# **Public Fund Universe Analysis**

City of Milwaukee Employes' Retirement System

Period Ending June 30, 2021 Fund Number: 105



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S. DINI Manual

# **Firm Overview**



# **OVERVIEW**

RVK, Inc. (RVK) was founded in 1985 and is one of the largest independent and employee-owned investment consulting firms in the world, as reported by *Pensions & Investments Special Report – Consultants*. We provide strategic investment advice to institutional investors with pension plans, defined contribution plans, endowments & foundations, insurance pools, and special purpose funds. In April 2021, RVK was the *only* firm to receive a Greenwich *Quality Leader* Award<sup>1</sup> for a fourth consecutive year.

## **MISSION STATEMENT**

To provide best-in-class investment consulting services to a wide array of sophisticated investors.

# STRATEGIC INVESTMENT ADVICE AND EXPLICIT NO CONFLICTS OF INTEREST POLICY

RVK has built its investment consulting practice on the principles of integrity, investment expertise, client service, and our no conflicts of interest policy. We are exclusively focused on strategic investment consulting services and solely owned by active employees, enabling us to offer advice that is not influenced by other business activities. As a privately-held firm with no affiliates or parent company, we are in control of our business policy, providing firm stability for clients. We offer an extensive slate of consulting services and produce deliverables fully customized to meet each client's needs.

# **KEY TENETS OF OUR CULTURE**





# **RVK BY THE NUMBERS**

- 35 Years of Business
- 4 offices Portland, Boise, Chicago, New York
- \$1 trillion Full-Retainer AUA
- **100** Investment Professionals
- 50+ Advanced Degrees and Certifications
- 100% Employee Ownership
- **100%** Revenue Derived from Client Fees
- 100% Non-Discretionary Services

# **GENERAL CONSULTING SERVICES**

- Plan Evaluation
- Strategic Asset Allocation
- Investment Policy Development & Review
- Investment Manager Search & Selection
- Performance Analysis & Reporting
- Manager Structure Analysis
- Risk Monitoring and Management
- ESG / Impact Investing Advice
- Client Education
- Special Projects

# SPECIALTY CONSULTING SERVICES

٠	Custody, Record keeper, Third-Party Administrator Searches	٠	Outsourced CIO (OCIO) Searches, Evaluation, and Ongoing Monitoring
•	Asset/Liability Studies	٠	Directed Consulting Services
	Endowment Spending Policy Studies	•	Fee Reviews
	Securities Lending Reviews	•	Defined Contribution Solutions Services
			Investment Operations Solutions

- Pacing Studies
- Strategic Planning Reviews

- Investment Operations Solutions
- Board and Investment Program Operational Reviews

# FOR MORE INFORMATION ABOUT OUR SERVICES, PLEASE CONTACT: Business.Development@RVKInc.com 503-221-4200

<sup>1</sup>Between July and October 2020, Coalition Greenwich conducted interviews with 856 senior professionals at 704 of the largest tax-exempt funds in the US–including corporate and union funds, public funds, endowments and foundations, insurance general accounts, and healthcare organizations–with either pension or investment pool assets greater than \$150 million. Study participants were asked to provide quantitative and qualitative evaluations of their asset managers and investment consultants, including qualitative assessments of those firms soliciting their business and detailed information on important market trends. RVK is one of three firms recognized in the large investment consultant category. The ratings may not be representative of any one client's experience with RVK; rather, they are representative of those clients that chose to participate in the survey. The results are not indicative of RVK's future performance.

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Portland Bois

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Anchorage Police & Fire Retirement System	Arlington County Employees' Retirement System
Baltimore City Employees' Retirement Systems	California State Teachers' Retirement System
Chicago Teachers' Pension Fund	City of Austin Employees' Retirement System
City of Fresno Employees Retirement Systems	City of Fresno Fire & Police Retirement System
City of Jacksonville Police and Fire Retirement Fund	City of Jacksonville Retirement System
City of Milwaukee Employes' Retirement System (Fund No. 105)	City of Plano Other Post-Employment Benefits Trust
City of Plano Retirement Security Plan	Civilian Employees' Retirement System of the Police Department of Kansas City, Missouri
Confederated Tribes of the Warm Springs Tribal Council Pension Fund	Contra Costa County Employees' Retirement Association
Employees Retirement System of Texas	Fire and Police Pension Association of Colorado
Fort Worth Employees' Retirement Fund	Gila River Indian Community Retirement Plan
Illinois Municipal Retirement Fund	Imperial County Employees' Retirement System
Iowa Public Employees' Retirement System	Kansas City, Missouri Employees' Retirement System
Kansas Public Employees' Retirement System	Kern County Employees' Retirement Association
Los Angeles City Employees' Retirement System	Los Angeles County Employees Retirement Association
Los Angeles Fire and Police Pension System	Los Angeles Water & Power Employees Retirement Plan
Marin County Employees' Retirement Association	Maryland State Retirement and Pension System
Mendocino County Employees' Retirement Association	Merced County Employees' Retirement Association
Montana Public Employees' Retirement System	Montana Teachers' Retirement System
Municipality of Anchorage Pre-Funding Program	Nevada Public Employees' Retirement System
New York State Common Retirement Fund	North Carolina Retirement System
Ohio Public Employees' Retirement System	Oklahoma Firefighters Pension and Retirement System
Oklahoma Law Enforcement Retirement System	Oklahoma Police Pension and Retirement System
Oklahoma Public Employees Retirement System	Oklahoma Teachers' Retirement System
Oklahoma Uniform Retirement System for Justices and Judges	Oklahoma Wildlife Conservation Retirement System
Orange County Employees' Retirement System	Pennsylvania Public School Employees' Retirement System
Police Retirement System of Kansas City, Missouri	Public Employees Retirement Association of New Mexico
Public School and Education ERS of Missouri	Sacramento County Employees' Retirement System
San Diego City Employees' Retirement System	San Diego County Employees Retirement Association
San Diego Transit Corporation Employees Retirement	



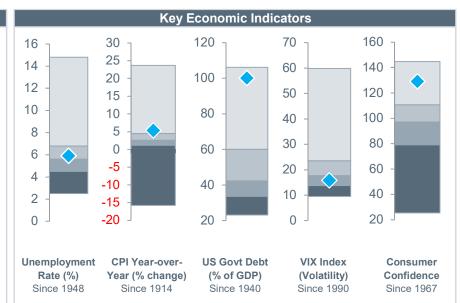
Santa Barbara County Employees' Retirement System South Dakota Retirement System State of New Jersey Pension Fund Teachers' Retirement System of Louisiana Teachers' Retirement System of Kentucky The Navajo Nation Retirement Plan Vermont Pension Investment Committee West Virginia Investment Management Board San Mateo County Employees' Retirement Association Sonoma County Employees' Retirement Association State of Michigan Retirement Systems State Teachers Retirement System of Ohio Teachers' Retirement System of the State of Illinois Texas Municipal Retirement System Tulare County Employees' Retirement Association Virginia Retirement System Wyoming Retirement System

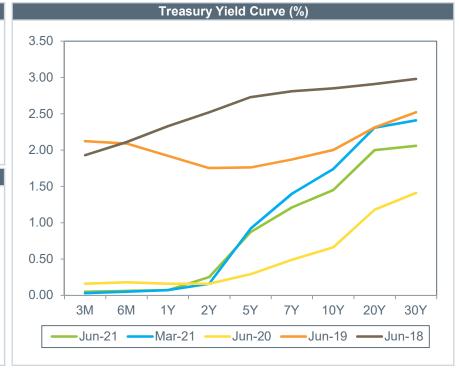


#### Second Quarter Economic Environment

Optimism stemming from reopening efforts, lifted mask mandates, and a proposed bipartisan infrastructure spending bill in the US was balanced with concerns regarding emerging variants of the coronavirus and increasing inflation. Global equity markets provided strong gains in Q2 led by the US equity market. Joining equity markets in positive territory were commodities and REITs. Aggregate fixed income markets generally trailed, although issues with longer dated maturities or that are inflation-linked fared better. Key inflation indicators experienced significant year-over-year increases in Q2, but many forecasters view these elevated levels as transitory. Currently, Fed officials are projecting two rate increases by the end of 2023 but remain sensitive to repeating the taper tantrum experienced in 2013. Inflation is also rising outside of the US which notably led both the Bank of Canada and Bank of England to announce the tapering of their bond purchasing programs. Progress in the US labor market recovery was mixed in Q2. The jobs reports in April and May failed to meet expectations, but the gains in the June report outpaced most forecasts. The unemployment rate remains above target levels, although the Congressional Budget Office projected that the rate would decline to 3.6% by the end of 2022. Overall, the economic recovery continues to advance, with the International Monetary Fund forecasting global GDP growth of 6.0% and 4.4% in 2021 and 2022, respectively.

Economic Indicators	Jun-21	Mar-21	Jun-20	Jun-18	20 Yr
Federal Funds Rate (%)	0.08	0.06	0.08	1.91	1.37
Breakeven Infl 5 Yr (%)	2.50 🔻	2.60	1.17	2.08	1.83
Breakeven Infl 10 Yr (%)	2.34 🔻	2.37	1.34	2.13	2.02
CPI YoY (Headline) (%)	5.4 🔺	2.6	0.6	2.9	2.1
Unemployment Rate (%)	5.9 🔻	6.0	11.1	4.0	6.1
Real GDP YoY (%)	12.2 🔺	0.5	-9.1	3.3	1.8
PMI - Manufacturing	60.6 🔻	64.7	52.2	59.7	53.1
USD Total Wtd Idx	112.85 🔻	114.13	120.78	113.26	103.17
WTI Crude Oil per Barrel (\$)	73.5 🔺	59.2	39.3	74.2	63.2
Gold Spot per Oz (\$)	1,770 🔺	1,708	1,781	1,253	1,048
Market Performance (%)	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	8.55	15.25	40.79	17.65	14.84
Russell 2000	4.29	17.54	62.03	16.47	12.34
MSCI EAFE (Net)	5.17	8.83	32.35	10.28	5.89
MSCI EAFE SC (Net)	4.34	9.04	40.98	12.03	8.38
MSCI Emg Mkts (Net)	5.05	7.45	40.90	13.03	4.29
Bloomberg US Agg Bond	1.83	-1.61	-0.34	3.03	3.39
ICE BofAML 3 Mo US T-Bill	0.00	0.02	0.09	1.17	0.63
NCREIF ODCE (Gross)	3.93	6.12	8.02	6.57	9.60
FTSE NAREIT Eq REIT (TR)	12.02	21.96	38.02	6.31	9.41
HFRI FOF Comp	2.89	4.97	18.31	6.13	3.86
Bloomberg Cmdty (TR)	13.30	21.15	45.61	2.40	-4.44



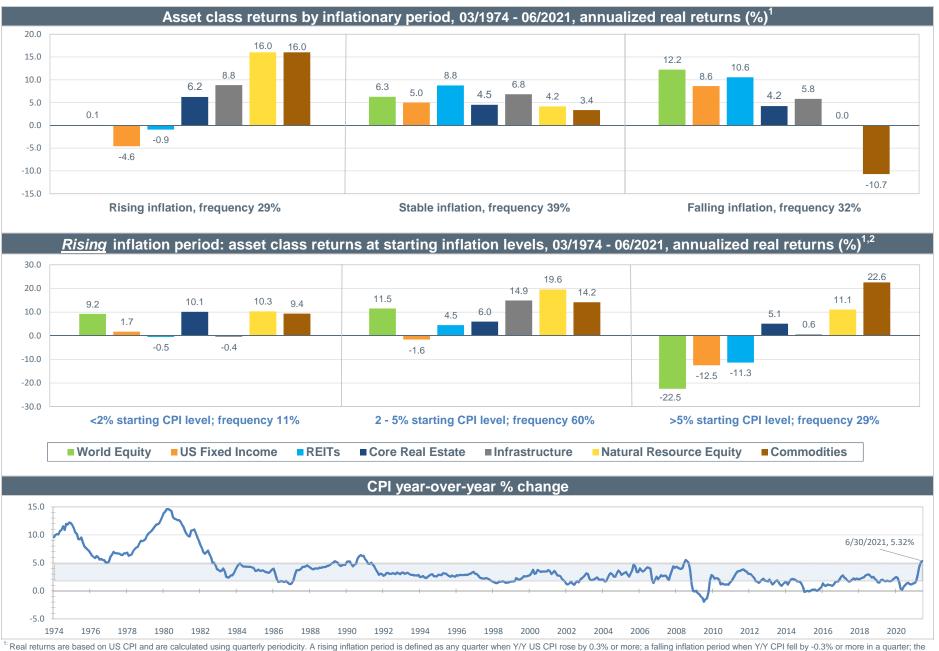




Treasury data courtesy of the US Department of the Treasury. Economic data courtesy of Bloomberg Professional Service.

#### Asset Class Returns by Inflation Period

#### As of June 30, 2021



"Real returns are based on US CPI and are calculated using quarterly periodicity. A rising inflation period is defined as any quarter when Y/Y US CPI rose by 0.3% or more; a talling inflation period when Y/Y CPI fell by -0.3% or more in a quarter; t remaining periods are classified as stable inflation. Starting date for Core Real Estate is March 1978. 2: Starting CPI level is based on Y/Y US CPI in a given quarter; rising inflation period is defined in Footnote 1.

Data: World Equity: MSCI World Index (net). US Fixed Income: BB US Gov Bond Index through 12/31/1975, and BB US Agg Index thereafter. REIT: FTSE NAREIT Equity REITs Index through 12/31/1995, and MSCI World/Real Estate GR USD Index thereafter. Infrastructure: 50/50 Blend of Datastream World Pipelines and Datastream World Gas, Water & Multi-Utilities through 12/31/2001, and S&P Global Infrastructure thereafter. Natural Resource Equity: 50/50 Datastream World Oil & Gas and Datastream World Basic Materials through 11/30/2002, and S&P Global Natural Resources thereafter. Commodity: S&P GSCI through 12/31/1991, and BB Commodity Index thereafter.



#### Second Quarter Review

#### **Broad Market**

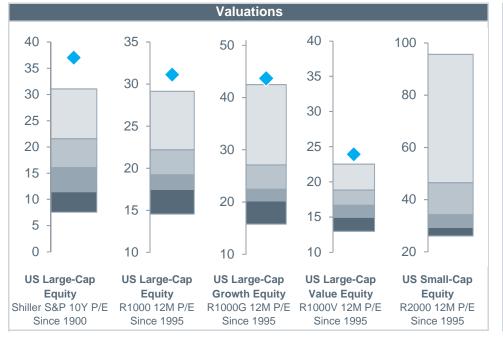
US equity markets built on the solid start to 2021, with strong performance in Q2 driven by continued monetary and fiscal stimulus, along with increasing vaccination rates leading to economic reopening efforts across the country. The S&P 500 Index finished Q2 up 8.5%. The forward P/E ratio of the S&P 500 Index continues to be above historical levels; however, it has seen a slight decrease relative to Q1.

#### **Market Cap**

Large-cap stocks significantly outperformed their smaller-cap counterparts. The Russell 2000 Index returned 4.29% compared to 8.55% for the S&P 500.

#### **Style and Sector**

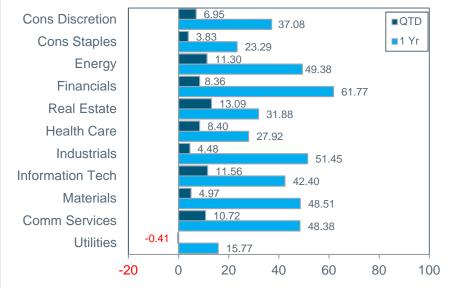
Large- and mid-cap growth stocks outperformed value in Q2, however, value stocks continued to lead growth stocks in the small-cap space. The Russell 1000 Growth Index returned 11.9% versus 5.2% for the Russell 1000 Value Index.



#### Style and Capitalization Market Performance (%)



### S&P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

Current R2000 P/E is unavailable due to negative earnings per share as of 6/30/2021.



#### **Non-US Equity Review**

#### Second Quarter Review

#### **Developed Markets**

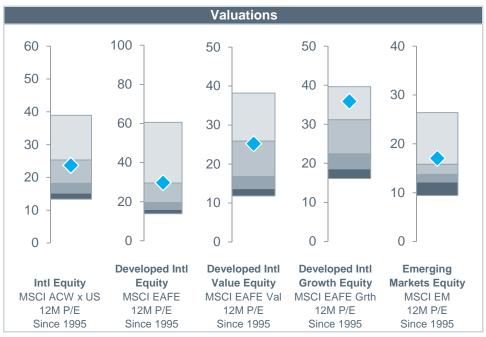
Developed international markets delivered positive returns in Q2, as growth outperformed value in a reversal of the value rally experienced in Q1, while small-cap stocks slightly trailed their large counterparts. Active management did well this quarter, with a majority of developed international equity managers beating their benchmarks in the large- and small-cap universes.

#### **Emerging Markets**

Emerging markets lagged developed markets in Q2 but still continued a trend of positive performance. Contrary to the reversal seen in developed markets, emerging market value stocks continued to outperform growth while smallcap stocks also continued their outperformance over large. Active manager results in emerging markets were mixed, with just under half outpacing their benchmarks for the quarter.

#### Market Cap & Style

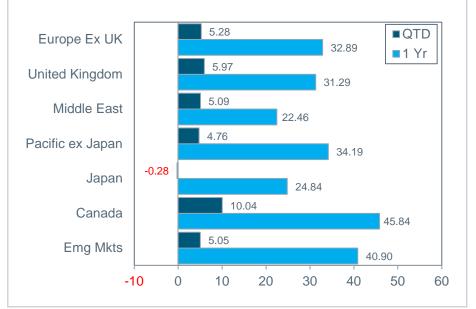
In international markets, growth stocks outperformed value, while large-cap stocks outperformed small-cap. In emerging markets, value stocks outperformed growth, while small-cap stocks outperformed large-cap.



MSCI Style and Capitalization Market Performance (%)



#### MSCI Region Performance (%)



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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.

#### **Fixed Income Review**

#### Second Quarter Review

#### **Broad Market**

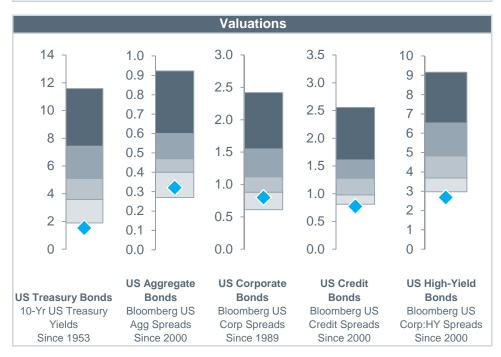
The Bloomberg US Aggregate Index returned 1.8% in Q2, partially retracing losses from Q1, while overall remaining down -1.6% YTD. Treasury yields fell back despite an easing of pandemic related restrictions which supported economic growth and rising inflationary pressures.

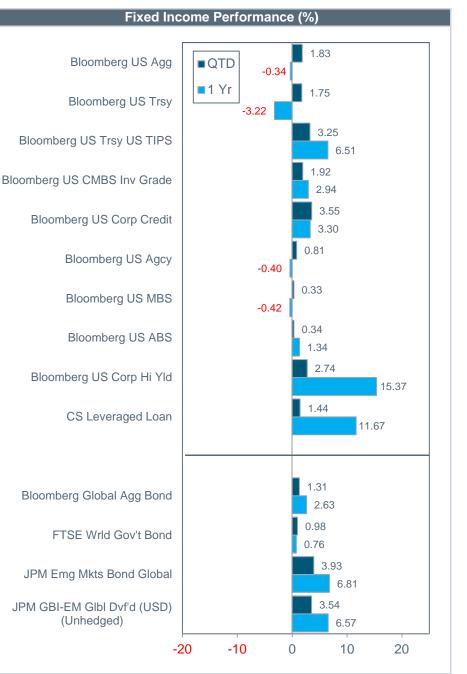
#### **Credit Market**

Lower quality investment grade debt rated BBB outperformed both the investment grade and high yield credit markets, a departure from the trend in past quarters of lowest quality credit outperforming higher grade debt. In Q2, the Bloomberg US Credit Index returned 3.3%, with the Bloomberg BBB Credit Index returning 3.7%.

#### **Emerging Market Debt**

Emerging market debt saw improved performance compared to Q1 on the heels of falling US Treasury yields and rising commodity prices, contributing to broadly positive emerging market debt performance.





🙏 RVK

Valuation data courtesy of Bloomberg Professional Service.

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

#### Second Quarter Review - Absolute Return

#### **General Market - Hedge Funds**

Diversified hedge funds posted another strong guarter, returning 4.0% and bringing YTD returns to 10.0% according to the HFRI Fund Weighted Composite Index. Heightened levels of activity across convertible bond issuance, IPOs, SPACs, and M&A provided fertile ground for event-driven funds, and equity beta tailwinds continued to add to returns in the hedged equity space. Event-driven strategies have outperformed relative value YTD, and directional strategies have outperformed low net exposure and market neutral approaches.

#### **General Market - Global Tactical Asset Allocation (GTAA)**

Global Tactical Asset Allocation strategies that RVK follows closely largely generated positive absolute returns in Q2, ranging from the low- to midsingle digits. Long-biased strategies produced mixed results versus a less diversified blended benchmark of 60% US equity and 40% US fixed income, which returned 5.8% in Q2. Generally, strategies that have maintained a value bias, especially within emerging markets, outperformed relative to peers.

**HFRI Hedge Fund Performance (%)** 

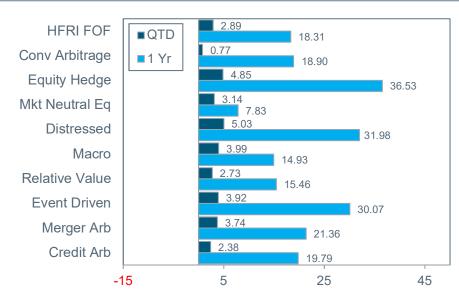
# **Second Quarter Review - Real Assets**

#### General Market - Diversified Inflation Strategies (DIS)

Diversified Inflation Strategies that RVK follows closely primarily generated strong positive absolute performance, ranging from the midsingle digits to low double-digits. In Q2, commodities, listed infrastructure, natural resource equities, REITs, and TIPS all posted positive absolute returns. Commodities led the way, with the Bloomberg Commodity Index posting a 13.3% return, largely driven by energy, with metals and agriculture also posting strong returns.

#### General Market - Real Estate

Core private real estate generated a positive 3.9% return in Q2, as reported by the NFI-ODCE Index, with the total return comprising of 1.0% income and 2.9% price appreciation. While the income trends in line with historical levels, price appreciation rebounded meaningfully by 1.8% from the level recorded in Q1. Publicly traded real estate investments outperformed their private market counterparts by a meaningful margin.



#### 3.93 QTD NCREIF ODCE (Gross) 8.02 ■1 Yr 3.59 **NCREIF** Property 7.37 12.02 FTSE NAREIT Eq REITs (TR) 38.02 13.30 Bloomberg Cmdty (TR) 45.61 7.28 S&P Glbl Nat. Res. (TR) 49.35

-60 -30

Alerian MLP

Bloomberg US Trsy: US TIPS

21.23

3.25

6.51

30

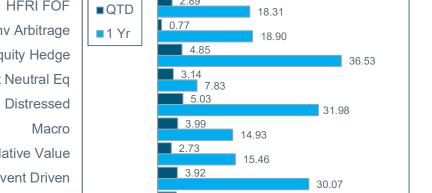
60

0

63.98

**Real Asset Performance (%)** 

90 120 150

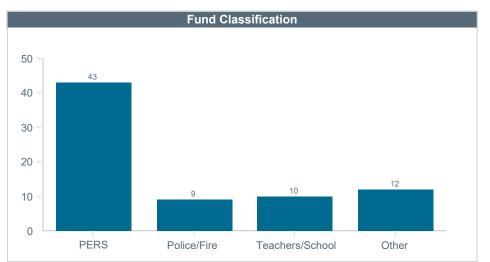


	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	201	17 201	8 2019	2020	YTD
Best	39.38	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.	28 8.3	5 31.49	19.96	21.96
Î	16.23	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.	01 1.87	7 26.00	18.40	21.15
	15.97	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.	03 0.0	25.53	18.31	17.54
	11.63	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.	83 -1.2	6 24.96	16.12	15.25
	11.17	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.	65 -2.0	8 22.01	12.34	9.04
	10.25	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.	71 -4.0	2 19.59	10.99	8.83
	6.97	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.7	-4.3	8 18.44	10.88	7.45
	6.60	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.6	2 -4.6	2 14.32	7.82	6.12
	5.49	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.5	<b>60</b> -4.6	8 8.72	7.51	4.97
	5.00	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.2	3 -11.0	01 8.43	7.11	3.62
	1.87	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.5	4 -11.2	25 8.39	1.19	1.73
	1.45	-43.38	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.0	01 <b>-13.</b> 7	79 7.69	0.67	0.02
+	-1.57	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.7	0 -14.5	58 5.34	-3.12	-1.61
Worst	-15.70	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.8	6 -17.8	39 2.28	-8.00	-4.64
S&P 50 US Larg Cap	ge US S	mall (Net)	) - Int'l S	SCI EAFE iC (Net) - Int'I SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - Fl	Bloombrg US Corp Hi Yield - Fl			ov OD .ng (Gro	CE ss) -	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv

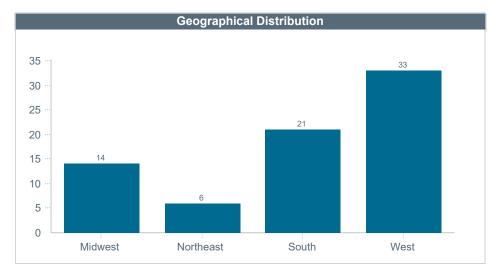
NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.

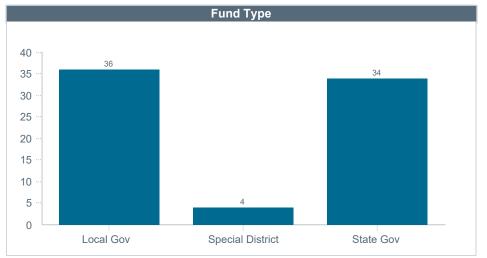






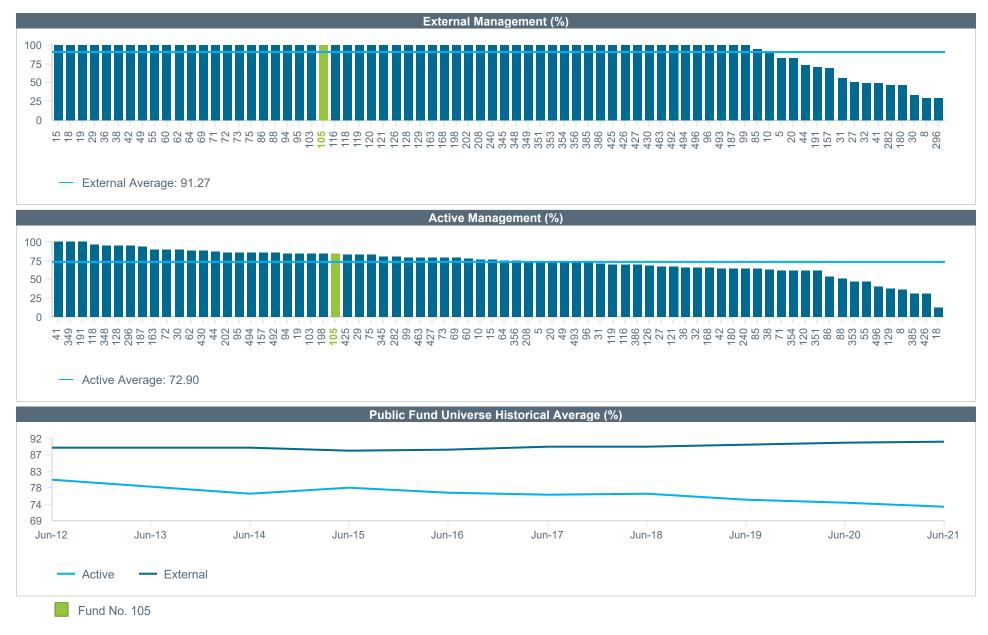
Universe: 74 funds







#### Portfolio Management Percentage Externally Managed & Percentage Actively Managed





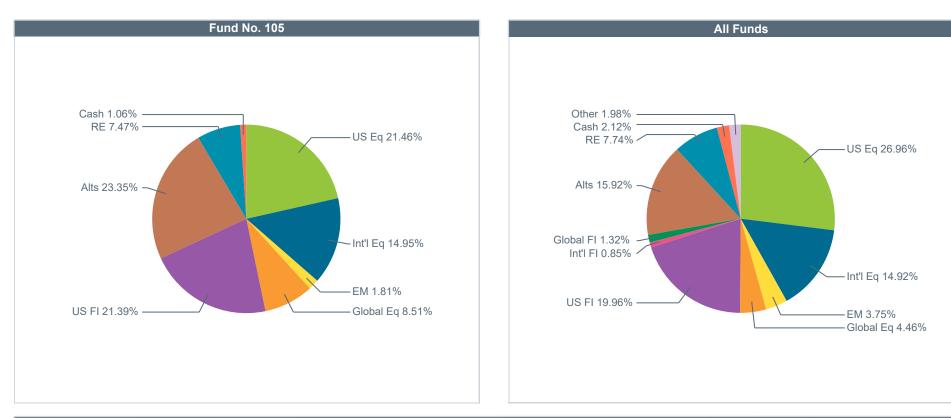
	Actively Managed (%)	Passively Managed (%)	Externally Managed (%)	Internally Managed (%)
Asset Range				
Over \$20B	72.48	27.52	81.21	18.79
\$10B-\$20B	71.26	28.74	92.91	7.09
\$5B-\$10B	71.68	28.32	95.02	4.98
\$1B-\$5B	76.12	23.88	99.98	0.02
\$500MM-\$1B	72.49	27.51	100.00	0.00
Under \$500MM	70.29	29.71	93.61	6.39
Fund No. 105	83.51	16.49	100.00	0.00

Percentages shown for asset ranges are representative of the average allocation.

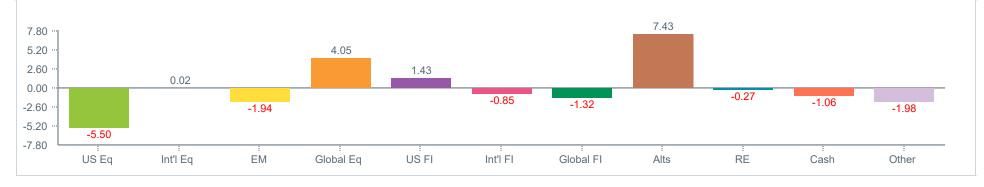
	Active Ma	nagement	External Ma	anagement
Portfolio (%)	Public Fund Universe	Fund No. 105	Public Fund Universe	Fund No. 105
90 to 100	8	0	59	1
50 to 89	58	1	8	0
10 to 49	8	0	7	0
Less than 10	0	0	0	0
Total Funds Reporting	74	1	74	1



#### Asset Allocation Fund No. 105 vs. Average of All Funds



Variance (%)

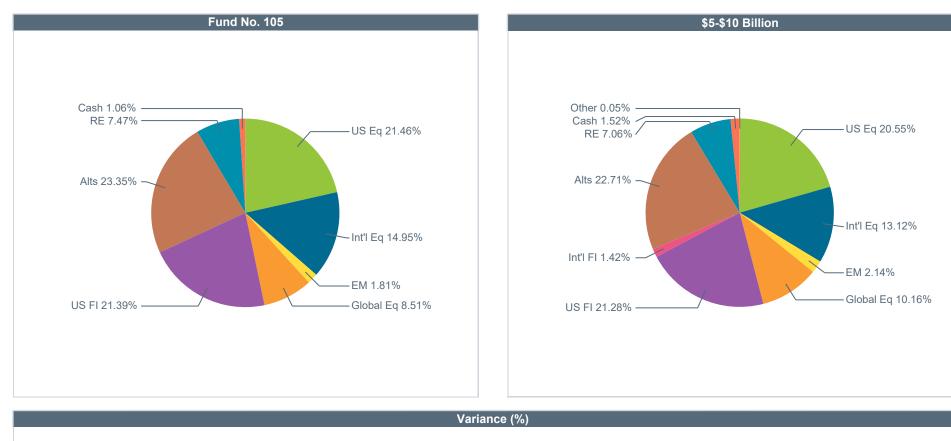


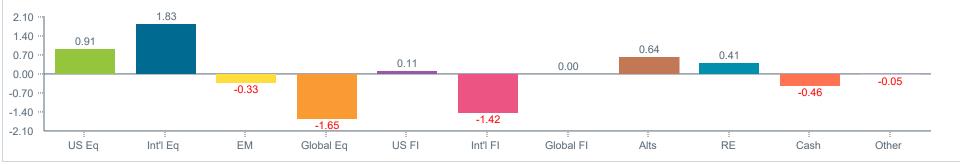




# Asset Allocation

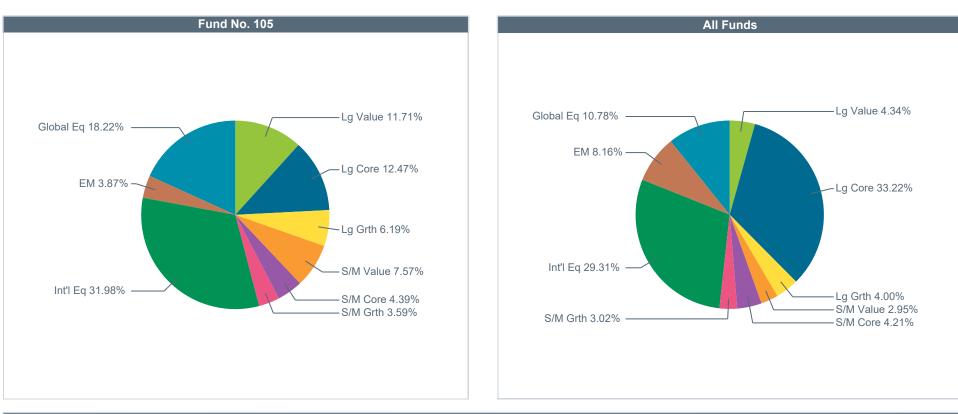
Fund No. 105 vs. Average of Similar Size Funds



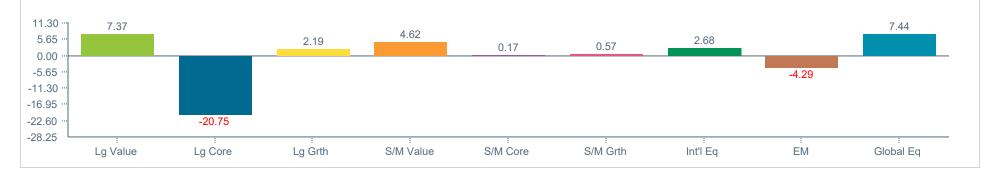




#### Equity Style Allocation Fund No. 105 vs. Average of All Funds

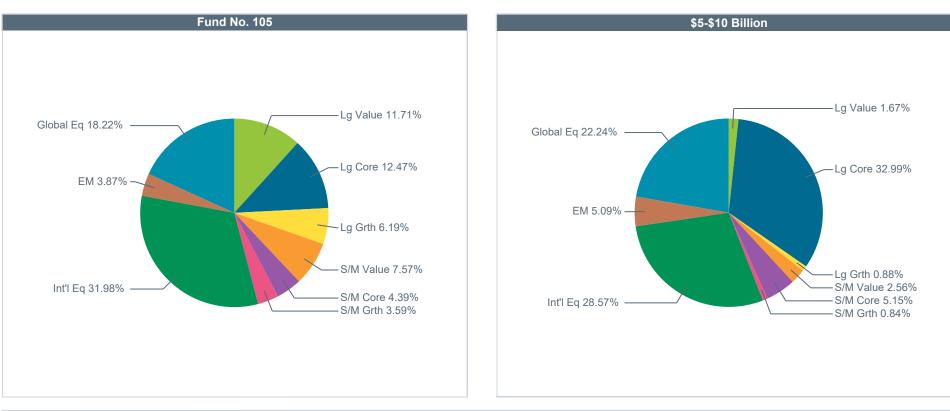


Variance (%)

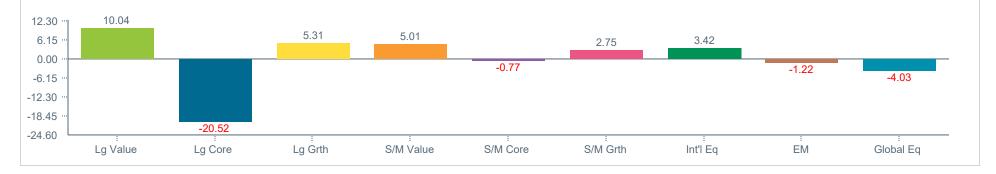




#### Equity Style Allocation Fund No. 105 vs. Average of Similar Size Funds



Variance (%)





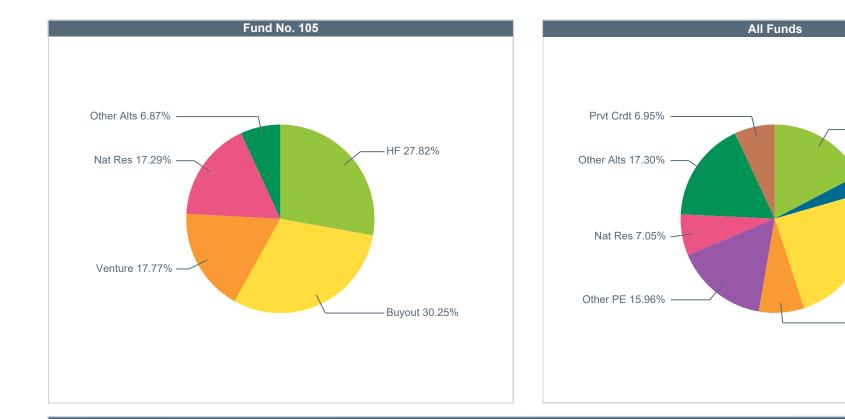
#### Alternatives Style Allocation Fund No. 105 vs. Average of All Funds

-HF 17.33%

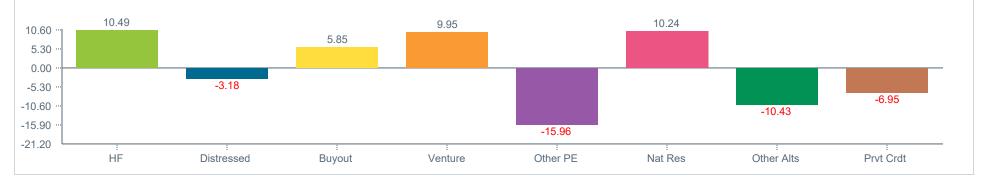
Distressed 3.18%

-Buyout 24.40%

Venture 7.81%

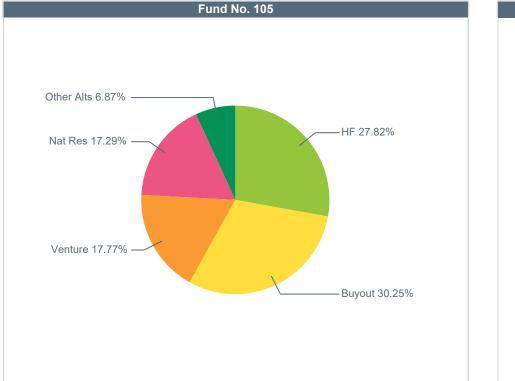


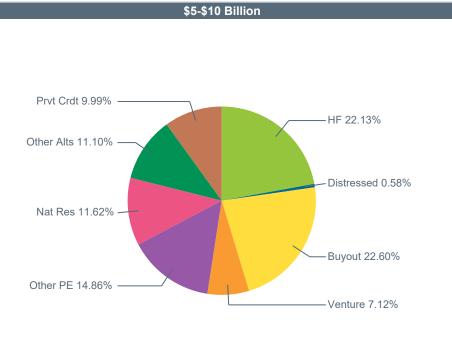
Variance (%)

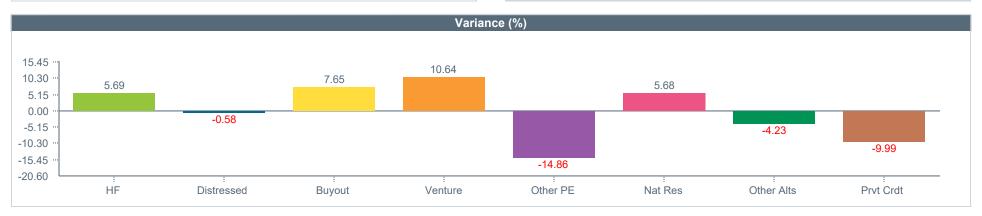


KVK

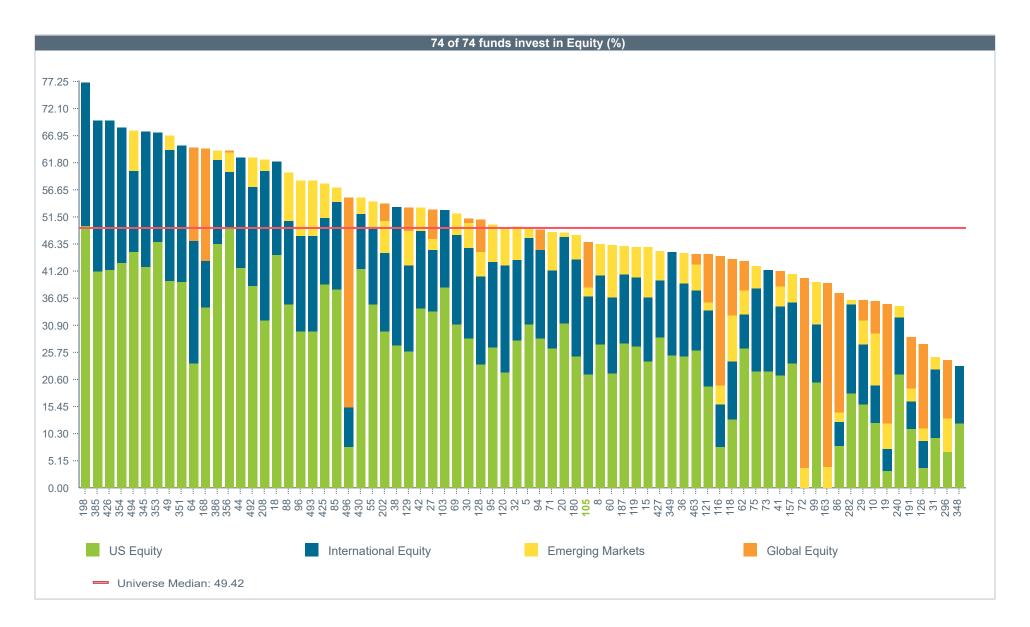
#### Alternatives Style Allocation Fund No. 105 vs. Average of Similar Size Funds







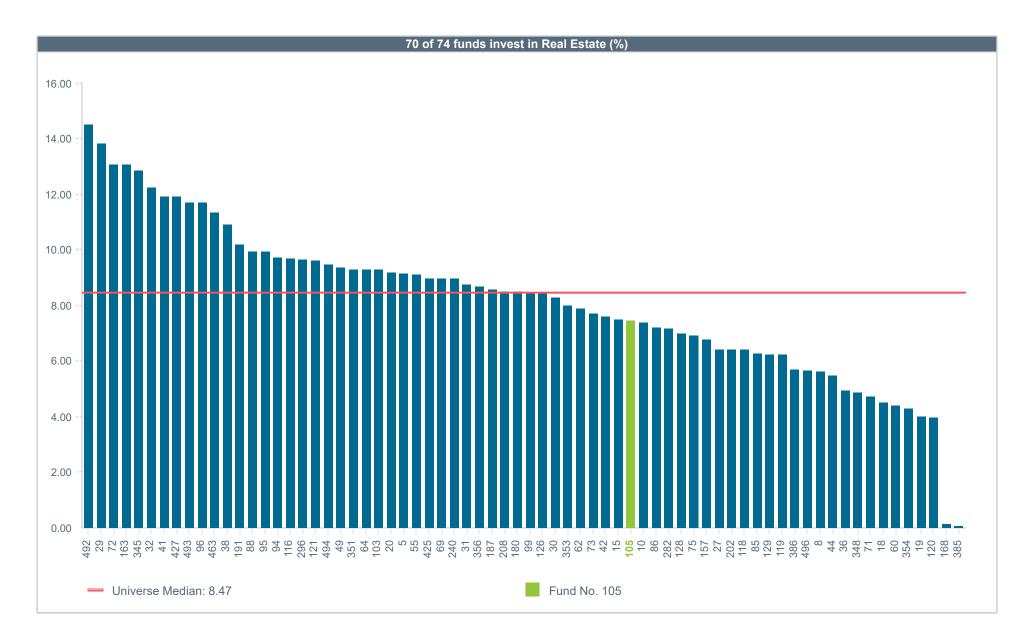
KVK



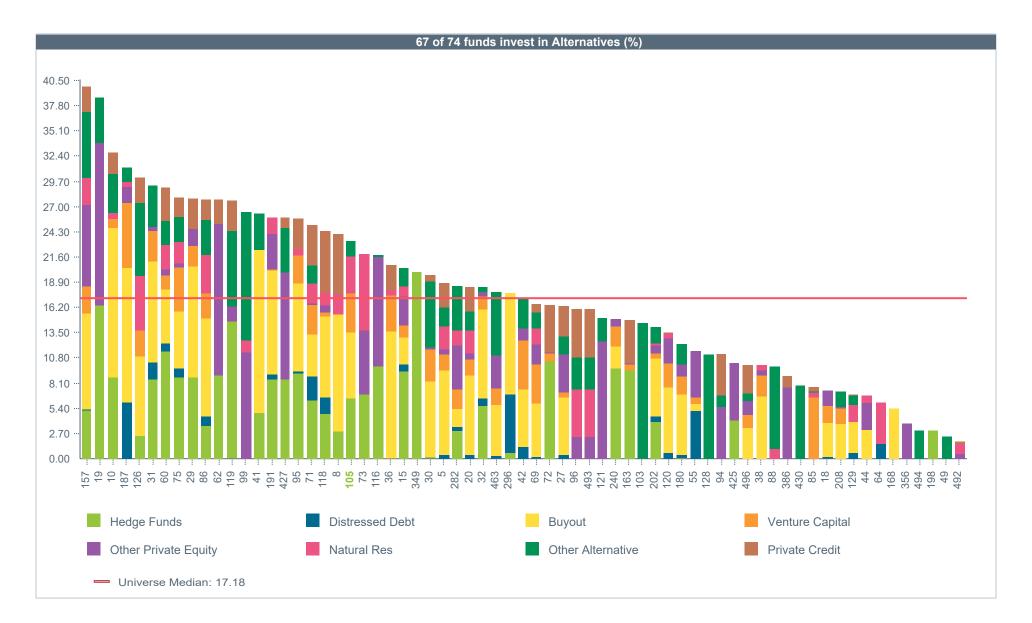




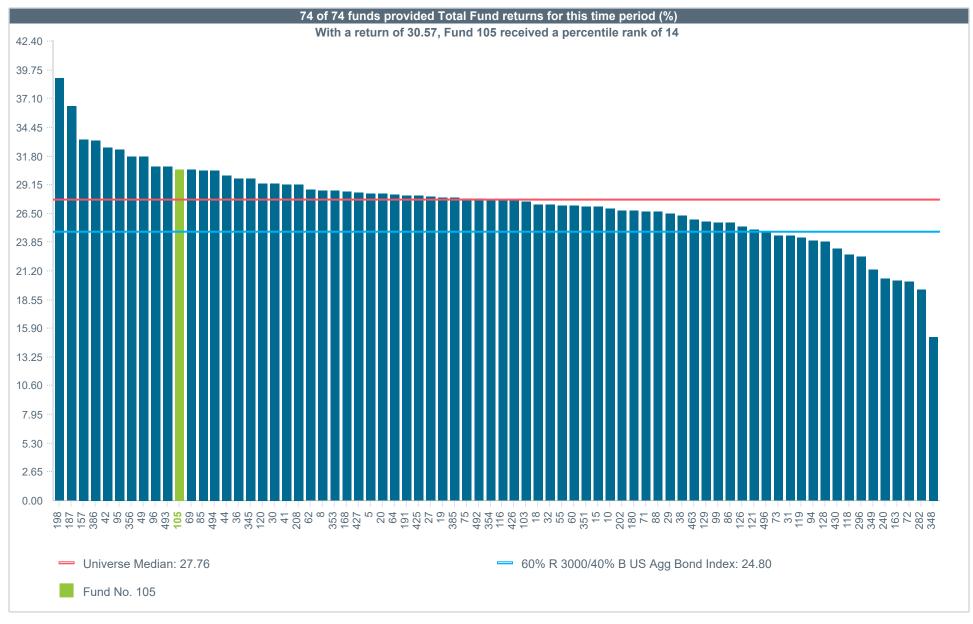






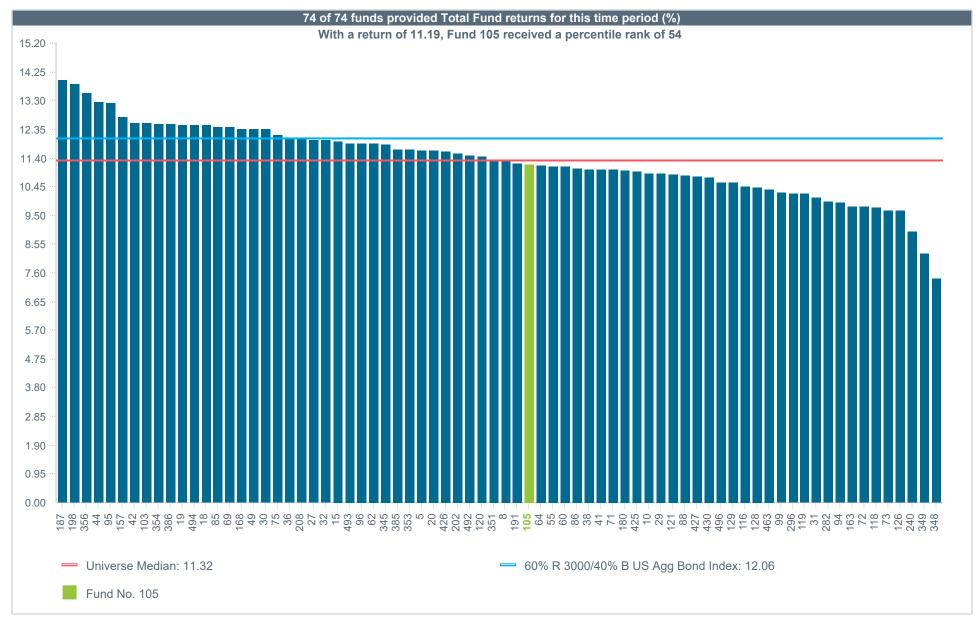




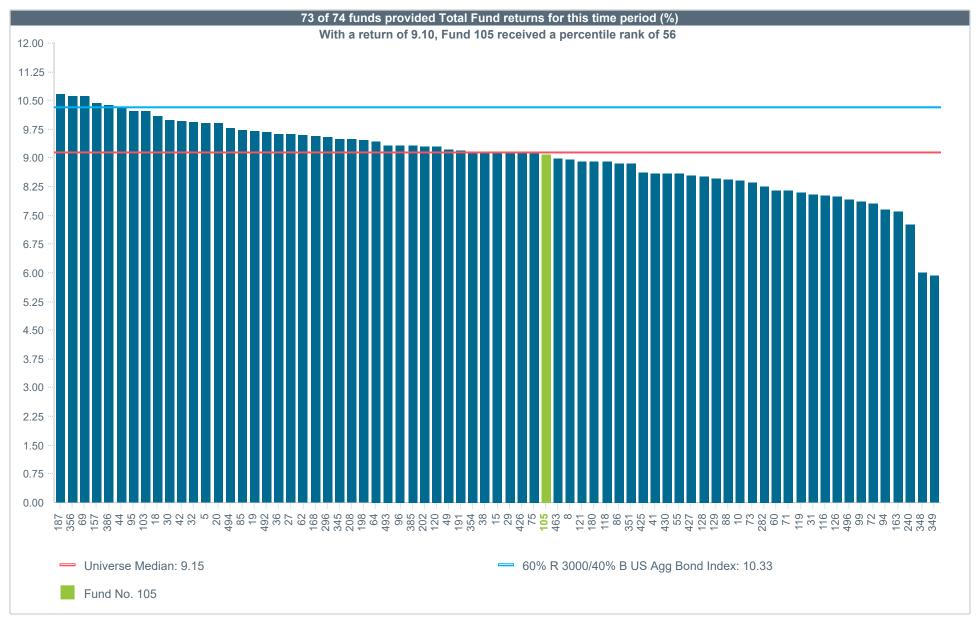




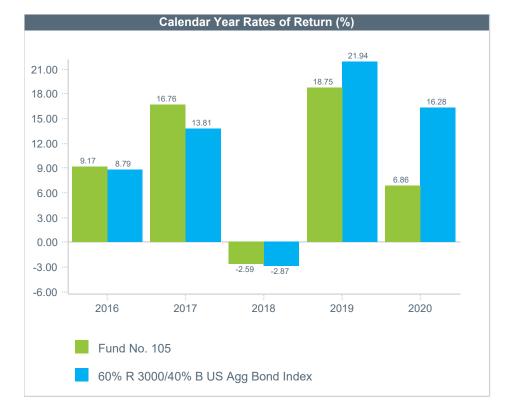
人 RVK

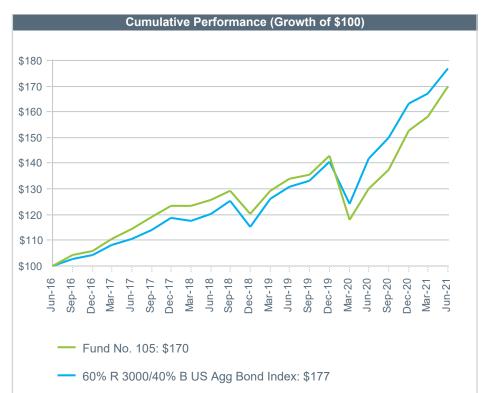






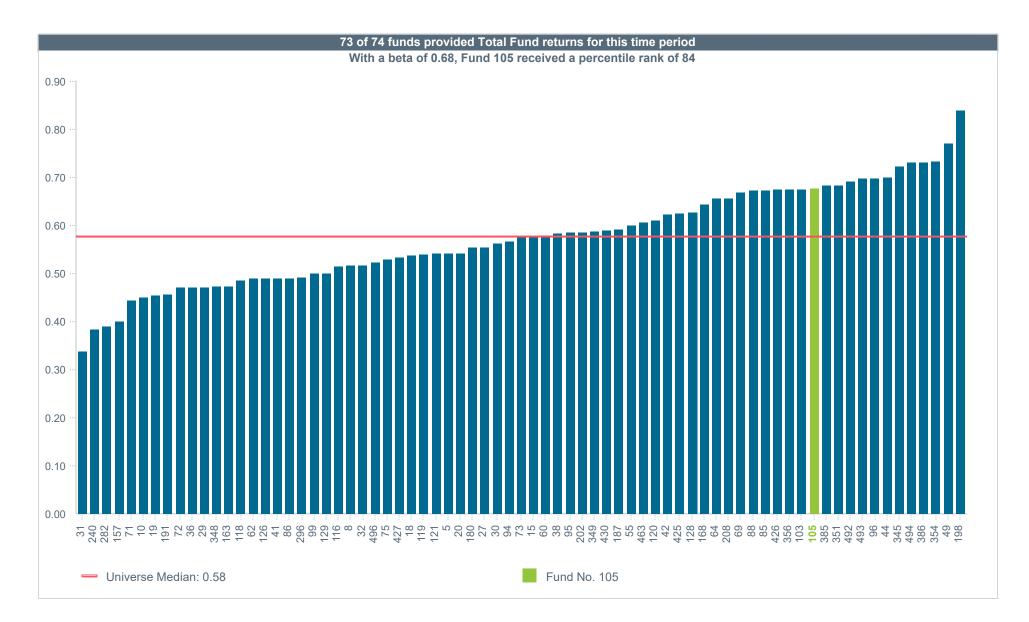






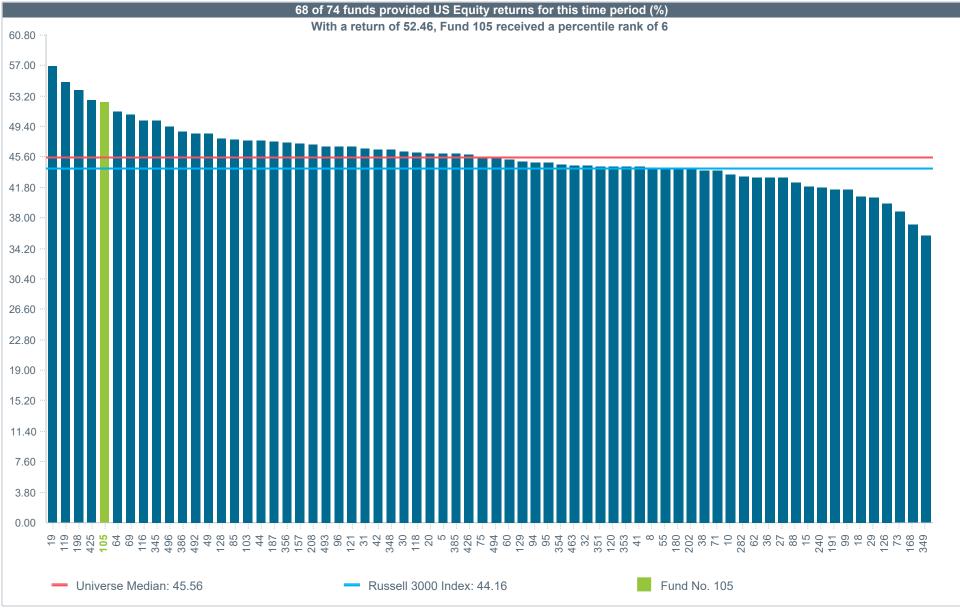
Annualized Returns (%)				
	1 Year	3 Years	5 Years	
Fund No. 105	30.57	10.56	11.19	
60% R 3000/40% B US Agg Bond Index	24.80	13.72	12.06	
Variance	5.77	-3.16	-0.87	





Funds with less history than the specified time period will not appear in the chart. Benchmark used is the S&P 500 Index (Cap Wtd).







人 RVK

	68 of 74 funds provided US Equity returns for this time period (%)
21.60	With a return of 17.90, Fund 105 received a percentile rank of 41
20.25	
18.90	
17.55	
16.20	
14.85	
13.50	
12.15	
10.80	
9.45	
8.10	
6.75	
5.40	
4.05	
2.70	
1.35	
0.00	
	111 356 356 356 356 357 357 357 357 357 357 357 357 357 357
	Universe Median: 17.82 Russell 3000 Index: 17.89 Fund No. 105

KVK

17.60

16.50

15.40

14.30

13.20

12.10

11.00

9.90

8.80

7.70

6.60

5.50

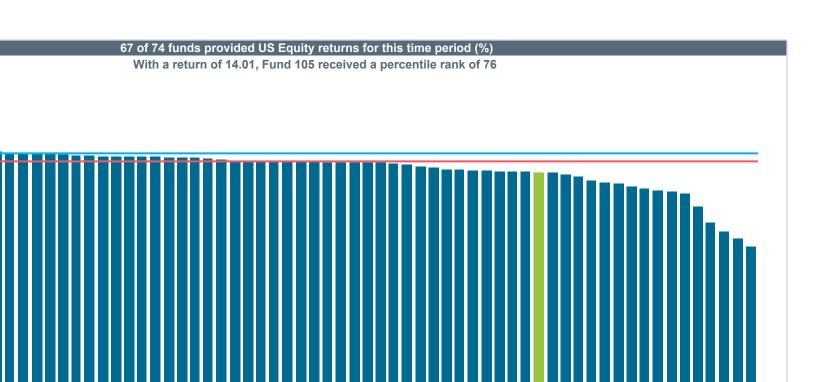
4.40

3.30

2.20

1.10

0.00



Fund No. 105



- Universe Median: 14.40



 1103

 202

 641

 103

 944

 1103

 945

 946

 947

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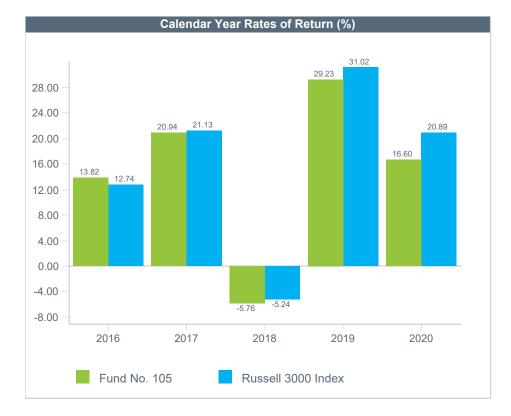
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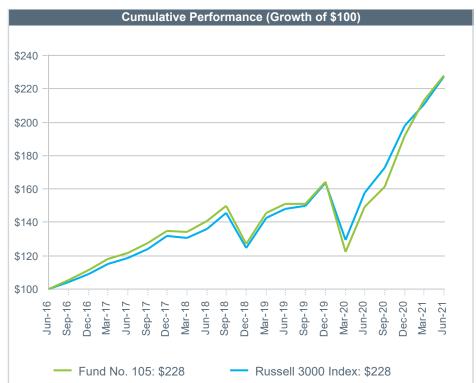
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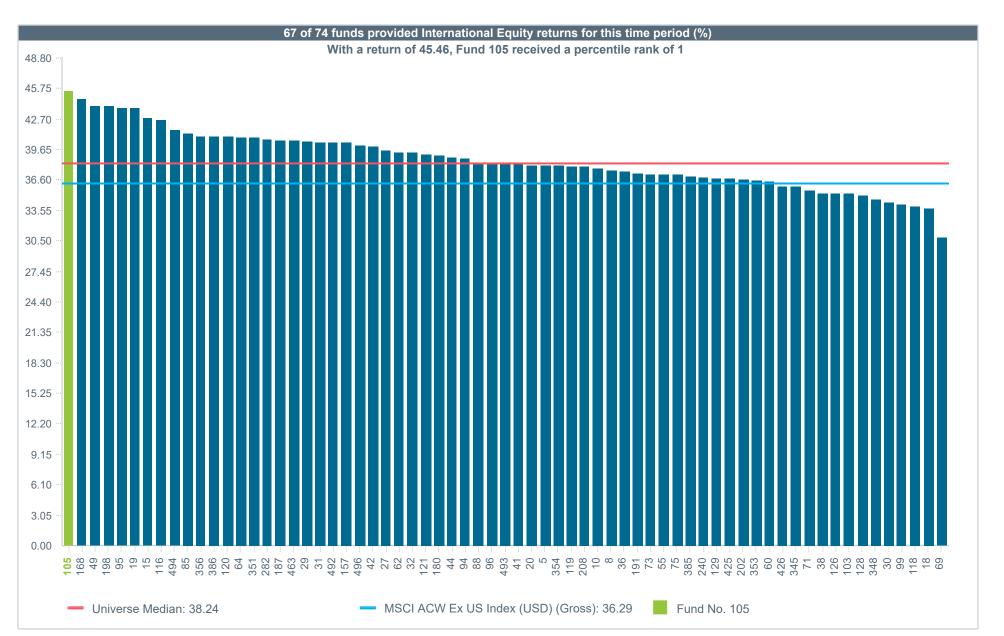
- Russell 3000 Index: 14.70



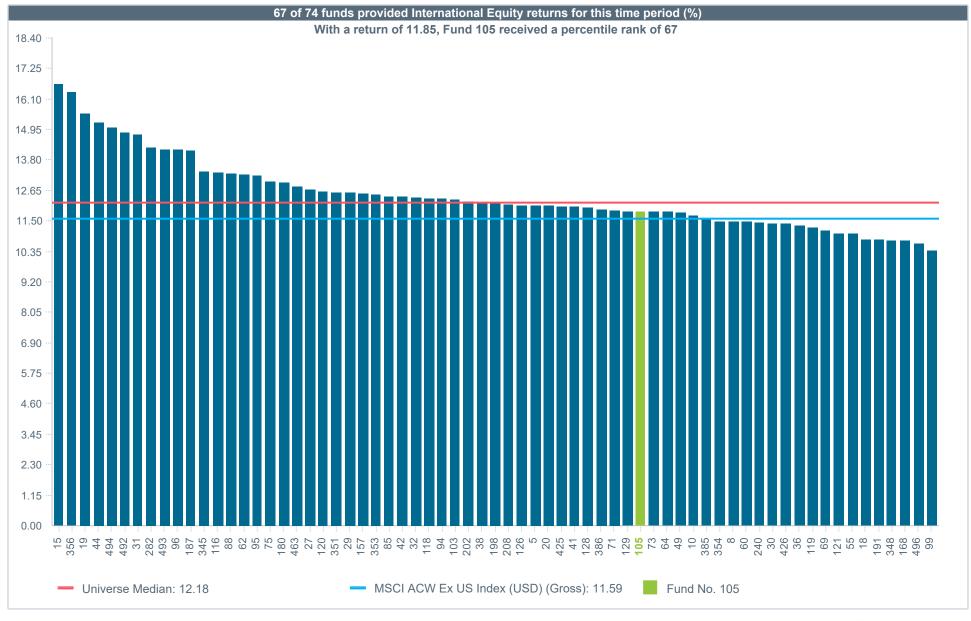


	Annualized Returns (%)				
	1 Year	3 Years	5 Years		
Fund No. 105	52.46	17.40	17.90		
Russell 3000 Index	44.16	18.73	17.89		
Variance	8.30	-1.33	0.01		

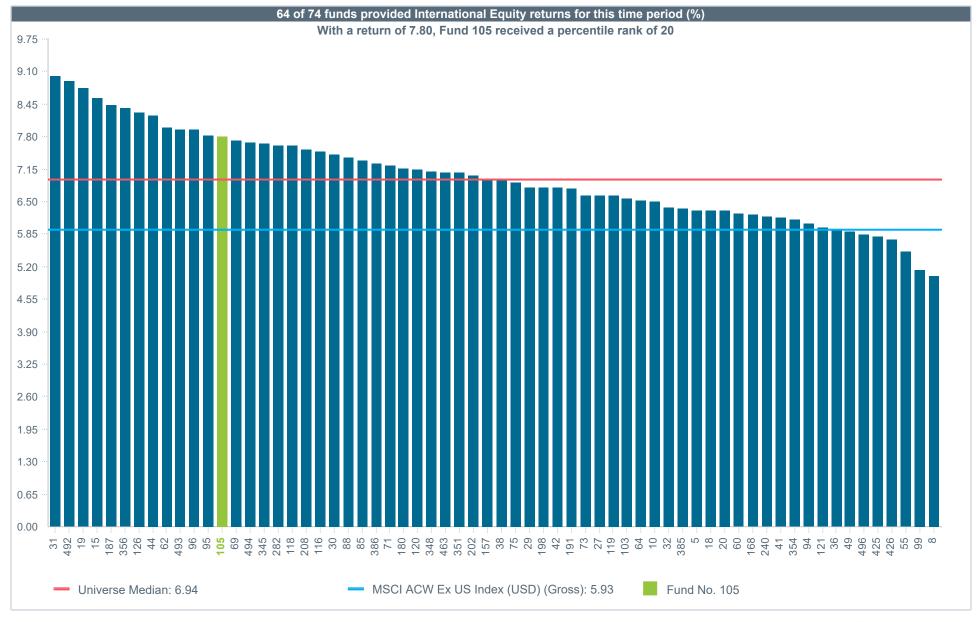




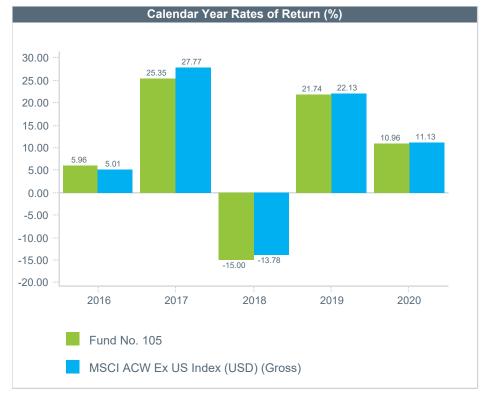


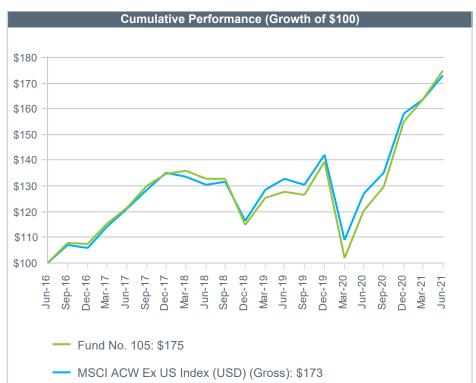


人 RVK



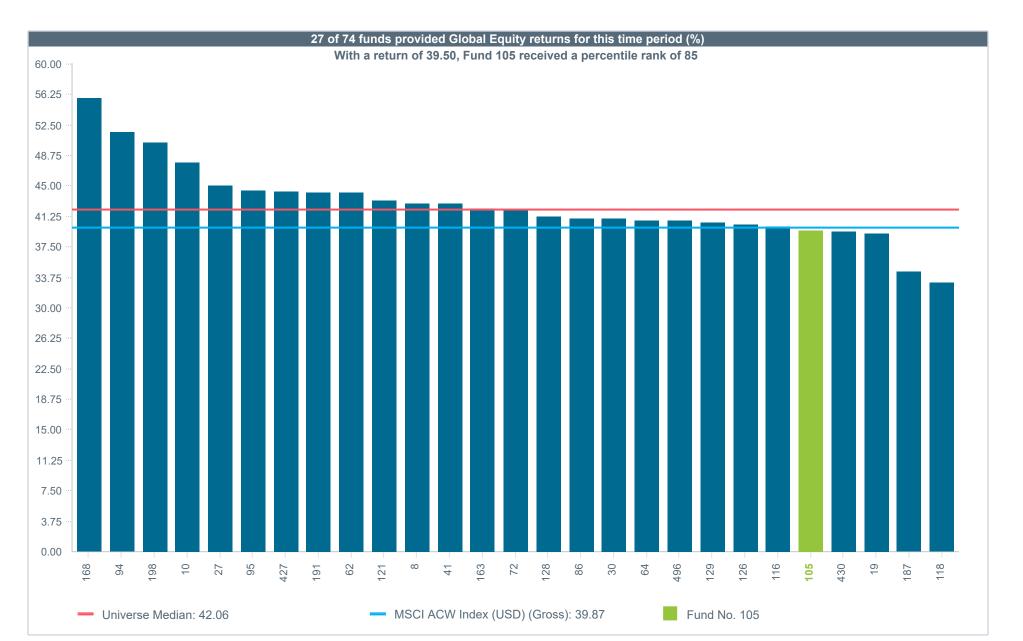
人 RVK



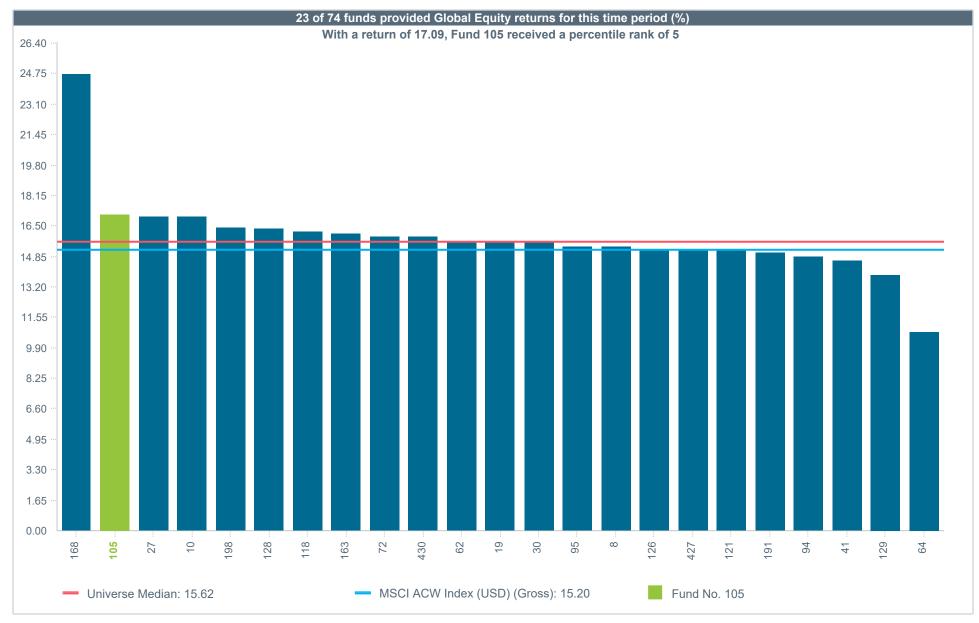


	Annualized Returns (%)		
	1 Year	3 Years	5 Years
Fund No. 105	45.46	9.70	11.85
MSCI ACW Ex US Index (USD) (Gross)	36.29	9.88	11.59
Variance	9.17	-0.18	0.26

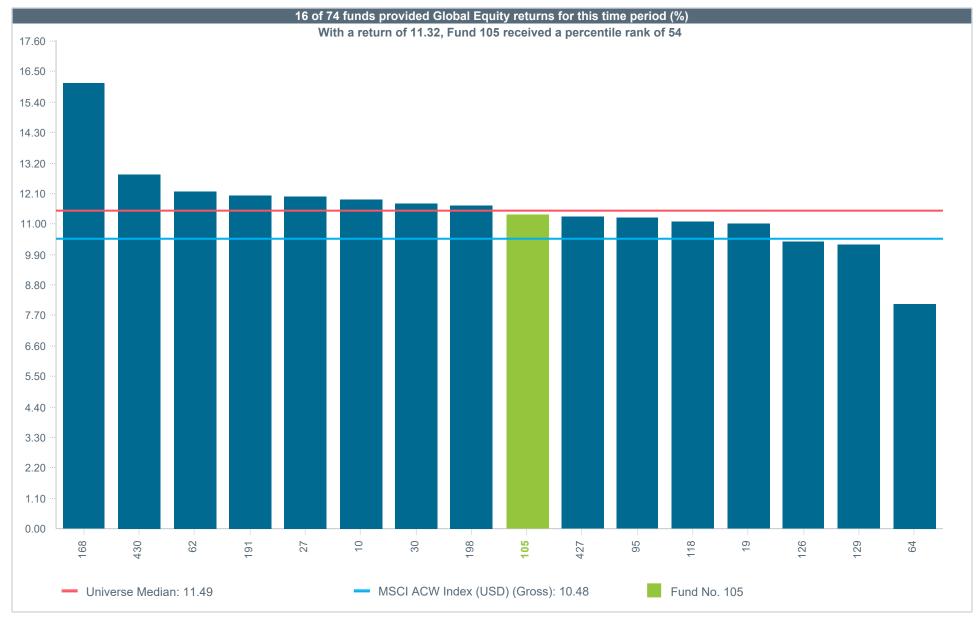






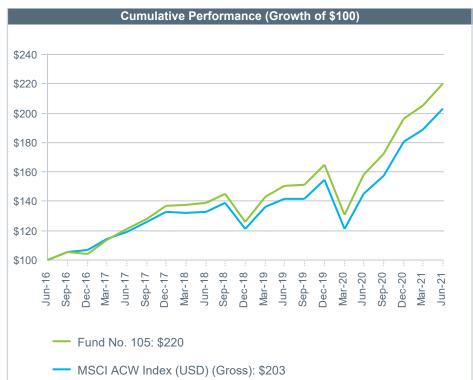












	Annualized Returns (%)		
	1 Year	3 Years	5 Years
Fund No. 105	39.50	16.64	17.09
MSCI ACW Index (USD) (Gross)	39.87	15.14	15.20
Variance	-0.37	1.50	1.89



9.00

8.10

7.20

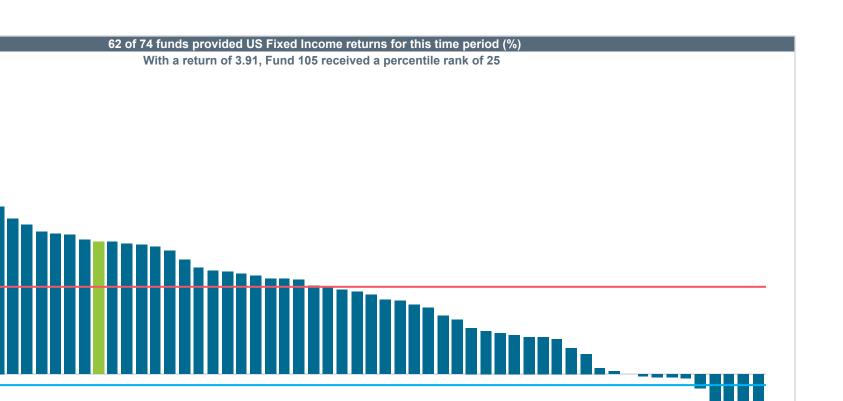
6.30

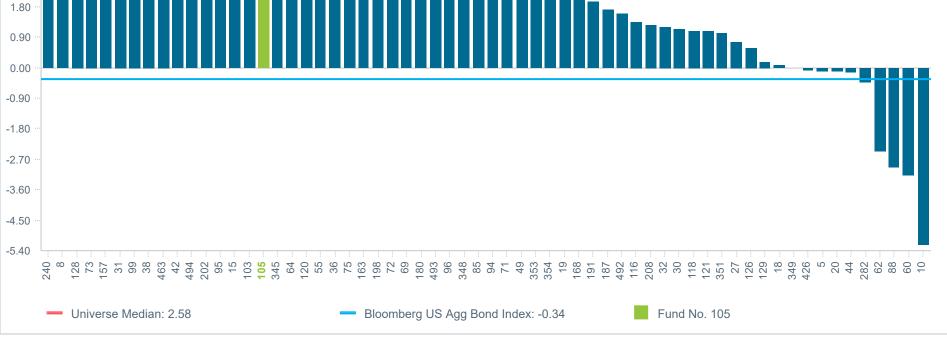
5.40

4.50

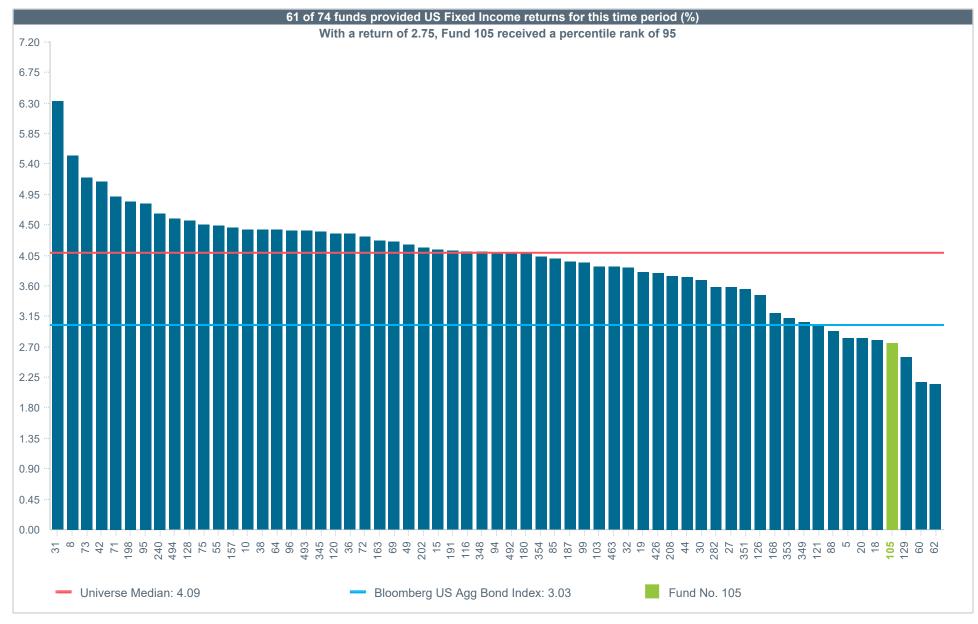
3.60

2.70

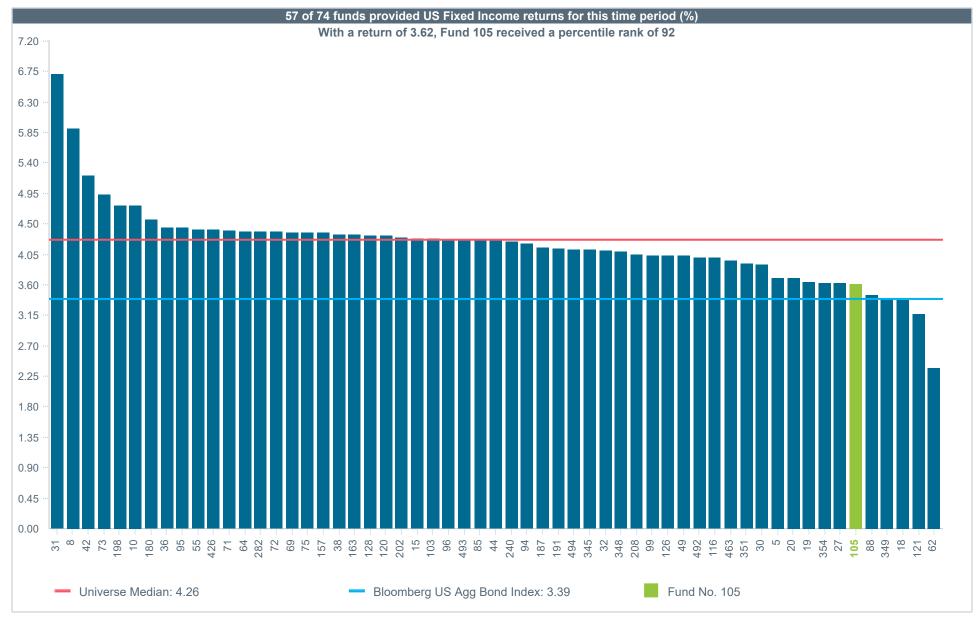




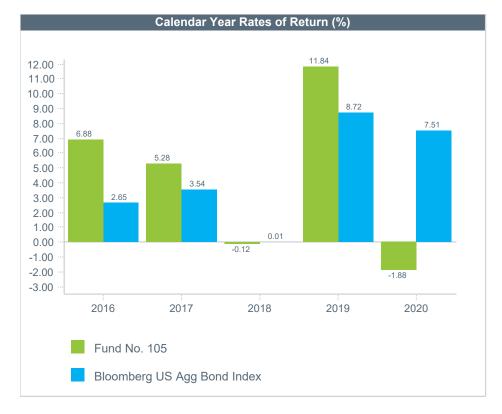


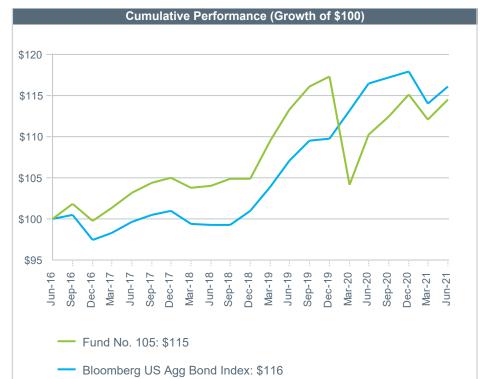








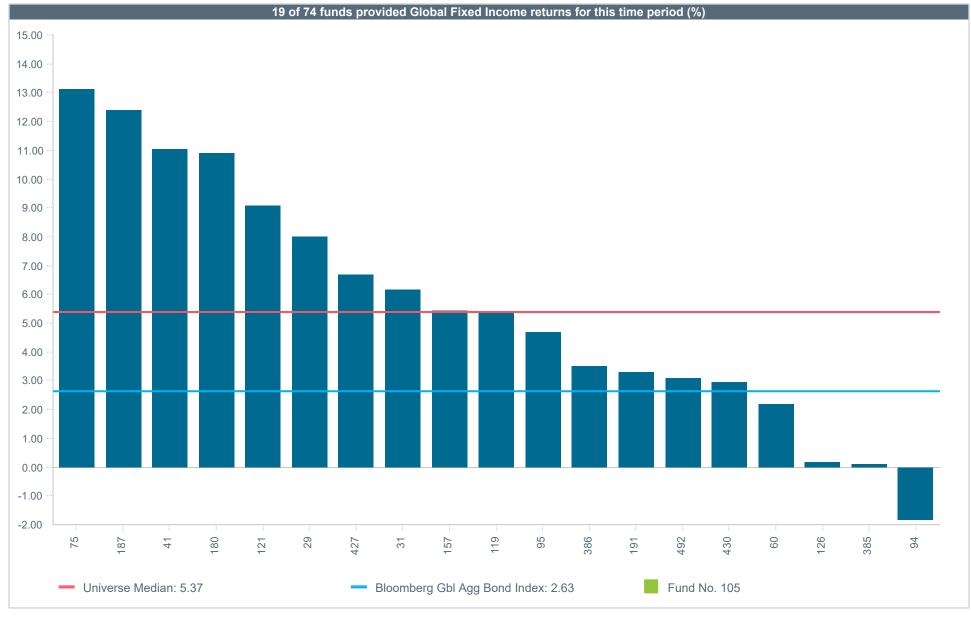




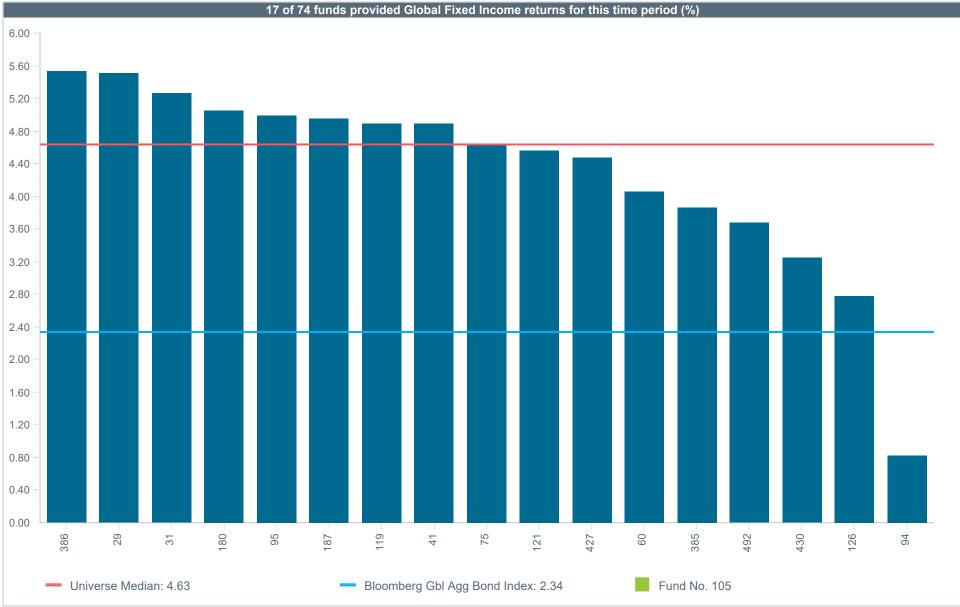
	Annualized Returns (%)		
	1 Year	3 Years	5 Years
Fund No. 105	3.91	3.25	2.75
Bloomberg US Agg Bond Index	-0.34	5.34	3.03
Variance	4.25	-2.09	-0.28



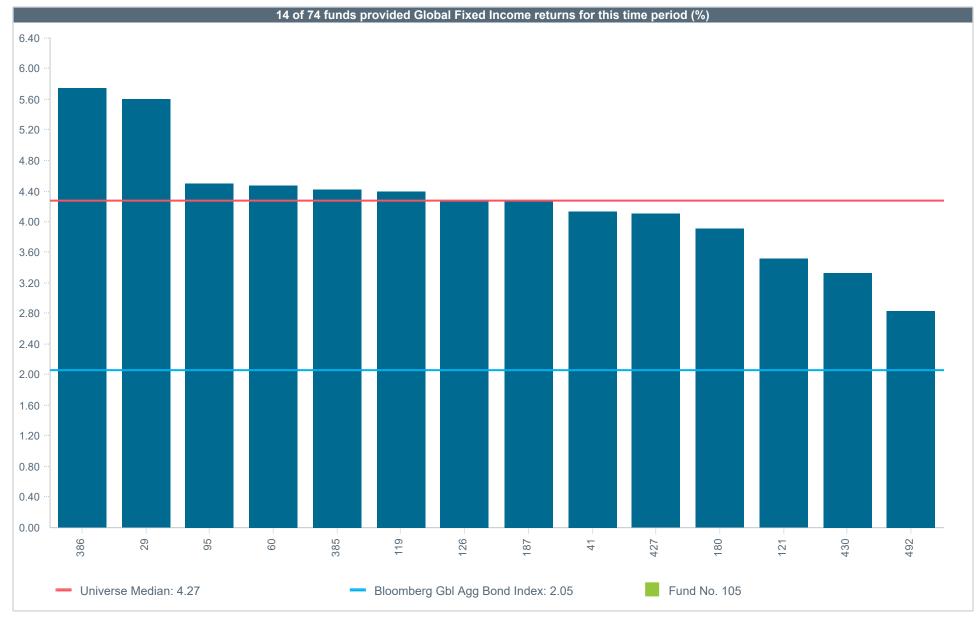
#### 1 Year Annualized Global Fixed Income Returns









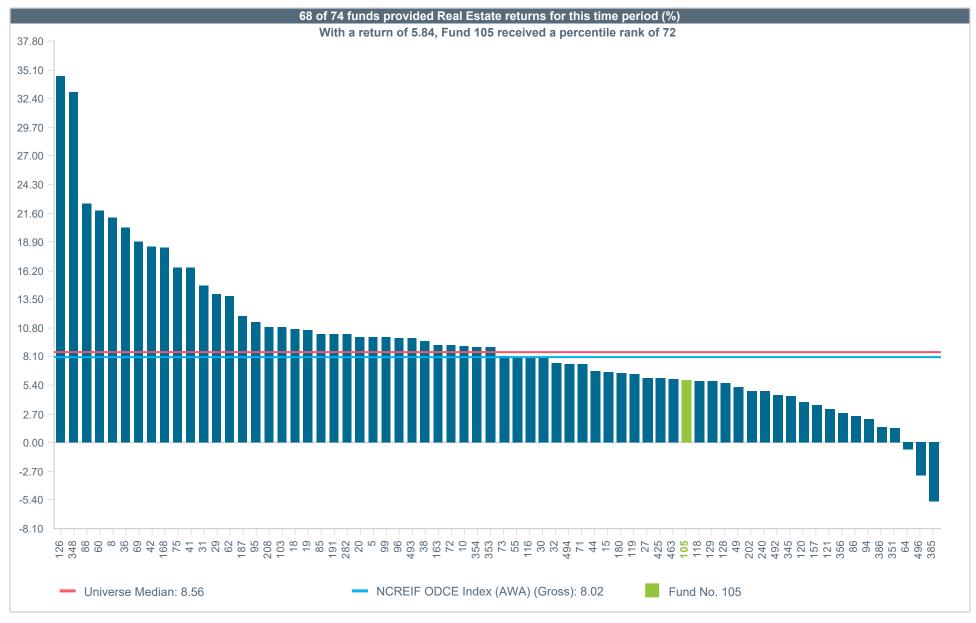




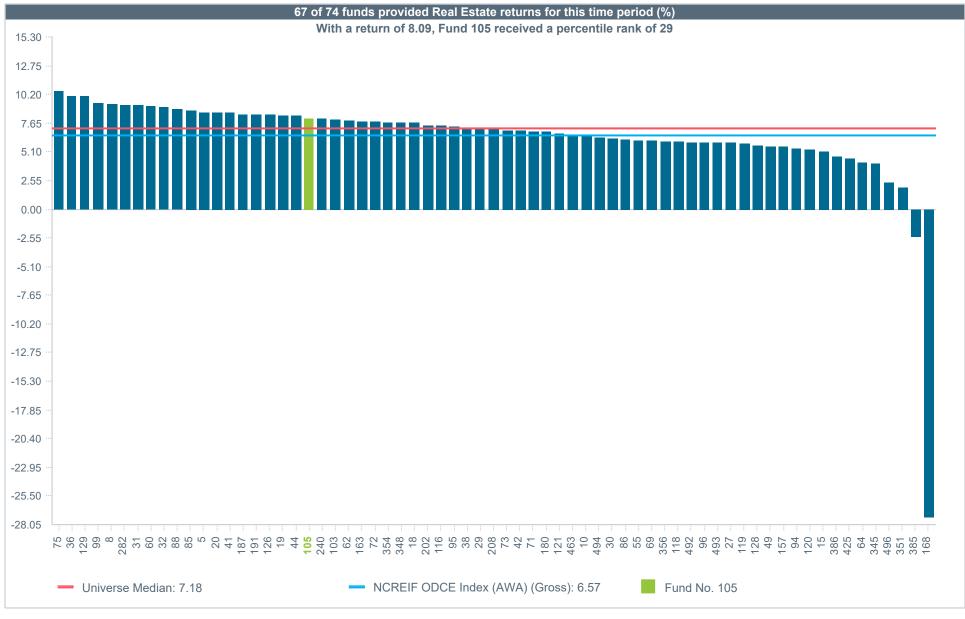
Cumulative Performance (Growth of \$100)
rn data for Global Fixed Income

	Annualized Returns (%)		
	1 Year	3 Years	5 Years
Fund No. 105	N/A	N/A	N/A
Bloomberg Gbl Agg Bond Index	N/A	N/A	N/A
Variance	N/A	N/A	N/A

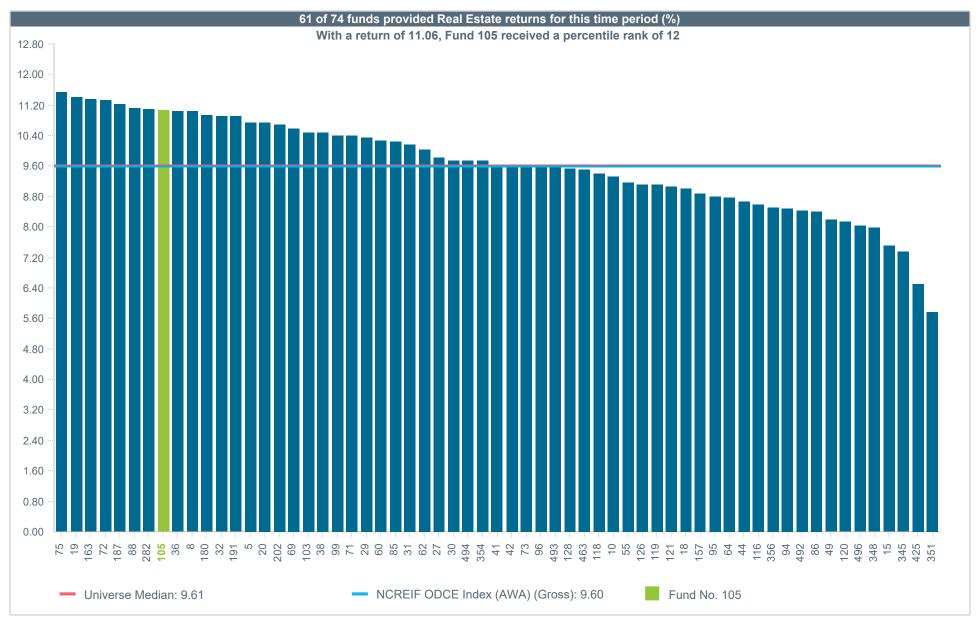




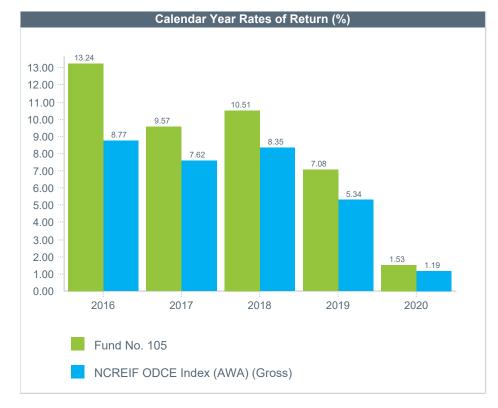


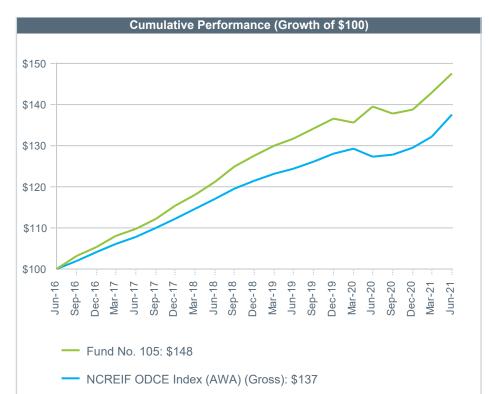








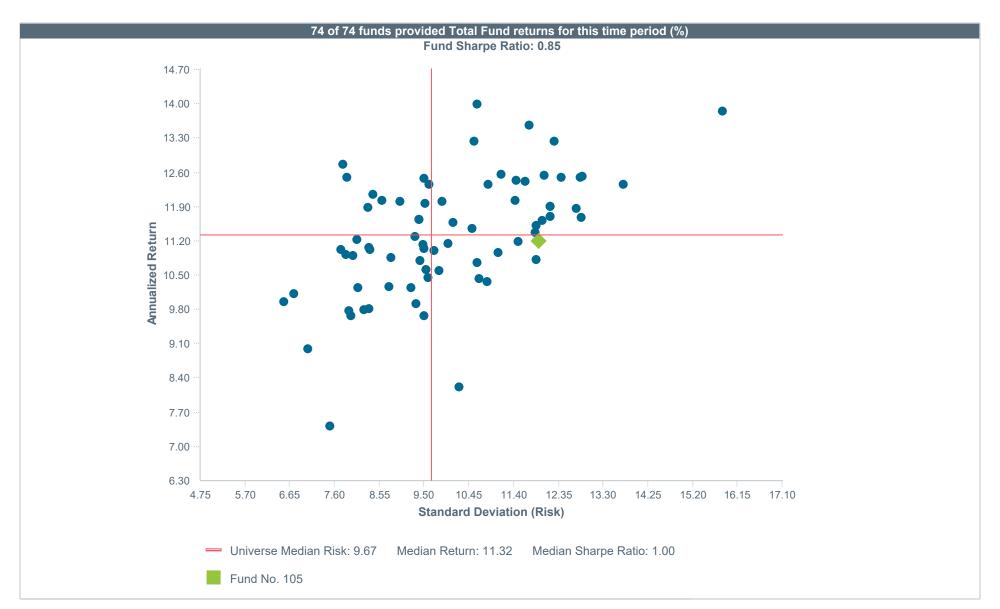




	Annualized Returns (%)		
	1 Year	3 Years	5 Years
Fund No. 105	5.84	6.76	8.09
NCREIF ODCE Index (AWA) (Gross)	8.02	5.52	6.57
Variance	-2.18	1.24	1.52

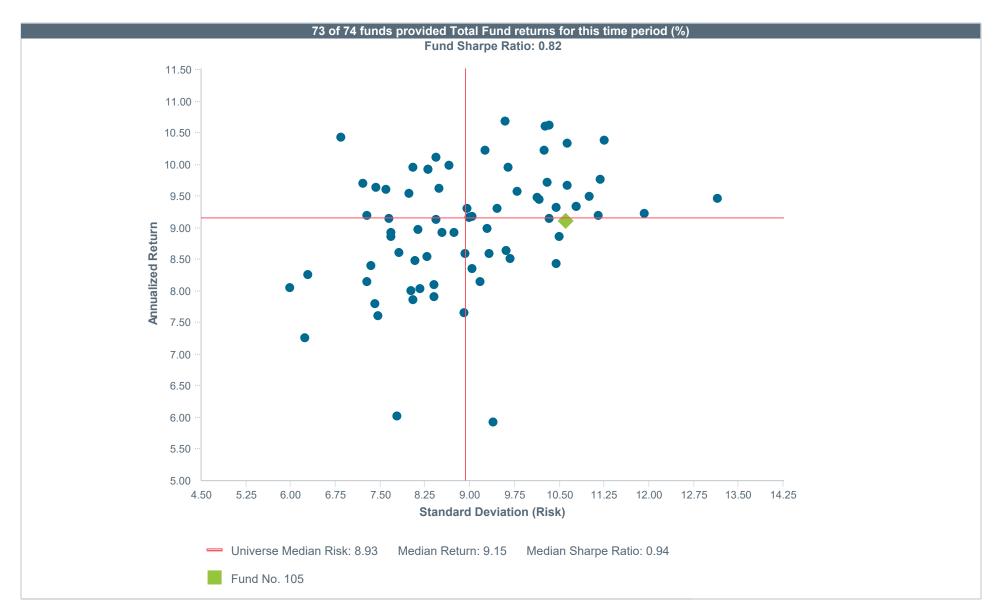


5 Year Annualized Total Fund Returns vs. Standard Deviation



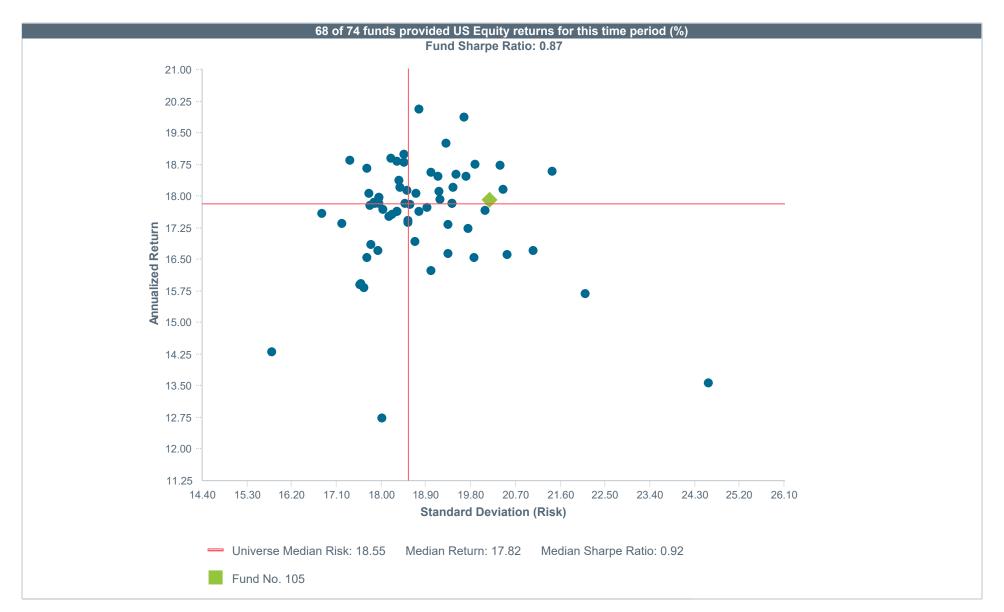


10 Year Annualized Total Fund Returns vs. Standard Deviation



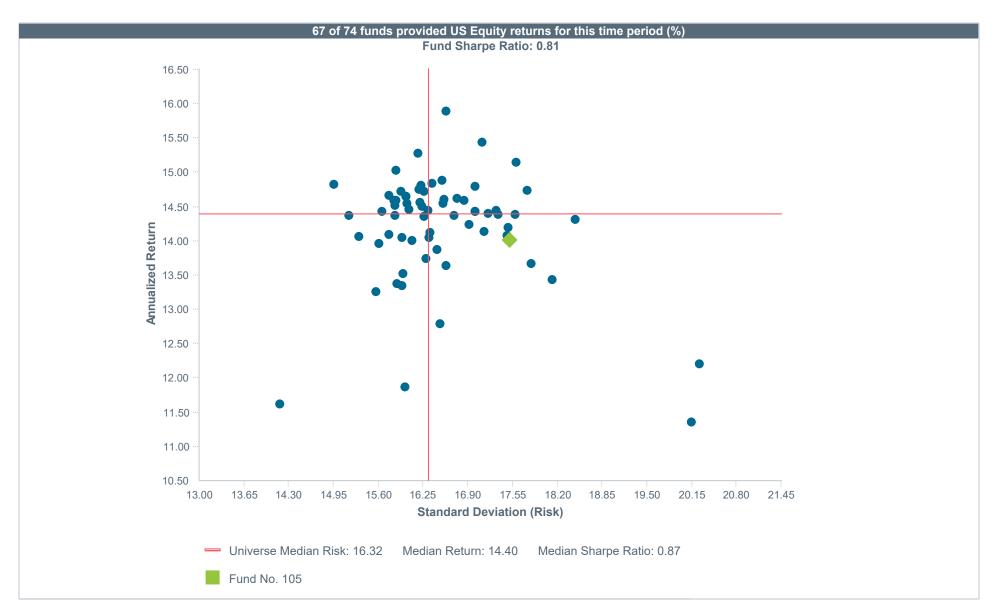


5 Year Annualized US Equity Returns vs. Standard Deviation



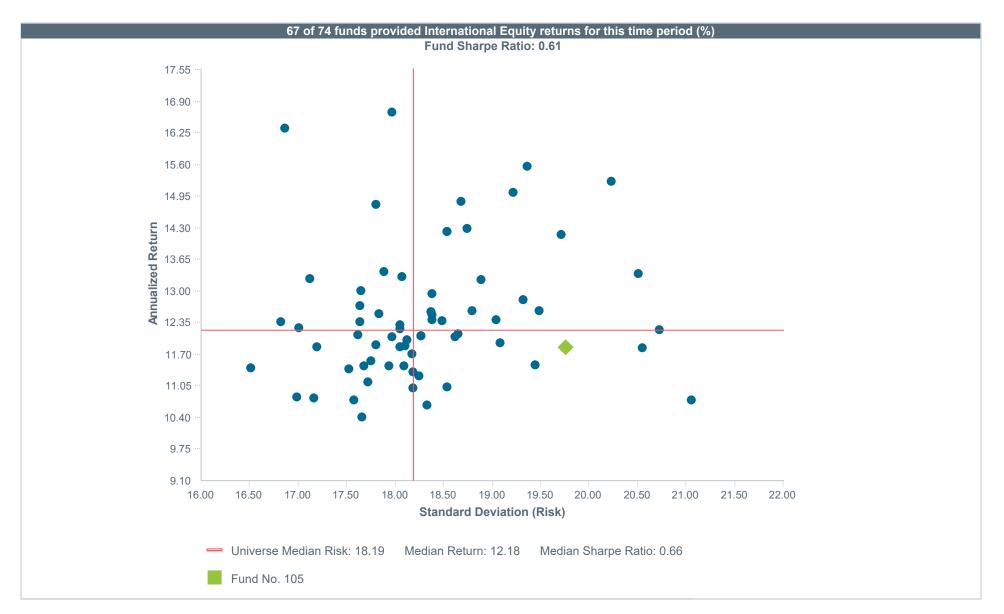


10 Year Annualized US Equity Returns vs. Standard Deviation



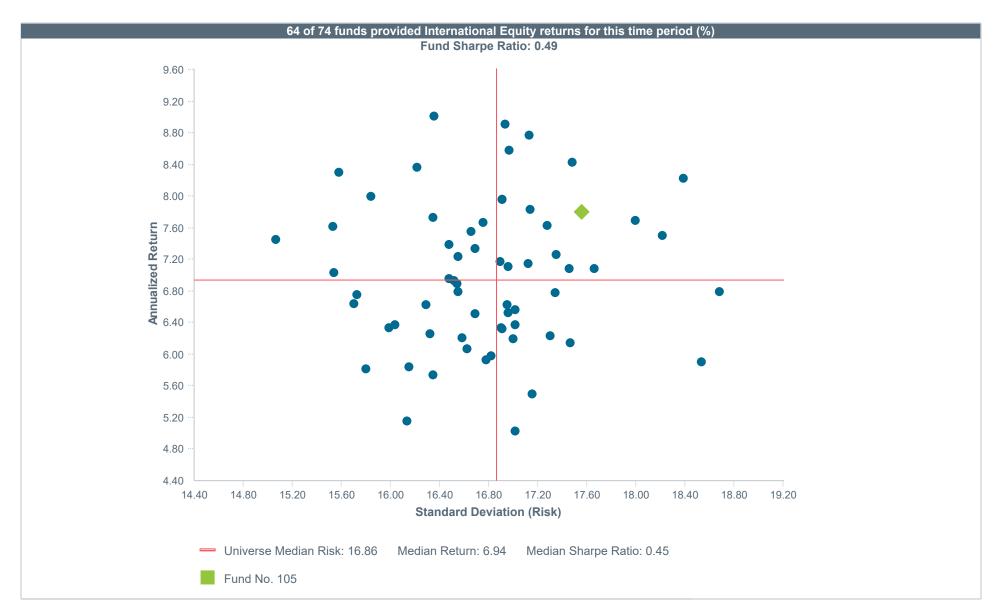


5 Year Annualized International Equity Returns vs. Standard Deviation



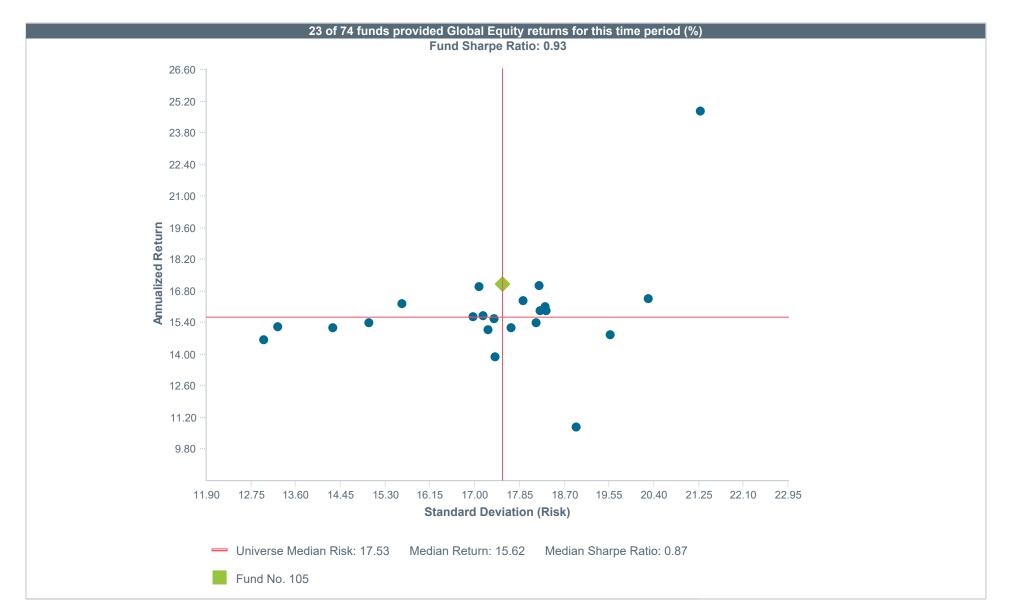


10 Year Annualized International Equity Returns vs. Standard Deviation



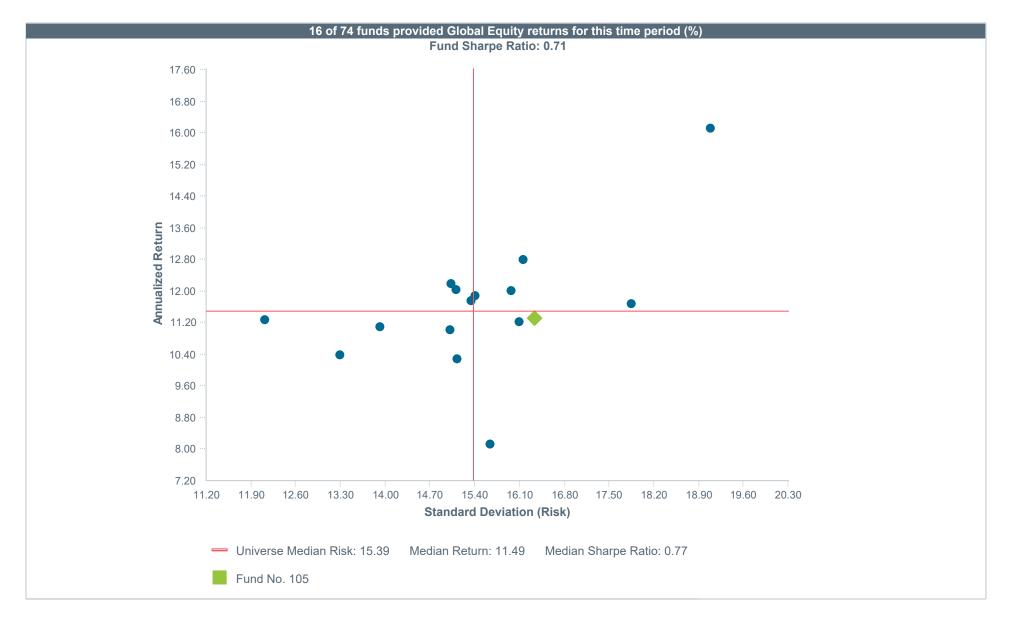


5 Year Annualized Global Equity Returns vs. Standard Deviation





10 Year Annualized Global Equity Returns vs. Standard Deviation





5 Year Annualized US Fixed Income Returns vs. Standard Deviation



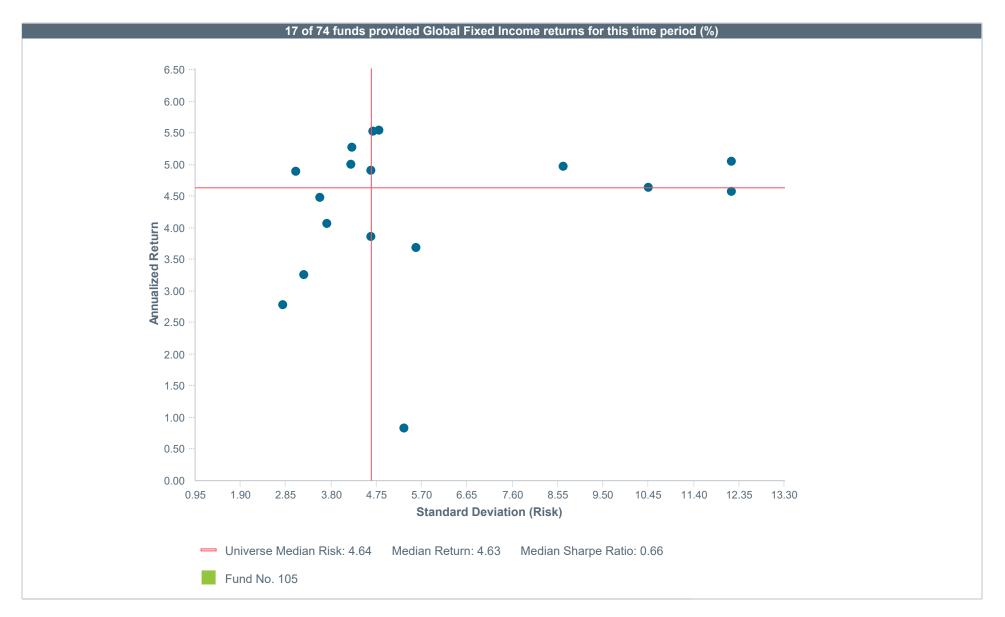


10 Year Annualized US Fixed Income Returns vs. Standard Deviation



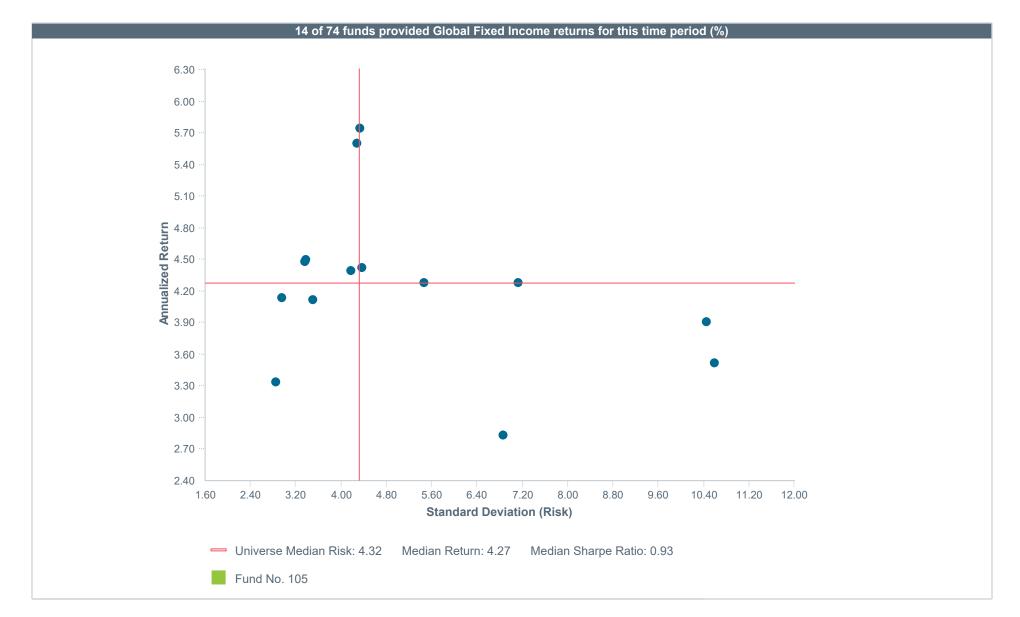


5 Year Annualized Global Fixed Income Returns vs. Standard Deviation



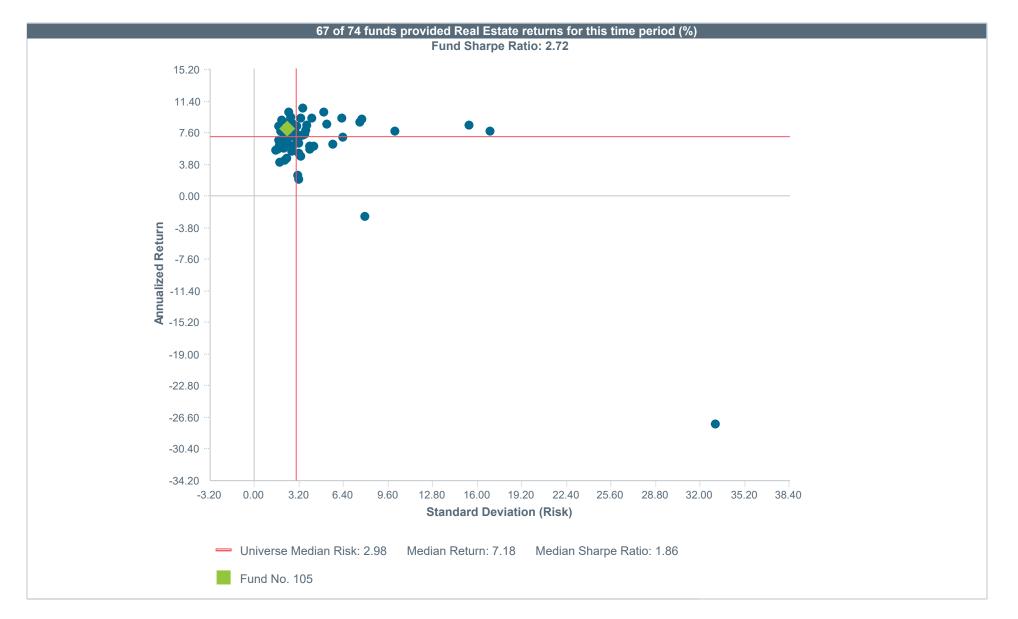


10 Year Annualized Global Fixed Income Returns vs. Standard Deviation



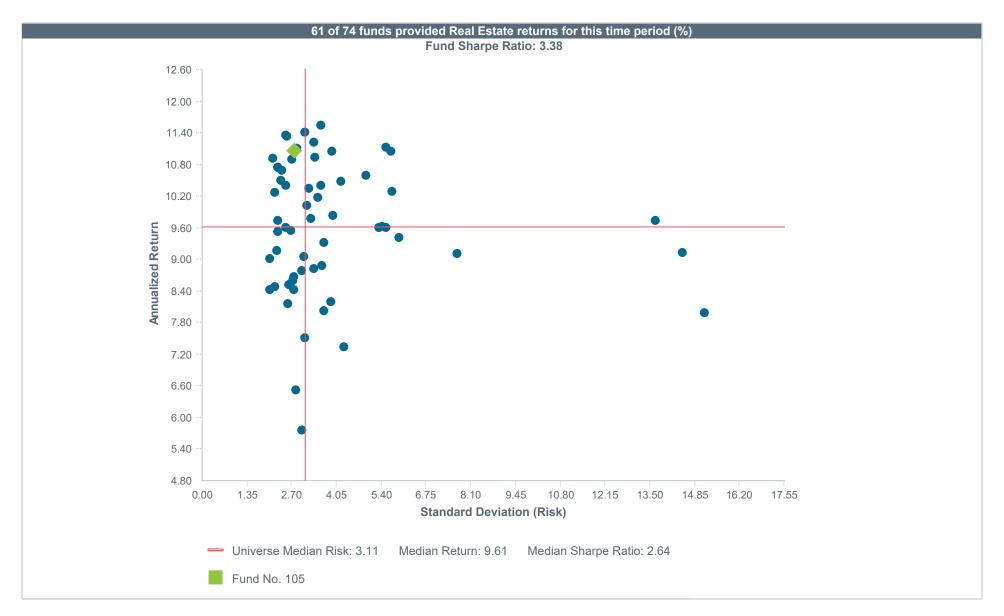


5 Year Annualized Real Estate Returns vs. Standard Deviation



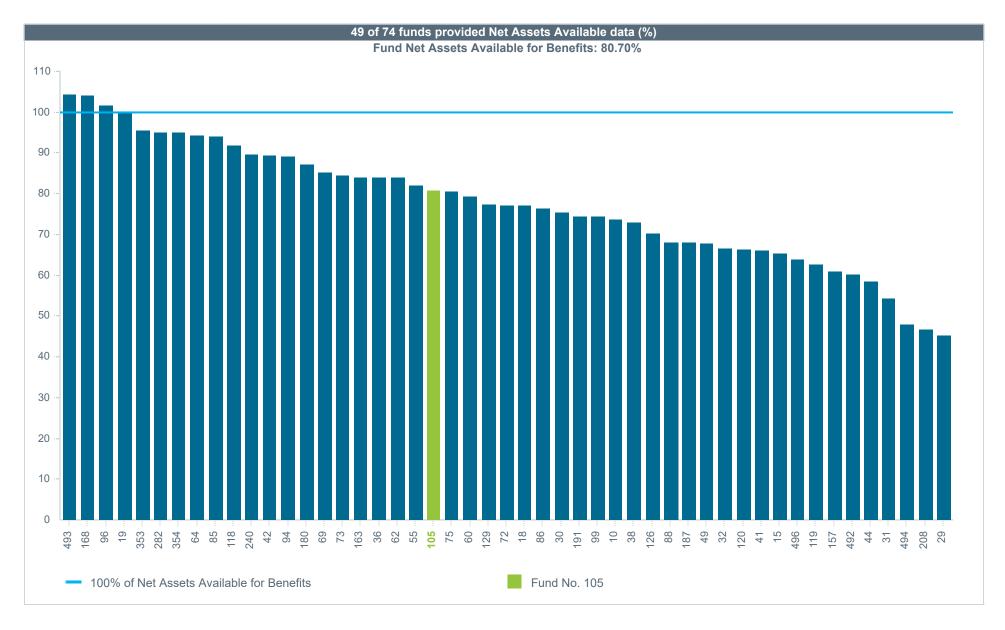


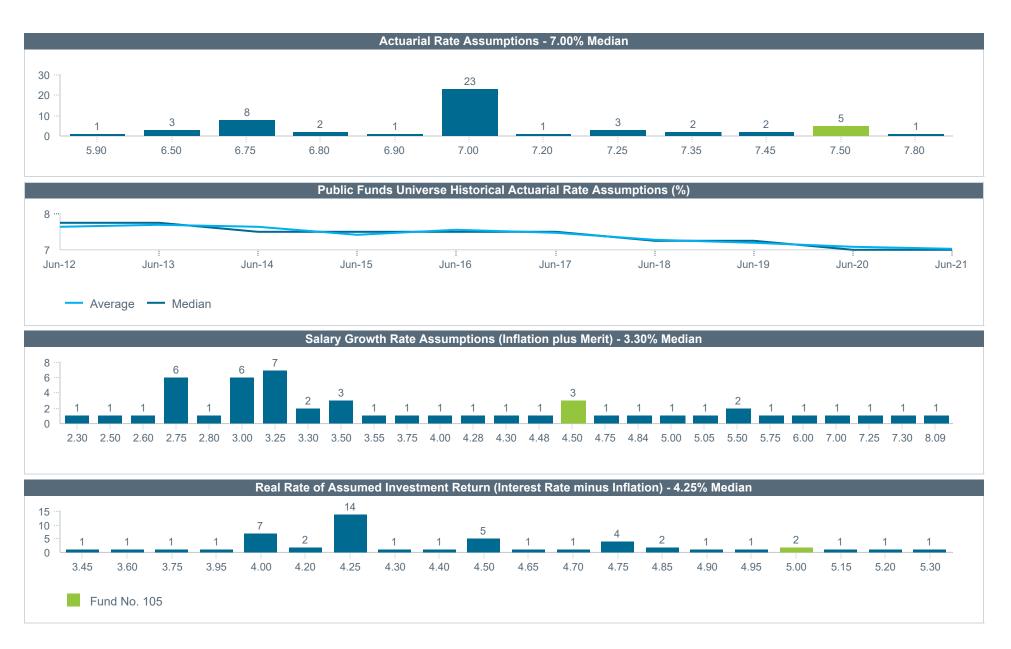
10 Year Annualized Real Estate Returns vs. Standard Deviation





### Net Assets Available For Benefits Expressed as a Percentage of the Pension Benefit Obligation





Funds that did not provide data will not appear in the chart.

#### **Overlay Survey Summary**

Q1. Of the 74 participants in the 2021 Q2 Public Fund Report, 53 participants provided a response to the Overlay Survey. Of those participants, 23 are currently using a form of overlay, 1 is considering evaluating a form of overlay, and 29 are not currently using or considering evaluating any form of overlay.

Q2. Of the 23 participants that provided a response to the Overlay Survey and have exposure to an overlay manager or managers, the purposes of the overlay programs are distributed as follows:

- 35 % Manage foreign currency risk
- 30 % Generate alpha
- 0 % Match Plan liabilities more closely (either as part of an explicit or conceptual framework)
- 4 % Express a view on US Dollar
- 0 % Manage market risk within an LDI construct
- 30 % Tactical asset allocation
- 61 % Cash equitization
- 61 % Rebalancing management
- 26 % Transition management
- 9% Other

Q3. Of the 11 participants that provided a response to the Overlay Survey and have exposure to a currency manager or managers, the program structures are distributed as follows:

- 55 % Static hedge ratio
- 27 % Dynamic hedging program where manager varies the hedge ratio
- 27 % Alpha generating currency manager focused on absolute return

Q4. Of the 8 participants that provided a response to the Overlay Survey and indicated use of a hedge ratio on a currency program, the responses are distributed as follows:

- 1 response indicated 25 % hedge on All Equities
- 6 responses indicated 50 % hedge on Developed Equity exposure
- 1 response indicated 65 % hedge on Developed Equity exposure
- 1 response indicated 75 % hedge on Developed Equity exposure
- 2 responses indicated 50 % hedge on International Equity exposure
- 1 response indicated 65 % hedge on International Equity exposure
- 1 response indicated 50 % hedge on Other



#### Supplemental Questions

- Q1. Of the 49 respondents, the methods of Private Equity reporting are distributed as follows:
  - 43 % Valuations and cash flows are updated and reflected as received by custodian
  - 6 % Reported on a 1 month lag to account for additional valuations and cash flow activity
  - 51 % Reported on a 1 quarter lag to account for most all valuations and cash flow activity

Q2. Of the 51 respondents, the methods of Private Real Estate reporting are distributed as follows:

- 55 % Valuations and cash flows are updated and reflected as received by custodian
- 8 % Reported on a 1 month lag to account for additional valuations and cash flow activity
- 37 % Reported on a 1 quarter lag to account for most all valuations and cash flow activity

Q3. Of the 52 respondents, the responses to whether or not Private Equity and/or Private Real Estate valuations are restated once final valuations are received from the managers are distributed as follows:

- 29 % Answered 'Yes' valuations are restated
- 71 % Answered 'No' valuations are not restated

Q4. Of the 48 respondents, the responses to whether or not a third party risk software provider is used are distributed as follows:

- 38 % Answered 'Yes'
- 63 % Answered 'No'





#### Addendum and Glossary

#### **Miscellaneous Comments**

- · Performance shown is gross of fees, with the exception of the following:
  - Funds 8, 31, 49, 350, and 351: Performance shown is net of fees.
  - Funds 4, 55, 75, and 85: Performance shown for Real Estate is net of fees.
- Performance shown is calculated using quarterly performance provided by participating public funds.
- Performance shown may differ from a fund's actual performance due to rounding.
- Net Assets Available for Benefits includes funding percentage valuation as of dates between June 2020 and June 2021.
  - Fund 96: Net Assets Available for Benefits shown is the higher funded ratio for one of two commingled systems reported by the fund.
- Allocations shown reflect dedicated managers/mandates rather than actual exposure, with the exception of the following:
  - Funds 29, 86, and 119: Performance shown for Global Fixed Income includes US and Non-US Fixed Income funds.
  - Fund 121: Performance shown for Global Fixed Income includes Non-US Fixed Income funds.
  - Funds 4, 42, 64, 99, 202, and 240: Performance shown for US Fixed Income includes US and Non-US Fixed Income funds.

#### **Glossary of Terms**

**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. Calculation is based on quarterly periodicity.

Return - Compounded rate of return for the period.

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

**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. Calculation is based on quarterly periodicity.

**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. Calculation is based on quarterly periodicity.



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