Investment Performance Review
Period Ending December 31, 2021

Retirement Board of Allegheny County

Equities	Month	3 M	YTD	1 Year	3 Yr Ann	5 Yr Ann
	Index Returns (%)					
S&P 500 Total Return	4.48	11.03	28.71	28.71	26.07	18.47
Russell Midcap Index	4.08	6.44	22.58	22.58	23.29	15.10
Russell 2000 Index	2.23	2.14	14.82	14.82	20.02	12.02
Russell 1000 Growth Index	2.11	11.64	27.60	27.60	34.08	25.32
Russell 1000 Value Index	6.31	7.77	25.16	25.16	17.64	11.16
Russell 3000 Index	3.94	9.28	25.66	25.66	25.79	17.97
MSCI EAFE NR	5.12	2.69	11.26	11.26	13.54	9.55
MSCI EM NR	1.88	(1.31)	(2.54)	(2.54)	10.94	9.87

Russell Indices Style Returns *

YTD

	V	B	G
L	25.1	26.4	27.6
M	28.3	22.6	12.7
S	28.2	14.8	2.8

2020

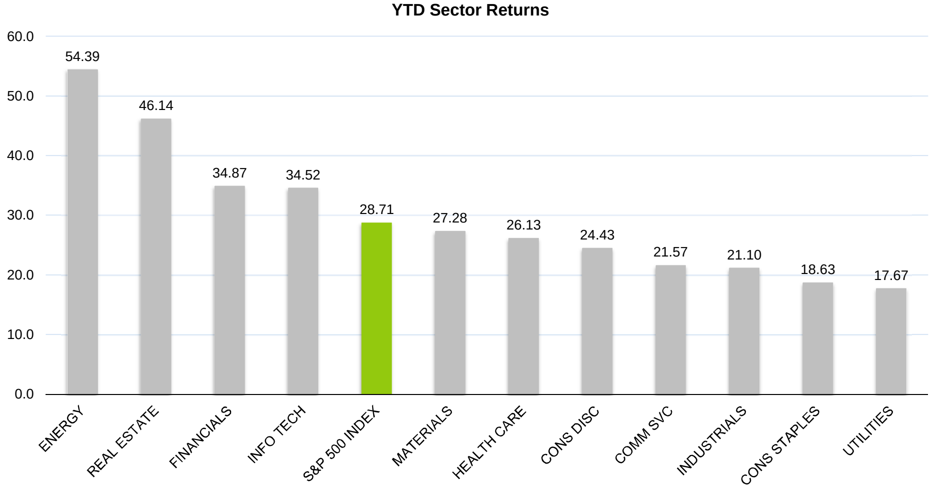
	V	B	G
L	2.8	20.9	38.4
M	4.9	17.0	35.5
S	4.6	19.9	34.5

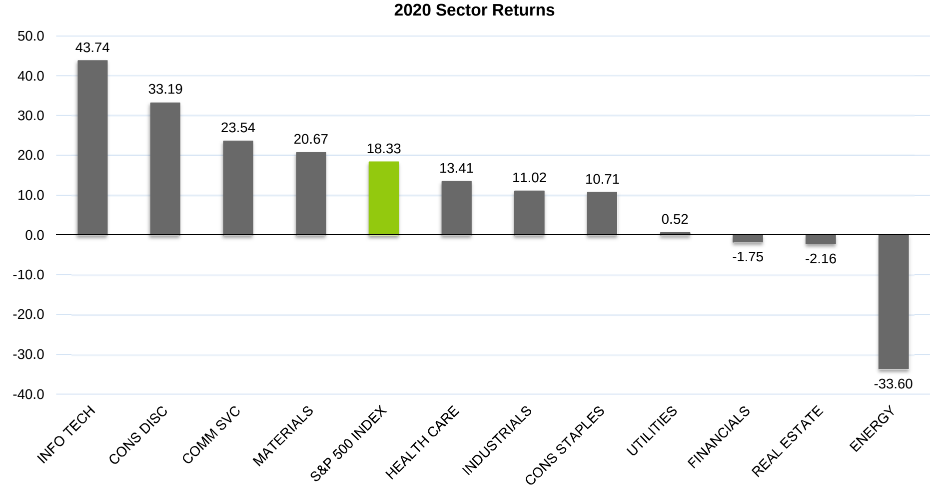
Fixed Income	Month	3 M	YTD	1 Year	Mod. Adj. Duration	Yield to Worst
	Index Returns (%)					
U.S. Aggregate	(0.26)	0.01	(1.55)	(1.55)	6.78	1.75
U.S. Corporate Investment Grade	(0.08)	0.23	(1.04)	(1.04)	8.70	2.33
U.S. Corporate High Yield	1.87	0.71	5.28	5.28	3.83	4.21
Global Aggregate	(0.14)	(0.67)	(4.71)	(4.71)	7.54	1.31

Currencies	12/31/21	12/31/20	12/31/19
	Levels		
Euro Spot	1.14	1.22	1.12
British Pound Spot	1.35	1.37	1.33
Japanese Yen Spot	115.08	103.25	108.61
Swiss Franc Spot	0.91	0.89	0.97

Key Rates	12/31/21	12/31/20	12/31/19	12/31/18	12/31/17
	Levels (%)				
US Generic Govt 3 Mth	0.03	0.06	1.54	2.35	1.38
US Generic Govt 2 Yr	0.73	0.12	1.57	2.49	1.88
US Generic Govt 10 Yr	1.51	0.91	1.92	2.68	2.41
US Generic Govt 30 Yr	1.90	1.64	2.39	3.01	2.74
ICE LIBOR USD 3M	0.21	0.24	1.91	2.81	1.69
Euribor 3 Month ACT/360	(0.57)	(0.55)	(0.38)	(0.31)	(0.33)
Bankrate 30Y Mortgage Rates Na	3.27	2.87	3.86	4.51	3.85
Prime	3.25	3.25	4.75	5.50	4.50

Commodities	12/31/21	12/31/20	12/31/19
	Levels		
Oil	75.21	47.32	52.65
Gasoline	3.29	2.25	2.59
Natural Gas	3.73	2.94	2.65
Gold	1,828.60	1,914.00	1,187.30
Silver	23.35	26.74	16.50
Copper	446.35	352.05	284.85
Corn	593.25	440.25	417.75
BBG Commodity TR Idx	211.80	166.63	172.00





Source: Bloomberg & Investment Metrics. For informational purposes only and should not be regarded as investment advice. Information is based on sources and data believed to be reliable, but AndCo Consulting cannot guarantee the accuracy, adequacy or completeness of the information. The material provided herein is valid only as of the date of distribution and not as of any future date.
*Heat maps are displayed utilizing a 9-color scale, with green as the highest return for the time period noted and red as the lowest return for the time period noted. Color scales within each time period are mutually exclusive.

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value $	%	MTH	QTR	YTD	1 YR	3 YR	5 YR	Inception	Inception Date
Total Fund	**1,094,616,302**	**100.0**	**3.08**	**4.43**	**14.24**	**14.24**	**12.74**	**9.55**	**7.73**	**12/1993**
Total Fund Policy Index			3.28	4.82	16.25	16.25	13.41	9.80	7.90	
US Equity Composite	**194,965,866**	**17.8**	**4.04**	**8.84**	**23.66**	**23.66**	**24.67**	**17.07**	**9.90**	**11/1993**
US Equity Policy Index			3.94	9.28	25.72	25.72	25.78	17.93	10.64	
Non US Equity Composite	**180,597,451**	**16.5**	**4.00**	**0.77**	**5.55**	**5.55**	**15.45**	**10.71**	**5.76**	**1/2001**
Non US Equity Policy Index			4.13	1.82	8.00	8.00	13.44	9.72	4.78	
Core Fixed w Israel Bonds Composite*	**134,181,540**	**12.3**	**0.05**	**-0.07**	**-0.81**	**-0.81**	**5.33**	**3.76**	**6.82**	**1/1983**
Blmbg. U.S. Aggregate Index			-0.26	0.01	-1.55	-1.55	4.79	3.57	6.85	
High Yield Fixed Composite	**128,401,665**	**11.7**	**1.89**	**0.78**	**5.22**	**5.22**	**8.16**	**5.36**	**6.85**	**4/2008**
FTSE High Yield Market Capped Index			1.95	0.67	5.22	5.22	8.21	5.80	7.23	
TIPS Fixed Composite	**42,930,455**	**3.9**	**0.26**	**2.30**	**5.87**	**5.87**	**8.42**	**5.34**	**3.94**	**4/2008**
Bloomberg U.S. TIPS Index			0.32	2.36	5.96	5.96	8.44	5.34	3.90	
Real Estate Composite	**119,029,886**	**10.9**	**6.82**	**7.36**	**17.35**	**17.35**	**7.97**	**9.11**	**8.93**	**4/2003**
NCREIF Fund Index-ODCE (VW) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	7.46	
ERECT Composite	**10,441,201**	**1.0**	**-0.55**	**-0.54**	**5.33**	**5.33**	**4.65**	**6.45**	**6.63**	**9/2010**
CPI - All Urban Consumers (SA)			0.47	2.21	7.12	7.12	3.53	2.92	2.24	
Total Private Equity w Life Settlement Composite*	**229,398,936**	**21.0**	**3.04**	**7.47**	**28.96**	**28.96**	**15.75**	**13.23**	**8.03**	**4/2003**
Private Equity Policy Index			3.34	8.09	31.35	31.35	16.46	13.65	8.13	
Hedge Fund Composite	**3,564,755**	**0.3**	**1.18**	**3.96**	**13.94**	**13.94**	**9.35**	**1.40**	**2.82**	**4/2003**
90 Day T-Bill Index + 3%			0.25	0.75	3.05	3.05	4.02	4.17	4.26	
Liquid Policy Portfolio Composite	**42,539,612**	**3.9**	**3.06**	**5.39**	**-**	**-**	**-**	**-**	**12.39**	**3/2021**
Liquid Policy Benchmark			3.27	5.14	-	-	-	-	12.35	
Cash Account	**8,564,864**	**0.8**	**0.01**	**0.07**	**0.49**	**0.49**	**1.16**	**1.24**	**0.72**	**1/2012**

* All returns prior to March 2021 are from the original Core Fixed Composite and the Private Equity Composite, respectively. All returns from March 2021 and forward are from the composites inclusive of the Israel Bonds and Life Settlement funds, respectively

Asset Allocation & Performance

	Allocation		Performance(%)							
	Market Value $	%	MTH	QTR	YTD	1 YR	3 YR	5 YR	Inception	Inception Date
Total Fund	**1,094,616,302**	**100.0**	**3.08**	**4.43**	**14.24**	**14.24**	**12.74**	**9.55**	**7.73**	**12/1993**
Total Fund Policy Index			3.28	4.82	16.25	16.25	13.41	9.80	7.90	
US Equity Composite	**194,965,866**	**17.8**	**4.04**	**8.84**	**23.66**	**23.66**	**24.67**	**17.07**	**9.90**	**11/1993**
US Equity Policy Index			3.94	9.28	25.72	25.72	25.78	17.93	10.64	
SSgA S&P 500 Index	94,096,192	8.6	4.48	11.01	28.65	28.65	26.11	18.50	10.56	11/2007
S&P 500 Index			4.48	11.03	28.71	28.71	26.07	18.47	10.51	
Fragasso Large Core (EMWO)	7,282,231	0.7	5.47	7.31	20.79	20.79	21.86	15.93	13.88	9/2012
S&P 500 Index			4.48	11.03	28.71	28.71	26.07	18.47	16.24	
Twin Capital Enhanced Equity	43,179,388	3.9	4.38	11.19	28.13	28.13	24.47	16.84	10.66	1/2006
S&P 500 Index			4.48	11.03	28.71	28.71	26.07	18.47	10.97	
Vesper U.S. Large Cap Short-Term Reversal Strategy ETF (UTRN)	1,578,091	0.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1/2022
S&P 500 Index			4.48	11.03	28.71	28.71	26.07	18.47	N/A	
Earnest Small Value	16,770,333	1.5	5.64	4.55	14.64	14.64	19.50	11.96	14.10	6/2009
Russell 2000 Value Index			4.08	4.36	28.27	28.27	17.99	9.07	12.98	
Emerald Advisors Small Cap	15,923,325	1.5	0.96	0.01	4.32	4.32	23.15	16.11	11.90	11/2004
Russell 2000 Growth Index			0.44	0.01	2.83	2.83	21.17	14.53	10.46	
Emerald Advisors All Cap (EMWO)	6,645,020	0.6	-1.48	3.11	21.32	21.32	36.32	25.81	20.73	10/2015
Russell 3000 Growth Index			2.02	10.89	25.85	25.85	33.21	24.56	21.90	
Ethos (EMWO)	2,215,004	0.2	3.47	8.32	21.48	21.48	26.56	19.00	18.15	8/2016
S&P 500 Index			4.48	11.03	28.71	28.71	26.07	18.47	17.79	
CIM Small Cap (EMWO)	5,867,714	0.5	2.62	1.79	6.97	6.97	16.08	8.50	7.34	1/2014
Russell 2000 Index			2.23	2.14	14.82	14.82	20.02	12.02	10.01	
Cookson Peirce (EMWO)	1,408,568	0.1	4.68	15.43	21.59	21.59	21.04	N/A	21.13	12/2018
Russell 3000 Index			3.94	9.28	25.66	25.66	25.79	17.97	21.11	
Non US Equity Composite	**180,597,451**	**16.5**	**4.00**	**0.77**	**5.55**	**5.55**	**15.45**	**10.71**	**5.76**	**1/2001**
Non US Equity Policy Index			4.13	1.82	8.00	8.00	13.44	9.72	4.78	
SSgA ACWI ex US	39,473,532	3.6	4.12	1.84	7.96	7.96	14.03	9.72	5.91	5/2015
MSCI AC World ex USA (Net)			4.13	1.82	7.82	7.82	13.18	9.61	5.56	

	Allocation		Performance(%)							
	Market Value $	%	MTH	QTR	YTD	1 YR	3 YR	5 YR	Inception	Inception Date
Baillie Gifford Intl Equity	70,428,526	6.4	3.19	-0.60	-0.72	-0.72	18.45	13.33	9.90	8/2009
MSCI AC World ex USA (Net)			4.13	1.82	7.82	7.82	13.18	9.61	6.52	
FIAM Select International Equity	33,861,588	3.1	3.06	2.23	8.78	8.78	16.11	10.70	5.29	1/2001
FIAM Policy Index			4.13	1.82	7.82	7.82	13.18	9.61	4.70	
Segall, Bryant & Hamill	36,833,806	3.4	6.37	0.97	14.56	14.56	9.03	5.66	4.93	5/2015
MSCI EAFE Small Cap (net) Index			4.36	0.07	10.10	10.10	15.62	11.04	8.40	
Core Fixed w Israel Bonds Composite*	**134,181,540**	**12.3**	**0.05**	**-0.07**	**-0.81**	**-0.81**	**5.33**	**3.76**	**6.82**	**1/1983**
Blmbg. U.S. Aggregate Index			-0.26	0.01	-1.55	-1.55	4.79	3.57	6.85	
C S McKee	44,252,683	4.0	-0.18	-0.01	-1.29	-1.29	5.15	3.84	7.20	1/1983
Blmbg. U.S. Aggregate Index			-0.26	0.01	-1.55	-1.55	4.79	3.57	6.85	
Federated Core Broad	40,339,887	3.7	-0.06	0.09	-0.25	-0.25	6.78	4.73	4.95	9/2006
Blmbg. U.S. Aggregate Index			-0.26	0.01	-1.55	-1.55	4.79	3.57	4.14	
CIM Investment Mgmt	28,732,165	2.6	-0.21	-0.60	-1.65	-1.65	3.59	2.54	3.21	11/2005
Bloomberg Intermediate US Govt/Credit Idx			-0.13	-0.57	-1.44	-1.44	3.86	2.91	3.60	
StoneRidge Partners (EMWO)	5,471,185	0.5	-0.12	-0.64	-1.75	-1.75	2.64	2.26	2.18	8/2015
StoneRidge Policy Index			-0.04	-0.56	-1.29	-1.29	4.29	3.21	2.88	
Gridiron Capital Fixed Income (EMWO)	4,966,214	0.5	-0.13	0.15	3.95	3.95	7.85	N/A	4.28	2/2017
Blmbg. U.S. Aggregate Index			-0.26	0.01	-1.55	-1.55	4.79	3.57	3.59	
FNB (EMWO)	2,824,616	0.3	-0.11	-0.45	-1.04	-1.04	4.12	N/A	2.63	7/2017
Bloomberg Intermed Aggregate Index			-0.12	-0.51	-1.29	-1.29	3.60	2.79	2.74	
Israel Bonds	7,594,790	0.7	3.27	1.17	1.74	1.74	2.40	2.05	2.79	1/2012
High Yield Fixed Composite	**128,401,665**	**11.7**	**1.89**	**0.78**	**5.22**	**5.22**	**8.16**	**5.36**	**6.85**	**4/2008**
FTSE High Yield Market Capped Index			1.95	0.67	5.22	5.22	8.21	5.80	7.23	
Oaktree High Yield	69,504,798	6.3	1.93	0.93	5.15	5.15	7.44	4.71	6.51	4/2008
FTSE High Yield Market Capped Index			1.95	0.67	5.22	5.22	8.21	5.80	7.23	
Federated High Yield	55,256,029	5.0	1.93	0.61	5.27	5.27	9.34	N/A	5.97	7/2017
Blmbg. U.S. High Yield - 2% Issuer Cap			1.87	0.69	5.26	5.26	8.81	6.28	5.86	
Sound Point	3,640,838	0.3	0.61	0.60	5.99	5.99	4.75	4.48	4.57	8/2013
Credit Suisse Leveraged Loan Index			0.63	0.72	5.41	5.41	5.43	4.32	4.18	

* All returns prior to March 2021 are from the original Core Fixed Composite. All returns March 2021 and forward are from the composite inclusive of the Israel Bonds.

	Allocation		Performance(%)							
	Market Value $	%	MTH	QTR	YTD	1 YR	3 YR	5 YR	Inception	Inception Date
TIPS Fixed Composite	**42,930,455**	**3.9**	**0.26**	**2.30**	**5.87**	**5.87**	**8.42**	**5.34**	**3.94**	**4/2008**
Bloomberg U.S. TIPS Index			0.32	2.36	5.96	5.96	8.44	5.34	3.90	
MCM TIPS	42,930,455	3.9	0.26	2.30	5.87	5.87	8.42	5.34	5.41	12/2016
Bloomberg U.S. TIPS Index			0.32	2.36	5.96	5.96	8.44	5.34	5.23	
Real Estate Composite	**119,029,886**	**10.9**	**6.82**	**7.36**	**17.35**	**17.35**	**7.97**	**9.11**	**8.93**	**4/2003**
NCREIF Fund Index-ODCE (VW) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	7.46	
Morgan Stanley Prime Property Fund	88,802,131	8.1	9.60	9.60	21.48	21.48	9.31	8.93	9.01	4/2003
NCREIF Fund Index-ODCE (VW) (Net)			7.69	7.69	21.06	21.06	8.24	7.75	7.46	
Oaktree Real Estate	6,567,794	0.6	-5.89	-5.89	-5.48	-5.48	-3.41	0.76	4.57	8/2013
Washington Alliance (EMWO)	13,478,182	1.2	1.64	4.90	10.47	10.47	8.72	14.34	12.94	8/2013
Washington Alliance II (EMWO)	1,266,183	0.1	0.00	11.88	11.88	11.88	N/A	N/A	6.32	3/2020
Siguler Guff Distressed RE	8,915,597	0.8	0.45	0.45	11.04	11.04	4.26	10.19	7.32	3/2014
ERECT Composite	**10,441,201**	**1.0**	**-0.55**	**-0.54**	**5.33**	**5.33**	**4.65**	**6.45**	**6.63**	**9/2010**
CPI - All Urban Consumers (SA)			0.47	2.21	7.12	7.12	3.53	2.92	2.24	
Private Equity Composite	**215,873,991**	**19.7**	**3.34**	**8.09**	**31.35**	**31.35**	**16.46**	**13.65**	**8.13**	**4/2003**
Private Equity Policy Index			3.34	8.09	31.35	31.35	16.46	13.65	8.13	
Life Settlement Composite	**13,524,945**	**1.2**	**-1.51**	**-1.73**	**-1.58**	**-1.58**	**-5.13**	**-4.93**	**5.12**	**9/2009**
Hedge Fund Composite	**3,564,755**	**0.3**	**1.18**	**3.96**	**13.94**	**13.94**	**9.35**	**1.40**	**2.82**	**4/2003**
90 Day T-Bill Index + 3%			0.25	0.75	3.05	3.05	4.02	4.17	4.26	
Gridiron Capital Multi-Asset (EMWO)	3,564,587	0.3	1.18	3.96	13.94	13.94	N/A	N/A	11.06	2/2019
HFRI FoF Composite Lagged			0.24	0.25	5.99	5.99	8.40	5.67	7.71	
Liquid Policy Portfolio Composite	**42,539,612**	**3.9**	**3.06**	**5.39**	**N/A**	**N/A**	**N/A**	**N/A**	**12.39**	**3/2021**
Liquid Policy Benchmark			3.27	5.14	N/A	N/A	N/A	N/A	12.35	
BlackRock Liquidity iShares Public Pension Fund	42,539,612	3.9	3.12	5.25	N/A	N/A	N/A	N/A	9.99	4/2021
Liquid Policy Benchmark			3.27	5.14	N/A	N/A	N/A	N/A	10.16	
Cash Account	8,564,864	0.8	0.01	0.07	0.49	0.49	1.16	1.24	0.72	1/2012

Financial Reconciliation

	Market Value 12/01/2021	Net Flows	Management Fees	Return On Investment	Market Value 12/31/2021
Total Fund	**1,065,784,034**	**-3,990,648**	**-242,480**	**33,065,396**	**1,094,616,302**
SSgA S&P 500 Index	90,062,119	-	-	4,034,073	94,096,192
Fragasso Large Core (EMWO)	6,904,292	-	-	377,939	7,282,231
Twin Capital Enhanced Equity	41,331,249	36,726	-36,726	1,848,139	43,179,388
Vesper U.S. Large Cap Short-Term Reversal Strategy ETF (UTRN)	-	1,500,000	-	78,091	1,578,091
Earnest Small Value	15,840,596	37,086	-37,086	929,738	16,770,333
Emerald Advisors Small Cap	15,743,602	28,885	-28,885	179,722	15,923,325
Emerald Advisors All Cap (EMWO)	6,734,281	10,135	-10,135	-89,261	6,645,020
Ethos (EMWO)	2,140,760	-	-	74,245	2,215,004
CIM Small Cap (EMWO)	5,717,819	-	-	149,895	5,867,714
Cookson Peirce (EMWO)	1,344,117	1,496	-1,496	64,451	1,408,568
US Equity Composite	**185,818,834**	**1,614,328**	**-114,328**	**7,647,032**	**194,965,866**
SSgA ACWI ex US	37,911,168	-	-	1,562,363	39,473,532
Baillie Gifford Intl Equity	68,252,761	-	-	2,175,765	70,428,526
FIAM Select International Equity	32,856,887	-	-	1,004,702	33,861,588
Segall, Bryant & Hamill	34,573,595	56,837	-56,837	2,260,211	36,833,806
Non US Equity Composite	**173,594,410**	**56,837**	**-56,837**	**7,003,041**	**180,597,451**
Columbus Macro (EMWO)	62	-	-	-	62
Global Equity Composite	**62**	**-**	**-**	**-**	**62**
C S McKee	44,304,791	25,445	-25,445	-52,108	44,252,683
Federated Core Broad	40,364,299	-	-	-24,412	40,339,887
CIM Investment Mgmt	28,793,932	-	-	-61,767	28,732,165
StoneRidge Partners (EMWO)	5,477,647	-	-	-6,461	5,471,185
Gridiron Capital Fixed Income (EMWO)	4,969,775	2,690	-2,690	-3,561	4,966,214
FNB (EMWO)	2,827,608	-	-	-2,992	2,824,616
Israel Bonds	7,354,085	-	-	240,705	7,594,790
Core Fixed w Israel Bonds Composite	**134,092,136**	**28,135**	**-28,135**	**89,403**	**134,181,540**
Oaktree High Yield	68,190,338	-	-32,826	1,347,286	69,504,798
Federated High Yield	54,207,165	-	-	1,048,863	55,256,029
Sound Point	3,618,772	-	-	22,067	3,640,838
High Yield Fixed Composite	**126,016,275**	**-**	**-32,826**	**2,418,216**	**128,401,665**
MCM TIPS	42,815,905	3,218	-3,218	114,550	42,930,455
TIPS Fixed Composite	**42,815,905**	**3,218**	**-3,218**	**114,550**	**42,930,455**

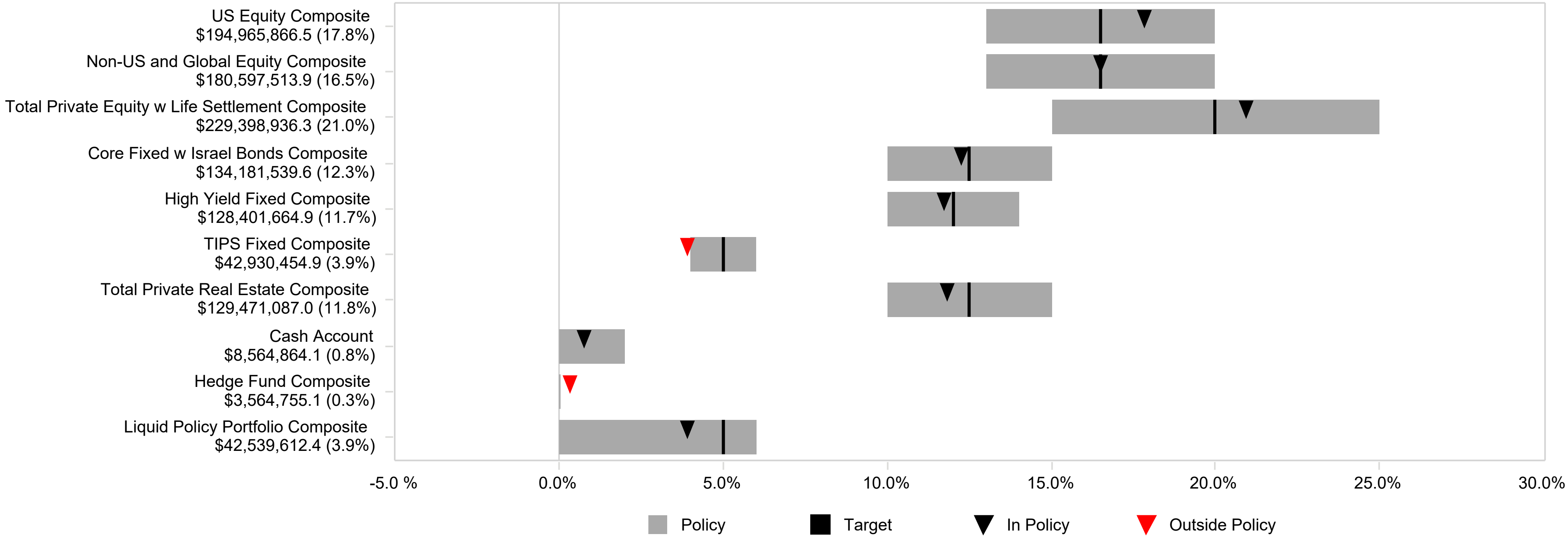
	Market Value 12/01/2021	Net Flows	Management Fees	Return On Investment	Market Value 12/31/2021
Morgan Stanley Prime Property Fund	81,023,718	-	-	7,778,413	88,802,131
Oaktree Real Estate	6,978,943	-	-	-411,149	6,567,794
Washington Alliance (EMWO)	13,597,564	-341,463	-	222,081	13,478,182
Washington Alliance II (EMWO)	1,321,720	-55,537	-	-	1,266,183
Siguler Guff Distressed RE	9,131,129	-255,908	-	40,375	8,915,597
Real Estate Composite	**112,053,075**	**-652,909**	**-**	**7,629,720**	**119,029,886**
ERECT Composite	**10,498,897**	**-**	**-**	**-57,696**	**10,441,201**
Private Equity Composite	**212,101,296**	**-3,276,087**	**-**	**7,048,782**	**215,873,991**
Life Settlement Composite	**13,731,736**	**-**	**-**	**-206,791**	**13,524,945**
Gridiron Capital Multi-Asset (EMWO)	3,516,301	6,834	-6,834	48,286	3,564,587
Hedge Fund Composite	**3,516,469**	**6,834**	**-6,834**	**48,286**	**3,564,755**
BlackRock Liquidity iShares Public Pension Fund	46,209,929	-5,000,000	-	1,329,684	42,539,612
Liquid Policy Portfolio Composite	**46,209,929**	**-5,000,000**	**-**	**1,329,684**	**42,539,612**
Cash Account	5,335,001	3,228,996	-302	1,170	8,564,864

Financial Reconciliation

	Market Value 01/01/2021	Net Flows	Management Fees	Return On Investment	Market Value 12/31/2021
Total Fund	**1,001,471,964**	**-46,708,656**	**-8,051,705**	**147,904,699**	**1,094,616,302**
SSgA S&P 500 Index	98,460,158	-29,983,993	-16,007	25,636,034	94,096,192
Fragasso Large Core (EMWO)	5,996,108	36,142	-35,970	1,285,952	7,282,231
Twin Capital Enhanced Equity	33,584,600	135,170	-135,052	9,594,670	43,179,388
Vesper U.S. Large Cap Short-Term Reversal Strategy ETF (UTRN)	-	1,500,000	-	78,091	1,578,091
Earnest Small Value	14,500,459	142,244	-142,244	2,269,875	16,770,333
Emerald Advisors Small Cap	15,151,956	116,128	-115,212	770,453	15,923,325
Emerald Advisors All Cap (EMWO)	5,444,391	37,953	-37,953	1,200,629	6,645,020
Ethos (EMWO)	1,823,352	-	-	391,652	2,215,004
CIM Small Cap (EMWO)	5,447,095	42,083	-40,431	418,967	5,867,714
Cookson Peirce (EMWO)	734,375	504,378	-4,378	174,193	1,408,568
US Equity Composite	**181,142,494**	**-27,469,896**	**-527,247**	**41,820,515**	**194,965,866**
SSgA ACWI ex US	36,545,346	20,409	-20,409	2,928,185	39,473,532
Baillie Gifford Intl Equity	80,665,762	-10,000,000	-	-237,236	70,428,526
FIAM Select International Equity	40,473,954	-9,966,914	-33,086	3,387,634	33,861,588
Segall, Bryant & Hamill	31,950,784	225,807	-225,807	4,883,021	36,833,806
Non US Equity Composite	**189,635,847**	**-19,720,697**	**-279,303**	**10,961,605**	**180,597,451**
Columbus Macro (EMWO)	1,363,614	-1,466,187	-5,092	107,728	62
Global Equity Composite	**1,363,614**	**-1,466,187**	**-5,092**	**107,728**	**62**
C S McKee	34,682,571	10,089,736	-89,736	-429,887	44,252,683
Federated Core Broad	30,268,451	10,086,549	-86,549	71,436	40,339,887
CIM Investment Mgmt	13,950,130	15,053,337	-53,337	-217,965	28,732,165
StoneRidge Partners (EMWO)	5,557,249	11,035	-11,035	-86,064	5,471,185
Gridiron Capital Fixed Income (EMWO)	4,746,562	31,903	-31,903	219,652	4,966,214
FNB (EMWO)	2,844,296	9,907	-9,907	-19,680	2,824,616
Israel Bonds	7,449,854	14,942	-14,942	144,935	7,594,790
Core Fixed w Israel Bonds Composite	**106,447,956**	**35,297,409**	**-297,409**	**-7,266,417**	**134,181,540**
Oaktree High Yield	66,100,725	-	-400,764	3,804,837	69,504,798
Federated High Yield	52,490,844	-	-	2,765,185	55,256,029
Sound Point	3,435,080	-	-	205,758	3,640,838
High Yield Fixed Composite	**122,026,649**	**-**	**-400,764**	**6,775,780**	**128,401,665**
MCM TIPS	40,538,874	13,137	-13,137	2,391,581	42,930,455
TIPS Fixed Composite	**40,538,874**	**13,137**	**-13,137**	**2,391,581**	**42,930,455**

	Market Value 01/01/2021	Net Flows	Management Fees	Return On Investment	Market Value 12/31/2021
Morgan Stanley Prime Property Fund	73,097,605	-	-	15,704,526	88,802,131
Oaktree Real Estate	6,948,844	-	-	-381,050	6,567,794
Washington Alliance (EMWO)	12,824,195	-670,732	-	1,324,719	13,478,182
Washington Alliance II (EMWO)	1,236,379	-110,565	-	140,368	1,266,183
Siguler Guff Distressed RE	9,451,899	-1,503,489	-	967,186	8,915,597
Real Estate Composite	**103,558,922**	**-2,284,785**	**-**	**17,755,750**	**119,029,886**
ERECT Composite	**9,912,474**	**-**	**-**	**528,726**	**10,441,201**
Private Equity Composite	**185,755,110**	**-24,873,618**	**-6,412,114**	**61,404,613**	**215,873,991**
Life Settlement Composite	**24,077,840**	**-10,354,912**	**-39,401**	**-158,582**	**13,524,945**
Gridiron Capital Multi-Asset (EMWO)	3,061,645	73,048	-73,048	502,942	3,564,587
Hedge Fund Composite	**3,061,813**	**73,048**	**-73,048**	**502,942**	**3,564,755**
BlackRock Liquidity iShares Public Pension Fund	-	38,796,155	-	3,743,457	42,539,612
Liquid Policy Portfolio Composite	**-**	**38,796,151**	**-**	**3,743,461**	**42,539,612**
Cash Account	15,036,468	-6,498,375	-4,189	30,960	8,564,864

Executive Summary



Asset Allocation Compliance

	Asset Allocation $	Current Allocation (%)	Minimum Allocation (%)	Maximum Allocation (%)	Target Allocation (%)
Total Fund	**1,094,616,302**	**100.0**	**N/A**	**N/A**	**100.0**
US Equity Composite	194,965,866	17.8	13.0	20.0	16.5
Non-US and Global Equity Composite	180,597,514	16.5	13.0	20.0	16.5
Total Private Equity w Life Settlement Composite	229,398,936	21.0	15.0	25.0	20.0
Core Fixed w Israel Bonds Composite	134,181,540	12.3	10.0	15.0	12.5
High Yield Fixed Composite	128,401,665	11.7	10.0	14.0	12.0
TIPS Fixed Composite	42,930,455	3.9	4.0	6.0	5.0
Total Private Real Estate Composite	129,471,087	11.8	10.0	15.0	12.5
Cash Account	8,564,864	0.8	0.0	2.0	0.0
Hedge Fund Composite	3,564,755	0.3	0.0	0.0	0.0
Liquid Policy Portfolio Composite	42,539,612	3.9	0.0	6.0	5.0

Historical Hybrid Composition

Allocation Mandate	Weight (%)
Jan-1979	
Russell 3000 Index	65.00
Blmbg. U.S. Aggregate Index	35.00
Mar-2007	
FT Wilshire 5000 Total Market TR Index	45.00
MSCI EAFE (Net) Index	10.00
Blmbg. U.S. Aggregate Index	25.00
Bloomberg Commodity Index Total Return	5.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	5.00
Private Equity Composite	5.00
90 Day U.S. Treasury Bill	5.00
Sep-2008	
FT Wilshire 5000 Total Market TR Index	45.00
MSCI AC World ex USA (Net)	10.00
Blmbg. U.S. Aggregate Index	25.00
Bloomberg Commodity Index Total Return	5.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	5.00
Private Equity Composite	5.00
90 Day U.S. Treasury Bill	5.00
Dec-2008	
FT Wilshire 5000 Total Market TR Index	35.00
MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	20.00
FTSE High Yield Market Capped Index	5.00
Bloomberg U.S. TIPS Index	5.00
Bloomberg Commodity Index Total Return	5.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	7.50
Private Equity Composite	5.00
90 Day U.S. Treasury Bill	2.50
Sep-2009	
FT Wilshire 5000 Total Market TR Index	30.00
MSCI AC World ex USA (Net)	20.00
Blmbg. U.S. Aggregate Index	15.00
FTSE High Yield Market Capped Index	10.00
Bloomberg U.S. TIPS Index	7.50
Bloomberg Commodity Index Total Return	2.50
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	10.00
Private Equity Composite	5.00

Allocation Mandate	Weight (%)
Jun-2010	
FT Wilshire 5000 Total Market TR Index	20.00
MSCI AC World ex USA (Net)	25.00
Blmbg. U.S. Aggregate Index	14.00
FTSE High Yield Market Capped Index	10.00
Bloomberg U.S. TIPS Index	6.00
Bloomberg Commodity Index Total Return	5.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	10.00
Private Equity Composite	10.00
Mar-2013	
FT Wilshire 5000 Total Market TR Index	16.10
MSCI AC World ex USA (Net)	18.90
Blmbg. U.S. Aggregate Index	10.00
FTSE High Yield Market Capped Index	12.00
Bloomberg U.S. TIPS Index	5.00
Bloomberg Commodity Index Total Return	8.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	10.00
Private Equity Composite	20.00
Apr-2016	
FT Wilshire 5000 Total Market TR Index	15.00
MSCI AC World ex USA (Net)	15.00
Blmbg. U.S. Aggregate Index	10.00
FTSE High Yield Market Capped Index	12.00
Bloomberg U.S. TIPS Index	8.00
Bloomberg Commodity Index Total Return	2.50
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	10.00
Private Equity Composite	22.50
Alerian MLP Index	5.00
Jan-2019	
FT Wilshire 5000 Total Market TR Index	16.50
MSCI AC World ex USA (Net)	16.50
Blmbg. U.S. Aggregate Index	12.50
FTSE High Yield Market Capped Index	12.00
Bloomberg U.S. TIPS Index	5.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	12.50
Private Equity Composite	20.00
Alerian MLP Index	5.00

Allocation Mandate	Weight (%)
Mar-2021	
Russell 3000 Index	16.50
MSCI AC World ex USA (Net)	16.50
Blmbg. U.S. Aggregate Index	12.50
FTSE High Yield Market Capped Index	12.00
Bloomberg U.S. TIPS Index	5.00
NCREIF Fund Index-Open End Diversified Core Equity (VW) (Net) Monthly	12.50
Liquid Policy Benchmark	5.00
Total Private Equity w Life Settlement Composite	20.00

Historical Hybrid Composition	
Allocation Mandate	**Weight (%)**
Nov-1993	
FT Wilshire 5000 Total Market TR Index	100.00
Mar-2021	
Russell 3000 Index	100.00

Historical Hybrid Composition	
Allocation Mandate	**Weight (%)**
Dec-2000	
MSCI EAFE (Net) Index	100.00
Sep-2008	
MSCI AC World ex USA (Net)	100.00
Mar-2015	
MSCI AC World ex USA IMI (Net)	100.00
Mar-2021	
MSCI AC World ex USA (Net)	100.00

Historical Hybrid Composition

Allocation Mandate	Weight (%)
Mar-2021	
S&P 500 Index	30.00
S&P MidCap 400 Index	2.00
S&P SmallCap 600 Index	10.50
MSCI EAFE IMI (Net)	16.90
MSCI Emerging Markets IMI (Net)	6.10
Blmbg. U.S. Aggregate Index	25.00
ICE BofAML 1-3 Year Treasury	4.50
FTSE NAREIT Equity REIT Index	5.00

Active Return - Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.

Alpha - A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.

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

Consistency - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.

Distributed to Paid In (DPI) - The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.

Down Market Capture - The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance

Downside Risk - A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.

Excess Return - Arithmetic difference between the manager's performance and the risk-free return over a specified time period.

Excess Risk - A measure of the standard deviation of a portfolio's performance relative to the risk free return.

Information Ratio - This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.

Public Market Equivalent (PME) - Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.

R-Squared - The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.

Return - Compounded rate of return for the period.

Sharpe Ratio - Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.

Standard Deviation - A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.

Total Value to Paid In (TVPI) - The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life

Tracking Error - This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.

Treynor Ratio - Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.

Up Market Capture - The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

This performance report is based on data obtained by the client's custodian(s), investment fund administrator, or other sources believed to be reliable. While these sources are believed to be reliable, the data providers are responsible for the accuracy and completeness of their statements. Clients are encouraged to compare the records of their custodian(s) to ensure this report fairly and accurately reflects their various asset positions.

The strategies listed may not be suitable for all investors. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. Past performance is not an indication of future performance. Any information contained in this report is for informational purposes only and should not be construed to be an offer to buy or sell any securities, investment consulting, or investment management services.

Additional information included in this document may contain data provided by from index databases, public economic sources and the managers themselves.

This document may contain data provided by Bloomberg Barclays. Bloomberg Barclays Index data provided by way of Barclays Live.

This document may contain data provided by Standard and Poor's. Nothing contained within any document, advertisement or presentation from S&P Indices constitutes an offer of services in jurisdictions where S&P Indices does not have the necessary licenses. All information provided by S&P Indices is impersonal and is not tailored to the needs of any person, entity or group of persons. Any returns or performance provided within any document is provided for illustrative purposes only and does not demonstrate actual performance. Past performance is not a guarantee of future investment results.

This document may contain data provided by MSCI, Inc. Copyright MSCI, 2017. Unpublished. All Rights Reserved. This information may only be used for your internal use, may not be reproduced or redisseminated in any form and may not be used to create any financial instruments or products or any indices. This information is provided on an "as is" basis and the user of this information assumes the entire risk of any use it may make or permit to be made of this information. Neither MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information makes any express or implied warranties or representations with respect to such information or the results to be obtained by the use thereof, and MSCI, its affiliates and each such other person hereby expressly disclaim all warranties (including, without limitation, all warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information have any liability for any direct, indirect, special, incidental, punitive, consequential or any other damages (including, without limitation, lost profits) even if notified of, or if it might otherwise have anticipated, the possibility of such damages.

This document may contain data provided by Russell Investment Group. Russell Investment Group is the source owner of the data contained or reflected in this material and all trademarks and copyrights related thereto. The material may contain confidential information and unauthorized use, disclosure, copying, dissemination or redistribution is strictly prohibited. This is a user presentation of the data. Russell Investment Group is not responsible for the formatting or configuration of this material or for any inaccuracy in presentation thereof.

This document may contain data provided by Morningstar. All rights reserved. Use of this content requires expert knowledge. It is to be used by specialist institutions only. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied, adapted or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information, except where such damages or losses cannot be limited or excluded by law in your jurisdiction. Past financial performance is not guarantee of future results.

Clients first.

CHICAGO | CLEVELAND | DALLAS | DETROIT | ORLANDO | PITTSBURGH | RENO

AndCo Consulting | (844) 44-ANDCO | AndCoConsulting.com