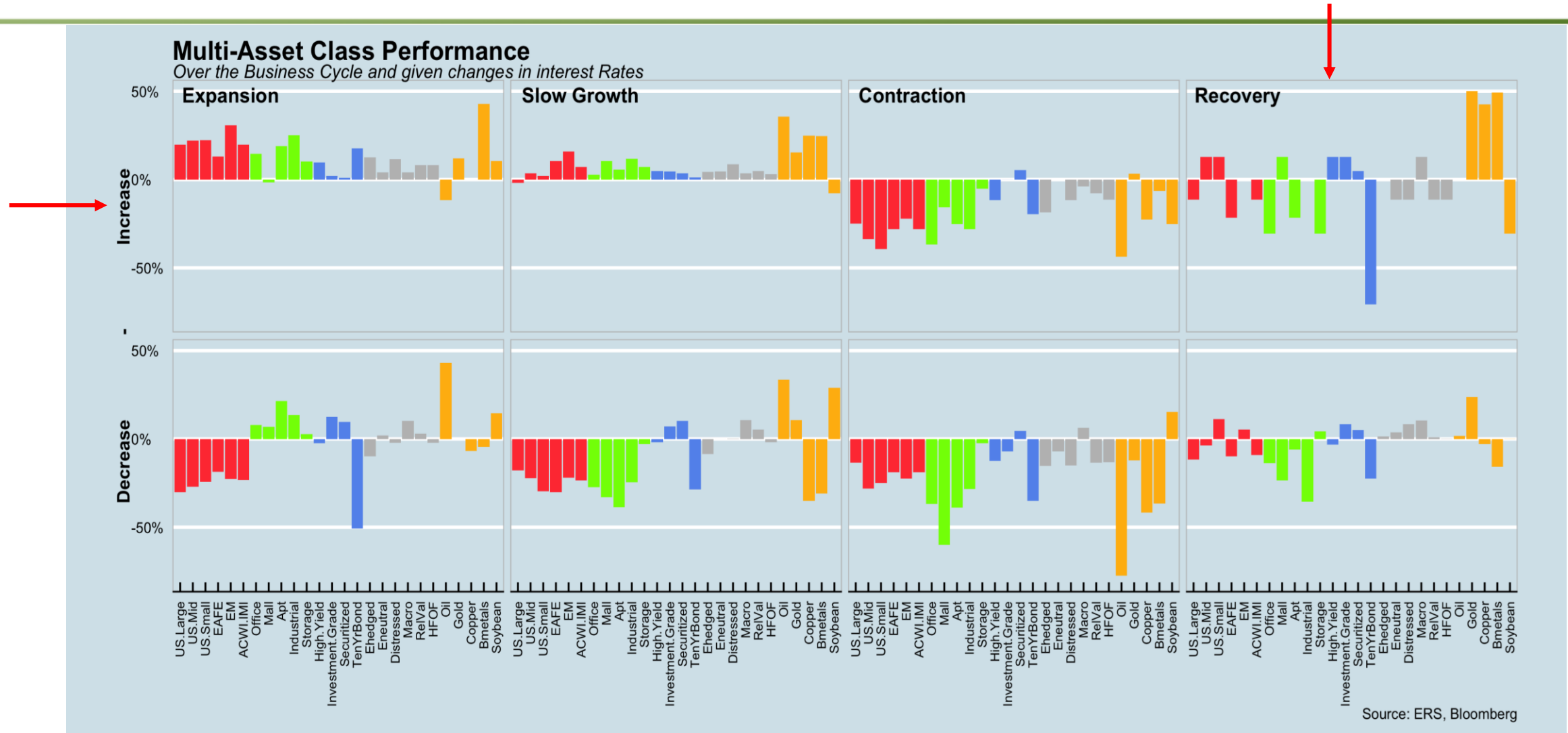


Risk Update Appendix

Risk Concerns

Gold, Copper and Base Metals perform the best during an economic recovery with rate increases

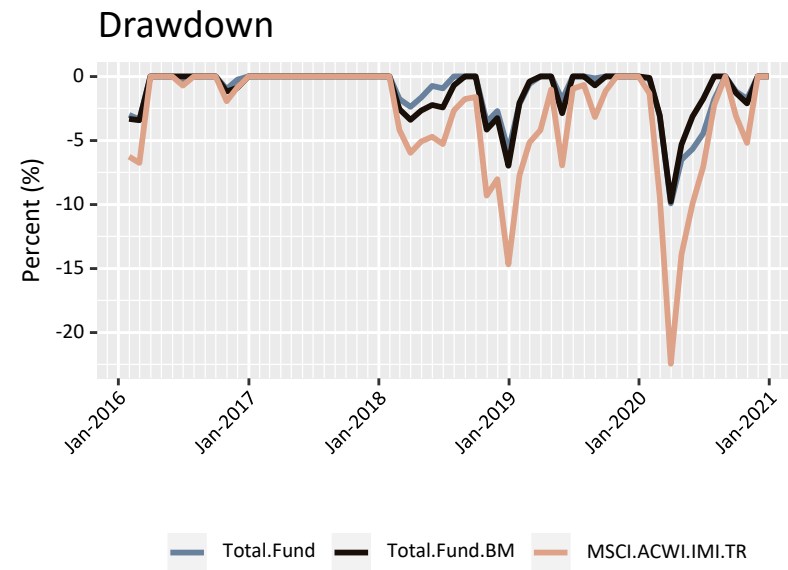
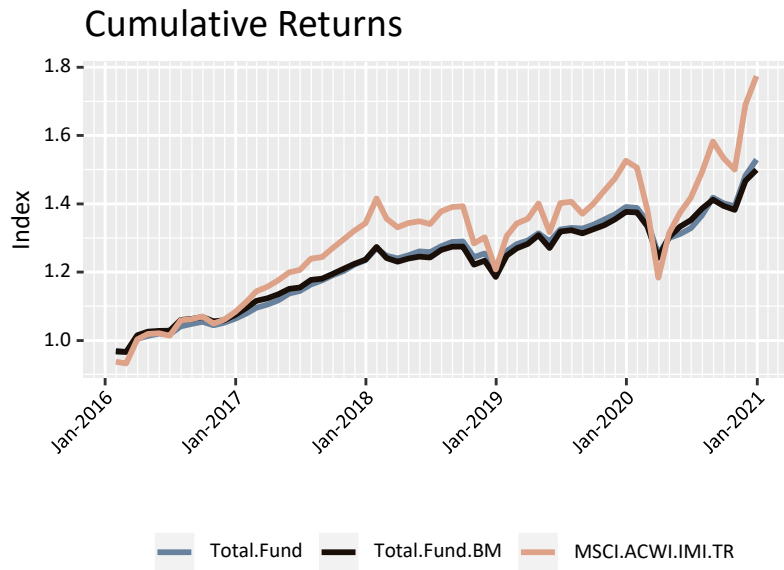


ERS Performance

Plan Level and Asset Class Composites



Asset Class	AUM	Weight	Excess Weight	Annualized SD	T12M Return	T12M Excess Return	Annualized Return	Annualized Excess Return	IR	SR	TE	Beta	R^2
Total Fund	\$30,865,543,933	100.00	NA	7.14	9.98	1.03	8.87	0.43	0.22	1.07	1.98	0.88	94.10
Total Return Seeking Assets	\$25,458,846,772	82.48	4.48	9.26	9.38	-0.35	9.97	0.54	0.20	0.95	2.66	0.86	94.31
Total Risk Reduction	\$5,406,697,161	17.52	-4.48	1.74	7.10	1.80	3.69	0.39	0.60	1.46	0.64	0.90	87.38



ERS Performance

Plan Level and Asset Class Composites



Asset Class	AUM	Weight	Excess Weight	Annualized SD	T12M Return	T12M Excess Return	Annualized Return	Annualized Excess Return	IR	SR	TE	Beta	R^2
Global Public Equity	\$12,826,017,289	41.81	4.81	15.17	15.28	-1.32	11.59	-0.90	-0.68	0.68	1.32	0.98	99.30
Global Private Equity	\$4,885,071,025	15.92	2.92	28.44	6.76	3.95	10.58	0.97	0.08	1.44	12.32	-0.03	0.29
Internal Global Credit	\$2,407,631,225	7.85	NA	8.94	2.40	-4.65	7.15	-1.43	-0.72	0.67	1.99	1.12	96.21
External Global Credit	\$716,515,972	2.34	NA	7.79	8.49	1.32	8.89	0.58	0.11	0.98	5.30	0.77	59.86
Public Real Estate	\$902,510,299	2.94	-0.06	15.95	-6.67	1.79	4.68	0.37	0.30	0.22	1.24	0.96	99.56
Private Real Estate	\$2,404,950,208	7.84	-1.16	23.40	2.29	-2.09	9.48	2.60	0.93	2.83	2.80	0.63	10.01
Private Infrastructure	\$1,127,867,149	3.68	-1.32	15.52	9.11	3.89	-0.22	0.75	0.32	-0.10	2.33	1.00	97.10
Total Rates	\$3,597,163,379	11.73	-4.27	2.38	5.92	0.14	3.05	0.15	0.95	0.80	0.16	0.96	99.70
Total Cash	\$480,271,239	1.57	0.57	1.01	0.30	-0.37	1.70	0.50	0.50	0.56	0.99	0.00	0.00
Absolute Return	\$1,329,262,543	4.33	-0.67	2.77	11.36	7.03	6.08	0.95	0.33	1.77	2.90	-10.26	25.26

Tracking error limit - Global Public Equity: 300bps, Global Credit: 300bps, Real Assets: 300bps, Rates: 100bps.

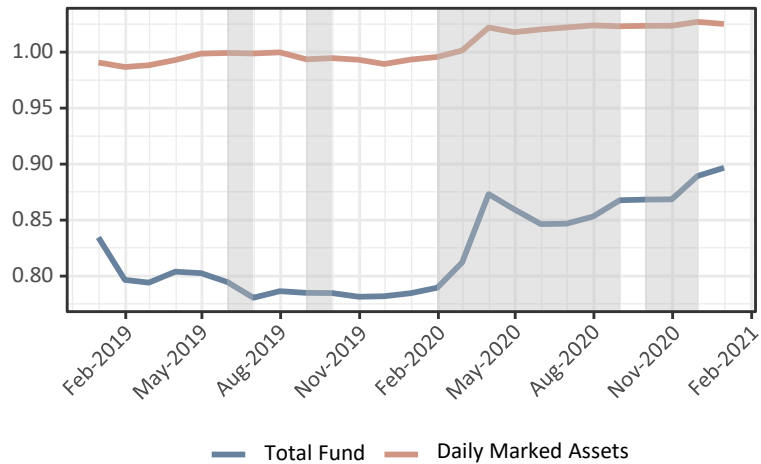
Annualized Return, Annualized Excess Return, IR, TE, and Beta computed are based on 5 years of data (or less). A data smoothing technique has been applied to Private Real Estate benchmark data. Returns data for the following assets: Global Private Equity, Private Real Estate, Private Infrastructure, External Global Credit and Absolute Returns have been lagged by 1 month in order to account for timing difference between reporting date and the time returns were generated.

ERS Plan Level Risk Analysis

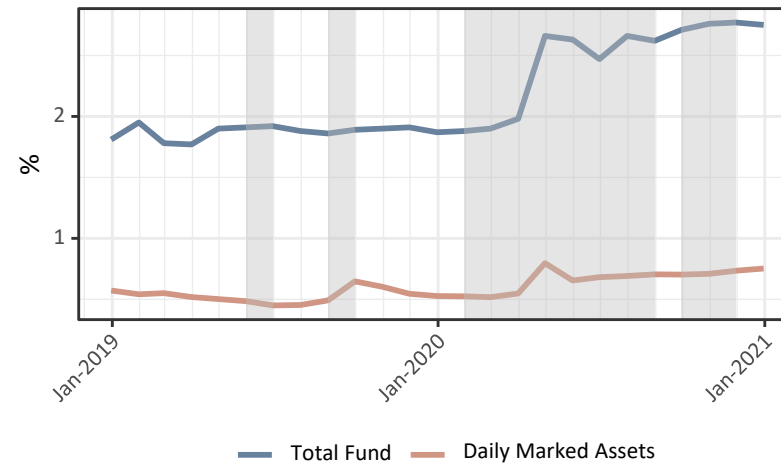
Sensitivity to Policy Benchmark, TE and Illiquid Assets



36-Month Rolling Beta



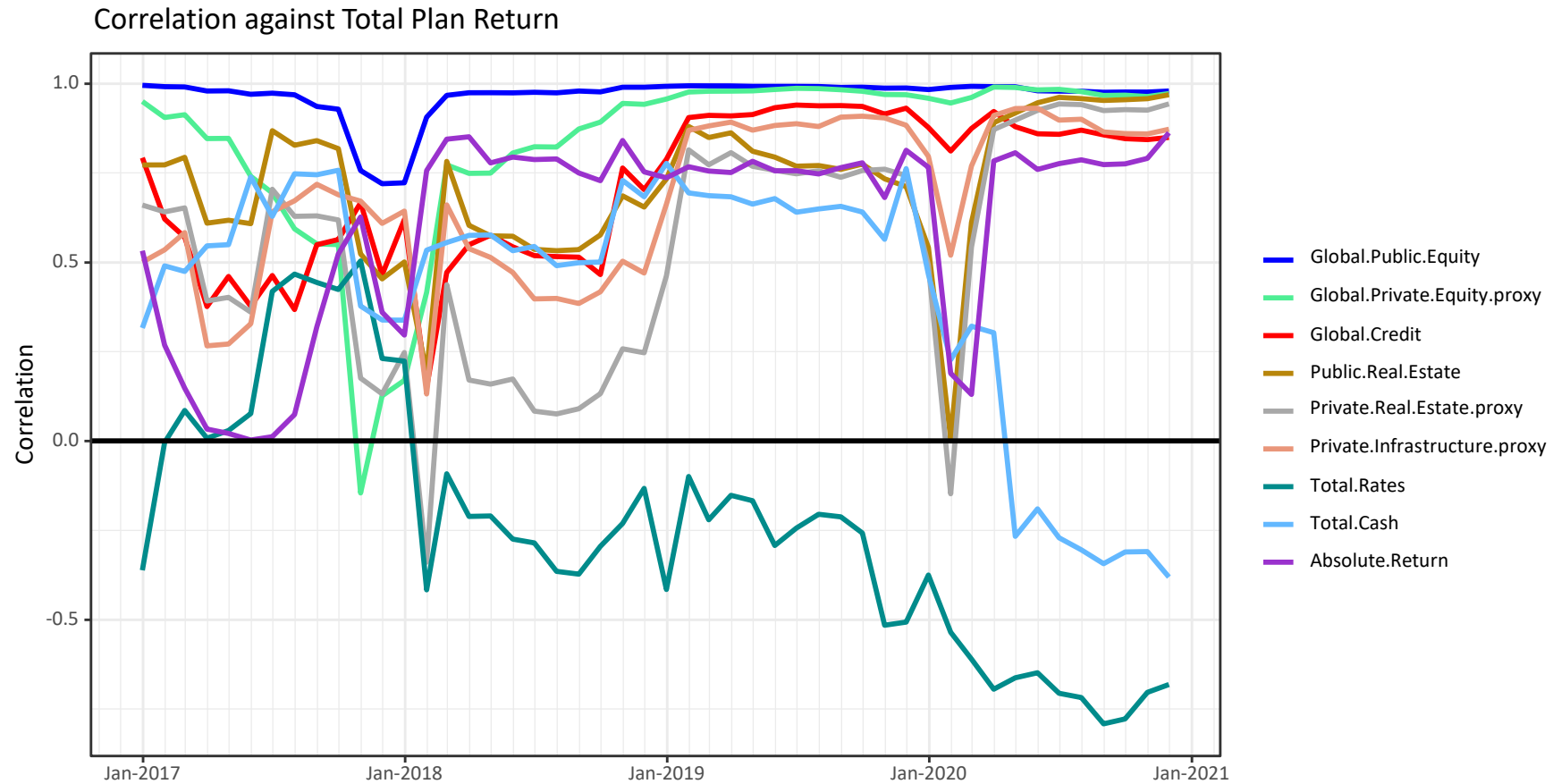
36-Month Rolling TE



- Plan returns show a slightly higher sensitivity relative to policy benchmark returns as measured by Beta.
- A highlight of 2020 was the dramatic increase in the volatility of returns particularly those of liquid assets.
- The Plan's tracking error increased as a result of the pandemic.

ERS Plan Level Risk Analysis

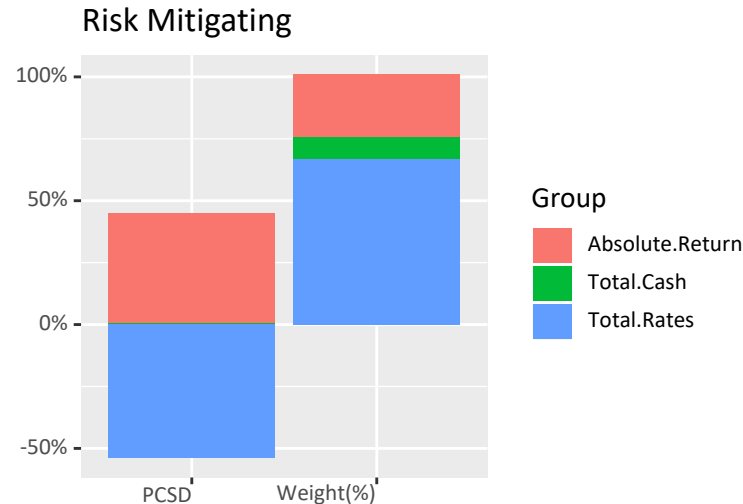
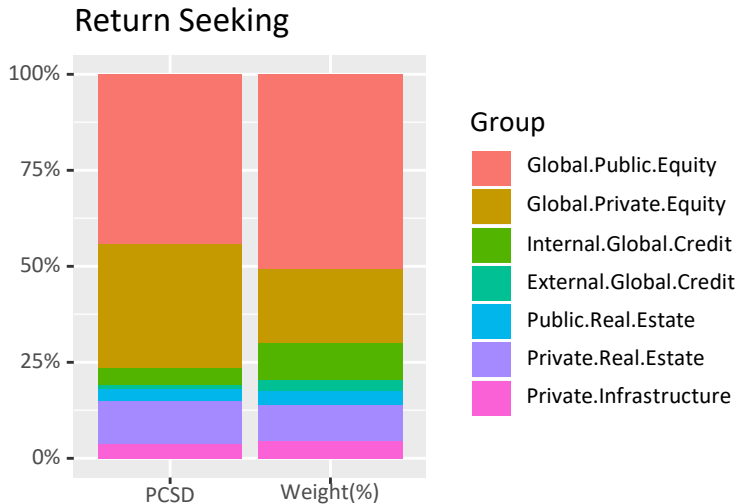
Clustering of “Risk-On” vs “Risk-Off” Asset Correlations



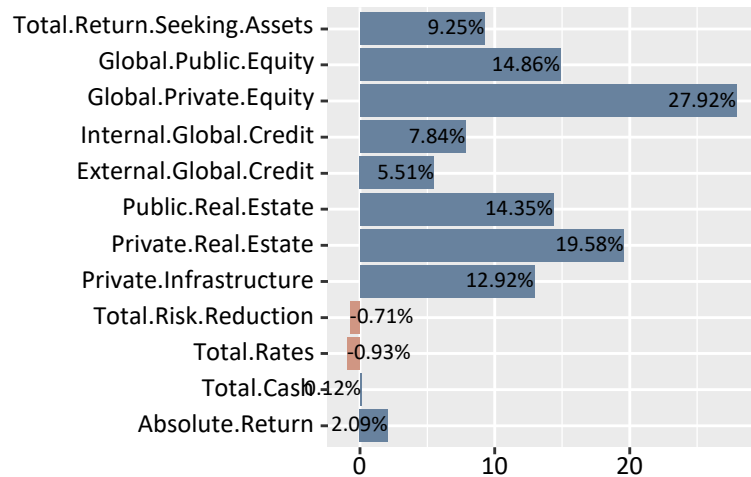
- Concentration of correlated returns within the return seeking and risk mitigating groups poses the potential for lowering diversification benefits and future higher total plan level risk.

ERS Plan Level Risk Analysis

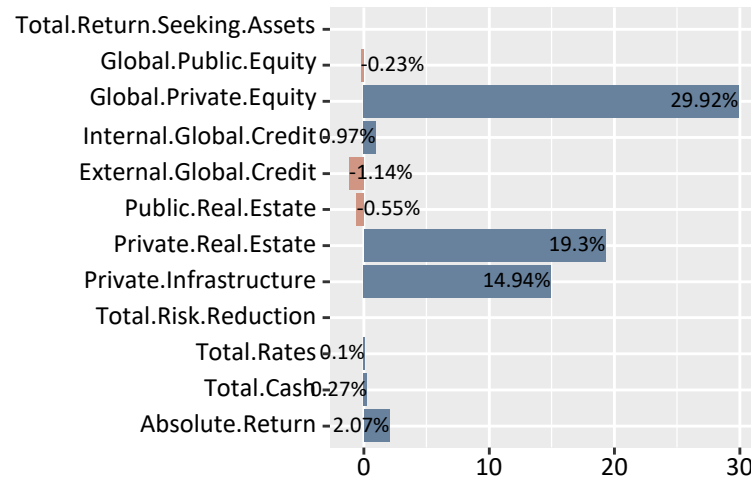
Percent Contribution and Marginal Contribution to Risk



Marginal Contribution to Risk



Marginal Contribution to TE



Percent Contribution to Risk

- Within the Return Seeking Asset Group, Private Equity exerts a larger than proportionate risk relative to its dollar allocation.

- Within the Risk Mitigating Asset Group, the Rates portfolio diversifies risk

Marginal Contribution to TE

- An additional allocation to Illiquid assets would tend to add to active risk