

Public Agenda Item #11

Review of Investment Performance for 2nd Calendar Quarter of 2022 and Risk Update

August 24, 2022

David T. Veal, Chief Investment Officer
Carlos Chujoy, CFA, Director of Risk Management and Applied Research
Sam Austin, Partner, NEPC

Risk Management & Applied Research

Risk Update

Appendix

August 24, 2022

Carlos Chujoy, CFA, Director of Risk Management & Applied Research

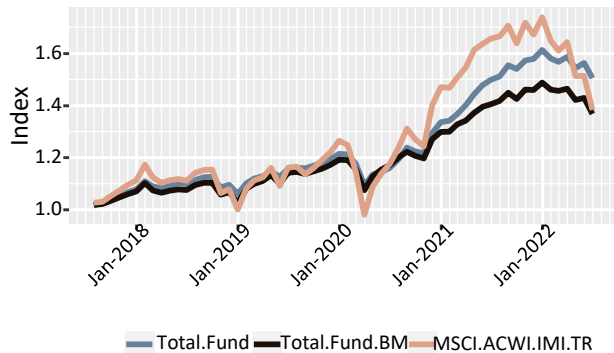
Risk Update

ERS Performance

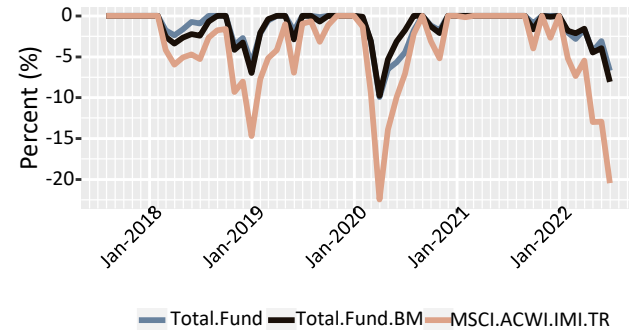


Asset Class	AUM (Billion)	Weight	Excess Weight	Annualized Return	Annualized SD	T12M Excess Return	SR	TE
Total Fund	\$33.0	100.00	NA	8.52	7.58	3.07	0.97	2.07
Total Return Seeking Assets	\$27.2	82.44	-0.56	9.57	9.60	3.59	0.88	2.69
Total Risk Reduction	\$5.8	17..56	0.56	2.63	1.95	-0.35	0.97	0.79

Cumulative Returns



Drawdown



Risk Update

ERS Performance



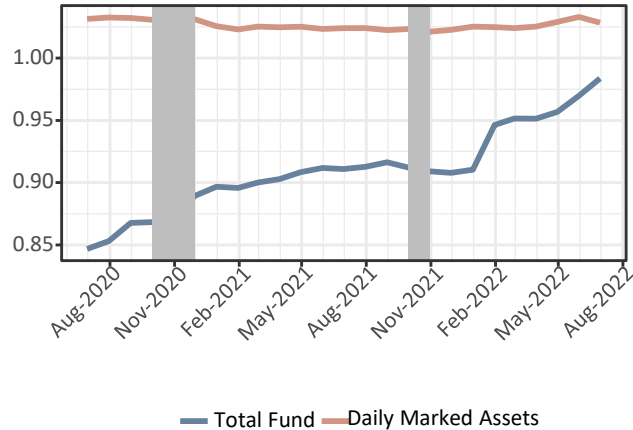
Global Public Equity	\$10.9	33.24	-3.76	7.04	16.04	1.79	0.37	1.40
Global Private Equity	\$ 6.5	19.94	6.94	17.63	29.55	1.20	1.93	13.07
Internal Global Credit	\$ 2.3	7.05	NA	2.22	9.63	1.61	0.12	2.20
External Global Credit	\$ 0.9	2.85	NA	9.45	7.87	15.10	1.06	6.27
Public Real Estate	\$ 0.9	2.80	-0.20	3.61	17.02	2.28	0.15	1.27
Private Real Estate	\$ 3.6	11.11	2.11	12.69	25.02	-1.81	2.75	3.59
Private Infrastructure	\$ 1.7	5.26	-1.74	9.48	17.62	-2.20	1.78	3.39
Total Rates	\$ 3.7	11.22	0.22	0.97	2.75	-0.04	-0.04	0.18
Total Cash	\$ 0.6	1.72	0.72	1.45	0.76	0.32	0.51	0.71
Absolute Return	\$1.6	4.81	-0.19	7.00	3.26	-1.28	1.83	3.37

Risk Update

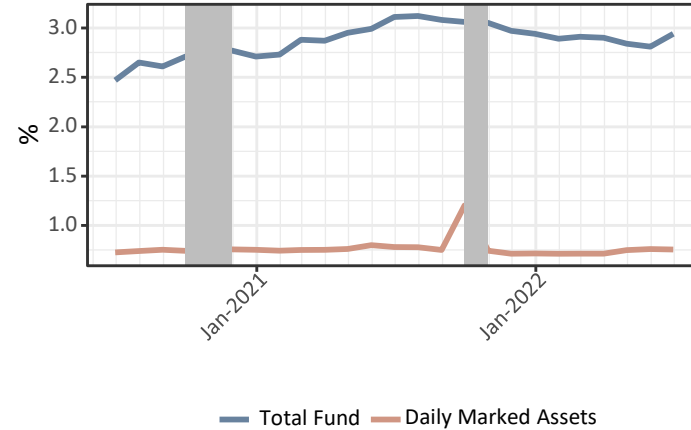
ERS Trust Level Risk Analysis



36-Month Rolling Beta



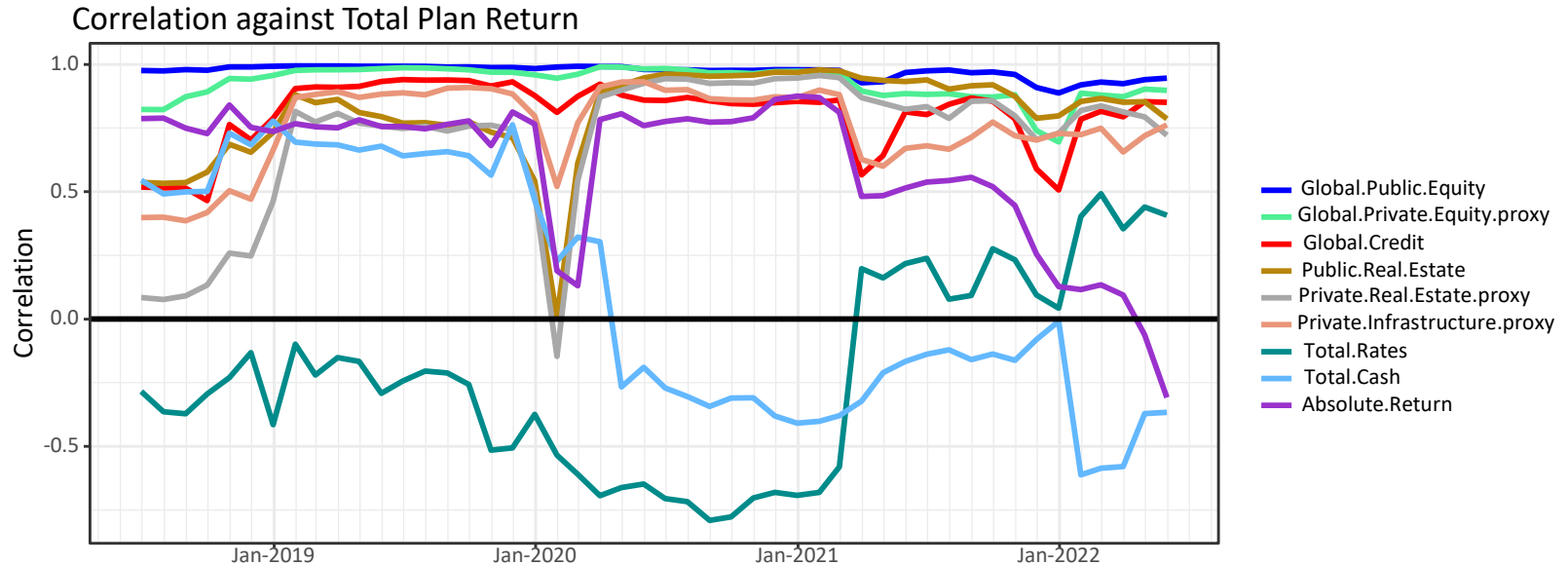
36-Month Rolling TE



- Total Plan's returns sensitivity as measured by beta spiked during 2022 as markets dropped.
- Daily Marked Assets' Tracking Error has remained stable despite the dislocation in market returns during the quarter.

Risk Update

ERS Trust Level Risk Analysis



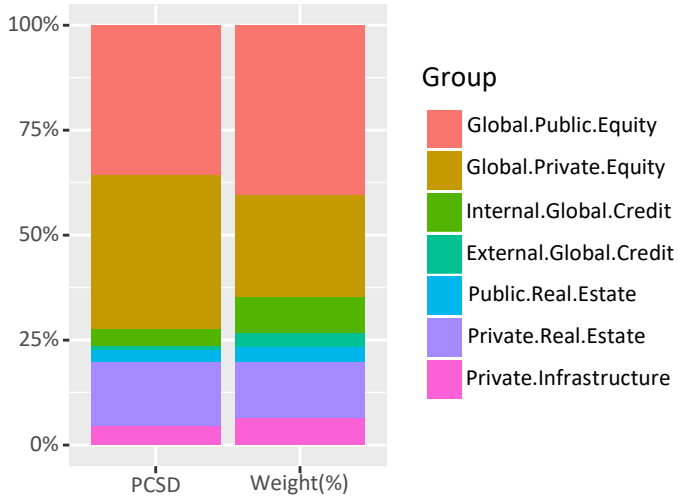
- High degree of correlation amongst assets to Trust returns, speaks to markets trending together.

Risk Update

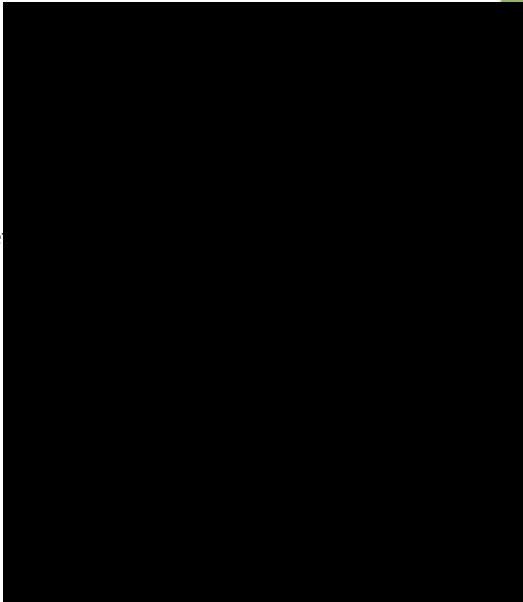
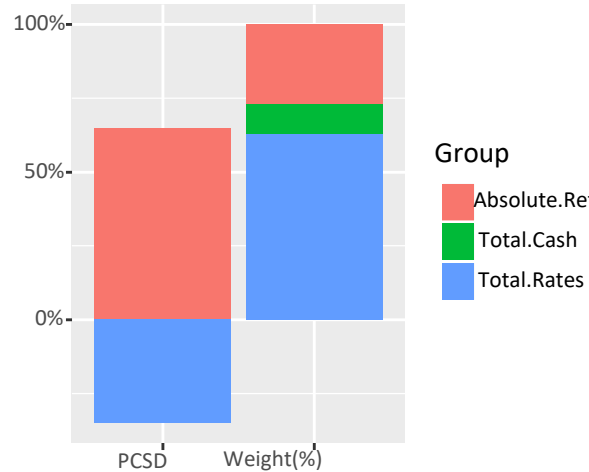
ERS Trust Level Risk Analysis



Return Seeking



Risk Mitigating

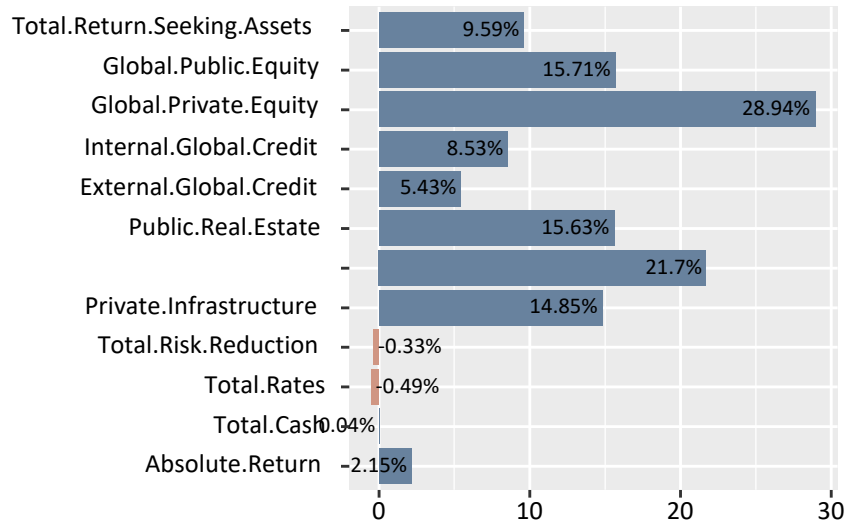


Risk Update

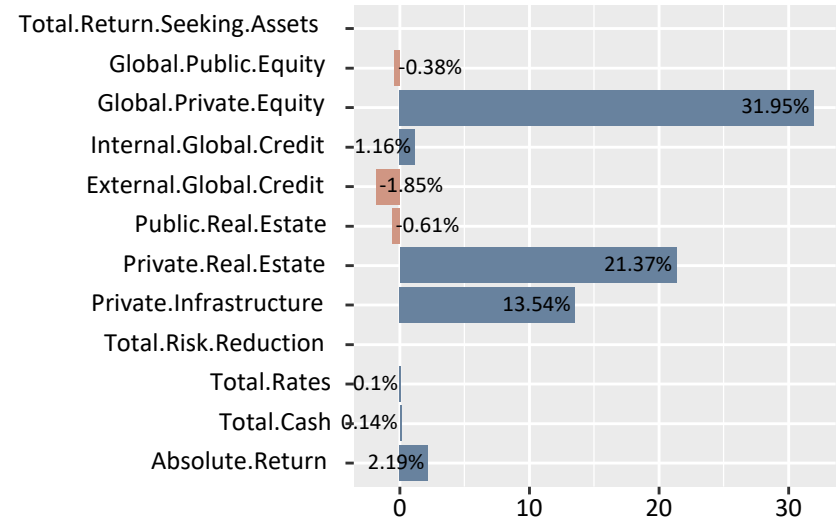
ERS Trust Level Risk Analysis



Marginal Contribution to Risk



Marginal Contribution to TE



Marginal Contribution to TE

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

Risk Update

Macroeconomic Policy Risk



12) *POWELL: THERE COULD BE SOME PAIN IN RESTORING PRICE STABILITY	BN	05/17
13) *POWELL: SOMETIMES THE LANDING IS A LITTLE BUMPY	BN	05/17
14) Yahoo! Finance: Stock market news live updates: Stocks climb amid remarks from Fed's Powell as markets attempt comeback	NS1	05/17
15) *POWELL: PRICE STABILITY IS THE BEDROCK OF THE ECONOMY	BN	05/17
16) *POWELL: LABOR MKT STILL SOLID IF JOBLESS RATE RISES 'FEW TICKS'	BN	05/17
17) *POWELL: THERE IS PATH TO REDUCE INFLATION AND KEEP JOBS STRONG	BN	05/17
18) *POWELL: TAMING INFLATION MORE DIFFICULT NOW DUE TO WORLD EVENTS	BN	05/17
19) *POWELL: WAGES RISING AT PACE NOT CONSISTENT WITH 2% INFLATION	BN	05/17
20) *POWELL: WAGES IMPORTANT TO DETERMINE INFLATION OVER LONGER TERM	BN	05/17
21) CNBC: Powell says the Fed will not hesitate to keep raising rates until inflation comes down	NS1	05/17
22) *POWELL: MORE LABOR DEMAND THAN PEOPLE AVAILABLE BY BIG MARGIN	BN	05/17
23) Fed's Powell Says Ukraine War Is Pushing Up Commodity Prices; Says We Don't Know How Long That Will Last Now	BZG	05/17
24) Fed's Powell Says Ongoing Rate Increases Appropriate; Says We Need To See Inflation Coming Down In Convincing Way	BZG	05/17
25) *POWELL: FED CLEARLY HAS A JOB TO DO ON COOLING DEMAND	BN	05/17
26) *POWELL: CHINA LOCKDOWNS ARE PREVENTING HEALING OF SUPPLY CHAIN	BN	05/17
27) *POWELL: WAR IN UKRAINE LOOKS LONGER-LASTING THAN FIRST EXPECTED	BN	05/17
28) *POWELL: NOT SETTING POLICY ON EXPECTATION FOR SUPPLY RELIEF	BN	05/17