Western States Office & Professional Employees Pension Fund

Investment Performance Review

Period Ending: June 30, 2020

Verus

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SEATTLE 206-622-3700
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1st quarter summary

THE ECONOMIC CLIMATE

- Real GDP grew at a 0.3% rate year-over-year in the first quarter (-4.8% quarterly annualized rate). Personal consumption expenditures shrunk -7.6%, resulting in a -5.3% hit to headline growth. Forecasts of Q2 GDP growth have varied between -15% to -35%.
- The U.S. government quickly crafted and implemented historic stimulus measures to combat the economic impact of the virus. Support of this magnitude has not been seen since the Great Depression of the 1930s.

PORTFOLIO IMPACTS

- U.S. equities experienced an unusually sudden and significant sell-off in March as investors grew fearful of the health and economic impacts of COVID-19. During Q1 the S&P 500 fell -19.6%, international developed equities (MSCI EAFE) fell -22.8% and emerging markets (MSCI EM) fell -23.6%.
- U.S. core inflation increased 2.1% YoY in March. Headline inflation slowed to 1.5%, pushed lower by a sharp decline in energy prices which will likely have persistent effects in future months. Downward pressure could be compounded as households slow spending due to loss of income and a greater propensity to save rather than spend.

THE INVESTMENT CLIMATE

- In mid-March, the Federal Open Market Committee cut interest rates by a full 1.00% to a new range of 0 – 0.25%. This surprise action was taken on a Sunday with the intent to get out ahead of economic impacts of COVID-19.
- Implied volatility spiked in March to a record daily close of 82.7%, surpassing the high of 80.9% reached in November 2008 during the depths of the global financial crisis.
- Central banks are facing an economic slowdown and need for monetary policy support, but very little room to cut interest rates. This is a risk that has been discussed for years. We believe fiscal policies will play a much larger role in addressing the inevitable economic slowdown.

ASSET ALLOCATION ISSUES

- Risk markets experienced one of the most sudden corrections on record, amidst extreme volatility. The S&P 500 showed its largest one-day drop since 1987 (March 16 -11.98%) and its largest one-day gain since 2008 (March 24 +9.38%). Implied volatility reached global financial crisis levels, and high yield credit spreads temporarily expanded above 11%. Some of these losses were recovered toward the end of March as the market rebounded.
- The U.S. dollar appreciated significantly in the first quarter, rising 7.1% on a trade-weighted basis, resulting in losses for investors with unhedged currency exposure.

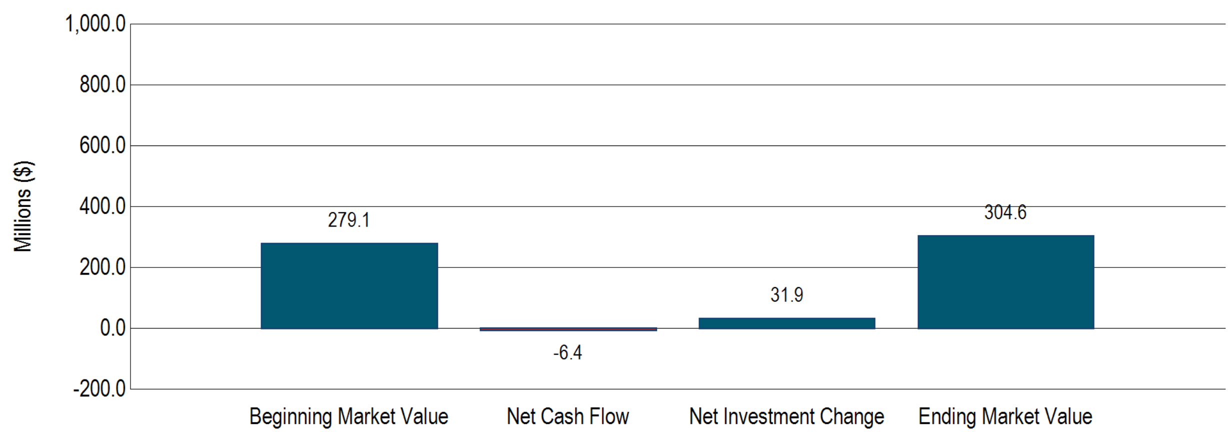
An underweight risk stance appears appropriate in today’s environment

We remain watchful for investment opportunities

Portfolio Reconciliation

	Last Three Months	Year-To-Date
Beginning Market Value	$279,097,041	$322,285,320
Net Cash Flow	-$6,379,742	-$13,156,831
Net Investment Change	$31,910,261	-$4,500,929
Ending Market Value	$304,627,560	$304,627,560

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

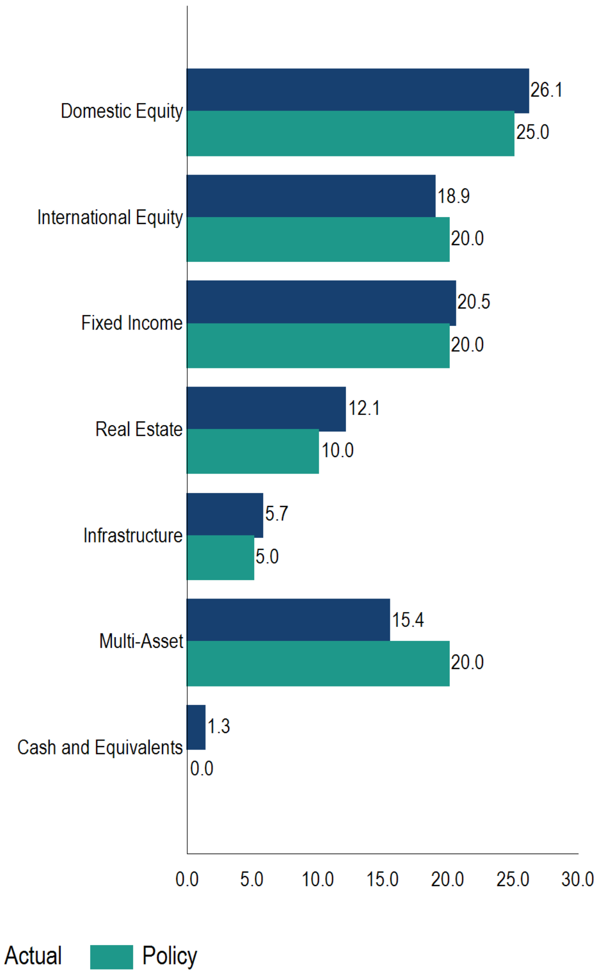
Period Ending: June 30, 2020

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
BlackRock Equity Index NL	$26,567,671	$0	$0	$0	$5,459,022	$32,026,693
INTECH US Adaptive Volatility	$28,190,412	$0	$0	$0	$5,342,705	$33,533,117
PanAgora US Small Cap Core Stock Selector	$11,046,740	$0	$0	$0	$2,871,392	$13,918,132
WCM Focused International Growth Fund, L.P.	$29,843,532	$0	$0	$0	$7,466,970	$37,310,502
Causeway International Value Ins	$16,844,986	$0	$0	$0	$3,457,769	$20,302,755
Loomis Sayles Core Plus	$64,582,706	$0	-$5,800,000	-$5,800,000	$3,601,362	$62,384,068
ASB Allegiance Real Estate	$21,914,326	$0	-$56,181	-$56,181	-$118,967	$21,739,179
JPMorgan Special Situation Property	$15,200,841	$0	-$59,781	-$59,781	-$123,016	$15,018,045
IFM Global Infrastructure (US) LP	$9,918,135	$0	-$119,214	-$119,214	$109,756	$9,908,677
JPMorgan IIF ERISA LP	$7,544,224	$0	$0	$0	$0	$7,544,224
Invesco Balanced-Risk Allocation	$43,191,010	$0	$0	$0	$3,843,268	$47,034,278
US Bank Checking Account	$1,654,516	$8,513,159	-$8,867,497	-$354,338	$0	$1,300,179
US Bank Clearing Account	$2,597,940	$7,694,373	-$7,684,603	$9,771	$0	$2,607,711
Total	**$279,097,041**	**$16,207,533**	**-$22,587,275**	**-$6,379,742**	**$31,910,261**	**$304,627,560**

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. JPMorgan IIF ERISA LP as of 3/31/2020.

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
Total Fund	**304,627,560**	**100.0**	**11.5**	**-1.4**	**4.0**	**6.0**	**5.9**	**8.0**
Total Fund Policy Index			*11.5*	*-1.2*	*4.8*	*6.0*	*5.9*	*7.6*
Target Asset Allocation Policy Index			*12.2*	*-1.0*	*5.3*	*6.8*	*6.7*	*8.4*
InvMetrics Tft-Hrtly DB $250mm-$1B Net Rank			*48*	*9*	*12*	*25*	*34*	*49*
Total Domestic Equity	**79,477,942**	**26.1**	**20.7**	**-4.9**	**2.9**	**7.9**	**8.5**	**13.0**
Dow Jones U.S. Total Stock Market			*22.1*	*-3.5*	*6.4*	*10.0*	*10.0*	*13.7*
InvMetrics Tft-Hrtly DB US Eq Net Rank			*79*	*43*	*57*	*61*	*52*	*30*
Total International Equity	**57,613,257**	**18.9**	**23.4**	**-4.8**	**3.8**	**5.1**	**4.3**	**5.5**
Total Public Int'l Equity Benchmark (MSCI ACWI ex US IMI)			*17.0*	*-11.2*	*-4.7*	*1.0*	*2.3*	*5.2*
InvMetrics Tft-Hrtly DB ex-US Eq Net Rank			*4*	*6*	*5*	*7*	*15*	*45*
Total Fixed Income	**62,384,068**	**20.5**	**5.7**	**6.9**	**9.7**	**6.0**	**5.2**	**5.4**
Total Fixed Income Benchmark (BBgBarc Aggregate)			*2.9*	*6.1*	*8.7*	*5.3*	*4.3*	*3.8*
InvMetrics Tft-Hrtly DB US Fix Inc Net Rank			*28*	*3*	*3*	*3*	*1*	*6*
Total Real Estate	**36,757,224**	**12.1**	**-0.8**	**0.6**	**2.4**	**5.3**	**6.3**	**10.5**
NCREIF ODCE Net			*-1.7*	*-1.0*	*1.4*	*4.7*	*6.4*	*9.8*
Total Infrastructure	**17,452,901**	**5.7**	**0.6**	**-3.2**	**2.8**	**8.7**	**8.1**	**7.4**
CPI + 5%			*1.1*	*2.8*	*5.7*	*6.8*	*6.6*	*6.8*
Total Multi-Asset	**47,034,278**	**15.4**	**8.8**	**-3.8**	**0.1**	**4.2**	**3.7**	**6.7**
60% MSCI ACWI Net/40% FTSE WGBI			*12.2*	*-1.8*	*3.7*	*5.6*	*5.6*	*6.6*
eV Global Balanced Net Rank			*69*	*41*	*48*	*35*	*71*	*64*
Total Cash	**3,907,889**	**1.3**	**0.0**	**0.0**	**0.0**	**0.0**	**1.5**	**--**

Actual vs Target Allocation (%)



Policy Index: 45% MSCI World, 25% BBgBarc 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% BBgBarc 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.

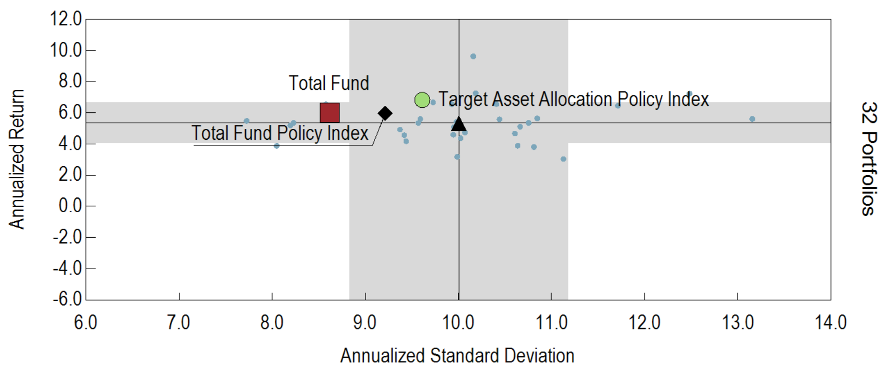
3 Year

	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	8.62%	0.06%	0.54%	0.92	0.97	90.82%	88.43%	0.03	1.70%	0.51
Total Fund Policy Index	9.22%	0.00%	0.00%	1.00	1.00	100.00%	100.00%	--	0.00%	0.47
Target Asset Allocation Policy Index	9.61%	0.86%	0.61%	1.04	1.00	108.96%	102.38%	1.17	0.74%	0.54

5 Year

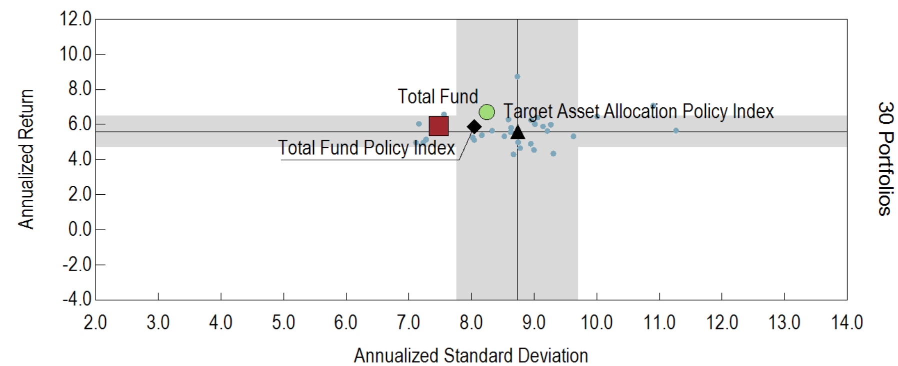
	Anlzd Standard Deviation	Ann Excess BM Return	Anlzd Alpha	Beta	R-Squared	Up Mkt Capture Ratio	Down Mkt Capture Ratio	Information Ratio	Tracking Error	Sharpe Ratio
Total Fund	7.47%	0.02%	0.53%	0.91	0.97	90.56%	89.13%	0.02	1.49%	0.64
Total Fund Policy Index	8.04%	0.00%	0.00%	1.00	1.00	100.00%	100.00%	--	0.00%	0.59
Target Asset Allocation Policy Index	8.24%	0.82%	0.69%	1.02	0.99	106.25%	98.06%	1.05	0.78%	0.68

3 Year



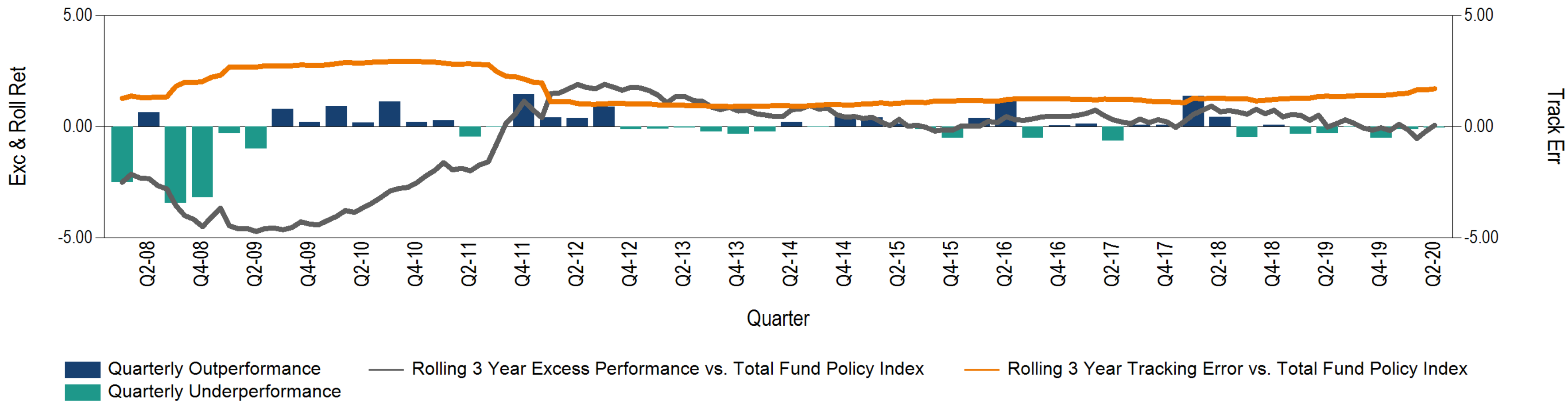
- Total Fund
- Total Fund Policy Index
- Target Asset Allocation Policy Index
- Universe Median
- 68% Confidence Interval
- InvMetrics Tft-Hrtly DB $250mm-$1B Net

5 Year

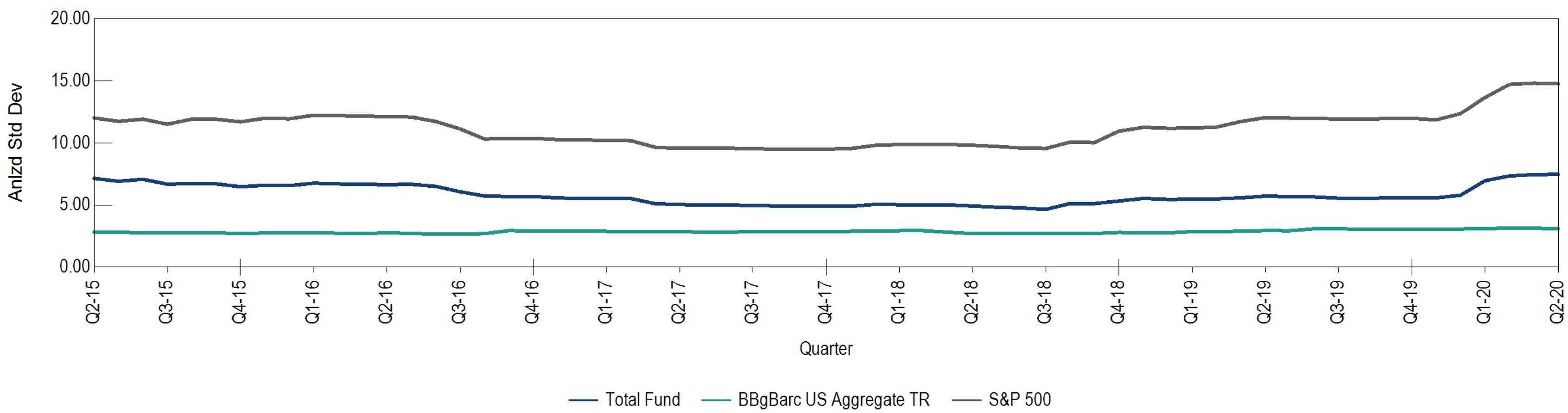


- Total Fund
- Total Fund Policy Index
- Target Asset Allocation Policy Index
- Universe Median
- 68% Confidence Interval
- InvMetrics Tft-Hrtly DB $250mm-$1B Net

Rolling Annualized Excess Performance and Tracking Error



Rolling 5 Year Annualized Standard Deviation



Total Fund
Executive Summary (Net of Fees)

Period Ending: June 30, 2020

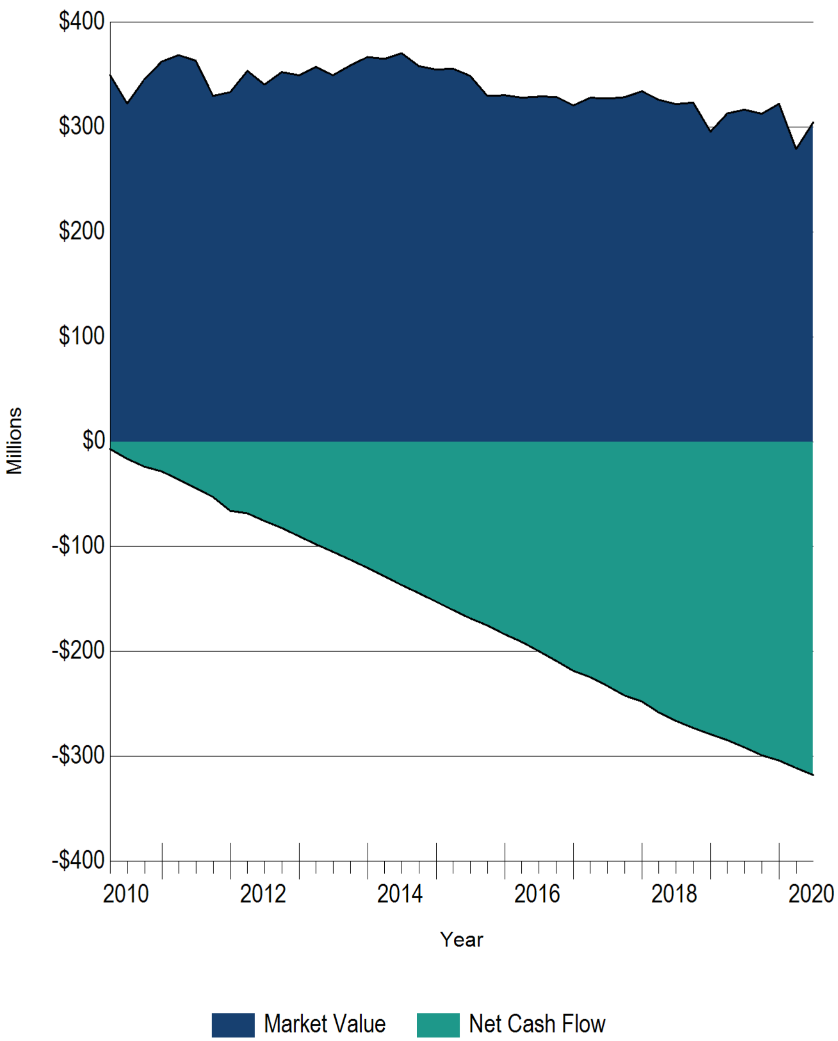
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fund	**304,627,560**	**100.0**	**11.5**	**-1.4**	**4.0**	**6.0**	**5.9**	**8.0**	**17.2**	**-3.2**	**13.0**	**6.9**	**0.9**
Total Fund Policy Index			*11.5*	*-1.2*	*4.8*	*6.0*	*5.9*	*7.6*	*18.6*	*-4.5*	*13.5*	*5.8*	*1.1*
Target Asset Allocation Policy Index			*12.2*	*-1.0*	*5.3*	*6.8*	*6.7*	*8.4*	*19.1*	*-3.2*	*13.7*	*7.2*	*1.3*
InvMetrics Tft-Hrtly DB $250mm-$1B Net Rank			*48*	*9*	*12*	*25*	*34*	*49*	*52*	*45*	*64*	*80*	*38*
Domestic Equity	**79,477,942**	**26.1**											
BlackRock Equity Index NL	32,026,693	10.5	20.5	-3.1	7.5	10.7	10.7	14.0	31.5	-4.4	21.8	11.9	1.3
S&P 500			*20.5*	*-3.1*	*7.5*	*10.7*	*10.7*	*14.0*	*31.5*	*-4.4*	*21.8*	*12.0*	*1.4*
eV US Large Cap Core Equity Net Rank			*38*	*32*	*24*	*22*	*11*	*14*	*28*	*32*	*46*	*21*	*37*
INTECH US Adaptive Volatility	33,533,117	11.0	19.0	-2.5	3.0	--	--	--	23.4	--	--	--	--
Russell 1000			*21.8*	*-2.8*	*7.5*	--	--	--	*31.4*	--	--	--	--
eV US Large Cap Core Equity Net Rank			*56*	*27*	*60*	--	--	--	*91*	--	--	--	--
PanAgora US Small Cap Core Stock Selector	13,918,132	4.6	25.7	-13.8	-7.1	2.3	3.9	--	26.1	-9.2	10.8	20.3	--
Russell 2000			*25.4*	*-13.0*	*-6.6*	*2.0*	*4.3*	--	*25.5*	*-11.0*	*14.6*	*21.3*	--
eV US Small Cap Core Equity Net Rank			*40*	*48*	*44*	*39*	*59*	--	*37*	*36*	*83*	*41*	--
International Equity	**57,613,257**	**18.9**											
WCM Focused International Growth Fund, L.P.	37,310,502	12.2	25.0	4.3	14.0	13.0	--	--	35.7	-7.4	31.1	--	--
MSCI ACWI ex USA			*16.1*	*-11.0*	*-4.8*	*1.1*	--	--	*21.5*	*-14.2*	*27.2*	--	--
eV ACWI ex-US All Cap Growth Eq Net Rank			*43*	*29*	*29*	*16*	--	--	*12*	*1*	*71*	--	--
Causeway International Value Ins	20,302,755	6.7	20.5	-18.1	-10.8	-3.5	--	--	20.1	-18.6	27.2	--	--
MSCI EAFE			*14.9*	*-11.3*	*-5.1*	*0.8*	--	--	*22.0*	*-13.8*	*25.0*	--	--
Foreign Large Value MStar MF Rank			*5*	*61*	*55*	*48*	--	--	*22*	*91*	*14*	--	--
Fixed Income	**62,384,068**	**20.5**											
Loomis Sayles Core Plus	62,384,068	20.5	5.7	6.9	9.7	6.0	--	--	9.4	-0.4	--	--	--
BBgBarc US Aggregate TR			*2.9*	*6.1*	*8.7*	*5.3*	--	--	*8.7*	*0.0*	--	--	--
eV US Core Plus Fixed Inc Net Rank			*51*	*6*	*6*	*10*	--	--	*63*	*40*	--	--	--
Real Estate	**36,757,224**	**12.1**											
ASB Allegiance Real Estate	21,739,179	7.1	-0.5	1.2	1.9	4.9	5.8	--	4.2	7.1	3.9	4.5	--
NCREIF ODCE Net			*-1.7*	*-1.0*	*1.4*	*4.7*	*6.4*	--	*4.4*	*7.4*	*6.7*	*7.8*	--
JPMorgan Special Situation Property	15,018,045	4.9	-1.2	-0.2	3.1	6.2	7.8	--	5.0	9.6	7.9	8.7	18.9
NCREIF-ODCE			*-1.6*	*-0.6*	*2.2*	*5.7*	*7.3*	--	*5.3*	*8.3*	*7.6*	*8.8*	*15.0*

Policy Index: 45% MSCI World, 25% BBgBarc 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% BBgBarc 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. Data prior to 3Q 2015 is from previous consultant.

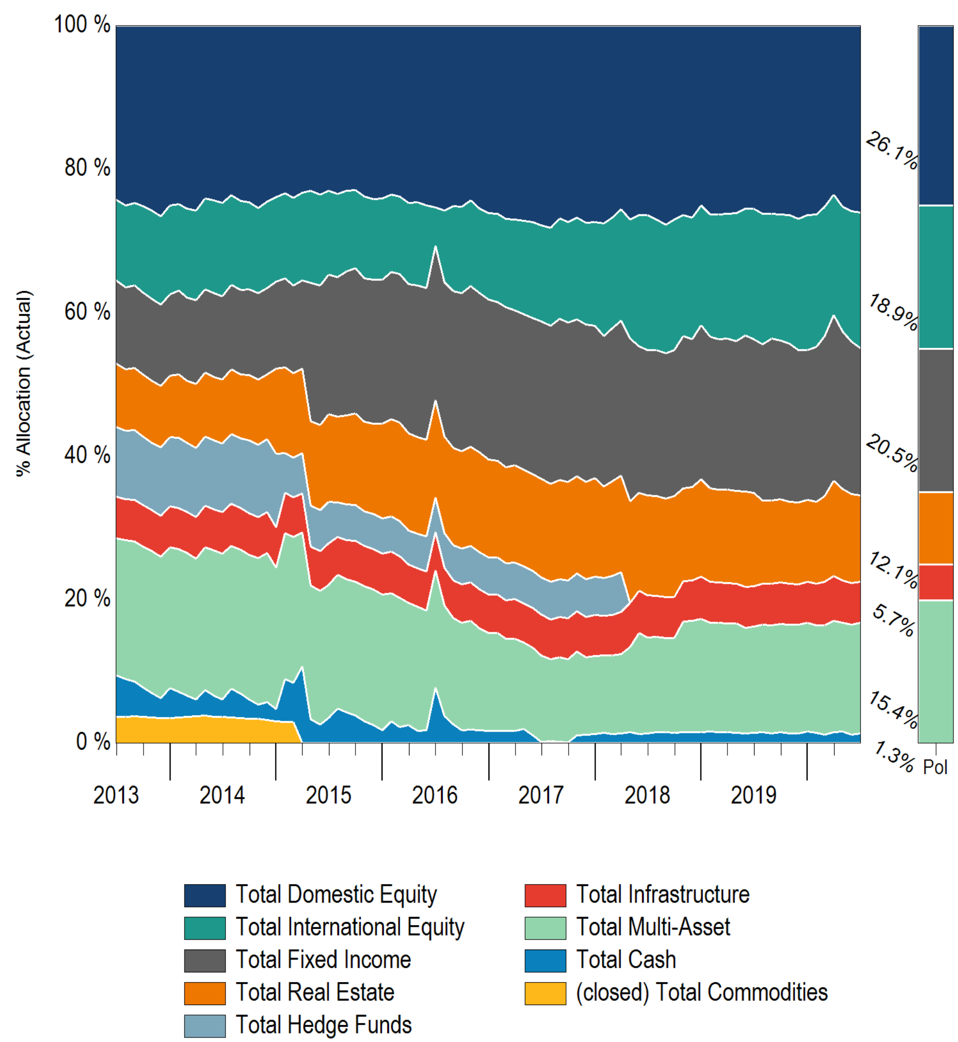
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Infrastructure	**17,452,901**	**5.7**											
IFM Global Infrastructure (US) LP	9,908,677	3.3	1.1	-2.9	4.5	11.8	11.2	9.6	14.6	15.8	21.1	6.1	5.2
CPI + 5%			*1.1*	*2.8*	*5.7*	*6.8*	*6.6*	*6.8*	*7.4*	*7.0*	*7.2*	*7.2*	*5.8*
JPMorgan IIF ERISA LP	7,544,224	2.5	0.0	-3.7	0.8	5.3	4.8	--	8.0	4.2	14.2	1.2	3.4
CPI + 5%			*1.1*	*2.8*	*5.7*	*6.8*	*6.6*	*--*	*7.4*	*7.0*	*7.2*	*7.2*	*5.8*
Multi-Asset	**47,034,278**	**15.4**											
Invesco Balanced-Risk Allocation	47,034,278	15.4	8.8	-3.8	0.1	4.2	4.4	6.5	15.7	-5.8	10.5	12.2	-3.5
60% MSCI ACWI Net/40% FTSE WGBI			*12.2*	*-1.8*	*3.7*	*5.6*	*5.6*	*6.6*	*18.2*	*-5.8*	*17.1*	*5.5*	*-2.6*
FTSE 3-Month T-bill +6%			*1.6*	*3.5*	*7.6*	*7.8*	*7.2*	*6.6*	*8.4*	*8.0*	*6.9*	*6.3*	*6.0*
eV Global Balanced Net Rank			*69*	*41*	*48*	*35*	*65*	*70*	*92*	*22*	*99*	*19*	*74*
Cash and Equivalents	**3,907,889**	**1.3**											
US Bank Checking Account	1,300,179	0.4											
US Bank Clearing Account	2,607,711	0.9											

Policy Index: 45% MSCI World, 25% BBgBarc Aggregate, 10% NCREIF-ODCE, 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% BBgBarc 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. JPMorgan IIF ERISA LP as of 3/31/2020. Data prior to 3Q 2015 is from previous consultant.

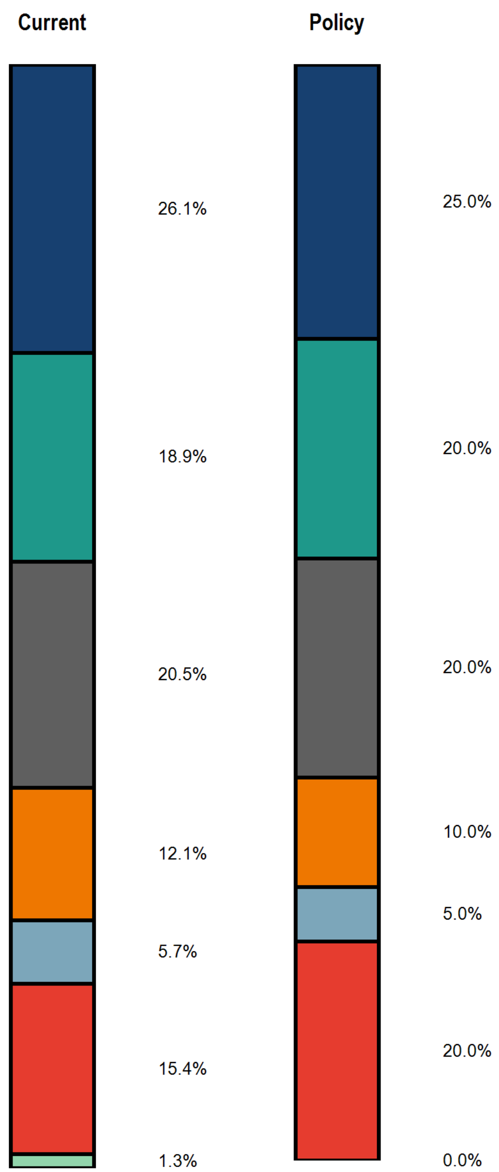
Market Value History



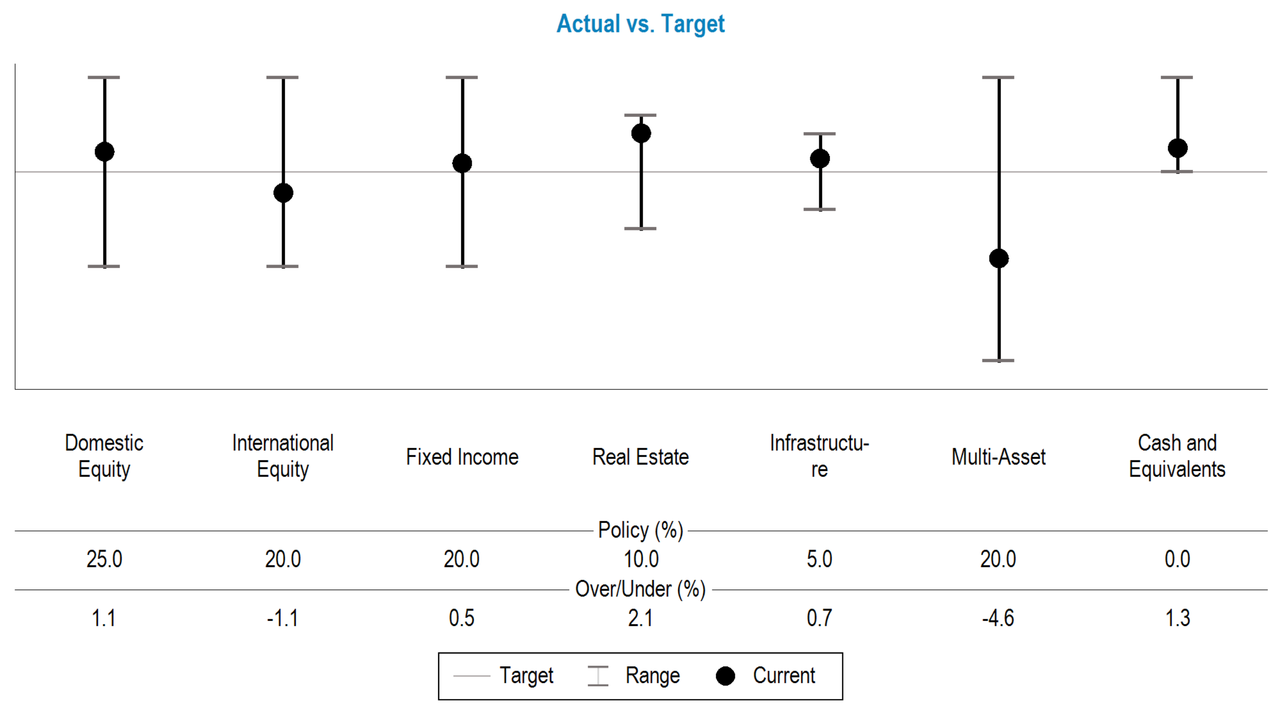
Asset Allocation History



Net cash flow is cumulative.



	Current	%	Policy	Difference	Policy Range	Within Range
Domestic Equity	$79,477,942	26.1%	25.0%	$3,321,053	20.0% - 30.0%	Yes
International Equity	$57,613,257	18.9%	20.0%	-$3,312,255	15.0% - 25.0%	Yes
Fixed Income	$62,384,068	20.5%	20.0%	$1,458,556	15.0% - 25.0%	Yes
Real Estate	$36,757,224	12.1%	10.0%	$6,294,468	7.0% - 13.0%	Yes
Infrastructure	$17,452,901	5.7%	5.0%	$2,221,523	3.0% - 7.0%	Yes
Multi-Asset	$47,034,278	15.4%	20.0%	-$13,891,234	10.0% - 25.0%	Yes
Cash and Equivalents	$3,907,889	1.3%	0.0%	$3,907,889	0.0% - 5.0%	Yes
Total	**$304,627,560**	**100.0%**	**100.0%**			



Investment Fund Fee Analysis

Period Ending: June 30, 2020

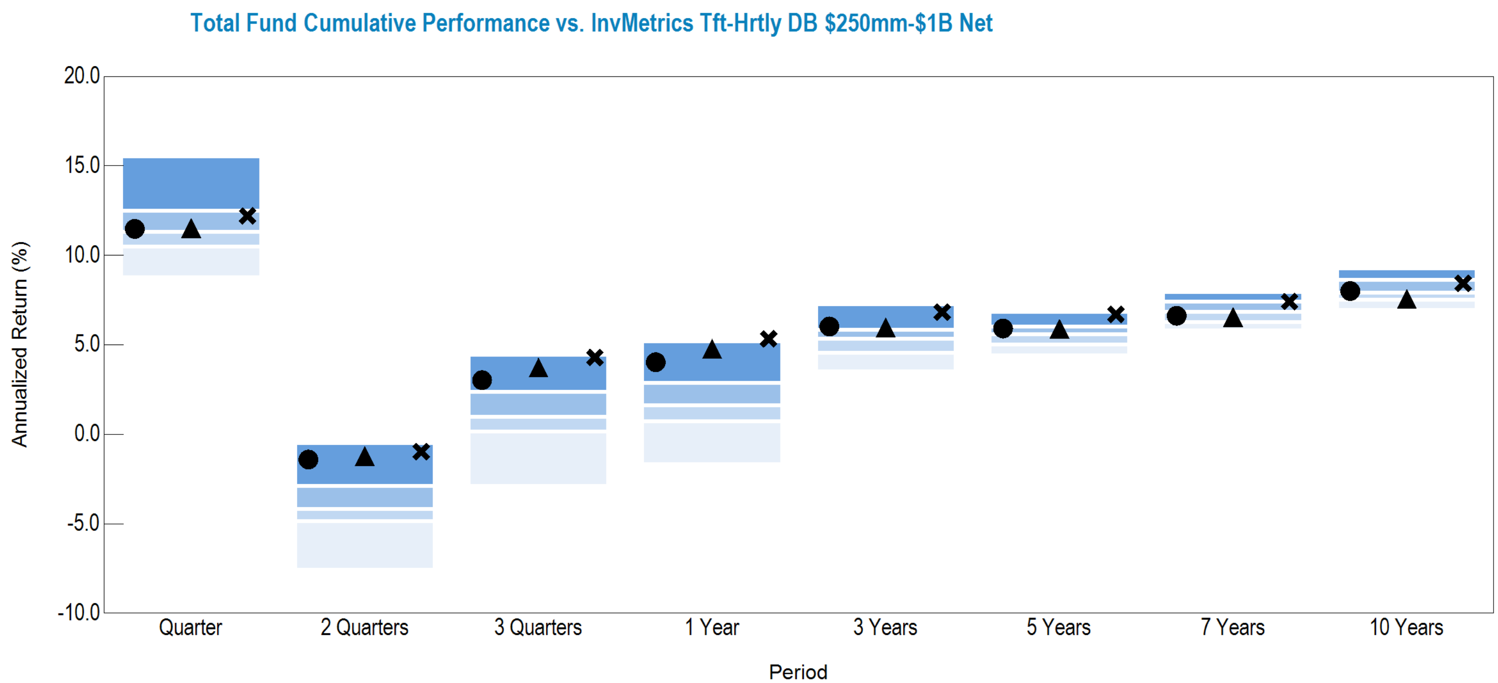
Name	Asset Class	Fee Schedule	Market Value	% of Portfolio	Estimated Fee Value	Estimated Fee
BlackRock Equity Index NL	Domestic Equity	0.03% of Assets	$32,026,693	10.5%	$9,608	0.03%
INTECH US Adaptive Volatility	Domestic Equity	0.40% of Assets	$33,533,117	11.0%	$134,132	0.40%
PanAgora US Small Cap Core Stock Selector	Domestic Equity	0.85% of Assets	$13,918,132	4.6%	$118,304	0.85%
WCM Focused International Growth Fund, L.P.	International Equity	0.75% of Assets	$37,310,502	12.2%	$279,829	0.75%
Causeway International Value Ins	International Equity	0.90% of Assets	$20,302,755	6.7%	$182,725	0.90%
Loomis Sayles Core Plus	Fixed Income	0.35% of First 20.0 Mil, 0.25% Thereafter	$62,384,068	20.5%	$175,960	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	$21,739,179	7.1%	$223,153	1.03%
JPMorgan Special Situation Property	Real Estate	1.60% of Assets	$15,018,045	4.9%	$240,289	1.60%
IFM Global Infrastructure (US) LP	Infrastructure	0.77% of Assets	$9,908,677	3.3%	$76,297	0.77%
JPMorgan IIF ERISA LP	Infrastructure	1.25% of First 50.0 Mil, 1.15% of Next 50.0 Mil, 1.05% Thereafter	$7,544,224	2.5%	$94,303	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	$47,034,278	15.4%	$176,379	0.38%
US Bank Checking Account	Cash and Equivalents		$1,300,179	0.4%		
US Bank Clearing Account	Cash and Equivalents		$2,607,711	0.9%		
Total			**$304,627,560**	**100.0%**	**$1,710,978**	**0.56%**

Watch List (Net of Fees)

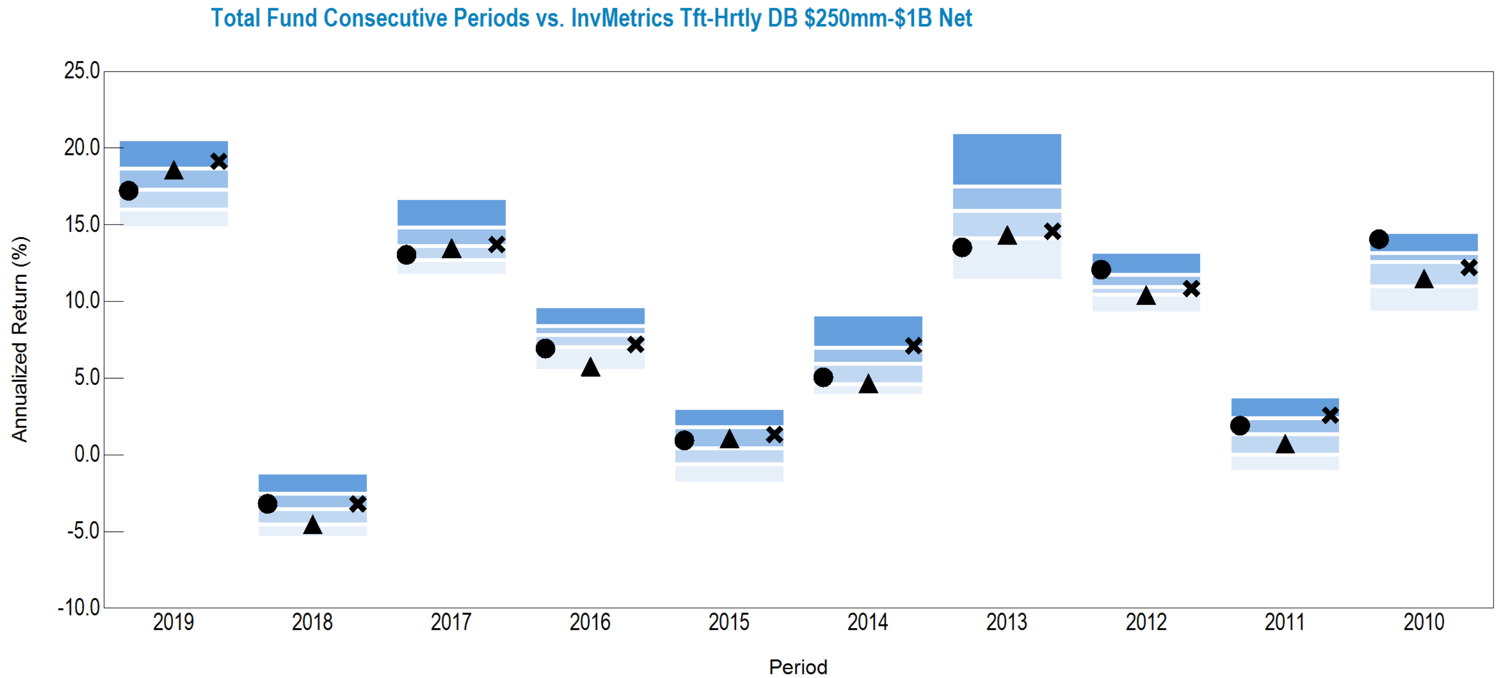
Name	Allocation Group	Status	Rule 1	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6
BlackRock Equity Index NL	Domestic Equity	No Issues	--	--	--	--	--	✓
INTECH US Adaptive Volatility	Domestic Equity	No Issues	--	--	--	--	--	--
PanAgora US Small Cap Core Stock Selector	Domestic Equity	No Issues	✓	✓	⚑	⚑	--	--
WCM Focused 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.

Causeway International Value Ins: Provisional: 1/31/2020, Jamie Doyle, one of their eight Fundamental Portfolio Managers, will retire in June 2020.



Return (Rank)	Quarter		2 Quarters		3 Quarters		1 Year		3 Years		5 Years		7 Years		10 Years	
5th Percentile	15.5		-0.5		4.4		5.2		7.2		6.8		7.9		9.3	
25th Percentile	12.5		-2.9		2.4		2.9		5.8		6.0		7.4		8.6	
Median	11.3		-4.2		1.0		1.6		5.3		5.6		6.9		7.9	
75th Percentile	10.5		-4.9		0.2		0.7		4.6		5.0		6.3		7.5	
95th Percentile	8.8		-7.6		-2.9		-1.6		3.5		4.4		5.8		7.0	
# of Portfolios	32		32		32		32		32		30		30		29	
● Total Fund	11.5	(48)	-1.4	(9)	3.0	(15)	4.0	(12)	6.0	(25)	5.9	(34)	6.6	(59)	8.0	(49)
▲ Total Fund Policy Index	11.5	(48)	-1.2	(7)	3.7	(7)	4.8	(6)	6.0	(25)	5.9	(35)	6.6	(60)	7.6	(73)
✖ Target Asset Allocation Policy Index	12.2	(33)	-1.0	(6)	4.3	(6)	5.3	(5)	6.8	(9)	6.7	(6)	7.4	(26)	8.4	(38)

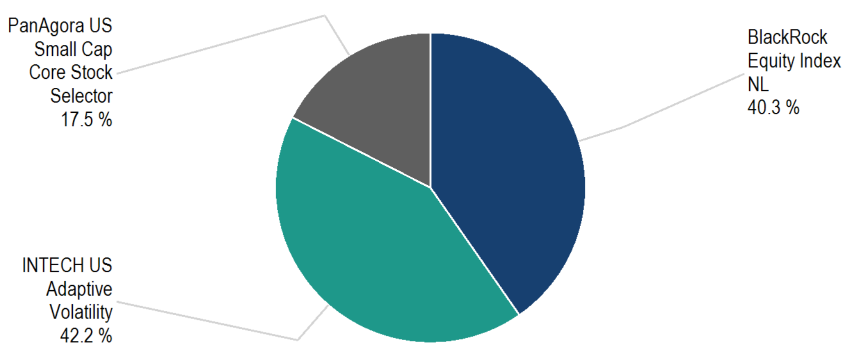


	Return (Rank)																			
5th Percentile	20.6		-1.2		16.7		9.7		3.0		9.1		21.0		13.2		3.8		14.5	
25th Percentile	18.7		-2.5		14.9		8.4		1.8		7.0		17.5		11.8		2.4		13.2	
Median	17.3		-3.5		13.6		7.8		0.4		6.0		15.9		11.0		1.4		12.6	
75th Percentile	16.0		-4.5		12.7		7.0		-0.6		4.6		14.2		10.4		0.0		11.0	
95th Percentile	14.8		-5.4		11.7		5.5		-1.9		3.9		11.4		9.3		-1.1		9.3	
# of Portfolios	86		84		69		56		58		55		49		37		34		32	
● Total Fund	17.2	(52)	-3.2	(45)	13.0	(64)	6.9	(80)	0.9	(38)	5.1	(70)	13.5	(79)	12.1	(20)	1.9	(40)	14.1	(10)
▲ Total Fund Policy Index	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)	11.5	(66)
✕ Target Asset Allocation Policy Index	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)	12.2	(58)

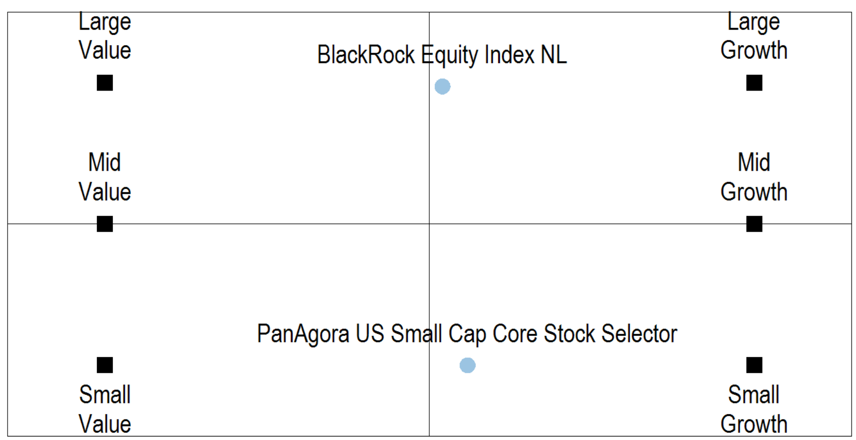
Domestic Equity

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Domestic Equity	**79,477,942**	**100.0**	**20.7**	**-4.9**	**2.9**	**7.9**	**8.5**	**13.0**	**27.2**	**-5.9**	**19.4**	**11.5**	**0.7**
Dow Jones U.S. Total Stock Market			*22.1*	*-3.5*	*6.4*	*10.0*	*10.0*	*13.7*	*30.9*	*-5.3*	*21.2*	*12.6*	*0.4*
InvMetrics Tft-Hrtly DB US Eq Net Rank			*79*	*43*	*57*	*61*	*52*	*30*	*89*	*34*	*71*	*61*	*30*
Domestic Equity	**79,477,942**	**100.0**											
BlackRock Equity Index NL	32,026,693	40.3	20.5	-3.1	7.5	10.7	10.7	14.0	31.5	-4.4	21.8	11.9	1.3
S&P 500			*20.5*	*-3.1*	*7.5*	*10.7*	*10.7*	*14.0*	*31.5*	*-4.4*	*21.8*	*12.0*	*1.4*
eV US Large Cap Core Equity Net Rank			*38*	*32*	*24*	*22*	*11*	*14*	*28*	*32*	*46*	*21*	*37*
INTECH US Adaptive Volatility	33,533,117	42.2	19.0	-2.5	3.0	--	--	--	23.4	--	--	--	--
Russell 1000			*21.8*	*-2.8*	*7.5*	--	--	--	*31.4*	--	--	--	--
eV US Large Cap Core Equity Net Rank			*56*	*27*	*60*	--	--	--	*91*	--	--	--	--
PanAgora US Small Cap Core Stock Selector	13,918,132	17.5	25.7	-13.8	-7.1	2.3	3.9	--	26.1	-9.2	10.8	20.3	--
Russell 2000			*25.4*	*-13.0*	*-6.6*	*2.0*	*4.3*	--	*25.5*	*-11.0*	*14.6*	*21.3*	--
eV US Small Cap Core Equity Net Rank			*40*	*48*	*44*	*39*	*59*	--	*37*	*36*	*83*	*41*	--

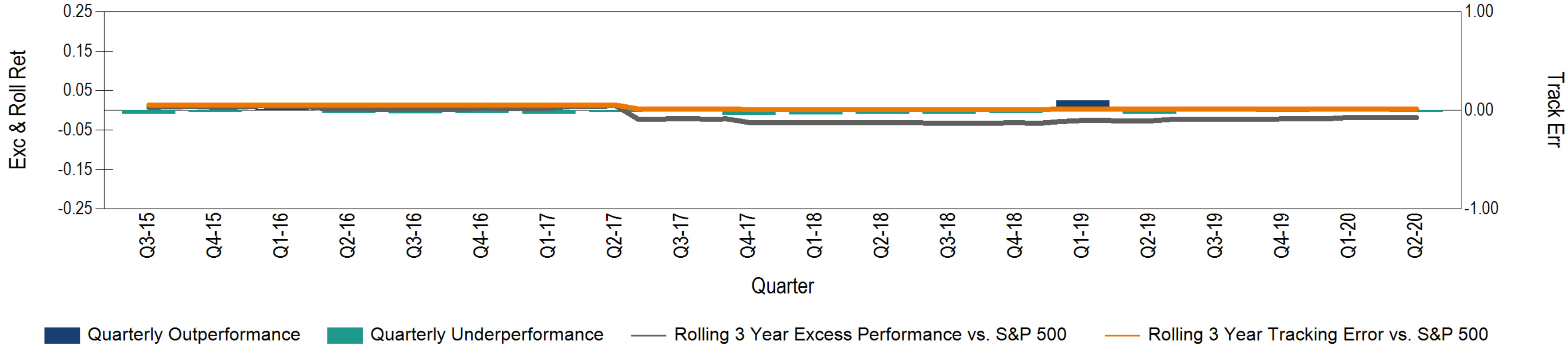
Total Domestic Equity
Current Allocation

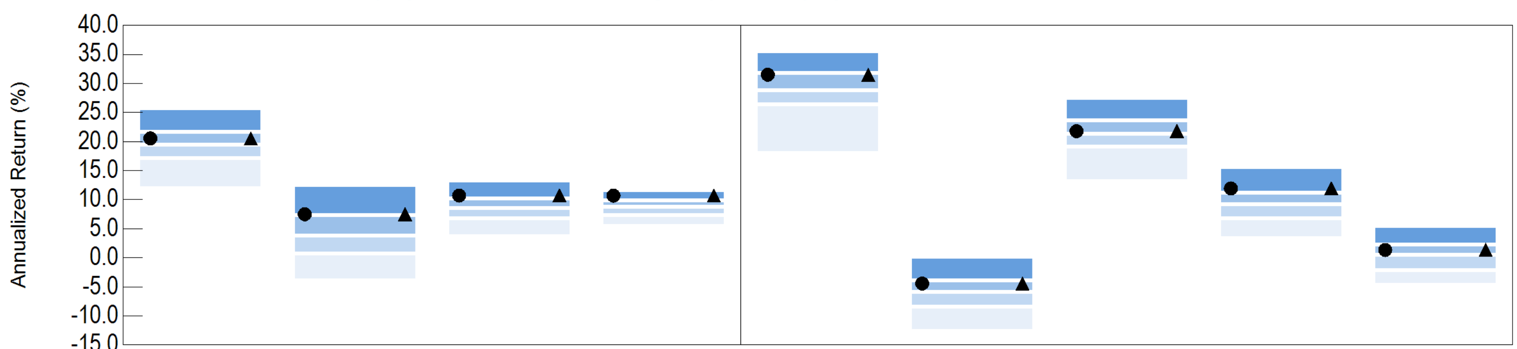


Domestic Effective Style Map
3 Years



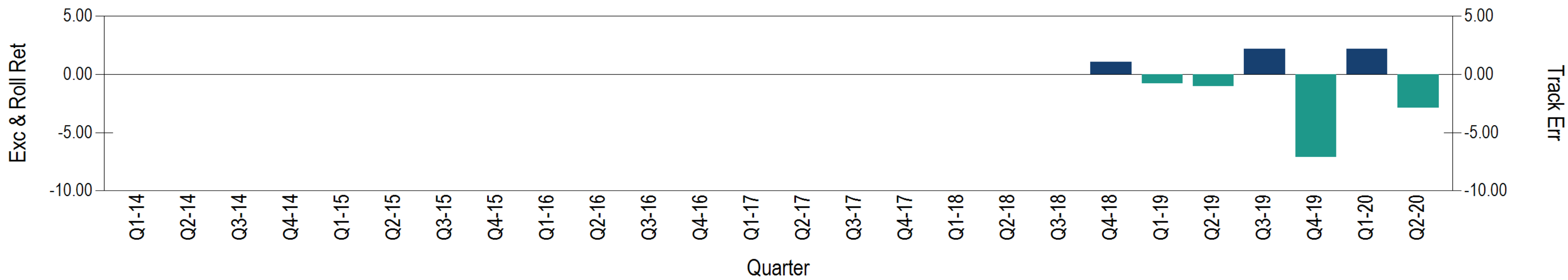
Style map requires 3 years of returns. INTECH US Adaptive Volatility replaced INTECH US Managed Volatility on 8/3/2018.



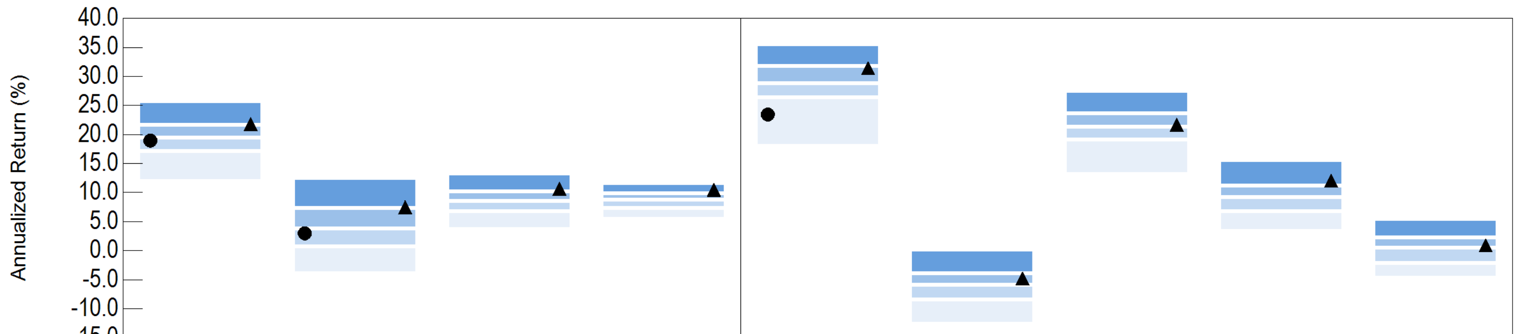


Return (Rank)	Quarter		1 Year		3 Years		5 Years		2019		2018		2017		2016		2015	
5th Percentile	25.6		12.5		13.3		11.6		35.5		0.1		27.4		15.6		5.4	
25th Percentile	21.7		7.4		10.3		9.9		31.9		-3.8		23.7		11.3		2.4	
Median	19.6		3.9		8.7		8.8		28.9		-5.8		21.4		9.3		0.6	
75th Percentile	17.2		0.8		6.8		7.4		26.5		-8.3		19.2		6.9		-2.0	
95th Percentile	12.0		-3.8		3.8		5.6		18.1		-12.5		13.2		3.4		-4.6	
# of Portfolios	175		173		168		151		203		189		188		177		142	
● BlackRock Equity Index NL	20.5	(38)	7.5	(24)	10.7	(22)	10.7	(11)	31.5	(28)	-4.4	(32)	21.8	(46)	11.9	(21)	1.3	(37)
▲ S&P 500	20.5	(38)	7.5	(24)	10.7	(22)	10.7	(11)	31.5	(28)	-4.4	(32)	21.8	(46)	12.0	(21)	1.4	(37)

Rolling Annualized Excess Performance and Tracking Error

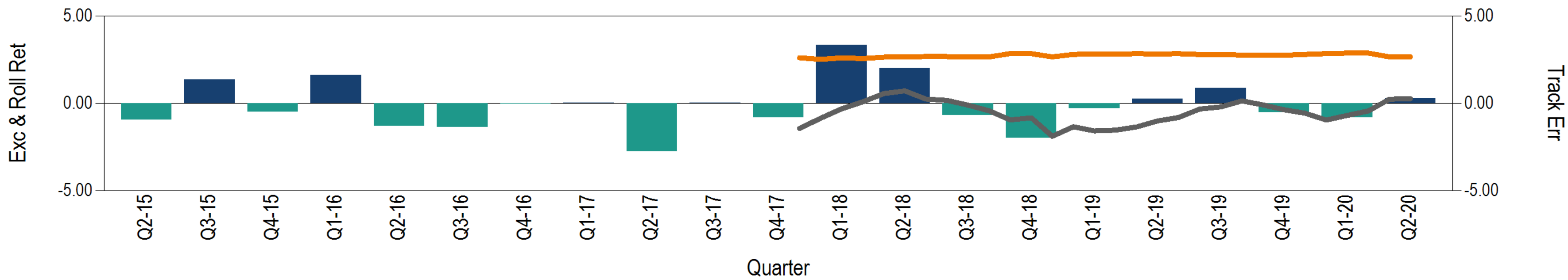


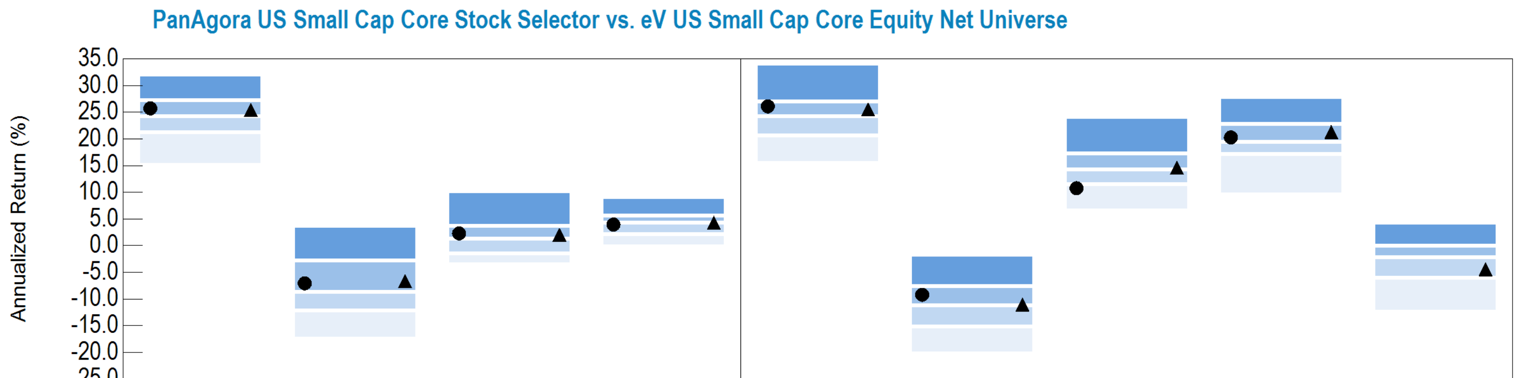
INTECH US Adaptive Volatility vs. eV US Large Cap Core Equity Net Universe



	Quarter		1 Year		3 Years		5 Years		2019		2018		2017		2016		2015	
	Return (Rank)																	
5th Percentile	25.6		12.5		13.3		11.6		35.5		0.1		27.4		15.6		5.4	
25th Percentile	21.7		7.4		10.3		9.9		31.9		-3.8		23.7		11.3		2.4	
Median	19.6		3.9		8.7		8.8		28.9		-5.8		21.4		9.3		0.6	
75th Percentile	17.2		0.8		6.8		7.4		26.5		-8.3		19.2		6.9		-2.0	
95th Percentile	12.0		-3.8		3.8		5.6		18.1		-12.5		13.2		3.4		-4.6	
# of Portfolios	175		173		168		151		203		189		188		177		142	
● **INTECH US Adaptive Volatility**	19.0	(56)	3.0	(60)	--	(--)	--	(--)	23.4	(91)	--	(--)	--	(--)	--	(--)	--	(--)
▲ **Russell 1000**	21.8	(24)	7.5	(25)	10.6	(23)	10.5	(18)	31.4	(29)	-4.8	(37)	21.7	(47)	12.1	(20)	0.9	(47)

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

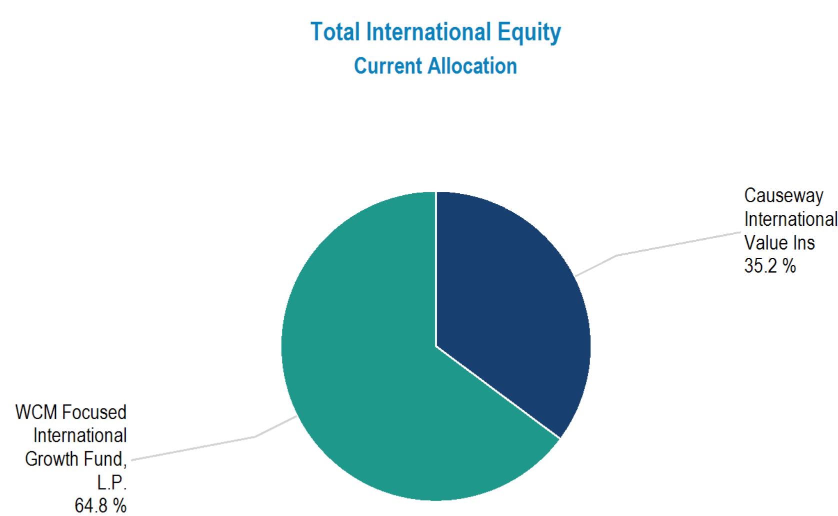




Return (Rank)	Quarter		1 Year		3 Years		5 Years		2019		2018		2017		2016		2015	
5th Percentile	32.0		3.6		10.2		9.0		34.1		-1.8		24.1		27.8		4.2	
25th Percentile	27.3		-2.7		3.8		5.7		27.0		-7.5		17.3		22.8		0.1	
Median	24.3		-8.5		1.4		4.3		24.3		-11.1		14.4		19.5		-2.1	
75th Percentile	21.3		-12.1		-1.4		2.2		20.7		-15.1		11.6		17.3		-5.9	
95th Percentile	15.1		-17.4		-3.5		-0.1		15.5		-20.1		6.7		9.7		-12.3	
# of Portfolios	96		96		93		87		112		113		106		99		88	
● **PanAgora US Small Cap Core Stock Selector**	25.7	(40)	-7.1	(44)	2.3	(39)	3.9	(59)	26.1	(37)	-9.2	(36)	10.8	(83)	20.3	(41)	--	(--)
▲ **Russell 2000**	25.4	(43)	-6.6	(44)	2.0	(40)	4.3	(52)	25.5	(41)	-11.0	(50)	14.6	(46)	21.3	(34)	-4.4	(71)

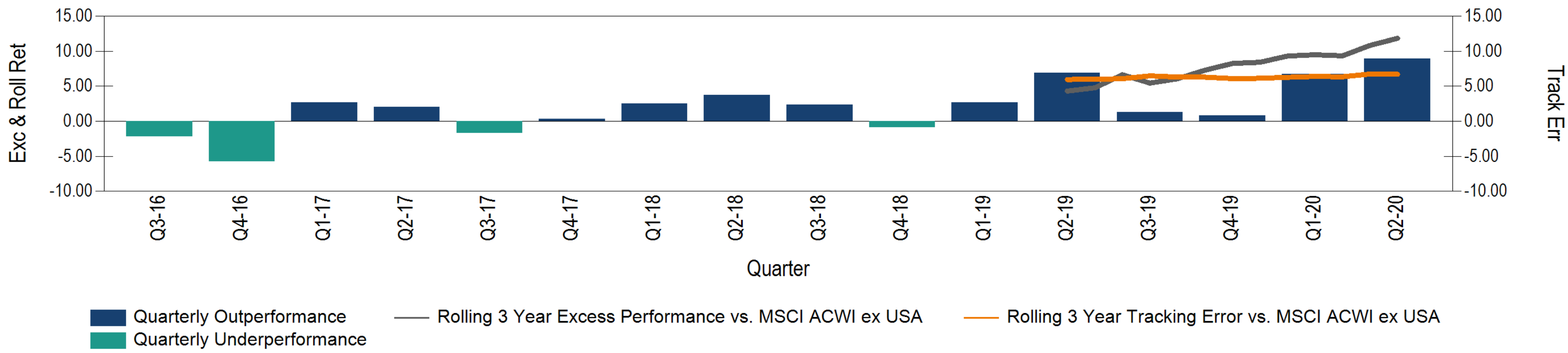
International Equity

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total International Equity	**57,613,257**	**100.0**	**23.4**	**-4.8**	**3.8**	**5.1**	**4.3**	**5.5**	**27.8**	**-13.0**	**26.6**	**0.9**	**-4.5**
Total Public Int'l Equity Benchmark (MSCI ACWI ex US IMI)			*17.0*	*-11.2*	*-4.7*	*1.0*	*2.3*	*5.2*	*21.6*	*-14.8*	*27.8*	*4.4*	*-4.6*
InvMetrics Tft-Hrtly DB ex-US Eq Net Rank			*4*	*6*	*5*	*7*	*15*	*45*	*10*	*14*	*71*	*82*	*51*
International Equity	57,613,257	100.0											
WCM Focused International Growth Fund, L.P.	37,310,502	64.8	25.0	4.3	14.0	13.0	--	--	35.7	-7.4	31.1	--	--
MSCI ACWI ex USA			*16.1*	*-11.0*	*-4.8*	*1.1*	--	--	*21.5*	*-14.2*	*27.2*	--	--
eV ACWI ex-US All Cap Growth Eq Net Rank			*43*	*29*	*29*	*16*	--	--	*12*	*1*	*71*	--	--
Causeway International Value Ins	20,302,755	35.2	20.5	-18.1	-10.8	-3.5	--	--	20.1	-18.6	27.2	--	--
MSCI EAFE			*14.9*	*-11.3*	*-5.1*	*0.8*	--	--	*22.0*	*-13.8*	*25.0*	--	--
Foreign Large Value MStar MF Rank			*5*	*61*	*55*	*48*	--	--	*22*	*91*	*14*	--	--

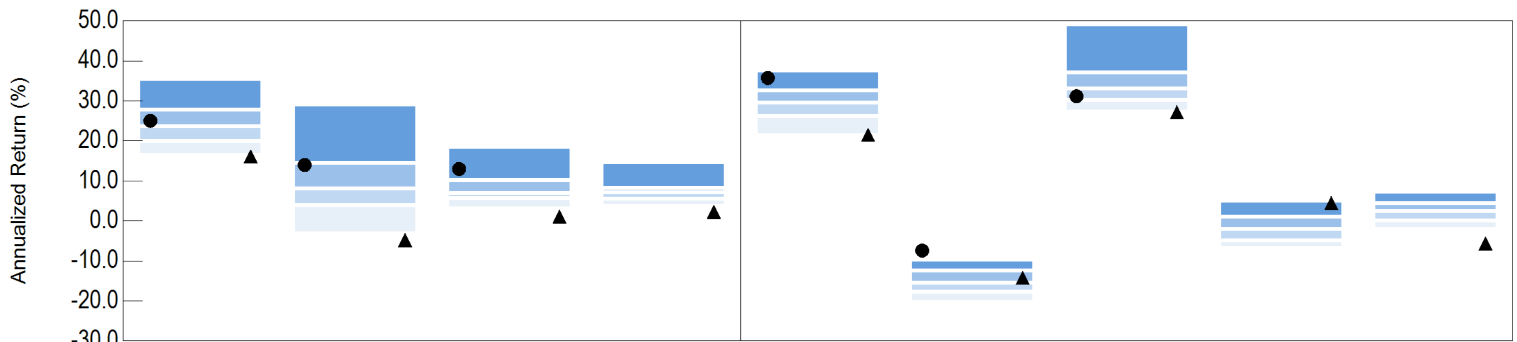


Invesco Real Estate II liquidated 9/1/2019.

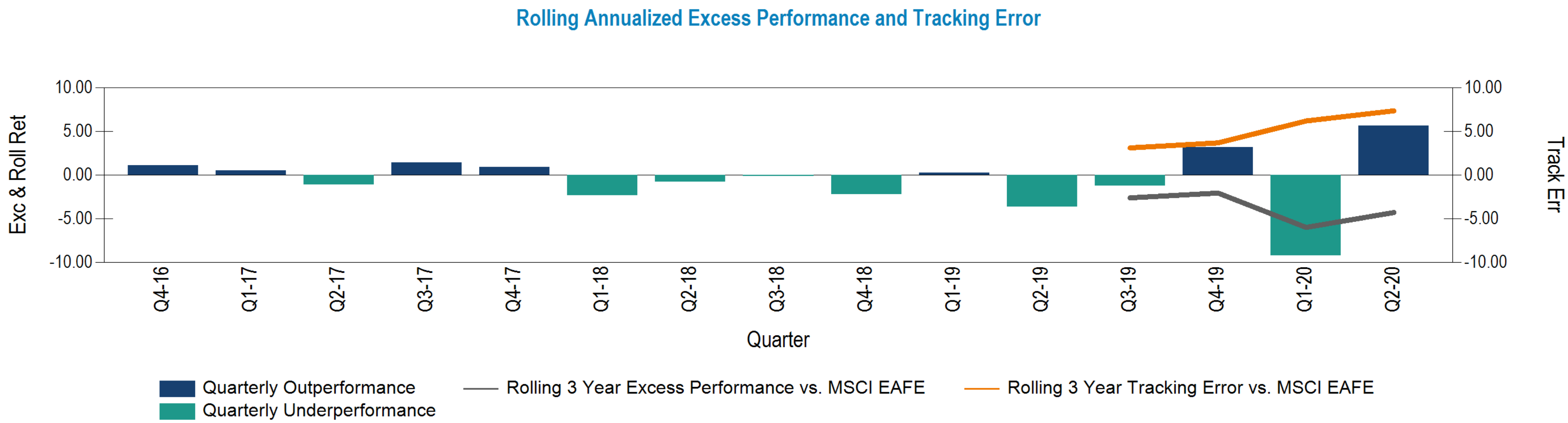
Rolling Annualized Excess Performance and Tracking Error

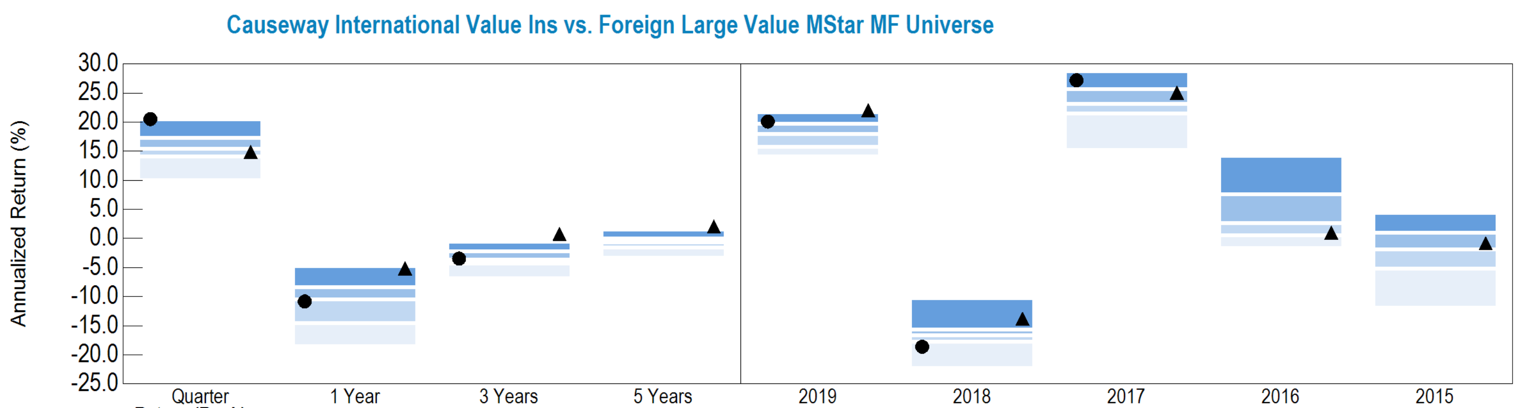


WCM Focused International Growth Fund, L.P. vs. eV ACWI ex-US All Cap Growth Eq Net Universe



	Quarter Return (Rank)		1 Year		3 Years		5 Years		2019		2018		2017		2016		2015	
5th Percentile	35.5		29.0		18.4		14.6		37.5		-9.7		49.1		5.0		7.2	
25th Percentile	27.8		14.6		10.2		8.4		32.7		-12.3		37.2		1.2		4.5	
Median	23.7		8.3		7.1		7.2		29.7		-15.3		33.2		-2.0		2.5	
75th Percentile	20.0		4.1		5.8		5.6		26.2		-17.5		30.4		-4.7		0.2	
95th Percentile	16.6		-2.9		3.2		3.8		21.5		-20.2		27.5		-6.6		-1.9	
# of Portfolios	30		30		29		26		32		26		27		25		18	
● **WCM Focused International Growth Fund, L.P**	25.0	(43)	14.0	(29)	13.0	(16)	--	(--)	35.7	(12)	-7.4	(1)	31.1	(71)	--	(--)	--	(--)
▲ **MSCI ACWI ex USA**	16.1	(98)	-4.8	(98)	1.1	(98)	2.3	(98)	21.5	(96)	-14.2	(49)	27.2	(96)	4.5	(8)	-5.7	(99)





Return (Rank)	Quarter		1 Year		3 Years		5 Years		2019		2018		2017		2016		2015	
5th Percentile	20.5		-4.8		-0.6		1.5		21.7		-10.4		28.7		14.1		4.4	
25th Percentile	17.4		-8.3		-2.1		0.1		19.8		-15.6		25.7		7.7		1.1	
Median	15.5		-10.4		-3.6		-0.6		18.1		-16.5		23.2		2.7		-1.8	
75th Percentile	14.2		-14.5		-4.2		-1.5		15.9		-17.7		21.5		0.6		-5.1	
95th Percentile	10.1		-18.4		-6.8		-3.3		14.2		-22.2		15.3		-1.6		-11.9	
# of Portfolios	83		81		77		73		84		74		74		78		76	
● **Causeway International Value Ins**	20.5	(5)	-10.8	(55)	-3.5	(48)	--	(--)	20.1	(22)	-18.6	(91)	27.2	(14)	--	(--)	--	(--)
▲ **MSCI EAFE**	14.9	(66)	-5.1	(9)	0.8	(4)	2.1	(3)	22.0	(4)	-13.8	(17)	25.0	(30)	1.0	(69)	-0.8	(43)

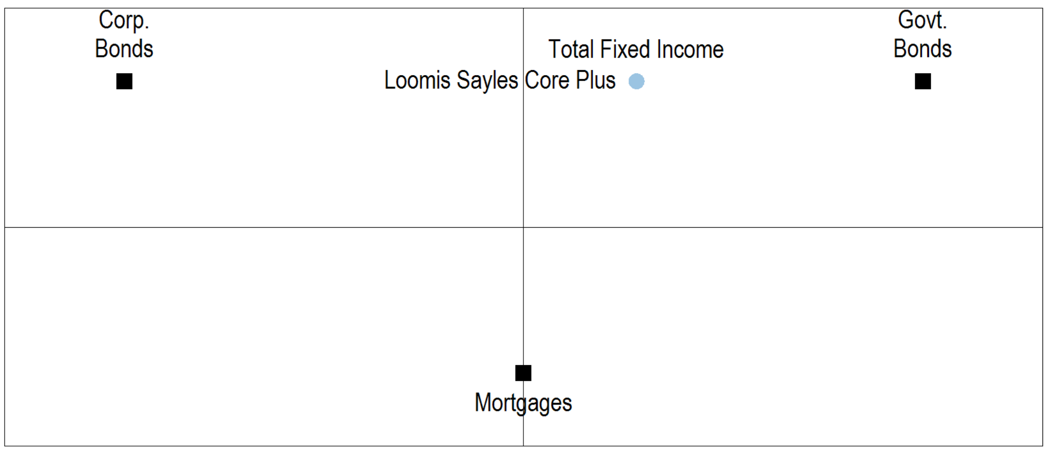
Domestic Fixed Income

Total Fixed Income
Performance Summary (Net of Fees)

Period Ending: June 30, 2020

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Fixed Income	**62,384,068**	**100.0**	**5.7**	**6.9**	**9.7**	**6.0**	**5.2**	**5.4**	**9.4**	**-0.4**	**5.6**	**7.5**	**-2.1**
Total Fixed Income Benchmark (BBgBarc Aggregate)			*2.9*	*6.1*	*8.7*	*5.3*	*4.3*	*3.8*	*8.7*	*0.0*	*3.5*	*2.6*	*0.5*
InvMetrics Tft-Hrtly DB US Fix Inc Net Rank			*28*	*3*	*3*	*3*	*1*	*6*	*28*	*75*	*18*	*9*	*93*
Fixed Income	**62,384,068**	**100.0**											
Loomis Sayles Core Plus	62,384,068	100.0	5.7	6.9	9.7	6.0	--	--	9.4	-0.4	--	--	--
BBgBarc US Aggregate TR			*2.9*	*6.1*	*8.7*	*5.3*	--	--	*8.7*	*0.0*	--	--	--
eV US Core Plus Fixed Inc Net Rank			*51*	*6*	*6*	*10*	--	--	*63*	*40*	--	--	--

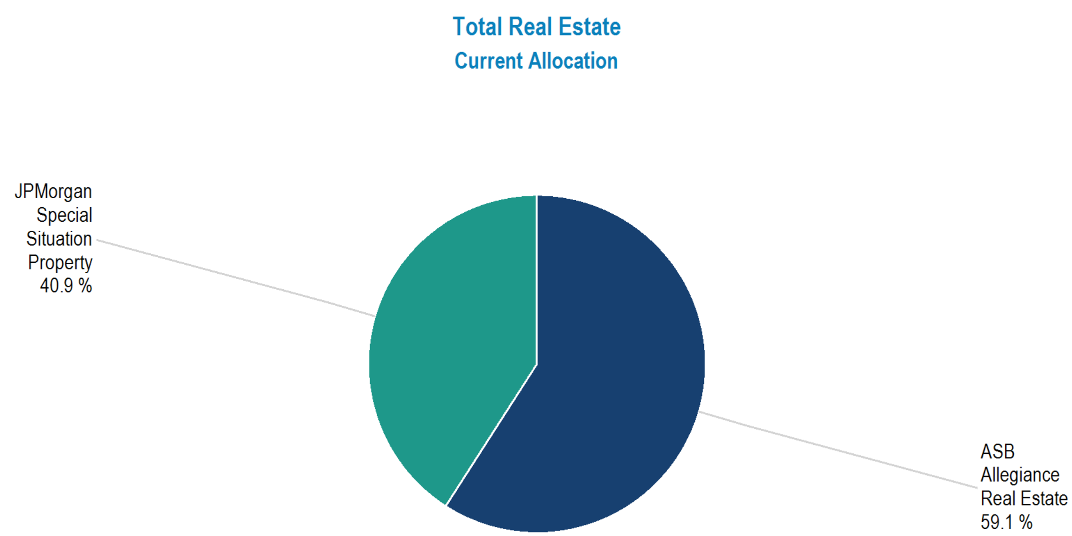
Fixed Income Style Map
3 Years



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

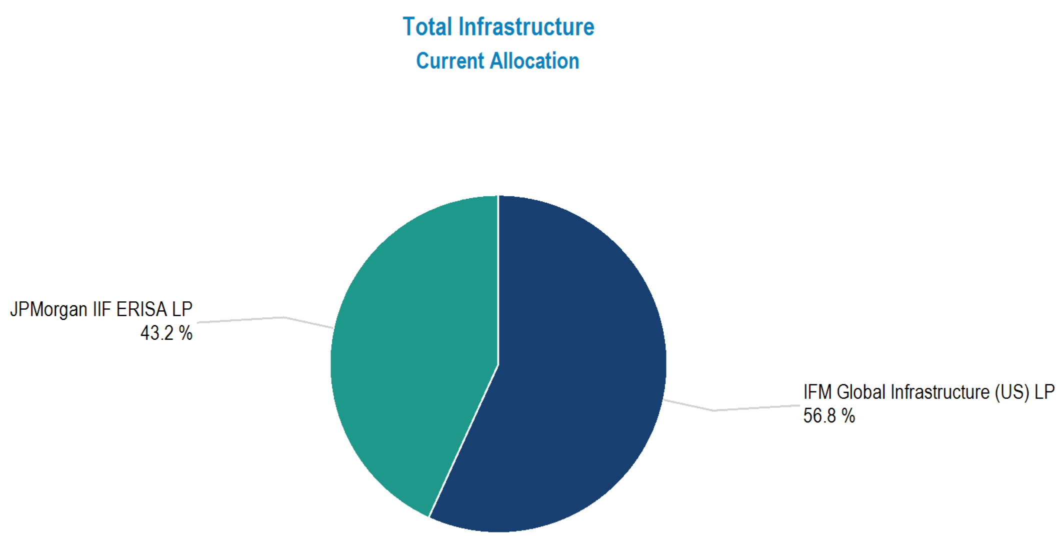
Alternatives

	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Real Estate	**36,757,224**	**100.0**	**-0.8**	**0.6**	**2.4**	**5.3**	**6.3**	**10.5**	**4.6**	**7.8**	**5.0**	**5.4**	**16.9**
NCREIF ODCE Net			*-1.7*	*-1.0*	*1.4*	*4.7*	*6.4*	*9.8*	*4.4*	*7.4*	*6.7*	*7.8*	*13.9*
Real Estate	**36,757,224**	**100.0**											
ASB Allegiance Real Estate	21,739,179	59.1	-0.5	1.2	1.9	4.9	5.8	--	4.2	7.1	3.9	4.5	--
NCREIF ODCE Net			*-1.7*	*-1.0*	*1.4*	*4.7*	*6.4*	*--*	*4.4*	*7.4*	*6.7*	*7.8*	*--*
JPMorgan Special Situation Property	15,018,045	40.9	-1.2	-0.2	3.1	6.2	7.8	--	5.0	9.6	7.9	8.7	18.9
NCREIF-ODCE			*-1.6*	*-0.6*	*2.2*	*5.7*	*7.3*	*--*	*5.3*	*8.3*	*7.6*	*8.8*	*15.0*



Invesco Real Estate II liquidated 9/1/2019.

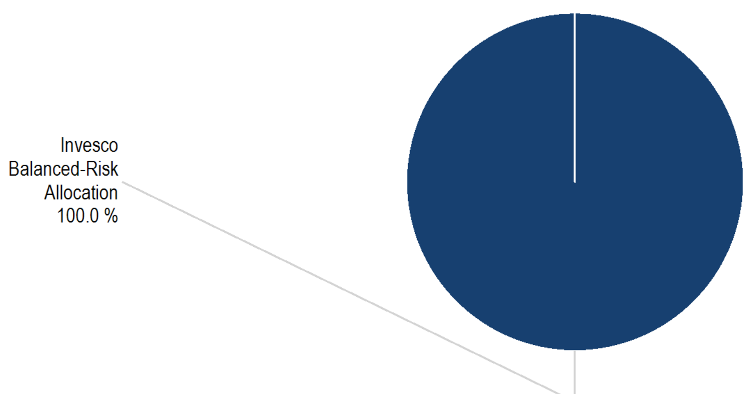
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Infrastructure	**17,452,901**	**100.0**	**0.6**	**-3.2**	**2.8**	**8.7**	**8.1**	**7.4**	**11.5**	**10.2**	**17.9**	**3.8**	**4.2**
CPI + 5%			*1.1*	*2.8*	*5.7*	*6.8*	*6.6*	*6.8*	*7.4*	*7.0*	*7.2*	*7.2*	*5.8*
Infrastructure	**17,452,901**	**100.0**											
IFM Global Infrastructure (US) LP	9,908,677	56.8	1.1	-2.9	4.5	11.8	11.2	9.6	14.6	15.8	21.1	6.1	5.2
CPI + 5%			*1.1*	*2.8*	*5.7*	*6.8*	*6.6*	*6.8*	*7.4*	*7.0*	*7.2*	*7.2*	*5.8*
JPMorgan IIF ERISA LP	7,544,224	43.2	0.0	-3.7	0.8	5.3	4.8	--	8.0	4.2	14.2	1.2	3.4
CPI + 5%			*1.1*	*2.8*	*5.7*	*6.8*	*6.6*	*--*	*7.4*	*7.0*	*7.2*	*7.2*	*5.8*



JPM IIF ERISA LP as of 3/31/2020.

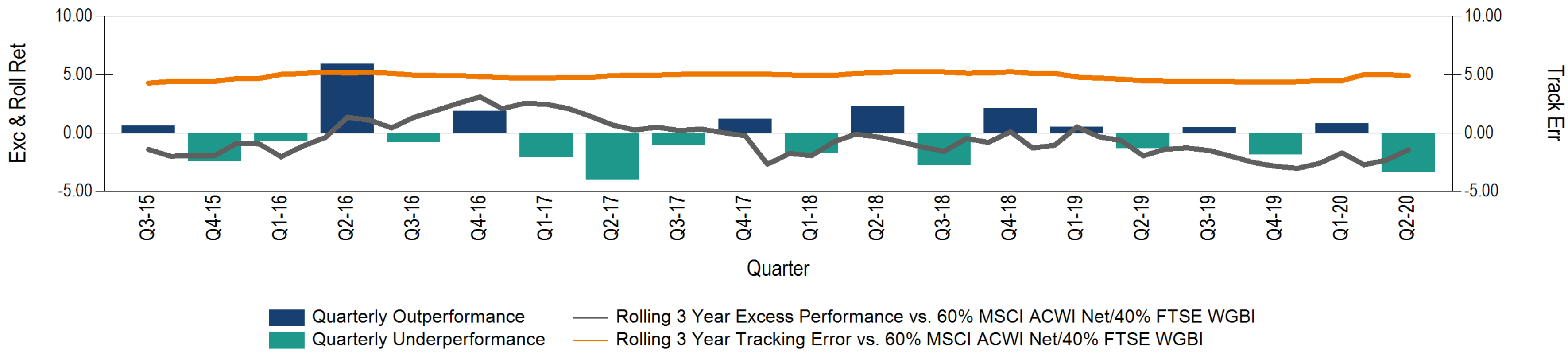
	Market Value	% of Portfolio	3 Mo	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs	2019	2018	2017	2016	2015
Total Multi-Asset	**47,034,278**	**100.0**	**8.8**	**-3.8**	**0.1**	**4.2**	**3.7**	**6.7**	**15.7**	**-5.8**	**10.6**	**7.4**	**-1.0**
60% MSCI ACWI Net/40% FTSE WGBI			*12.2*	*-1.8*	*3.7*	*5.6*	*5.6*	*6.6*	*18.2*	*-5.8*	*17.1*	*5.5*	*-2.6*
eV Global Balanced Net Rank			*69*	*41*	*48*	*35*	*71*	*64*	*92*	*22*	*99*	*54*	*38*
Multi-Asset	**47,034,278**	**100.0**											
Invesco Balanced-Risk Allocation	47,034,278	100.0	8.8	-3.8	0.1	4.2	4.4	6.5	15.7	-5.8	10.5	12.2	-3.5
60% MSCI ACWI Net/40% FTSE WGBI			*12.2*	*-1.8*	*3.7*	*5.6*	*5.6*	*6.6*	*18.2*	*-5.8*	*17.1*	*5.5*	*-2.6*
FTSE 3-Month T-bill +6%			*1.6*	*3.5*	*7.6*	*7.8*	*7.2*	*6.6*	*8.4*	*8.0*	*6.9*	*6.3*	*6.0*
eV Global Balanced Net Rank			*69*	*41*	*48*	*35*	*65*	*70*	*92*	*22*	*99*	*19*	*74*

Total Multi-Asset
Current Allocation

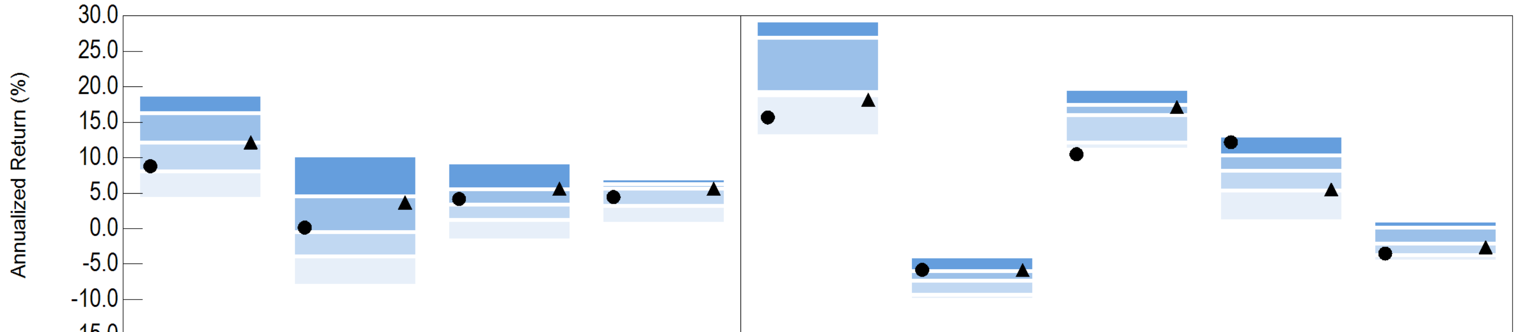


Mellon Dynamic liquidated 5/5/2017.

Rolling Annualized Excess Performance and Tracking Error



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



Return (Rank)	Quarter		1 Year		3 Years		5 Years		2019		2018		2017		2016		2015	
5th Percentile	18.8		10.2		9.3		7.1		29.3		-4.0		19.6		13.1		1.1	
25th Percentile	16.3		4.6		5.6		6.3		27.0		-6.0		17.5		10.3		0.2	
Median	12.2		-0.5		3.4		5.7		19.3		-7.3		16.1		8.2		-2.0	
75th Percentile	8.1		-3.8		1.3		3.2		18.8		-9.3		12.2		5.4		-3.7	
95th Percentile	4.2		-8.1		-1.6		0.8		13.1		-10.0		11.1		1.1		-4.6	
# of Portfolios	10		10		9		8		9		10		9		13		13	
● **Invesco Balanced-Risk Allocation**	8.8	(69)	0.1	(48)	4.2	(35)	4.4	(65)	15.7	(92)	-5.8	(22)	10.5	(99)	12.2	(19)	-3.5	(74)
▲ **60% MSCI ACWI Net/40% FTSE WGBI**	12.2	(51)	3.7	(29)	5.6	(26)	5.6	(54)	18.2	(88)	-5.8	(22)	17.1	(29)	5.5	(68)	-2.6	(64)

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
PanAgora US Small Cap	1/31/2015	PanAgora	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% BBgBarc 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% BBgBarc 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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