



Investment Performance Analysis

North Dakota Board of University and School Lands

Period Ended: September 30, 2019



Table Of Contents

1	Capital Markets Review	Page 3
2	Total Fund	Page 10
3	Composite Profiles	Page 22
4	Investment Manager Profiles	Page 35
5	Addendum & Glossary	Page 63

Capital Markets Review

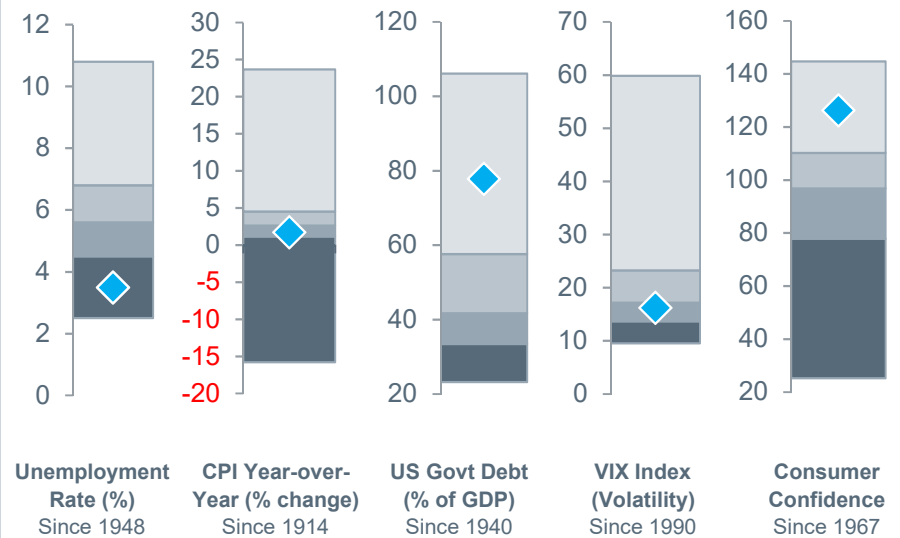


Third Quarter Economic Environment

Key Economic Indicators

Financial markets experienced bouts of volatility during Q3 as dominant market themes from the past few quarters persisted. Market participants noted that investor sentiment continued to be significantly influenced by signs of global economic weakness, geopolitical concerns largely stemming from ongoing tariffs and trade wars, and expectations for central bank policy actions. Specifically, trade tensions were cited by the International Monetary Fund as a key reason for recently lowering its estimate for global growth in 2019 from 3.2% down to 3.0%. The US equity market ended the quarter higher, while economic headwinds and conflict escalations outside the US led international equity markets lower. Yields on fixed income assets declined as growth and inflation expectations weakened. The 10-year Treasury yield reached near record lows, and the Treasury yield curve experienced continued inversion between multiple maturity points. Global central bank policy also captured investor attention during the period. The Federal Reserve took steps to mitigate developing concerns of weakening inflation and growth expectations, primarily by cutting policy rates by 0.25% at the September FOMC meeting.

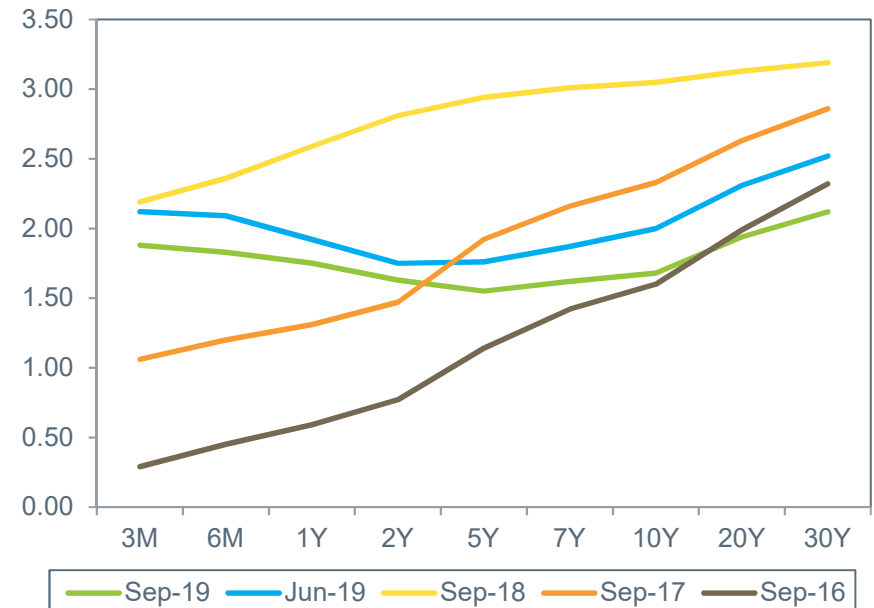
Key Economic Indicators



Economic Indicators	Sep-19	Jun-19	Sep-18	Sep-16	20 Yr
Federal Funds Rate (%)	1.90 ▼	2.40	2.18	0.29	1.84
Breakeven Infl. - 5 Yr (%)	1.35 ▼	1.54	2.03	1.49	1.85
Breakeven Infl. - 10 Yr (%)	1.52 ▼	1.70	2.14	1.61	2.03
CPI YoY (Headline) (%)	1.7 ▲	1.6	2.3	1.5	2.2
Unemployment Rate (%)	3.5 ▼	3.7	3.7	5.0	5.9
Real GDP YoY (%)	2.0 ▼	2.3	3.1	1.6	2.2
PMI - Manufacturing	47.8 ▼	51.7	59.5	51.3	52.8
USD Total Wtd Idx	93.25 ▲	90.86	90.11	89.93	86.12
WTI Crude Oil per Barrel (\$)	54.1 ▼	58.5	73.3	48.2	61.5
Gold Spot per Oz (\$)	1,472 ▲	1,410	1,191	1,316	920

Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	1.70	20.55	4.25	10.84	13.24
Russell 2000	-2.40	14.18	-8.89	8.19	11.19
MSCI EAFE (Net)	-1.07	12.80	-1.34	3.27	4.90
MSCI EAFE SC (Net)	-0.44	12.05	-5.93	6.02	7.45
MSCI Emg Mkts (Net)	-4.25	5.90	-2.02	2.33	3.37
Bloomberg US Agg Bond	2.27	8.52	10.30	3.38	3.75
ICE BofAML 3 Mo US T-Bill	0.56	1.81	2.38	0.98	0.54
NCREIF ODCE (Gross)	1.31	3.77	5.60	9.35	10.86
FTSE NAREIT Eq REIT (TR)	7.80	26.96	18.42	10.26	13.03
HFRI FOF Comp	-0.90	5.21	0.01	1.95	2.67
Bloomberg Cmtty (TR)	-1.84	3.13	-6.57	-7.18	-4.32

Treasury Yield Curve (%)



Third Quarter Review

Broad Market

US markets saw varied results during Q3 amid ongoing economic growth concerns, uncertainty surrounding US-China trade negotiations, and political risks spurred by the recently announced impeachment proceedings. The month of September was positive for most indexes, as key economic fundamentals continued to be reported at better than expected levels.

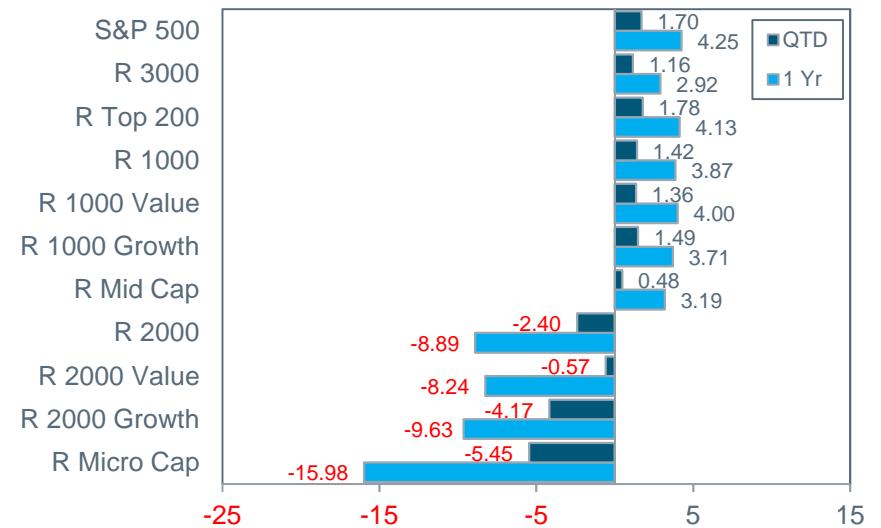
Market Cap

Large-cap stocks were the only size segment to experience positive returns across all styles, with the S&P 500 Index returning 1.7%. Conversely, small-cap markets saw negative returns across all styles, with the Russell 2000 Index returning -2.4%.

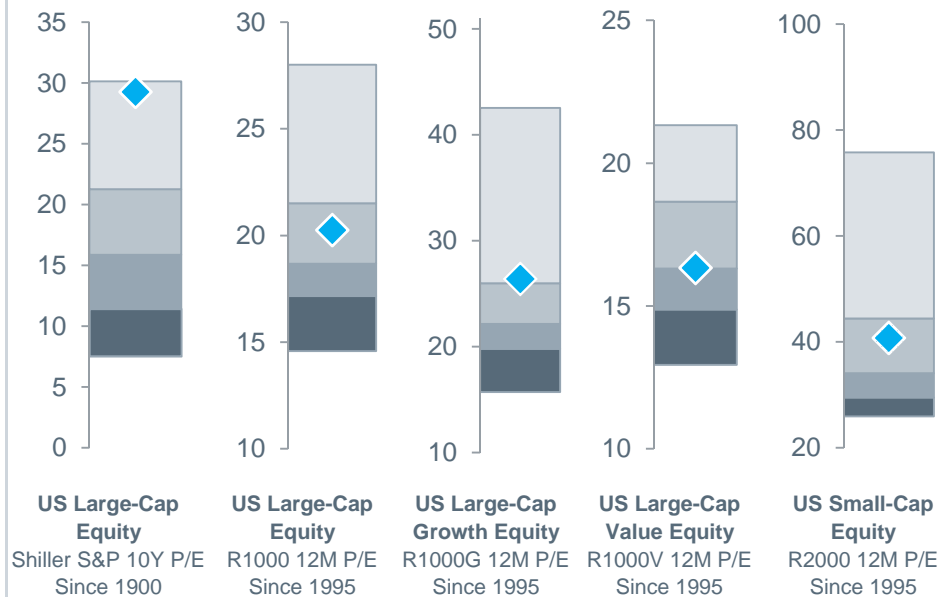
Style and Sector

Despite positive performance across large-cap indexes, active management generally struggled in this segment during the quarter. In addition, core and value-tilted managers performed relatively better than growth managers.

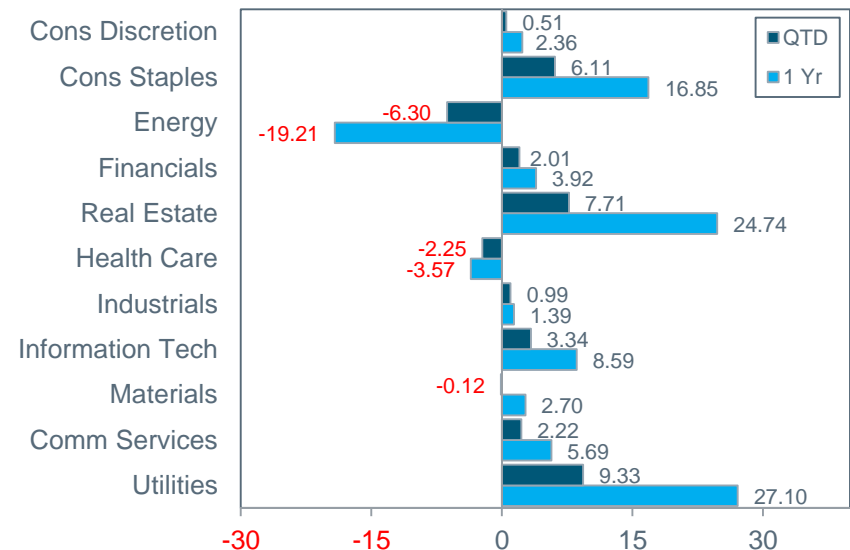
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Third Quarter Review

Developed Markets

Developed international equity markets finished Q3 in negative territory, in contrast to the US market. Japan provided the highest positive returns, as second quarter growth figures announced in August revealed that it had grown at an annualized rate of 1.8%, which easily beat estimates. On the other hand, weakness in manufacturing drove the Purchasing Managers Index in Europe to its lowest level since 2013.

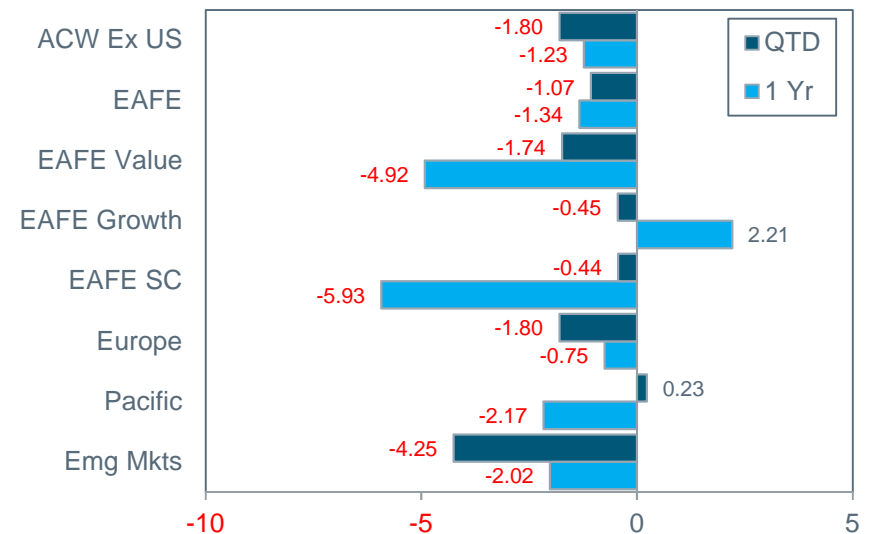
Emerging Markets

Emerging markets fared worse than developed markets during the quarter. Returns continue to be driven by trade tensions between the US and China, and market trends reversed numerous times in reaction to new tariff announcements and indications of short-term postponement.

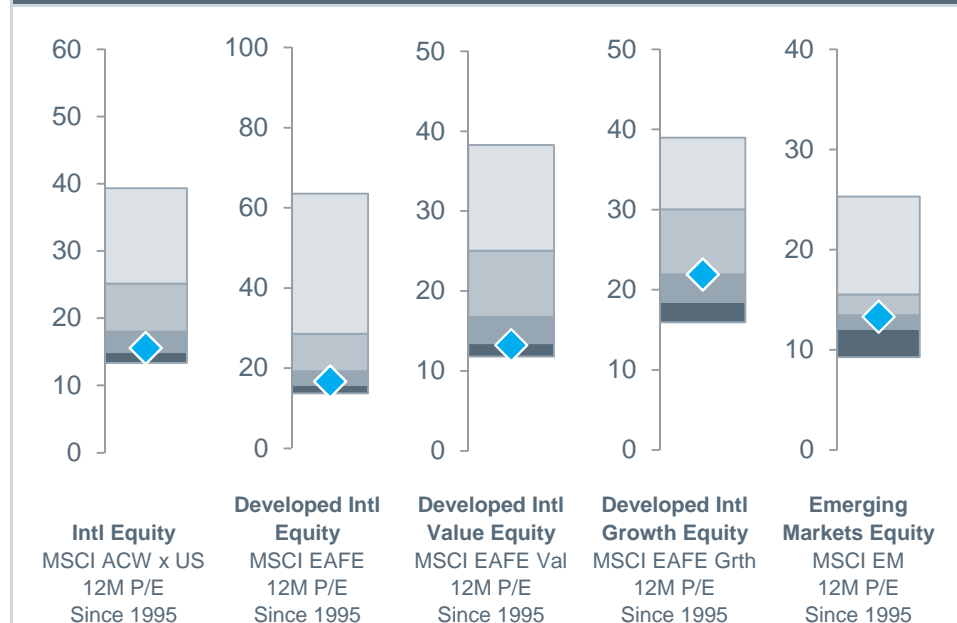
Market Cap & Style

During the quarter, value stocks continued to underperform growth stocks, and small-cap stocks outperformed their larger counterparts, in both the developed international markets and emerging markets.

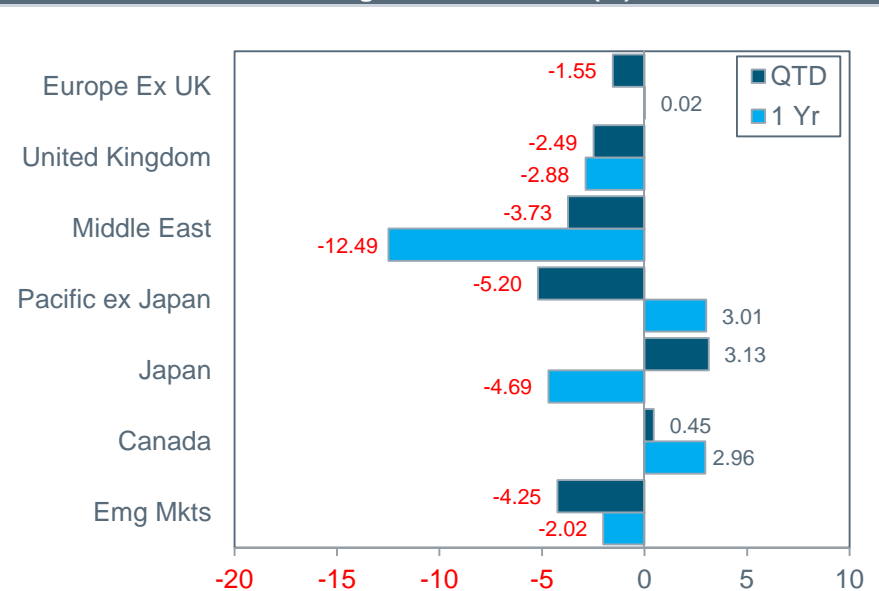
MSCI Style and Capitalization Market Performance (%)



Valuations



MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers. All returns are shown net of foreign taxes on dividends.

Third Quarter Review

Broad Market

Bonds registered another strong quarter, with the Bloomberg US Aggregate Bond Index returning 2.3% for Q3. US Treasury yields fell across the curve, most notably in the longer-dated maturities. Concerns for economic growth increased investor focus on the behavior between shorter- and longer-term maturities along the Treasury yield curve. The spread between 2- and 10-year US Treasury maturities ended August 27th in negative territory.

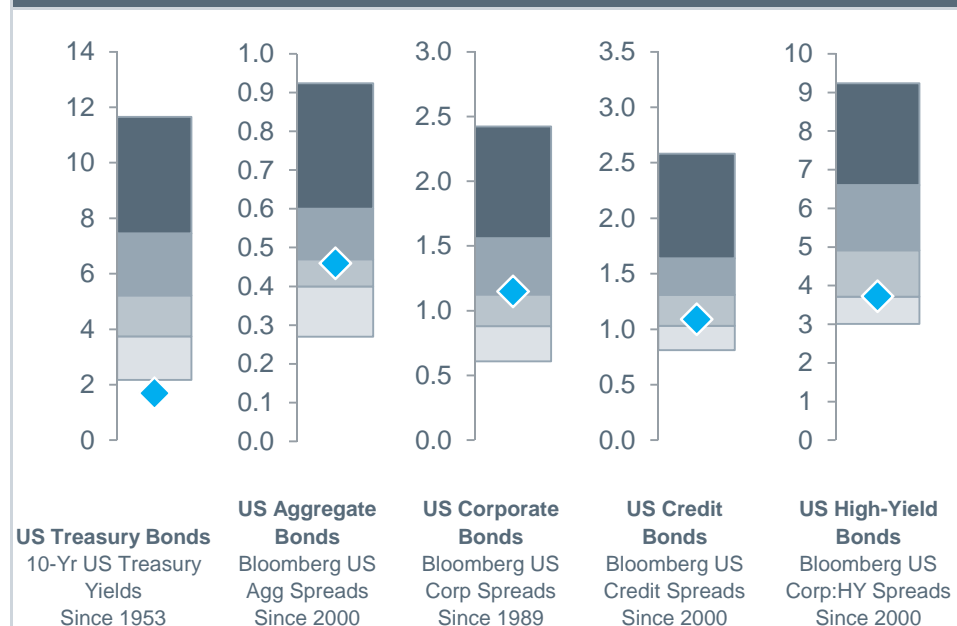
Credit Market

US investment-grade corporate spreads were volatile over the quarter, yet they ended exactly where they began. With assistance from the decline in Treasury rates, the Bloomberg US Corporate Index returned 3.1%.

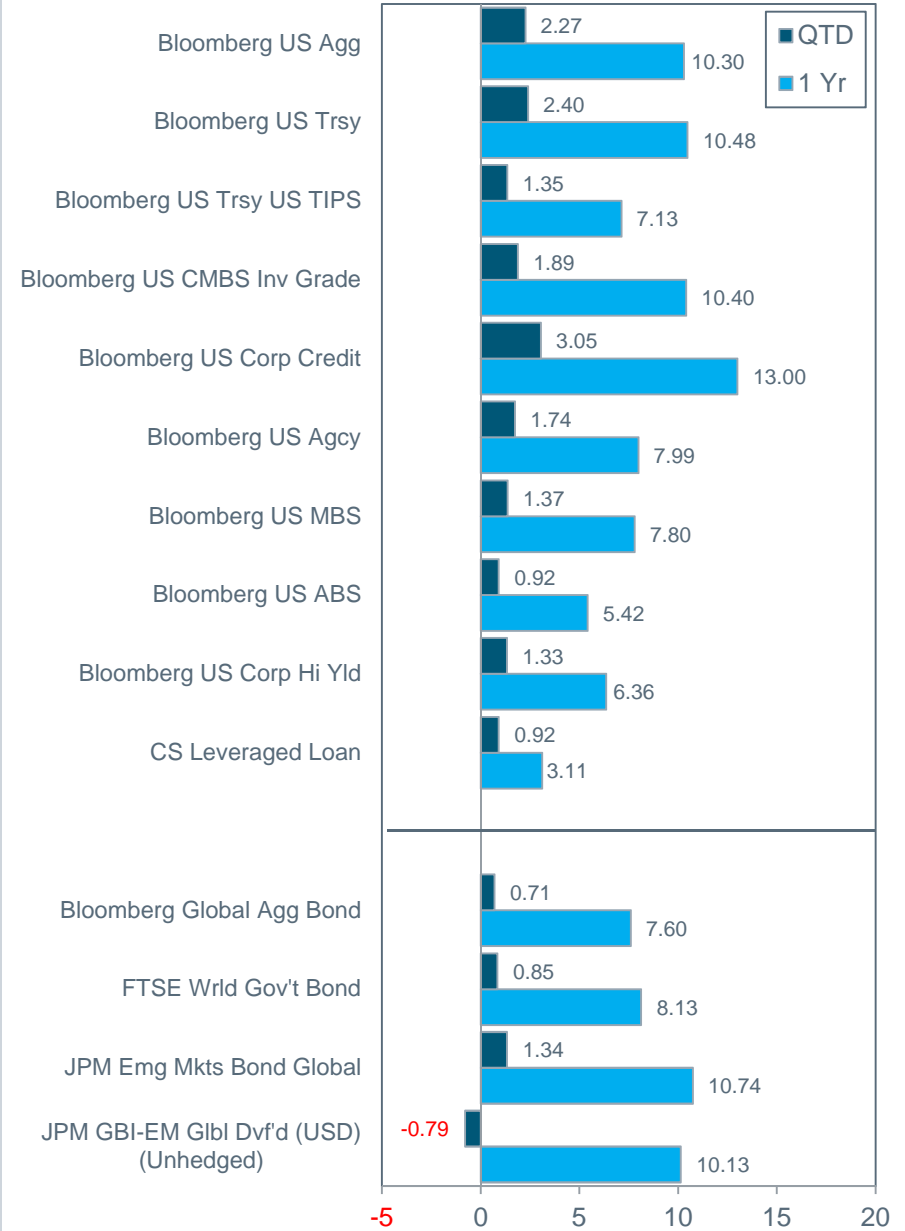
Emerging Market Debt

Hard currency emerging market debt continued to add to the gains experienced during Q1 and Q2 of 2019. Country specific risks heavily impacted certain pockets of the asset class in Q3, however the hard currency JPM EMBI Global Diversified Index still generated positive returns of 1.5%.

Valuations



Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.

Third Quarter Review - Absolute Return

General Market - Hedge Funds

Following the industry's best first half performance since 2009, hedge funds produced lackluster returns during Q3, albeit with considerable dispersion across strategies. The Fund of Hedge Funds ("FoHF") strategies RVK follows closely produced returns between 0% and -1% during the quarter with year-to-date returns ranging from 3.0% to 8.0%.

General Market - Global Tactical Asset Allocation (GTAA)

GTAA managers posted mixed and wide-ranging returns during Q3—both on an absolute basis and relative to a blend of 60% US equity and 40% US fixed income. Managers that saw positive returns, both on an absolute basis and relative to peers, generally held higher dedicated allocations to large-cap US equity markets. Other strategies that performed well against peers included managers with more idiosyncratic positions within international developed or emerging market currency, credit, and interest rates.

Third Quarter Review - Real Assets

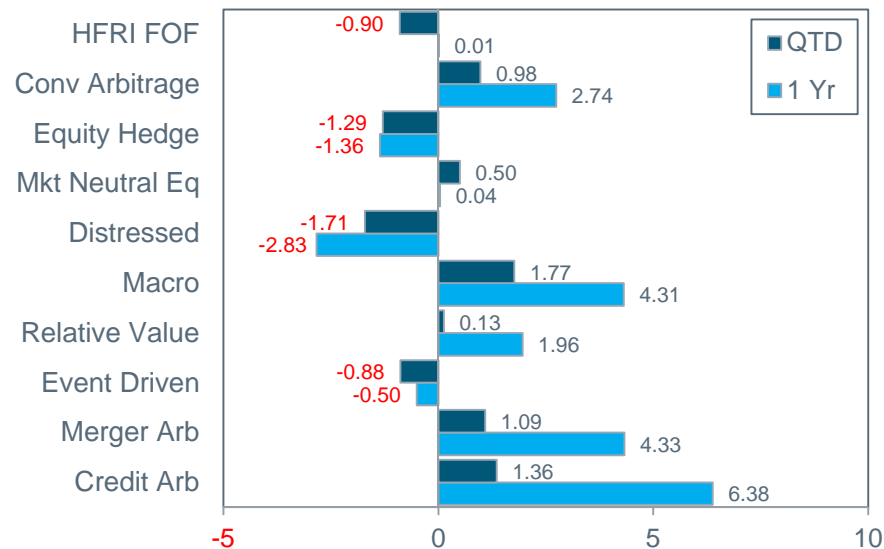
General Market - Diversified Inflation Strategies (DIS)

Most DIS managers posted positive absolute returns during Q3. Performance ranged widely amongst managers RVK tracks and was once again bifurcated with the stronger performing managers generally having significantly larger allocations to REITs and, to a lesser extent, global listed infrastructure. Both of those asset classes saw positive returns during Q3 and have seen strong returns so far in 2019.

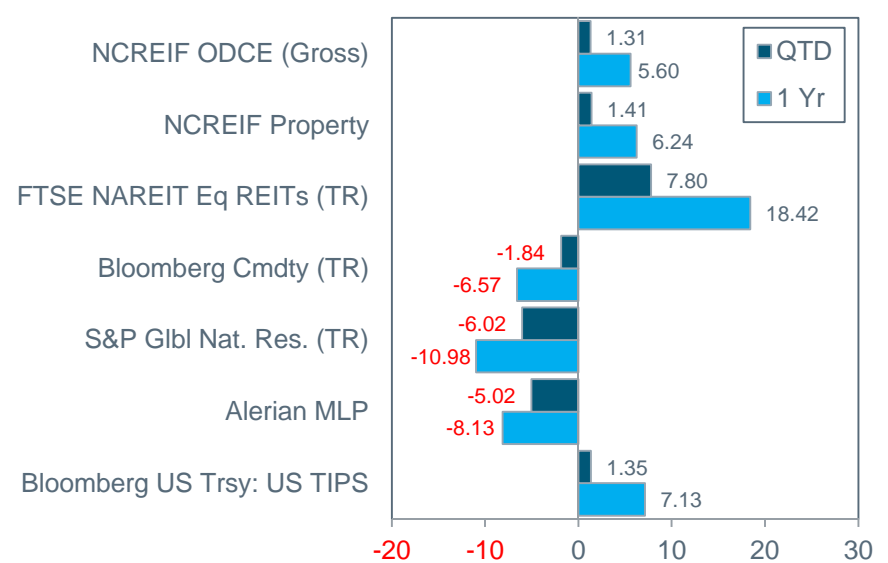
General Market - Real Estate

Core private real estate returned 1.3% during Q3, as reported by the NCREIF-ODCE Index, with the total gross return comprised of 1.1% income and 0.3% price appreciation. While the income component remained in-line with historical levels, price appreciation increased by 26 basis points from the prior quarter. Investors in publicly traded real estate significantly outperformed their private market counterparts, returning 7.2% during the quarter, as measured by the FTSE/NAREIT All REITs Index.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of September 30, 2019

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	YTD
Best ↑ ↓ Worst	34.00	35.03	39.38	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	26.96
	26.19	32.18	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	20.93
	21.39	26.34	15.97	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	20.55
	21.36	19.31	11.63	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	14.18
	13.54	18.37	11.17	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	12.80
	12.17	16.32	10.25	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	12.05
	7.49	15.79	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	11.41
	5.34	11.86	6.60	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	8.52
	4.91	10.39	5.49	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	7.58
	4.55	4.85	5.00	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	5.90
	3.07	4.34	1.87	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	5.21
	2.84	2.72	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.79	3.77
	2.74	2.07	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.58	3.13
	2.43	0.49	-15.70	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	1.81
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - FI	Bloombrg US Corp Hi Yield - FI	Bloombrg US Trsry US TIPS - FI	Bloombrg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.

Total Fund

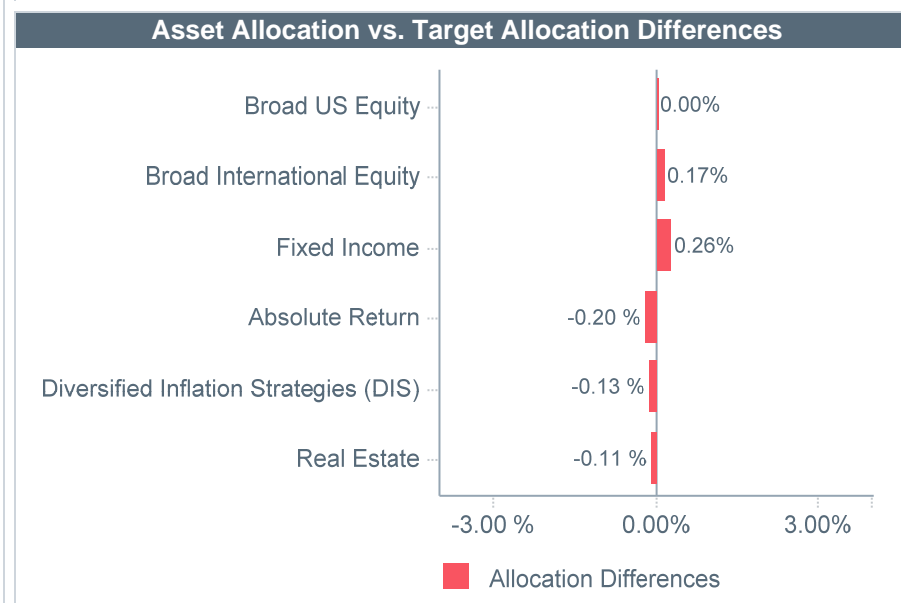


North Dakota Board of University and School Lands
AA by Manager, AA vs. Target, and Schedule of Investable Assets

As of September 30, 2019

Asset Allocation by Manager		
	Market Value (\$)	Allocation (%)
Broad US Equity		
State Street Russell 1000 Index SL (US Large Cap)	711,760,196	14.56
State Street Russell Mid Cap Index (US Mid Cap)	87,997,641	1.80
NT Small Cap Core (US Small Cap)	104,580,860	2.14
Broad International Equity		
State Street World Ex US Index (International Equity)	580,447,597	11.88
QMA International Small Cap Equity (International Equity)	133,918,616	2.74
DFA Emg Mkts Core Eq;I (Emerging Markets Equity)	99,510,980	2.04
Harding Loevner:IEM;IZ (Emerging Markets Equity)	98,430,005	2.01
Fixed Income		
Payden & Rygel Long Term (Investment Grade US FI)	346,831,972	7.10
JP Morgan FI Intermediate Bond (Investment Grade US FI)	328,555,441	6.72
Brandywine Gbl Opp FI (Global FI)	173,079,694	3.54
FLP (Loans)	14,956,100	0.31
ECLP (Loans)	1,016,723	0.02
Payden:Low Dur;Inv (Low Duration FI)	66,445,808	1.36
AG Direct Lending Fund III, L.P.	88,549,218	1.81
Schroders Securitized Credit (SA)	116,513,815	2.38
ND Land - PTF Cash (Cash)	899,096	0.02
Absolute Return		
GMO:Bchmk-Fr All;IV (GTAA)	365,025,279	7.47
PIMCO:All Ast Ath;Inst (GTAA)	358,489,006	7.33
Diversified Inflation Strategies (DIS)		
NT Common TIPS Index (TIPS)	97,570,362	2.00
Gresham Commodities (Commodities)	148,251,361	3.03
Harvest MLP (MLPs)	144,565,948	2.96
Van Eck NR Equities (Natural Resources)	92,163,052	1.89
Real Estate		
Morgan Stanley Prime Property Fund (Core Real Estate)	212,940,555	4.36
UBS Trumbull Property Fund, L.P. (Core Real Estate)	179,414,599	3.67
Jamestown Premier Property Fund (Core Plus Real Estate)	72,031,378	1.47
Prologis USLF (CF) (Core Plus Real Estate)	130,458,281	2.67
JP Morgan US RE Inc & Grth, LP (CF) (Core Plus Real Estate)	132,978,963	2.72

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$000)	Asset Allocation (%)	Target Allocation (%)
Total Fund	4,887,383	100.00	100.00
Broad US Equity	904,339	18.50	18.50
Broad International Equity	912,307	18.67	18.50
Fixed Income	1,136,848	23.26	23.00
Absolute Return	723,514	14.80	15.00
Diversified Inflation Strategies (DIS)	482,551	9.87	10.00
Real Estate	727,824	14.89	15.00



Schedule of Investable Assets					
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
QTD	4,862,680,263	36,051,495	-11,349,214	4,887,382,544	-0.24

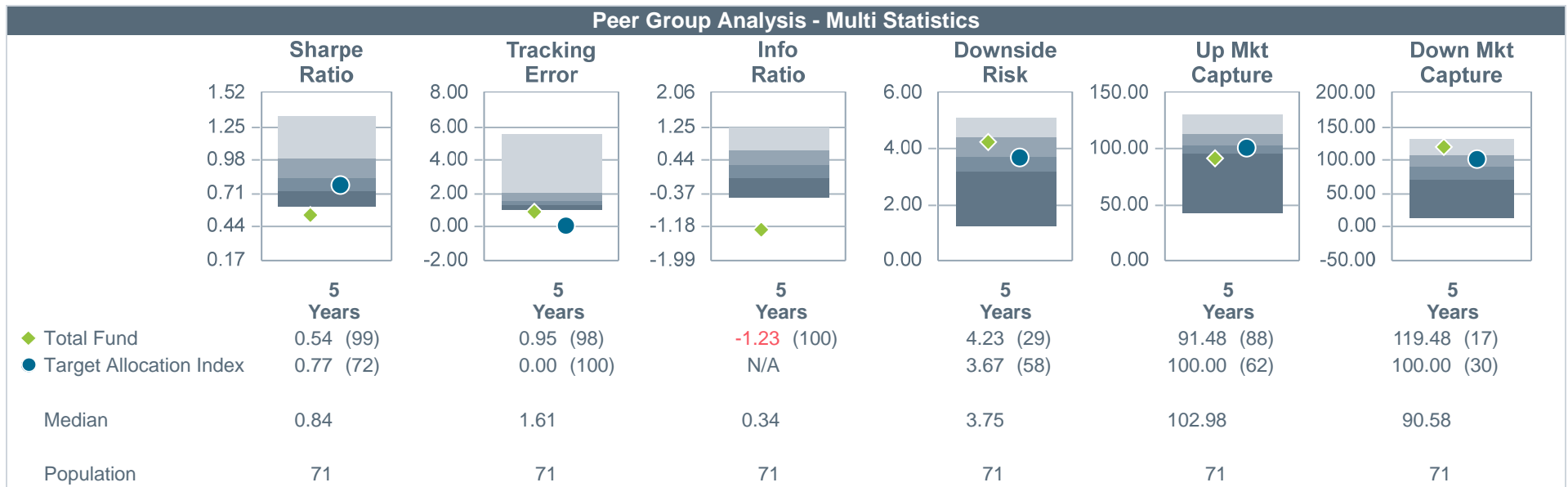
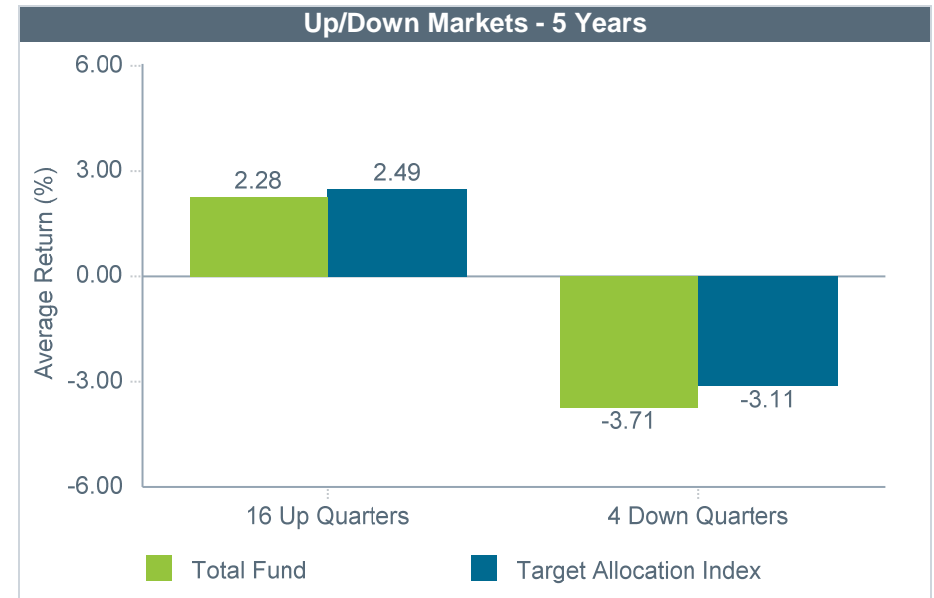
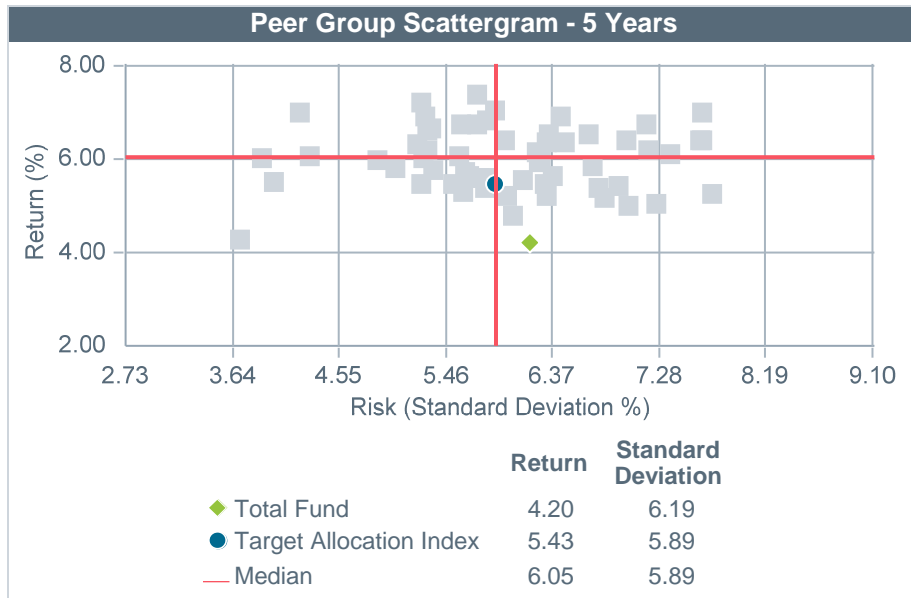
Allocations shown may not sum up to 100% exactly due to rounding. Performance shown is net of fees. Net cash flow includes securities lending income and client directed flows. Gain/loss includes dividend and interest income and capital appreciation.

North Dakota Board of University and School Lands
Comparative Performance

As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Total Fund	-0.24	-0.24	9.17	1.92	5.44	4.20	5.58	6.62	-5.12	12.62	8.65	6.53	08/01/1995
Target Allocation Index	0.44	0.44	11.13	4.03	6.29	5.43	6.70	7.60	-4.51	13.14	7.85	N/A	
Difference	-0.68	-0.68	-1.96	-2.11	-0.85	-1.23	-1.12	-0.98	-0.61	-0.52	0.80	N/A	
All Public Plans > \$1B-Total Fund Median	0.56	0.56	10.84	3.68	7.49	6.05	7.57	7.88	-3.59	15.39	7.56	7.32	
Rank	98	98	91	89	94	95	91	89	80	98	8	85	
Broad US Equity	0.81	0.81	19.84	2.29	12.83	10.49	12.46	12.48	-5.49	21.40	13.29	13.93	07/01/2009
Russell 3000 Index	1.16	1.16	20.09	2.92	12.83	10.44	13.00	13.08	-5.24	21.13	12.74	14.41	
Difference	-0.35	-0.35	-0.25	-0.63	0.00	0.05	-0.54	-0.60	-0.25	0.27	0.55	-0.48	
Broad International Equity	-1.71	-1.71	11.77	-2.15	5.24	2.44	6.02	4.24	-16.49	26.51	4.82	5.90	07/01/2009
MSCI ACW Ex US Index (USD) (Net)	-1.80	-1.80	11.56	-1.23	6.33	2.90	5.01	4.46	-14.20	27.19	4.50	6.19	
Difference	0.09	0.09	0.21	-0.92	-1.09	-0.46	1.01	-0.22	-2.29	-0.68	0.32	-0.29	
Fixed Income	1.21	1.21	6.52	7.23	2.84	3.16	2.83	4.20	-0.24	4.79	3.91	4.56	07/01/2009
Global Fixed Income Custom Index	2.12	2.12	8.72	9.95	3.04	3.35	2.72	3.80	-0.52	4.98	3.66	4.20	
Difference	-0.91	-0.91	-2.20	-2.72	-0.20	-0.19	0.11	0.40	0.28	-0.19	0.25	0.36	
Bloomberg US Agg Bond Index	2.27	2.27	8.52	10.30	2.92	3.38	2.72	3.75	0.01	3.54	2.65	4.03	
Difference	-1.06	-1.06	-2.00	-3.07	-0.08	-0.22	0.11	0.45	-0.25	1.25	1.26	0.53	
Absolute Return	-1.43	-1.43	6.30	2.10	4.02	2.43	N/A	N/A	-5.16	12.11	7.61	1.89	07/01/2014
Absolute Return Custom Index	0.83	0.83	13.12	4.71	6.93	5.50	6.52	6.80	-5.93	15.39	6.22	4.90	
Difference	-2.26	-2.26	-6.82	-2.61	-2.91	-3.07	N/A	N/A	0.77	-3.28	1.39	-3.01	
Consumer Price Index+5%	1.47	1.47	6.01	6.80	7.18	6.60	6.57	6.83	7.01	7.21	7.18	6.50	
Difference	-2.90	-2.90	0.29	-4.70	-3.16	-4.17	N/A	N/A	-12.17	4.90	0.43	-4.61	
Diversified Inflation Strategies (DIS)	-3.61	-3.61	8.42	-8.44	-1.00	-1.33	N/A	N/A	-14.24	2.45	18.91	-0.73	04/01/2014
DIS Custom Index	-2.30	-2.30	7.79	-2.09	1.34	0.18	1.03	4.08	-9.13	4.80	16.53	0.60	
Difference	-1.31	-1.31	0.63	-6.35	-2.34	-1.51	N/A	N/A	-5.11	-2.35	2.38	-1.33	
Real Estate	1.56	1.56	3.18	4.89	7.78	N/A	N/A	N/A	8.27	9.54	8.48	8.51	07/01/2015
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.29	9.84	7.36	6.66	7.79	7.45	
Difference	0.48	0.48	0.10	0.24	1.44	N/A	N/A	N/A	0.91	2.88	0.69	1.06	

Performance shown is net of fees. 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. Fiscal year ends 06/30.



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

North Dakota Board of University and School Lands
Comparative Performance

As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Total Fund	-0.24	-0.24	9.17	1.92	5.44	4.20	6.62	-5.12	12.62	8.65	6.53	08/01/1995
Target Allocation Index	0.44	0.44	11.13	4.03	6.29	5.43	7.60	-4.51	13.14	7.85	N/A	
Difference	-0.68	-0.68	-1.96	-2.11	-0.85	-1.23	-0.98	-0.61	-0.52	0.80	N/A	
Broad US Equity	0.81	0.81	19.84	2.29	12.83	10.49	12.48	-5.49	21.40	13.29	13.93	07/01/2009
Russell 3000 Index	1.16	1.16	20.09	2.92	12.83	10.44	13.08	-5.24	21.13	12.74	14.41	
Difference	-0.35	-0.35	-0.25	-0.63	0.00	0.05	-0.60	-0.25	0.27	0.55	-0.48	
State Street Russell 1000 Index SL (CF)	1.42	1.42	20.51	3.87	N/A	N/A	N/A	-4.78	N/A	N/A	11.40	06/01/2017
Russell 1000 Index	1.42	1.42	20.53	3.87	13.19	10.62	13.23	-4.78	21.69	12.05	11.42	
Difference	0.00	0.00	-0.02	0.00	N/A	N/A	N/A	0.00	N/A	N/A	-0.02	
State Street Russell Mid Cap Index (SA)	0.46	0.46	21.81	3.24	N/A	N/A	N/A	-8.97	N/A	N/A	9.24	06/01/2017
Russell Mid Cap Index	0.48	0.48	21.93	3.19	10.69	9.10	13.07	-9.06	18.52	13.80	9.24	
Difference	-0.02	-0.02	-0.12	0.05	N/A	N/A	N/A	0.09	N/A	N/A	0.00	
NT Small Cap Core (CF)	-2.94	-2.94	13.90	-8.42	11.07	9.21	N/A	-7.63	21.82	18.20	6.77	07/01/2014
Russell 2000 Index	-2.40	-2.40	14.18	-8.89	8.23	8.19	11.19	-11.01	14.65	21.31	6.22	
Difference	-0.54	-0.54	-0.28	0.47	2.84	1.02	N/A	3.38	7.17	-3.11	0.55	

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. Fiscal year ends 06/30.

**North Dakota Board of University and School Lands
Comparative Performance**

As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Broad International Equity	-1.71	-1.71	11.77	-2.15	5.24	2.44	4.24	-16.49	26.51	4.82	5.90	07/01/2009
MSCI ACW Ex US Index (USD) (Net)	-1.80	-1.80	11.56	-1.23	6.33	2.90	4.46	-14.20	27.19	4.50	6.19	
Difference	0.09	0.09	0.21	-0.92	-1.09	-0.46	-0.22	-2.29	-0.68	0.32	-0.29	
State Street World Ex US Index (CF)	-0.94	-0.94	13.48	-1.05	6.41	2.98	N/A	-14.16	24.15	2.66	1.68	07/01/2014
MSCI Wrld Ex US Index (USD) (Net)	-0.93	-0.93	13.57	-0.95	6.49	3.06	4.78	-14.09	24.21	2.75	1.76	
Difference	-0.01	-0.01	-0.09	-0.10	-0.08	-0.08	N/A	-0.07	-0.06	-0.09	-0.08	
DFA Emg Mkts Core Eq;I (DFCEX)	-4.18	-4.18	4.96	-1.75	4.85	2.07	N/A	-15.25	36.55	12.35	1.33	07/01/2014
MSCI Emg Mkts Index (USD) (Net)	-4.25	-4.25	5.90	-2.02	5.97	2.33	3.37	-14.58	37.28	11.19	1.52	
Difference	0.07	0.07	-0.94	0.27	-1.12	-0.26	N/A	-0.67	-0.73	1.16	-0.19	
Harding Loevner:IEM;IZ (HLEZX)	-3.36	-3.36	12.24	0.90	5.74	3.25	N/A	-18.53	35.79	13.44	2.15	07/01/2014
MSCI Emg Mkts Index (USD) (Net)	-4.25	-4.25	5.90	-2.02	5.97	2.33	3.37	-14.58	37.28	11.19	1.52	
Difference	0.89	0.89	6.34	2.92	-0.23	0.92	N/A	-3.95	-1.49	2.25	0.63	
QMA International Small Cap Equity (CF)	-2.00	-2.00	9.61	-9.18	N/A	N/A	N/A	N/A	N/A	N/A	-13.17	02/01/2018
MSCI EAFE Sm Cap Index (USD) (Gross)	-0.37	-0.37	12.47	-5.54	6.34	6.41	7.82	-17.58	33.50	2.55	-7.27	
Difference	-1.63	-1.63	-2.86	-3.64	N/A	N/A	N/A	N/A	N/A	N/A	-5.90	

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. Fiscal year ends 06/30.

**North Dakota Board of University and School Lands
Comparative Performance**

As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Fixed Income	1.21	1.21	6.52	7.23	2.84	3.16	4.20	-0.24	4.79	3.91	4.56	07/01/2009
Global Fixed Income Custom Index	2.12	2.12	8.72	9.95	3.04	3.35	3.80	-0.52	4.98	3.66	4.20	
Difference	-0.91	-0.91	-2.20	-2.72	-0.20	-0.19	0.40	0.28	-0.19	0.25	0.36	
Bloomberg US Agg Bond Index	2.27	2.27	8.52	10.30	2.92	3.38	3.75	0.01	3.54	2.65	4.03	
Difference	-1.06	-1.06	-2.00	-3.07	-0.08	-0.22	0.45	-0.25	1.25	1.26	0.53	
Payden & Rygel Long Term (SA)	2.31	2.31	9.13	10.27	3.85	3.96	4.72	0.16	4.99	3.83	5.92	08/01/1995
Bloomberg US Agg Bond Index	2.27	2.27	8.52	10.30	2.92	3.38	3.75	0.01	3.54	2.65	5.29	
Difference	0.04	0.04	0.61	-0.03	0.93	0.58	0.97	0.15	1.45	1.18	0.63	
JP Morgan FI Intermediate Bond (SA)	1.57	1.57	6.47	8.02	2.65	2.87	N/A	1.01	2.71	1.88	2.40	08/01/2012
Bloomberg US Gov't Crdt Int Trm Bond Index	1.37	1.37	6.41	8.17	2.40	2.68	3.05	0.88	2.14	2.08	2.16	
Difference	0.20	0.20	0.06	-0.15	0.25	0.19	N/A	0.13	0.57	-0.20	0.24	
Brandywine Gbl Opp FI (CF)	-1.66	-1.66	4.96	3.67	1.80	N/A	N/A	-5.16	12.91	5.28	1.43	11/01/2014
FTSE Wrld Gov't Bond Index	0.85	0.85	6.27	8.13	1.19	1.80	1.69	-0.84	7.49	1.60	1.88	
Difference	-2.51	-2.51	-1.31	-4.46	0.61	N/A	N/A	-4.32	5.42	3.68	-0.45	
Payden:Low Dur;Inv (PYSBX)	0.66	0.66	3.55	4.03	1.96	1.64	2.47	1.05	1.48	1.74	3.43	04/01/2002
Bloomberg US Trsy 1-3 Yr Index	0.58	0.58	3.07	4.43	1.52	1.33	1.18	1.56	0.42	0.86	2.32	
Difference	0.08	0.08	0.48	-0.40	0.44	0.31	1.29	-0.51	1.06	0.88	1.11	
AG Direct Lending Fund III, L.P.	2.84	2.84	7.49	9.94	N/A	N/A	N/A	N/A	N/A	N/A	9.22	09/01/2018
CS Lvg'd Loan Index	0.92	0.92	6.39	3.11	4.68	4.11	5.38	1.14	4.25	9.88	3.52	
Difference	1.92	1.92	1.10	6.83	N/A	N/A	N/A	N/A	N/A	N/A	5.70	
Schroders Securitized Credit (SA)	0.81	0.81	3.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.19	12/01/2018
3 Month LIBOR Index (USD)+1.75%	1.05	1.05	3.39	4.43	3.60	3.01	2.55	3.86	2.88	2.42	3.77	
Difference	-0.24	-0.24	0.02	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.58	
ND Land - PTF Cash (SA)	0.88	0.88	2.06	2.63	N/A	N/A	N/A	1.71	N/A	N/A	1.97	07/01/2017
ICE BofAML 3 Mo US T-Bill Index	0.56	0.56	1.81	2.38	1.54	0.98	0.54	1.87	0.86	0.33	1.88	
Difference	0.32	0.32	0.25	0.25	N/A	N/A	N/A	-0.16	N/A	N/A	0.09	
FLP (Loans)	1.20	1.20	3.63	5.07	5.85	5.93	6.00	6.15	6.16	6.12	7.17	08/01/1995
ECLP (Loans)	1.13	1.13	3.35	4.49	4.45	4.70	N/A	4.58	4.25	4.89	5.04	11/01/2010

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. Fiscal year ends 06/30.

North Dakota Board of University and School Lands
Comparative Performance

As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Absolute Return	-1.43	-1.43	6.30	2.10	4.02	2.43	N/A	-5.16	12.11	7.61	1.89	07/01/2014
Absolute Return Custom Index	0.83	0.83	13.12	4.71	6.93	5.50	6.80	-5.93	15.39	6.22	4.90	
Difference	-2.26	-2.26	-6.82	-2.61	-2.91	-3.07	N/A	0.77	-3.28	1.39	-3.01	
GMO:Bchmk-Fr All;IV (GBMBX)	-1.19	-1.19	5.91	1.39	3.90	2.20	N/A	-5.27	13.07	3.45	1.61	07/01/2014
60% MSCI ACW (Net)/40% Bbrg Gbl Agg Idx	0.31	0.31	12.36	4.19	6.56	4.94	6.10	-6.00	17.09	5.69	4.17	
Difference	-1.50	-1.50	-6.45	-2.80	-2.66	-2.74	N/A	0.73	-4.02	-2.24	-2.56	
Consumer Price Index+5%	1.47	1.47	6.01	6.80	7.18	6.60	6.83	7.01	7.21	7.18	6.50	
Difference	-2.66	-2.66	-0.10	-5.41	-3.28	-4.40	N/A	-12.28	5.86	-3.73	-4.89	
PIMCO:All Ast Ath;Inst (PAUIX)	-1.77	-1.77	3.91	1.98	2.71	0.94	N/A	-6.14	12.04	13.73	0.15	07/01/2014
All Asset Custom Index (EqI Wtd)	1.03	1.03	9.59	5.72	5.36	4.45	5.52	-1.62	8.94	6.47	4.01	
Difference	-2.80	-2.80	-5.68	-3.74	-2.65	-3.51	N/A	-4.52	3.10	7.26	-3.86	
Consumer Price Index+5%	1.47	1.47	6.01	6.80	7.18	6.60	6.83	7.01	7.21	7.18	6.50	
Difference	-3.24	-3.24	-2.10	-4.82	-4.47	-5.66	N/A	-13.15	4.83	6.55	-6.35	

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. Fiscal year ends 06/30.

North Dakota Board of University and School Lands
Comparative Performance

As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Diversified Inflation Strategies (DIS)	-3.61	-3.61	8.42	-8.44	-1.00	-1.33	N/A	-14.24	2.45	18.91	-0.73	04/01/2014
DIS Custom Index	-2.30	-2.30	7.79	-2.09	1.34	0.18	4.08	-9.13	4.80	16.53	0.60	
Difference	-1.31	-1.31	0.63	-6.35	-2.34	-1.51	N/A	-5.11	-2.35	2.38	-1.33	
NT Common TIPS Index (CF)	1.28	1.28	7.56	7.07	2.20	2.43	3.58	-1.30	3.09	4.77	4.12	06/01/2004
Bloomberg US Trsy US TIPS Index	1.35	1.35	7.58	7.13	2.21	2.45	3.46	-1.26	3.01	4.68	4.08	
Difference	-0.07	-0.07	-0.02	-0.06	-0.01	-0.02	0.12	-0.04	0.08	0.09	0.04	
Gresham Commodities (SA)	-1.95	-1.95	6.84	-8.30	2.07	N/A	N/A	-13.80	11.31	11.76	-3.27	07/01/2015
Bloomberg Cmdty Ex Energy Index (TR)	-0.63	-0.63	2.14	1.62	-1.97	-3.35	-1.30	-10.95	5.36	7.77	-2.75	
Difference	-1.32	-1.32	4.70	-9.92	4.04	N/A	N/A	-2.85	5.95	3.99	-0.52	
Gresham Commodities (SA) Custom Index	-1.47	-1.47	6.75	-5.90	-0.12	N/A	N/A	-14.04	5.89	12.56	-3.68	
Difference	-0.48	-0.48	0.09	-2.40	2.19	N/A	N/A	0.24	5.42	-0.80	0.41	
Harvest MLP (SA)	-5.20	-5.20	13.97	-9.76	-1.88	N/A	N/A	-13.63	-5.50	19.24	-4.39	07/01/2015
S&P MLP Index (TR)	-4.04	-4.04	13.28	-6.88	-0.80	-8.02	7.08	-11.67	-5.58	21.95	-4.71	
Difference	-1.16	-1.16	0.69	-2.88	-1.08	N/A	N/A	-1.96	0.08	-2.71	0.32	
Van Eck NR Equities (SA)	-8.52	-8.52	3.65	-20.72	-8.52	N/A	N/A	-28.52	-0.55	44.23	-7.32	07/01/2015
S&P Gbl Ntrl Res Sect Index (TR)	-6.02	-6.02	6.99	-10.98	6.97	1.11	1.72	-12.57	22.66	32.28	4.03	
Difference	-2.50	-2.50	-3.34	-9.74	-15.49	N/A	N/A	-15.95	-23.21	11.95	-11.35	
S&P N Amer Ntrl Res Index	-4.48	-4.48	9.45	-16.23	-2.80	-5.68	1.31	-21.07	1.23	30.87	-2.35	
Difference	-4.04	-4.04	-5.80	-4.49	-5.72	N/A	N/A	-7.45	-1.78	13.36	-4.97	

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. Fiscal year ends 06/30.

North Dakota Board of University and School Lands
Comparative Performance

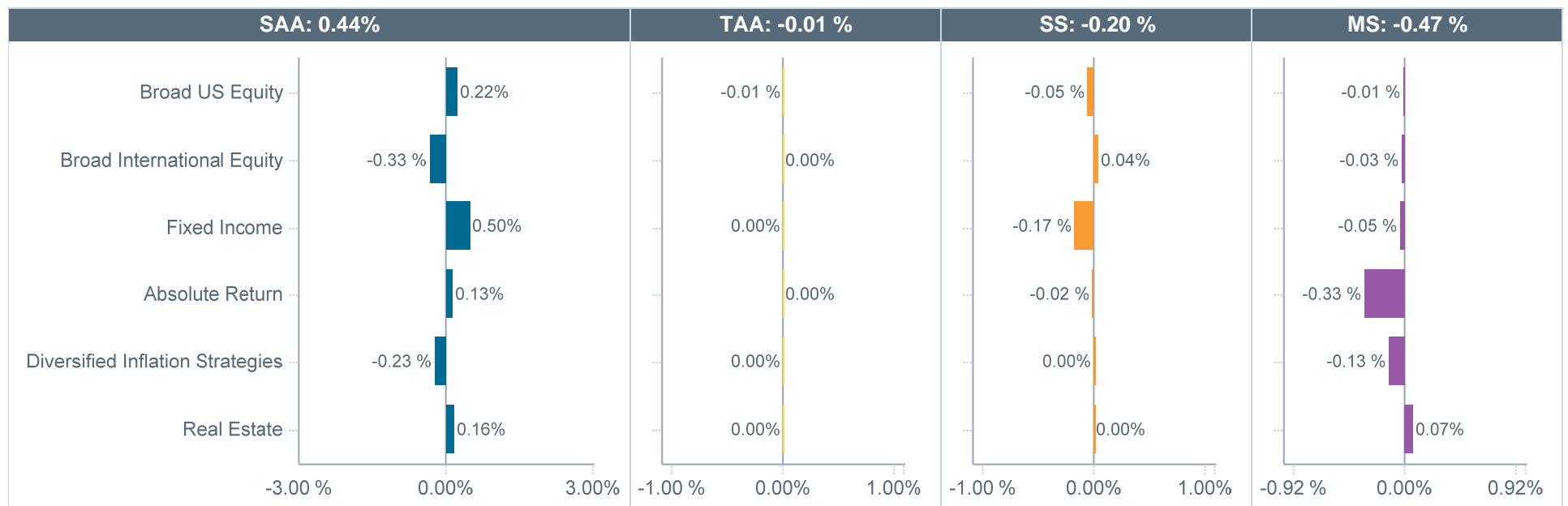
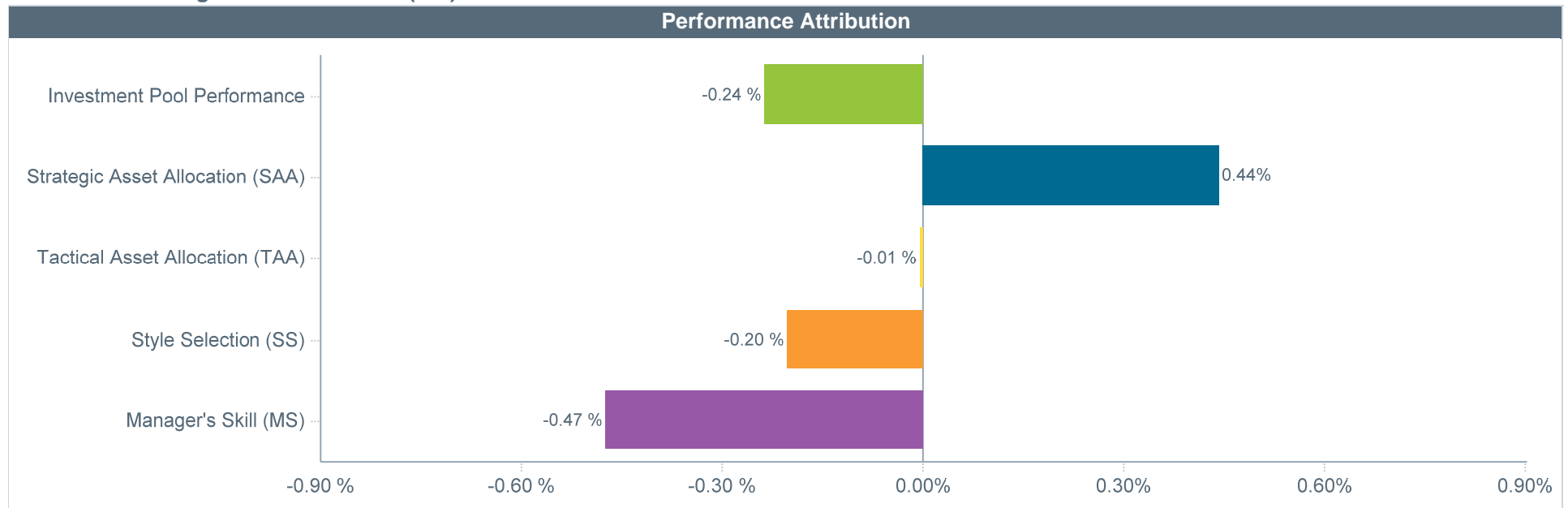
As of September 30, 2019

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	10 Years	2018	2017	2016	Since Incep.	Inception Date
Real Estate	1.56	1.56	3.18	4.89	7.78	N/A	N/A	8.27	9.54	8.48	8.51	07/01/2015
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.84	7.36	6.66	7.79	7.45	
Difference	0.48	0.48	0.10	0.24	1.44	N/A	N/A	0.91	2.88	0.69	1.06	
Morgan Stanley Prime Property Fund (CF)	1.41	1.41	4.57	6.62	7.93	N/A	N/A	7.96	8.75	9.23	8.82	07/01/2015
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.84	7.36	6.66	7.79	7.45	
Difference	0.33	0.33	1.49	1.97	1.59	N/A	N/A	0.60	2.09	1.44	1.37	
UBS Trumbull Property Fund, L.P. (CF)	0.71	0.71	-2.70	-1.21	3.30	N/A	N/A	6.17	5.42	6.14	4.89	07/01/2015
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.84	7.36	6.66	7.79	7.45	
Difference	-0.37	-0.37	-5.78	-5.86	-3.04	N/A	N/A	-1.19	-1.24	-1.65	-2.56	
Jamestown Premier Property Fund (CF)	0.57	0.57	2.48	3.72	7.95	N/A	N/A	7.75	14.22	5.26	8.59	07/01/2015
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.84	7.36	6.66	7.79	7.45	
Difference	-0.51	-0.51	-0.60	-0.93	1.61	N/A	N/A	0.39	7.56	-2.53	1.14	
Prologis USLF (CF)	4.69	4.69	12.39	15.87	18.23	N/A	N/A	15.84	20.37	N/A	17.41	04/01/2016
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.84	7.36	6.66	7.79	6.53	
Difference	3.61	3.61	9.31	11.22	11.89	N/A	N/A	8.48	13.71	N/A	10.88	
JP Morgan US Real Estate Income and Growth, LP (CF)	0.52	0.52	1.51	1.85	5.47	N/A	N/A	5.73	5.82	N/A	5.63	07/01/2016
NCREIF ODCE Index (AWA) (Net)	1.08	1.08	3.08	4.65	6.34	8.36	9.84	7.36	6.66	7.79	6.43	
Difference	-0.56	-0.56	-1.57	-2.80	-0.87	N/A	N/A	-1.63	-0.84	N/A	-0.80	

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. Fiscal year ends 06/30.

North Dakota Board of University and School Lands
Total Fund Attribution - IDP
Total Fund vs. Target Allocation Index (Net)

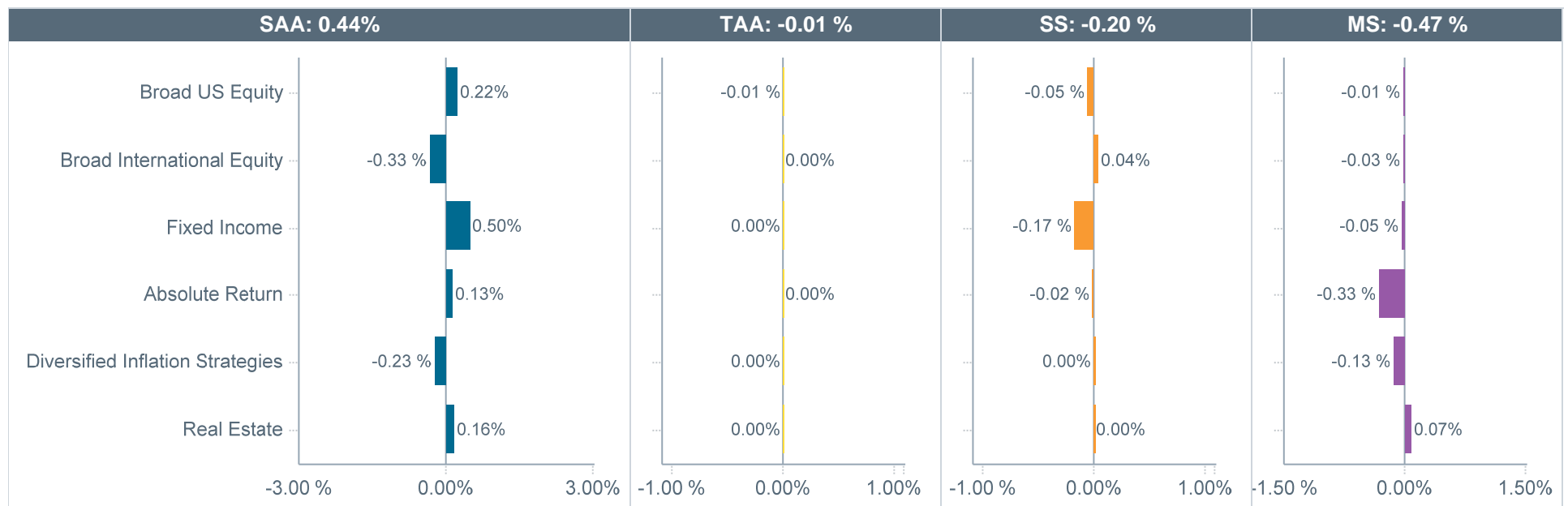
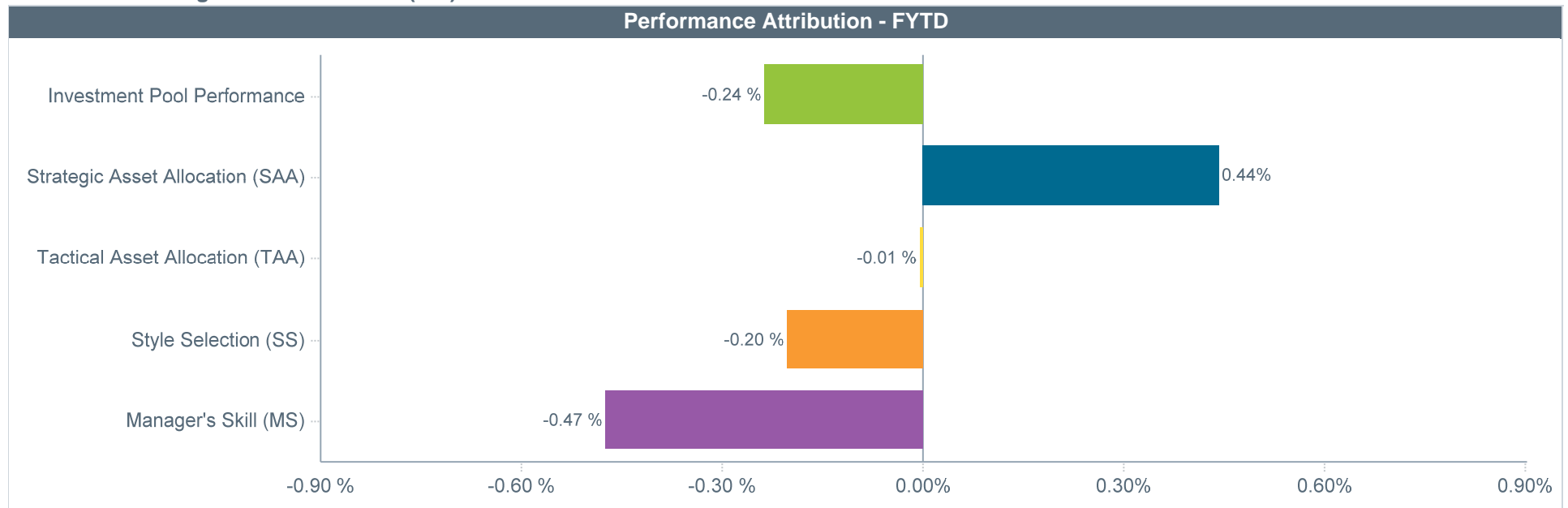
Quarter To Date Ending September 30, 2019



Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.

North Dakota Board of University and School Lands
Total Fund Attribution - IDP
Total Fund vs. Target Allocation Index (Net)

Fiscal Year To Date as of September 30, 2019



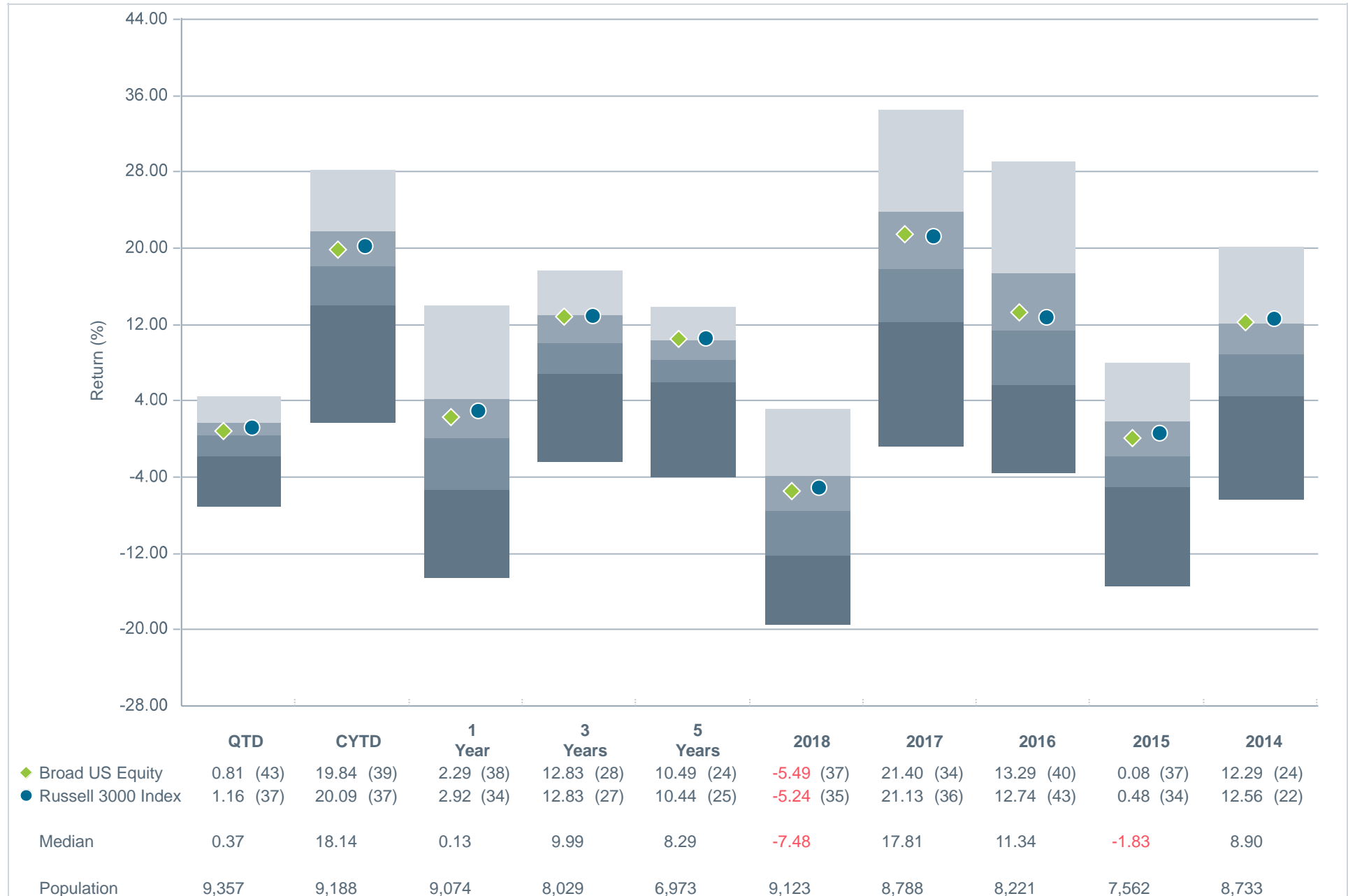
Attribution shown is calculated using the Investment Decision Process (IDP) method. Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation. Fiscal year ends 06/30.

Composite Profiles

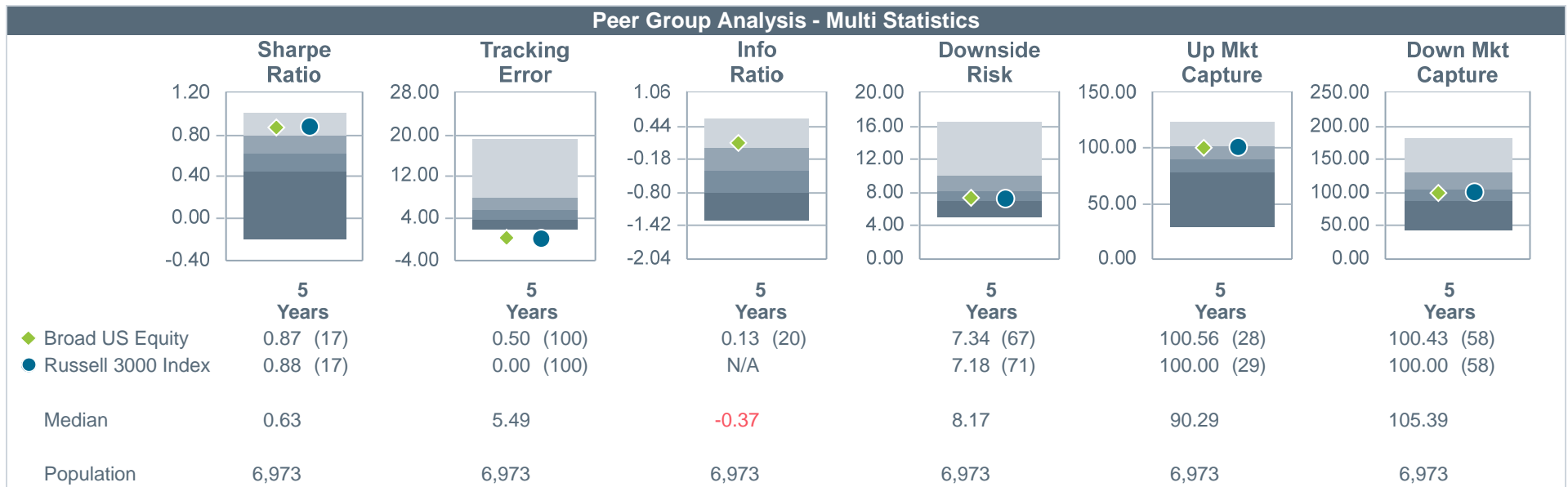
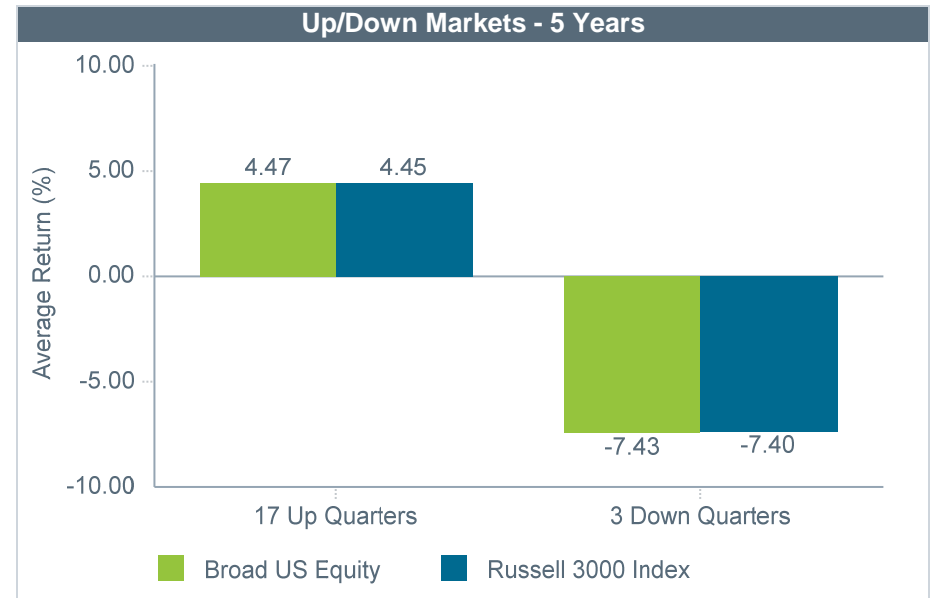
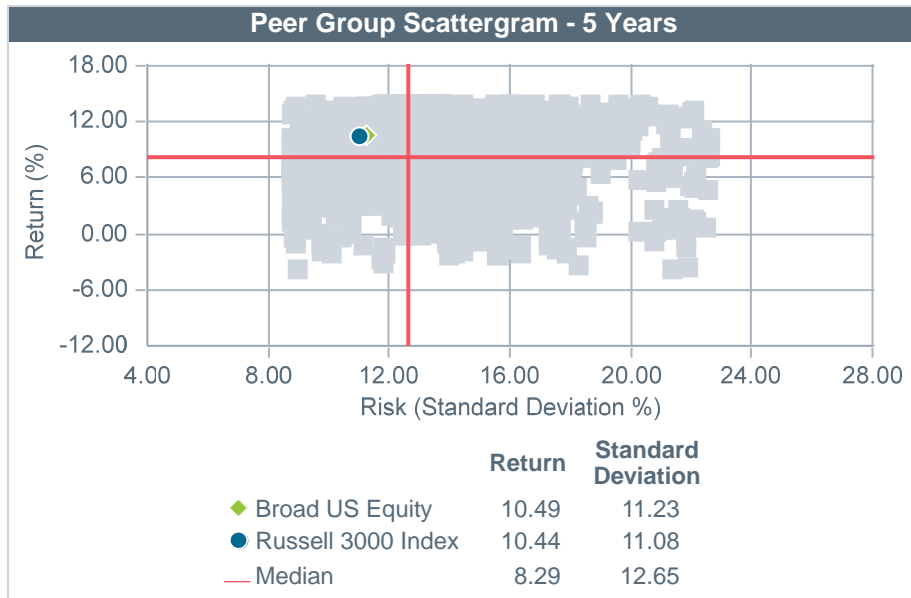


North Dakota Board of University and School Lands
IM U.S. Equity (MF)
Peer Group Analysis

As of September 30, 2019



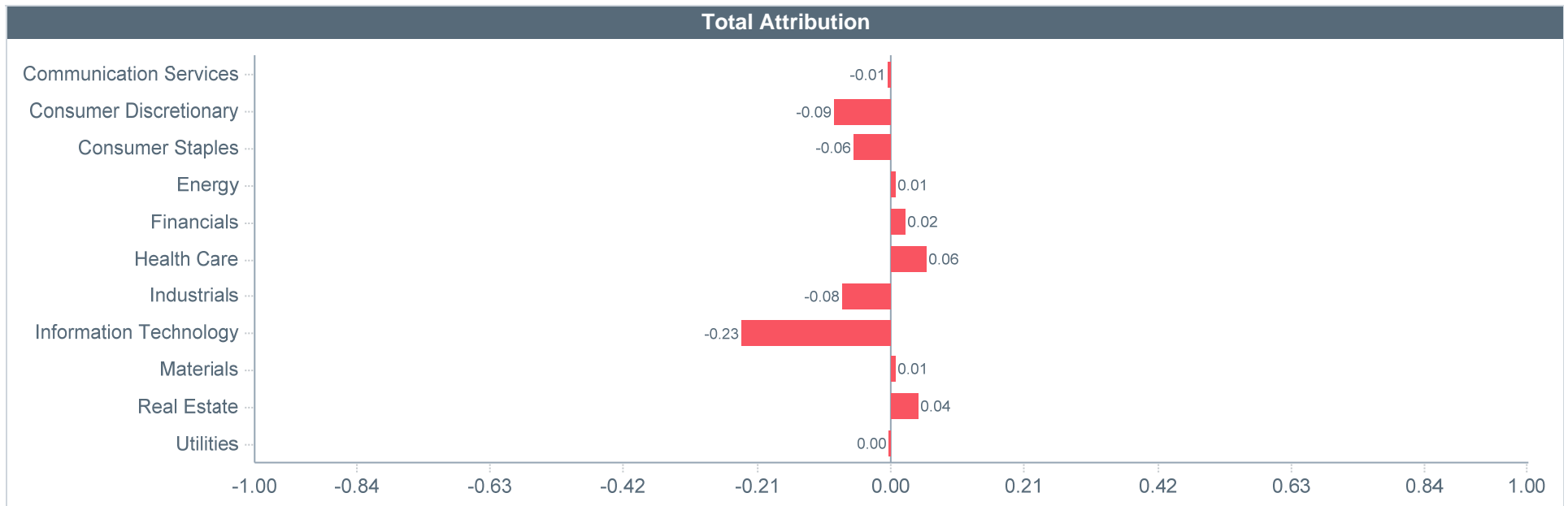
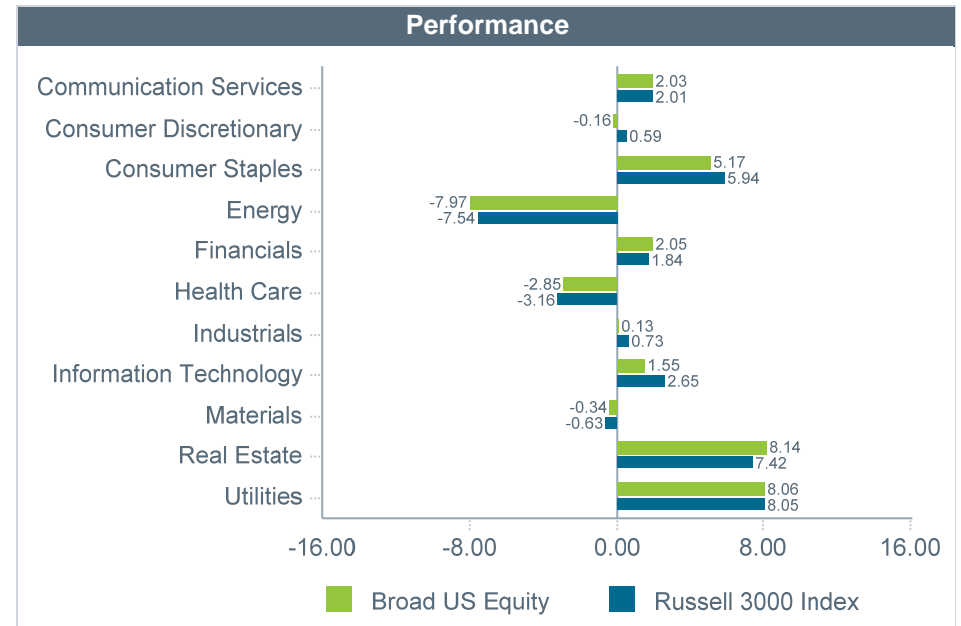
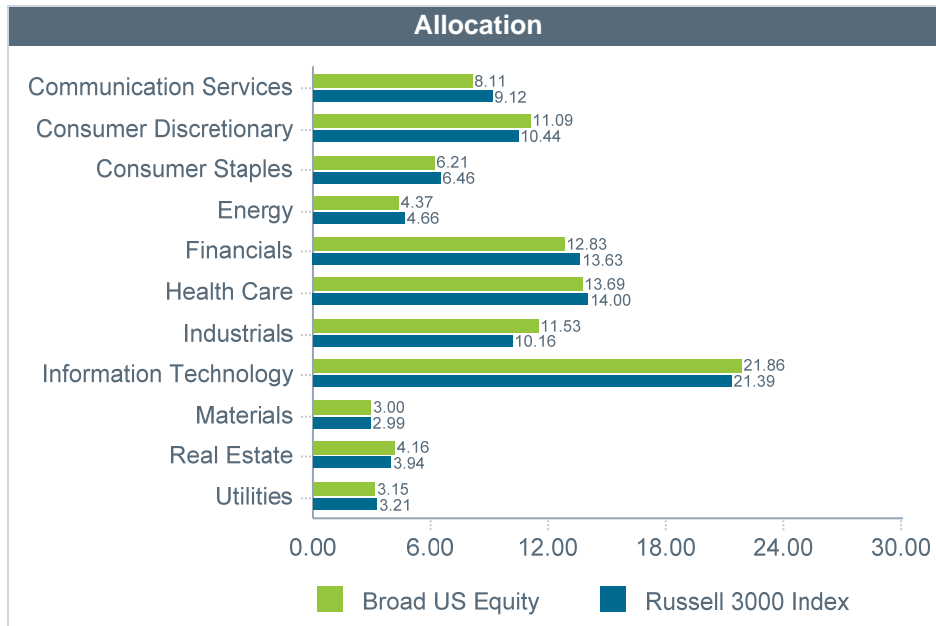
Performance shown is net of fees. Parentheses contain percentile ranks.



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

North Dakota Board of University and School Lands
Broad US Equity vs. Russell 3000 Index
Buy and Hold Sector Attribution Graph

1 Quarter Ending September 30, 2019

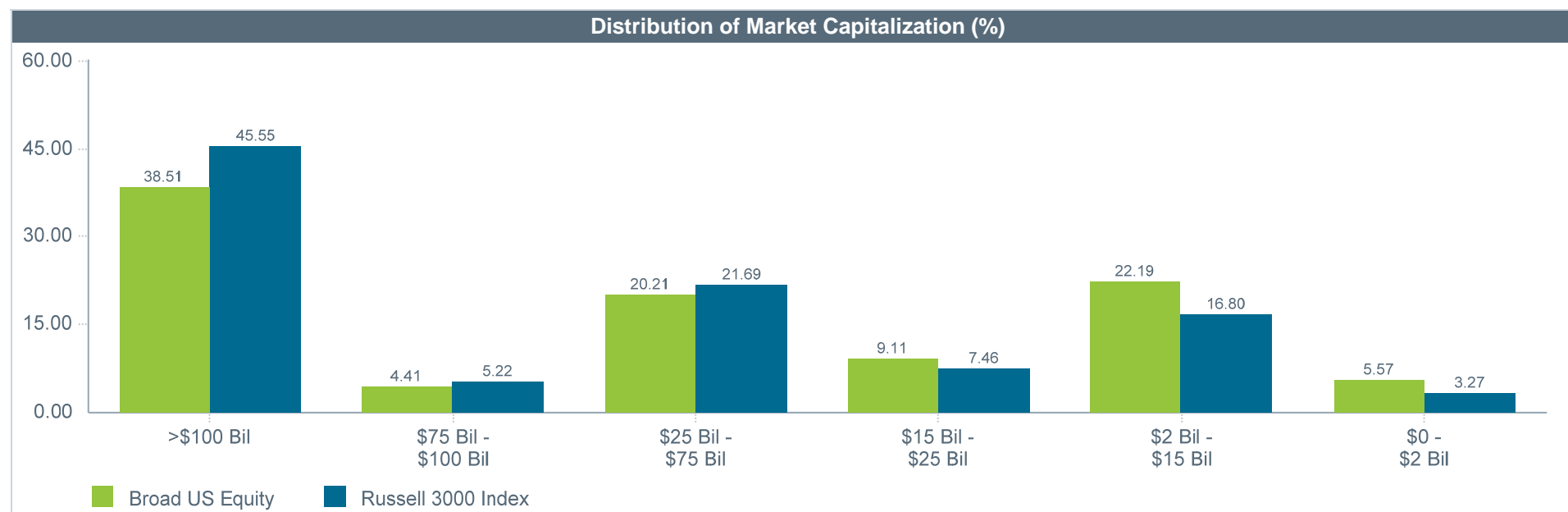


North Dakota Board of University and School Lands
Broad US Equity vs. Russell 3000 Index
Portfolio Characteristics

As of September 30, 2019

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	3.02	3.58	-0.56	4.14
Apple Inc	2.91	3.44	-0.53	13.59
Amazon.com Inc	2.06	2.44	-0.38	-8.33
Facebook Inc	1.22	1.45	-0.23	-7.73
Berkshire Hathaway Inc	1.17	1.38	-0.21	-2.42
JPMorgan Chase & Co	1.08	1.27	-0.19	6.01
Alphabet Inc	1.06	1.26	-0.20	12.78
Alphabet Inc	1.05	1.24	-0.19	12.78
Johnson & Johnson	0.99	1.17	-0.18	-6.42
Procter & Gamble Co (The)	0.89	1.05	-0.16	14.17
% of Portfolio	15.45	18.28	-2.83	

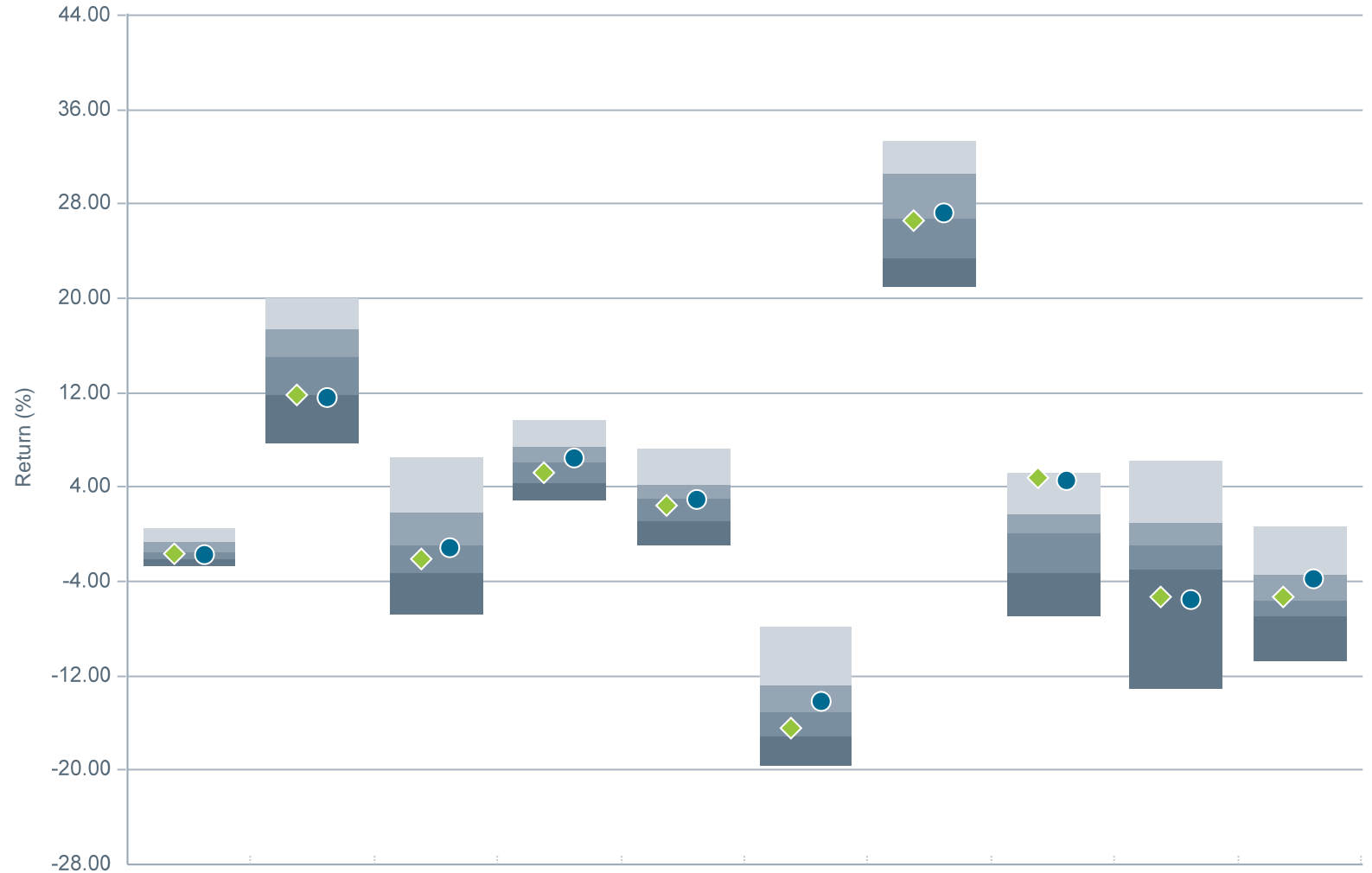
Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	178,997	209,668
Median Mkt. Cap (\$M)	8,698	1,604
Price/Earnings Ratio	20.59	20.43
Price/Book Ratio	3.28	3.35
5 Yr. EPS Growth Rate (%)	15.88	15.73
Current Yield (%)	1.82	1.90
Beta (5 Years, Monthly)	1.01	1.00
Number of Securities	1,120	3,005



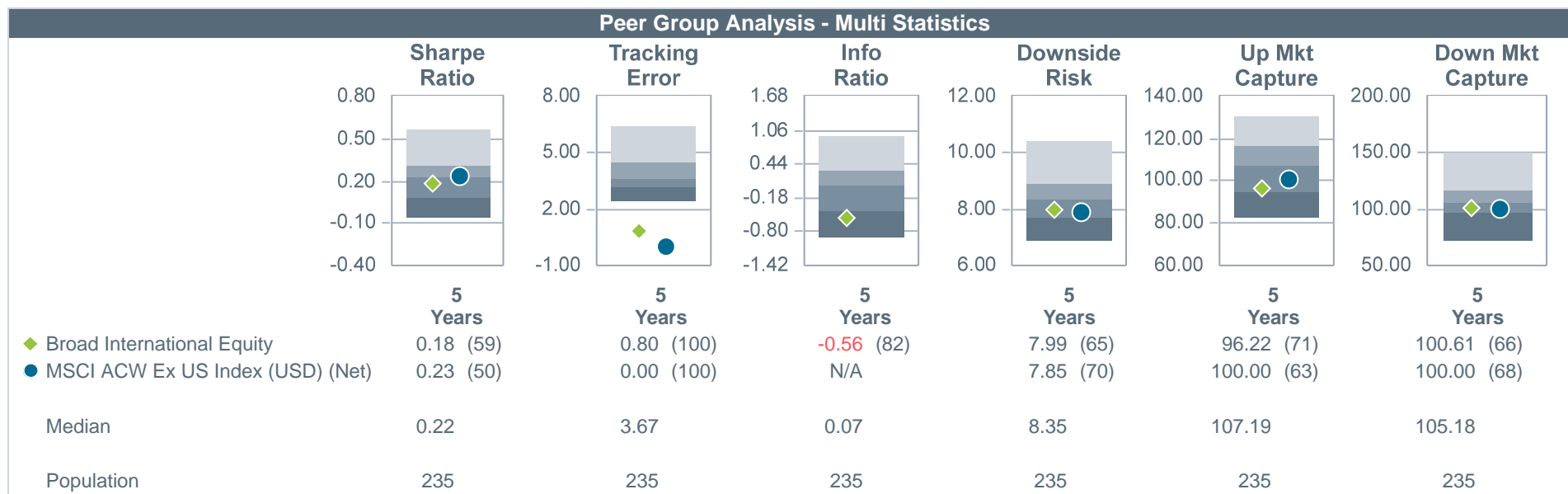
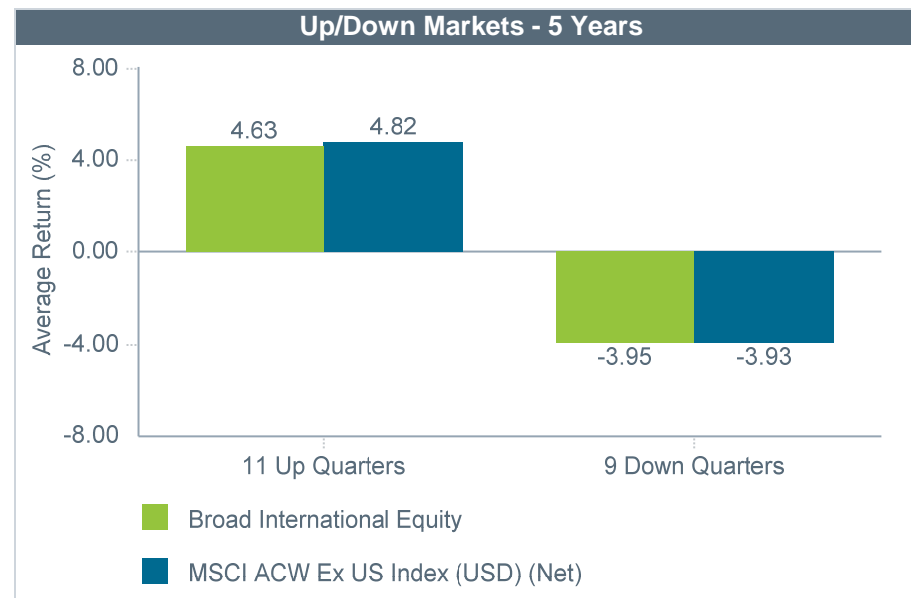
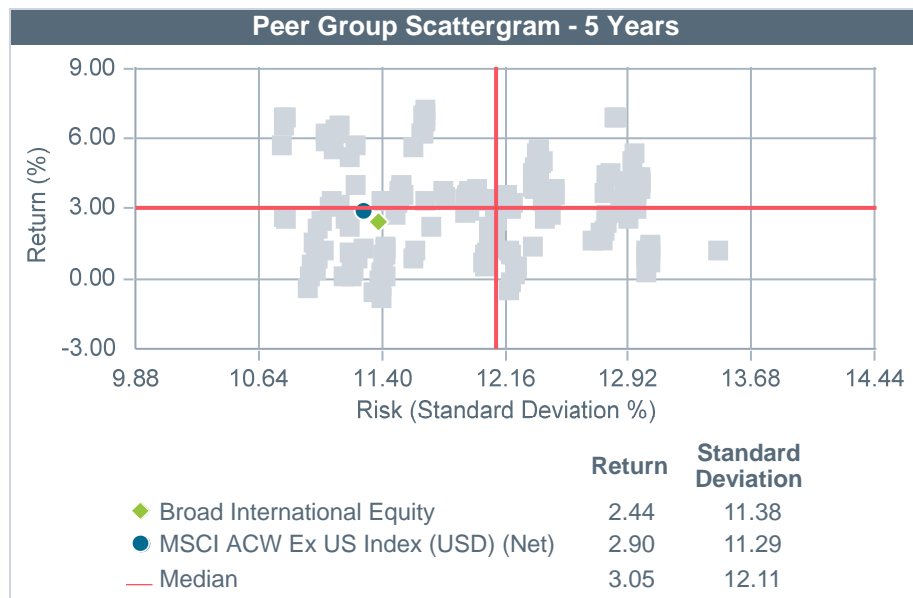
Alphabet Inc. is shown twice in the Top Ten Equity Holdings, but represents two different share classes: GOOGL (Class A) and GOOG (Class C).

North Dakota Board of University and School Lands
IM International Large Cap Equity (MF)
Peer Group Analysis

As of September 30, 2019



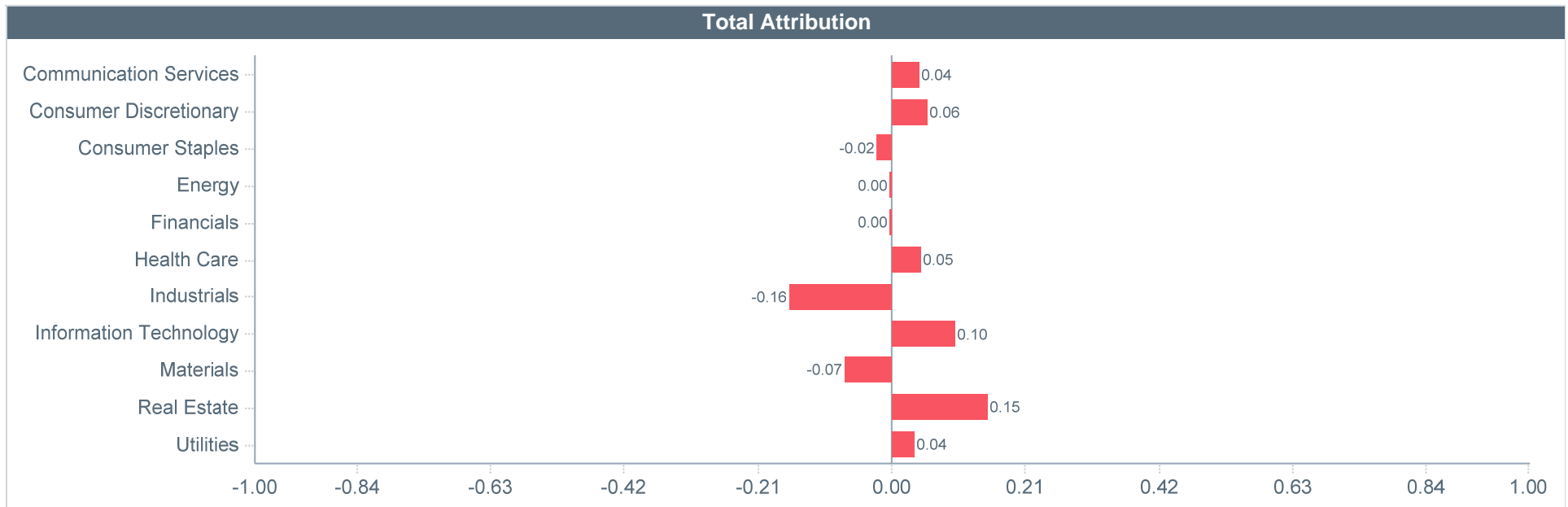
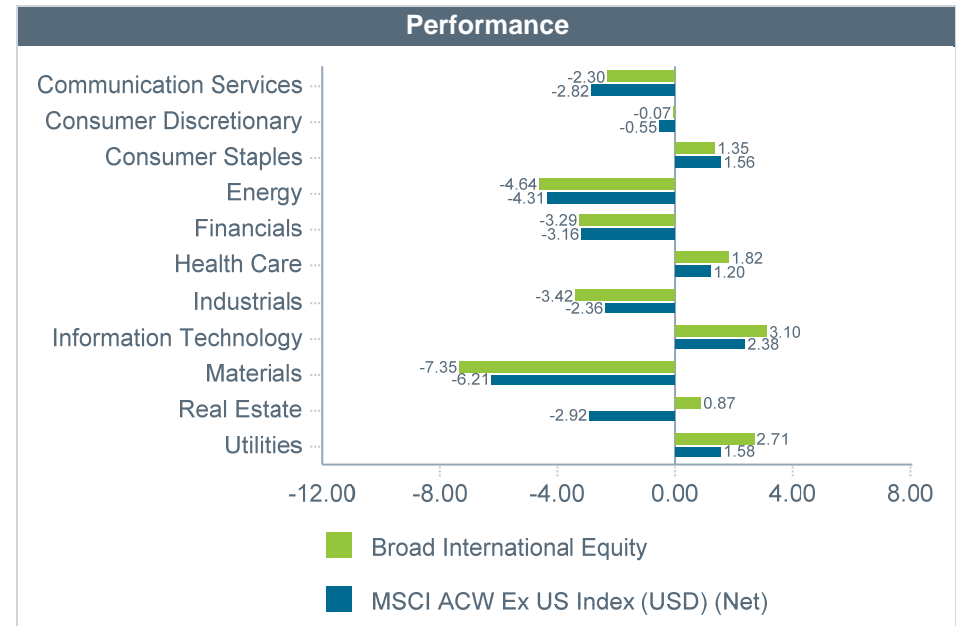
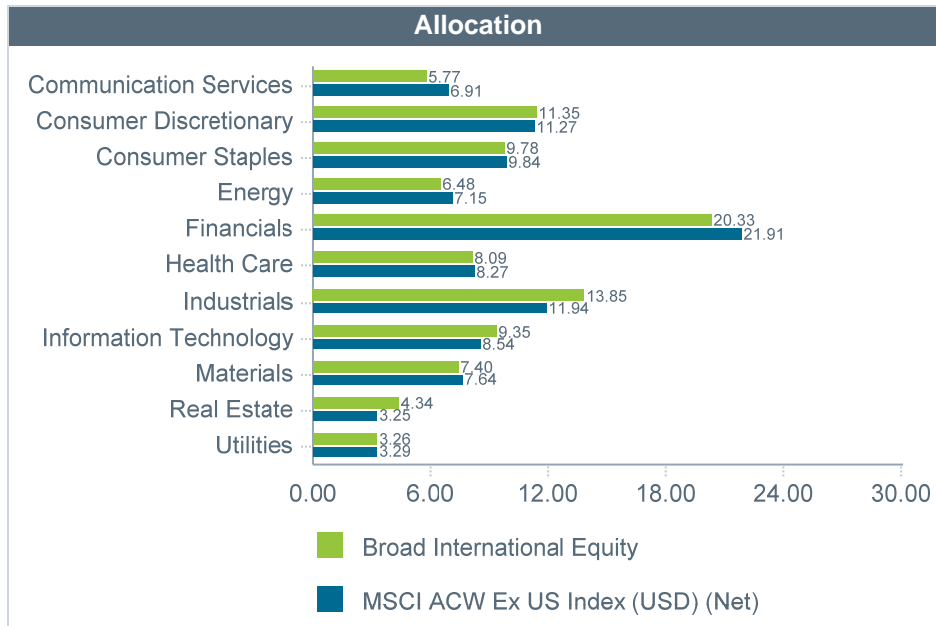
Performance shown is net of fees. Parentheses contain percentile ranks.



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

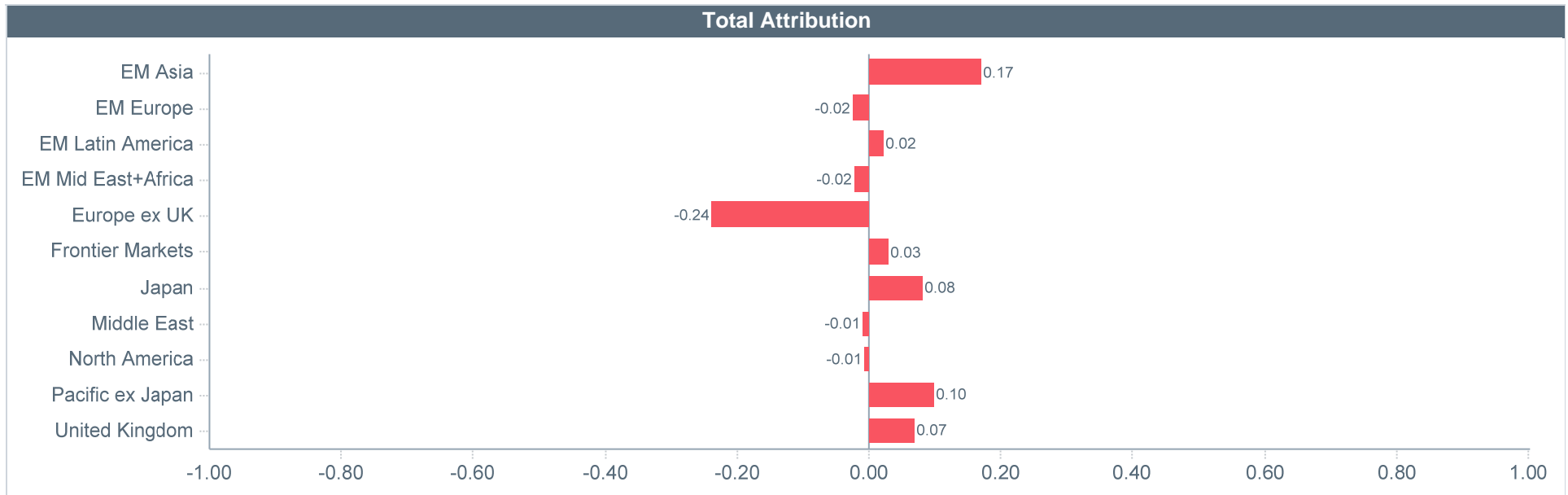
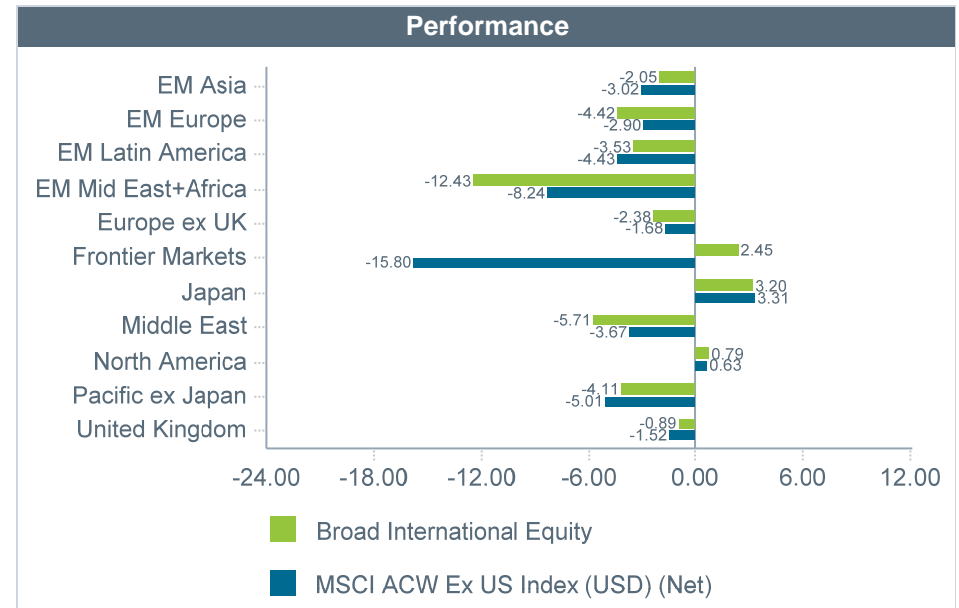
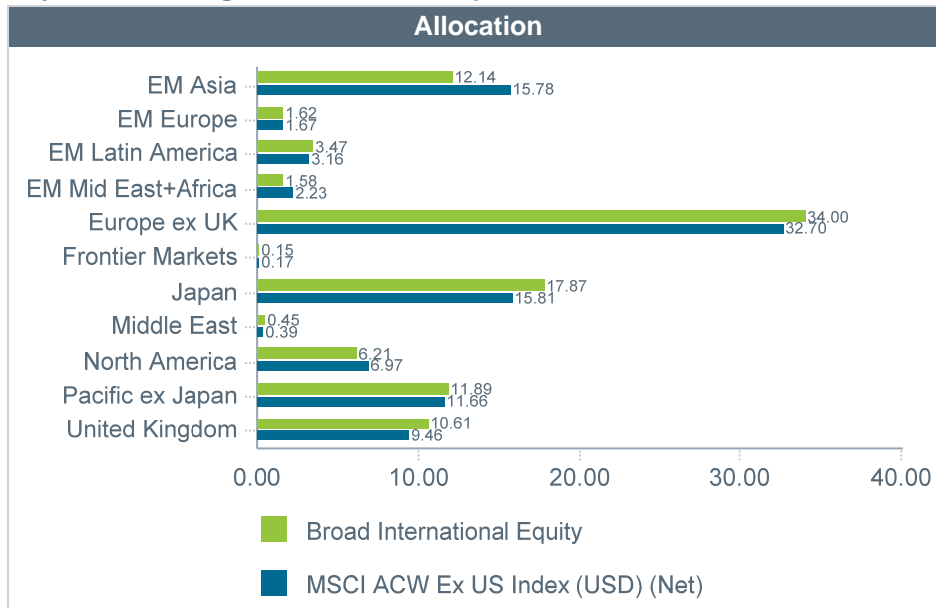
North Dakota Board of University and School Lands
Broad International Equity vs. MSCI ACW Ex US Index (USD) (Net)
Buy and Hold Sector Attribution Graph

1 Quarter Ending September 30, 2019



North Dakota Board of University and School Lands
Broad International Equity vs. MSCI ACW Ex US Index (USD) (Net)
Buy and Hold Region Attribution Graph

1 Quarter Ending September 30, 2019

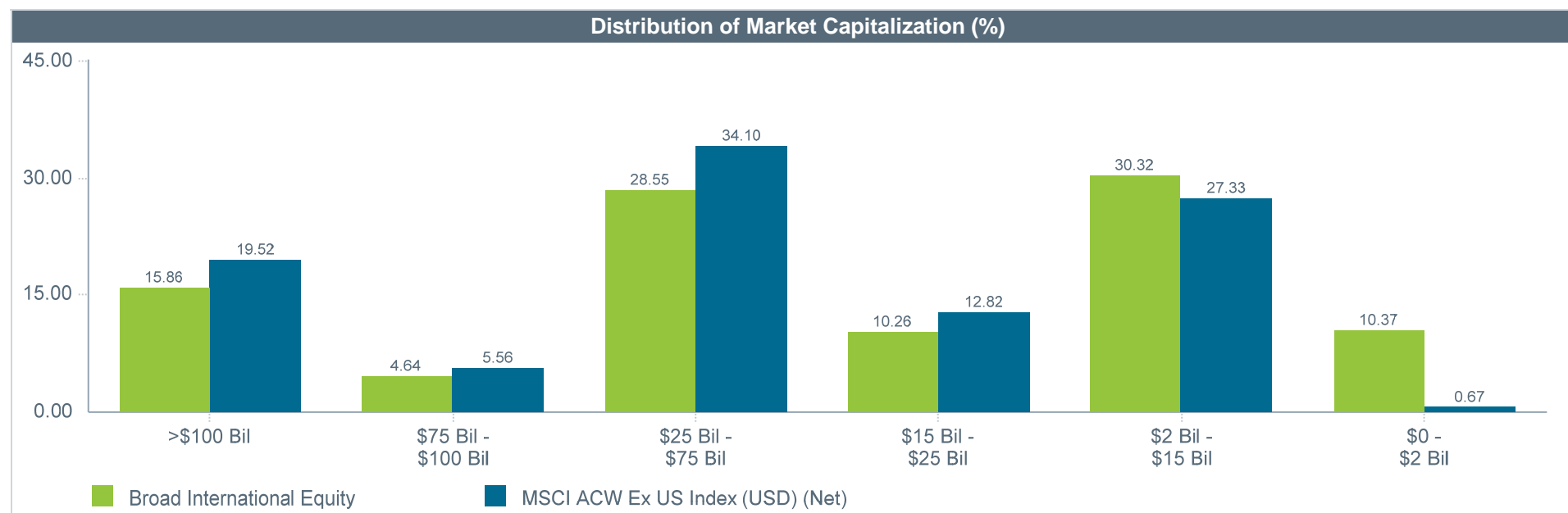


North Dakota Board of University and School Lands
Broad International Equity vs. MSCI ACW Ex US Index (USD) (Net)
Portfolio Characteristics

As of September 30, 2019

Top Ten Equity Holdings				
	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Nestle SA, Cham Und Vevey	1.41	1.62	-0.21	4.79
Roche Holding AG	0.86	0.99	-0.13	3.42
Novartis AG	0.79	0.91	-0.12	-5.12
AIA Group Ltd	0.78	0.56	0.22	-12.08
Taiwan Semiconductor Mfg	0.75	1.05	-0.30	14.45
Tencent Holdings LTD	0.69	1.17	-0.48	-6.71
Toyota Motor Corp	0.63	0.74	-0.11	9.05
HSBC HLDGS PLC	0.63	0.00	0.63	N/A
Alibaba Group Holding Ltd	0.59	1.16	-0.57	-1.31
BP PLC	0.53	0.63	-0.10	-7.47
% of Portfolio	7.66	8.83	-1.17	

Portfolio Characteristics		
	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	53,237	66,278
Median Mkt. Cap (\$M)	635	7,597
Price/Earnings Ratio	14.04	14.41
Price/Book Ratio	2.32	2.27
5 Yr. EPS Growth Rate (%)	10.14	8.53
Current Yield (%)	3.28	3.36
Beta (5 Years, Monthly)	0.99	1.00
Number of Securities	6,223	2,215

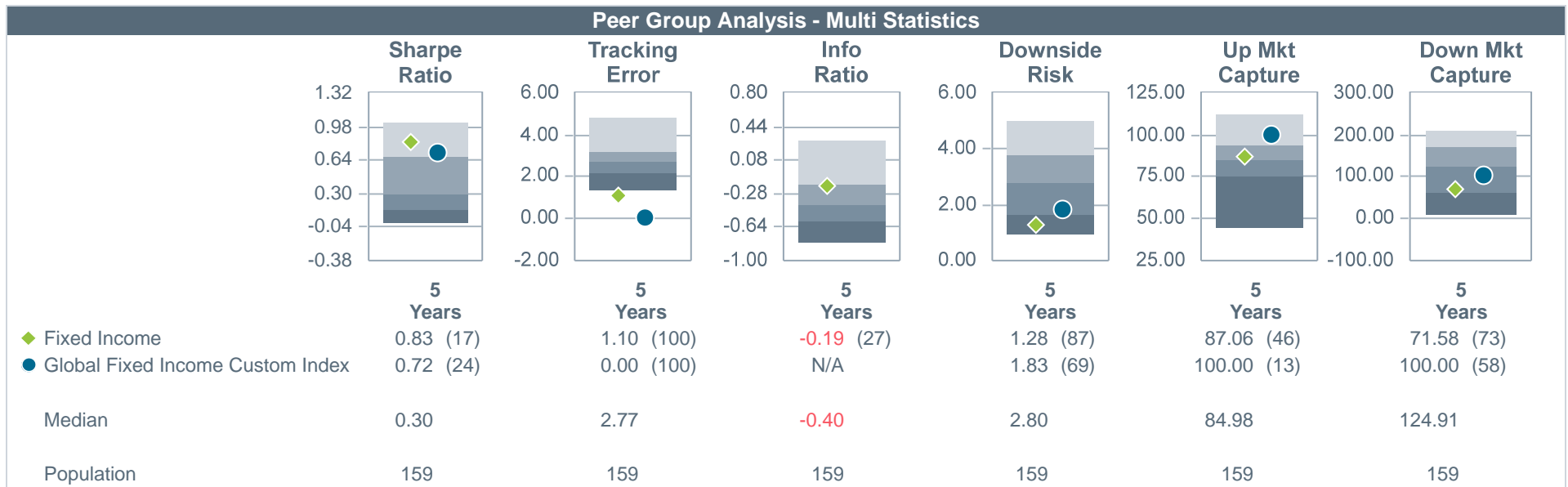
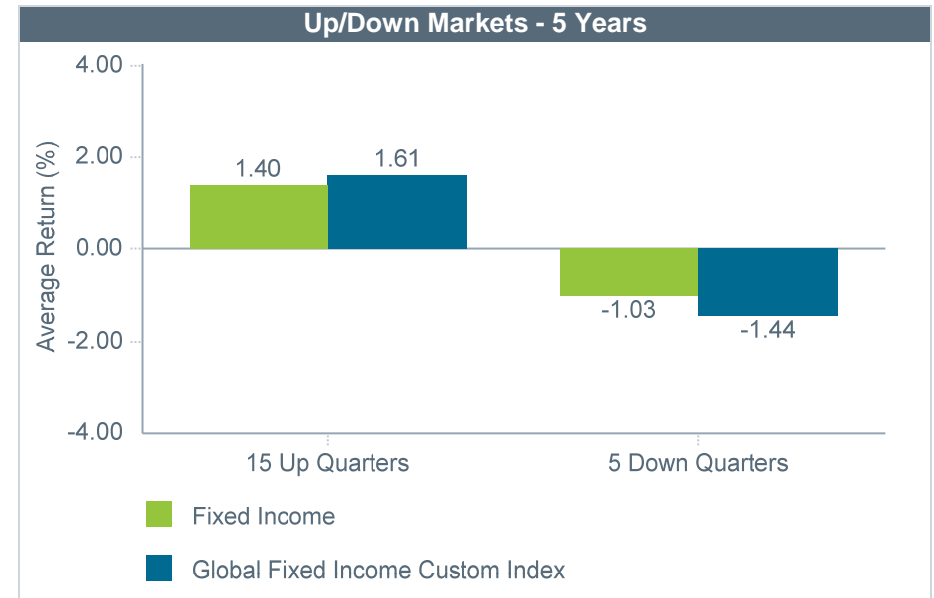
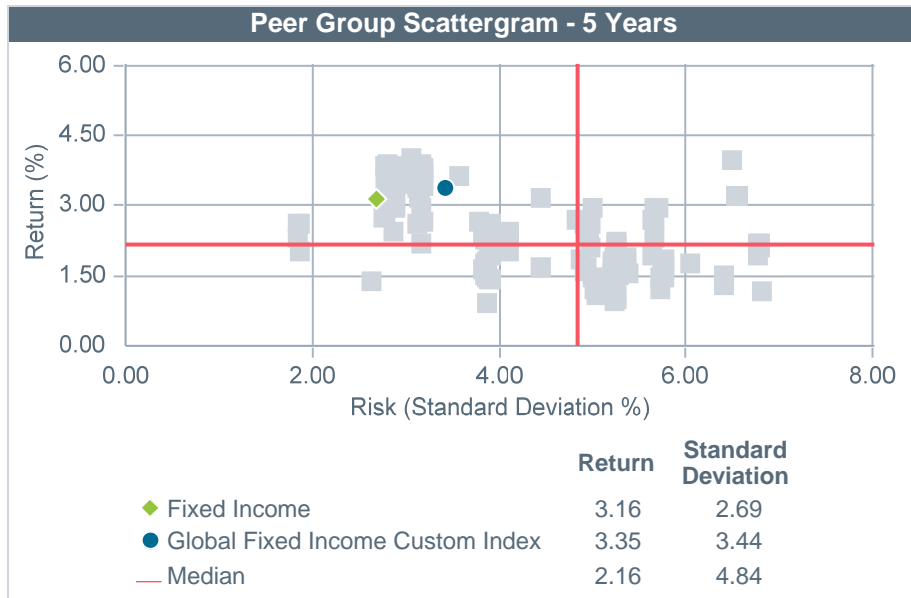


North Dakota Board of University and School Lands
IM Global Fixed Income (MF)
Peer Group Analysis

As of September 30, 2019



Performance shown is net of fees. Parentheses contain percentile ranks.

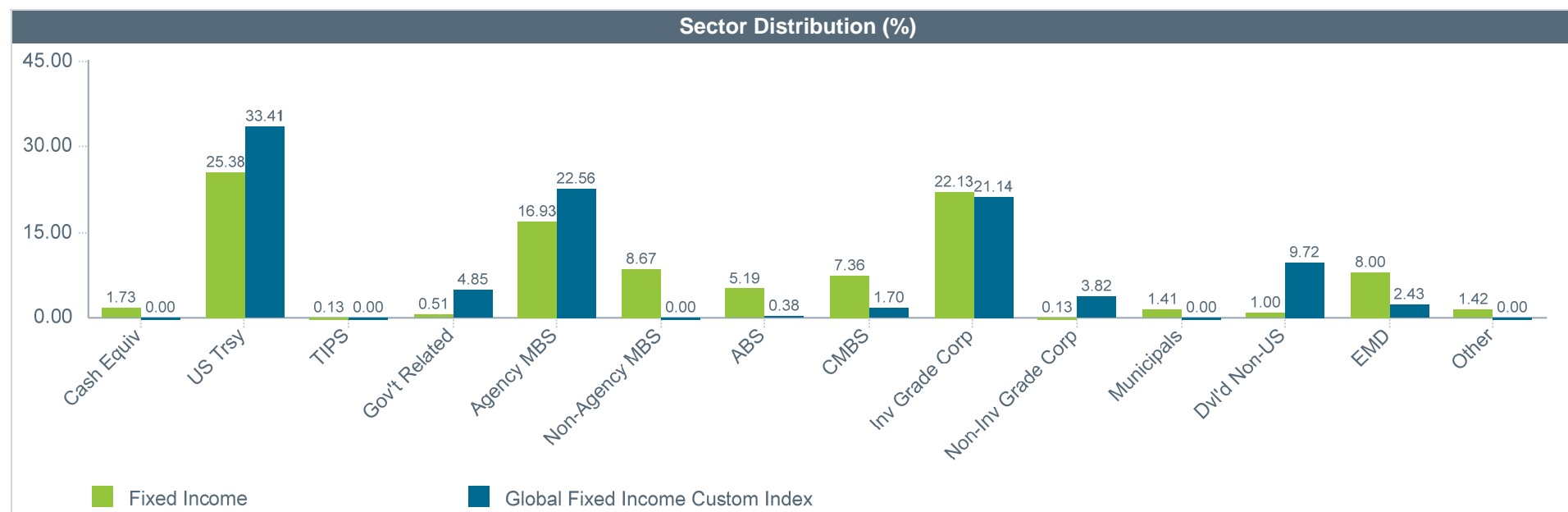


Performance shown is net of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

North Dakota Board of University and School Lands
Fixed Income vs. Global Fixed Income Custom Index
Portfolio Characteristics

As of September 30, 2019

Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	4.24	5.61
Avg. Maturity	6.60	7.82
Avg. Quality	A1	N/A
Coupon Rate (%)	3.63	3.52
Yield To Worst (%)	2.62	2.64
Current Yield (%)	3.45	0.20



FLP & ECLP Bank Loans, AG Direct Lending Fund III, L.P. and ND Land - PTF Cash (SA) are excluded from portfolio characteristics and sector distribution.
Allocation to "Other" consists of currency forwards.

Investment Manager Profiles

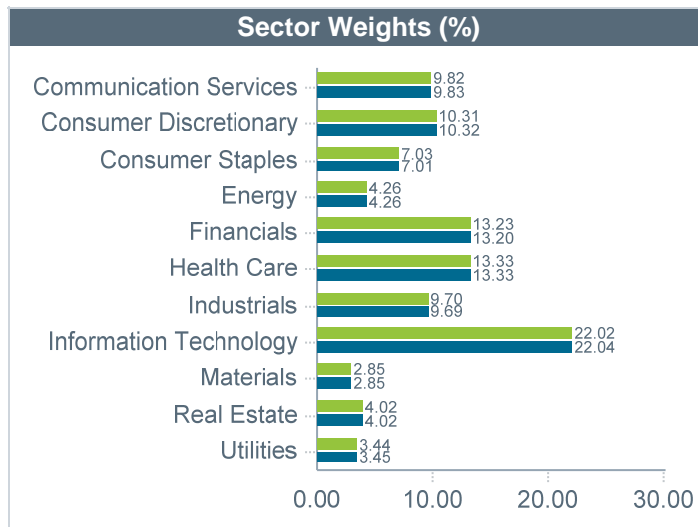
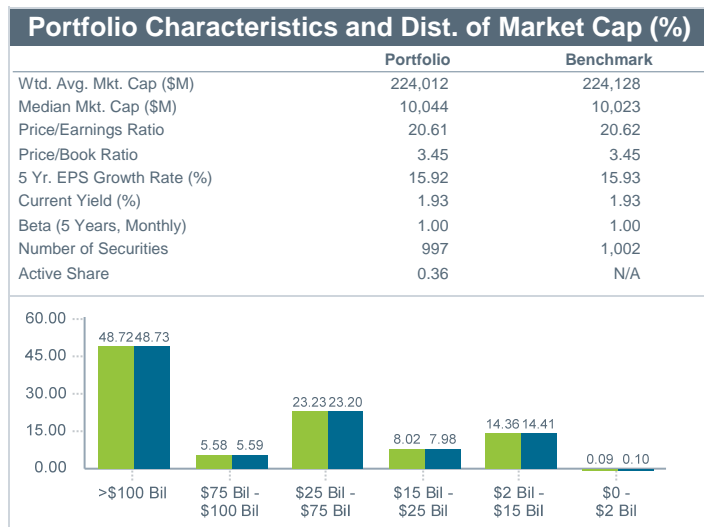
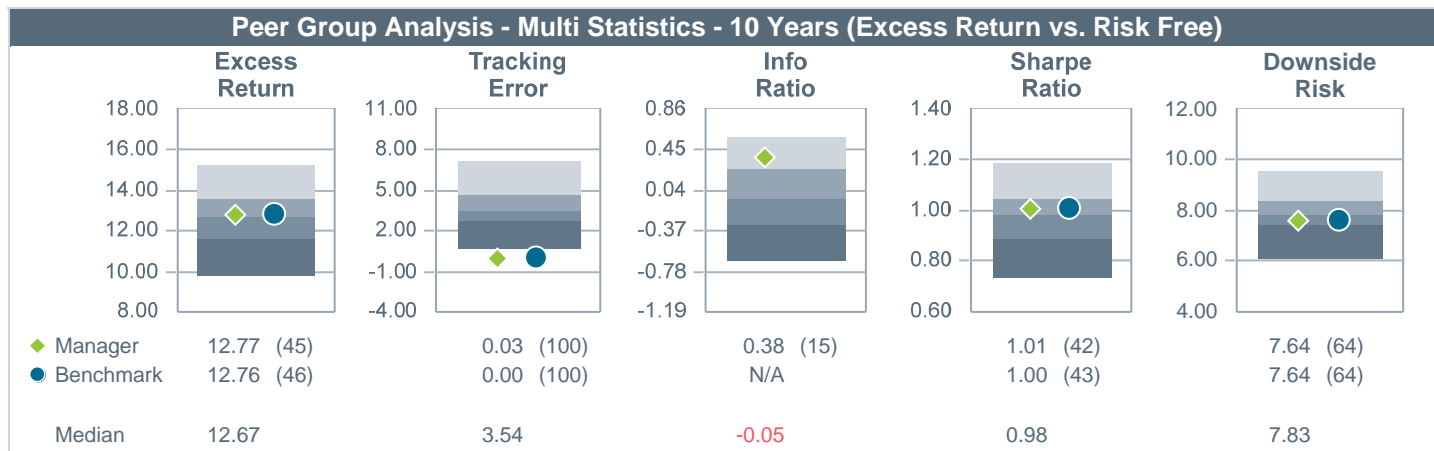
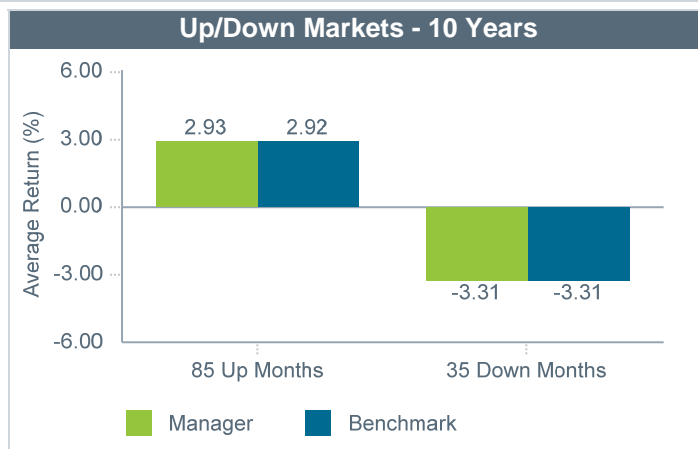
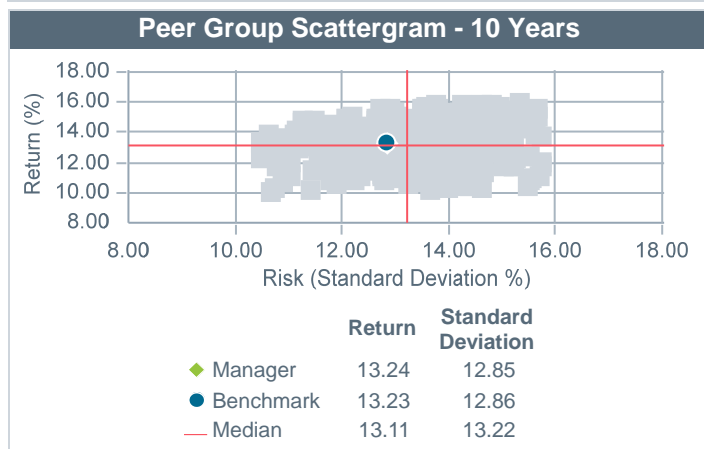
Manager: State Street Russell 1000 Index Lending (CF)

As of September 30, 2019

Benchmark: Russell 1000 Index

Peer Group: IM U.S. Large Cap Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.43	3.89	13.19	10.63	13.21	13.24	-4.77	21.70	12.03	0.96	13.23
Benchmark	1.42	3.87	13.19	10.62	13.21	13.23	-4.78	21.69	12.05	0.92	13.24
Difference	0.01	0.02	0.00	0.01	0.00	0.01	0.01	0.01	-0.02	0.04	-0.01
Peer Group Median	1.42	3.42	12.84	10.32	13.04	13.11	-5.14	21.68	11.00	0.94	12.90
Rank	50	45	44	44	45	45	46	50	40	50	45
Population	815	814	797	775	737	684	1,009	1,076	1,157	1,229	1,289



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

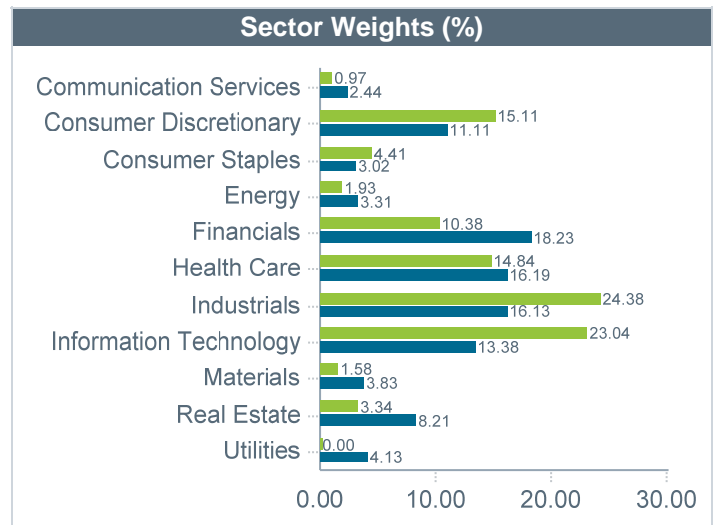
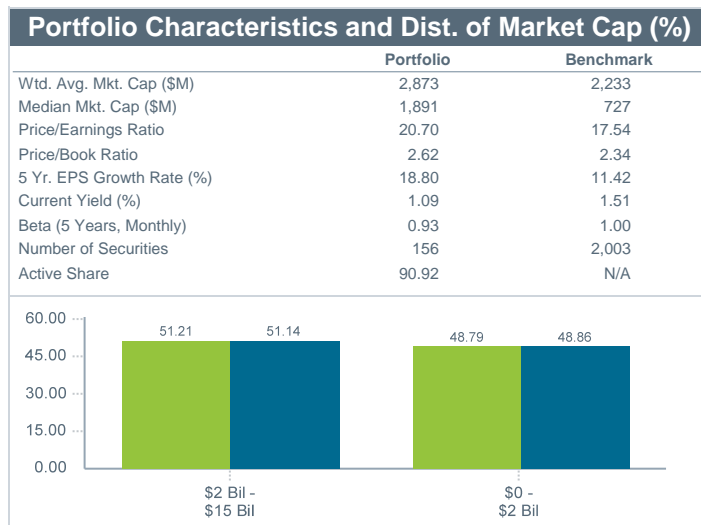
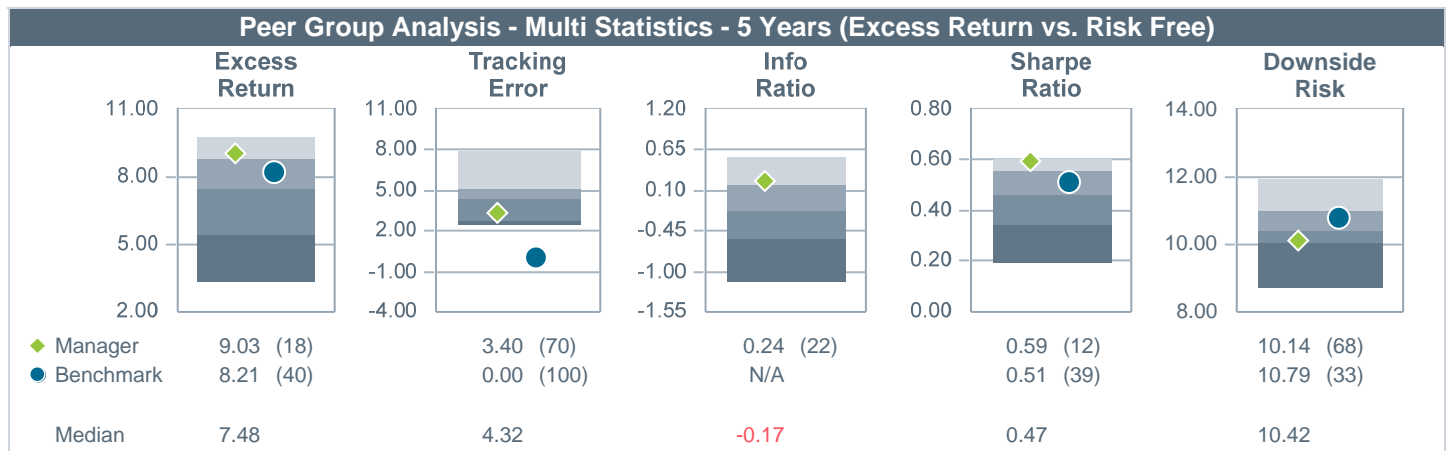
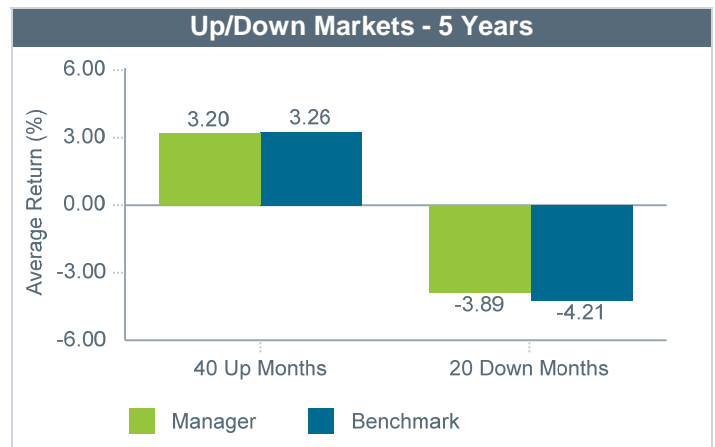
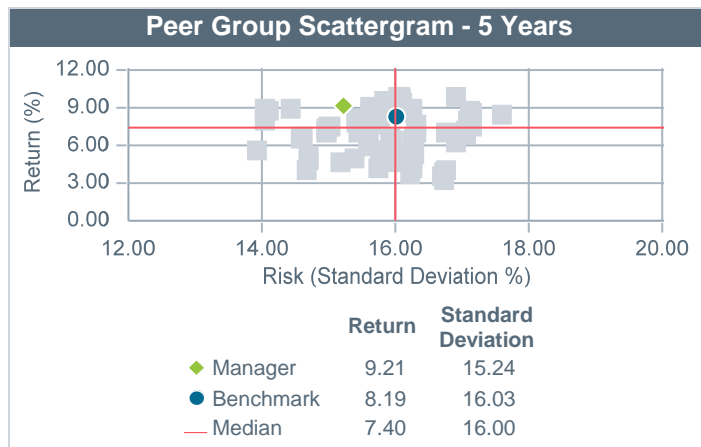
Manager: NT Small Cap Core (CF)

As of September 30, 2019

Benchmark: Russell 2000 Index

Peer Group: IM U.S. Small Cap Core Equity (MF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-2.94	-8.42	11.07	9.21	N/A	N/A	-7.63	21.82	18.20	-6.01	N/A
Benchmark	-2.40	-8.89	8.23	8.19	10.43	11.19	-11.01	14.65	21.31	-4.41	4.89
Difference	-0.54	0.47	2.84	1.02	N/A	N/A	3.38	7.17	-3.11	-1.60	N/A
Peer Group Median	-0.92	-9.88	7.03	7.40	9.65	10.79	-11.84	10.80	21.97	-5.08	4.05
Rank	83	33	1	17	N/A	N/A	7	3	78	63	N/A
Population	156	151	135	112	96	75	172	211	197	172	300

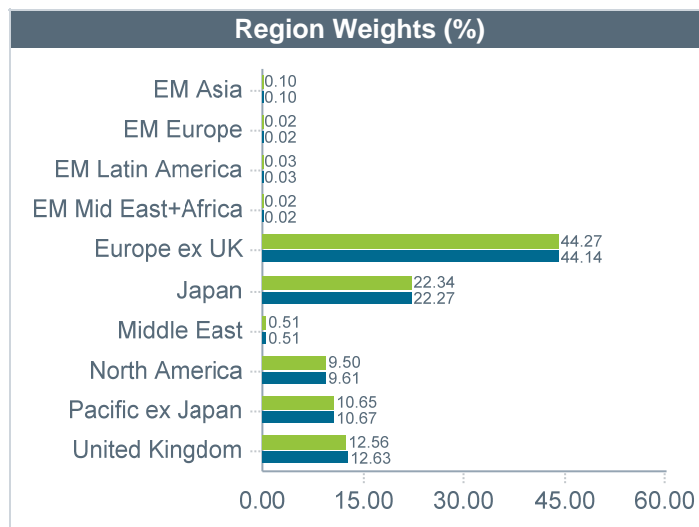
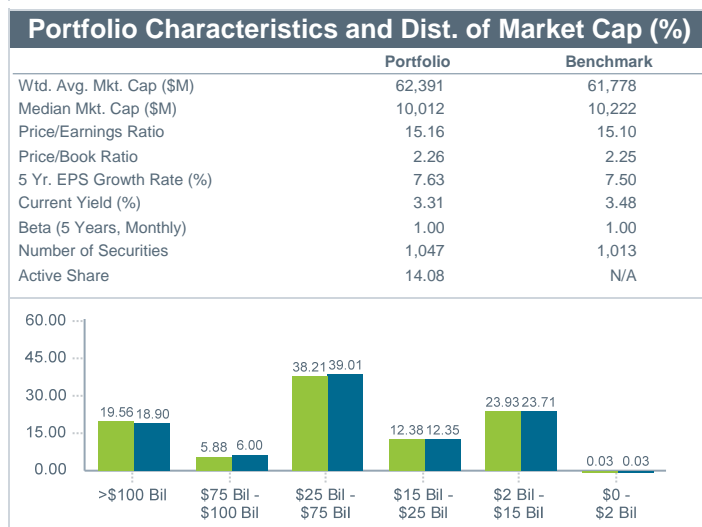
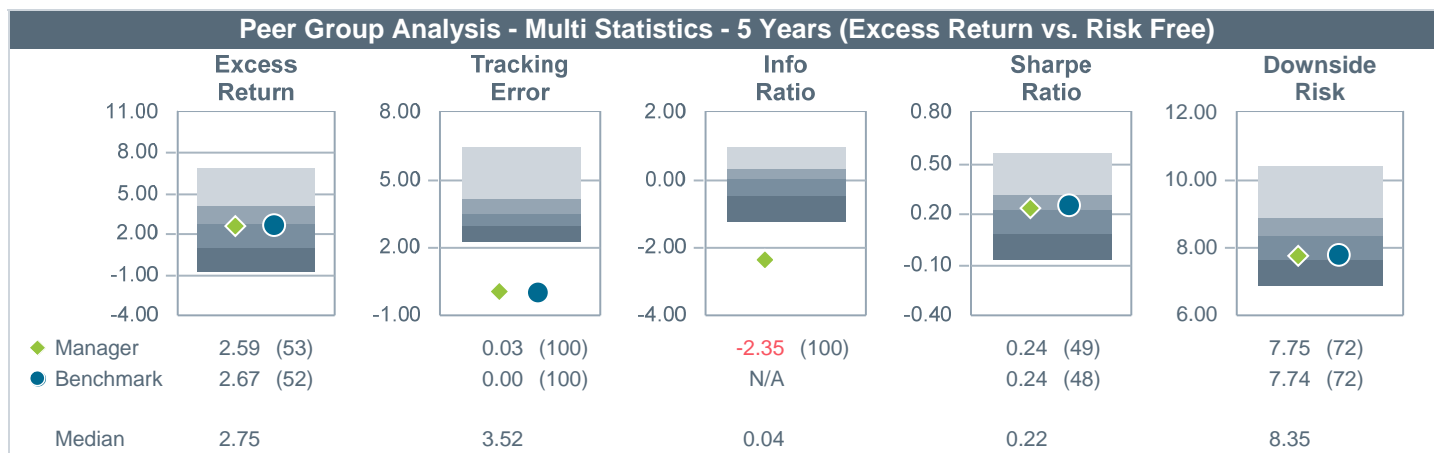
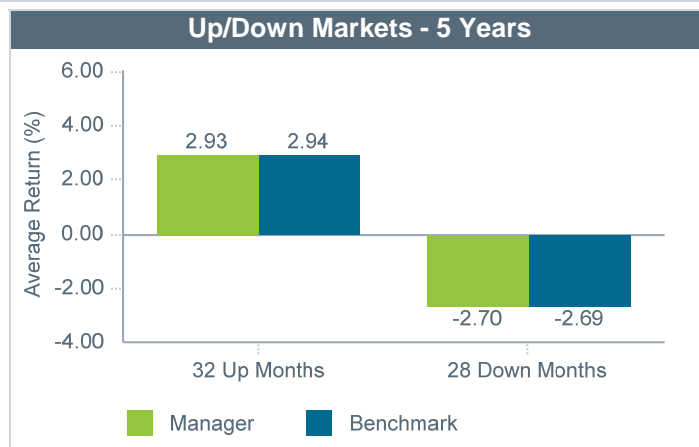
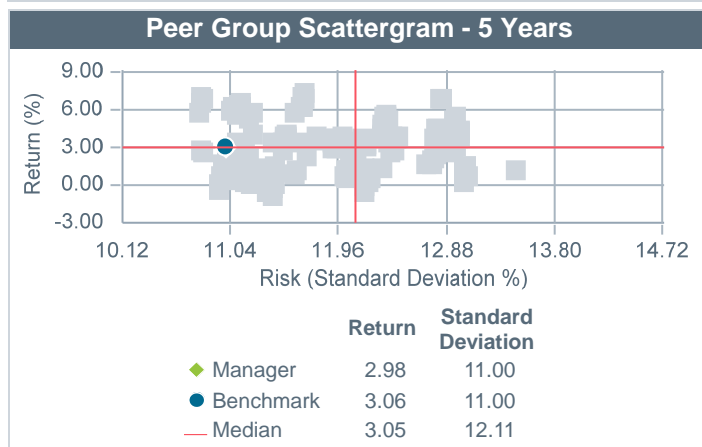


Performance shown is and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Manager: State Street World Ex US Index (CF)
Benchmark: MSCI Wrld Ex US Index (USD) (Net)
Peer Group: IM International Large Cap Equity (MF)

As of September 30, 2019

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-0.94	-1.05	6.41	2.98	N/A	N/A	-14.16	24.15	2.66	-3.12	N/A
Benchmark	-0.93	-0.95	6.49	3.06	5.77	4.78	-14.09	24.21	2.75	-3.04	-4.32
Difference	-0.01	-0.10	-0.08	-0.08	N/A	N/A	-0.07	-0.06	-0.09	-0.08	N/A
Peer Group Median	-1.51	-0.98	6.08	3.05	5.39	4.72	-15.18	26.76	0.06	-0.98	-5.55
Rank	34	51	43	52	N/A	N/A	38	70	16	78	N/A
Population	338	325	268	235	216	183	318	296	267	244	285



Performance shown is net of fees and client specific. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

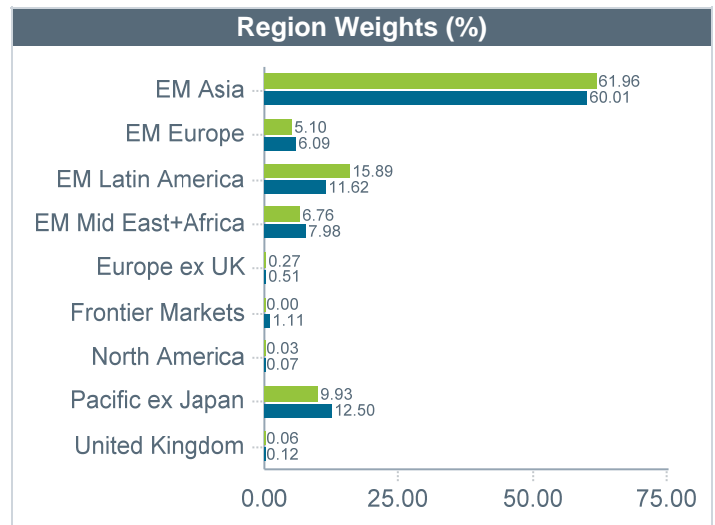
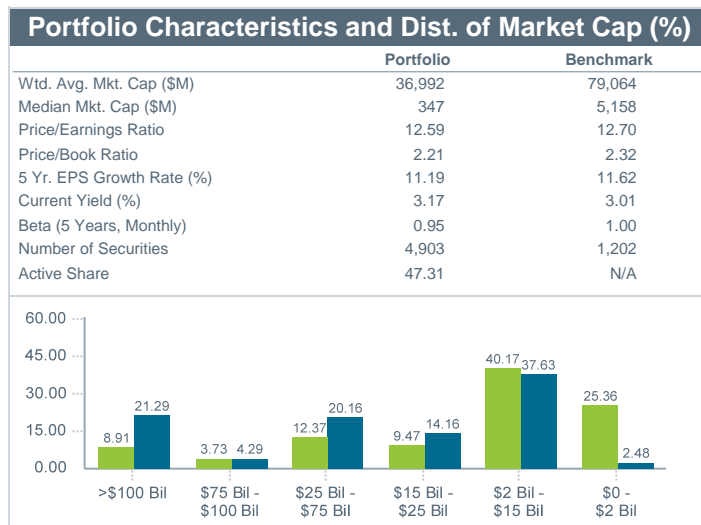
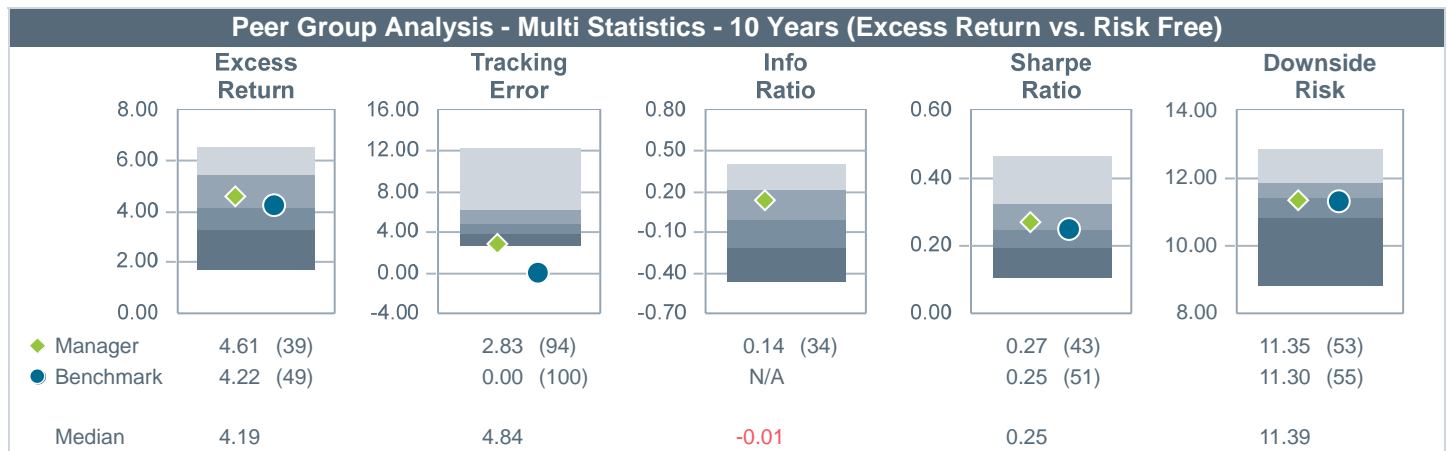
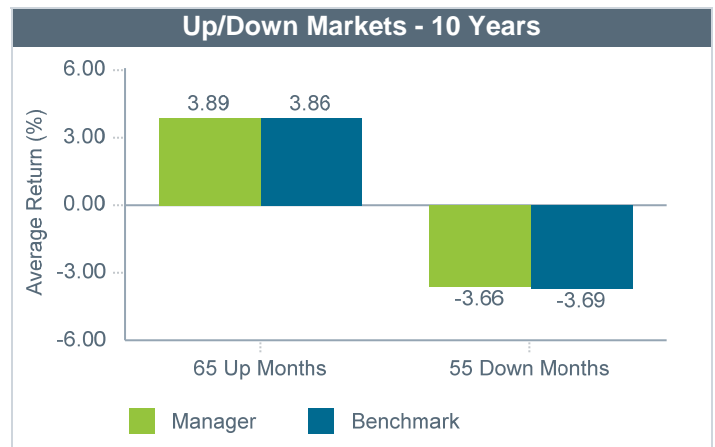
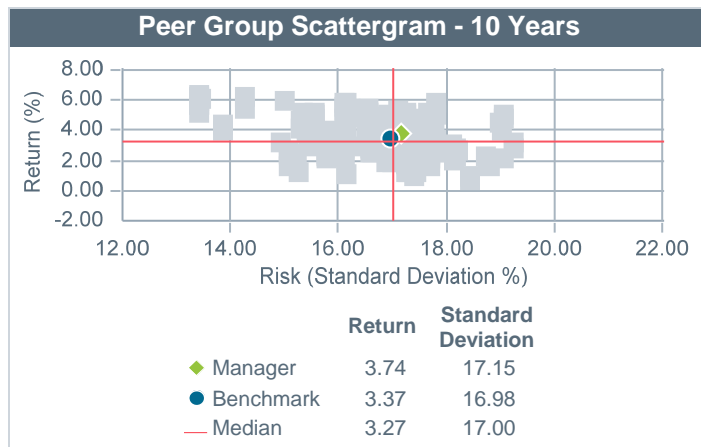
Manager: DFA Emg Mkts Core Eq;I (DFCEX)

As of September 30, 2019

Benchmark: MSCI Emg Mkts Index (USD) (Net)

Peer Group: IM Emerging Markets Equity (MF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-4.18	-1.75	4.85	2.07	2.65	3.74	-15.25	36.55	12.35	-14.86	-0.91
Benchmark	-4.25	-2.02	5.97	2.33	2.41	3.37	-14.58	37.28	11.19	-14.92	-2.19
Difference	0.07	0.27	-1.12	-0.26	0.24	0.37	-0.67	-0.73	1.16	0.06	1.28
Peer Group Median	-3.48	0.29	5.24	2.03	2.52	3.27	-16.40	35.37	8.35	-13.66	-2.92
Rank	67	68	55	50	46	42	40	45	21	63	31
Population	886	846	712	580	418	253	843	813	750	656	724



Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

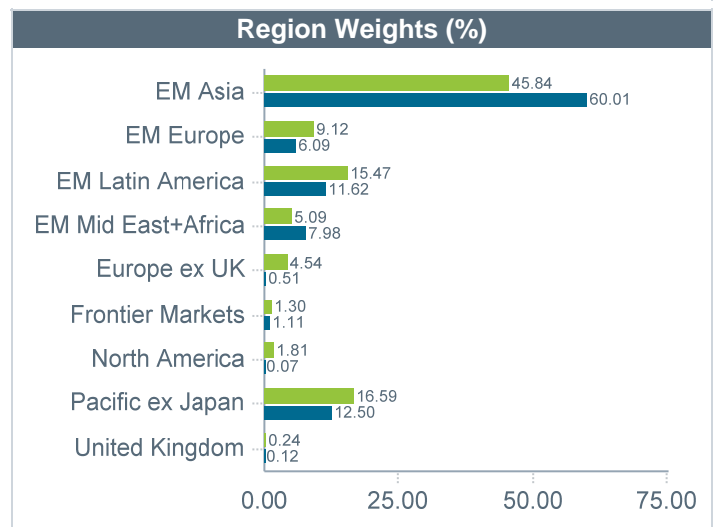
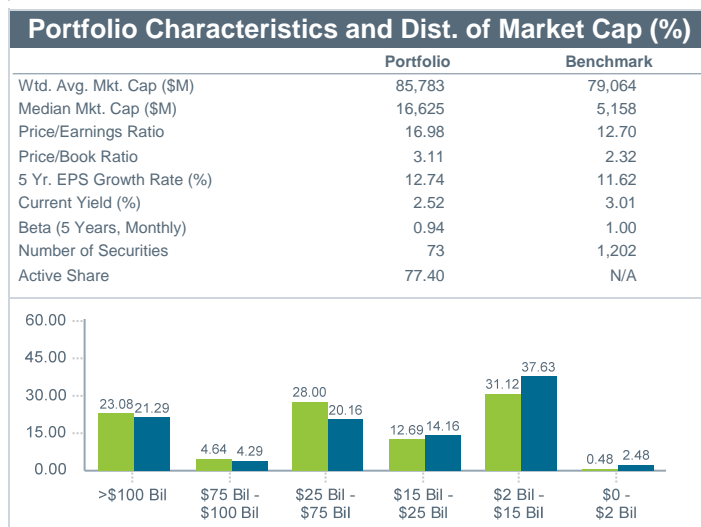
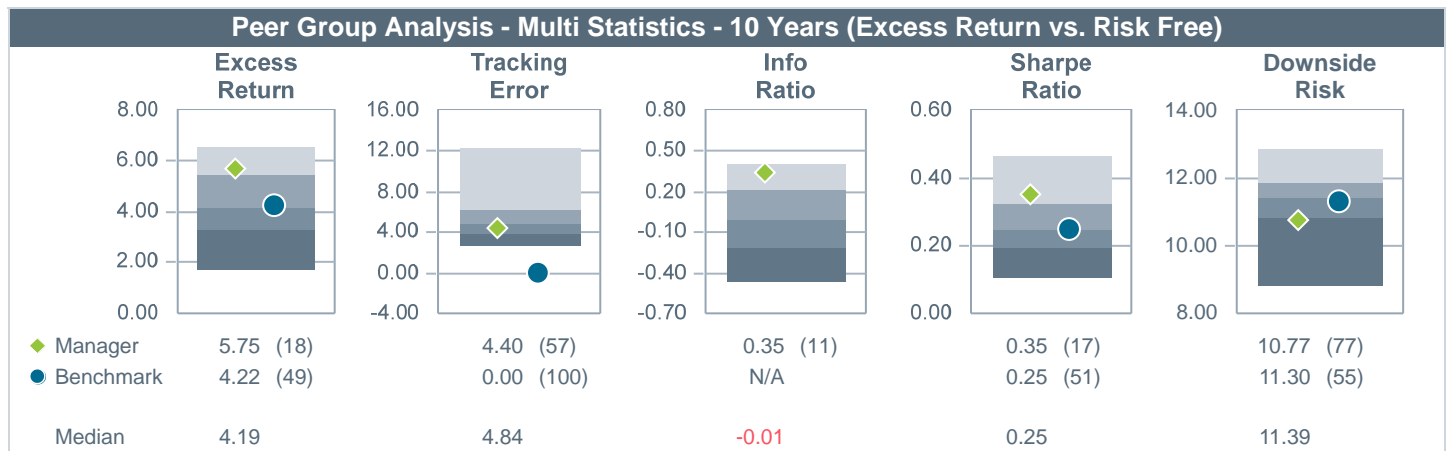
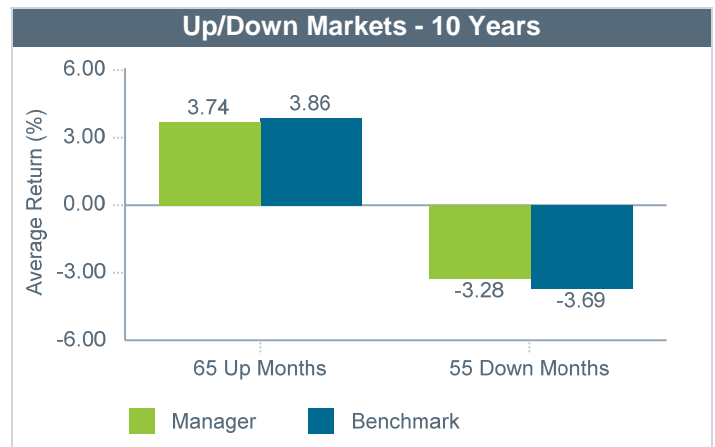
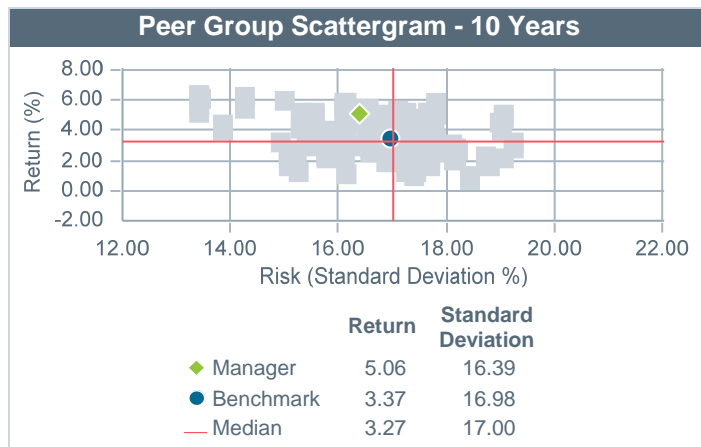
Manager: Harding Loevner: IEM; IZ (HLEZX)

As of September 30, 2019

Benchmark: MSCI Emg Mkts Index (USD) (Net)

Peer Group: IM Emerging Markets Equity (MF)

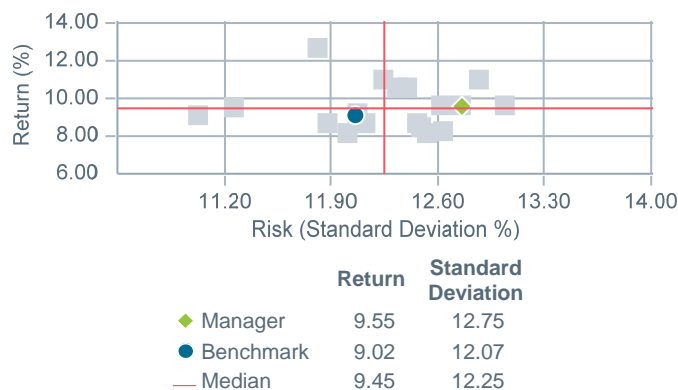
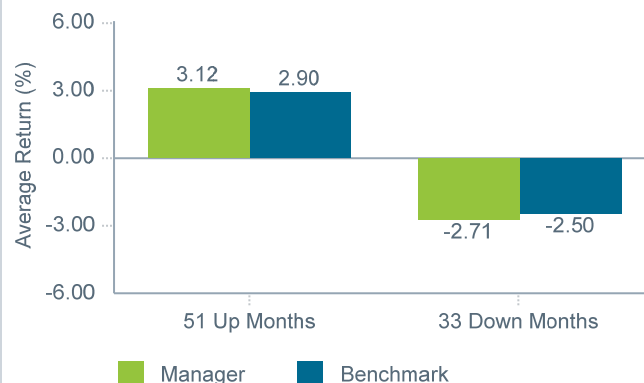
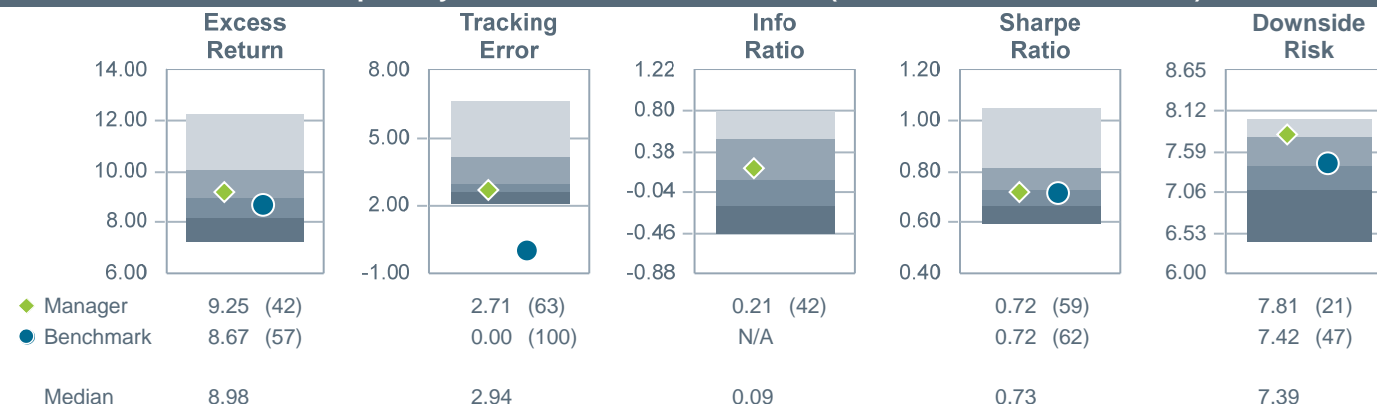
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-3.36	0.90	5.74	3.25	4.17	5.06	-18.53	35.79	13.44	-13.31	-1.74
Benchmark	-4.25	-2.02	5.97	2.33	2.41	3.37	-14.58	37.28	11.19	-14.92	-2.19
Difference	0.89	2.92	-0.23	0.92	1.76	1.69	-3.95	-1.49	2.25	1.61	0.45
Peer Group Median	-3.48	0.29	5.24	2.03	2.52	3.27	-16.40	35.37	8.35	-13.66	-2.92
Rank	47	45	41	23	21	17	71	49	15	47	40
Population	886	846	712	580	418	253	843	813	750	656	724



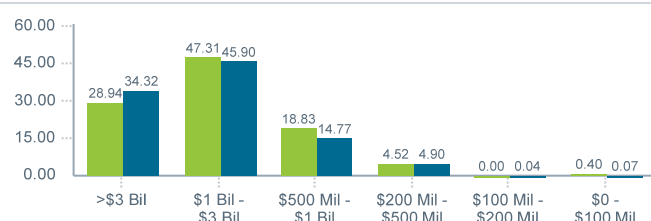
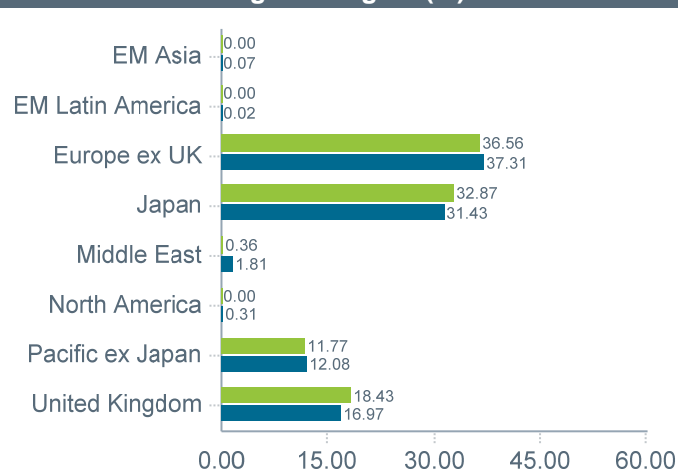
Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Manager: QMA Int'l Sm Cap Equity (CF)
As of September 30, 2019
Benchmark: MSCI EAFE Sm Cap Index (USD) (Gross)
Peer Group: IM International Small Cap Core Equity (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.74	-8.67	3.63	4.70	9.55	N/A	-22.79	35.05	-0.81	11.09	0.02
Benchmark	-0.37	-5.54	6.34	6.41	9.02	7.82	-17.58	33.50	2.55	9.94	-4.63
Difference	-1.37	-3.13	-2.71	-1.71	0.53	N/A	-5.21	1.55	-3.36	1.15	4.65
Peer Group Median	-1.56	-5.97	6.49	6.62	9.45	9.18	-18.82	34.07	2.13	9.91	-2.43
Rank	59	78	90	83	42	N/A	98	46	86	43	27
Population	42	41	38	29	25	17	43	45	43	39	35

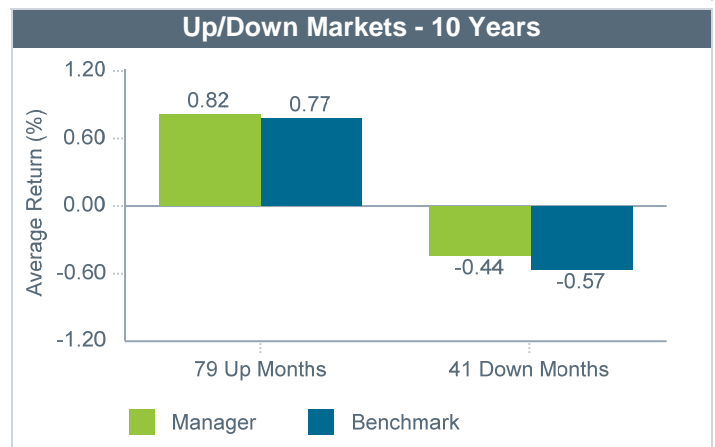
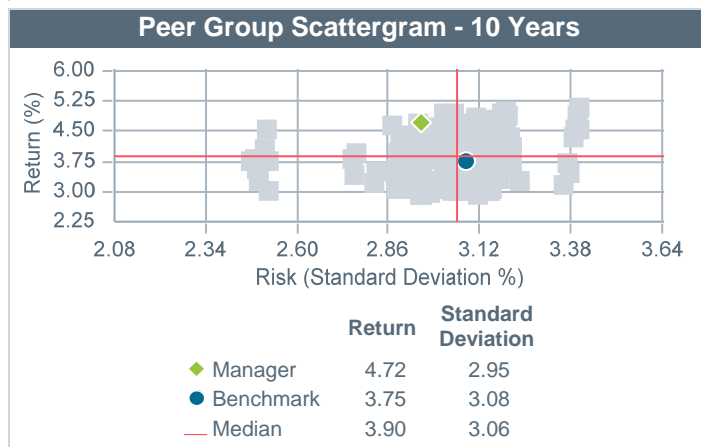
Peer Group Scattergram - 7 Years

Up/Down Markets - 7 Years

Peer Group Analysis - Multi Statistics - 7 Years (Excess Return vs. Risk Free)

Portfolio Characteristics and Dist. of Market Cap (%)

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$M)	2,299	2,583
Median Mkt. Cap (\$M)	1,553	983
Price/Earnings Ratio	10.52	14.82
Price/Book Ratio	2.20	2.13
5 Yr. EPS Growth Rate (%)	19.42	10.10
Current Yield (%)	3.84	2.87
Beta (5 Years, Monthly)	1.03	1.00
Number of Securities	266	2,337
Active Share	84.83	N/A

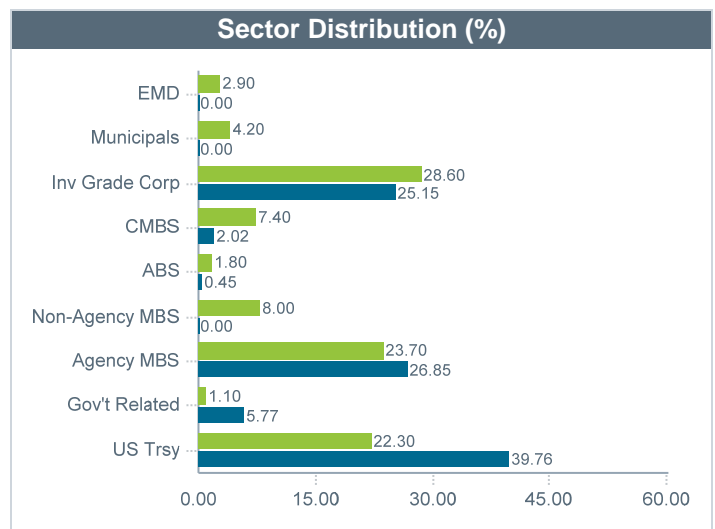

Region Weights (%)


Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	2.31	10.27	3.85	3.96	3.33	4.72	0.16	4.99	3.83	0.62	5.80
Benchmark	2.27	10.30	2.92	3.38	2.72	3.75	0.01	3.54	2.65	0.55	5.97
Difference	0.04	-0.03	0.93	0.58	0.61	0.97	0.15	1.45	1.18	0.07	-0.17
Peer Group Median	2.16	9.81	2.86	3.11	2.61	3.90	-0.63	3.58	2.86	0.09	5.55
Rank	26	26	4	3	9	10	12	6	21	17	38
Population	522	511	450	383	345	297	506	498	469	433	479



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.62	5.78
Spread Duration	4.13	6.04
Avg. Maturity	8.40	7.92
Avg. Quality	Aa3	Aa1/Aa2
Yield To Maturity (%)	2.67	2.27
Coupon Rate (%)	3.93	3.20
Current Yield (%)	3.48	N/A
Holdings Count	261	10,904



Performance shown is net of fees and client specific. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

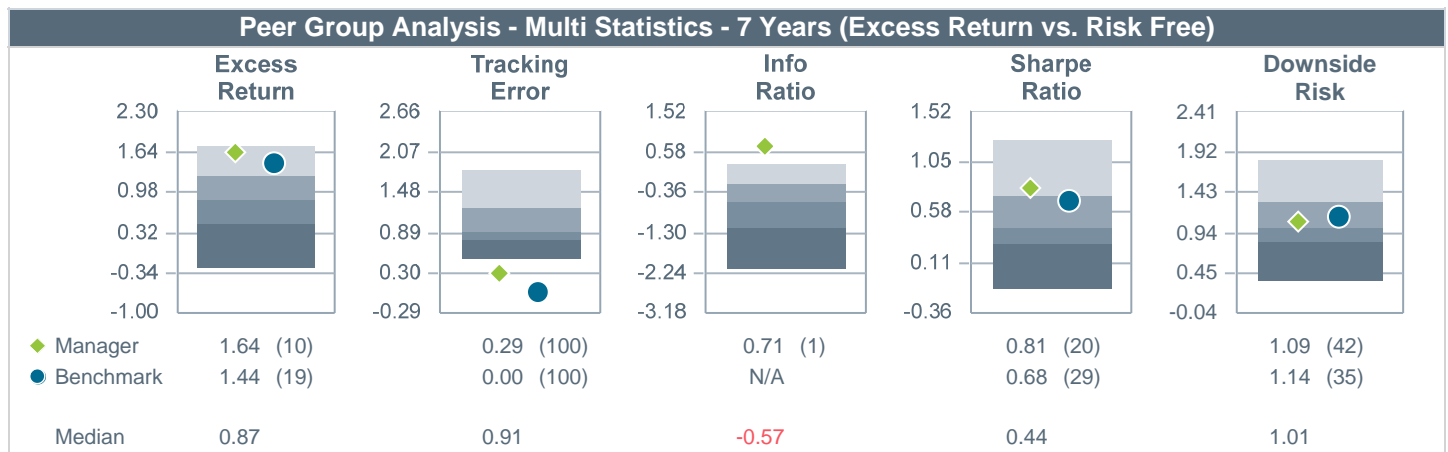
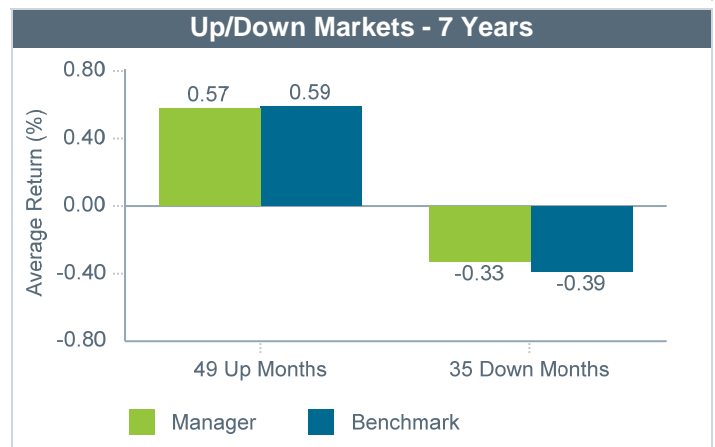
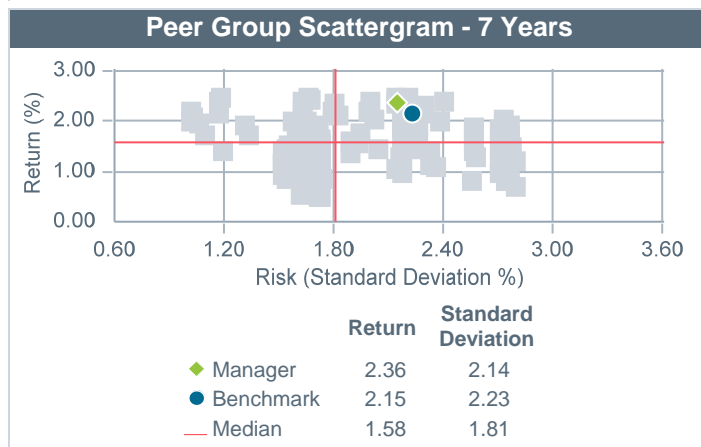
Manager: JP Morgan FI Intermediate Bond (SA)

As of September 30, 2019

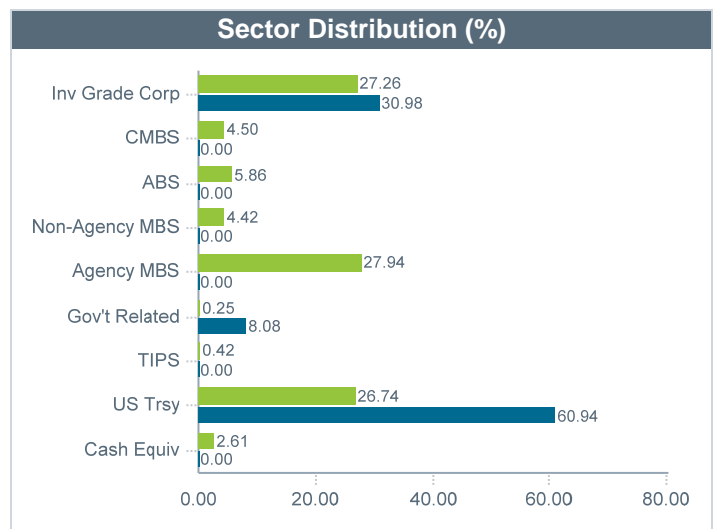
Benchmark: Bloomberg US Gov't Crdt Int Trm Bond Index

Peer Group: IM U.S. Intermediate Duration Fixed Income (MF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.57	8.02	2.65	2.87	2.36	N/A	1.01	2.71	1.88	1.42	3.86
Benchmark	1.37	8.17	2.40	2.68	2.15	3.05	0.88	2.14	2.08	1.07	3.13
Difference	0.20	-0.15	0.25	0.19	0.21	N/A	0.13	0.57	-0.20	0.35	0.73
Peer Group Median	0.93	5.99	1.89	1.98	1.58	2.44	0.64	1.68	1.69	0.48	2.07
Rank	16	16	12	3	10	N/A	27	8	44	10	22
Population	247	240	210	198	172	113	229	220	215	204	237

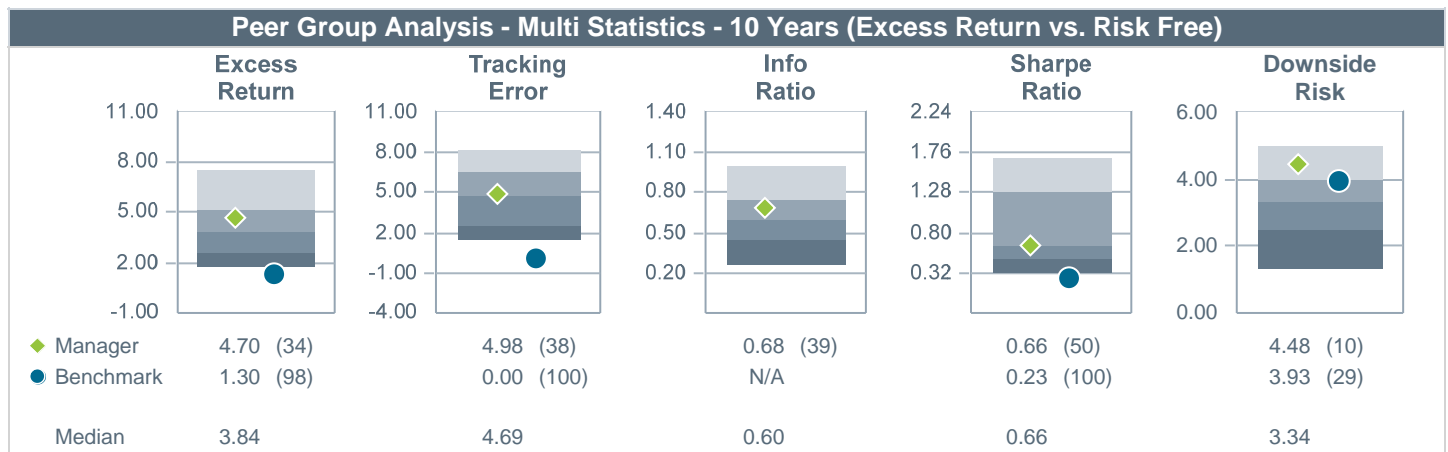
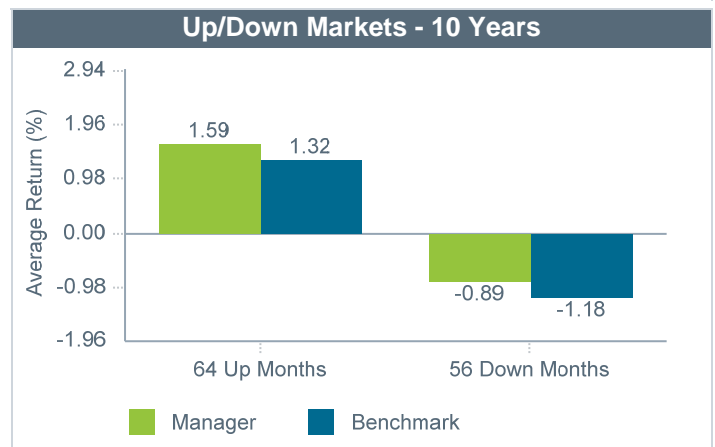
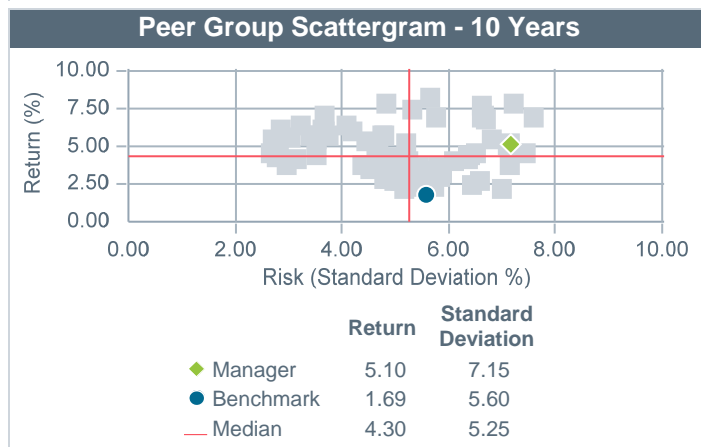


Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	3.75	3.92
Spread Duration	2.73	3.94
Avg. Maturity	4.54	4.32
Avg. Quality	Aa3	Aa2/Aa3
Yield To Maturity (%)	2.25	1.95
Coupon Rate (%)	3.13	2.67
Current Yield (%)	3.16	N/A
Holdings Count	4,953	4,953

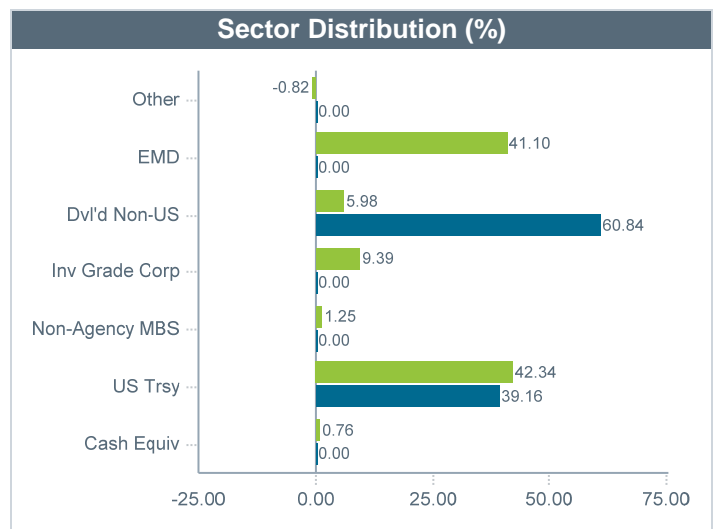


Performance shown is net of fees and client specific. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.55	4.13	2.25	2.10	2.41	5.10	-4.66	13.39	5.75	-8.02	6.91
Benchmark	0.85	8.13	1.19	1.80	0.59	1.69	-0.84	7.49	1.60	-3.57	-0.48
Difference	-2.40	-4.00	1.06	0.30	1.82	3.41	-3.82	5.90	4.15	-4.45	7.39
Peer Group Median	1.24	7.46	3.93	3.40	3.42	4.30	-1.80	7.57	5.83	-2.30	2.78
Rank	91	79	75	79	61	36	88	4	52	92	17
Population	192	192	188	173	150	104	241	251	265	275	274



Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	5.87	8.46
Spread Duration	0.60	N/A
Avg. Maturity	10.59	9.15
Avg. Quality	A1	Aa2
Yield To Maturity (%)	3.81	0.81
Coupon Rate (%)	4.53	2.31
Current Yield (%)	4.35	N/A
Holdings Count	52	N/A



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. Allocation to "Other" consists of currency forwards.

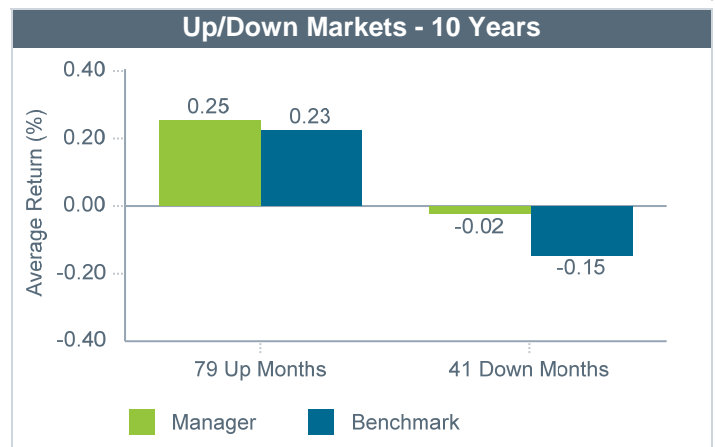
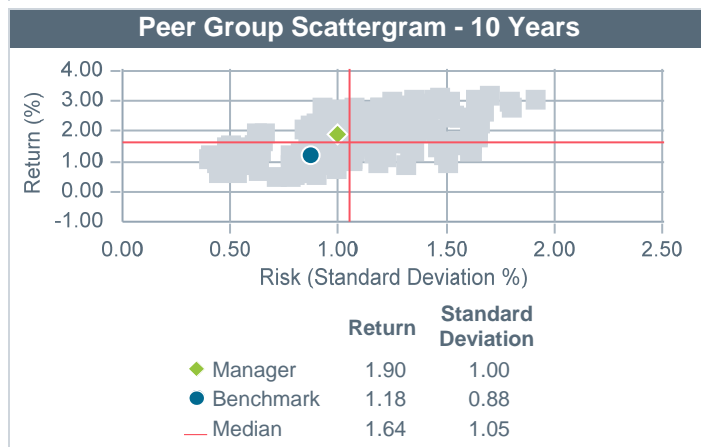
Manager: Payden:Low Dur;Inv (PYSBX)

As of September 30, 2019

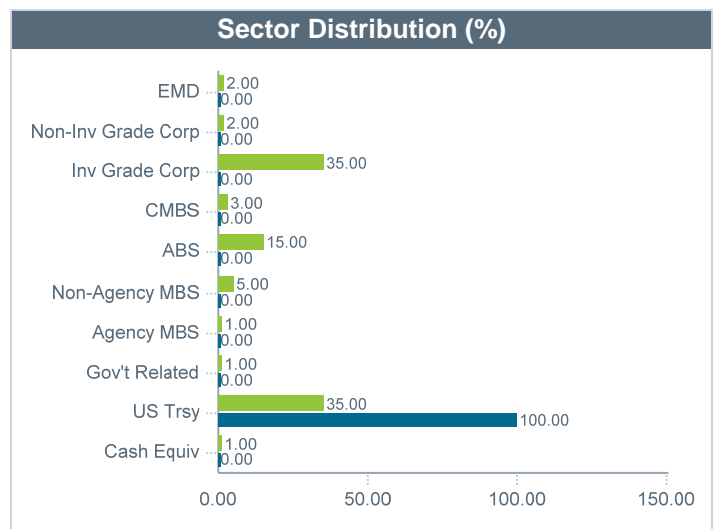
Benchmark: Bloomberg US Trsy 1-3 Yr Index

Peer Group: IM U.S. Short Duration Fixed Income (MF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.66	4.01	1.94	1.65	1.45	1.90	1.01	1.47	1.85	0.43	0.71
Benchmark	0.58	4.43	1.52	1.33	1.07	1.18	1.56	0.42	0.86	0.56	0.63
Difference	0.08	-0.42	0.42	0.32	0.38	0.72	-0.55	1.05	0.99	-0.13	0.08
Peer Group Median	0.69	3.86	1.86	1.49	1.21	1.64	1.20	1.33	1.46	0.27	0.64
Rank	55	45	45	39	35	38	65	41	33	36	46
Population	683	654	563	490	406	313	633	598	564	514	569

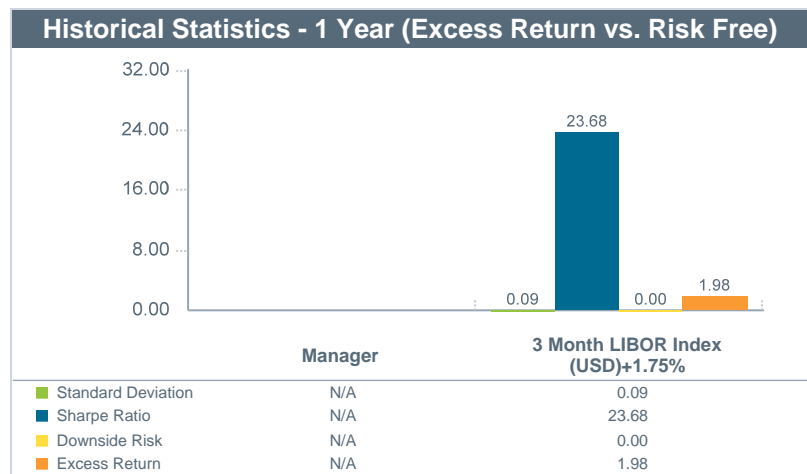


Portfolio Characteristics		
	Portfolio	Benchmark
Effective Duration	1.91	1.90
Spread Duration	1.54	1.91
Avg. Maturity	2.12	1.96
Avg. Quality	Aa3	Aaa
Yield To Maturity (%)	2.18	1.68
Coupon Rate (%)	2.72	2.06
Current Yield (%)	2.84	N/A
Holdings Count	314	95



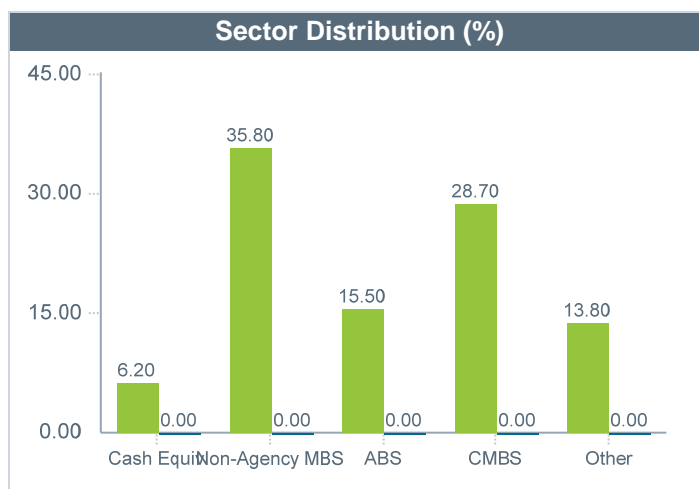
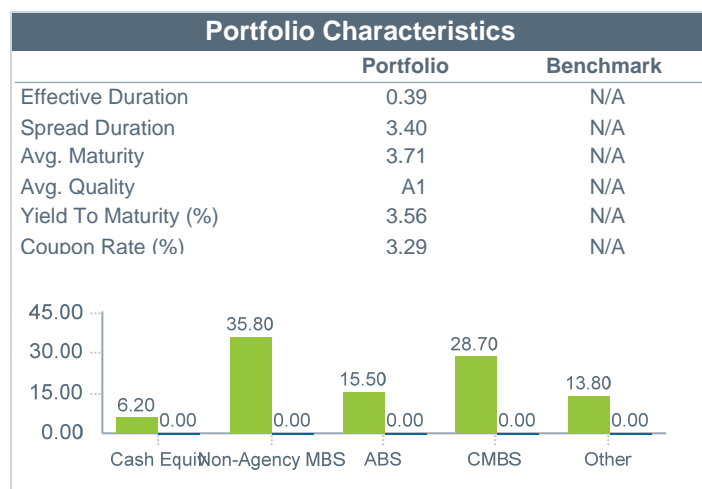
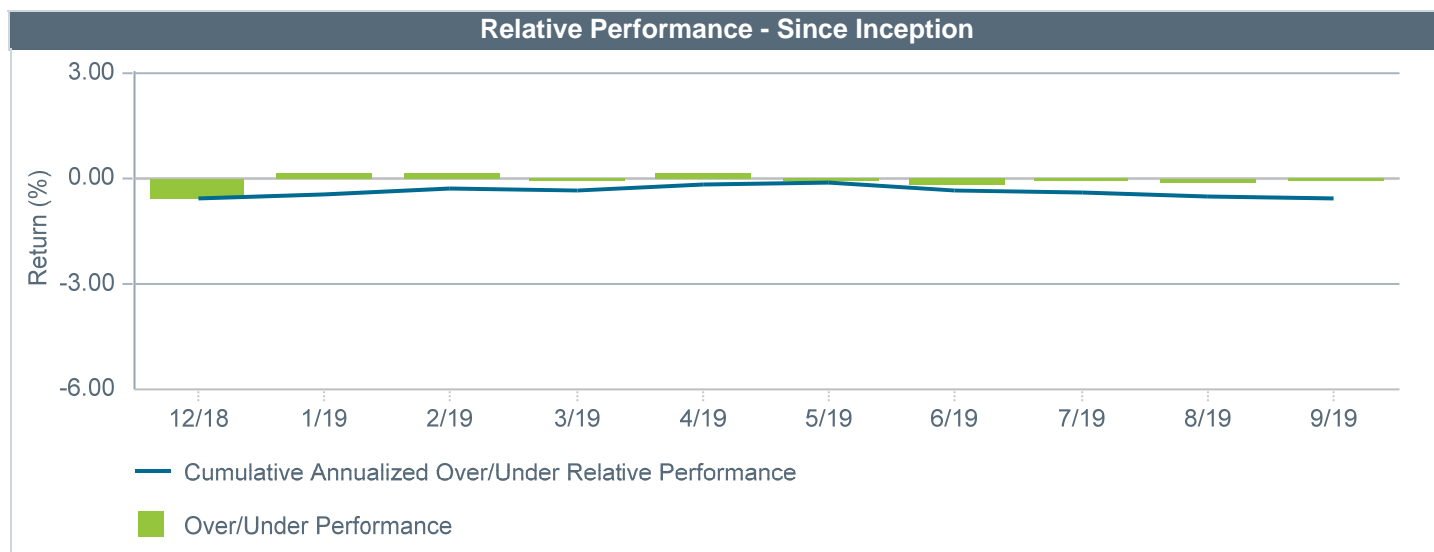
Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benchmark	1.05	4.43	3.60	3.01	2.73	2.55	3.86	2.88	2.42	1.99	1.99
Difference	-0.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



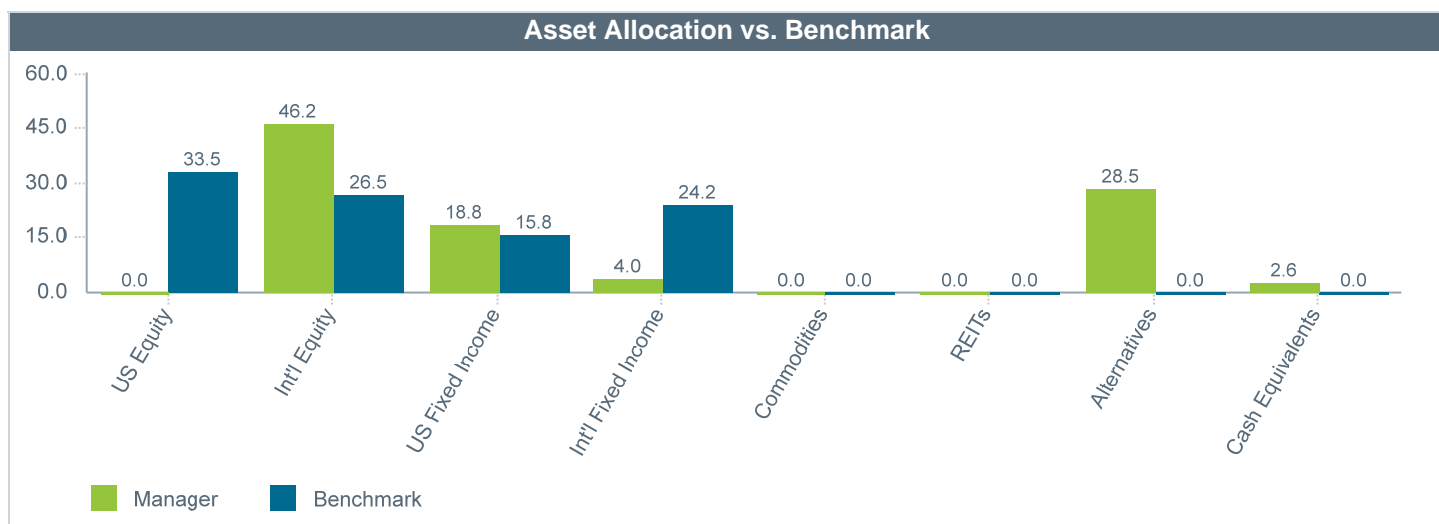
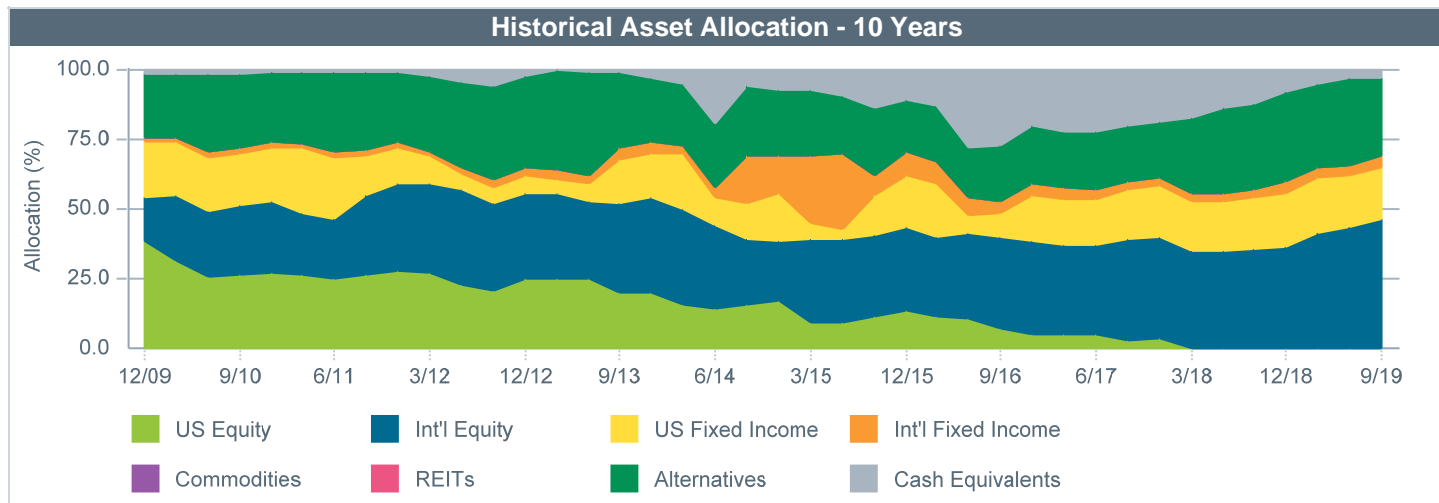
Actual Correlation - 1 Year

	Actual Correlation
3 Month LIBOR Index (USD)+1.75%	N/A
Bloomberg US Agg Bond Index	N/A
S&P 500 Index (Cap Wtd)	N/A



Performance shown is net of fees and product specific. Calculation is based on monthly periodicity.

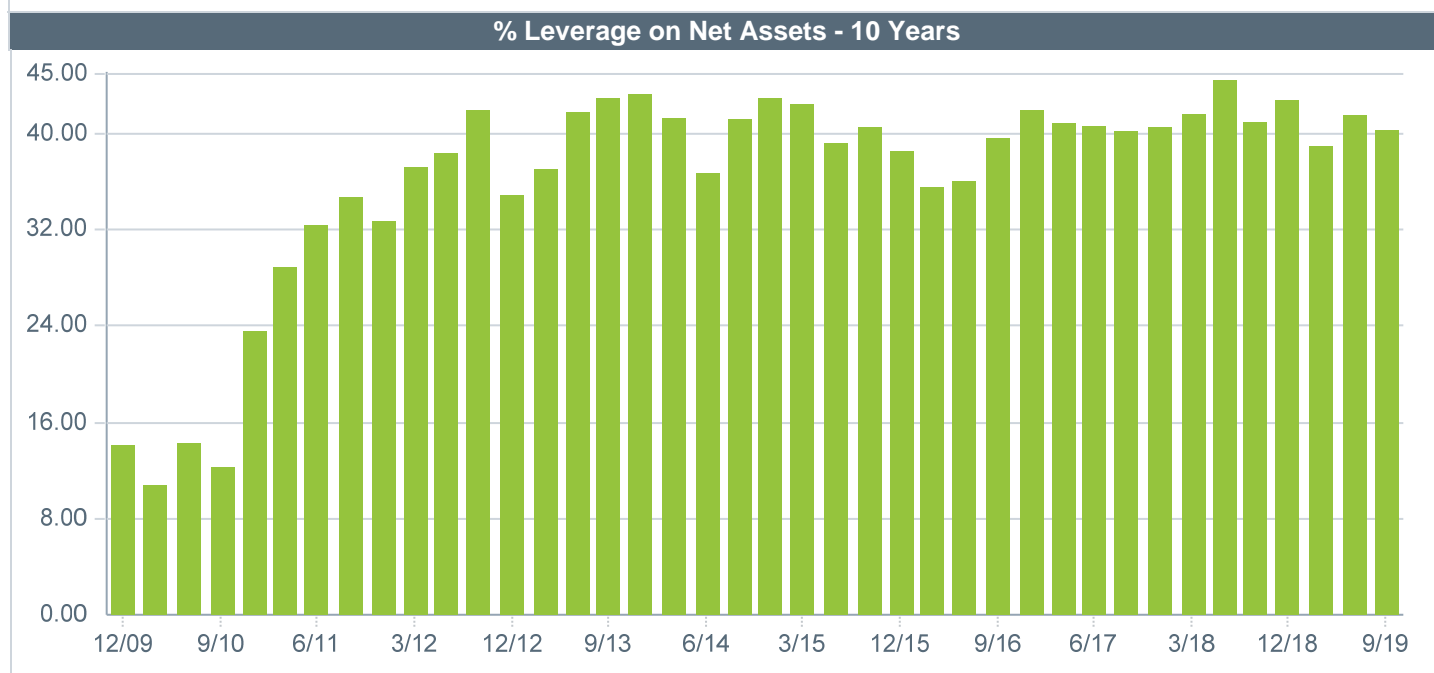
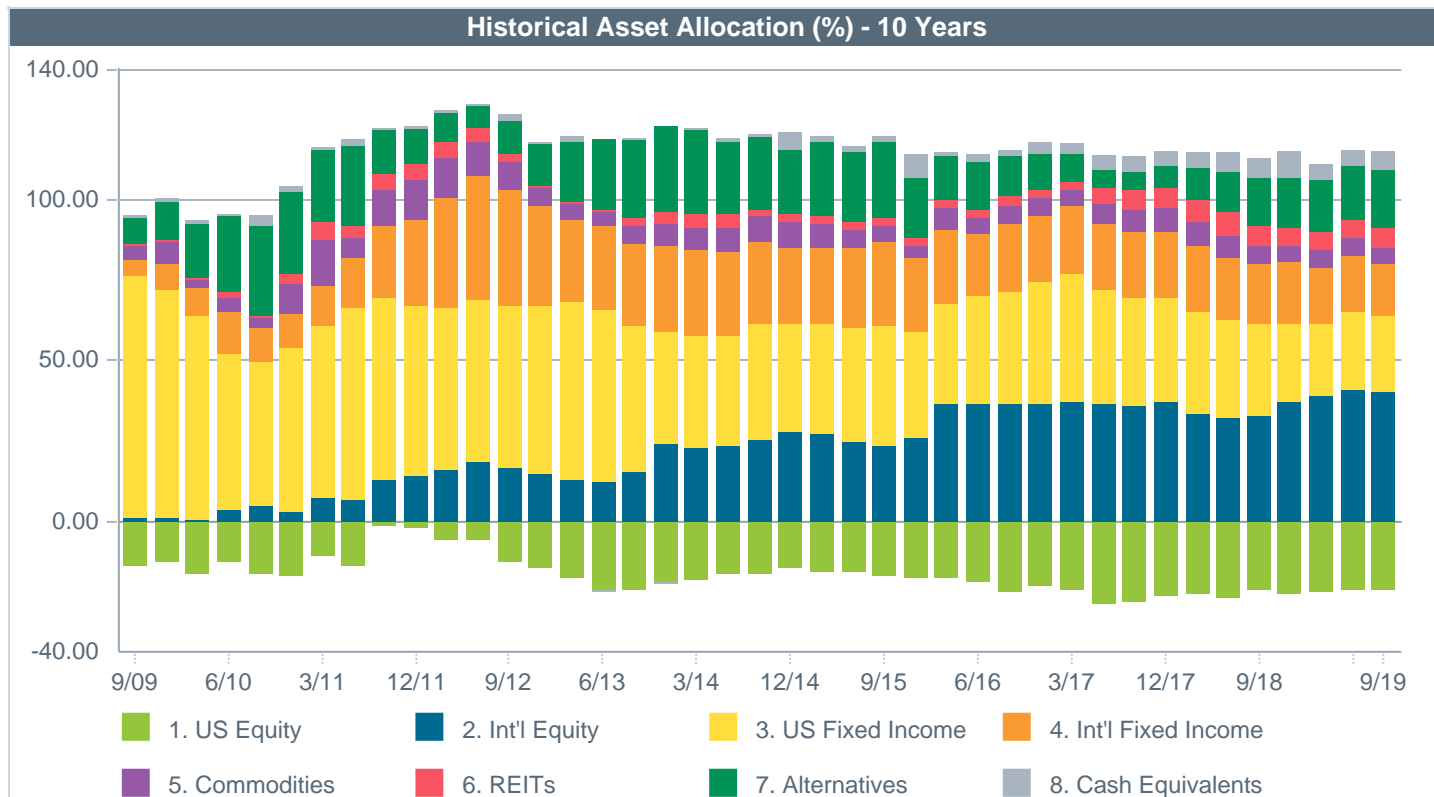
Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.19	1.39	3.90	2.20	3.66	4.69	-5.27	13.07	3.45	-4.23	1.25
Benchmark	0.31	4.19	6.56	4.94	5.87	6.10	-6.00	17.09	5.69	-2.47	2.78
Difference	-1.50	-2.80	-2.66	-2.74	-2.21	-1.41	0.73	-4.02	-2.24	-1.76	-1.53



Historical Statistics - 10 Years					Actual Correlation - 10 Years	
	Manager	Benchmark	S&P 500 Index (Cap Wtd)	Bloomberg US Agg Bond Index		Actual Correlation
Standard Deviation	6.26	8.72	12.49	2.94	60% MSCI ACW (Net)/40% Bbrg Gbl Agg Idx	0.92
Sharpe Ratio	0.68	0.66	1.02	1.09	S&P 500 Index (Cap Wtd)	0.84
Downside Risk	3.88	5.34	7.49	1.57	Russell 2000 Index	0.67
Excess Return	4.25	5.78	12.74	3.19	MSCI EAFE Index (USD) (Net)	0.90
					MSCI Emg Mkts Index (USD) (Net)	0.86
					Bloomberg US Agg Bond Index	-0.01
					Bloomberg US Trsy US TIPS Index	0.18
					Wilshire US REIT Index	0.52
					HFRI FOF Comp Index	0.80
					Bloomberg Cmdty Index (TR)	0.58
					ICE BofAML 3 Mo US T-Bill Index	-0.04
					Cons Price Index (Unadjusted)	0.10

Performance shown is net of fees and product specific. Calculation is based on monthly periodicity. Allocation to Int'l Eq includes Dev Ex-US, Emg Mkts, & ACWI Ex-US. Allocation to US Fixed Income includes ABS/Structured Products, Hi Yld/Distr'd Debt, & US TIPS. Allocation to Int'l Fixed Income includes Emg Debt. Allocation to Alternatives includes Merger Arbitrage, Special Opp, Systematic Global Macro, Relative Value Interest Rates & FX (Global), Quality vs. S&P 500, Put Selling, & EAFE Value (FX Hedged) vs. S&P 500.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.77	1.98	2.71	0.94	0.62	3.23	-6.14	12.04	13.73	-11.73	-2.35
Benchmark	1.03	5.72	5.36	4.45	4.68	5.52	-1.62	8.94	6.47	-1.07	3.73
Difference	-2.80	-3.74	-2.65	-3.51	-4.06	-2.29	-4.52	3.10	7.26	-10.66	-6.08



Performance shown is net of fees and product specific. Manager may use leverage up to one-half of net assets. This is accomplished through a line of credit from external banks, the proceeds of which are used to gain incremental exposure to the desired underlying fund(s). Current gross exposures sum to 140.36% due to the use of 40.36% leverage on net assets. Historical Commodities and REITs allocations shown are available at a one-quarter lag due to the disclosure guidelines set by the investment manager for the underlying fund strategies. Please see the Addendum for custom index definition.

Manager: NT Common TIPS Index Lending (CF)

As of September 30, 2019

Benchmark: Bloomberg US Trsy US TIPS Index

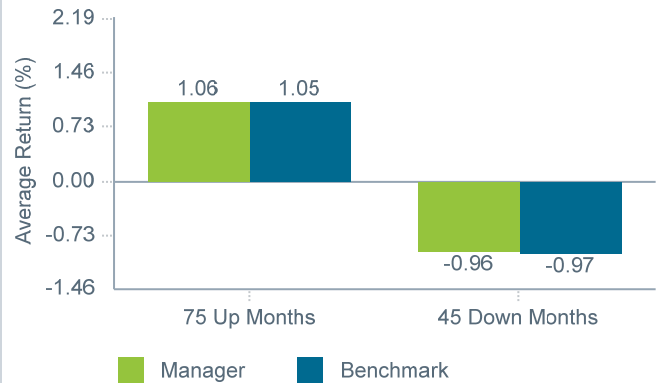
Peer Group: IM U.S. TIPS (SA+CF)

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.28	7.12	2.25	2.49	1.11	3.63	-1.25	3.14	4.82	-1.47	3.71
Benchmark	1.35	7.13	2.21	2.45	1.06	3.46	-1.26	3.01	4.68	-1.44	3.64
Difference	-0.07	-0.01	0.04	0.04	0.05	0.17	0.01	0.13	0.14	-0.03	0.07
Peer Group Median	1.30	7.09	2.25	2.48	1.09	3.51	-1.22	3.10	4.66	-1.40	3.60
Rank	56	46	50	46	46	35	54	48	31	66	37
Population	25	25	25	25	22	21	33	34	36	37	42

Peer Group Scattergram - 10 Years



Up/Down Markets - 10 Years



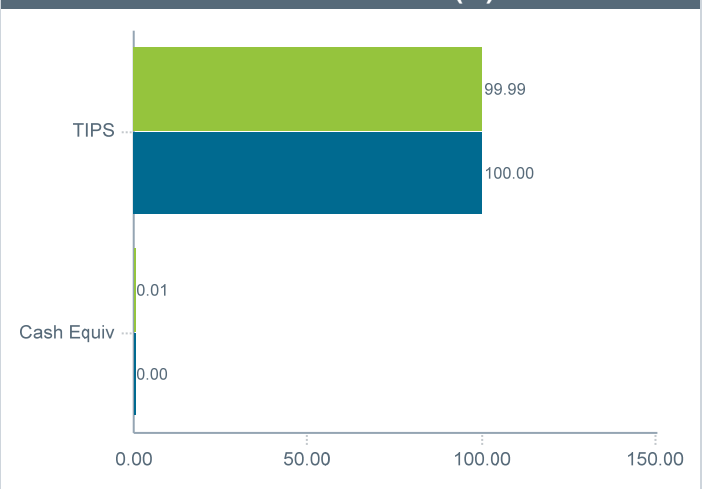
Peer Group Analysis - Multi Statistics - 10 Years (Excess Return vs. Risk Free)



Portfolio Characteristics

	Portfolio	Benchmark
Effective Duration	4.57	4.86
Spread Duration	0.00	4.86
Avg. Maturity	8.39	8.38
Avg. Quality	Aaa	Aaa
Yield To Maturity (%)	1.65	1.88
Coupon Rate (%)	0.81	0.75
Current Yield (%)	0.72	N/A
Holdings Count	42	40

Sector Distribution (%)



Performance shown is gross of fees and product specific. Calculation is based on monthly periodicity. Parentheses contain percentile ranks. During Q2 2019, Bloomberg implemented a new empirical duration calculation for its US TIPS indices.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-1.95	-8.30	2.07	N/A	N/A	N/A	-13.80	11.31	11.76	N/A	N/A
Benchmark	-0.63	1.62	-1.97	-3.35	-6.68	-1.30	-10.95	5.36	7.77	-17.74	-6.47
Difference	-1.32	-9.92	4.04	N/A	N/A	N/A	-2.85	5.95	3.99	N/A	N/A

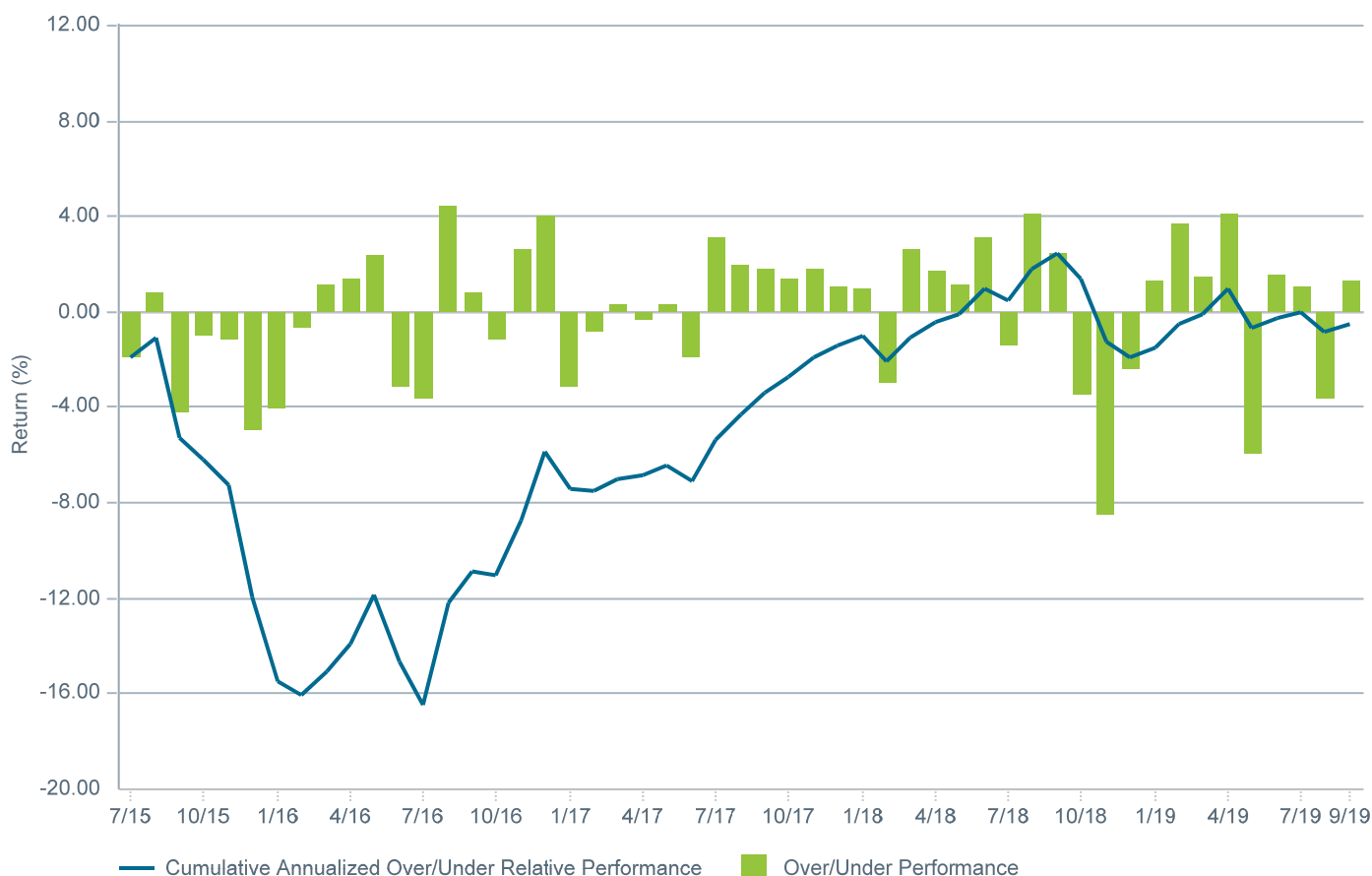
Historical Statistics - 3 Years (Excess Return vs. Risk Free)



Actual Correlation - 3 Years

	Actual Correlation
Bloomberg Cmdty Ex Energy Index (TR)	0.40
S&P 500 Index (Cap Wtd)	0.59
Russell 2000 Index	0.54
MSCI EAFE Index (USD) (Net)	0.60
MSCI Emg Mkts Index (USD) (Net)	0.51
Bloomberg US Agg Bond Index	-0.22
Bloomberg US Trsy US TIPS Index	-0.09
Wilshire US REIT Index	0.18
HFRI FOF Comp Index	0.70
Bloomberg Cmdty Index (TR)	0.83
ICE BofAML 3 Mo US T-Bill Index	-0.19
Cons Price Index (Unadjusted)	0.24

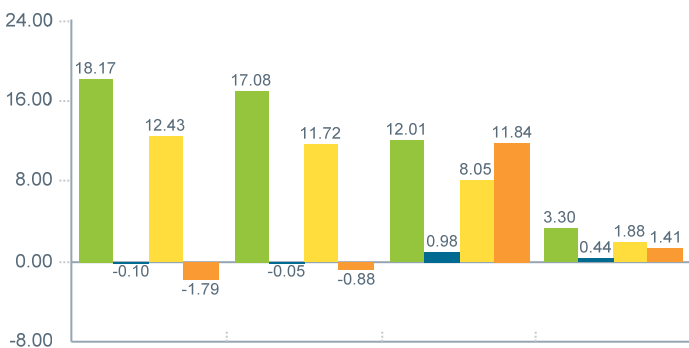
Relative Performance - Since Inception



Performance shown is net of fees and client specific. Calculation is based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-5.20	-9.76	-1.88	N/A	N/A	N/A	-13.63	-5.50	19.24	N/A	N/A
Benchmark	-4.04	-6.88	-0.80	-8.02	0.15	7.08	-11.67	-5.58	21.95	-35.07	7.66
Difference	-1.16	-2.88	-1.08	N/A	N/A	N/A	-1.96	0.08	-2.71	N/A	N/A

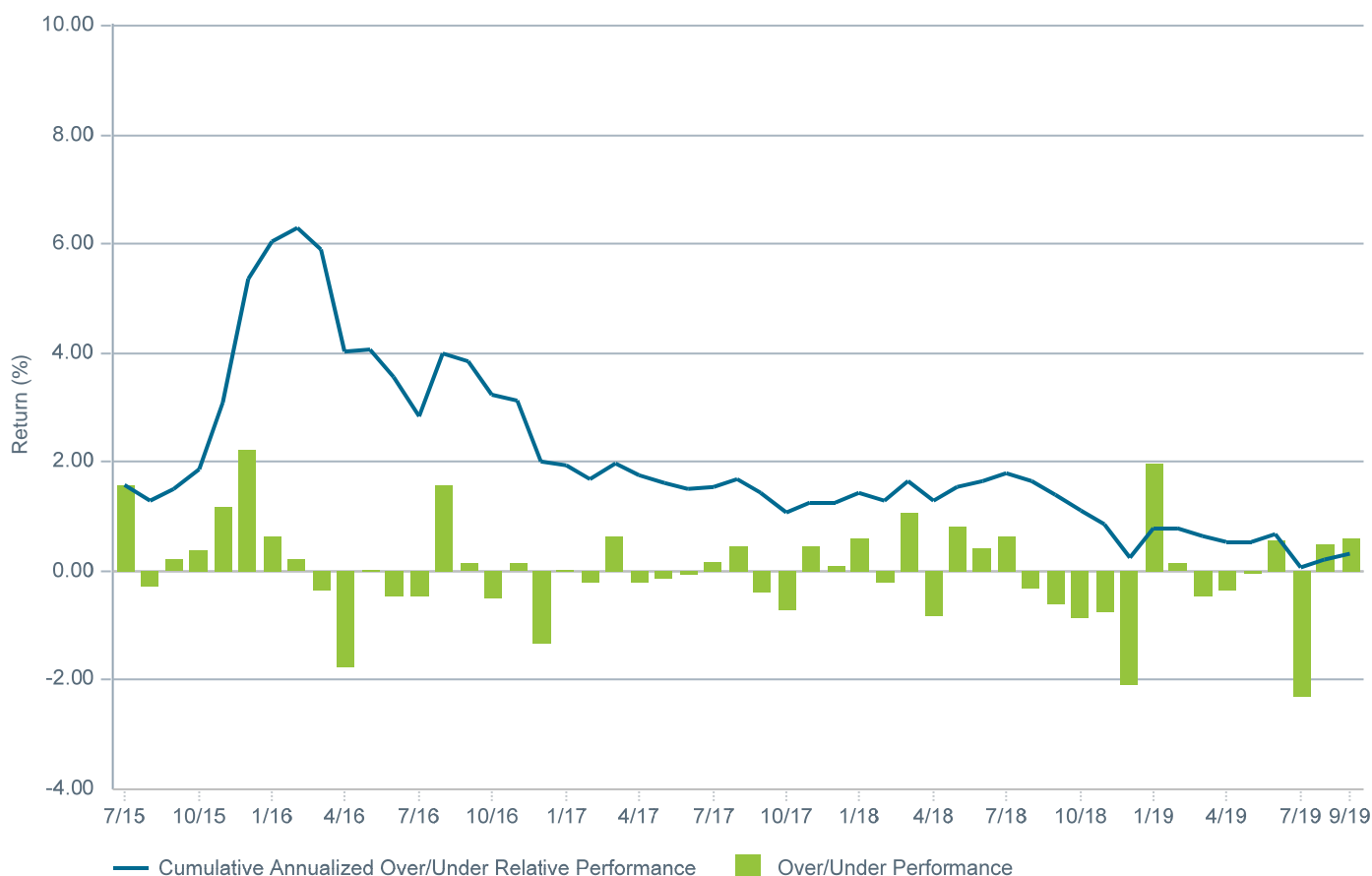
Historical Statistics - 3 Years (Excess Return vs. Risk Free)



Actual Correlation - 3 Years

	Actual Correlation
S&P MLP Index (TR)	0.99
S&P 500 Index (Cap Wtd)	0.75
Russell 2000 Index	0.71
MSCI EAFE Index (USD) (Net)	0.66
MSCI Emg Mkts Index (USD) (Net)	0.52
Bloomberg US Agg Bond Index	-0.07
Bloomberg US Trsy US TIPS Index	0.10
Wilshire US REIT Index	0.58
HFRI FOF Comp Index	0.75
Bloomberg Cmtty Index (TR)	0.68
ICE BofAML 3 Mo US T-Bill Index	0.05
Cons Price Index (Unadjusted)	0.21

Relative Performance - Since Inception



Performance shown is net of fees and client specific. Calculation is based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	-8.52	-20.72	-8.52	N/A	N/A	N/A	-28.52	-0.55	44.23	N/A	N/A
Benchmark	-6.02	-10.98	6.97	1.11	1.02	1.72	-12.57	22.66	32.28	-24.00	-9.66
Difference	-2.50	-9.74	-15.49	N/A	N/A	N/A	-15.95	-23.21	11.95	N/A	N/A

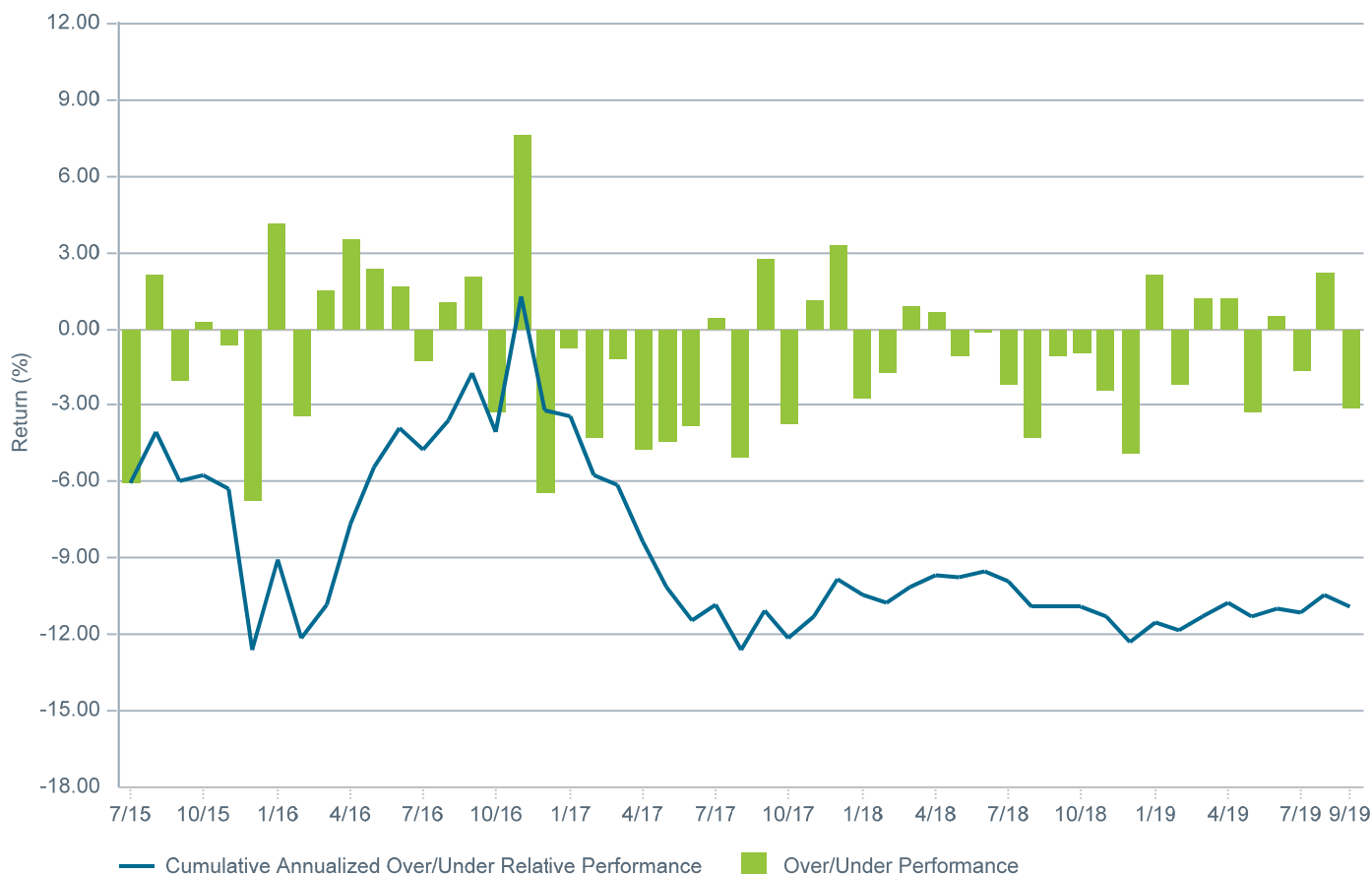
Historical Statistics - 3 Years (Excess Return vs. Risk Free)



Actual Correlation - 3 Years

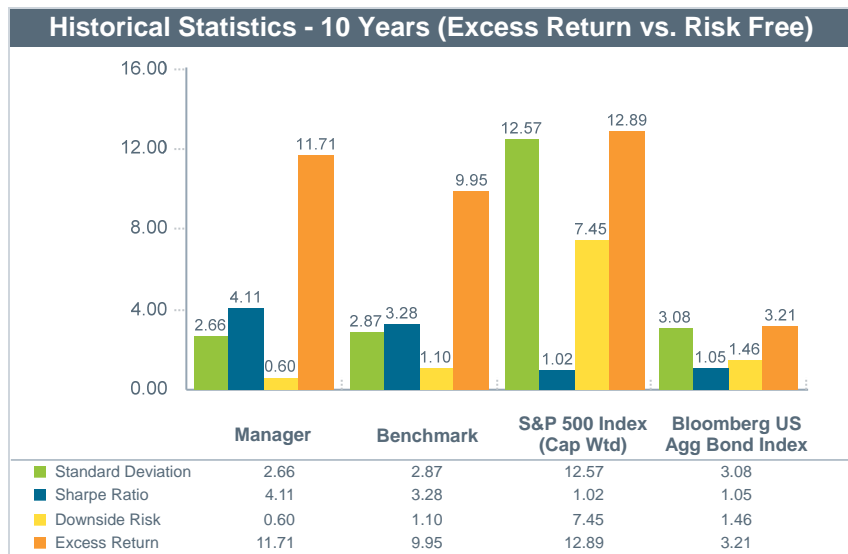
	Actual Correlation
S&P Gbl Ntrl Res Sect Index (TR)	0.88
S&P 500 Index (Cap Wtd)	0.65
Russell 2000 Index	0.68
MSCI EAFE Index (USD) (Net)	0.62
MSCI Emg Mkts Index (USD) (Net)	0.50
Bloomberg US Agg Bond Index	-0.26
Bloomberg US Trsy US TIPS Index	-0.05
Wilshire US REIT Index	0.28
HFRI FOF Comp Index	0.63
Bloomberg Cmnty Index (TR)	0.74
ICE BofAML 3 Mo US T-Bill Index	-0.09
Cons Price Index (Unadjusted)	0.10

Relative Performance - Since Inception



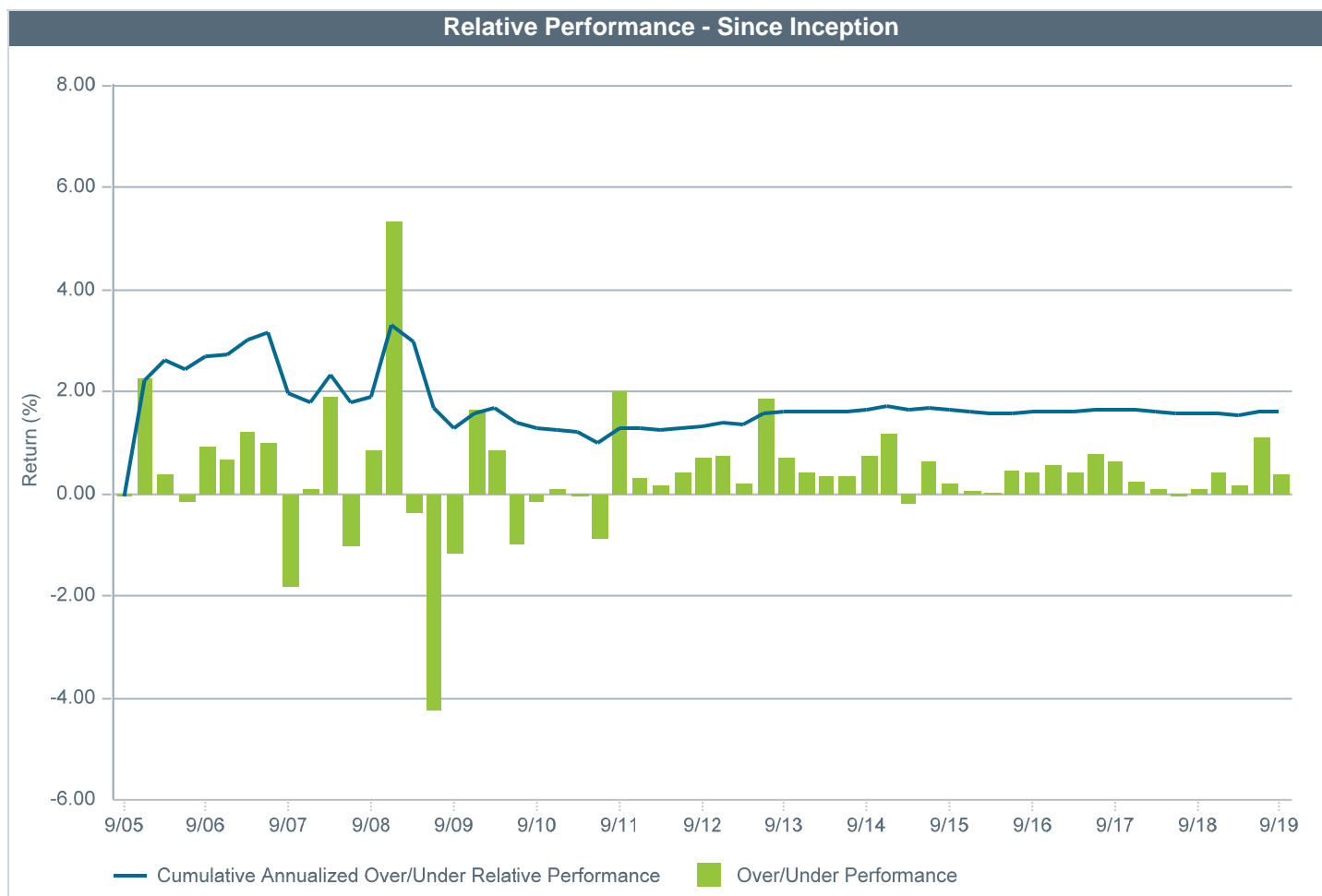
Performance shown is net of fees and client specific. Calculation is based on monthly periodicity.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	1.70	7.82	9.06	11.04	12.37	12.79	8.99	9.84	10.38	15.86	15.52
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	0.39	2.22	1.75	1.69	2.07	1.93	0.64	2.22	1.61	0.84	3.02



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.91
S&P 500 Index (Cap Wtd)	-0.11
Russell 2000 Index	-0.06
MSCI EAFE Index (USD) (Net)	-0.07
MSCI Emg Mkts Index (USD) (Net)	-0.25
Bloomberg US Agg Bond Index	-0.09
Bloomberg US Trsy US TIPS Index	-0.22
Wilshire US REIT Index	-0.23
HFRI FOF Comp Index	-0.10
Bloomberg Cmdty Index (TR)	-0.19
ICE BofAML 3 Mo US T-Bill Index	-0.43
Cons Price Index (Unadjusted)	-0.09



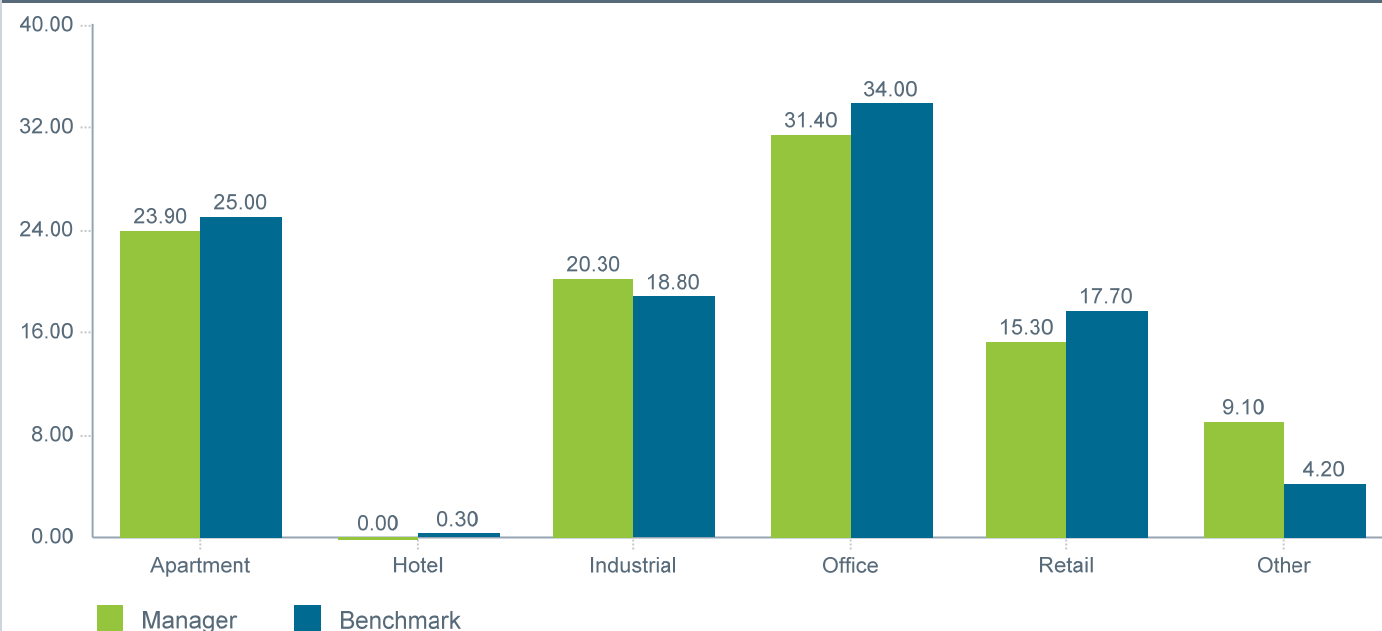
Investment Strategy

The Fund pursues a diversified core real estate strategy that invests in assets with stable, highly predictable cash flow returns. The Fund targets high quality office, Class A multifamily, warehouse distribution, and top-tier super regional malls in addition to storage facilities in targeted primary markets. The Fund favors investing in major metropolitan markets and secondary markets expected to achieve above-average economic performance and believes that those cities offer better liquidity, more diverse tenant bases, and stronger resilience to market cycles. It operates with leverage of 50% or less and may invest up to 15% of its gross assets in higher-risk, value-added real estate investment opportunities.

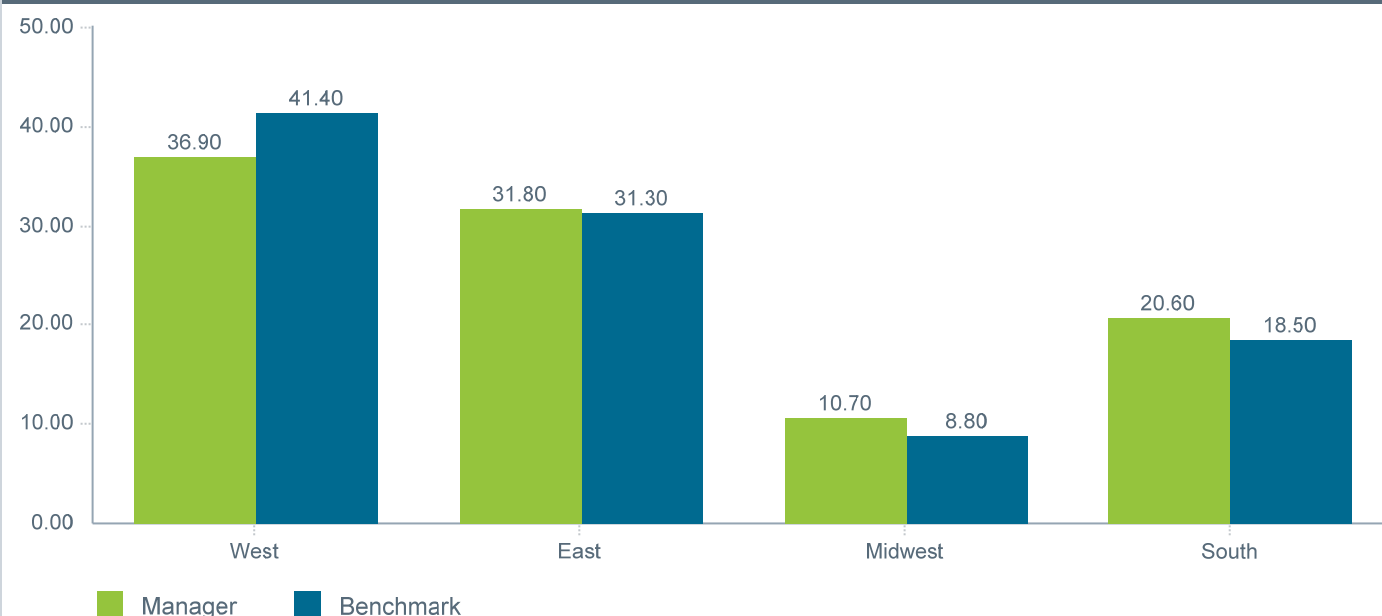
Investment Profile

Fund Inception	1973
Legal Structure	LLC
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	29,588
Fund Leverage %	17.20
Portfolio Occupancy %	94.10
Cash Reserve %	0.80
Number of Investments	435
Number of Limited Partners	386

Property Type Allocation (%)

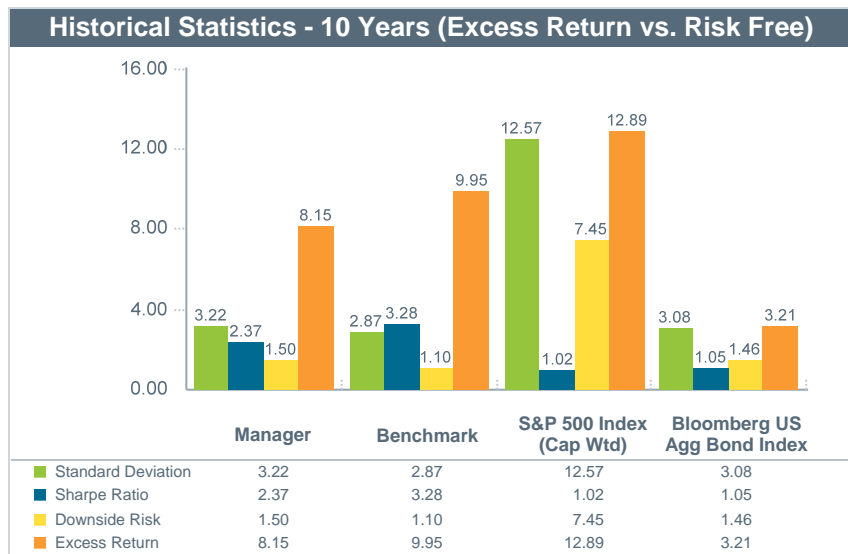


Geographic Allocation (%)



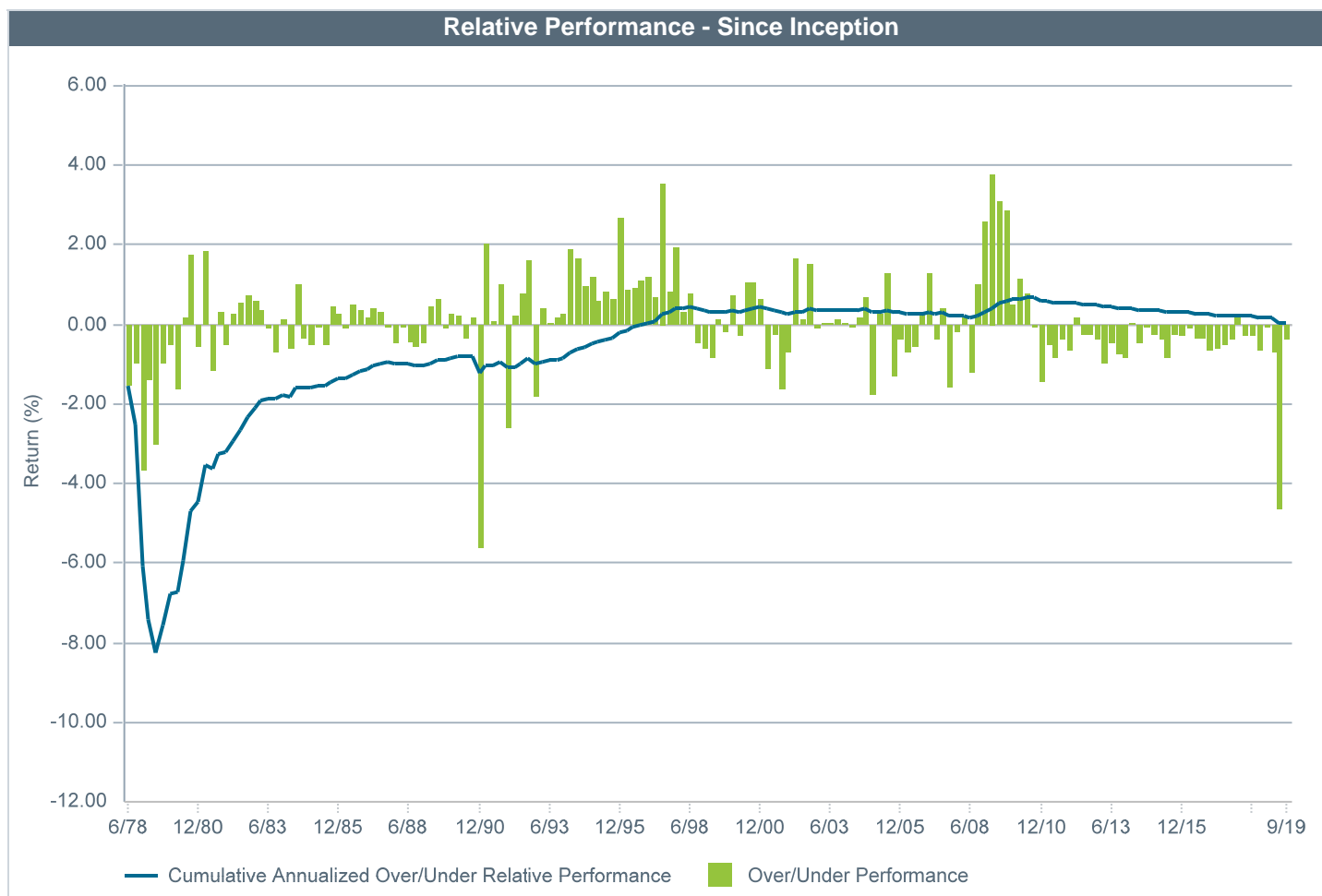
Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of self-storage, land held for potential development, hotel and life sciences and/or medical office assets. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.91	-0.46	4.13	6.78	7.82	8.92	6.99	6.30	7.21	12.94	11.69
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	-0.40	-6.06	-3.18	-2.57	-2.48	-1.94	-1.36	-1.32	-1.56	-2.08	-0.81



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.86
S&P 500 Index (Cap Wtd)	-0.16
Russell 2000 Index	-0.08
MSCI EAFE Index (USD) (Net)	-0.11
MSCI Emg Mkts Index (USD) (Net)	-0.14
Bloomberg US Agg Bond Index	-0.02
Bloomberg US Trsy US TIPS Index	-0.07
Wilshire US REIT Index	-0.06
HFRI FOF Comp Index	-0.15
Bloomberg Cmnty Index (TR)	-0.14
ICE BofAML 3 Mo US T-Bill Index	-0.52
Cons Price Index (Unadjusted)	-0.05



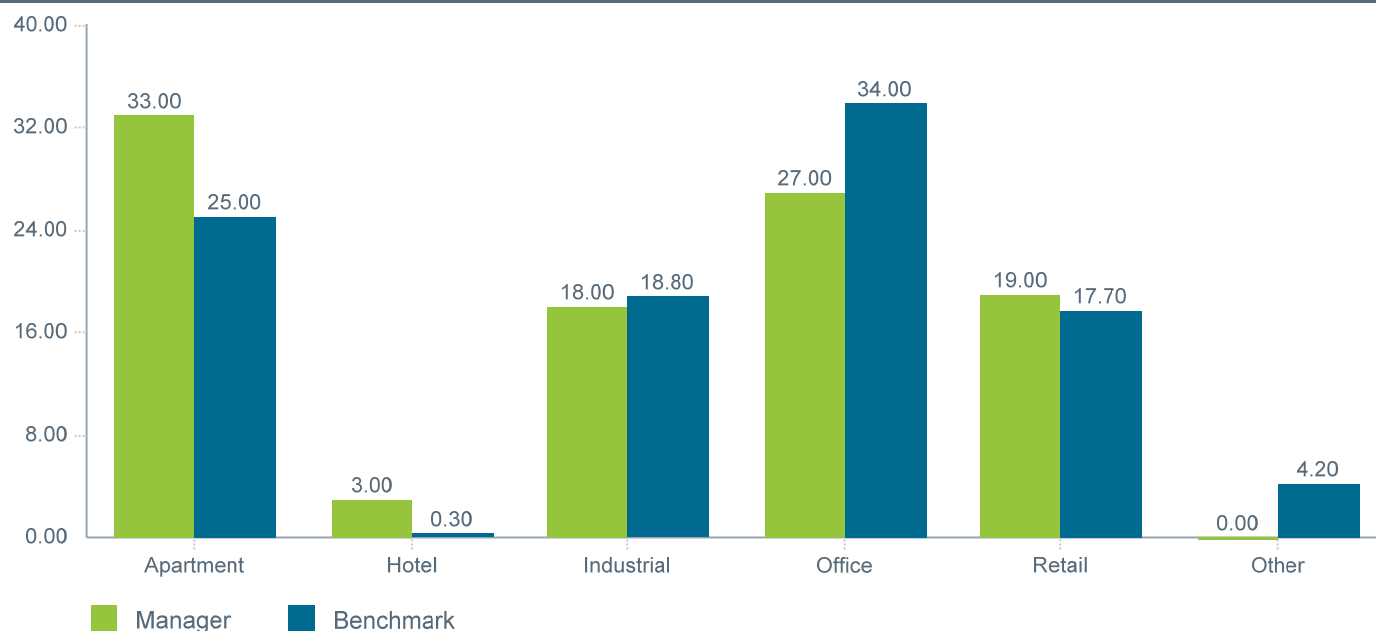
Investment Strategy

The Fund pursues a diversified core real estate strategy that seeks to produce attractive risk-adjusted returns by focusing on selective acquisitions, diversification, active portfolio management, and asset management. The Fund invests in well-leased, stabilized assets in major US metropolitan markets and receives the majority of its return from the income component. Diversification for the Fund is consistently pursued on many levels, including geographic region, property type, and economic sector. The Fund has historically maintained a leverage ratio significantly lower than the NCREIF ODCE Index and invests 5-15% of its gross assets in value-added type real estate investment opportunities.

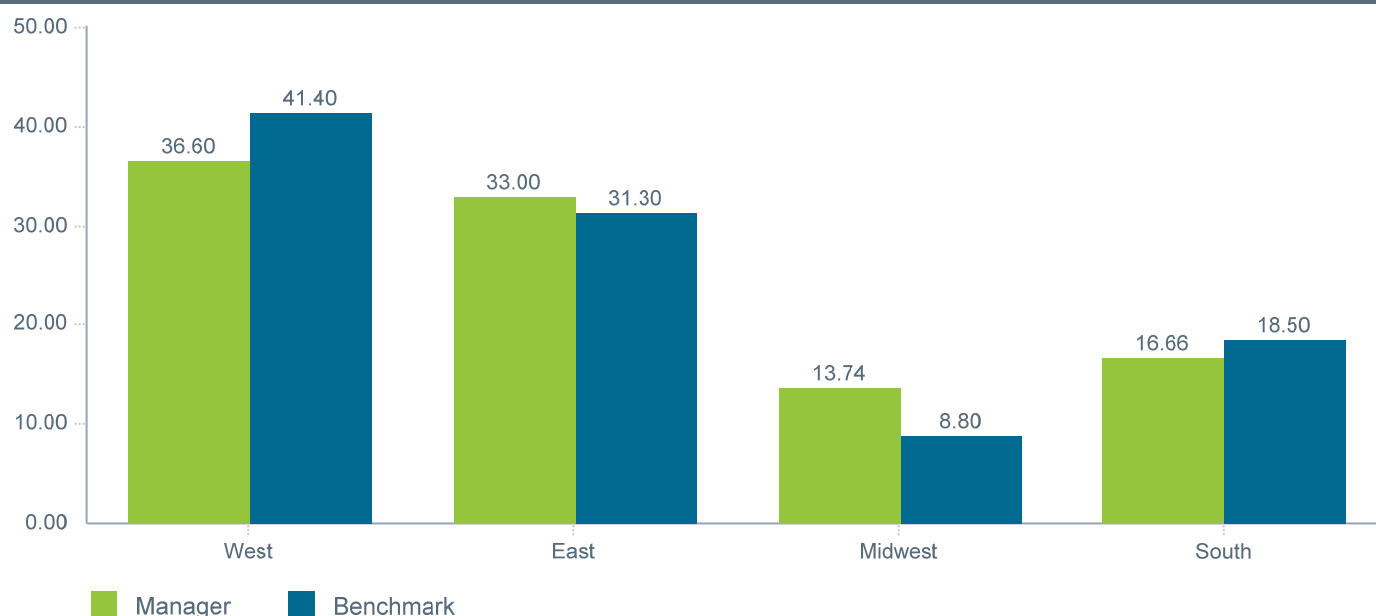
Investment Profile

Fund Inception	1978
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	20,888
Fund Leverage %	18.50
Portfolio Occupancy %	93.60
Cash Reserve %	2.70
Number of Investments	190
Number of Limited Partners	444

Property Type Allocation (%)



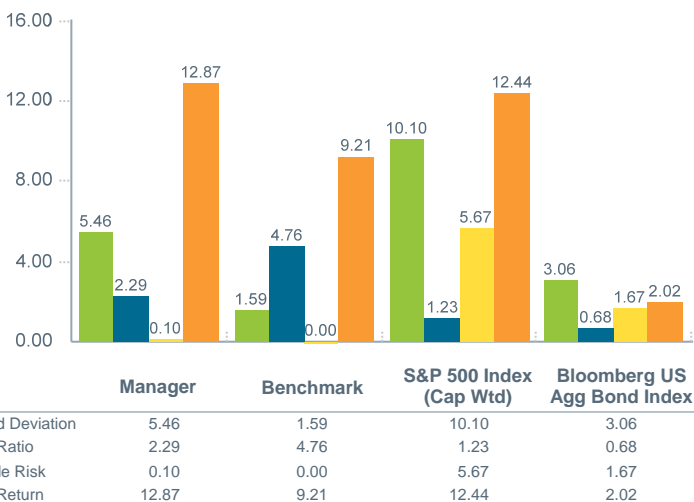
Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.73	4.12	10.00	12.56	14.14	N/A	9.71	18.01	6.60	22.42	14.69
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	-0.58	-1.48	2.69	3.21	3.84	N/A	1.36	10.39	-2.17	7.40	2.19

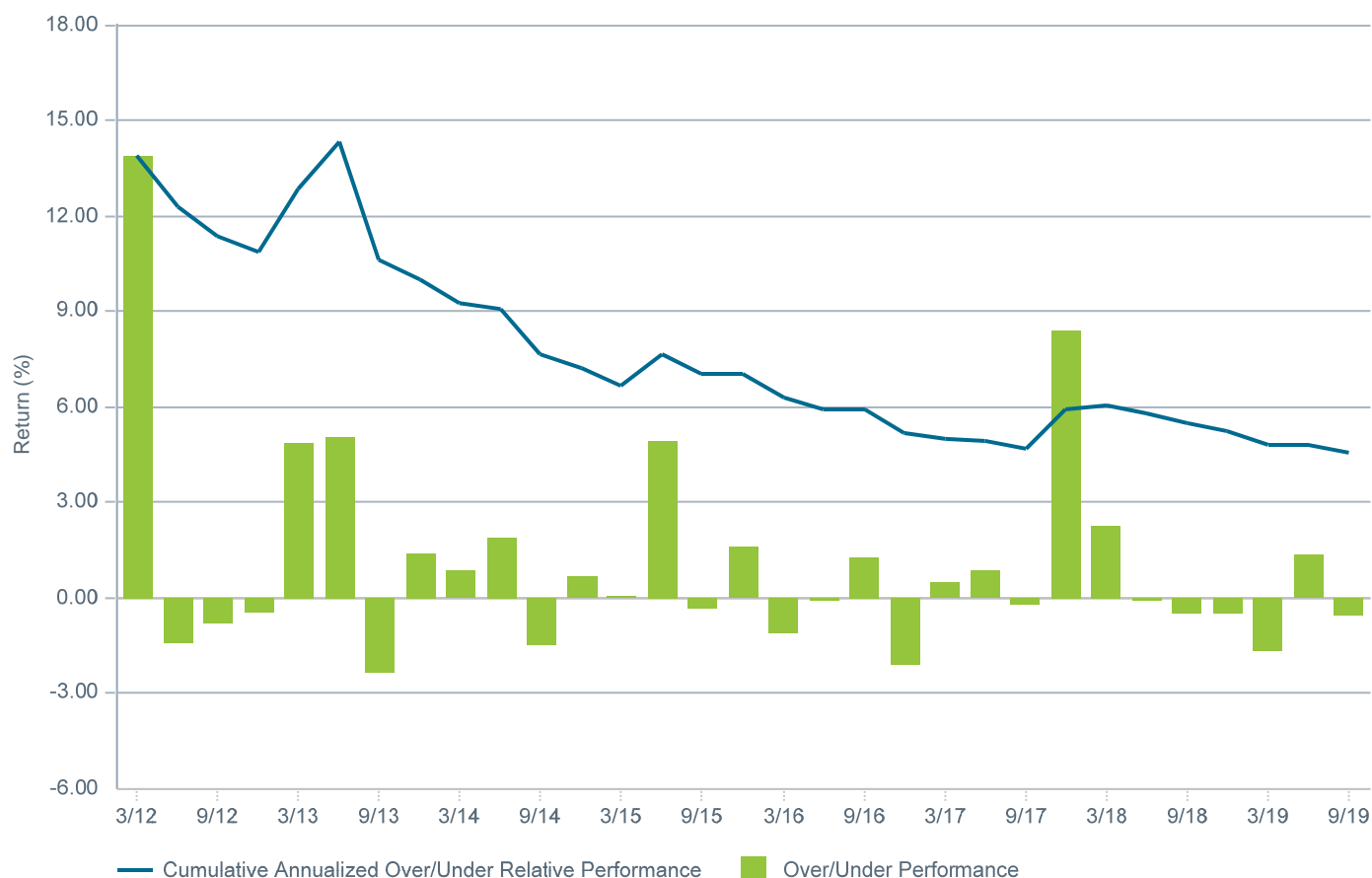
Historical Statistics - 7 Years (Excess Return vs. Risk Free)



Actual Correlation - 7 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.48
S&P 500 Index (Cap Wtd)	0.12
Russell 2000 Index	0.08
MSCI EAFE Index (USD) (Net)	0.05
MSCI Emg Mkts Index (USD) (Net)	-0.05
Bloomberg US Agg Bond Index	-0.41
Bloomberg US Trsy US TIPS Index	-0.36
Wilshire US REIT Index	-0.18
HFRI FOF Comp Index	0.15
Bloomberg Cmnty Index (TR)	-0.04
ICE BofAML 3 Mo US T-Bill Index	-0.35
Cons Price Index (Unadjusted)	0.03

Relative Performance - Since Inception



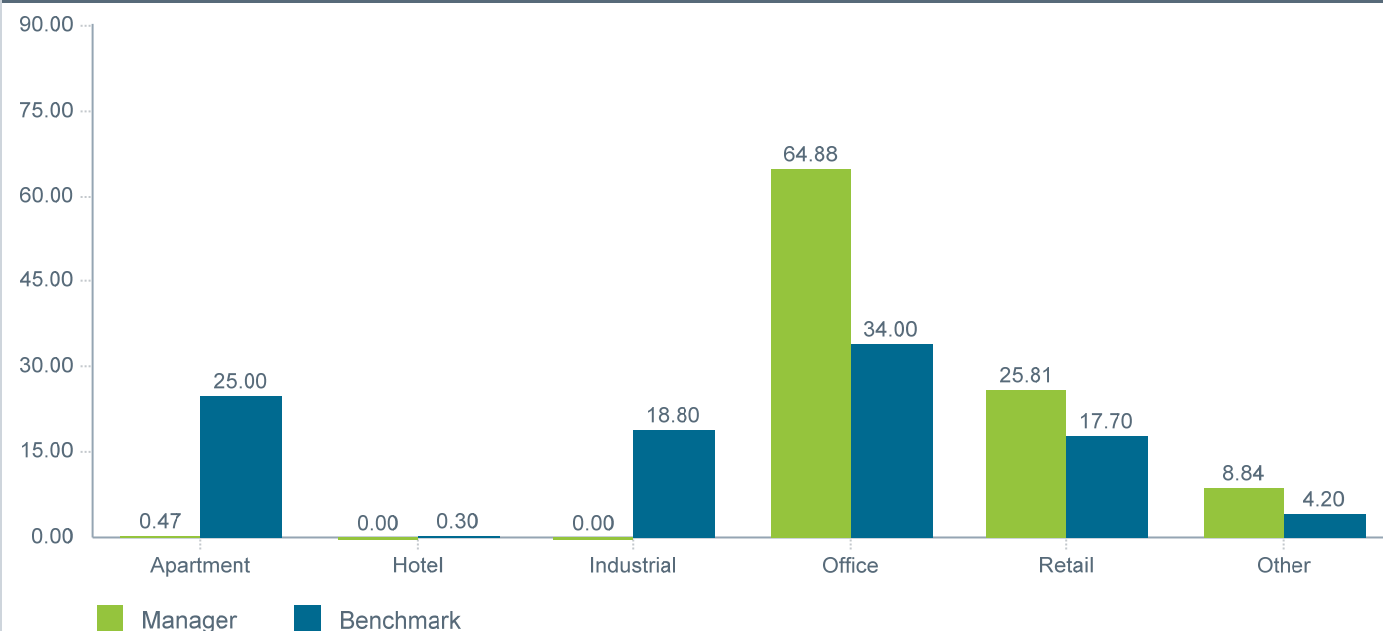
Investment Strategy

The Fund pursues a concentrated core-plus real estate strategy that acquires, manages and enhances the value of core and core-plus office, retail and mixed-used assets in major metropolitan markets. Target assets are stabilized or nearly stabilized core properties with high-quality, creditworthy and diversified tenant rosters producing predictable and growing income, with the potential for operational improvements to enhance NOI and drive capital appreciation. Additionally, the Fund also targets assets that are moderately- to substantially-leased but could benefit from repositioning. It operates with leverage of 50% or less and may invest up to 20% of its gross assets in higher-risk, non-core real estate investment opportunities.

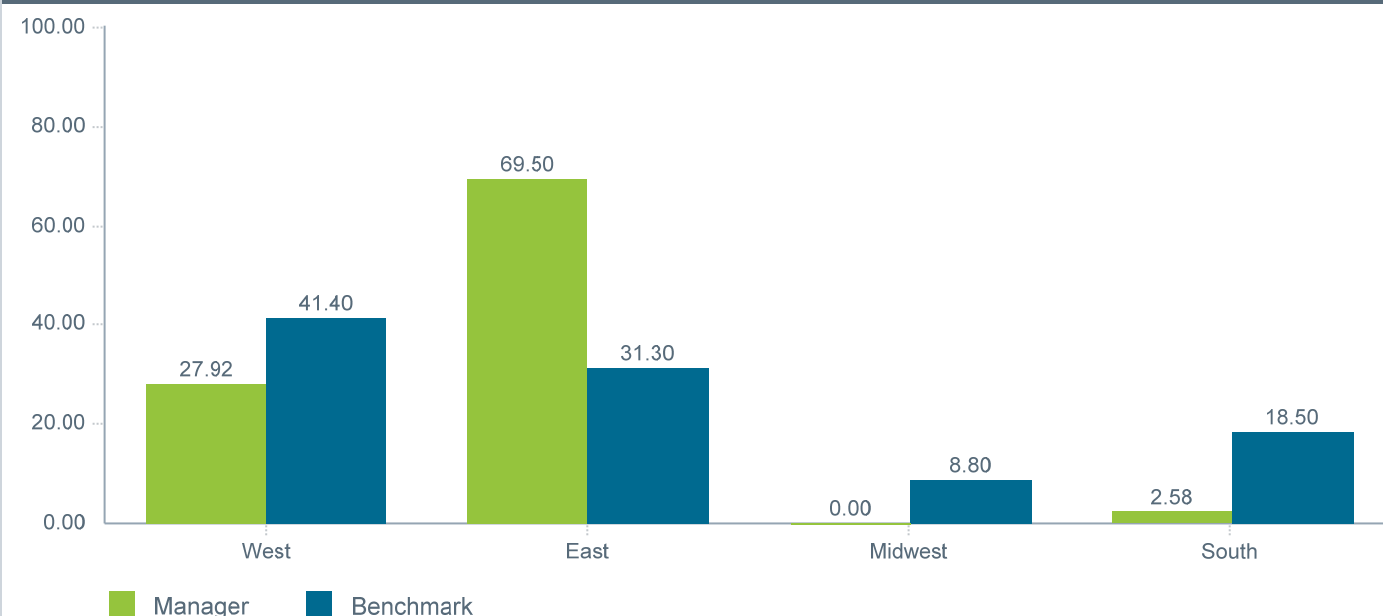
Investment Profile

Fund Inception	2011
Legal Structure	REIT
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	3,887
Fund Leverage %	39.67
Portfolio Occupancy %	82.84
Cash Reserve %	5.75
Number of Investments	23
Number of Limited Partners	53

Property Type Allocation (%)

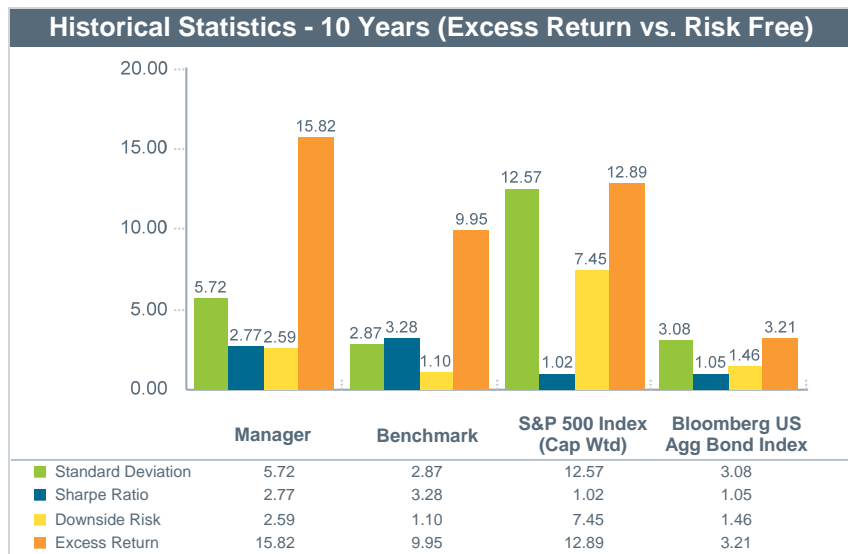


Geographic Allocation (%)



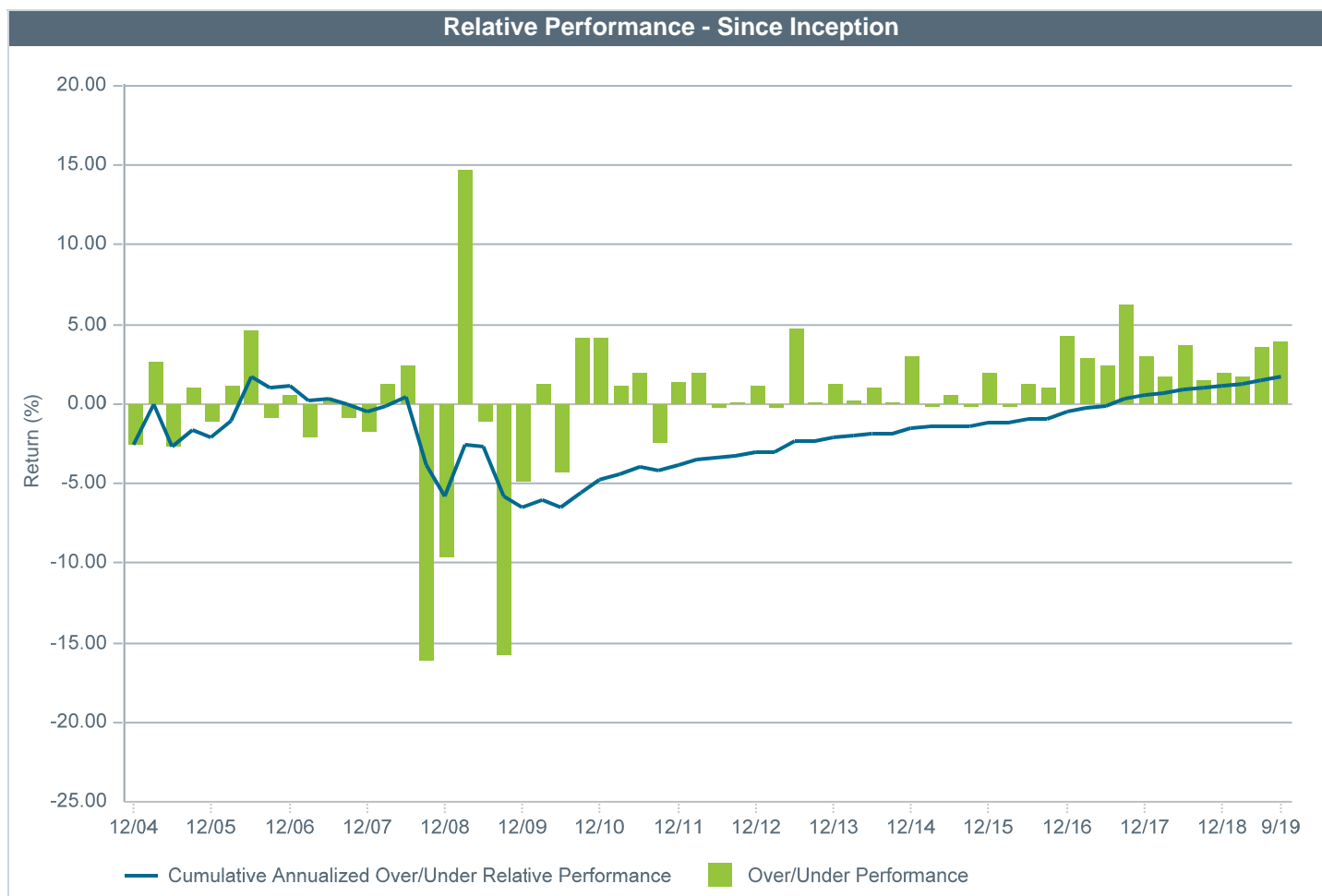
Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Manager allocation to "Other" consists of One Times Square. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	5.23	17.71	21.04	19.34	18.80	17.20	18.19	24.16	16.08	17.76	17.45
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	3.92	12.11	13.73	9.99	8.50	6.34	9.84	16.54	7.31	2.74	4.95



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.65
S&P 500 Index (Cap Wtd)	0.27
Russell 2000 Index	0.30
MSCI EAFE Index (USD) (Net)	0.31
MSCI Emg Mkts Index (USD) (Net)	0.12
Bloomberg US Agg Bond Index	-0.27
Bloomberg US Trsy US TIPS Index	-0.33
Wilshire US REIT Index	0.10
HFRI FOF Comp Index	0.23
Bloomberg Cmtty Index (TR)	0.04
ICE BofAML 3 Mo US T-Bill Index	0.09
Cons Price Index (Unadjusted)	0.00



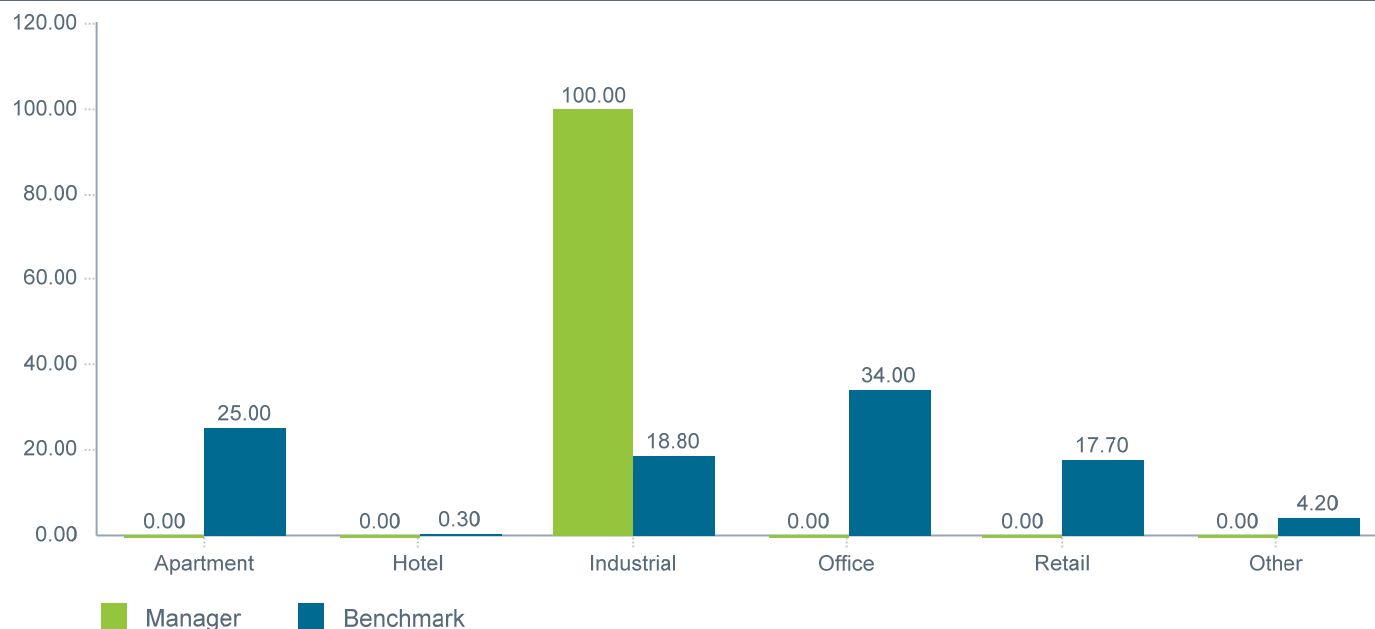
Investment Strategy

The Fund pursues a concentrated core-plus real estate investment strategy focusing on the industrial sector and seeks to combine attractive current income with long-term capital growth by acquiring, operating, renovating and disposing of assets located in the US. The Fund's investment activities focus on properties near key passenger and cargo airports, seaports, and ground transportation systems in major metropolitan areas. It operates with a leverage limit of 45% and does not invest in "value-added" real estate investment opportunities.

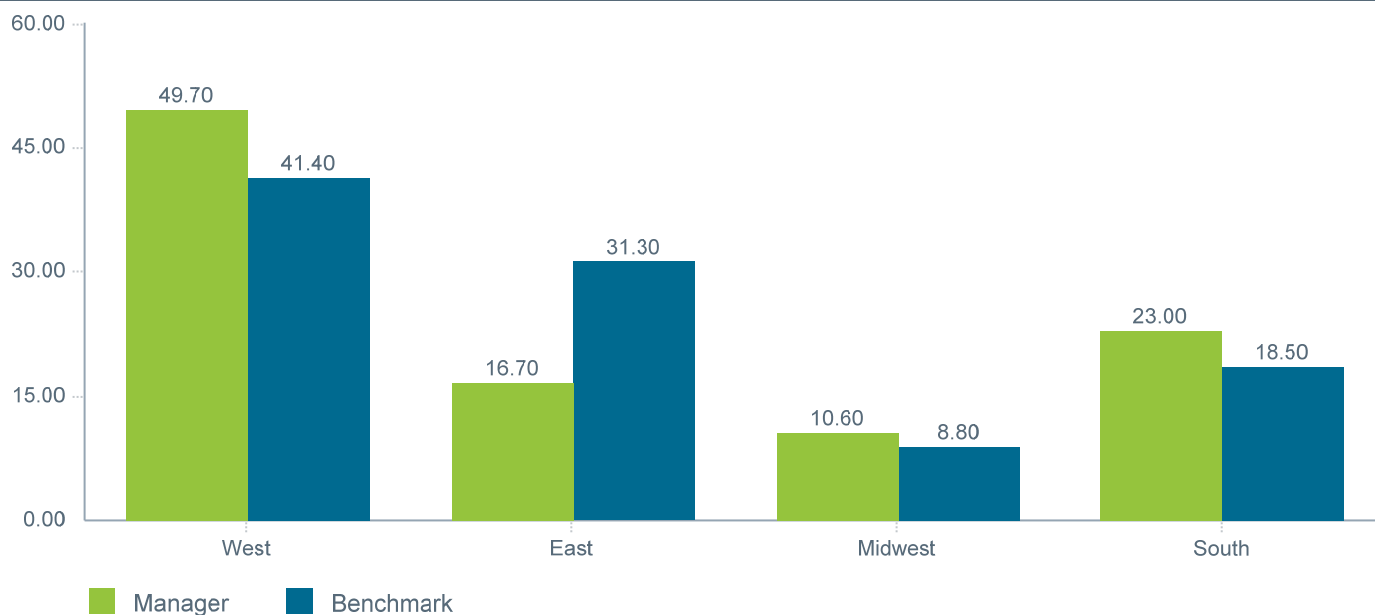
Investment Profile

Fund Inception	2004
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	12,711
Fund Leverage %	18.20
Portfolio Occupancy %	96.00
Cash Reserve %	0.40
Number of Investments	325
Number of Limited Partners	73

Property Type Allocation (%)

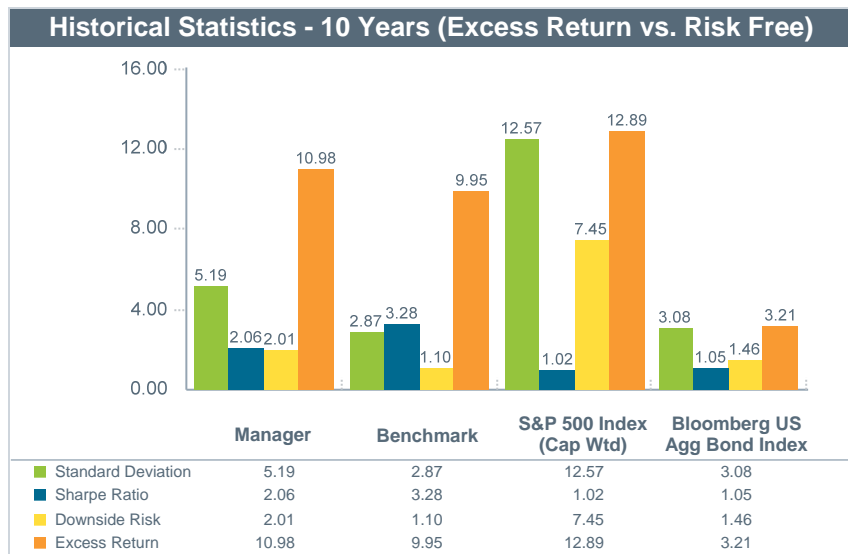


Geographic Allocation (%)



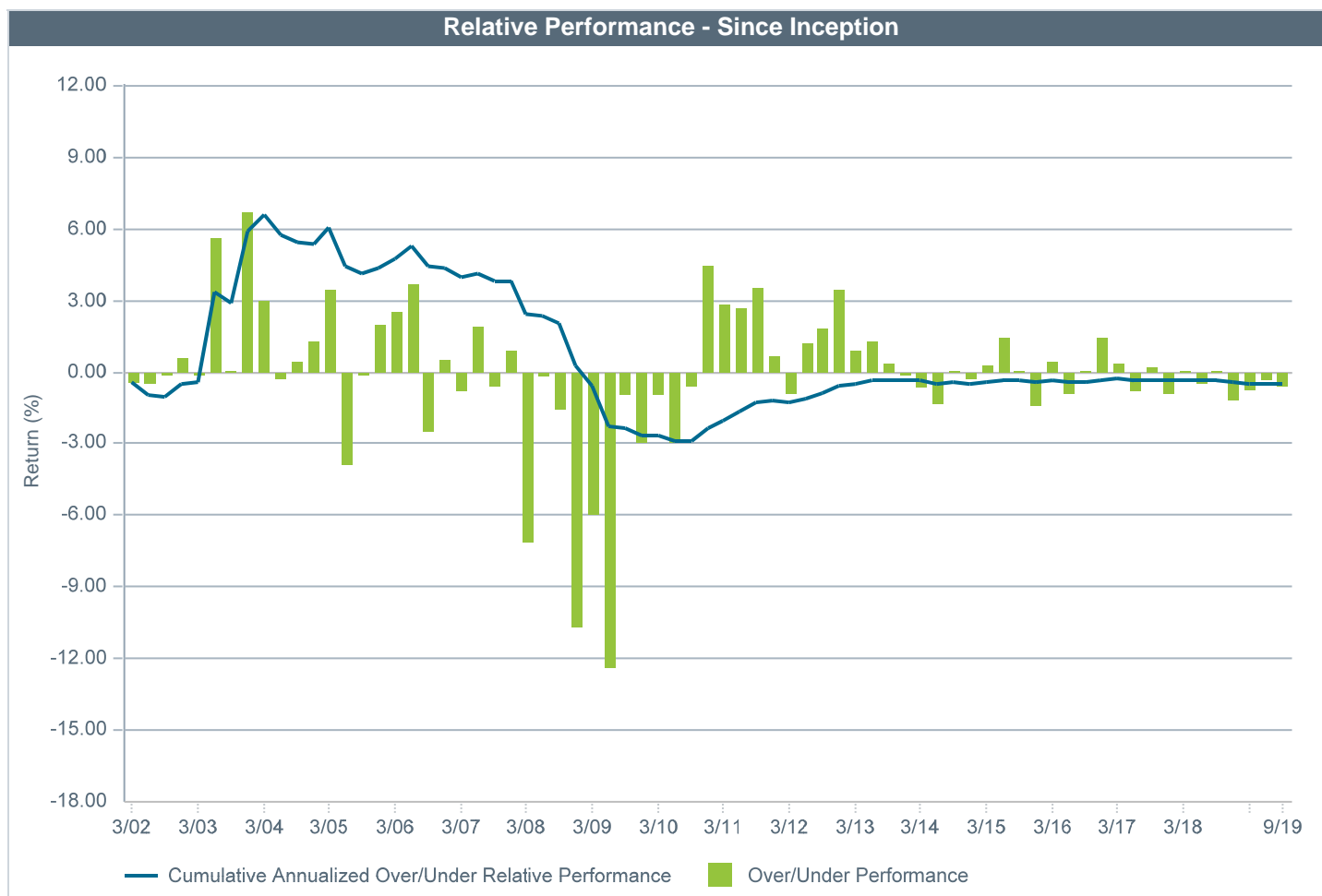
Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Performance											
	QTD	1 Year	3 Years	5 Years	7 Years	10 Years	2018	2017	2016	2015	2014
Manager	0.75	2.71	6.29	8.65	10.41	11.89	6.59	6.50	9.90	15.34	10.08
Benchmark	1.31	5.60	7.31	9.35	10.30	10.86	8.35	7.62	8.77	15.02	12.50
Difference	-0.56	-2.89	-1.02	-0.70	0.11	1.03	-1.76	-1.12	1.13	0.32	-2.42



Actual Correlation - 10 Years

	Actual Correlation
NCREIF ODCE Index (AWA) (Gross)	0.83
S&P 500 Index (Cap Wtd)	-0.05
Russell 2000 Index	0.03
MSCI EAFE Index (USD) (Net)	0.01
MSCI Emg Mkts Index (USD) (Net)	-0.17
Bloomberg US Agg Bond Index	-0.16
Bloomberg US Trsy US TIPS Index	-0.09
Wilshire US REIT Index	-0.20
HFRI FOF Comp Index	-0.05
Bloomberg Cmtty Index (TR)	-0.04
ICE BofAML 3 Mo US T-Bill Index	-0.36
Cons Price Index (Unadjusted)	0.06



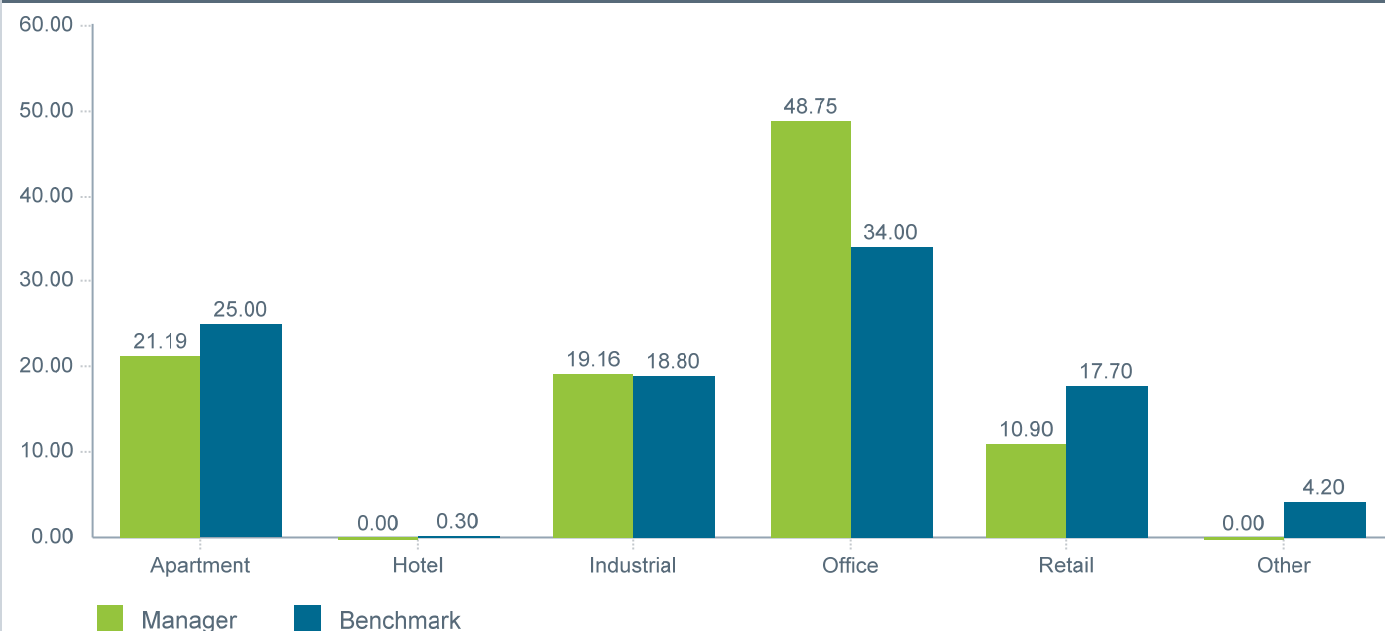
Investment Strategy

The Fund pursues a core-plus real estate strategy and focuses on producing high income returns with the potential for capital appreciation. The Fund's broad investment scope allows it to participate in market opportunities across private equity and debt markets, as well as all property sectors and US geographic regions. It invests primarily in leveraged direct core real estate and may dedicate up to 25% of its gross asset value to non-core investments, including up to 15% in mezzanine debt and up to 10% in build-to-core opportunities. Investments are concentrated in the four primary property types, while volatile and/or specialized sectors such as hotels and self-storage investments are avoided. The Fund operates with leverage of 40% or less.

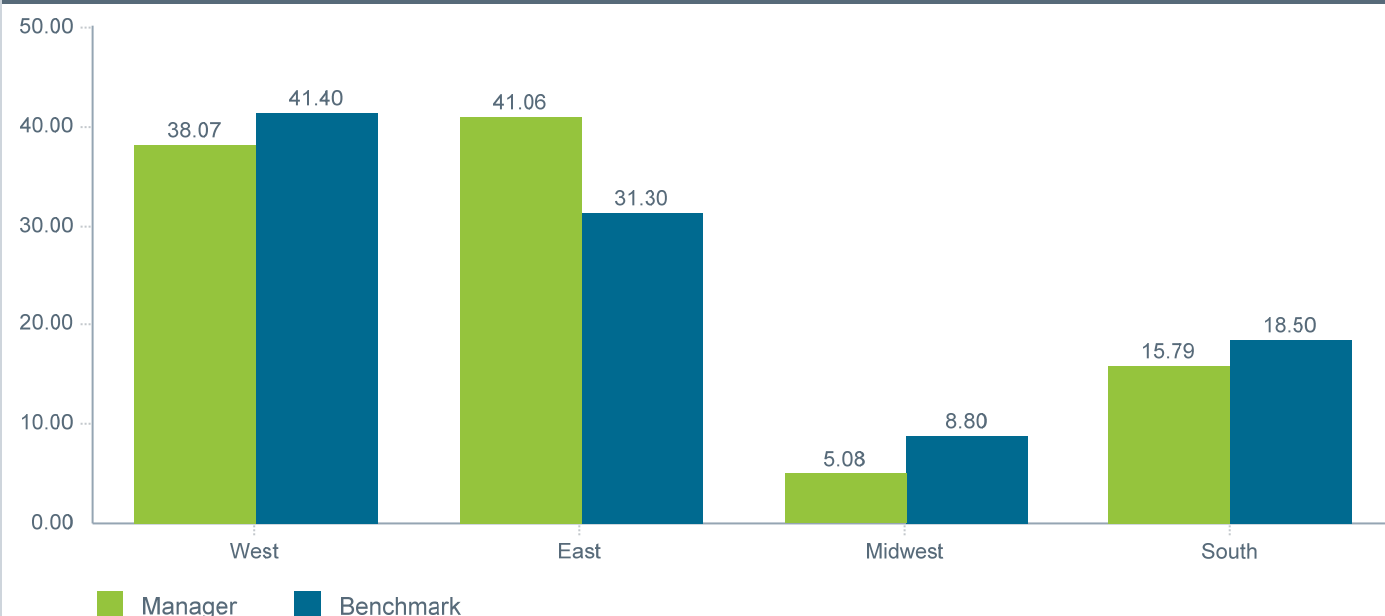
Investment Profile

Fund Inception	2002
Legal Structure	LP
Fund Structure	Open-End
Gross Real Estate Assets (\$M)	4,078
Fund Leverage %	35.10
Portfolio Occupancy %	93.00
Cash Reserve %	3.73
Number of Investments	73
Number of Limited Partners	59

Property Type Allocation (%)

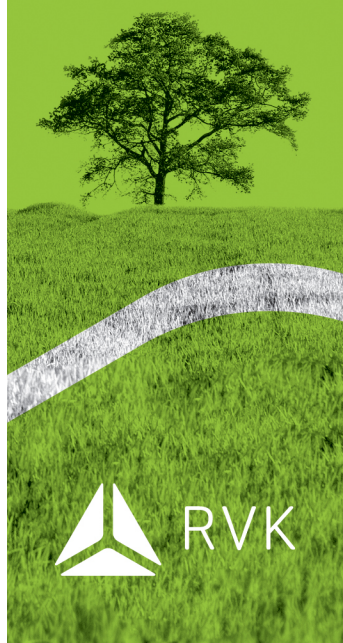


Geographic Allocation (%)



Performance shown is gross of fees and product specific. Calculation is based on quarterly periodicity. Investment profile data shown is provided by the investment manager and is as of the most recently available quarter end. Allocation data shown is based on NAV. Benchmark allocation to "Other" consists of entertainment (theaters, golf courses, bowling alleys), healthcare (hospitals, clinics), manufactured homes, parking lots, self-storage units, senior living, and undeveloped land.

Addendum & Glossary



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

As of September 30, 2019

		Asset Allocation						
		Within Target Range?			Targets			
Asset Class	Market Value	Yes	No	Current (%)	Min.	Target	Max.	
Broad US Equity	\$ 904,338,696	✓		18.51%	13.5%	18.5%	23.5%	
Broad International Equity	\$ 912,307,198	✓		18.68%	13.5%	18.5%	23.5%	
Fixed Income	\$ 1,134,566,341	✓		23.23%	18.0%	23.0%	28.0%	
Absolute Return	\$ 723,514,285	✓		14.81%	10.0%	15.0%	20.0%	
Diversified Inflation Strategies (DIS)	\$ 482,550,722	✓		9.88%	5.0%	10.0%	15.0%	
Real Estate	\$ 727,823,776	✓		14.90%	10.0%	15.0%	20.0%	
Total Fund	\$ 4,885,101,018			100.00%				

Monitoring Guideline (Over a Full Market Cycle of 5 Years)				Explanation
Total Fund		Yes	No	
Total Fund returns exceed the Target Allocation Index over a 5-year period.			✓	The Total Fund returned 4.20% vs. 5.43% for the index.
Broad US Equity		Yes	No	
The composite returns exceed the Russell 3000 Index over a 5 year period.		✓		The composite returned 10.49% vs. 10.44% 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 24. Includes managers which are no longer in the portfolio.
State Street Russell 1000 Index SL (CF)		Yes	No	
The fund returns are in line with the Russell 1000 Index over a 5 year period.				5 year data is unavailable.
Rank above the IM U.S. Large Cap Equity Median.				5 year data is unavailable.
State Street Russell Mid Cap Index (SA)		Yes	No	
The fund returns are in line with the Russell Mid Cap Index over a 5 year period.				5 year data is unavailable.
Rank above the IM U.S. Mid Cap Equity Median.				5 year data is unavailable.
NT Small Cap Core (CF)		Yes	No	
The fund returns exceed the Russell 2000 Index over a 5 year period.		✓		The fund returned 9.21% vs. 8.19% for the index.
Rank above the IM U.S. Small Cap Core Equity Median.		✓		The fund has a ranking of 17.
Broad International Equity		Yes	No	
The composite returns exceed the MSCI ACW Ex US Index (USD) (Net) over a 5 year period.			✓	The composite returned 2.44% vs. 2.90% for the index. Includes managers which are no longer in the portfolio. Current managers added 07/2014 and 02/2018.
Rank above the IM International Large Cap Equity Median.			✓	The composite has a ranking of 59. Includes managers which are no longer in the portfolio. Current managers added 07/2014 and 02/2018.
State Street World Ex US Index (CF)		Yes	No	
The fund returns are in line with the MSCI Wrld Ex US Index (USD) (Net) over a 5 year period.		✓		The fund returned 2.98% vs. 3.06% for the index.
Rank above the IM International Large Cap Equity Median.			✓	The fund has a ranking of 52.
DFA Emg Mkts Core Eq;I (DFCEX)		Yes	No	
The fund returns exceed the MSCI Emg Mkts Index (USD) (Net) over a 5 year period.			✓	The fund returned 2.07% vs. 2.33% for the index.
Rank above the IM Emerging Markets Equity Median.		✓		The fund has a ranking of 50.
Harding Loevner:IE;I;Z (HLEZX)		Yes	No	
The fund returns exceed the MSCI Emg Mkts Index (USD) (Net) over a 5 year period.		✓		The fund returned 3.25% vs. 2.33% for the index.
Rank above the IM Emerging Markets Equity Median.		✓		The fund has a ranking of 23.
QMA International Small Cap Equity (CF)		Yes	No	
The fund returns exceed the MSCI EAFE Sm Cap Index (USD) (Net) over a 5 year period.				5 year data is unavailable.
Rank above the IM International SMID Cap Core Equity Median.				5 year data is unavailable.
Fixed Income		Yes	No	
The composite returns exceed the Global Fixed Income Custom Index over a 5 year period.			✓	The composite returned 3.16% vs. 3.35% for the index.
Rank above the IM Global Fixed Income Median.		✓		The composite has a ranking of 22.
Payden & Rygel Long Term (SA)		Yes	No	
The fund returns exceed the Bloomberg US Agg Bond Index over a 5 year period.		✓		The fund returned 3.96% vs. 3.38% for the index.
Rank above the IM U.S. Broad Market Core Fixed Income Median.		✓		The fund has a ranking of 3.
JP Morgan FI Intermediate Bond (SA)		Yes	No	
The fund returns exceed the Bloomberg US Gov't Crdt Int Trm Bond Index over a 5 year period.		✓		The fund returned 2.87% vs. 2.68% for the index.
Rank above the IM U.S. Intermediate Duration Fixed Income Median.		✓		The fund has a ranking of 3.
Brandywine Gbl Opp FI (CF)		Yes	No	
The fund returns exceed the FTSE 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.

Performance shown is net of fees.

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

As of September 30, 2019

Payden:Low Dur;Inv (PYSBX)	Yes	No	
The fund returns exceed the Bloomberg US Trsy 1-3 Yr Index over a 5 year period.	✓		The fund returned 1.64% vs. 1.33% for the index.
Rank above the IM U.S. Short Duration Fixed Income Median.	✓		The fund has a ranking of 40.
AG Direct Lending Fund III, L.P.	Yes	No	
The fund returns exceed the Bloomberg US Gov't Crdt Int Trm Bond Index over a 5 year period.			5 year data is unavailable.
Rank above the IM U.S. Intermediate Duration (MF) Median.			5 year data is unavailable.
Schroders Securitized Credit (SA)	Yes	No	
The fund returns exceed the FTSE Wrld Gov't Bond Index over a 5 year period.			5 year data is unavailable
ND Land - PTF Cash (SA)	Yes	No	
The fund returns exceed the BofA ML 3 Mo US T-Bill Index over a 5 year period.			5 year data is unavailable.
Absolute Return	Yes	No	
The composite returns exceed the Absolute Return Custom Index over a 5 year period.		✓	The composite returned 2.43% vs. 5.50% for the index.
GMO:Bchmk-Fr All;IV (GBMBX)	Yes	No	
The fund returns exceed the 60% MSCI ACWI (Net)/40% B Gbl Agg Idx over a 5 year period.		✓	The fund returned 2.20% vs. 4.94% for the index.
PIMCO:All Ast Ath;Inst (PAUIX)	Yes	No	
The fund returns exceed the All Asset Custom Index (EqI Wtd) over a 5 year period.		✓	The fund returned 0.94% vs. 4.45% for the index.
Diversified Inflation Strategies (DIS)	Yes	No	
The composite returns exceed the DIS Custom Index over a 5 year period.		✓	The composite returned -1.33% vs. 0.18% for the index.
NT Common TIPS Index (CF)	Yes	No	
The fund returns are in line with the Bloomberg US Trsy US TIPS Index over a 5 year period.	✓		The fund returned 2.43% vs. 2.45% for the index.
Rank above the IM U.S. TIPS Median.	✓		The fund has a ranking of 10.
Gresham Commodities (SA)	Yes	No	
The fund returns exceed the Bloomberg Cmdty Ex-Energy Index (TR) over a 5 year period.			5 year data is unavailable.
Harvest MLP (SA)	Yes	No	
The fund returns exceed the S&P MLP Index Index (TR) over a 5 year period.			5 year data is unavailable.
Van Eck NR Equities (SA)	Yes	No	
The fund returns exceed the S&P Gbl Natural Res Sect Index (TR) Index over a 5 year period.			5 year data is unavailable.
Real Estate	Yes	No	
The composite returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
Morgan Stanley Prime Property Fund (CF)	Yes	No	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
UBS Trumbull Property Fund, L.P. (CF)	Yes	No	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
Jamestown Premier Property Fund (CF)	Yes	No	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
Prologis USLF (CF)	Yes	No	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.
JP Morgan US Real Estate Income and Growth, LP (CF)	Yes	No	
The fund returns exceed the NCREIF ODCE Index (AWA) (Net) over a 5 year period.			5 year data is unavailable.

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

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.
- Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark.
- As of 07/2014, composite and manager performance is provided and calculated by RVK.
- Payden:Low Dur;Inv (PYSBX) performance prior to 08/2012 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 07/2019 through present: 18.5% Russell 3000 Index, 18.5% MSCI ACW Ex US Index (USD) (Net), 23% Global Fixed Income Custom Index, 15% NCREIF ODCE Index (AWA) (Net), 15% Absolute Return Custom Index, and 10% DIS Custom Index.
 - From 02/2018 through present: 17% Russell 3000 Index, 17% MSCI ACW Ex US Index (USD) (Net), 21% Global Fixed Income Custom Index, 15% NCREIF ODCE Index (AWA) (Net), 20% Absolute Return Custom Index, and 10% DIS Custom Index.
 - From 07/2014 through 01/2018: 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 01/2013 through 06/2014: 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% CS Lvg'd Loan Index, 10% Bloomberg US Corp Hi Yld Index, and 5% Bloomberg Gbl Agg Ex USD Index (Hedged).
 - From 07/2009 through 12/2012: 15% Russell 1000 Index, 10% Russell 2500 Index, 6% FTSE EPRA/NAREIT US Index, 10% MSCI EAFE Index (USD) (Net), 32.3% Bloomberg US Agg Bond Index, 1.70% CS Lvg'd Loan Index, 10% Bloomberg US Corp Hi Yld Index, 5% Bloomberg Gbl Agg Ex USD Index (Hedged), and 10% ICE BofAML Cnvt Bonds Index (All Qual).
- The Global Fixed Income Custom Index consists of the Bloomberg US Unv Bond Index. Prior to 03/2019, the index consisted 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 Dvl'd Index (\$) (Gross) through 06/2015. 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 Sect Index (TR) thereafter.
- The Gresham Custom Index consists of the Bloomberg Commodities Index excluding WTI, Brent and Natural Gas.
- 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: ICE BofAML 1 Yr T-Bill Index
 2. US Core and Long Maturity Bond Strategies: Bloomberg US Agg Bond Index
 3. EM and Gbl Bond Strategies: PIMCO GLADI Index*
 4. Crdt Strategies: ICE BofAML 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: ICE BofAML 3 Mo US T-Bill Index + 3%

*Performance for the PIMCO Gbl Advantage Bond Index (London Close) prior to 01/01/2004 consists of the JPM EMBI Gbl Dvl'd Index (TR).

Peer Groups

- Total Fund - All Master Trust Universe
- US Equity - IM US Equity (MF)
- International Equity - IM International Large Cap Equity (MF)
- Fixed Income - IM Global Fixed Income (MF)

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

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&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
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

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

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., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd 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.



Glossary

- 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.
- 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."
- Cash Flow Effect** - The composite's active return minus the sum of each managers' active return minus the benchmark effect.
- 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., ICE BofAML 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.

Glossary

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.

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 performance compiled from consultant and custodian 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.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 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 4th 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 - ICE BofAML 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 Treasuries	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		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 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 - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

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.

Glossary

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., ICE BofAML 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.

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

BOISE

CHICAGO

NEW YORK

Disclaimer of Warranties and Limitation of Liability - This document was prepared by RVK, Inc. (RVK) and may include information and data from some or all of the following sources: client staff; custodian banks; investment managers; specialty investment consultants; actuaries; plan administrators/record-keepers; index providers; as well as other third-party sources as directed by the client or as we believe necessary or appropriate. RVK has taken reasonable care to ensure the accuracy of the information or data, but makes no warranties and disclaims responsibility for the accuracy or completeness of information or data provided or methodologies employed by any external source. This document is provided for the client's internal use only and does not constitute a recommendation by RVK or an offer of, or a solicitation for, any particular security and it is not intended to convey any guarantees as to the future performance of the investment products, asset classes, or capital markets.