Western States Office & Professional Employees Pension Fund

Investment Performance Review

Period Ending: September 30, 2021

Verus

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SEATTLE 206-622-3700
LOS ANGELES 310-297-1777
SAN FRANCISCO 415-362-3484
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3rd quarter summary

THE ECONOMIC CLIMATE

— Real GDP grew at a 12.2% rate year-over-year in Q2 (+6.7% quarterly annualized rate) as the U.S. fully recovered from the pandemic-induced recession of 2020.

— In the U.S. labor market, unemployment has fallen as many workers who desired jobs have been successful in gaining employment. The overall U.S. labor participation rate has not improved, as millions of workers remain neither employed nor seeking employment.

— Consumer sentiment deteriorated during the third quarter, on reports of pessimism around the COVID Delta variant, higher inflation, and unfavorable economic prospects. Small business optimism also fell, as businesses face difficulty in hiring and are concerned about tax increases and more burdensome government regulations.

PORTFOLIO IMPACTS

— Credit markets traded in a relatively tight range throughout the quarter, delivering mild returns. Bank loans outperformed in Q3, returning 1.1% and outpacing high yield bonds (0.9%) and corporate investment grade (0.0%).

— U.S. core CPI, which excludes food & energy prices, rose 4.0% YoY in September. U.S. headline inflation came in at 5.4%. Price changes moderated during Q3, relative to the larger price moves that occurred in March through June.

THE INVESTMENT CLIMATE

— The Biden Administration's $3.5 trillion social spending package remains in the negotiation stage among Democrats, as the size of the package, the contents, and national concerns over inflation have given some members of the party reason to pause. The package is reportedly being scaled back, which creates the risk of rejection from progressives within the party who are pushing for more spending.

— It seems that investors have put the 2020 pandemic-induced recession and its associated risks behind them. However, it is not clear that market risks have completely subsided, as the Delta-variant continues to spread, high inflation could indeed persist, and most governments are set to pull back generous stimulus programs.

ASSET ALLOCATION ISSUES

— Equity markets took a breather in Q3. U.S. equities delivered 0.6%, while international equities experienced slight losses of -0.4% and emerging market equities saw a larger selloff of -8.1%, on an unhedged currency basis.

— Factor performance was negative during the quarter, as large capitalization stocks outperformed small cap by a wide margin (Russell 1000 +0.2%, Russell 2000 -4.4%) and growth stocks beat value (Russell 1000 Growth +1.2%, Russell 1000 Value -0.8%).

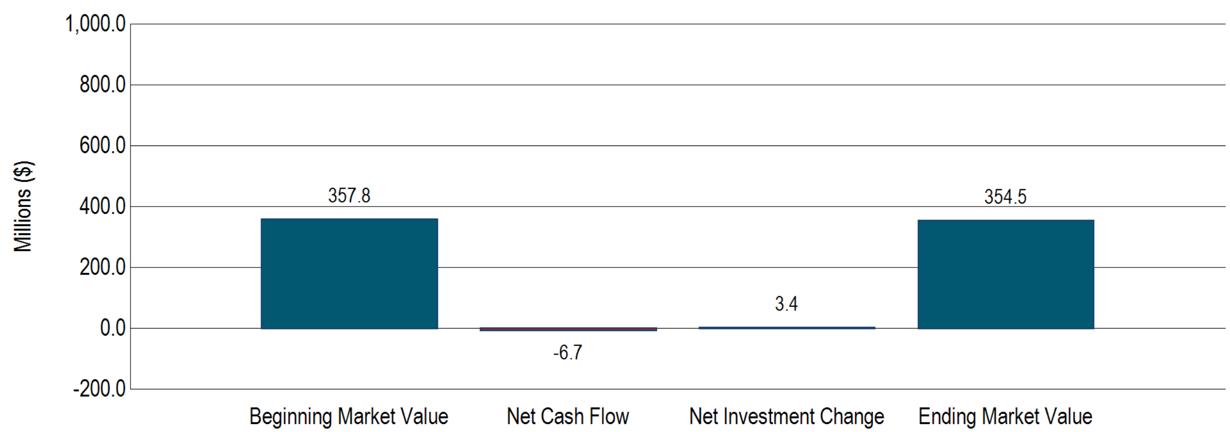
The economic recovery may be slowing, though the environment remains positive for risk assets

We believe a neutral risk stance is warranted in the current environment

Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	$357,823,156	$339,009,626
Net Cash Flow	-$6,706,431	-$14,333,138
Net Investment Change	$3,391,419	$29,831,656
Ending Market Value	$354,508,144	$354,508,144

Change in Market Value
Last Three Months



Contributions and withdrawals may include intra-account transfers between managers/funds.

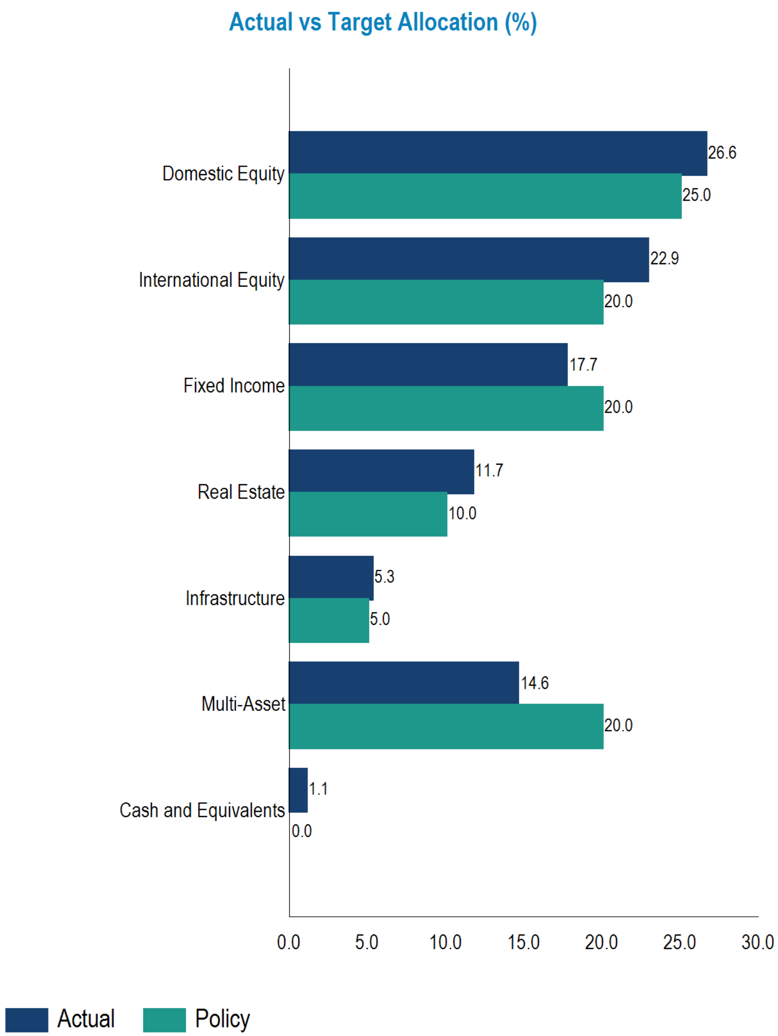
Cash Flow by Manager - Last Three Months

Period Ending: September 30, 2021

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
BlackRock Equity Index NL	$39,517,784	$0	-$3,000,000	-$3,000,000	$315,383	$36,833,166
INTECH US Adaptive Volatility	$38,600,599	$0	$0	$0	$323,612	$38,924,211
Vanguard Small Cap Index Ins	$19,168,770	$0	$0	$0	-$499,822	$18,668,948
WCM Focused International Growth Fund, L.P.	$52,812,826	$0	$0	$0	$283,747	$53,096,573
Causeway International Value Ins	$28,492,399	$0	$0	$0	-$273,344	$28,219,055
Loomis Sayles Core Plus	$62,743,996	$0	$0	$0	$105,689	$62,849,685
ASB Allegiance Real Estate	$22,879,531	$0	$0	$0	$1,131,356	$24,010,887
JPMorgan Special Situation Property	$16,238,565	$0	-$61,472	-$61,472	$1,364,313	$17,541,406
IFM Global Infrastructure (US) LP	$11,249,951	$0	-$462,662	-$462,662	$527,455	$11,314,744
JPMorgan IIF ERISA LP	$7,654,189	$0	-$301,046	-$301,046	$95,141	$7,448,284
Invesco Balanced-Risk Allocation	$51,812,573	$0	$0	$0	$17,891	$51,830,464
US Bank Checking Account	$4,076,536	$5,803,213	-$8,664,377	-$2,861,163	$0	$1,215,373
US Bank Clearing Account	$2,575,435	$7,603,119	-$7,623,208	-$20,089	$0	$2,555,347
Total	**$357,823,156**	**$13,406,332**	**-$20,112,764**	**-$6,706,431**	**$3,391,419**	**$354,508,144**

Loomis Sayles Full Discretion liquidated 3/21/2017. Loomis Sayles Core Plus funded 3/21/2017. Parametric liquidated 4/21/2017. Mellon Dynamic liquidated 5/5/2017. Grosvenor Institutional liquidated 4/30/2018. Brandes International Small Cap Equity liquidated 8/31/2019. Invesco Real Estate II liquidated 9/1/2019. Vanguard Small Cap Index Ins replaced PanAgora US Small Cap Core Stock Selector on 4/14/2021.

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	354,508,144	100.0	0.9	8.8	19.5	10.3	9.6	9.1
Total Fund Policy Index			0.5	7.5	16.6	10.1	9.3	8.6
Target Asset Allocation Policy Index			0.3	8.3	18.1	10.9	10.1	9.7
InvMetrics Tft-Hrtly DB $250mm-$1B Net Rank			10	65	64	32	63	76
Total Domestic Equity	94,426,325	26.6	0.0	13.8	28.2	12.5	14.4	15.4
Dow Jones U.S. Total Stock Market			-0.1	15.1	32.1	16.0	16.8	16.6
InvMetrics Tft-Hrtly DB US Eq Net Rank			34	83	96	85	81	54
Total International Equity	81,315,628	22.9	0.0	10.3	33.1	14.3	12.8	9.0
Total Public Int'l Equity Benchmark (MSCI ACWI ex US IMI)			-2.6	6.8	25.2	8.3	9.1	7.7
InvMetrics Tft-Hrtly DB ex-US Eq Net Rank			12	14	5	4	6	24
Total Fixed Income	62,849,685	17.7	0.1	-0.9	1.3	6.5	4.6	4.8
Total Fixed Income Benchmark (Bloomberg Aggregate)			0.1	-1.6	-0.9	5.4	2.9	3.0
InvMetrics Tft-Hrtly DB US Fix Inc Net Rank			63	82	58	5	7	10
Total Real Estate	41,552,293	11.7	6.2	11.5	13.0	6.1	5.8	9.0
NCREIF ODCE Net			6.4	12.4	13.7	6.1	6.6	8.9
Total Infrastructure	18,763,028	5.3	3.4	8.7	13.8	8.9	10.5	7.9
CPI + 5%			2.2	9.2	10.6	7.9	7.7	7.0
Total Multi-Asset	51,830,464	14.6	-0.1	8.3	20.0	9.7	7.4	7.6
60% MSCI ACWI Net/40% FTSE WGBI			-1.1	4.0	14.4	9.4	8.6	7.7
eV Global Balanced Net Rank			20	66	67	20	68	57
Total Cash	3,770,720	1.1	0.0	0.0	0.0	0.0	-0.2	0.7



Policy Index: 45% MSCI World, 25% Bloomberg Aggregate, 10% NCREIF-ODCE net, 20%(60% MSCI ACWI Net/40% CITI WGBI). Target Asset Allocation Policy Index: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% Bloomberg Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60% MSCI ACWI Net/40% CITI WGBI). Data prior to 3Q 2015 is from previous consultant.

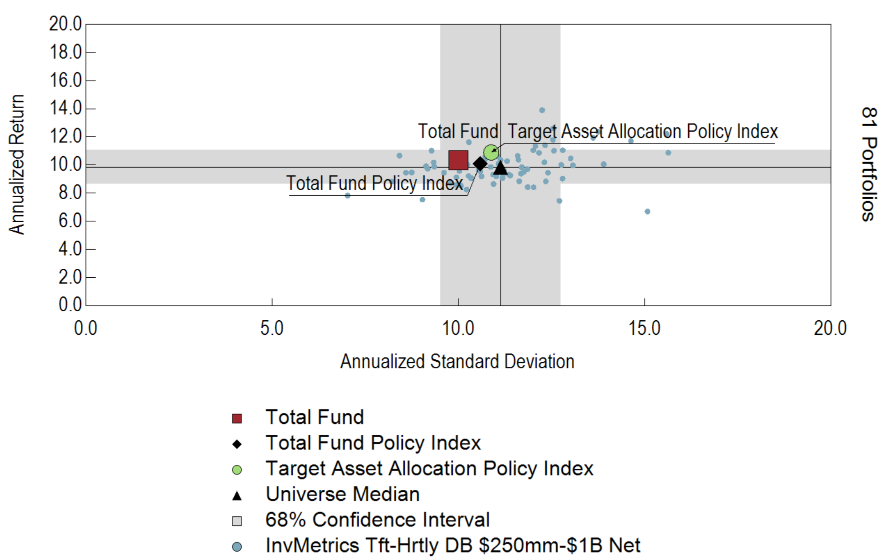
3 Year

	Anlzd Standard Deviation	Ann Excess BM Return	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	10.00%	0.24%	0.91%	0.93	0.98	93.03%	89.02%	0.14	1.72%	0.93
Total Fund Policy Index	10.59%	0.00%	0.00%	1.00	1.00	100.00%	100.00%	--	0.00%	0.85
Target Asset Allocation Policy Index	10.88%	0.80%	0.54%	1.03	1.00	105.50%	100.73%	1.06	0.75%	0.90

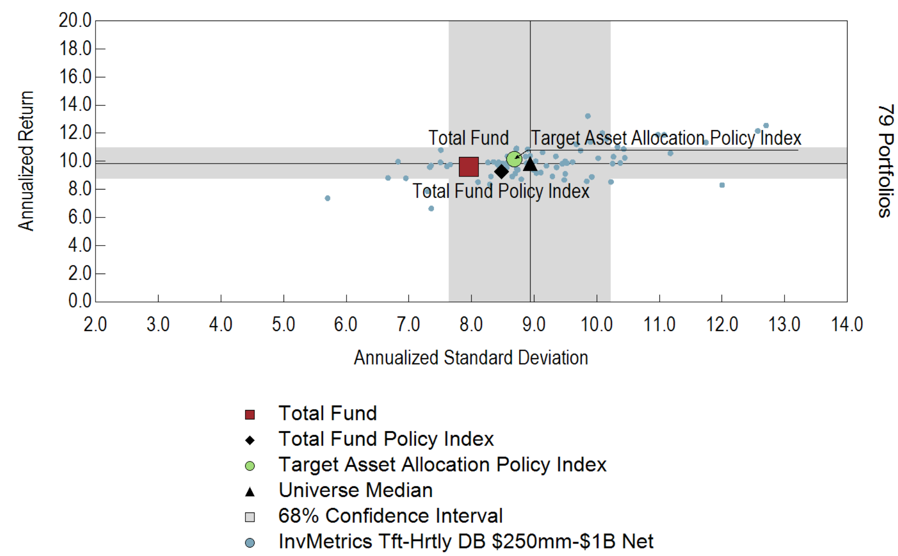
5 Year

	Anlzd Standard Deviation	Ann Excess BM Return	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	7.96%	0.32%	1.02%	0.92	0.97	92.56%	86.14%	0.21	1.53%	1.07
Total Fund Policy Index	8.47%	0.00%	0.00%	1.00	1.00	100.00%	100.00%	--	0.00%	0.96
Target Asset Allocation Policy Index	8.68%	0.89%	0.70%	1.02	0.99	106.49%	98.65%	1.17	0.76%	1.04

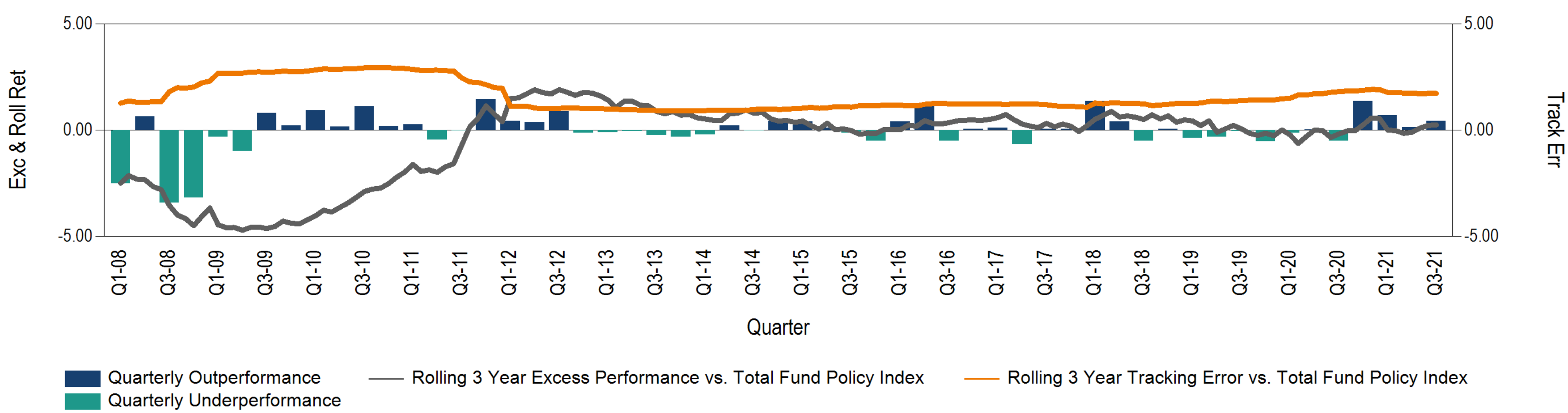
3 Year



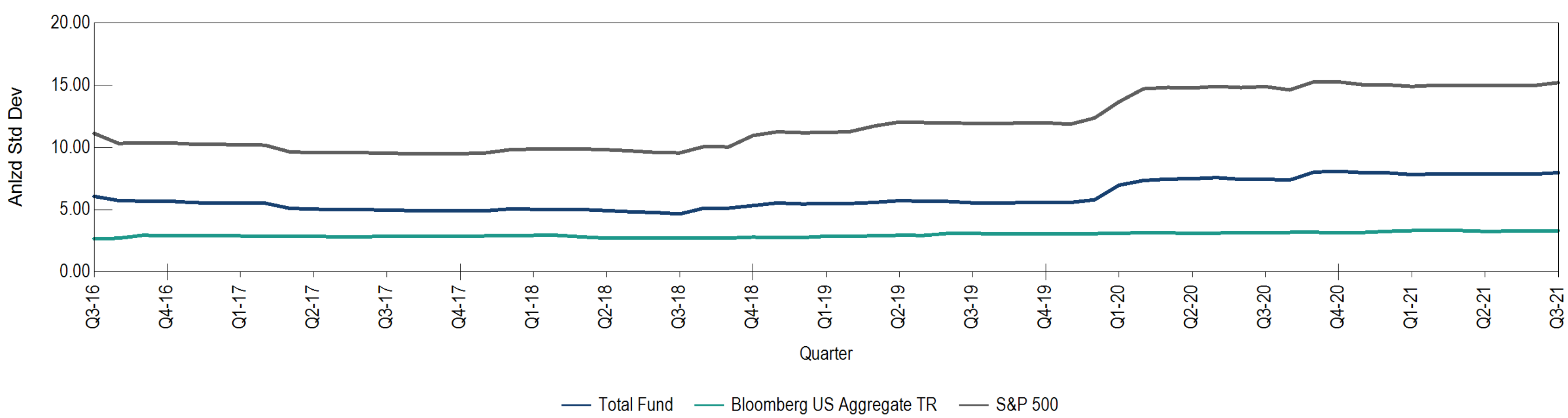
5 Year



Rolling Annualized Excess Performance and Tracking Error



Rolling 5 Year Annualized Standard Deviation



Total Fund
Executive Summary (Net of Fees)

Period Ending: September 30, 2021

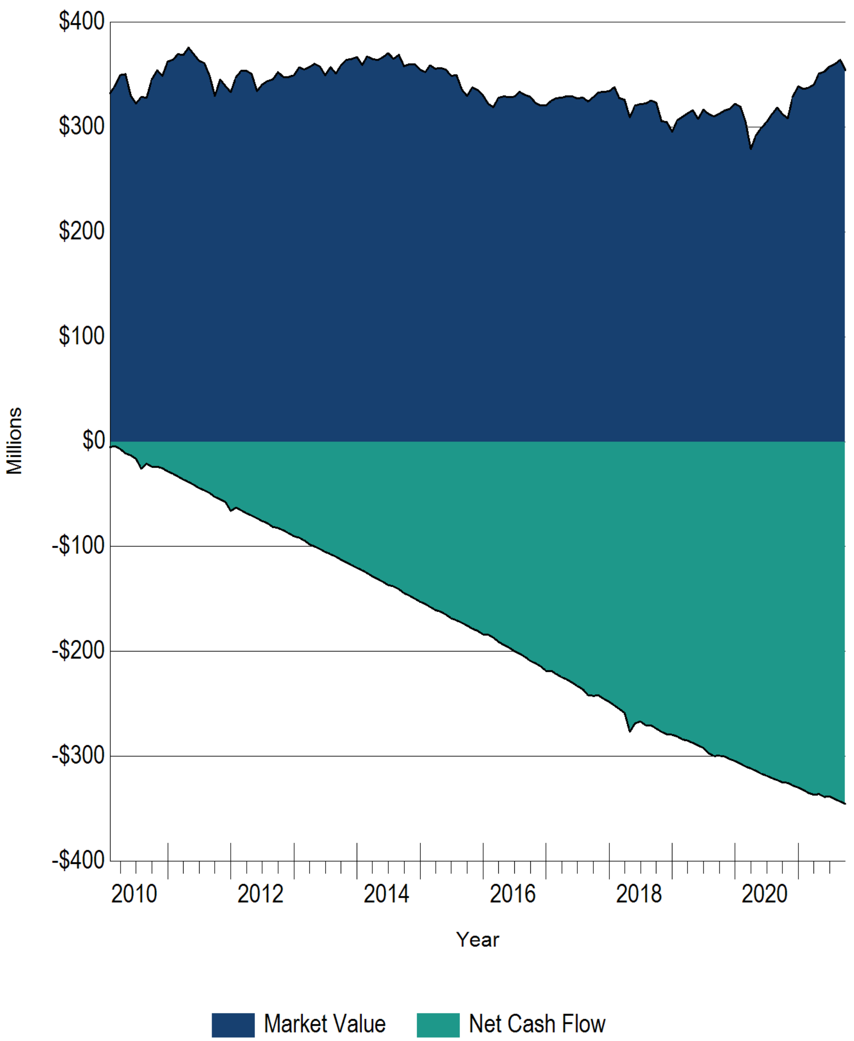
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Fund	**354,508,144**	**100.0**	**0.9**	**8.8**	**19.5**	**10.3**	**9.6**	**9.1**	**13.3**	**17.1**	**-3.3**	**12.9**	**6.9**
Total Fund Policy Index			*0.5*	*7.5*	*16.6*	*10.1*	*9.3*	*8.6*	*12.6*	*18.6*	*-4.5*	*13.5*	*5.8*
Target Asset Allocation Policy Index			*0.3*	*8.3*	*18.1*	*10.9*	*10.1*	*9.7*	*13.9*	*19.1*	*-3.2*	*13.7*	*7.2*
InvMetrics Tft-Hrtly DB $250mm-$1B Net Rank			*10*	*65*	*64*	*32*	*63*	*76*	*18*	*54*	*46*	*67*	*80*
Domestic Equity	**94,426,325**	**26.6**											
BlackRock Equity Index NL	36,833,166	10.4	0.6	15.9	30.0	16.0	16.9	16.6	18.4	31.5	-4.4	21.8	11.9
S&P 500			*0.6*	*15.9*	*30.0*	*16.0*	*16.9*	*16.6*	*18.4*	*31.5*	*-4.4*	*21.8*	*12.0*
eV US Large Cap Core Equity Net Rank			*31*	*39*	*40*	*25*	*19*	*14*	*29*	*28*	*32*	*46*	*21*
INTECH US Adaptive Volatility	38,924,211	11.0	0.8	10.2	17.8	10.6	--	--	14.0	23.4	--	--	--
Russell 1000			*0.2*	*15.2*	*31.0*	*16.4*	--	--	*21.0*	*31.4*	--	--	--
eV US Large Cap Core Equity Net Rank			*25*	*91*	*95*	*87*	--	--	*53*	*91*	--	--	--
Vanguard Small Cap Index Ins	18,668,948	5.3	-2.6	13.4	44.1	12.0	14.0	15.3	19.1	27.4	-9.3	16.2	18.3
Spliced Vanguard Small Cap Index			*-2.6*	*13.3*	*44.0*	*12.0*	*14.0*	*15.3*	*19.1*	*27.3*	*-9.3*	*16.2*	*18.3*
eV US Small Cap Core Equity Net Rank			*75*	*81*	*77*	*39*	*49*	*37*	*32*	*23*	*36*	*32*	*61*
International Equity	**81,315,628**	**22.9**											
WCM Focused International Growth Fund, L.P.	53,096,573	15.0	0.5	11.5	30.8	20.9	17.9	--	33.1	35.7	-7.4	31.1	--
MSCI ACWI ex USA			*-3.0*	*5.9*	*23.9*	*8.0*	*8.9*	--	*10.7*	*21.5*	*-14.2*	*27.2*	--
eV ACWI ex-US All Cap Growth Eq Net Rank			*34*	*7*	*10*	*11*	*16*	--	*35*	*12*	*1*	*71*	--
Causeway International Value Ins	28,219,055	8.0	-1.0	8.1	37.6	5.3	7.3	--	5.4	20.1	-18.6	27.2	--
MSCI EAFE			*-0.4*	*8.3*	*25.7*	*7.6*	*8.8*	--	*7.8*	*22.0*	*-13.8*	*25.0*	--
Foreign Large Value MStar MF Rank			*29*	*71*	*17*	*44*	*48*	--	*22*	*22*	*91*	*14*	--
Fixed Income	**62,849,685**	**17.7**											
Loomis Sayles Core Plus	62,849,685	17.7	0.1	-0.9	1.3	6.5	--	--	11.3	9.4	-0.4	--	--
Bloomberg US Aggregate TR			*0.1*	*-1.6*	*-0.9*	*5.4*	--	--	*7.5*	*8.7*	*0.0*	--	--
eV US Core Plus Fixed Inc Net Rank			*66*	*69*	*56*	*30*	--	--	*9*	*63*	*40*	--	--
Real Estate	**41,552,293**	**11.7**											
ASB Allegiance Real Estate	24,010,887	6.8	4.9	9.7	10.6	5.1	4.7	--	1.4	3.1	6.0	2.9	4.5
NCREIF ODCE Net			*6.4*	*12.4*	*13.7*	*6.1*	*6.6*	--	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*
JPMorgan Special Situation Property	17,541,406	4.9	8.0	14.2	16.4	7.6	8.0	--	2.0	5.0	9.6	7.9	8.7
NCREIF ODCE Net			*6.4*	*12.4*	*13.7*	*6.1*	*6.6*	--	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*

Policy Index: 45% MSCI World, 25% Bloomberg Aggregate, 10% NCREIF-ODCE net, 20%(60% MSCI ACWI Net/40% CITI WGBI). Target Asset Allocation Policy Index: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% Bloomberg Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60% MSCI ACWI Net/40% CITI WGBI). Loomis Sayles Core Plus replaced Loomis Sayles Full Discretion 3/21/2017. Parametric liquidated 4/21/2017. Mellon Dynamic liquidated 5/5/2017. Grosvenor Institutional liquidated 4/30/2018. Brandes International Small Cap Equity liquidated 8/31/2019. Invesco Real Estate II liquidated 9/1/2019. Vanguard Small Cap Index Ins replaced PanAgora US Small Cap Core Stock Selector on 4/14/2021. Data prior to 3Q 2015 is from previous consultant.

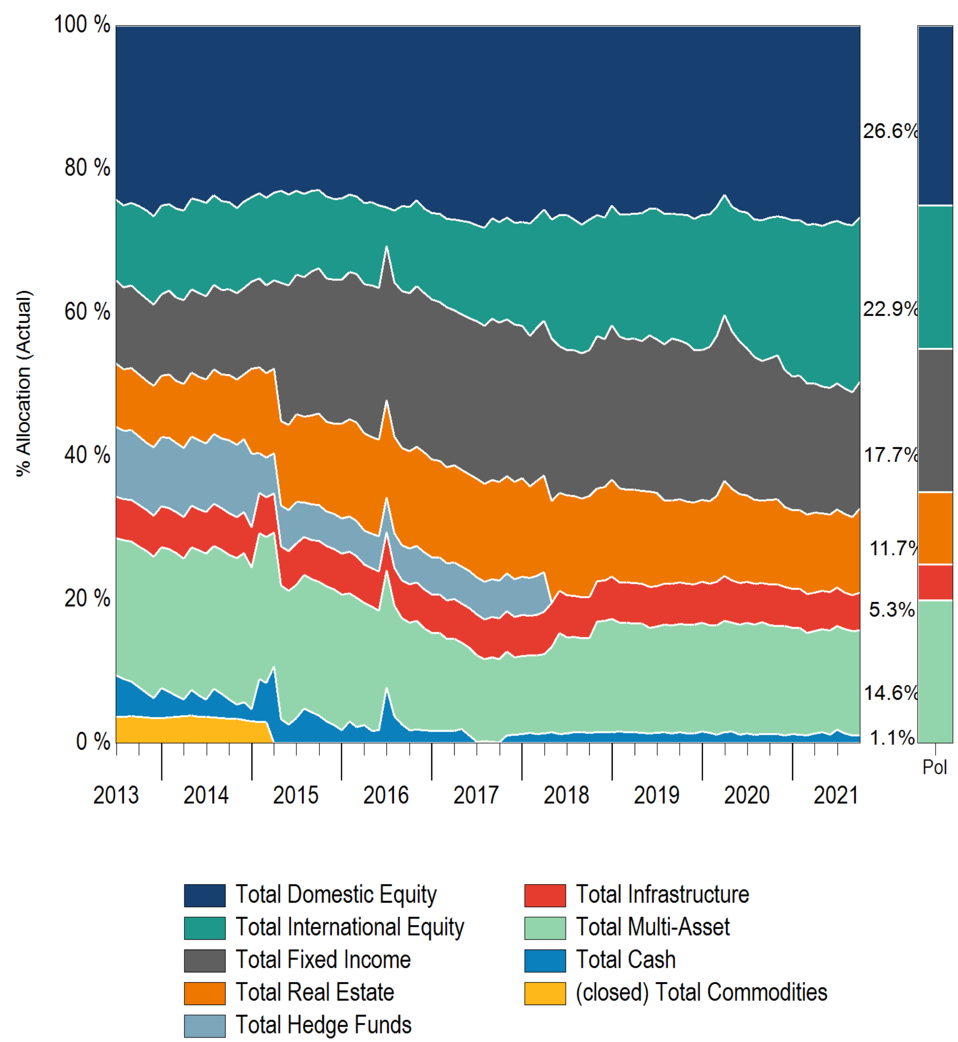
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Infrastructure	**18,763,028**	**5.3**											
IFM Global Infrastructure (US) LP	11,314,744	3.2	4.9	13.3	18.1	10.7	13.5	9.7	3.1	14.6	15.8	21.1	6.1
CPI + 5%			*2.2*	*9.2*	*10.6*	*7.9*	*7.7*	*7.0*	*6.4*	*7.4*	*7.0*	*7.2*	*7.2*
JPMorgan IIF ERISA LP	7,448,284	2.1	1.2	2.6	7.9	6.6	7.0	5.9	8.4	8.0	4.2	14.2	1.2
CPI + 5%			*2.2*	*9.2*	*10.6*	*7.9*	*7.7*	*7.0*	*6.4*	*7.4*	*7.0*	*7.2*	*7.2*
Multi-Asset	**51,830,464**	**14.6**											
Invesco Balanced-Risk Allocation	51,830,464	14.6	-0.1	8.3	20.0	9.7	7.4	7.2	10.8	15.7	-5.8	10.5	12.2
60% MSCI ACWI Net/40% FTSE WGBI			*-1.1*	*4.0*	*14.4*	*9.4*	*8.6*	*7.7*	*14.5*	*18.2*	*-5.8*	*17.1*	*5.5*
FTSE 3-Month T-bill +6%			*1.5*	*4.5*	*6.1*	*7.2*	*7.2*	*6.6*	*6.6*	*8.4*	*8.0*	*6.9*	*6.3*
eV Global Balanced Net Rank			*20*	*66*	*67*	*20*	*68*	*73*	*46*	*92*	*22*	*99*	*19*
Cash and Equivalents	**3,770,720**	**1.1**											
US Bank Checking Account	1,215,373	0.3											
US Bank Clearing Account	2,555,347	0.7											

Policy Index: 45% MSCI World, 25% Bloomberg Aggregate, 10% NCREIF-ODCE net, 20%(60% MSCI ACWI Net/40% CITI WGBI). Target Asset Allocation Policy Index: 25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% Bloomberg Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60% MSCI ACWI Net/40% CITI WGBI). Loomis Sayles Core Plus replaced Loomis Sayles Full Discretion 3/21/2017. Parametric liquidated 4/21/2017. Mellon Dynamic liquidated 5/5/2017. Grosvenor Institutional liquidated 4/30/2018. Brandes International Small Cap Equity liquidated 8/31/2019. Invesco Real Estate II liquidated 9/1/2019. Vanguard Small Cap Index Ins replaced PanAgora US Small Cap Core Stock Selector on 4/14/2021. Data prior to 3Q 2015 is from previous consultant.

Market Value History



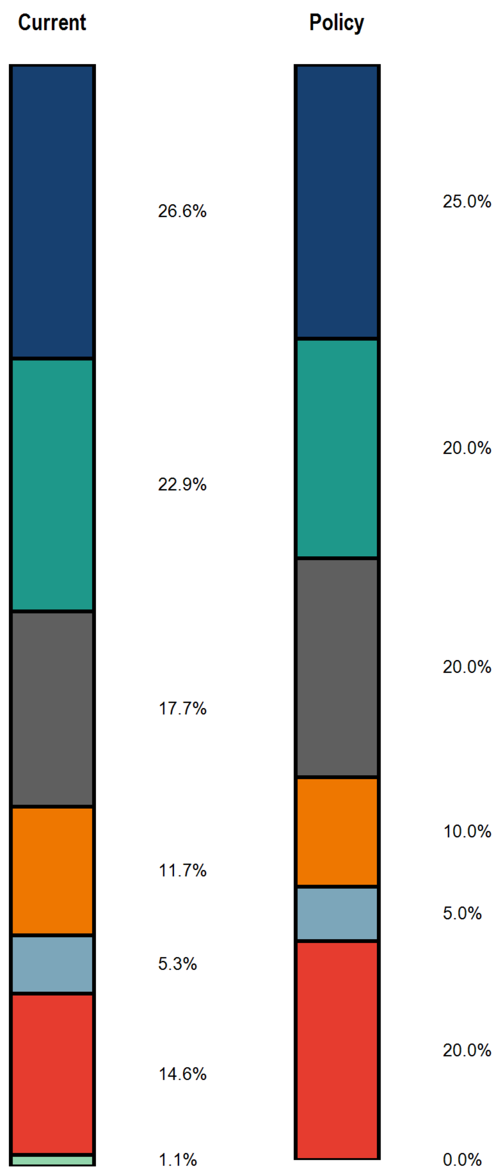
Asset Allocation History



Net cash flow is cumulative.

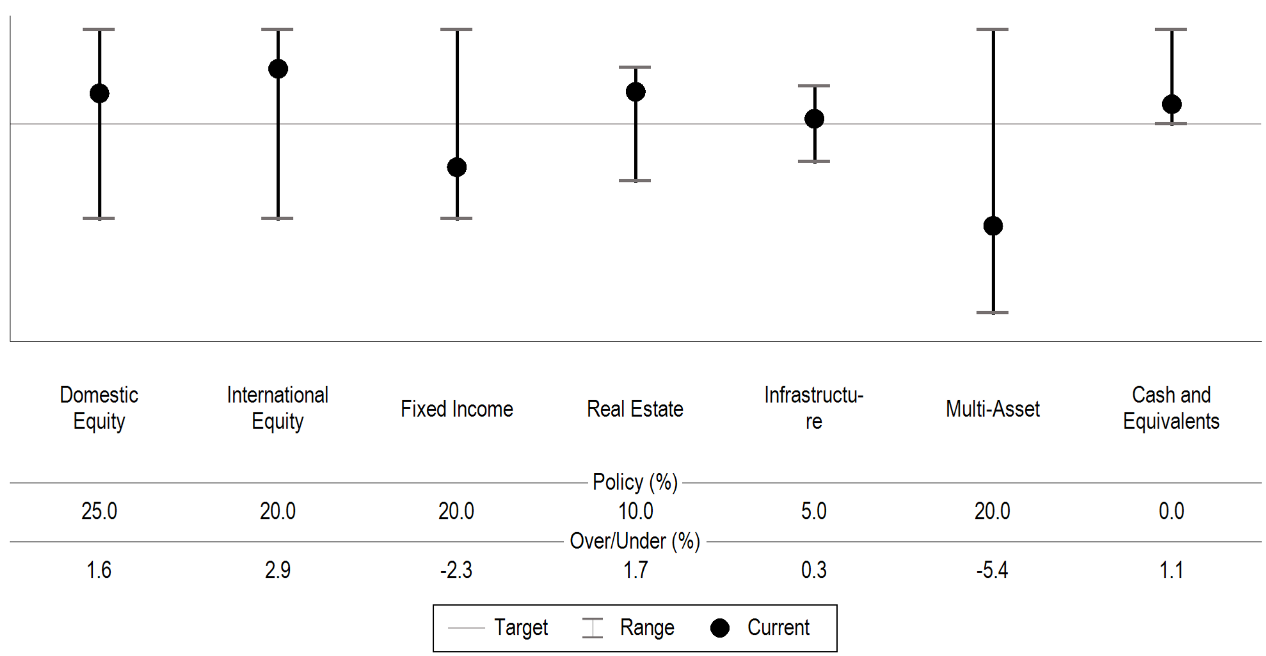
Total Fund
Asset Allocation vs. Policy

Period Ending: September 30, 2021



	Current	%	Policy	Difference	Policy Range	Within Range
Domestic Equity	$94,426,325	26.6%	25.0%	$5,799,289	20.0% - 30.0%	Yes
International Equity	$81,315,628	22.9%	20.0%	$10,413,999	15.0% - 25.0%	Yes
Fixed Income	$62,849,685	17.7%	20.0%	-$8,051,943	15.0% - 25.0%	Yes
Real Estate	$41,552,293	11.7%	10.0%	$6,101,479	7.0% - 13.0%	Yes
Infrastructure	$18,763,028	5.3%	5.0%	$1,037,621	3.0% - 7.0%	Yes
Multi-Asset	$51,830,464	14.6%	20.0%	-$19,071,164	10.0% - 25.0%	Yes
Cash and Equivalents	$3,770,720	1.1%	0.0%	$3,770,720	0.0% - 5.0%	Yes
Total	**$354,508,144**	**100.0%**	**100.0%**			

Actual vs. Target



Investment Fund Fee Analysis

Period Ending: September 30, 2021

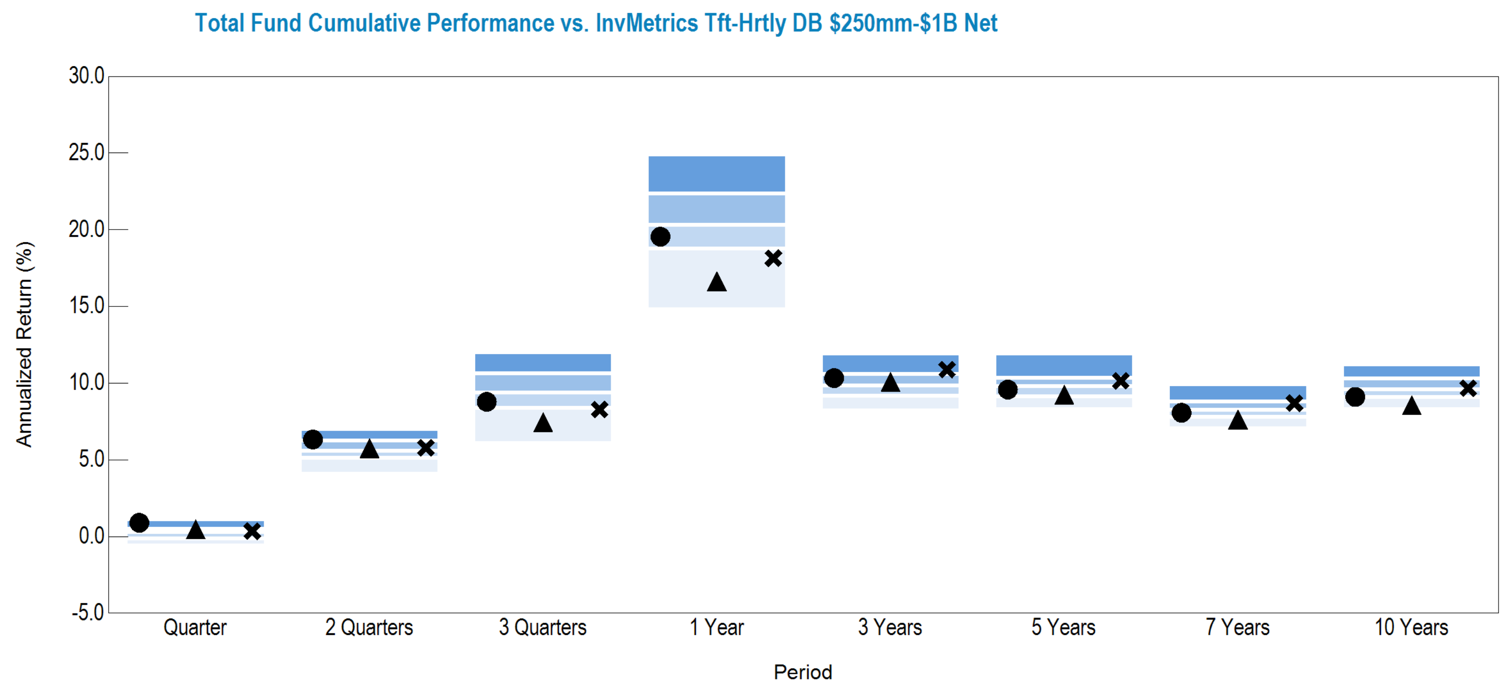
Name	Asset Class	Fee Schedule	Market Value	% of Portfolio	Estimated Fee Value	Estimated Fee
BlackRock Equity Index NL	Domestic Equity	0.03% of Assets	$36,833,166	10.4%	$11,050	0.03%
INTECH US Adaptive Volatility	Domestic Equity	0.40% of Assets	$38,924,211	11.0%	$155,697	0.40%
Vanguard Small Cap Index Ins	Domestic Equity	0.04% of Assets	$18,668,948	5.3%	$7,468	0.04%
WCM Focused International Growth Fund, L.P.	International Equity	0.75% of Assets	$53,096,573	15.0%	$398,224	0.75%
Causeway International Value Ins	International Equity	0.85% of Assets	$28,219,055	8.0%	$239,862	0.85%
Loomis Sayles Core Plus	Fixed Income	0.35% of First 20.0 Mil, 0.25% Thereafter	$62,849,685	17.7%	$177,124	0.28%
ASB Allegiance Real Estate	Real Estate	1.25% of First 5.0 Mil, 1.00% of Next 10.0 Mil, 0.90% of Next 60.0 Mil, 0.75% Thereafter	$24,010,887	6.8%	$243,598	1.01%
JPMorgan Special Situation Property	Real Estate	1.60% of Assets	$17,541,406	4.9%	$280,662	1.60%
IFM Global Infrastructure (US) LP	Infrastructure	0.77% of Assets	$11,314,744	3.2%	$87,124	0.77%
JPMorgan IIF ERISA LP	Infrastructure	1.25% of First 50.0 Mil, 1.15% of Next 50.0 Mil, 1.05% Thereafter	$7,448,284	2.1%	$93,104	1.25%
Invesco Balanced-Risk Allocation	Multi-Asset	0.38% of First 250.0 Mil, 0.35% of Next 500.0 Mil, 0.33% of Next 250.0 Mil, 0.30% Thereafter	$51,830,464	14.6%	$194,364	0.38%
US Bank Checking Account	Cash and Equivalents		$1,215,373	0.3%		
US Bank Clearing Account	Cash and Equivalents		$2,555,347	0.7%		
Total			**$354,508,144**	**100.0%**	**$1,888,277**	**0.53%**

Watch List (Net of Fees)

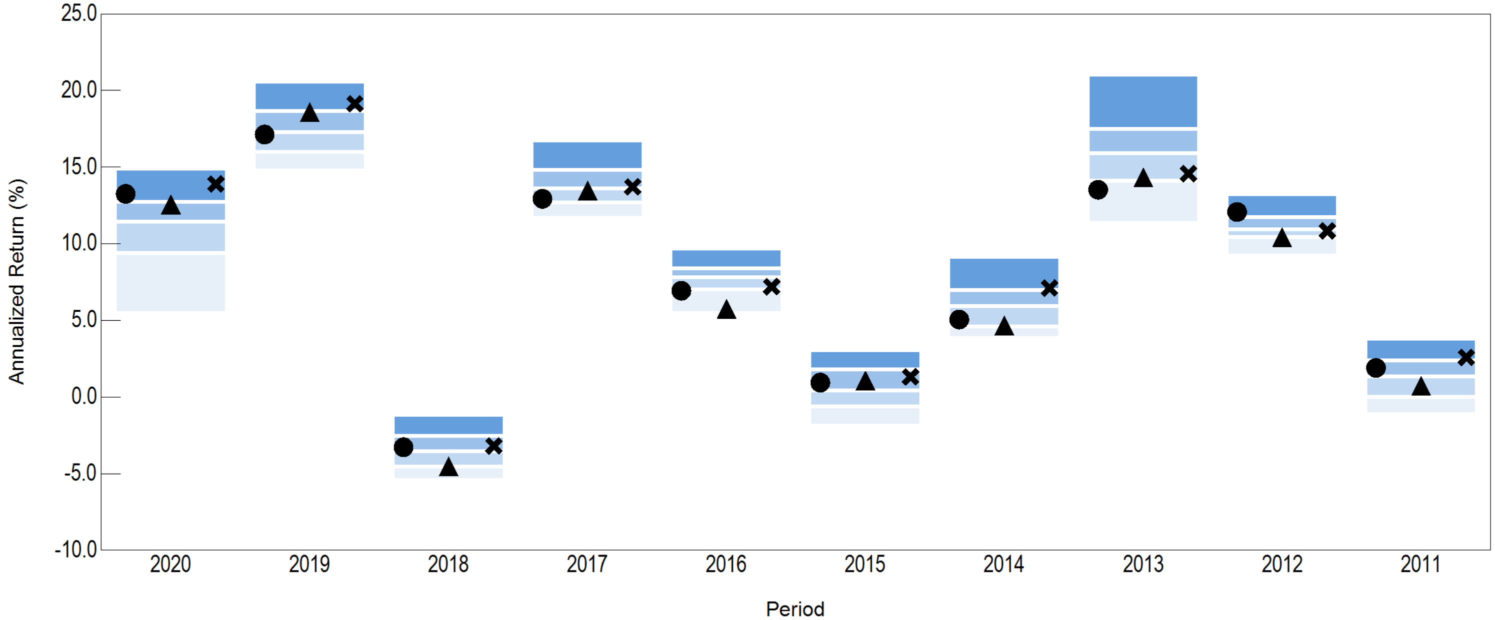
Period Ending: September 30, 2021

Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
BlackRock Equity Index NL	Domestic Equity	No Issues	--	--	--	--	--	✓
INTECH US Adaptive Volatility	Domestic Equity	No Issues	⚐	⚐	--	--	--	--
Vanguard Small Cap Index Ins	Domestic Equity	No Issues	--	--	--	--	--	✓
WCM Focused International Growth Fund, L.P.	International Equity	No Issues	✓	✓	✓	✓	--	--
Causeway International Value Ins	International Equity	No Issues	⚐	✓	⚐	✓	--	--
Loomis Sayles Core Plus	Fixed Income	No Issues	✓	✓	--	--	--	--
ASB Allegiance Real Estate	Real Estate	No Issues	⚐	--	⚐	--	--	--
JPMorgan Special Situation Property	Real Estate	No Issues	✓	--	✓	--	--	--
IFM Global Infrastructure (US) LP	Infrastructure	No Issues	✓	--	✓	--	--	--
JPMorgan IIF ERISA LP	Infrastructure	No Issues	⚐	--	⚐	--	--	--
Invesco Balanced-Risk Allocation	Multi-Asset	No Issues	✓	✓	⚐	⚐	--	--

Rule 1 - Manager has underperformed the benchmark index for the three year period.
Rule 2 - Manager has underperformed the 50th percentile in the appropriate style universe for the three year period.
Rule 3 - Manager has underperformed the benchmark index for the five year period.
Rule 4 - Manager has underperformed the 50th percentile in the appropriate style universe for the five year period.
Rule 5 - Fund experiences non-performance related issues including personnel turnover, changes in investment philosophy or drift, excessive asset growth, change in ownership and any other reason that raises concern.
Rule 6 - Index Fund Tracking Error exceeds 0.25% of the appropriate benchmark over the one year period.



Return (Rank)	Quarter		2 Quarters		3 Quarters		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	1.1		7.0		12.0		24.9		11.9		11.9		9.9		11.2	
25th Percentile	0.5		6.3		10.6		22.4		10.6		10.4		8.8		10.3	
Median	0.3		5.6		9.4		20.3		9.9		9.8		8.3		9.6	
75th Percentile	-0.1		5.2		8.4		18.8		9.2		9.2		7.8		9.1	
95th Percentile	-0.5		4.1		6.1		14.9		8.2		8.3		7.1		8.3	
# of Portfolios	82		82		82		82		81		79		79		74	
● Total Fund	0.9	(10)	6.3	(22)	8.8	(65)	19.5	(64)	10.3	(32)	9.6	(63)	8.1	(64)	9.1	(76)
▲ Total Fund Policy Index	0.5	(32)	5.8	(41)	7.5	(85)	16.6	(90)	10.1	(39)	9.3	(74)	7.6	(83)	8.6	(93)
✖ Target Asset Allocation Policy Index	0.3	(45)	5.8	(40)	8.3	(79)	18.1	(81)	10.9	(18)	10.1	(33)	8.7	(34)	9.7	(47)

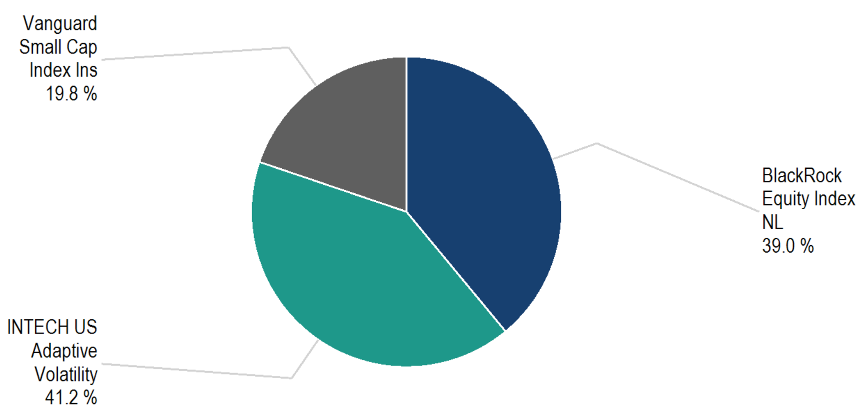


	Return (Rank)																			
5th Percentile	14.9		20.6		-1.2		16.7		9.7		3.0		9.1		21.0		13.2		3.8	
25th Percentile	12.8		18.7		-2.5		14.9		8.4		1.8		7.0		17.5		11.8		2.4	
Median	11.5		17.3		-3.5		13.6		7.8		0.4		6.0		15.9		11.0		1.4	
75th Percentile	9.4		16.0		-4.5		12.7		7.0		-0.6		4.6		14.2		10.4		0.0	
95th Percentile	5.5		14.8		-5.4		11.7		5.5		-1.9		3.9		11.4		9.3		-1.1	
# of Portfolios	77		86		84		69		56		58		55		49		37		34	
● Total Fund	13.3	(18)	17.1	(54)	-3.3	(46)	12.9	(67)	6.9	(80)	0.9	(38)	5.1	(70)	13.5	(79)	12.1	(20)	1.9	(40)
▲ Total Fund Policy Index	12.6	(30)	18.6	(28)	-4.5	(75)	13.5	(51)	5.8	(93)	1.1	(37)	4.7	(75)	14.3	(70)	10.4	(79)	0.7	(60)
✖ Target Asset Allocation Policy Index	13.9	(9)	19.1	(19)	-3.2	(45)	13.7	(46)	7.2	(69)	1.3	(36)	7.1	(21)	14.6	(66)	10.8	(63)	2.6	(20)

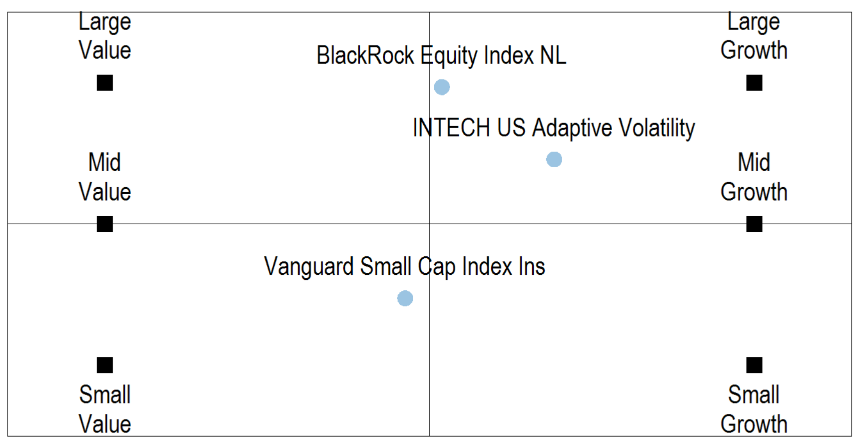
Domestic Equity

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Domestic Equity	**94,426,325**	**100.0**	**0.0**	**13.8**	**28.2**	**12.5**	**14.4**	**15.4**	**15.9**	**27.2**	**-5.9**	**19.4**	**11.5**
Dow Jones U.S. Total Stock Market			*-0.1*	*15.1*	*32.1*	*16.0*	*16.8*	*16.6*	*20.8*	*30.9*	*-5.3*	*21.2*	*12.6*
InvMetrics Tft-Hrtly DB US Eq Net Rank			*34*	*83*	*96*	*85*	*81*	*54*	*68*	*89*	*34*	*71*	*61*
Domestic Equity	**94,426,325**	**100.0**											
BlackRock Equity Index NL	36,833,166	39.0	0.6	15.9	30.0	16.0	16.9	16.6	18.4	31.5	-4.4	21.8	11.9
S&P 500			*0.6*	*15.9*	*30.0*	*16.0*	*16.9*	*16.6*	*18.4*	*31.5*	*-4.4*	*21.8*	*12.0*
eV US Large Cap Core Equity Net Rank			*31*	*39*	*40*	*25*	*19*	*14*	*29*	*28*	*32*	*46*	*21*
INTECH US Adaptive Volatility	38,924,211	41.2	0.8	10.2	17.8	10.6	--	--	14.0	23.4	--	--	--
Russell 1000			*0.2*	*15.2*	*31.0*	*16.4*	*--*	*--*	*21.0*	*31.4*	*--*	*--*	*--*
eV US Large Cap Core Equity Net Rank			*25*	*91*	*95*	*87*	*--*	*--*	*53*	*91*	*--*	*--*	*--*
Vanguard Small Cap Index Ins	18,668,948	19.8	-2.6	13.4	44.1	12.0	14.0	15.3	19.1	27.4	-9.3	16.2	18.3
Spliced Vanguard Small Cap Index			*-2.6*	*13.3*	*44.0*	*12.0*	*14.0*	*15.3*	*19.1*	*27.3*	*-9.3*	*16.2*	*18.3*
eV US Small Cap Core Equity Net Rank			*75*	*81*	*77*	*39*	*49*	*37*	*32*	*23*	*36*	*32*	*61*

Total Domestic Equity
Current Allocation

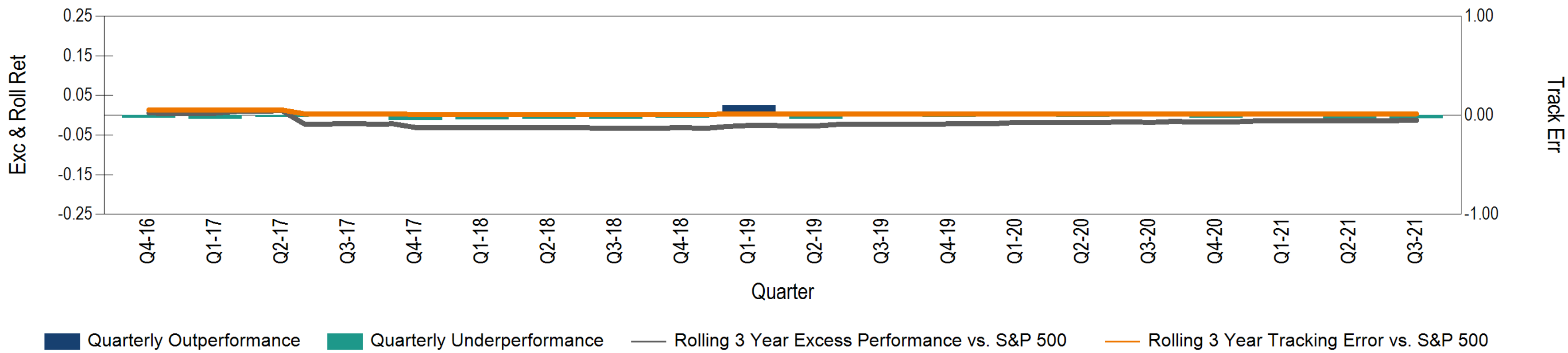


Domestic Effective Style Map
3 Years

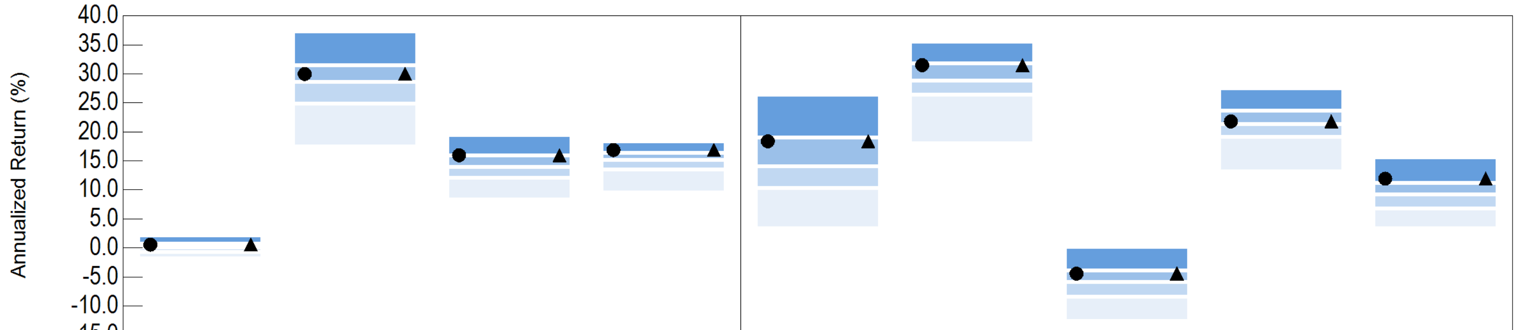


Style map requires 3 years of returns. INTECH US Adaptive Volatility replaced INTECH US Managed Volatility on 8/3/2018.

Rolling Annualized Excess Performance and Tracking Error

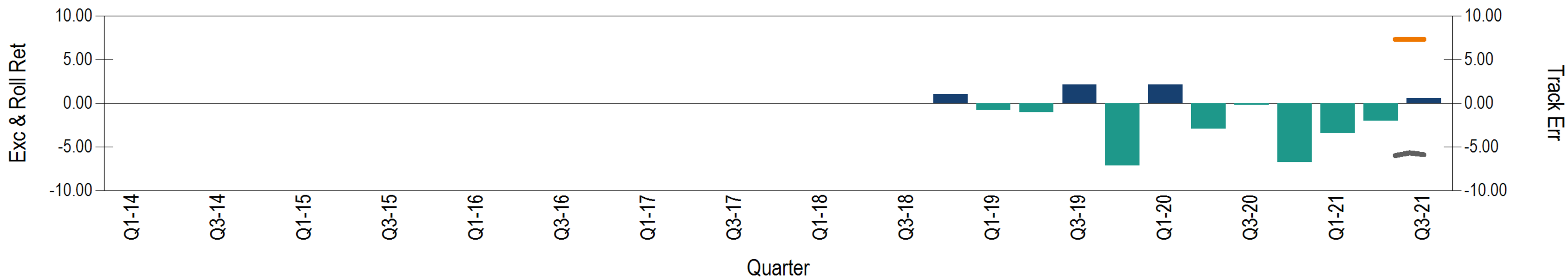


BlackRock Equity Index NL vs. eV US Large Cap Core Equity Net Universe

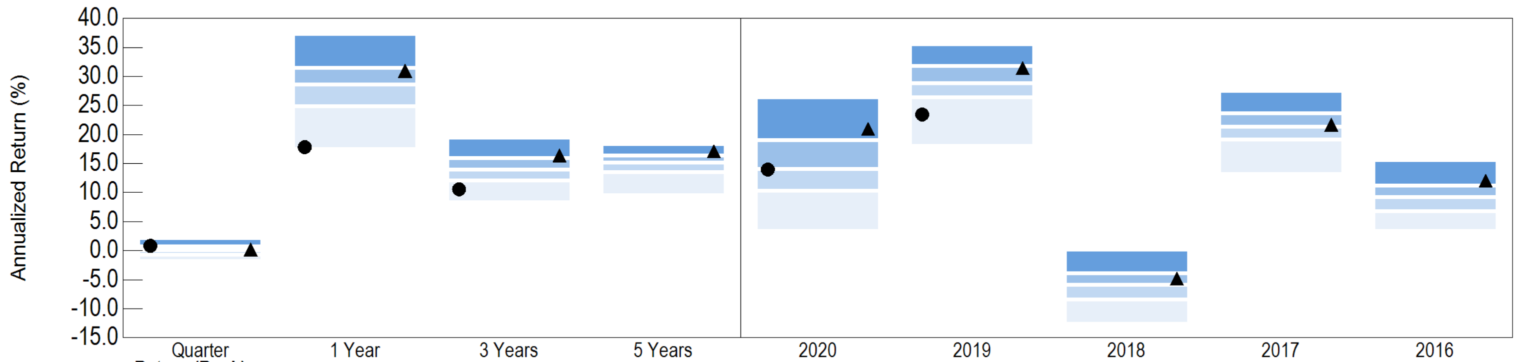


Return (Rank)	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
5th Percentile	2.1		37.3		19.4		18.3		26.4		35.5		0.1		27.4		15.6	
25th Percentile	0.8		31.5		16.0		16.5		19.1		31.9		-3.8		23.7		11.3	
Median	0.1		28.7		14.0		15.2		14.1		28.9		-5.8		21.4		9.3	
75th Percentile	-0.7		24.9		12.1		13.5		10.4		26.5		-8.3		19.2		6.9	
95th Percentile	-1.8		17.6		8.4		9.6		3.5		18.1		-12.5		13.2		3.4	
# of Portfolios	214		213		204		192		216		203		189		188		177	
● BlackRock Equity Index NL	0.6	(31)	30.0	(40)	16.0	(25)	16.9	(19)	18.4	(29)	31.5	(28)	-4.4	(32)	21.8	(46)	11.9	(21)
▲ S&P 500	0.6	(31)	30.0	(40)	16.0	(25)	16.9	(18)	18.4	(29)	31.5	(28)	-4.4	(32)	21.8	(46)	12.0	(21)

Rolling Annualized Excess Performance and Tracking Error



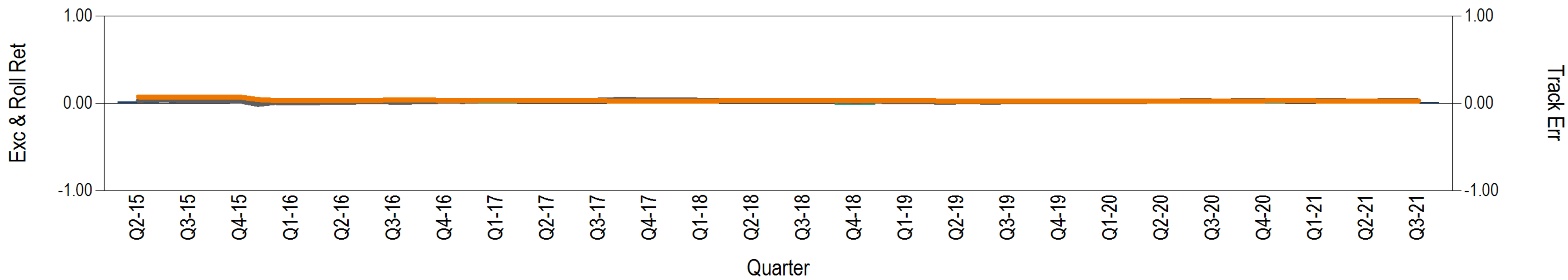
INTECH US Adaptive Volatility vs. eV US Large Cap Core Equity Net Universe



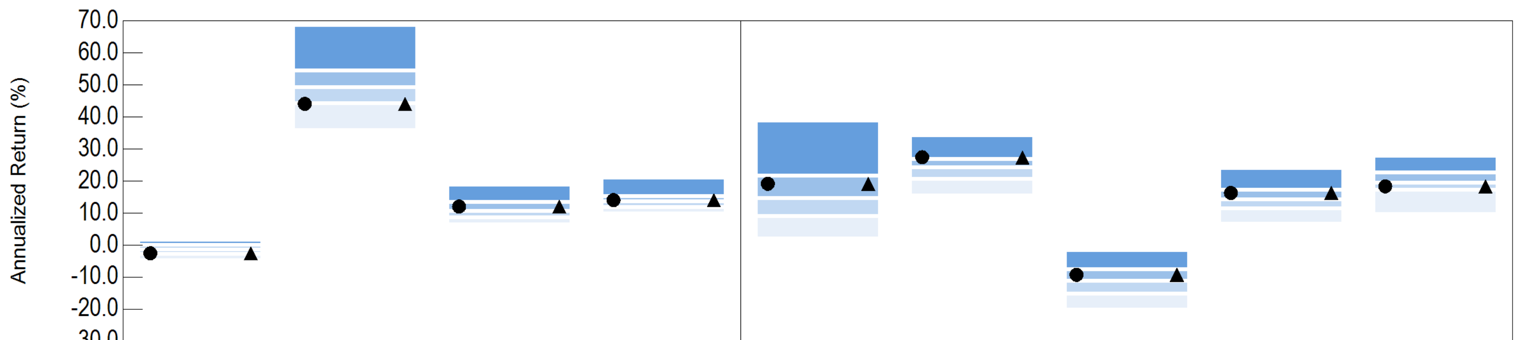
Return (Rank)	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
5th Percentile	2.1		37.3		19.4		18.3		26.4		35.5		0.1		27.4		15.6	
25th Percentile	0.8		31.5		16.0		16.5		19.1		31.9		-3.8		23.7		11.3	
Median	0.1		28.7		14.0		15.2		14.1		28.9		-5.8		21.4		9.3	
75th Percentile	-0.7		24.9		12.1		13.5		10.4		26.5		-8.3		19.2		6.9	
95th Percentile	-1.8		17.6		8.4		9.6		3.5		18.1		-12.5		13.2		3.4	
# of Portfolios	214		213		204		192		216		203		189		188		177	
● INTECH US Adaptive Volatility	0.8	(25)	17.8	(95)	10.6	(87)	--	(--)	14.0	(53)	23.4	(91)	--	(--)	--	(--)	--	(--)
▲ Russell 1000	0.2	(47)	31.0	(29)	16.4	(18)	17.1	(14)	21.0	(19)	31.4	(29)	-4.8	(37)	21.7	(47)	12.1	(20)

INTECH US Adaptive Volatility replaced INTECH US Managed Volatility on 8/3/2018.

Rolling Annualized Excess Performance and Tracking Error



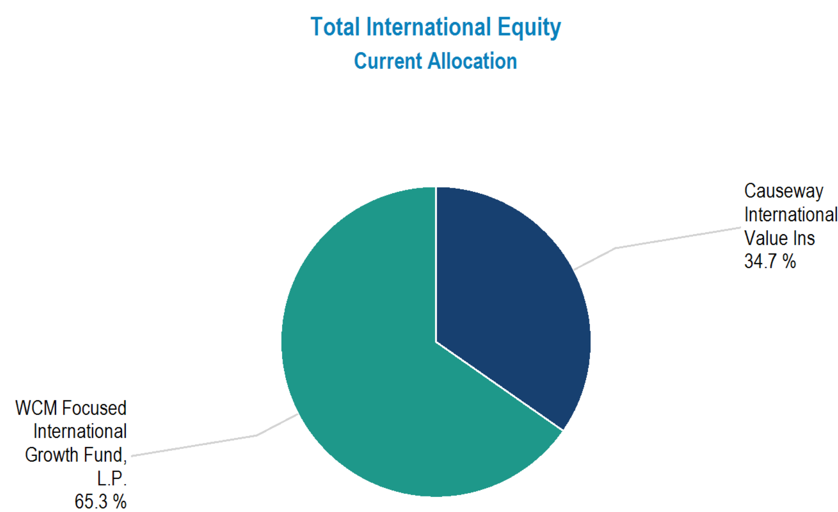
Vanguard Small Cap Index Ins vs. eV US Small Cap Core Equity Net Universe



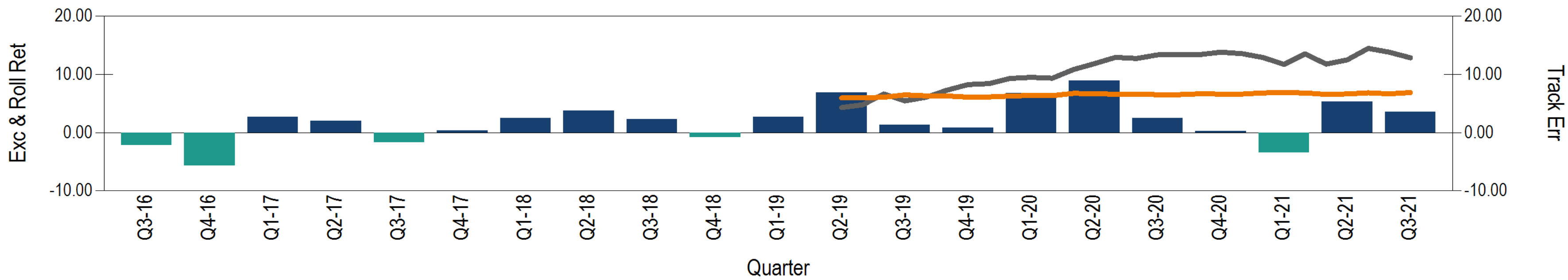
Return (Rank)	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
5th Percentile	1.6		68.7		18.8		20.9		38.8		34.1		-1.8		24.1		27.8	
25th Percentile	0.0		54.5		13.6		15.3		21.8		27.0		-7.5		17.3		22.8	
Median	-1.3		49.4		10.7		13.8		14.8		24.3		-11.1		14.4		19.5	
75th Percentile	-2.6		44.3		8.8		12.0		9.1		20.7		-15.1		11.6		17.3	
95th Percentile	-4.7		36.0		6.5		10.0		2.1		15.5		-20.1		6.7		9.7	
# of Portfolios	115		115		112		106		113		112		113		106		99	
● Vanguard Small Cap Index Ins	-2.6	(75)	44.1	(77)	12.0	(39)	14.0	(49)	19.1	(32)	27.4	(23)	-9.3	(36)	16.2	(32)	18.3	(61)
▲ Spliced Vanguard Small Cap Index	-2.6	(76)	44.0	(77)	12.0	(39)	14.0	(49)	19.1	(32)	27.3	(23)	-9.3	(36)	16.2	(32)	18.3	(62)

International Equity

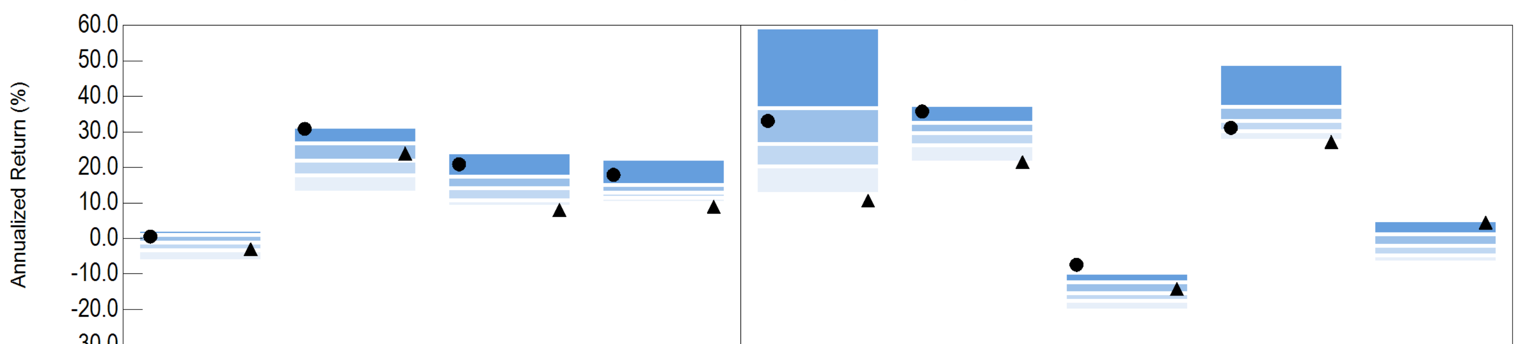
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total International Equity	**81,315,628**	**100.0**	**0.0**	**10.3**	**33.1**	**14.3**	**12.8**	**9.0**	**21.7**	**27.8**	**-13.0**	**26.6**	**0.9**
Total Public Int'l Equity Benchmark (MSCI ACWI ex US IMI)			*-2.6*	*6.8*	*25.2*	*8.3*	*9.1*	*7.7*	*11.1*	*21.6*	*-14.8*	*27.8*	*4.4*
InvMetrics Tft-Hrtly DB ex-US Eq Net Rank			*12*	*14*	*5*	*4*	*6*	*24*	*13*	*10*	*14*	*71*	*82*
International Equity	**81,315,628**	**100.0**											
WCM Focused International Growth Fund, L.P.	53,096,573	65.3	0.5	11.5	30.8	20.9	17.9	--	33.1	35.7	-7.4	31.1	--
MSCI ACWI ex USA			*-3.0*	*5.9*	*23.9*	*8.0*	*8.9*	--	*10.7*	*21.5*	*-14.2*	*27.2*	--
eV ACWI ex-US All Cap Growth Eq Net Rank			*34*	*7*	*10*	*11*	*16*	--	*35*	*12*	*1*	*71*	--
Causeway International Value Ins	28,219,055	34.7	-1.0	8.1	37.6	5.3	7.3	--	5.4	20.1	-18.6	27.2	--
MSCI EAFE			*-0.4*	*8.3*	*25.7*	*7.6*	*8.8*	--	*7.8*	*22.0*	*-13.8*	*25.0*	--
Foreign Large Value MStar MF Rank			*29*	*71*	*17*	*44*	*48*	--	*22*	*22*	*91*	*14*	--



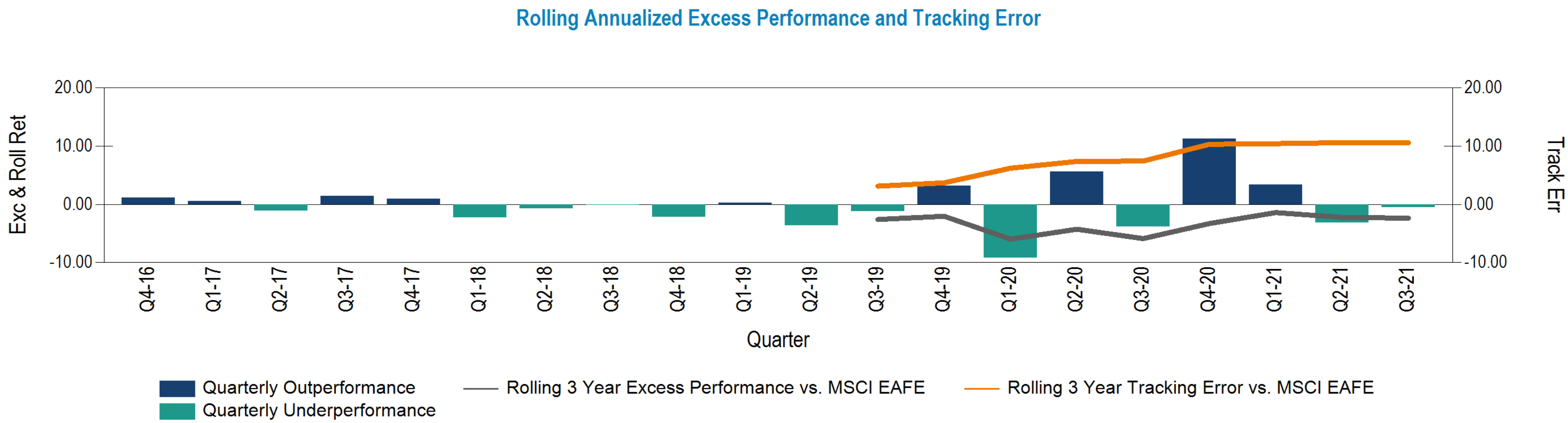
Rolling Annualized Excess Performance and Tracking Error

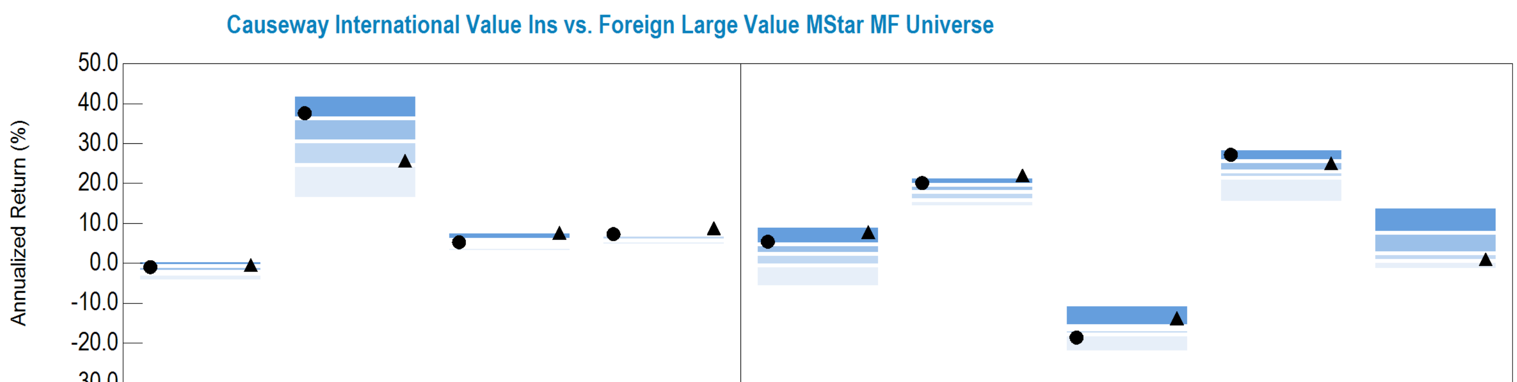


WCM Focused International Growth Fund, L.P. vs. eV ACWI ex-US All Cap Growth Eq Net Universe



	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
Return (Rank)																		
5th Percentile	2.4		31.4		24.2		22.4		59.4		37.5		-9.7		49.1		5.0	
25th Percentile	1.2		26.9		17.5		15.2		36.8		32.7		-12.3		37.2		1.2	
Median	-1.2		22.0		14.2		13.0		26.7		29.7		-15.3		33.2		-2.0	
75th Percentile	-3.3		17.8		10.9		11.5		20.3		26.2		-17.5		30.4		-4.7	
95th Percentile	-6.3		13.0		9.0		10.1		12.6		21.5		-20.2		27.5		-6.6	
# of Portfolios	33		33		32		29		33		32		26		27		25	
● WCM Focused International Growth Fund, L.P	0.5	(34)	30.8	(10)	20.9	(11)	17.9	(16)	33.1	(35)	35.7	(12)	-7.4	(1)	31.1	(71)	--	(--)
▲ MSCI ACWI ex USA	-3.0	(71)	23.9	(39)	8.0	(99)	8.9	(99)	10.7	(97)	21.5	(96)	-14.2	(49)	27.2	(96)	4.5	(8)



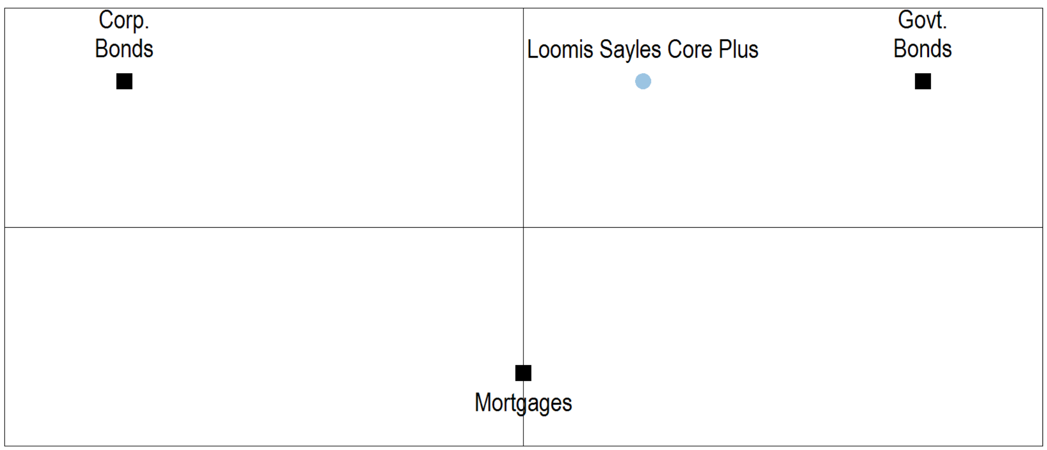


	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
	Return (Rank)																	
5th Percentile	0.6		42.2		7.9		8.5		9.3		21.7		-10.4		28.7		14.1	
25th Percentile	-0.6		36.4		5.9		7.7		4.8		19.8		-15.6		25.7		7.7	
Median	-2.1		30.6		5.2		7.2		2.4		18.1		-16.5		23.2		2.7	
75th Percentile	-2.6		24.8		4.2		5.8		-0.5		15.9		-17.7		21.5		0.6	
95th Percentile	-4.4		16.2		2.9		4.6		-5.9		14.2		-22.2		15.3		-1.6	
# of Portfolios	88		85		80		76		84		84		74		74		78	
● Causeway International Value Ins	-1.0	(29)	37.6	(17)	5.3	(44)	7.3	(48)	5.4	(22)	20.1	(22)	-18.6	(91)	27.2	(14)	--	(--)
▲ MSCI EAFE	-0.4	(22)	25.7	(73)	7.6	(8)	8.8	(2)	7.8	(7)	22.0	(4)	-13.8	(17)	25.0	(30)	1.0	(69)

Domestic Fixed Income

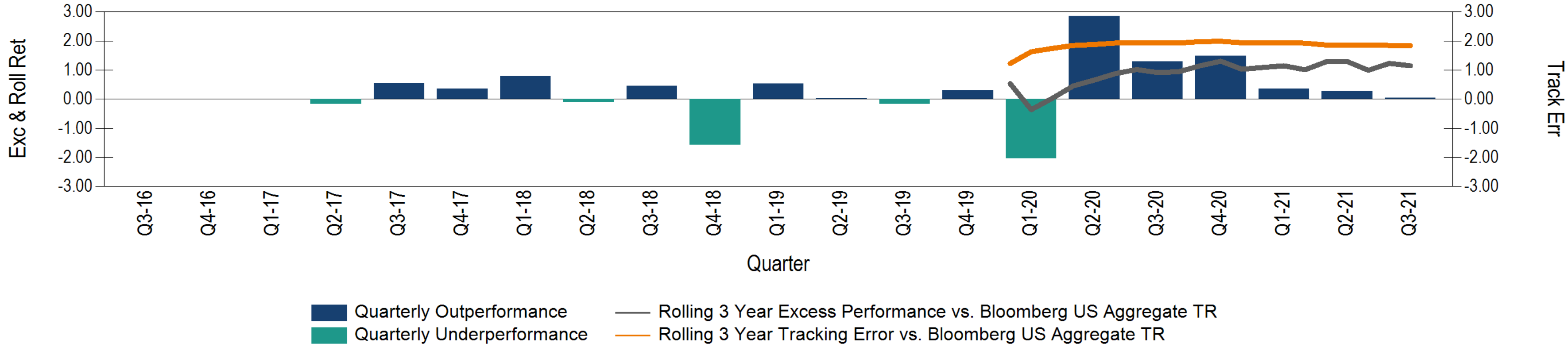
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Fixed Income	**62,849,685**	**100.0**	**0.1**	**-0.9**	**1.3**	**6.5**	**4.6**	**4.8**	**11.3**	**9.4**	**-0.4**	**5.6**	**7.5**
Total Fixed Income Benchmark (Bloomberg Aggregate)			*0.1*	*-1.6*	*-0.9*	*5.4*	*2.9*	*3.0*	*7.5*	*8.7*	*0.0*	*3.5*	*2.6*
InvMetrics Tft-Hrtly DB US Fix Inc Net Rank			*63*	*82*	*58*	*5*	*7*	*10*	*2*	*28*	*75*	*18*	*9*
Fixed Income	**62,849,685**	**100.0**											
Loomis Sayles Core Plus	62,849,685	100.0	0.1	-0.9	1.3	6.5	--	--	11.3	9.4	-0.4	--	--
Bloomberg US Aggregate TR			*0.1*	*-1.6*	*-0.9*	*5.4*	*--*	*--*	*7.5*	*8.7*	*0.0*	*--*	*--*
eV US Core Plus Fixed Inc Net Rank			*66*	*69*	*56*	*30*	*--*	*--*	*9*	*63*	*40*	*--*	*--*

Fixed Income Style Map
3 Years

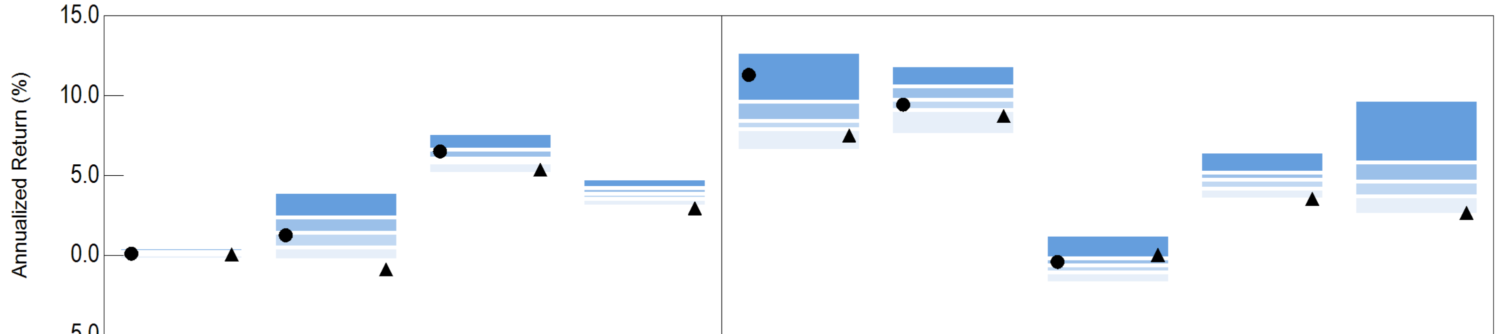


Loomis Sayles Core Plus replaced Loomis Sayles Full Discretion 3/21/2017.

Rolling Annualized Excess Performance and Tracking Error



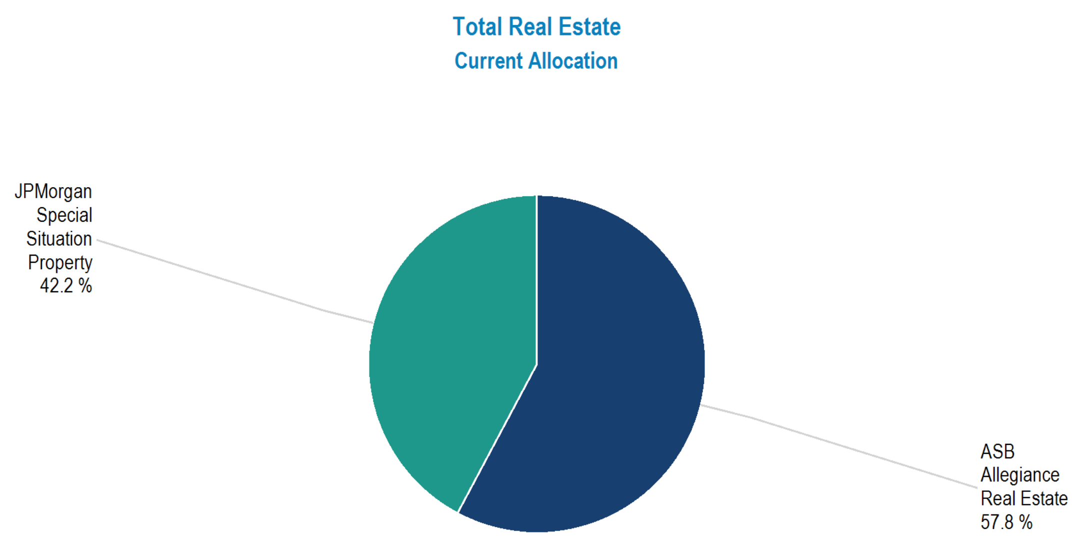
Loomis Sayles Core Plus vs. eV US Core Plus Fixed Inc Net Universe



Return (Rank)	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
5th Percentile	0.5		3.9		7.6		4.8		12.7		11.9		1.3		6.5		9.7	
25th Percentile	0.2		2.4		6.6		4.2		9.6		10.6		-0.2		5.2		5.8	
Median	0.1		1.4		6.1		3.9		8.4		9.8		-0.6		4.7		4.6	
75th Percentile	0.0		0.5		5.8		3.6		7.9		9.1		-1.0		4.2		3.7	
95th Percentile	-0.3		-0.3		5.1		3.1		6.6		7.6		-1.7		3.5		2.5	
# of Portfolios	86		86		82		78		89		86		77		80		84	
● **Loomis Sayles Core Plus**	0.1	(66)	1.3	(56)	6.5	(30)	--	(--)	11.3	(9)	9.4	(63)	-0.4	(40)	--	(--)	--	(--)
▲ **Bloomberg US Aggregate TR**	0.1	(75)	-0.9	(99)	5.4	(92)	2.9	(98)	7.5	(84)	8.7	(85)	0.0	(21)	3.5	(95)	2.6	(93)

Alternatives

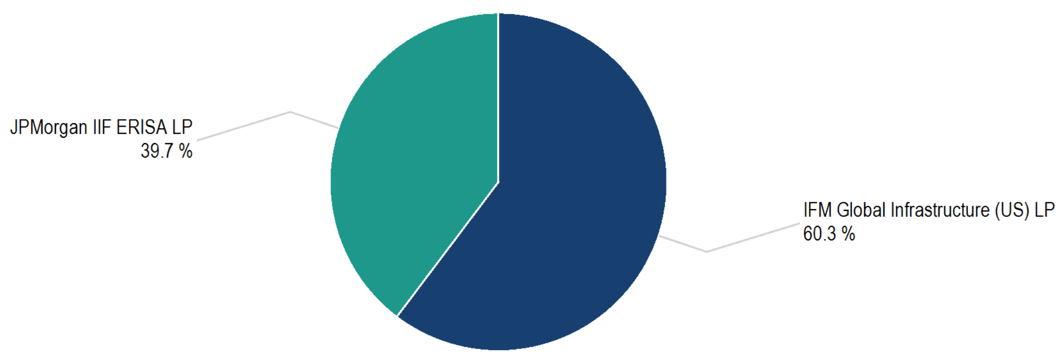
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Real Estate	**41,552,293**	**100.0**	**6.2**	**11.5**	**13.0**	**6.1**	**5.8**	**9.0**	**1.7**	**4.0**	**7.1**	**4.2**	**5.4**
NCREIF ODCE Net			*6.4*	*12.4*	*13.7*	*6.1*	*6.6*	*8.9*	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*
Real Estate	**41,552,293**	**100.0**											
ASB Allegiance Real Estate	24,010,887	57.8	4.9	9.7	10.6	5.1	4.7	--	1.4	3.1	6.0	2.9	4.5
NCREIF ODCE Net			*6.4*	*12.4*	*13.7*	*6.1*	*6.6*	--	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*
JPMorgan Special Situation Property	17,541,406	42.2	8.0	14.2	16.4	7.6	8.0	--	2.0	5.0	9.6	7.9	8.7
NCREIF ODCE Net			*6.4*	*12.4*	*13.7*	*6.1*	*6.6*	--	*0.3*	*4.4*	*7.4*	*6.7*	*7.8*



Invesco Real Estate II liquidated 9/1/2019.

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Infrastructure	**18,763,028**	**100.0**	**3.4**	**8.7**	**13.8**	**8.9**	**10.5**	**7.9**	**5.4**	**11.5**	**10.2**	**17.9**	**3.8**
CPI + 5%			*2.2*	*9.2*	*10.6*	*7.9*	*7.7*	*7.0*	*6.4*	*7.4*	*7.0*	*7.2*	*7.2*
Infrastructure	**18,763,028**	**100.0**											
IFM Global Infrastructure (US) LP	11,314,744	60.3	4.9	13.3	18.1	10.7	13.5	9.7	3.1	14.6	15.8	21.1	6.1
CPI + 5%			*2.2*	*9.2*	*10.6*	*7.9*	*7.7*	*7.0*	*6.4*	*7.4*	*7.0*	*7.2*	*7.2*
JPMorgan IIF ERISA LP	7,448,284	39.7	1.2	2.6	7.9	6.6	7.0	5.9	8.4	8.0	4.2	14.2	1.2
CPI + 5%			*2.2*	*9.2*	*10.6*	*7.9*	*7.7*	*7.0*	*6.4*	*7.4*	*7.0*	*7.2*	*7.2*

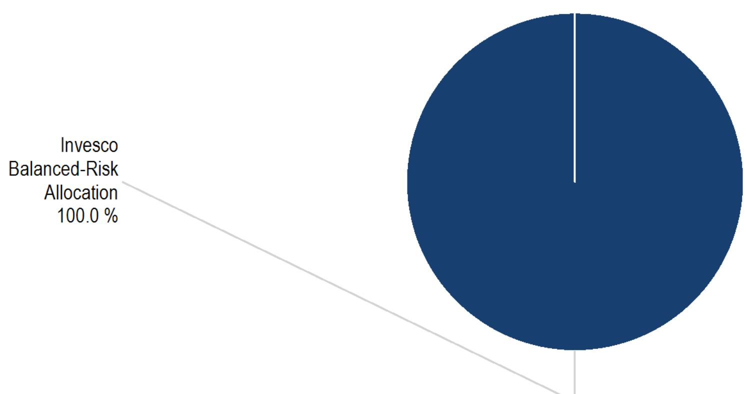
Total Infrastructure
Current Allocation



JPM IIF ERISA LP as of 6/30/2020.

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2020	2019	2018	2017	2016
Total Multi-Asset	**51,830,464**	**100.0**	**-0.1**	**8.3**	**20.0**	**9.7**	**7.4**	**7.6**	**10.8**	**15.7**	**-5.8**	**10.6**	**7.4**
60% MSCI ACWI Net/40% FTSE WGBI			*-1.1*	*4.0*	*14.4*	*9.4*	*8.6*	*7.7*	*14.5*	*18.2*	*-5.8*	*17.1*	*5.5*
eV Global Balanced Net Rank			*20*	*66*	*67*	*20*	*68*	*57*	*46*	*92*	*22*	*99*	*54*
Multi-Asset	**51,830,464**	**100.0**											
Invesco Balanced-Risk Allocation	51,830,464	100.0	-0.1	8.3	20.0	9.7	7.4	7.2	10.8	15.7	-5.8	10.5	12.2
60% MSCI ACWI Net/40% FTSE WGBI			*-1.1*	*4.0*	*14.4*	*9.4*	*8.6*	*7.7*	*14.5*	*18.2*	*-5.8*	*17.1*	*5.5*
FTSE 3-Month T-bill +6%			*1.5*	*4.5*	*6.1*	*7.2*	*7.2*	*6.6*	*6.6*	*8.4*	*8.0*	*6.9*	*6.3*
eV Global Balanced Net Rank			*20*	*66*	*67*	*20*	*68*	*73*	*46*	*92*	*22*	*99*	*19*

Total Multi-Asset
Current Allocation



Mellon Dynamic liquidated 5/5/2017.

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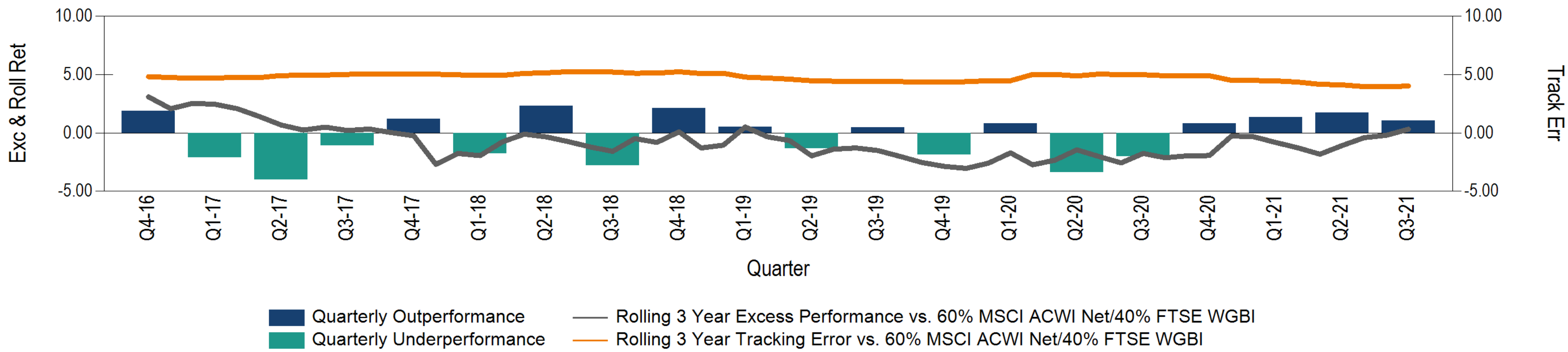
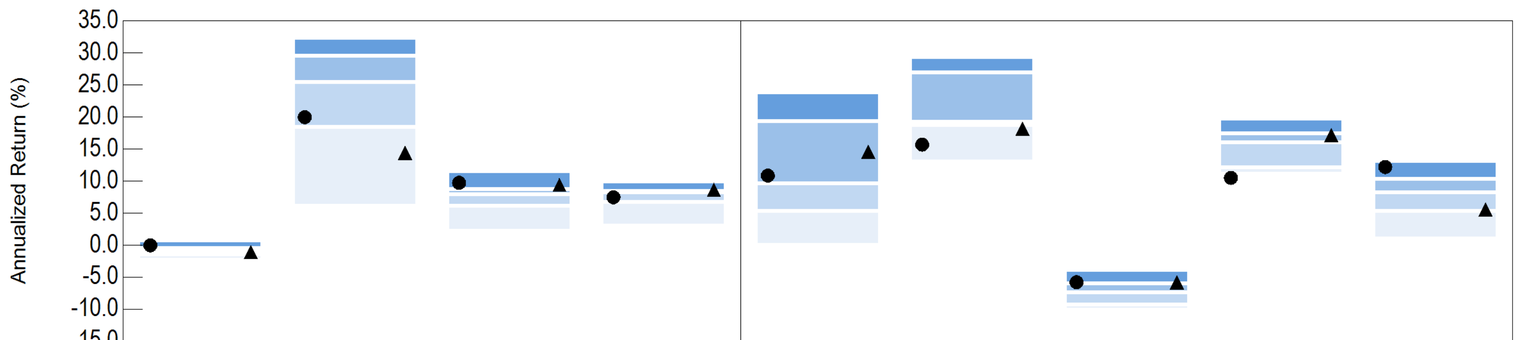


Invesco Balanced-Risk Allocation vs. eV Global Balanced Net Universe



	Quarter		1 Year		3 Years		5 Years		2020		2019		2018		2017		2016	
Return (Rank)																		
5th Percentile	0.7		32.3		11.5		9.9		23.8		29.3		-4.0		19.6		13.1	
25th Percentile	-0.5		29.6		8.8		8.5		19.4		27.0		-6.0		17.5		10.3	
Median	-1.0		25.5		8.0		8.3		9.6		19.3		-7.3		16.1		8.2	
75th Percentile	-1.5		18.5		6.2		6.8		5.4		18.8		-9.3		12.2		5.4	
95th Percentile	-2.3		6.2		2.3		3.1		0.0		13.1		-10.0		11.1		1.1	
# of Portfolios	9		9		9		8		10		9		10		9		13	
● **Invesco Balanced-Risk Allocation**	-0.1	(20)	20.0	(67)	9.7	(20)	7.4	(68)	10.8	(46)	15.7	(92)	-5.8	(22)	10.5	(99)	12.2	(19)
▲ **60% MSCI ACWI Net/40% FTSE WGBI**	-1.1	(57)	14.4	(85)	9.4	(22)	8.6	(22)	14.5	(33)	18.2	(88)	-5.8	(22)	17.1	(29)	5.5	(68)

Performance Return Calculations

Performance is calculated using Modified Dietz and for time periods with large cash flow (generally greater than 10% of portfolio value), Time Weighted Rates of Return (TWRR) methodologies. Monthly returns are geometrically linked and annualized for periods longer than one year.

Data Source

Verus is an independent third party consulting firm and calculates returns from best source book of record data. Returns calculated by Verus may deviate from those shown by the manager in part, but not limited to, differences in prices and market values reported by the custodian and manager, as well as significant cash flows into or out of an account. It is the responsibility of the manager and custodian to provide insight into the pricing methodologies and any difference in valuation.

Illiquid Alternatives

Due to the inability to receive final valuation prior to report production, closed end funds (including but are not limited to Real Estate, Hedge Funds, Private Equity, and Private Credit) performance is typically reported at a one-quarter lag. Valuation is reported at a one-quarter lag, adjusted for current quarter flow (cash flows are captured real time). Closed end fund performance is calculated using a time-weighted return methodology consistent with all portfolio and total fund performance calculations. For Private Markets, performance reports also include Verus-calculated multiples based on flows and valuations (e.g. DPI and TVPI) and manager-provided IRRs.

Manager Line Up

Manager	Fund Incepted	Data Source	Manager	Fund Incepted	Data Source
BlackRock Equity Index NL	4/30/2010	BlackRock	JPMorgan SSP	12/31/2014	JP Morgan
INTECH US Adaptive Volatility	8/3/2018	INTECH	IFM Global Infrastructure (US) LP	1/31/2009	IFM
Vanguard Small Cap Index Ins	4/14/2021	US Bank	JPMorgan IIF ERISA LP	9/30/2010	JP Morgan
WCM Focused International Growth	7/1/2016	WCM	Invesco Balanced-Risk Allocation	1/31/2010	Invesco
Causeway International Value	7/27/2016	US Bank	US Bank Checking Account	N/A	US Bank
Loomis Sayles Core Plus	3/21/2017	Loomis Sayles	US Bank Clearing Account	N/A	US Bank
ASB Allegiance Real Estate	3/31/2015	ASB			

Policy & Custom Index Composition

Policy Index:	45% MSCI World, 25% Bloomberg Aggregate, 10% NCREIF-ODCE Net, 20% (60%MSCI ACWI Net/40% CITI WGBI)
Target Asset Allocation Policy:	25% Dow Jones US Total Stock, 20% MSCI ACWI ex US IMI, 20% Bloomberg Aggregate, 10% NCREIF-ODCE, 5% CPI + 5%, and 20% (60%MSCI ACWI Net/40% CITI WGBI).

Glossary

Allocation Effect: An attribution effect that describes the amount attributable to the managers' asset allocation decisions, relative to the benchmark.

Alpha: The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Return - [Risk-free Rate + Portfolio Beta x (Market Return - Risk-free Rate)].

Benchmark R-squared: Measures how well the Benchmark return series fits the manager's return series. The higher the Benchmark R-squared, the more appropriate the benchmark is for the manager.

Beta: A measure of systematic, or market risk; the part of risk in a portfolio or security that is attributable to general market movements. Beta is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers typically have low book-to-market ratios while value managers typically have high book-to-market ratios.

Capture Ratio: A statistical measure of an investment manager's overall performance in up or down markets. The capture ratio is used to evaluate how well an investment manager performed relative to an index during periods when that index has risen (up market) or fallen (down market). The capture ratio is calculated by dividing the manager's returns by the returns of the index during the up/down market, and multiplying that factor by 100.

Correlation: A measure of the relative movement of returns of one security or asset class relative to another over time. A correlation of 1 means the returns of two securities move in lock step, a correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Excess Return: A measure of the difference in appreciation or depreciation in the price of an investment compared to its benchmark, over a given time period. This is usually expressed as a percentage and may be annualized over a number of years or represent a single period.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. Information ratio is calculated as: excess return divided by tracking error.

Interaction Effect: An attribution effect that describes the portion of active management that is contributable to the cross interaction between the allocation and selection effect. This can also be explained as an effect that cannot be easily traced to a source.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio (P/E): Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another, i.e., the goodness of fit to a benchmark. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Selection Effect: An attribution effect that describes the amount attributable to the managers' stock selection decisions, relative to the benchmark.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. Sharpe ratio is calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Sortino Ratio: Measures the risk-adjusted return of an investment, portfolio, or strategy. It is a modification of the Sharpe Ratio, but penalizes only those returns falling below a specified benchmark. The Sortino Ratio uses downside deviation in the denominator rather than standard deviation, like the Sharpe Ratio.

Standard Deviation: A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Style Analysis: A return based analysis designed to identify combinations of passive investments to closely replicate the performance of funds

Style Map: A specialized form or scatter plot chart typically used to show where a Manager lies in relation to a set of style indices on a two-dimensional plane. This is simply a way of viewing the asset loadings in a different context. The coordinates are calculated by rescaling the asset loadings to range from -1 to 1 on each axis and are dependent on the Style Indices comprising the Map.

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