Board of University and School Lands.
- RVK endorses GIPS and calculates performance for composites and investment managers using differing methodologies. For additional information, please see the Glossary.
- Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark.
- Historical gross performance for composites was calculated by aggregating gross performance for each of the composites' underlying managers. Managers' gross performance was provided by North Dakota Board of University and School Lands. As of July 2014, composite and manager performance is provided and calculated by RVK.
- NT Small Cap Core (CF) changed mandate from small and mid cap to strictly small cap in June 2014. Performance for NT Small/Smid Composite consists of blended history from the previous mandate. From July 2014 through present, performance consists of only the small cap mandate.
- Payden:Low Dur;Inv (PYSBX) performance prior to August 2012 consists of blended Payden:Low Dur;Inv (PYSBX) and Payden:GNMA;Inv (PYGNX).

**Index Comments**

- The Target Allocation Index (Net) is a static custom index that is calculated monthly and consists of:
  - From July 2014 through present: 17% Russell 3000 Index, 15% MSCI ACW Ex US Index (USD) (Net), 23% Global Fixed Income Custom Index, 15% NCREIF ODCE Index (AWA) (Net), 20% Absolute Return Custom Index, and 10% DIS Custom Index.
  - From January 2013 through June 2014: 18.7% Russell 1000 Index, 12.4% Russell 2500 Index, 7.5% FTSE EPRA/NAREIT US Index, 12.4% MSCI EAFE Index (USD) (Net), 33.3% Bloomberg US Agg Bond Index, 0.70% Credit Suisse Leveraged Loan Index, 10% Bloomberg US Corporate: High Yield Index, and 5% Bloomberg Gbl Agg Ex USD Index (Hedged).
  - From July 2009 through December 2012: 15% Russell 1000 Index, 10% Russell 2500 Index, 6% FTSE EPRA/NAREIT US Index, 10% MSCI EAFE Index (USD) (Net), 32.3% Bloomberg US Aggregate Bond Index, 1.70% Credit Suisse Leveraged Loan Index, 10% Bloomberg US Corporate: High Yield Index, 5% Bloomberg Gbl Agg Ex USD Index (Hedged), and 10% BofA Merrill Lynch Convertible Bonds Index (All Qualities).
- The Target Allocation Index (Gross) is a static custom index that is calculated monthly and consists of:
  - From July 2014 through present: 17% Russell 3000 Index, 15% MSCI ACW Ex US Index (USD) (Net), 23% Global Fixed Income Custom Index, 15% NCREIF ODCE Index (AWA) (Gross), 20% Absolute Return Custom Index, and 10% DIS Custom Index.
  - From January 2013 through June 2014: 18.7% Russell 1000 Index, 12.4% Russell 2500 Index, 7.5% FTSE EPRA/NAREIT US Index, 12.4% MSCI EAFE Index (USD) (Net), 33.3% Bloomberg US Agg Bond Index, 0.70% Credit Suisse Leveraged Loan Index, 10% Bloomberg US Corporate: High Yield Index, and 5% Bloomberg Gbl Agg Ex USD Index (Hedged).
  - From July 2009 through December 2012: 15% Russell 1000 Index, 10% Russell 2500 Index, 6% FTSE EPRA/NAREIT US Index, 10% MSCI EAFE Index (USD) (Net), 32.3% Bloomberg US Aggregate Bond Index, 1.70% Credit Suisse Leveraged Loan Index, 10% Bloomberg US Corporate: High Yield Index, 5% Bloomberg Gbl Agg Ex USD Index (Hedged), and 10% BofA Merrill Lynch Convertible Bonds Index (All Qualities).
- The Global Fixed Income Custom Index consists of 75% Bloomberg US Unv Bond Index and 25% Bloomberg Multiverse Index.
- The Absolute Return Custom Index consists of 60% MSCI ACW IM Index (USD) (Net) and 40% Bloomberg US Agg Bond Index.
- The DIS Custom Index consists of 50% Bloomberg US Trsy: US TIPS Index and 50% FTSE EPRA/NAREIT Developed Index (Gross) through June 2015. It consists of 20% Bloomberg US Trsy: US TIPS Index, 30% Bbrg Cmdty Ex-Energy Index (TR), 30% S&P MLP Index (TR), and 20% S&P Gbl Natural Res Index (TR) thereafter.
- The Small/Smid Blended Index consists of 100% Russell 2500 Index through May 2014 and 100% Russell 2000 Index thereafter.
- The Westwood Custom Index consists of 25% S&P 500 Index (Cap Weighted), 25% FTSE NAREIT All Eq REITs TR Index, 25% Citi 3 Mo T-Bill Index, and 25% Citi 10 Yr Trsy Index.
- The All Asset Custom Index (Eql Wtd) is an equal-weighted hybrid created independently by RVK specifically for PIMCO's All Asset strategies, and it consists of the following benchmarks:
  1. Short Term Strategies: BofA ML 1 Year T-Bill Index
  2. US Core and Long Maturity Bond Strategies: Bloomberg US Agg Bond Index
  3. EM and Global Bond Strategies: PIMCO GLADI Index\*
  4. Credit Strategies: BofA ML US Hi Yld Master II Index
  5. Inflation Related Strategies: Bloomberg US Trsy: US TIPS Index
  6. US Equity Strategies: Russell 3000 Index
  7. Global Equity Strategies: MSCI ACW Index (USD) (Net)
  8. Alternative Strategies: BofA ML 3 Mo US T-Bill Index + 3%

\* Performance for the PIMCO Gbl Advantage Bond Index (London Close) prior to January 2004 consists of the JPM EMBI Gbl Dvf'd TR Index.

## Glossary

**Active Share** - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

**Alpha** - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

**Alpha Ratio** - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

**Average Quality** - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers) such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&amp;P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&amp;P</u>	<u>Moody's</u>	<u>Explanation</u>
<b>Higher Credit Quality – Investment Grade</b>			<b>Lower Credit Quality – Below Investment Grade</b>		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

**Beta** - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

**Box Plots** - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1<sup>st</sup> quartile, 2<sup>nd</sup> quartile, 3<sup>rd</sup> quartile, and 4<sup>th</sup> quartile). The median observation is where the 2<sup>nd</sup> quartile and 3<sup>rd</sup> quartile meet.

**Buy and Hold Attribution** - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

**Sector** - Attribution is calculated using the Global Industry Classification Standard (GICS) which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector, as defined by S&P Capital IQ data.

**Country/Region** - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data.

**Style** - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

### Capital Markets Review -

**Breakeven Inflation** - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

**Consumer Confidence** - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

**Consumer Price Index (CPI)** - Measures the change in the price level of consumer goods and services.

**Federal Funds Rate** - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.

**Option-Adjusted Spread** - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.

**Purchasing Managers Index (PMI)** - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.

**Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.

**US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.

## Glossary

- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."
- Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.
- Convexity** - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.
- Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.
- Coupon Rate** - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.
- Current Yield** - The annual income of a security divided by the security's current price.
- Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.
- Downside Risk** - A measure similar to standard deviation, but focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative monthly returns. The higher the factor, the riskier the product.
- Earnings Per Share** - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.
- Effective Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield.
- Excess Return vs. Market** - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.
- Excess Return vs. Risk Free** - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.
- Excess Risk** - A measure of the standard deviation of a portfolio's performance relative to the risk free return.
- Expense Ratios** - Morningstar is the source for mutual fund expense ratios.
- Gain/Loss** - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.
- Indices** - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability and/or completeness.
- Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.
- Liability Driven Investing (LDI)** - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.
- Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.
- Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.
- Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.
- Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.
- Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.
- Modified Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.
- Mutual Fund Performance** - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.
- Net Cash Flow** - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

## Glossary

### Peer Groups -

**Plan Sponsor Peer Groups** - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client returns compiled from consultant and custodial data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans. Plan Sponsor Peer Groups are gross of fees.

**Institutional Peer Groups (Separate Account and Commingled Fund)** - RVK utilizes the Investment Metrics Separate Account and Commingled Fund Manager Peer Groups for peer comparison and rankings. The Separate Account and Commingled Fund Peer Group database includes performance and other quantitative data for over 1,000 investment management firms, 6,400 investment products, across 100 standard peer groups. Separate Account and Commingled Fund Peer Groups are gross of fees.

**Mutual Fund (MF) Peer Groups** - RVK utilizes the Lipper Mutual Fund Manager Peer Groups for peer comparison and rankings. The Lipper Manager Peer Group database includes performance and other quantitative data for over 700 investment management firms and 24,500 investment products, across more than 140 standard peer groups. Mutual Fund Peer Groups are net of fees.

**Percentile Rankings** - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value

100 - Lowest Statistical Value

*Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4<sup>th</sup> percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.*

**Performance Methodology** - RVK calculates performance for investment managers and composites using different methodologies.

**Investment Managers** - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of  $\geq 10\%$  of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

**Composites** - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

**Portfolio Characteristics** - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

**Price to Earnings Ratio** - The ratio of a company's share price to its per-share earnings

**Private Equity Quartile Ranks** - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

**Return** - Compounded rate of return for the period.

**% Return** - The time-weighted rate of return of a portfolio for a given period.

**R-Squared** - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

**Risk Free Benchmark** - BofA ML 3 Mo US T-Bill Index unless specified otherwise.



## Glossary

**RVK Liquidity Rating** - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasurys	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Bank Loans	50
TIPS	95	Stable Value (Plan Sponsor Directed)	50
US Large Cap Equity	95	Absolute Return Strategies	35
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Non-US Large Cap Equity	90	<u>Not Liquid Investments</u>	
Global Tactical Asset Allocation	88	Core Real Estate	25
US Small Cap Equity	85	Core Plus Real Estate	15
REITS	85	Non-Core Real Estate	5
Non-US Small Cap Equity	85	Private Equity Funds of Funds	5
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

**Sharpe Ratio** - Represents the excess rate of return over the risk-free return (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

**Simple Alpha** - The difference between the manager's return and the benchmark's return.

**Spread Duration** - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

**Standard Deviation** - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

**Time Period Abbreviations** - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

**Thematic Classification** - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITS
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

**Total Fund Attribution** - A method for identifying the sources of a total fund's over- or underperformance relative to its benchmark. The calculation identifies the contributions of positive or negative total fund excess return caused by allocation differences relative to the total fund's custom benchmark, and performance differences of the investment managers relative to the benchmark components that represent them.

### **Total Fund Performance** -

**Total Fund** - The percentage return of the total fund for the specified time period.

**Total Fund Benchmark** - The percentage return of the total fund benchmark for the specified time period; calculated using the target asset allocation and the corresponding benchmark returns.

**Total Value Added** - The percentage of over- or underperformance of the total fund as compared to the total fund benchmark.

### **Total Value Added** -

**Asset Allocation** - Shows how the variance of the total fund's actual allocation from its target allocation added to or subtracted from fund performance.

**Manager Value Added** - The portion of the total value added attributable to the outperformance or underperformance of the fund's investment managers, relative to the individual benchmarks that represent them in the total fund benchmark.

**Market Timing/Other** - The contribution of other residual factors, including estimation error and transaction timing.

**Total Fund Beta** - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.

**Tracking Error** - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

**Treynor Ratio** - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., BofA ML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.



## Glossary

**Unit Value** - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

**Up Market Capture** - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolios return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

**Yield to Maturity** - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

**Yield to Worst** - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

PORTLAND

CHICAGO

NEW YORK

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