

May 9, 2023



Meeting Materials

Municipality of Anchorage Trust Fund

Agenda Item III.D.1.
(part one)
Agenda Item III.D.2

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Quarterly Summary Performance

Municipality of Anchorage Trust Fund

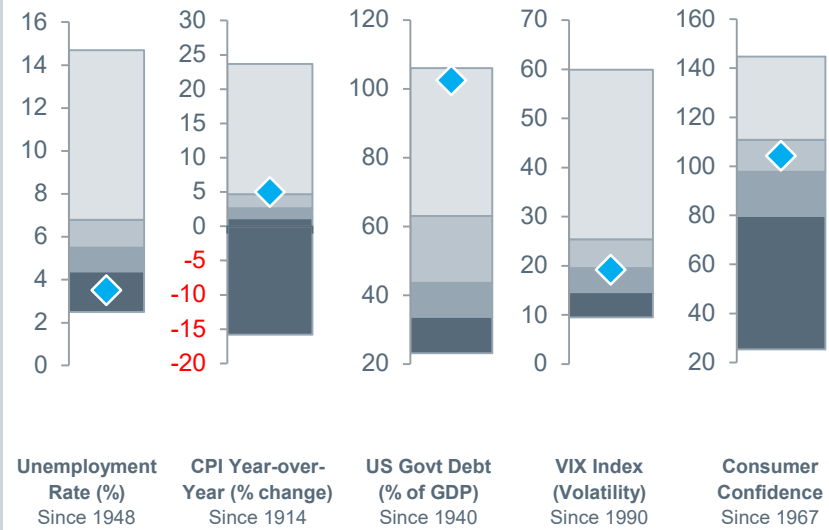
Period Ended: March 31, 2023



First Quarter Economic Environment

During Q1, both defensive and risk assets generally provided positive returns, following a difficult environment in 2022 characterized by geopolitical risk and rising interest rates. Although, capital markets continued to experience bouts of volatility. Despite this volatility, broad equity market indexes finished Q1 in positive territory. The broad bond market delivered positive returns in Q1 as market participants changed expectations on future interest rate moves from pricing in rate hikes to discounting rate pauses, or in some circumstances, cuts. Internationally, moderate winter temperatures helped to ease energy price inflation in Europe, but the uncertainty around supply shortages persisted due to the ongoing war in Ukraine. The FOMC decided to increase the federal funds rate in Q1 to a target range between 4.75% - 5.00%, representing a second straight monthly increase of 0.25% after a string of 0.50% to 0.75% increases. The FOMC's actions demonstrated continued focus on combating inflation, although FOMC data indicated that most officials expect only one more rate hike in 2023. The most recent data release indicated that Headline CPI for March came in slightly below average expectations, with estimated year-over-year inflation of 5.00%. Recessionary risks remained a concern, and recent FOMC minutes indicated that members thought it was increasingly likely that the US will enter a recession later in 2023 due to banking sector stresses. The IMF revised its global GDP growth forecast at the end of the quarter to 2.80%, a decline from its January 2023 forecast of 2.90%.

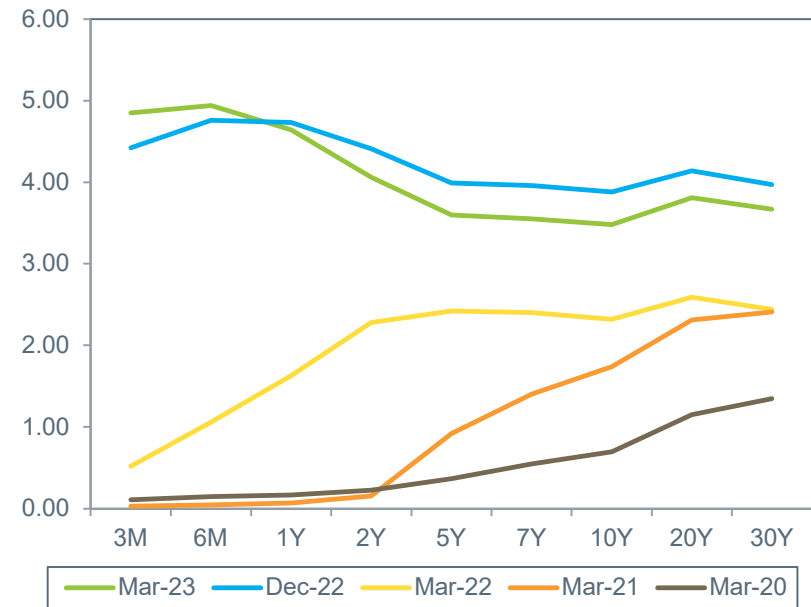
Key Economic Indicators



Economic Indicators

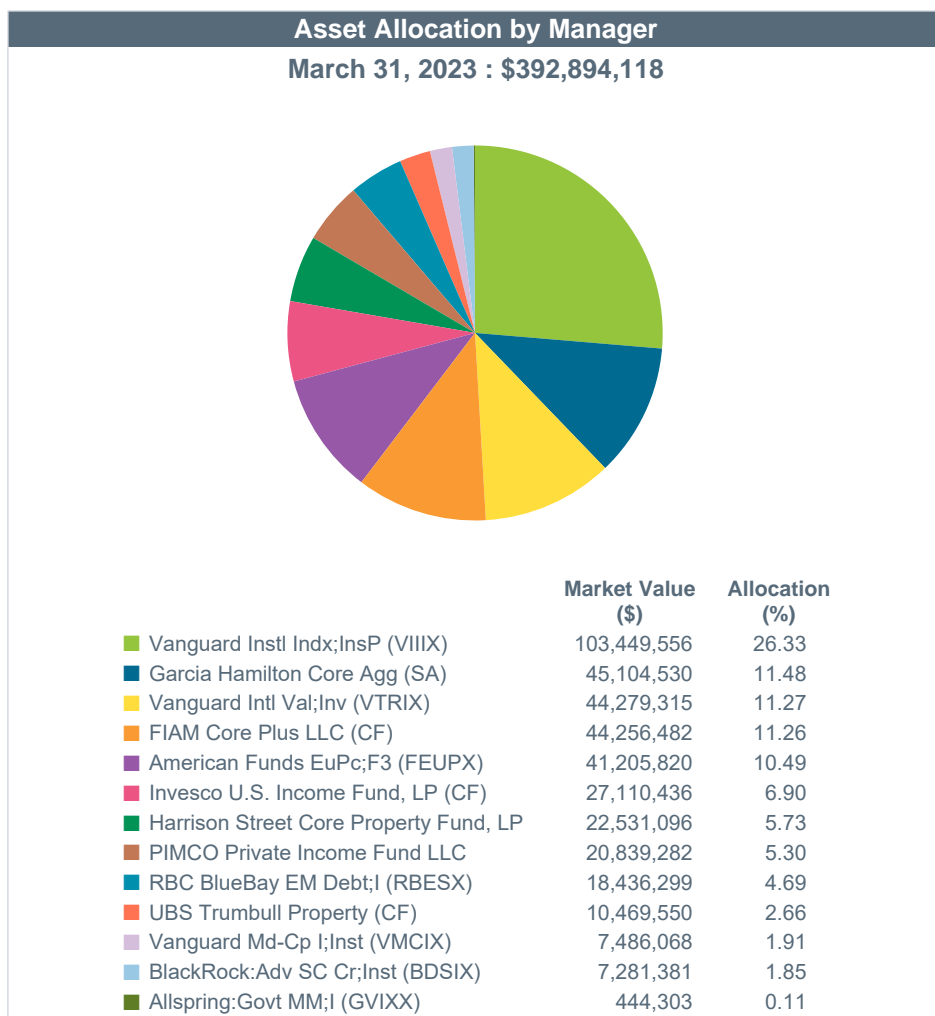
	Mar-23	Dec-22	Mar-22	Mar-20	20 Yr
Federal Funds Rate (%)	4.83 ▲	4.33	0.33	0.08	1.34
Breakeven Infl. - 5 Yr (%)	2.47 ▲	2.38	3.43	0.53	1.93
Breakeven Infl. - 10 Yr (%)	2.33 ▲	2.30	2.83	0.93	2.09
CPI YoY (Headline) (%)	5.0 ▼	6.5	8.5	1.5	2.5
Unemployment Rate (%)	3.5 —	3.5	3.6	4.4	6.0
Real GDP YoY (%)	1.6 ▲	0.9	3.7	0.8	2.0
PMI - Manufacturing	46.3 ▼	48.4	57.1	49.1	53.6
USD Total Wtd Idx	119.48 ▼	121.40	115.35	122.55	103.40
WTI Crude Oil per Barrel (\$)	75.7 ▼	80.3	100.3	20.5	68.4
Gold Spot per Oz (\$)	1,979 ▲	1,824	1,937	1,577	1,179

Treasury Yield Curve (%)



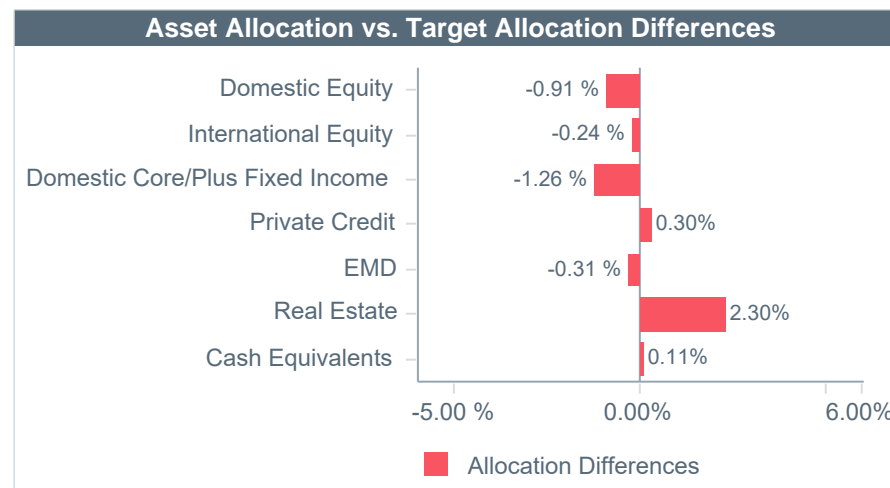
Market Performance (%)

	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	7.50	7.50	-7.73	11.19	12.24
Russell 2000	2.74	2.74	-11.61	4.71	8.04
MSCI EAFE (Net)	8.47	8.47	-1.38	3.52	5.00
MSCI EAFE SC (Net)	4.92	4.92	-9.83	0.87	5.86
MSCI Emg Mkts (Net)	3.96	3.96	-10.70	-0.91	2.00
Bloomberg US Agg Bond	2.96	2.96	-4.78	0.90	1.36
ICE BofAML 3 Mo US T-Bill	1.07	1.07	2.50	1.41	0.87
NCREIF ODCE (Gross)	-3.16	-3.16	-3.07	7.52	9.45
FTSE NAREIT Eq REIT (TR)	2.68	2.68	-19.19	6.02	5.97
HFRI FOF Comp	0.71	0.71	-1.94	3.10	3.24
Bloomberg Cmdty (TR)	-5.36	-5.36	-12.49	5.36	-1.72



Asset Allocation vs. Target Allocation

	Market Value (\$)	Allocation (%)	Target (%)	Min (%)	Max (%)
Total Fund	392,894,118	100.00	100.00	-	-
Domestic Equity	118,217,005	30.09	31.00	26.00	36.00
International Equity	85,485,135	21.76	22.00	18.00	26.00
Domestic Core/Plus Fixed Income	89,361,012	22.74	24.00	21.00	27.00
Private Credit	20,839,282	5.30	5.00	2.00	8.00
EMD	18,436,299	4.69	5.00	0.00	8.00
Real Estate	60,111,082	15.30	13.00	10.00	16.00
Cash Equivalents	444,303	0.11	0.00	0.00	15.00



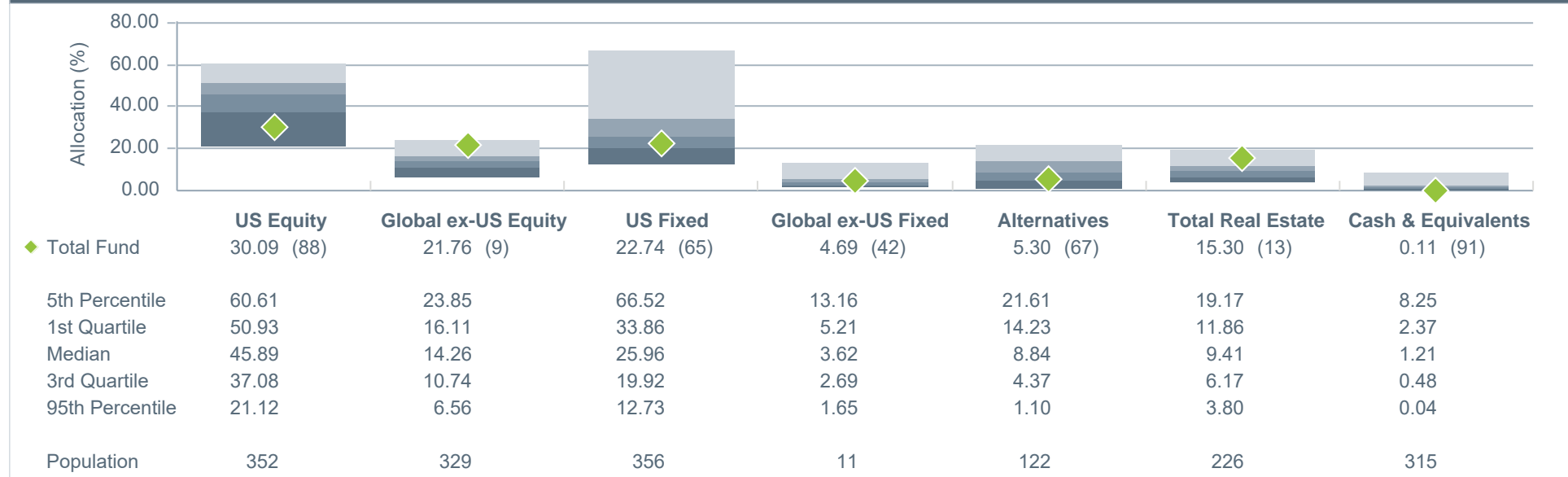
Schedule of Investable Assets

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	% Return
CYTD	381,029,057	-4,787,448	16,652,508	392,894,118	4.38

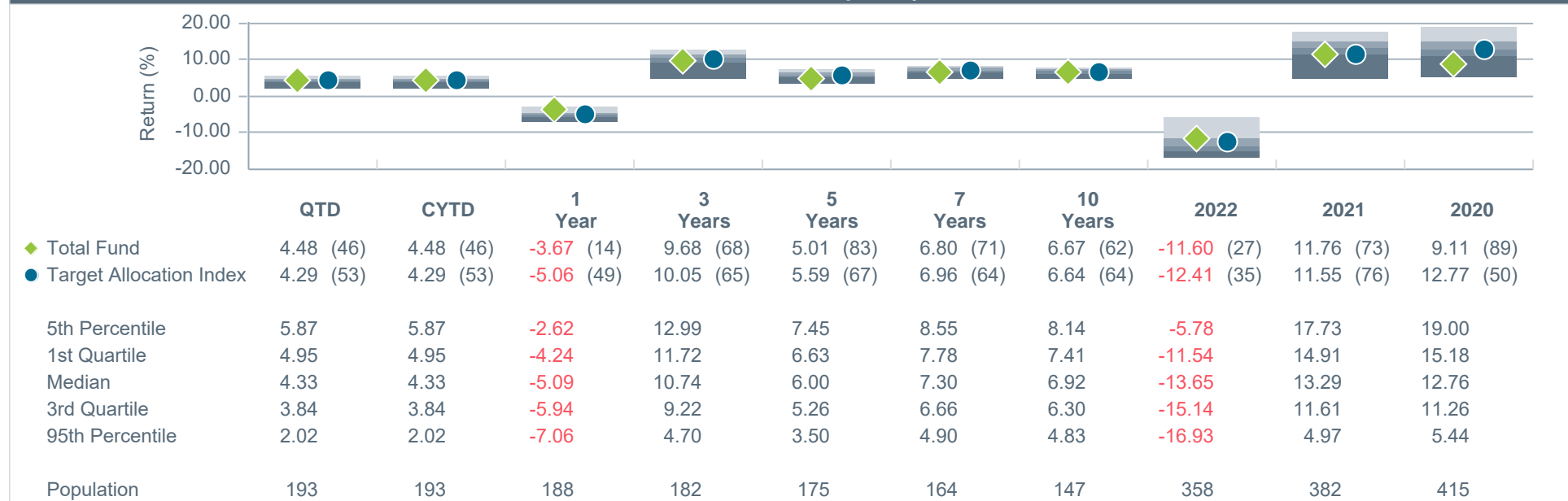
Allocations shown may not sum up to 100% exactly due to rounding. Performance shown is net of fees. The market value for PIMCO Private Income Fund LLC is as of 12/31/2022.



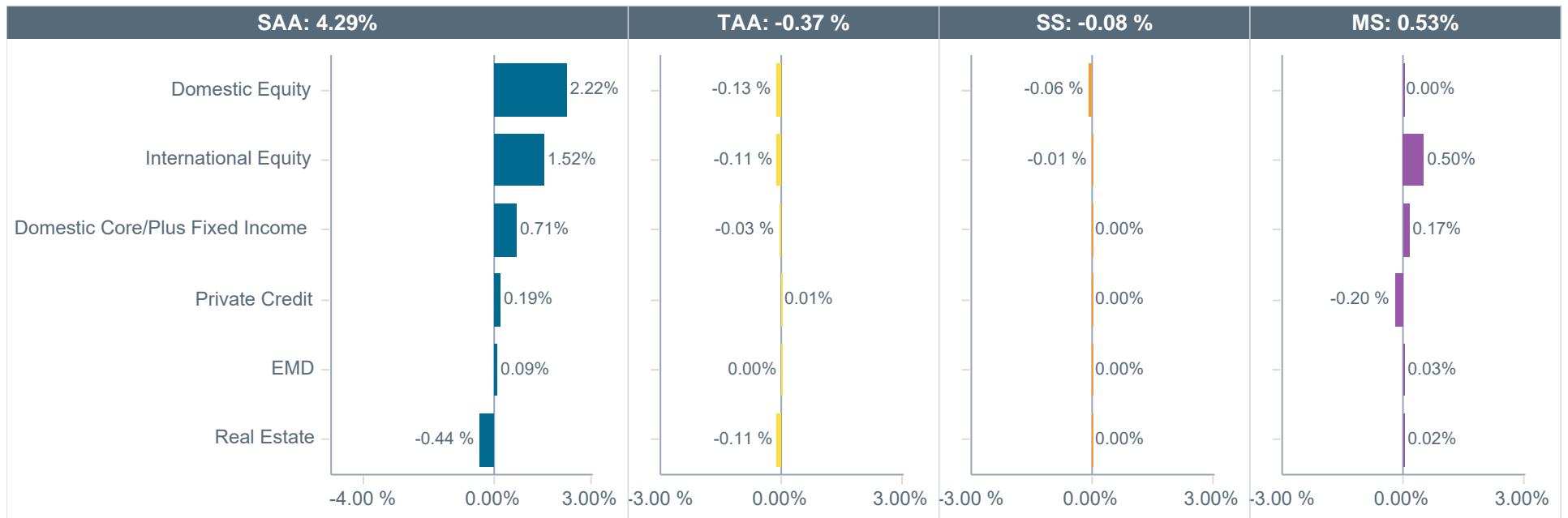
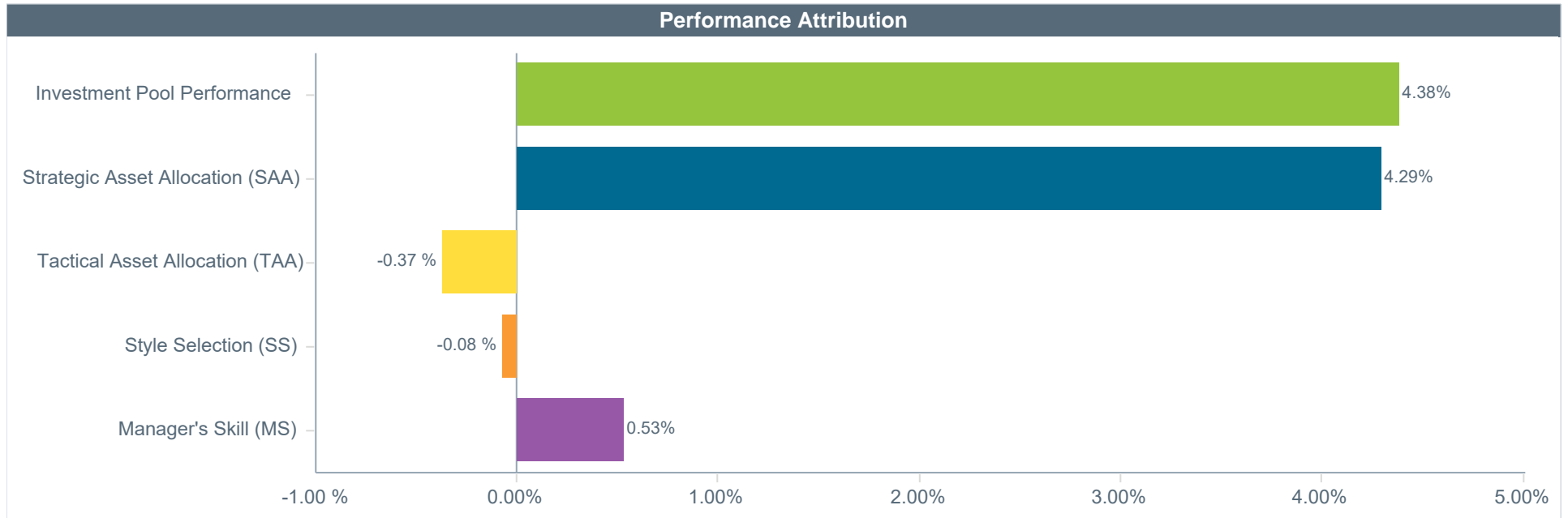
Total Fund Asset Allocation



Total Fund Peer Group Analysis

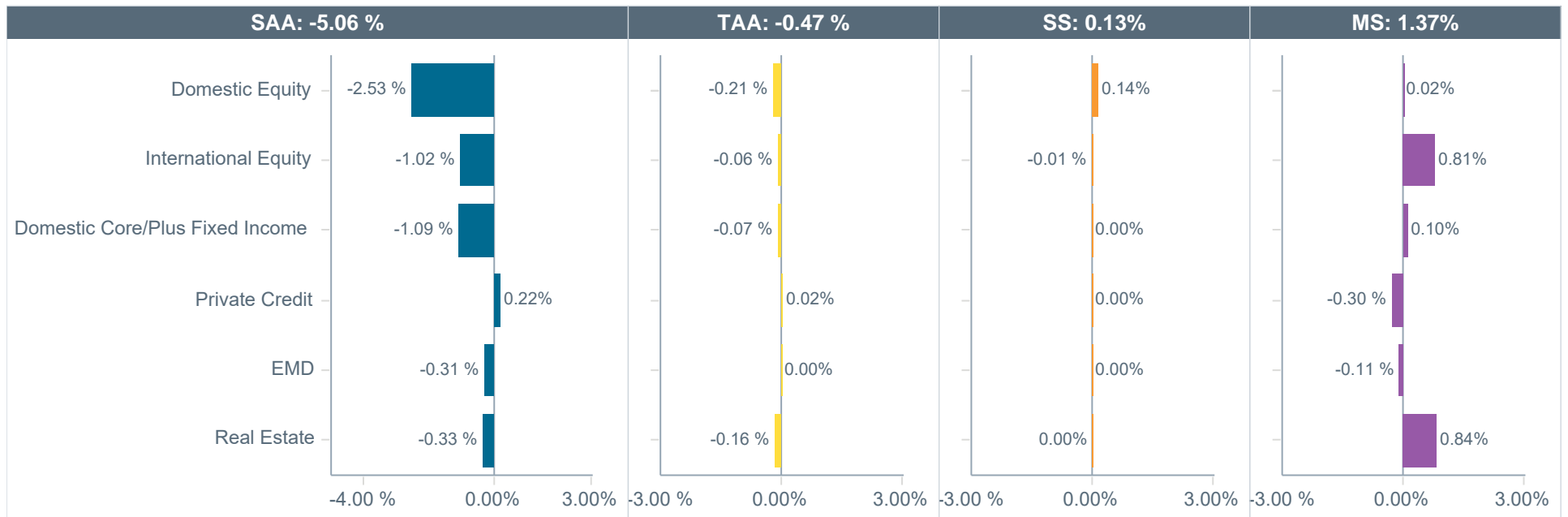
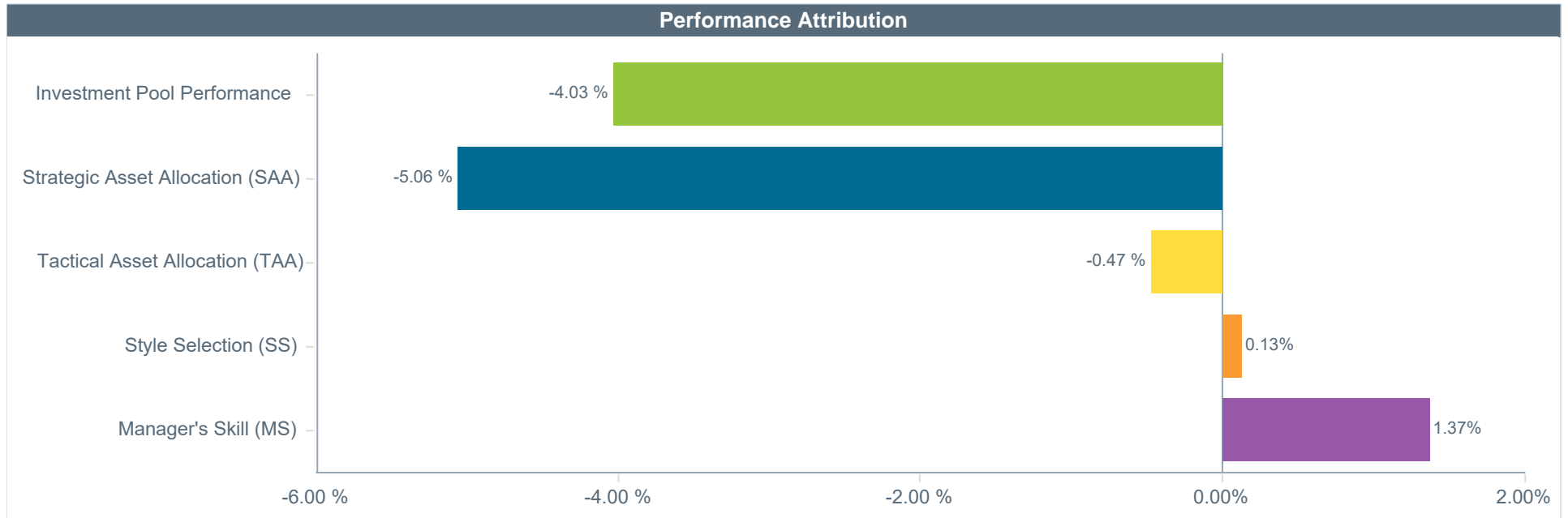


Parentheses contain percentile ranks. Performance shown is gross of fees. Composite performance prior to 01/2016 consists of gross performance for separate accounts and commingled fund investments, and net performance for mutual fund investments. Calculation is based on monthly periodicity.



Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.





Performance shown is net of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution - IDP calculation.



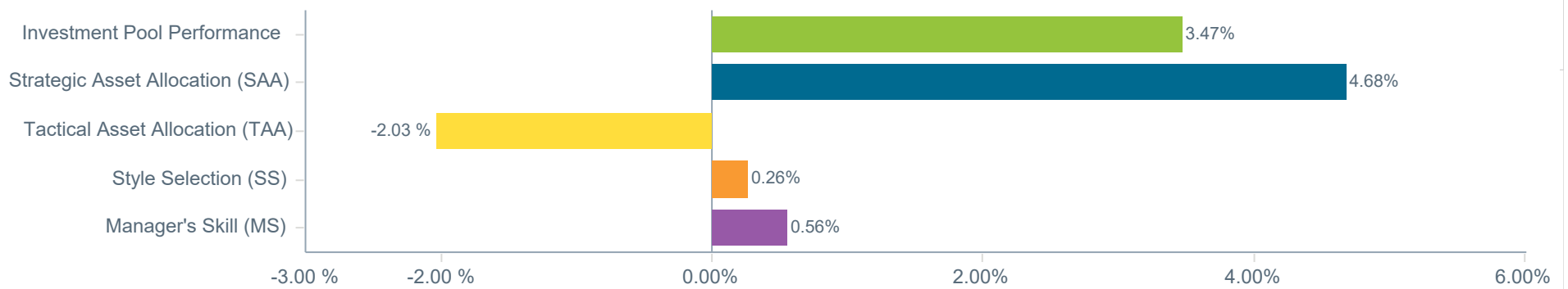
Municipality of Anchorage Trust Fund
ML&P Cash Proceeds Impact on Performance

As of March 31, 2023

Comparative Performance

	MTD	QTD	CYTD	1 Year	Since 10/01/20	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	Since Incep.	Inception Date
Total Fund	1.69	4.38	4.38	-4.04	3.47	9.30	4.64	6.41	6.31	-11.94	11.37	8.75	5.55	10/01/1999
Target Allocation Index (Trust)	1.59	4.29	4.29	-5.06	4.68	10.05	5.59	6.96	6.64	-12.41	11.55	12.77	5.49	
Difference	0.10	0.09	0.09	1.02	-1.21	-0.75	-0.95	-0.55	-0.33	0.47	-0.18	-4.02	0.06	
Target Allocation Index (Wtd Cash) (Trust)	1.59	4.29	4.29	-5.06	3.37	8.89	4.92	6.47	-	-12.41	11.55	9.26	-	
Difference	0.10	0.09	0.09	1.02	0.10	0.41	-0.28	-0.06	-	0.47	-0.18	-0.51	-	
Consumer Price Index+4%	0.66	2.70	2.70	9.18	10.35	9.57	8.03	7.58	6.74	10.71	11.32	5.42	6.63	
Difference	1.03	1.68	1.68	-13.22	-6.88	-0.27	-3.39	-1.17	-0.43	-22.65	0.05	3.33	-1.08	
Total Fund Ex-Cash	1.69	4.38	4.38	-4.03	4.80	10.48	5.31	6.91	-	-11.94	11.55	12.11	6.70	01/01/2016
Target Allocation Index (Trust)	1.59	4.29	4.29	-5.06	4.68	10.05	5.59	6.96	6.64	-12.41	11.55	12.77	6.92	
Difference	0.10	0.09	0.09	1.03	0.12	0.43	-0.28	-0.05	-	0.47	0.00	-0.66	-0.22	

Performance Attribution - Since 10/01/2020

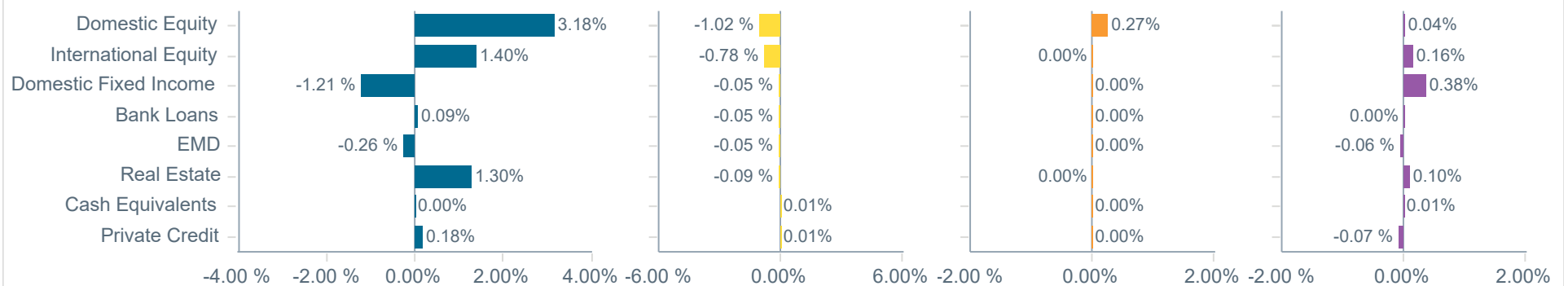


SAA: 4.68%

TAA: -2.03%

SS: 0.26%

MS: 0.56%



Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions. The Target Allocation Index (Weighted Cash) (Trust) consists of a 37% allocation to cash during 11/2020 and a 12% allocation to cash during 12/2020. Remaining allocations were adjusted on a pro rata basis to fill the remaining stated targets.



Municipality of Anchorage Trust Fund
Comparative Performance

As of March 31, 2023

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	Since Incep.	Inception Date
Total Fund	4.38	4.38	-4.04	9.30	4.64	6.41	6.31	-11.94	11.37	8.75	18.08	5.55	10/01/1999
Target Allocation Index (Trust)	4.29	4.29	-5.06	10.05	5.59	6.96	6.64	-12.41	11.55	12.77	19.50	5.49	
Difference	0.09	0.09	1.02	-0.75	-0.95	-0.55	-0.33	0.47	-0.18	-4.02	-1.42	0.06	
Consumer Price Index+4%	2.70	2.70	9.18	9.57	8.03	7.58	6.74	10.71	11.32	5.42	6.38	6.63	
Difference	1.68	1.68	-13.22	-0.27	-3.39	-1.17	-0.43	-22.65	0.05	3.33	11.70	-1.08	
Domestic Equity	6.96	6.96	-8.06	18.26	10.44	11.87	11.56	-18.28	27.79	17.14	31.54	7.05	10/01/1999
Russell 3000 Index	7.18	7.18	-8.58	18.48	10.45	11.99	11.73	-19.21	25.66	20.89	31.02	7.33	
Difference	-0.22	-0.22	0.52	-0.22	-0.01	-0.12	-0.17	0.93	2.13	-3.75	0.52	-0.28	
Domestic Large Cap Equity	7.49	7.49	-7.75	18.15	10.95	12.21	12.02	-18.13	28.85	17.02	31.55	7.10	10/01/1999
Russell 1000 Index	7.46	7.46	-8.39	18.55	10.87	12.23	12.01	-19.13	26.45	20.96	31.43	7.29	
Difference	0.03	0.03	0.64	-0.40	0.08	-0.02	0.01	1.00	2.40	-3.94	0.12	-0.19	
Vanguard Instl Indx;InsP (VMIIX)	7.49	7.49	-7.75	18.59	11.17	12.40	12.22	-18.13	28.69	18.40	31.46	7.09	10/01/1999
S&P 500 Index (Cap Wtd)	7.50	7.50	-7.73	18.60	11.19	12.42	12.24	-18.11	28.71	18.40	31.49	7.09	
Difference	-0.01	-0.01	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	-0.02	0.00	-0.03	0.00	
IM U.S. Large Cap Core Equity (MF) Median	6.60	6.60	-7.77	17.55	10.27	11.55	11.28	-18.72	26.95	18.39	30.64	6.64	
Rank	31	31	50	19	23	20	16	46	26	50	37	31	
Domestic Mid Cap Equity	3.87	3.87	-9.86	18.20	7.87	9.74	10.05	-18.71	24.65	16.61	31.09	8.58	07/01/2006
Vanguard Spl Mid Cap Index	3.87	3.87	-9.85	18.75	8.15	9.94	10.21	-18.68	24.52	18.24	31.09	8.68	
Difference	0.00	0.00	-0.01	-0.55	-0.28	-0.20	-0.16	-0.03	0.13	-1.63	0.00	-0.10	
Vanguard Md-Cp I;Inst (VMCIX)	3.87	3.87	-9.86	18.73	8.14	9.92	10.18	-18.70	24.53	18.23	31.03	8.65	07/01/2006
Vanguard Spl Mid Cap Index	3.87	3.87	-9.85	18.75	8.15	9.94	10.21	-18.68	24.52	18.24	31.09	8.68	
Difference	0.00	0.00	-0.01	-0.02	-0.01	-0.02	-0.03	-0.02	0.01	-0.01	-0.06	-0.03	
IM U.S. Mid Cap Core Equity (MF) Median	2.31	2.31	-6.60	19.49	6.91	8.51	8.47	-13.21	25.73	8.44	28.59	7.37	
Rank	30	30	83	64	23	17	11	93	60	15	27	13	
Domestic Small Cap Equity	2.86	2.86	-10.50	17.82	6.07	8.73	6.90	-19.87	15.69	17.88	32.15	5.54	01/01/2000
Small Cap Custom Index	2.74	2.74	-11.61	17.51	4.71	7.95	7.93	-20.44	14.82	19.96	25.53	7.29	
Difference	0.12	0.12	1.11	0.31	1.36	0.78	-1.03	0.57	0.87	-2.08	6.62	-1.75	
BlackRock:Adv SC Cr;Inst (BDSIX)	2.86	2.86	-10.50	18.04	6.17	-	-	-19.87	14.67	19.57	32.12	7.24	12/01/2016
Russell 2000 Index	2.74	2.74	-11.61	17.51	4.71	8.55	8.04	-20.44	14.82	19.96	25.53	6.41	
Difference	0.12	0.12	1.11	0.53	1.46	-	-	0.57	-0.15	-0.39	6.59	0.83	
IM U.S. Small Cap Core Equity (MF) Median	2.71	2.71	-8.33	21.16	5.52	8.31	8.01	-15.78	25.12	9.89	23.94	6.37	
Rank	44	44	75	80	35	-	-	82	91	14	3	32	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions. The performance for PIMCO Private Income Fund LLC is not available for Q1 2023 and is assumed to be 0.00%.



Municipality of Anchorage Trust Fund
Comparative Performance

As of March 31, 2023

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	Since Incep.	Inception Date
International Equity	9.24	9.24	-1.03	12.96	2.38	5.74	4.73	-17.25	5.82	15.22	19.36	5.27	10/01/1999
MSCI ACW Ex US Index (USD) (Net)	6.87	6.87	-5.07	11.80	2.47	5.86	4.17	-16.00	7.82	10.65	21.51	4.28	
Difference	2.37	2.37	4.04	1.16	-0.09	-0.12	0.56	-1.25	-2.00	4.57	-2.15	0.99	
Vanguard Intl Val;Inv (VTRIX)	8.65	8.65	1.13	-	-	-	-	-11.66	7.97	-	-	11.82	06/01/2020
MSCI ACW Ex US Val Index (USD) (Net)	5.16	5.16	-4.00	13.82	1.26	5.00	3.06	-8.59	10.46	-0.77	15.72	11.45	
Difference	3.49	3.49	5.13	-	-	-	-	-3.07	-2.49	-	-	0.37	
IM ACWI Ex US Value (MF) Median	7.21	7.21	-2.74	14.41	1.58	4.45	3.16	-11.04	10.01	3.69	17.82	11.30	
Rank	28	28	27	-	-	-	-	61	73	-	-	42	
American Funds EuPc;F3 (FEUPX)	9.88	9.88	-3.26	12.14	3.25	7.00	5.94	-22.73	2.85	25.24	27.42	5.91	10/01/1999
MSCI ACW Ex US Grth Index (USD) (Net)	8.59	8.59	-6.35	9.49	3.36	6.47	5.08	-23.05	5.09	22.20	27.34	-	
Difference	1.29	1.29	3.09	2.65	-0.11	0.53	0.86	0.32	-2.24	3.04	0.08	-	
IM ACWI Ex US Growth (MF) Median	9.23	9.23	-4.76	10.95	3.17	6.38	5.23	-26.63	7.93	22.75	27.84	5.11	
Rank	33	33	27	24	47	35	30	30	77	36	59	16	
Domestic Fixed Income	2.97	2.97	-3.89	0.21	1.57	2.23	2.13	-10.23	-0.07	6.90	8.75	4.62	10/01/1999
Bloomberg US Agg Bond Index	2.96	2.96	-4.78	-2.77	0.90	0.88	1.36	-13.01	-1.55	7.51	8.72	4.02	
Difference	0.01	0.01	0.89	2.98	0.67	1.35	0.77	2.78	1.48	-0.61	0.03	0.60	
Domestic Core/Plus Fixed Income	3.67	3.67	-4.32	-0.74	1.34	1.97	-	-12.15	-0.87	7.80	8.89	2.33	01/01/2016
Bloomberg US Agg Bond Index	2.96	2.96	-4.78	-2.77	0.90	0.88	1.36	-13.01	-1.55	7.51	8.72	1.27	
Difference	0.71	0.71	0.46	2.03	0.44	1.09	-	0.86	0.68	0.29	0.17	1.06	
FIAM Core Plus LLC (CF)	3.49	3.49	-4.73	0.22	1.69	2.17	2.25	-12.63	0.68	7.52	10.49	4.00	10/01/2007
Bloomberg US Agg Bond Index	2.96	2.96	-4.78	-2.77	0.90	0.88	1.36	-13.01	-1.55	7.51	8.72	2.96	
Difference	0.53	0.53	0.05	2.99	0.79	1.29	0.89	0.38	2.23	0.01	1.77	1.04	
IM U.S. Broad Market Core+ Fixed Income (MF) Median	3.23	3.23	-5.51	-1.07	1.07	1.32	1.48	-13.72	-0.94	8.58	9.33	3.30	
Rank	23	23	23	12	20	17	11	19	8	73	22	11	
Garcia Hamilton Core Agg (SA)	3.96	3.96	-3.80	-1.56	1.09	-	-	-11.66	-2.40	8.34	7.31	1.09	02/01/2018
Bloomberg US Agg Bond Index	2.96	2.96	-4.78	-2.77	0.90	0.88	1.36	-13.01	-1.55	7.51	8.72	0.81	
Difference	1.00	1.00	0.98	1.21	0.19	-	-	1.35	-0.85	0.83	-1.41	0.28	
IM U.S. Broad Market Core Fixed Income (MF) Median	3.14	3.14	-5.31	-1.85	0.85	0.99	1.32	-13.67	-1.33	8.15	8.76	0.72	
Rank	1	1	7	39	28	-	-	8	95	44	88	22	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions. The performance for PIMCO Private Income Fund LLC is not available for Q1 2023 and is assumed to be 0.00%.



Municipality of Anchorage Trust Fund
Comparative Performance

As of March 31, 2023

	QTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2022	2021	2020	2019	Since Incep.	Inception Date
Private Credit	0.00	0.00	-1.75	-	-	-	-	-0.55	-	-	-	2.29	06/01/2021
CS Lvg'd Loan Index+2%	3.62	3.62	4.17	10.55	5.62	6.66	5.93	0.92	7.51	4.83	10.34	4.39	
Difference	-3.62	-3.62	-5.92	-	-	-	-	-1.47	-	-	-	-2.10	
PIMCO Private Income Fund LLC	0.00	0.00	-1.75	-	-	-	-	-0.55	-	-	-	2.29	06/01/2021
CS Lvg'd Loan Index+2%	3.62	3.62	4.17	10.55	5.62	6.66	5.93	0.92	7.51	4.83	10.34	4.39	
Difference	-3.62	-3.62	-5.92	-	-	-	-	-1.47	-	-	-	-2.10	
Emerging Markets Debt	2.45	2.45	-8.54	0.41	-	-	-	-17.73	-6.44	4.04	12.57	-1.44	07/01/2018
EMD Blended Index	1.86	1.86	-6.37	-0.17	-	-	-	-16.36	-2.83	4.56	13.59	-0.18	
Difference	0.59	0.59	-2.17	0.58	-	-	-	-1.37	-3.61	-0.52	-1.02	-1.26	
RBC BlueBay EM Debt;I (RBESX)	2.45	2.45	-8.32	2.63	-	-	-	-15.27	-2.76	7.01	15.38	1.08	07/01/2018
JPM Emg Mkts Bond Gbl Dvf'd Index (TR)	1.86	1.86	-6.92	-0.02	-0.60	1.40	2.01	-17.78	-1.80	5.26	15.04	0.13	
Difference	0.59	0.59	-1.40	2.65	-	-	-	2.51	-0.96	1.75	0.34	0.95	
IM Emerging Markets Debt (MF) Median	1.76	1.76	-6.07	1.43	-0.74	1.62	0.73	-15.10	-2.97	5.74	13.63	0.34	
Rank	29	29	86	28	-	-	-	52	47	29	16	32	
Real Estate	-3.19	-3.19	1.34	6.12	3.94	4.39	6.22	10.21	17.92	-4.78	-2.92	4.17	10/01/2007
NCREIF ODCE Index (AWA) (Net)	-3.33	-3.33	-3.86	7.47	6.57	6.76	8.48	6.55	21.02	0.34	4.39	5.00	
Difference	0.14	0.14	5.20	-1.35	-2.63	-2.37	-2.26	3.66	-3.10	-5.12	-7.31	-0.83	
UBS Trumbull Property (CF)	-7.25	-7.25	-9.11	2.24	1.64	2.74	5.05	5.02	15.48	-4.78	-2.92	3.42	10/01/2007
NCREIF ODCE Index (AWA) (Net)	-3.33	-3.33	-3.86	7.47	6.57	6.76	8.48	6.55	21.02	0.34	4.39	5.00	
Difference	-3.92	-3.92	-5.25	-5.23	-4.93	-4.02	-3.43	-1.53	-5.54	-5.12	-7.31	-1.58	
Invesco U.S. Income Fund, LP (CF)	-3.70	-3.70	1.54	-	-	-	-	12.61	25.00	-	-	14.48	01/01/2021
NCREIF ODCE Index (AWA) (Net)	-3.33	-3.33	-3.86	7.47	6.57	6.76	8.48	6.55	21.02	0.34	4.39	10.29	
Difference	-0.37	-0.37	5.40	-	-	-	-	6.06	3.98	-	-	4.19	
Harrison Street Core Property Fund, LP	-0.54	-0.54	6.91	-	-	-	-	10.15	-	-	-	8.90	04/01/2021
NCREIF ODCE Index (AWA) (Net)	-3.33	-3.33	-3.86	7.47	6.57	6.76	8.48	6.55	21.02	0.34	4.39	10.61	
Difference	2.79	2.79	10.77	-	-	-	-	3.60	-	-	-	-1.71	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions. The performance for PIMCO Private Income Fund LLC is not available for Q1 2023 and is assumed to be 0.00%.

**Municipality of Anchorage Trust Fund
Fee Addendum**

As of March 31, 2023

	Fee Schedule	Market Value As of 03/31/2023 (\$)	Estimated Annual Fee (\$)	Estimated Annual Fee (%)
Total Fund		392,894,118	1,719,202	0.44
Vanguard Instl Indx;InsP (VFIIX)	0.02 % of Assets	103,449,556	20,690	0.02
Vanguard Md-Cp I;Inst (VMCIX)	0.04 % of Assets	7,486,068	2,994	0.04
BlackRock:Adv SC Cr;Inst (BDSIX)	0.50 % of Assets	7,281,381	36,407	0.50
Vanguard Intl Val;Inv (VTRIX)	0.38 % of Assets	44,279,315	168,261	0.38
American Funds EuPc;F3 (FEUPX)	0.46 % of Assets	41,205,820	189,547	0.46
FIAM Core Plus LLC (CF)	0.25 % of First \$50 M 0.22 % of Next \$50 M 0.20 % of Next \$100 M 0.17 % Thereafter	44,256,482	110,641	0.25
Garcia Hamilton Core Agg (SA)	0.25 % of Assets	45,104,530	112,761	0.25
PIMCO Private Income Fund LLC	1.25 % of Assets	20,839,282	260,491	1.25
RBC BlueBay EM Debt;I (RBESX)	0.79 % of Assets	18,436,299	145,647	0.79
UBS Trumbull Property (CF)	0.83 % of Assets	10,469,550	86,441	0.83
Harrison Street Core Property Fund, LP	1.15 % of First \$25 M 1.05 % of Next \$25 M 0.95 % of Next \$25 M 0.90 % of Next \$25 M 0.85 % Thereafter	22,531,096	259,108	1.15
Invesco U.S. Income Fund, LP (CF)	1.20 % of First \$50 M 1.10 % of Next \$50 M 1.00 % of Next \$100 M 0.85 % of Next \$300 M 0.80 % Thereafter	27,110,436	325,325	1.20
Allspring:Govt MM;I (GVIXX)	0.20 % of Assets	444,303	889	0.20

Mutual fund fees are sourced from Morningstar and/or the investment manager.

UBS Trumbull Property (CF) - 0.955% on first \$10M, 0.825% on next \$15M, 0.805% on next \$25M, 0.79% on next \$50M, 0.67% on next \$150M, 0.60% on next \$150M, 0.56% on next \$200M and 0.52% thereafter. An incentive fee, up to 0.25%, is calculated quarterly based on trailing 12-month performance. The incentive fee has been suspended from 04/2018 until 03/2024.

*The fee schedule shown for UBS Trumbull Property (CF) is based on the effective rates as of the most recently available quarter end data for the combined assets of Anchorage Police & Fire Retirement System and Municipality of Anchorage, and includes incentive fees.

Performance Related Comments

- Performance shown is net of fees, unless otherwise noted.
- Inception dates shown reflect the first full month of client specific performance.
- RVK began monitoring the assets of the Municipality of Anchorage as of 01/01/2016. Prior historical data was provided by the previous investment consultant.
- Performance for Vanguard Instl Indx;InsP (VIII) prior to 11/2020 consists of the returns from the previous share class Vanguard Instl Indx;Inst (VINIX).
- Performance for Vanguard Md-Cp I;Inst (VMCIX) prior to 11/2020 consists of the returns from the previous share class Vanguard Md-Cp I;Adm (VIMAX).
- The market value and performance for PIMCO Private Income Fund Onshore Feeder LLC is as of 12/31/2022.

Manager Transition Comments

- The cash account was transitioned to WellsFargo:Govt MM;I (GVIXX) during 09/2019.
- During 12/2019, RBC BlueBay EM Debt;I (RBESX) switched to the JPM Emg Mkts Bond Gbl Dvf'd Index (TR) benchmark.
- TIF:Internatl Equity;Prm (TFEQX) was liquidated beginning in 05/2020 and Vanguard Intl Val;Inv (VTRIX) was funded by the proceeds.
- During 11/2020, assets invested in Vanguard Instl Indx;Inst (VINIX) were transferred via share class exchange to Vanguard Instl Indx;InsP (VIII).
- During 11/2020, assets invested in Vanguard Md-Cp I;Adm (VIMAX) were transferred via share class exchange to Vanguard Md-Cp I;Inst (VMCIX).
- During 01/2021, the Invesco U.S. Income Fund, LP (CF) was funded via capital call.
- During 04/2021, Harrison Street Core Property Fund, LP was funded via capital call.
- During 05/2021, PIMCO Private Income Fund Onshore Feeder LLC was funded via capital call.
- During 06/2021, Western Asset Floating Rate High Income (CF) was liquidated from the total fund.
- During 05/2022, Ashmore:EM Tot Rtn;Inst (EMKIX) was liquidated and proceeds were used to purchase RBC BlueBay EM Debt;I (RBESX).

Custom Index Comments

- The Target Allocation Index is calculated monthly and consists of 31% Russell 3000 Index, 22% MSCI ACW Ex US Index (USD) (Net), 24% Bloomberg US Agg Bond Index, 5% Credit Suisse Leveraged Loan Index +2%, 5% EMD Blended Index, and 13% NCREIF ODCE Index (AWA) (Net). The Target Allocation Index and its current targets are effective as of 06/2021.
- The Target Allocation Index (Weighted Cash) (Trust) consists of a 37% allocation to cash during 11/2020 and a 12% allocation to cash during 12/2020. Remaining allocations were adjusted on a pro rata basis to fill the remaining stated targets.
- The Vanguard Spl Mid Cap Index consists of the S&P Mid Cap 400 Index (Cap Wtd) through 05/16/2003; MSCI US Mid Cap 450 Index through 01/30/2013; and CRSP US Mid Cap Index thereafter.
- The Small Cap Custom Index consists of the Russell 2000 Index through 06/2006, the Russell 2000 Growth Index through 11/2016, and the Russell 2000 Index thereafter.
- The EMD Blended Index is calculated monthly using beginning of month investment weights applied to each corresponding primary benchmark return.

Miscellaneous Comments

- In 12/2021, due to the sale of Wells Fargo Asset Management (WFAM) by Wells Fargo & Company to GTCR LLC and Reverence Capital Partners, L.P., the WellsFargo:Govt MM;I (GVIXX) name has been changed to reflect the new company name of Allspring:Govt MM;I (GVIXX).



May 9, 2023

Asset Allocation Review

Municipality of Anchorage Trust Fund



Asset Allocation Review & History

- RVK presents an asset allocation review to the IAC every year or two, to explore potential adjustments to be made the MOA Trust Fund asset allocation targets, or confirm the current targets remain prudent.
- RVK produces Capital Market Assumptions (CMAs) every year, with long-term (10-20 years) risk, return and correlation expectations. These assumptions provide context around general expectations on risk and return and assist clients making asset allocation decisions.
- RVK most recently presented an asset allocation review in May 2022. Prior reviews have resulted in additional asset classes being added to the Trust in an attempt to improve risk and return tradeoffs moving forward.
 - Emerging Market Debt added as a diversifying asset class in 2018
 - Additional Real Estate managers added to diversify real estate exposure in 2021
 - Private Credit added as a diversifying asset class in 2021

Asset Allocation Study



Asset Allocation Study

2023 RVK Capital Markets Assumptions

Return & Risk Assumptions

Asset Class	Arithmetic Return Assumption	Standard Deviation Assumption
Broad US Equity	6.80	16.10
Broad International Equity	9.35	18.70
US Agg Fixed Income	4.00	5.00
Emerging Markets Debt (Hard)	7.50	10.00
Private Credit	8.00	13.00
Core Real Estate	5.75	12.50

Correlation Matrix

	Broad US Equity	Broad International Equity	US Agg Fixed Income	Emerging Markets Debt (Hard)	Private Credit	Core Real Estate
Broad US Equity	1.00	0.85	0.21	0.58	0.70	0.29
Broad International Equity	0.85	1.00	0.12	0.68	0.80	0.32
US Agg Fixed Income	0.21	0.12	1.00	0.57	-0.18	-0.01
Emerging Markets Debt (Hard)	0.58	0.68	0.57	1.00	0.58	0.24
Private Credit	0.70	0.80	-0.18	0.58	1.00	0.39
Core Real Estate	0.29	0.32	-0.01	0.24	0.39	1.00

Asset Allocation Study

Efficient Frontier Table

Efficient Allocations

The table below shows the range of possible optimal allocations given the selected asset classes and constraints listed under "Min" and "Max." This range illustrates the tradeoff between return and risk; additional return can only be achieved by undertaking additional risk.

	Min	Max	1	2	3	4	5	6	7	8	9	10	Current Target	Potential 1	Potential 2
Broad US Equity	20	50	20	20	20	20	21	23	26	28	31	35	31	31	31
Broad International Equity	20	50	20	20	20	20	21	23	26	28	31	35	22	22	22
US Agg Fixed Income	15	60	60	50	45	40	33	28	23	19	15	15	24	29	27
Emerging Markets Debt	0	5	0	1	5	5	5	5	5	5	5	5	5	0	0
Private Credit	0	7	0	0	1	6	7	7	7	7	7	7	5	5	7
Core Real Estate	0	15	0	9	9	9	13	13	13	13	11	3	13	13	13
Total			100	100	100	100	100	100	100	100	100	100	100	100	100
Capital Appreciation			40	41	46	51	54	59	64	68	74	82	63	58	60
Capital Preservation			60	50	45	40	33	28	23	19	15	15	24	29	27
Alpha			0	0	0	0	0	0	0	0	0	0	0	0	0
Inflation			0	9	9	9	13	13	13	13	11	3	13	13	13
Expected Arithmetic Return			5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	6.7	6.5	6.6
Risk (Standard Deviation)			7.8	8.0	8.3	8.7	9.2	9.9	10.6	11.3	12.1	13.1	10.5	10.2	10.4
Expected Compound Return			5.3	5.5	5.7	5.9	6.0	6.1	6.3	6.4	6.5	6.6	6.1	6.0	6.1
Return/Risk Ratio			0.72	0.73	0.72	0.72	0.70	0.67	0.64	0.62	0.59	0.56	0.63	0.63	0.63
RVK Expected Eq Beta (LC US Eq = 1)			0.44	0.45	0.47	0.49	0.52	0.56	0.61	0.65	0.70	0.77	0.61	0.60	0.61
RVK Liquidity Metric (T-Bills = 100)			88	82	80	76	73	73	74	74	76	81	76	77	76

Prior Years' Expected Trust Returns*					
	2019	2020	2021	2022	2023
Return	6.5%	6.5%	5.5%	5.7%	6.7%
Risk	11.4%	10.0%	10.3%	10.3%	10.5%






* Assuming current Trust targets.

Group Constraint: International Equity capped at 40% of total equity. Total equity capped at 70%.

Basket Clause: Real estate allocation above the 10% cap (3%) and private credit allocation capped at a combined 10%.

Asset Allocation Study

Alternative Portfolio Considerations

	Min	Max	Current Target	Potential 1	Potential 2
Broad US Equity	20	50	31	31	31
Broad International Equity	20	50	22	22	22
US Agg Fixed Income	15	60	24	29 	27 
Emerging Markets Debt	0	5	5	0 	0 
Private Credit	0	7	5	5	7 
Core Real Estate	0	15	13	13	13
Total			100	100	100
Capital Appreciation			63	58	60
Capital Preservation			24	29	27
Alpha			0	0	0
Inflation			13	13	13
Expected Arithmetic Return			6.7	6.5	6.6
Risk (Standard Deviation)			10.5	10.2	10.4
Expected Compound Return			6.1	6.0	6.1
Return/Risk Ratio			0.63	0.63	0.63
RVK Expected Eq Beta (LC US Eq = 1)			0.61	0.60	0.61
RVK Liquidity Metric (T-Bills = 100)			76	77	76

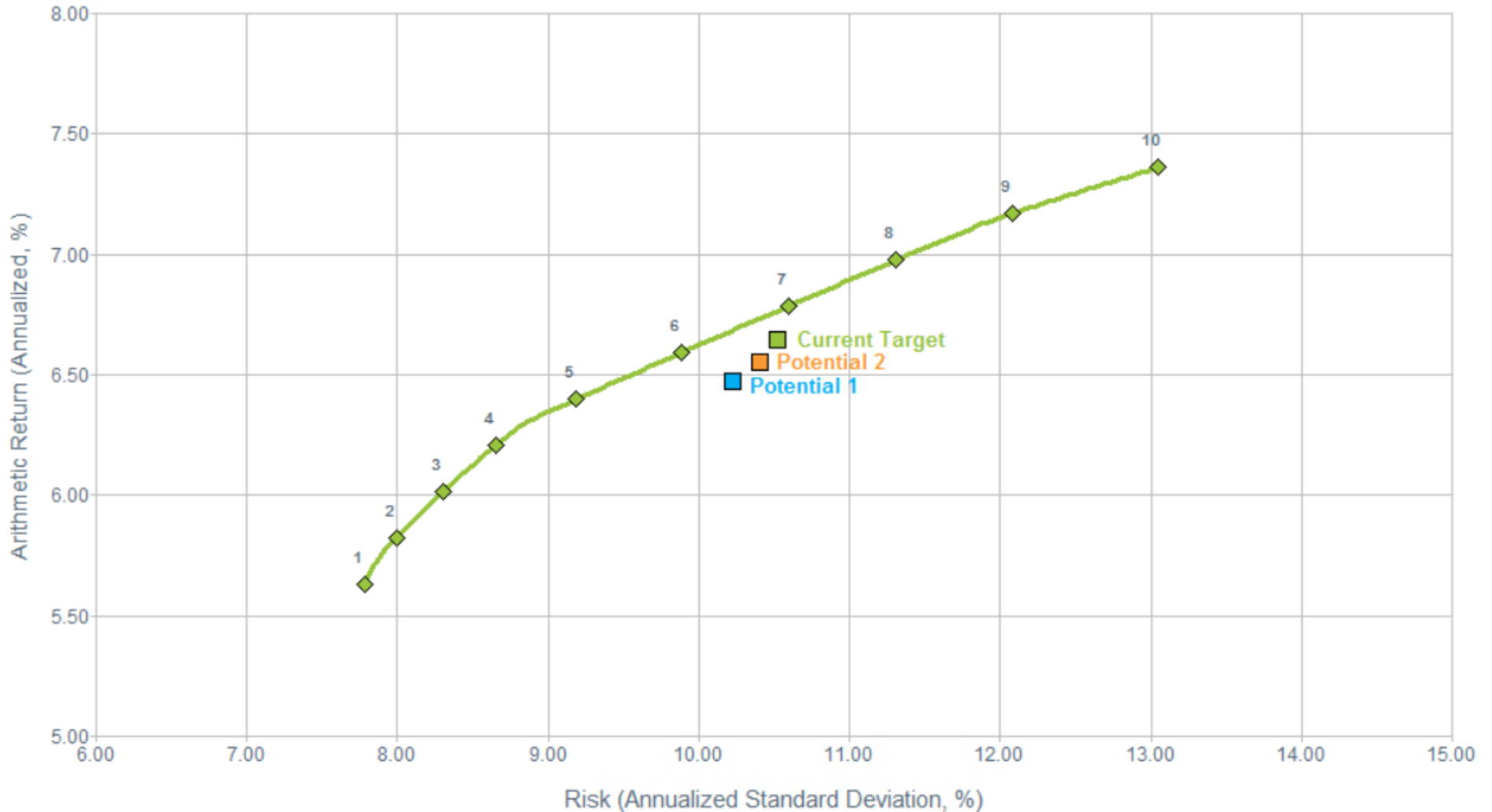
- Exploring removal of EMD
 - With an expected return of 7.5% long-term, likely results in slightly lower expected return for Trust
 - Adding to Core Fixed Income given the rise in interest rates and the expectations for higher yields into the future
 - CMA up to 4% from 2.5% in 2022
 - Explore adding to Private Credit
 - Basket Clause considerations
-
- **Potential 1** – slightly lower return but with lower risk as well. Still well above or in line with previous years' return expectations
 - **Potential 2** – In between current target and Potential 1 with risk and return

Asset Allocation Study

Efficient Frontier Graph

Efficient Frontier

The figure below illustrates the relationship between risk and return. The risk of each alternative allocation is plotted against the horizontal axis, while the return is measured on the vertical axis. The line connecting the points represents all the optimal portfolios subject to the given constraints and is known as the "efficient frontier." The upward slope of the efficient frontier indicates the direct relationship between return and risk.



Asset Allocation Study

Monte Carlo Simulations – Nominal Return Distribution

The table below shows the expected return by percentile for each portfolio on Frontier 1 for the 1, 3, 5, and 10 year periods.

1 Year	Current Target	Potential 1	Potential 2
1st Percentile	-21.61	-21.65	-21.73
5th Percentile	-9.59	-9.88	-9.79
25th Percentile	0.42	0.28	0.32
50th Percentile	6.57	6.38	6.46
75th Percentile	12.94	12.73	12.80
95th Percentile	22.52	22.52	22.62
99th Percentile	30.19	30.18	30.24
3 Years			
1st Percentile	-9.77	-10.17	-10.03
5th Percentile	-3.58	-3.77	-3.71
25th Percentile	2.57	2.39	2.47
50th Percentile	6.43	6.26	6.34
75th Percentile	10.09	9.91	9.99
95th Percentile	15.70	15.61	15.68
99th Percentile	19.98	19.77	19.90
5 Years			
1st Percentile	-6.27	-6.44	-6.38
5th Percentile	-1.69	-1.88	-1.81
25th Percentile	3.33	3.13	3.19
50th Percentile	6.30	6.12	6.21
75th Percentile	9.31	9.13	9.24
95th Percentile	13.63	13.49	13.56
99th Percentile	16.79	16.58	16.70
10 Years			
1st Percentile	-2.42	-2.70	-2.60
5th Percentile	0.58	0.36	0.43
25th Percentile	4.09	3.90	3.99
50th Percentile	6.30	6.12	6.20
75th Percentile	8.45	8.29	8.37
95th Percentile	11.47	11.30	11.37
99th Percentile	13.72	13.55	13.62

Asset Allocation Study

Monte Carlo Simulations – Return Targets

The table below shows the **percentage** chance of achieving or exceeding the given return for each portfolio on Frontier 1 for the 1, 3, 5, and 10 year periods.

1 Year	Current Target	Potential 1	Potential 2
Target 0%	77	76	76
Target 3%	65	64	65
Target 6%	52	52	52
Target 6.5%	50	49	50
Target 7%	48	47	48
Target 10%	35	35	35
3 Years			
Target 0%	87	86	87
Target 3%	72	71	72
Target 6%	53	52	52
Target 6.5%	50	48	49
Target 7%	46	45	45
Target 10%	26	24	25
5 Years			
Target 0%	91	91	91
Target 3%	77	76	76
Target 6%	53	51	52
Target 6.5%	48	47	47
Target 7%	44	43	43
Target 10%	21	20	20
10 Years			
Target 0%	96	96	96
Target 3%	84	83	83
Target 6%	53	51	52
Target 6.5%	48	45	46
Target 7%	41	39	40
Target 10%	12	11	11

Please see the Monte Carlo introduction for more information about assumed distribution.

Asset Allocation Review

EMD Considerations

There are a number of factors for staff and the MOA Trust IAC to consider when evaluating whether to continue investing with EMD:

- While absolute returns have been disappointing, RVK believes EMD is still an appropriate asset class for consideration when constructing a diversified portfolio. Over the last ten years EMD has struggled due to geopolitical uncertainty, a strong US Dollar, elevated commodity prices, and recently high inflation; while many of these risks remain, the associated yield with the asset class does provide a commensurate/attractive return profile.
 - *EMD posted a 2.0% annualized return over the last 10-years (as of 3/31/2023) as represented by the JPM Emg Mkts Bond Gbl Dvl'd Index.*
- Exiting EMD at current valuations does pose a risk of selling at the bottom, but should be weighed in the context of other available options. Moving the 5% allocation to a combination of Core Fixed Income and Private Credit creates a similar expected return, but slightly reduces overall diversification and sources of future returns.
- EMD has been and likely will continue to be volatile, and subject to exogenous shocks, risk-off environments, currency fluctuations, geopolitical risks, etc.
- EMD was added in 2018 as a diversifying asset class for the Trust. With the addition of the private credit asset class and additional real estate managers since then, EMD may not be as essential to diversify the Trust's equity and core fixed income exposures as it was originally.

Appendix



Asset Allocation Research

Long Term Performance

- Strategic asset allocation is the most powerful determinant of total fund performance in the long run.
- While good manager evaluation decisions will unquestionably add to performance, they cannot make up for a poorly diversified and/or inefficient allocation.
- Multiple studies calculated the effects of asset allocation on portfolio returns and concluded that asset allocation “drives” portfolio return.
- **Asset Allocation Explains:**
 - **100% of Return Amount Over Time**
 - Study found that funds making timing and selection bets against their long-term policy mix were unsuccessful in adding significant value by engaging in timing and/or manager selection.
 - **90% of Return Variability Over Time**
 - Study concluded that roughly 90% of the movement of a fund’s total return was explained by target policy fluctuation.

Asset Allocation Process

Mean Variance Optimization – Background

Using inputs of expected return, volatility, and correlation, MVO enables investors to identify combinations of distinct asset class allocations that maximize portfolio returns for a given level of risk. Attempts to shift focus from individual manager selection to long-term and strategic asset allocation decisions.

MVO Benefits

- Introduces the critical concept of diversification, which encourages investors to avoid concentrating risk in a small subset of assets or asset classes, especially closely related (highly-correlated) ones.
- Focuses portfolio management activities on asset allocation, which is the most important driver of overall portfolio risk and return.
- Provides a powerful quantitative tool to identify distinct asset allocation targets that have the most optimal risk/return tradeoffs.

MVO Shortcomings

- Simplified assumption of risk/return trade-off fails to capture fully how real world investors weight gains versus losses (i.e., do losses matter more than gains?)
- Volatility is viewed as the only proxy for risk.
- Correlation is treated as static rather than dynamic.
- Models are sometimes highly sensitive to small changes to input values (“robustness”).
- Unconstrained output yields highly concentrated portfolios rather than the expected diversification.

Asset Allocation Process

Summary

- Asset allocation “drives” portfolio return; academic studies suggest that upwards of 90% of long-term results can be attributed to strategic asset allocation decisions.
- Institutional decision makers should devote more effort setting an appropriate strategic asset allocation than to manager evaluation.
- Asset allocation decision making is an exercise in uncertainty as it involves making judgments about magnitude and patterns of future returns and risk.
- The basic framework of Mean Variance Optimization (MVO), combined with appropriate forward-looking capital markets research, provides a structured approach to assisting with asset allocation decisions.

Emerging Markets Debt



Spectrum of Fixed Income Investments

			Return Potential	Primary Risk Factors
<u>Core</u>	Liquid	US Government	Long-Term Income & Appreciation Income	Rates, Pre-Payment, Corporate Credit
		Mortgage-Backed Securities (MBS)		
		Investment Grade Credit		
<u>Non-Core</u>	Less Liquid	High Yield / Bank Loans	Greater Yield & Appreciation Potential	Corporate Credit, Consumer Credit, Sovereign Credit, Currency
		Structured Credit		
		Emerging Market Debt		
		Long/Short Credit		
	Illiquid	Direct Lending	Strongest Long-Term Growth Potential	Credit and Liquidity
		Distressed Debt		Credit and Liquidity

Emerging Markets Debt

Fixed income debt issued by countries with developing economies as well as by corporations within those nations

By Region

- Latin/Central America, Caribbean
- Eastern Europe
- Middle East
- Africa
- EM Asia

Two ways of accessing this market: Dollar-Denominated vs. Local Currency

- Dollar-Denominated Debt: also known as “hard” currency, are bonds issued in U.S. dollar terms by the world’s developing countries
- Local Currency Debt: bonds that are denominated in local currencies – these debt securities have currency impact as a potential driver of return in addition to other factors in Hard currency EMD

Emerging Market Fixed Income Universe

A wide opportunity set of 30+ local debt markets combined with sovereign and corporate dollar issuers in over 70 countries



Source: JPM EM Monitor

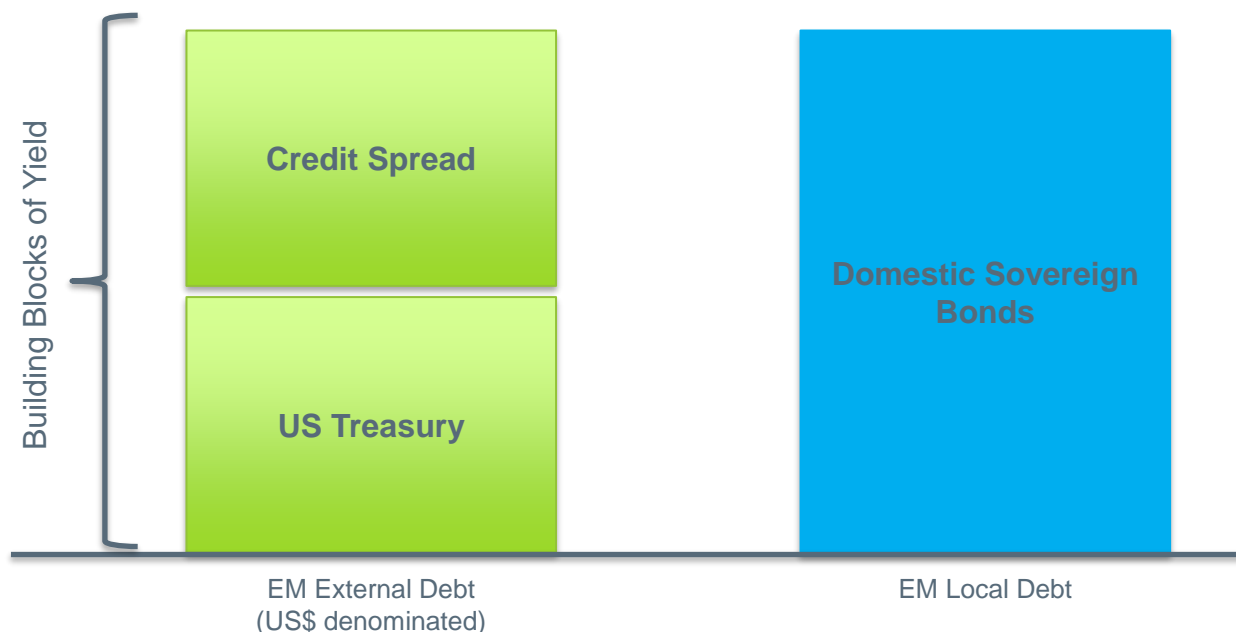
Not all Emerging Markets are Created Equal

Broader Investment Opportunity Set in Emerging Market Debt

Hard Currency Markets (84 Countries)				Local Currency Markets (18 Countries)		Equity Markets (25 Countries)	
Sovereign Only		Sovereign & Corporate					
Angola	Honduras	Serbia	Argentina	Latvia	Argentina	Brazil	Brazil
Armenia	Ivory Coast	Slovakia	Bahrain	Malaysia	Brazil	Chile	Chile
Azerbaijan	Kenya	Sri Lanka	Belarus	Mexico	Chile	China	China
Belize	Lebanon	Suriname	Brazil	Mongolia	Colombia	Colombia	Colombia
Bolivia	Lithuania	Tajikistan	Chile	Morocco	Dominican Republic	Dominican Republic	Czech Republic
Cameroon	Mozambique	Trinidad & Tobago	China	Nigeria	Hungary	Hungary	Egypt
Costa Rica	Namibia	Tunisia	Colombia	Oman	Indonesia	Indonesia	Greece
Croatia	Pakistan	Uruguay	Dominican Republic	Panama	Malaysia	Malaysia	Hungary
Ecuador	Papua New Guinea	Uzbekistan	Egypt	Paraguay	Mexico	Mexico	India
Ethiopia	Romania	Venezuela	El Salvador	Peru	Peru	Peru	Indonesia
Gabon	Senegal	Senegal	Georgia	Philippines	Philippines	Philippines	Korea
			Ghana	Poland	Poland	Poland	Malaysia
			Guatemala	Qatar	Romania	Pakistan	Mexico
			Hungary	Russia	Russia	Peru	Pakistan
Corporate Only			India	Saudi Arabia	South Africa	Peru	Peru
Barbados	Malaysia		Indonesia	South Africa	Thailand	Philippines	Philippines
Czech Republic	Singapore		Iraq	Turkey	Turkey	Poland	Poland
Hong Kong	Taiwan		Jamaica	Ukraine	Uruguay	Russia	Russia
Israel	Tanzania		Jordan	Zambia	+15 off-benchmark countries	Qatar	Qatar
Korea	Thailand		Kazakhstan	United Arab Emirates		Saudi Arabia	Saudi Arabia
			Kuwait			South Africa	South Africa
						Taiwan	Taiwan
						Thailand	Thailand
						Turkey	Turkey
						United Arab Emirates	United Arab Emirates

Source: JPM EM Monitor (for debt) and MSCI (for equity)

Emerging Market Debt – Assessing the Risk



Sources of Return	Spreads over US Treasuries	Currency	Local Yields
Who Bears FX Risk	Issuer		Investor
Fundamental Drivers	Sovereign risk assessment Corporate risk assessment Global environment Market technical	Balance of Payments Central bank FX policy Monetary policy Sovereign risk Global environment Market technicals	Inflation expectations Policy rate forecasts Sovereign risk Global environment Market technicals
Research Implications	Focus on probability of default	Focus on economic cycle, currency	

EMD – Available Benchmarks

Represents an investable universe of over US\$4.5 trillion in bonds

JPM Emerging Markets Bond Index (EMBI) Global (“Hard Sovereign”) – tracks total returns for US dollar-denominated debt instruments issued by Emerging Market sovereign and quasi-sovereign entities.

JPM Corporate Emerging Markets Bond Index (CEMBI) Broad (“Corporate”) – tracks total returns for US-denominated corporate bonds issued by Emerging Market entities.

JPM Government Bond Index-Emerging Markets (GBI-EM) Global (“Local”) – track local currency bonds issued by Emerging Market governments, limiting inclusion to only those countries that are readily accessible and where no impediments exist for foreign investors.

PORTLAND

BOISE

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