

# AKSIA LLC

PENNSYLVANIA PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM QUARTERLY UPDATE

AS OF SEPTEMBER 30, 2020



# PSERS QUARTERLY UPDATE

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#### ABSOLUTE RETURN PROGRAM REVIEW

#### Investment Policy and Program Objectives

- Reduce the risk and/or enhance the returns of PSERS' overall investment program through investment in a
  diversified basket of portfolios that incorporate various investment strategies, asset types, and investment
  vehicles
- Target risk-adjusted returns in excess of the benchmark, net of fees, over a full market cycle
- Target managers which provide idiosyncratic returns and portfolios that exhibit low correlation to equities, fixed income, commodities, and other sources of low-cost beta over a full market cycle

	Target Allocation	Current Allocation as of 9/30/2020
Absolute Return Program	10%	10.4%

Sector Constraints	Allocation Range	Current Allocation as of 9/30/2020
Long/Short Equity	0% - 20%	0%
Event Driven	0% - 50%	15%
Relative Value	0% - 65%	53%
Tactical Trading	0% - 65%	32%

Manager/Fund Constraints	Maximum	Note
Allocation to any one manager	20%	
Allocation to any one separate account	12%	
Allocation to any one fund	10%	1 fund currently >10%

<sup>&</sup>lt;sup>1</sup> The Absolute Return Program is permitted to have one fund or manager that exceeds the maximum allocation guidelines noted above. In no case may the maximum allocation exceed 25%. The Absolute Return Program is currently in compliance with the 25% maximum allocation guideline.



### I. EXECUTIVE SUMMARY



#### ABSOLUTE RETURN PROGRAM REVIEW - PERFORMANCE

**Performance Objective:** Target risk-adjusted returns in excess of the HRFI Fund of Funds Conservative Index +1%, net of fees, over a full market cycle

**Actual Performance** 

Beta-Adjusted Performance ("Alpha")<sup>2</sup>

Time Period	PSERS <sup>1</sup>	HFRI FOF Conservative + 1%	PSERS <sup>1</sup>	HFRI FOF Conservative + 1%
Current Fiscal YTD (Jul '20 - Sep '20)	2.8%	2.6%	1.3%	0.5%
Last Fiscal Year (Jul '19 - Jun '20)	-0.4%	0.5%	-3.2%	-2.4%
CYTD 2020	-0.5%	1.0%	-4.6%	-2.5%
One Year	1.8%	2.9%	-2.6%	-1.9%
Three Year	2.9%	3.3%	1.3%	0.6%
Five Year	3.1%	3.3%	1.3%	0.8%
Inception to Date (Oct 2005 - Sep 2020)	4.8%	3.2%	4.1%	1.3%

Risk and Return (Oct 2005 - Sep 2020)	(Oct 2008 -	- Sep 2020) <sup>2</sup>		
Return (Ann.)	4.8%	3.2%	4.1%	1.3%
Volatility (Ann.)	4.9%	4.3%	4.2%	3.0%
Sharpe Ratio	0.67	0.40	0.81	0.19
Correlation with S&P 500	0.41	0.68	-	-
Beta to S&P 500	0.14	0.20	-	-

<sup>&</sup>lt;sup>1</sup> Net of hedge fund fees and expenses but gross of Aksia's fees.

<sup>&</sup>lt;sup>2</sup> The beta-adjustment calculation requires 36 months of data, therefore the first available date for beta-adjusted performance is October 2008. The referenced index used to calculate Beta-adjusted performance is the S&P 500 TR.



### PORTFOLIO ACTIVITY - ABSOLUTE RETURN PORTFOLIO

Q3 2020	Fund	Transaction	Amount
	Aeolus Property Catastrophe Keystone PF Fund LP - J17	Capital Distribution	-\$0.7mm
	Aeolus Property Catastrophe Keystone PF Fund LP - MY17	Capital Distribution	-\$2.2mm
	Aeolus Property Catastrophe Keystone PF Fund LP - J18	Capital Distribution	-\$5.0mm
	Aeolus Property Catastrophe Keystone PF Fund LP - MY18	Capital Distribution	-\$5.3mm
	Aeolus Property Catastrophe Keystone PF Fund LP - MY19	Capital Distribution	-\$0.3mm
July	Garda Fixed Income Relative Value Opportunity Fund Ltd	Additional Subscription	+\$50.0mm
	Oceanwood Investments SPC	Capital Distribution	-\$1.1mm
	Perry Partners LP	Capital Distribution	-\$0.8mm
	Falko RAOF GP II Limited	Capital Call	+\$1.9mm
	Falko RAOF GP II Limited	Capital Distribution	-\$21.2mm
	Caspian Keystone Focused Fund LP - Class B	Capital Distribution	-\$24.0mm
	Aeolus Property Catastrophe Keystone PF Fund LP - J19	Capital Distribution	-\$4.6mm
August	HS Group Sponsor Fund II Ltd	Capital Distribution	-\$0.4mm
	Caspian Keystone Focused Fund LP - Class B	Capital Distribution	-\$14.0mm
	Aeolus Property Catastrophe Keystone PF Fund LP - J19	Capital Distribution	-\$6.1mm
Cantambar	Caspian Keystone Focused Fund LP - Class A	Capital Distribution	-\$0.6mm
September	Caspian Keystone Focused Fund LP - Class B	Capital Distribution	-\$12.0mm
	SASOF III LP	Capital Distribution	-\$1.4mm
Total Activity During	the Quarter		-\$47.8mm

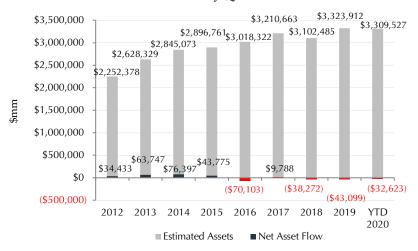


### II. HEDGE FUND INDUSTRY REVIEW



#### HEDGE FUND INDUSTRY REVIEW

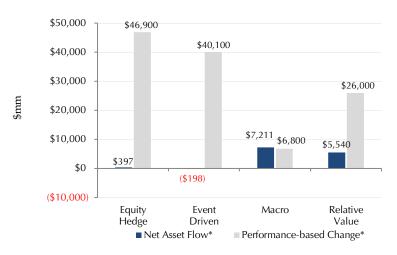
#### Industry Assets Have Been Mostly Steady Year-Over-Year (as of Q3 2020)



#### Q3 2020 Capital Inflows Were Most Notable Among Managers with >\$5B in AUM



#### Positive Performance Across All Sectors Mostly Accompanied Flat to Positive Net Inflows in Q3 2020



# Liquidations Are On Track to Outpace New Launches For The Sixth Consecutive Year (as of Q2 2020\*\*)



<sup>\*</sup>Figures are rounded to the nearest \$100M \*\*Chart data is one quarter lagged



### III. PSERS PORTFOLIO REVIEW



### ABSOLUTE RETURN PORTFOLIO - AS OF SEPTEMBER 30, 2020 (1 OF 3)

Sector	Strategy	Fund Name	NAV (\$MM)	Multiple of Cost	IRR	TWR Since Investment*	Investment as of
		Caspian Keystone Focused Fund LP	43.9	1.13	17.0%	12.1%	May-16
	F1 C 111	Caspian Select Credit International Ltd	271.6	1.36	3.3%	3.3%	Mar-11
	Event Credit	Oceanwood Investments SPC	9.4	1.07	5.1%	-2.6%	Sep-18
		Venor Capital Offshore Ltd	184.4	1.23	5.2%	5.2%	Sep-16
	Event & Merger	Oceanwood Opportunities Fund	270.4	1.35	5.1%	5.1%	Sep-14
Event Driven		Perry Partners LP	8.4	0.84	-4.8%	-4.1%	Dec-13
		SASOF V LP**	-0.1	-0.07	0.0%	N/A	May-20
		SASOF IV LP	65.6	0.89	-9.7%	N/A	Mar-18
	Real Assets	SASOF III LP	22.0	1.21	14.0%	N/A	Feb-15
		Sciens Aviation Special Opportunities Investment Fund II LP	0.9	1.37	15.5%	N/A	Feb-13
		Falko Regional Aircraft Opportunities Fund II LP	36.0	0.87	-23.7%	N/A	Jul-19
<b>Total Event Drive</b>	n		912.5				

Part 1 of 3

<sup>\*</sup>Annualized net performance shown is since inception of the fund in the PSERS portfolio.



# ABSOLUTE RETURN PORTFOLIO - AS OF SEPTEMBER 30, 2020 (2 OF 3)

Sector	Strategy	Fund Name	NAV (\$MM)	Multiple of Cost	IRR	TWR Since Investment*	
		Capula Global Relative Value Fund Limited	516.6	1.28	6.7%	8.7%	Feb-11
	Fixed Income Arbitrage	Garda Fixed Income Relative Value Opportunity Fund Ltd	595.0	1.70	7.4%	7.2%	Nov-11
		Aeolus Property Catastrophe Keystone PF Fund LP - Composite	348.8	1.08	8.5%	3.3%	Jun-12
		Palmetto Fund Ltd	206.6	1.24	3.7%	2.8%	Jul-11
	Insurance Linked	RenaissanceRe Medici Fund Ltd	68.1	1.18	4.6%	4.7%	Feb-16
	insurance Emixed	RenaissanceRe Upsilon Diversified Fund	93.6	0.96	-2.3%	-19.7%	Jan-17
Relative Value		DaVinci Reinsurance Ltd	62.6	1.17	4.7%	3.2%	Jan-16
		Nimbus Weather Fund Ltd	153.0	1.02	0.8%	1.2%	Jan-18
		Brigade Leveraged Capital Structures Offshore Ltd	298.3	1.49	6.3%	4.3%	Sep-07
	Long/Short Credit	PIMCO Global Credit Opportunity Offshore Fund Ltd	297.4	2.18	8.2%	7.7%	Feb-08
	Structured Credit	OWS Credit Opportunity Offshore Fund III Ltd	363.1	1.32	7.6%	7.1%	Dec-15
	Multi-Risk Premia	Two Sigma Risk Premia Enhanced Fund LP	188.1	0.94	-1.8%	-1.9%	May-17
	Multi-Strategy	HS Group Sponsor Fund II Ltd	63.6	1.10	5.5%	2.0%	May-18
Total Relative Val	ue		3,254.8				



# ABSOLUTE RETURN PORTFOLIO - AS OF SEPTEMBER 30, 2020 (3 OF 3)

Sector	Strategy	Fund Name	NAV (\$MM)	Multiple of Cost	IRR	TWR Since 1 Investment*	investment as of
		Bridgewater Pure Alpha Fund II Ltd	838.0	2.95	11.5%	8.8%	Nov-05
	Global Macro	AKAZ Offshore Fund Ltd	258.0	1.29	15.7%	15.7%	Jan-19
Tactical Trading		PARS V Offshore Fund I Ltd		2.40	10.4%	8.5%	Feb-08
	Discretionary Commodities	PIMCO Commodity Alpha Fund Ltd <sup>1</sup>	359.4	1.34	12.2%	10.7%	Apr-15
	Risk Mitigators	Capula Tail Risk Fund Limited	251.6	0.94	-0.7%	-0.8%	Jun-11
<b>Total Tactical Trading</b>			1,961.3				
PSERS Total			6,128.6	1.26	5.03%	4.80%	Oct-05

Part 3 of 3

<sup>\*</sup>Annualized net performance shown is since inception of the fund in the PSERS portfolio.



# OTHER ASSET CLASSES - AS OF SEPTEMBER 30, 2020

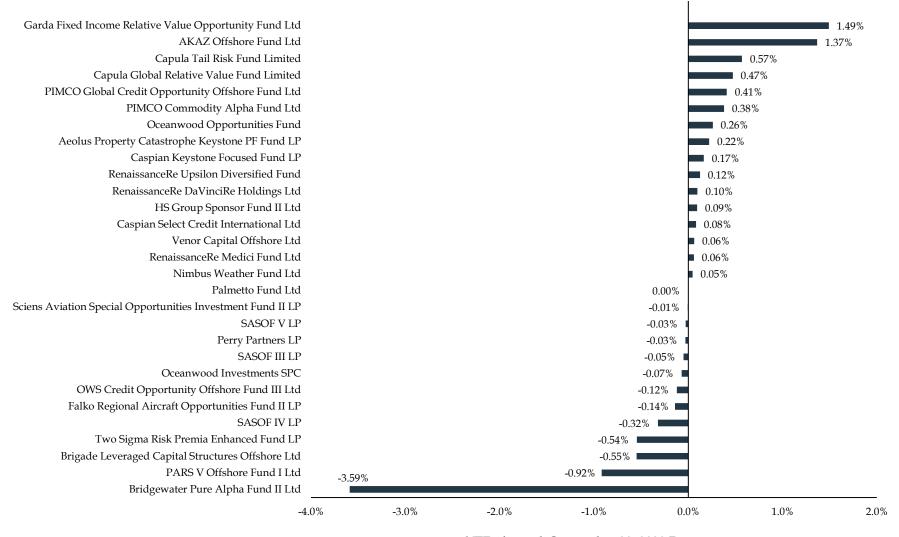
#### **Hedge Funds in Other Asset Classes**

Asset Class	Sector	Strategy	Fund Name		Multiple of Cost	IRR	TWR Since Investment*	Investment as of
	Long/Short Equity	Opportunistic	Cederberg Greater China Equity Fund	309.9	1.55	37.4%	34.3%	Apr-19
CL L LE	Event Driven	Activist	ECM Feeder Fund 2 LP	153.0	0.77	-14.5%	9.0%	Dec-18
Global Equity	Long/Short Equity	Opportunistic	Steadview Capital Partners LP	215.6	1.08	4.7%	13.3%	Dec-18
	Event Driven	Activist	The Children's Investment Fund LP	537.1	1.34	14.9%	13.2%	May-18
	Event Driven	Credit	Brigade Distressed Value Offshore Fund Ltd	173.4	1.73	6.3%	5.8%	Oct-11
High Yield Fixed Income	Relative Value	Structured Credit	Brigade Structured Credit Offshore Fund Ltd	278.3	1.39	5.7%	5.8%	Nov-14
	Private Credit	Real Estate	Galton Onshore Mortgage Recovery Fund III LP	23.8	1.14	6.2%	2.1%	Nov-13
	Asset Allocation	Risk Parity	BlackRock Market Advantage II Ltd	491.8	1.43	7.2%	8.9%	Apr-15
Risk Parity	Multi-Strategy	Multi-Strategy	Bridgewater All Weather Portfolio Limited 15%	710.4	1.14	2.8%	5.4%	Sep-12
TIPS	Tactical Trading	Global Macro	Bridgewater Pure Alpha Fund II Ltd	531.4	1.63	11.2%	8.0%	Jun-07
US Core Plus Fixed Income	Multi-Strategy	Multi-Strategy	BlackRock US Extended Core GlobalAlpha Bond (Non-ERISA) Fund Ltd	948.9	1.54	6.5%	7.2%	Jun-07

<sup>\*</sup>Annualized net performance shown is since inception of the fund in the PSERS portfolio.



#### 2020 ABSOLUTE RETURN PORTFOLIO MANAGER ATTRIBUTION



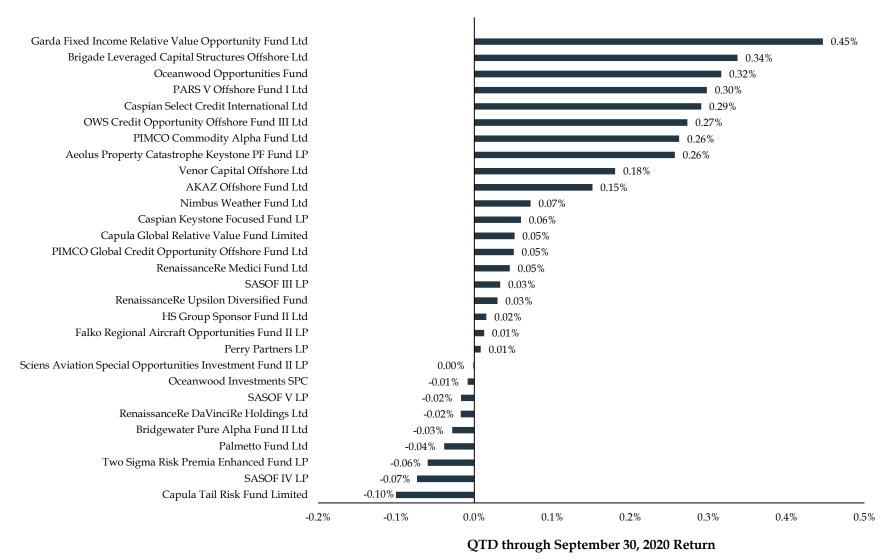
YTD through September 30, 2020 Return

PSERS Absolute Return Portfolio

-0.46%



#### 2020 ABSOLUTE RETURN PORTFOLIO MANAGER ATTRIBUTION

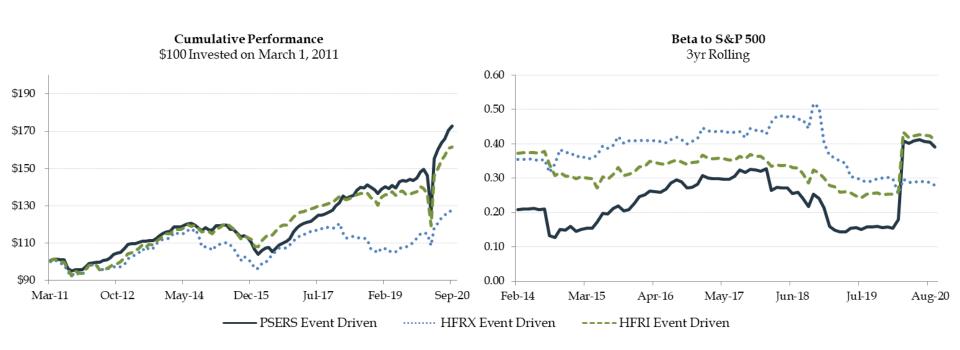


PSERS Absolute Return Portfolio

2.85%



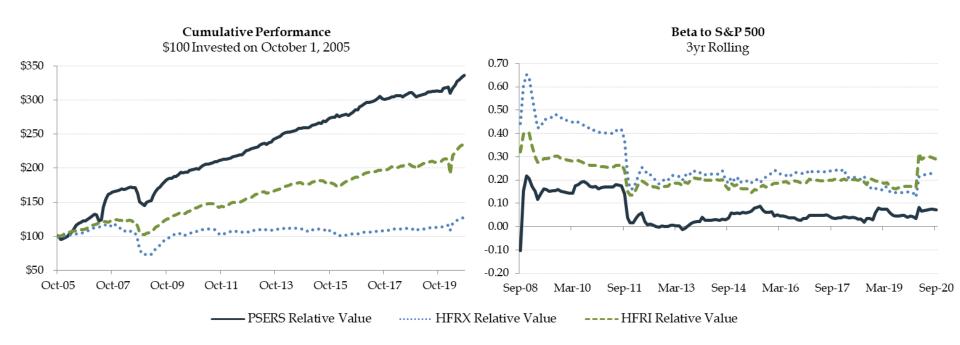
### PSERS EVENT DRIVEN CARVE OUT (AS OF SEPTEMBER 30, 2020)



- \* Analysis for PSERS Event Driven Carve Out is based on realized performance of PSERS' Event Driven hedge funds. The track record includes current funds and funds that have been formerly redeemed.
- Aksia has included both HFRI & HFRX indices as together they provide a decent indicator of hedge fund performance by strategy. HFRX indices are considered 'investable,' whereas HFRI indices are equally weighted across funds in the HFR database. We believe that HFRX indices have a negative selection bias (funds willing to accept new investments may be non-institutional and/or struggling to raise assets), while HFRI has a self-reporting bias (funds who self-report are likely to have recently outperformed, and funds who do poorly may stop reporting). As a result of these biases, we expect HFRX to understate and HFRI to overstate institutional hedge fund performance, over the long run.



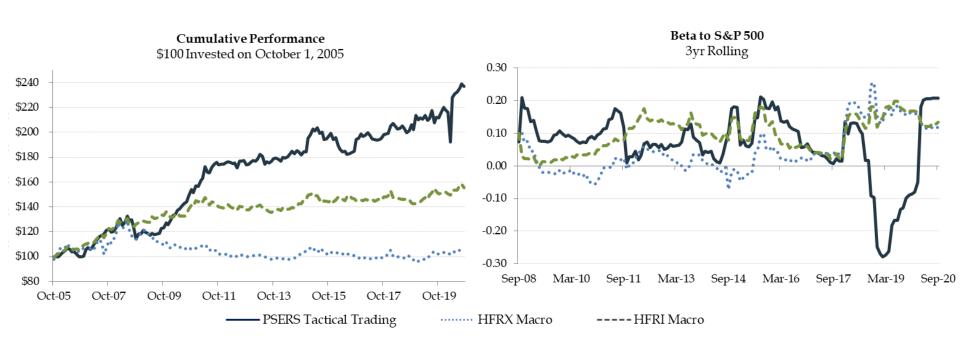
#### PSERS RELATIVE VALUE CARVE OUT (AS OF SEPTEMBER 30, 2020)



- \* Analysis for PSERS Relative Value Carve Out is based on realized performance of PSERS' Relative Value hedge funds. The track record includes current funds and funds that have been formerly redeemed.
- \* Aksia has included both HFRI & HFRX indices as together they provide a decent indicator of hedge fund performance by strategy. HFRX indices are considered 'investable,' whereas HFRI indices are equally weighted across funds in the HFR database. We believe that HFRX indices have a negative selection bias (funds willing to accept new investments may be non-institutional and/or struggling to raise assets), while HFRI has a self-reporting bias (funds who self-report are likely to have recently outperformed, and funds who do poorly may stop reporting). As a result of these biases, we expect HFRX to understate and HFRI to overstate institutional hedge fund performance, over the long run.



### PSERS TACTICAL TRADING CARVE OUT (AS OF SEPTEMBER 30, 2020)

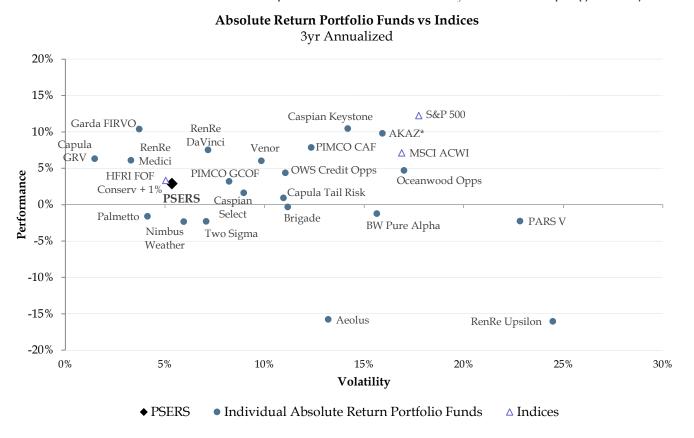


- \* Analysis for PSERS Tactical Trading Carve Out is based on realized performance of PSERS' Tactical Trading hedge funds. The track record includes current funds and funds that have been formerly redeemed.
- \* Aksia has included both HFRI & HFRX indices as together they provide a decent indicator of hedge fund performance by strategy. HFRX indices are considered 'investable,' whereas HFRI indices are equally weighted across funds in the HFR database. We believe that HFRX indices have a negative selection bias (funds willing to accept new investments may be non-institutional and/or struggling to raise assets), while HFRI has a self-reporting bias (funds who self-report are likely to have recently outperformed, and funds who do poorly may stop reporting). As a result of these biases, we expect HFRX to understate and HFRI to overstate institutional hedge fund performance, over the long run.



### PERFORMANCE & VOLATILITY (AS OF SEPTEMBER 30, 2020)

PSERS Absolute Return Portfolio has exhibited performance and volatility in line with program objectives

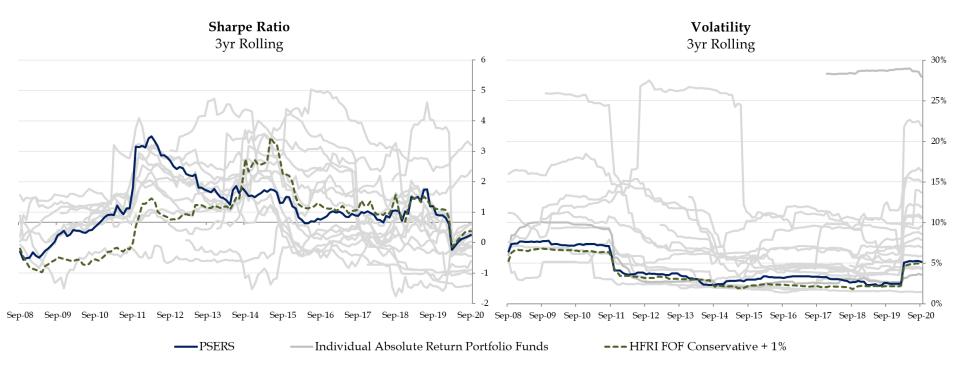


- The return and volatility analysis for the Absolute Return portfolio funds utilizes PSERS' realized performance for the 36-month period prior to and including September 2020. If PSERS has been invested in a fund for less than 36 months, the analysis uses the blended performance of realized returns and fund-level returns prior to PSERS initial investment date. Please see pages 9-11 in this presentation for the inception date of each fund in PSERS portfolio. Analysis for PSERS is performed on realized performance for the Absolute Return portfolio.
- \*AKAZ Offshore Fund Applied Calculation Period: Jul 2018 Sep 2020



### RISK-ADJUSTED PERFORMANCE & VOLATILITY (AS OF SEPTEMBER 30, 2020)

PSERS Absolute Return Portfolio has exhibited similar volatility and risk-adjusted returns as the HFRI FOF Conservative Index + 1%

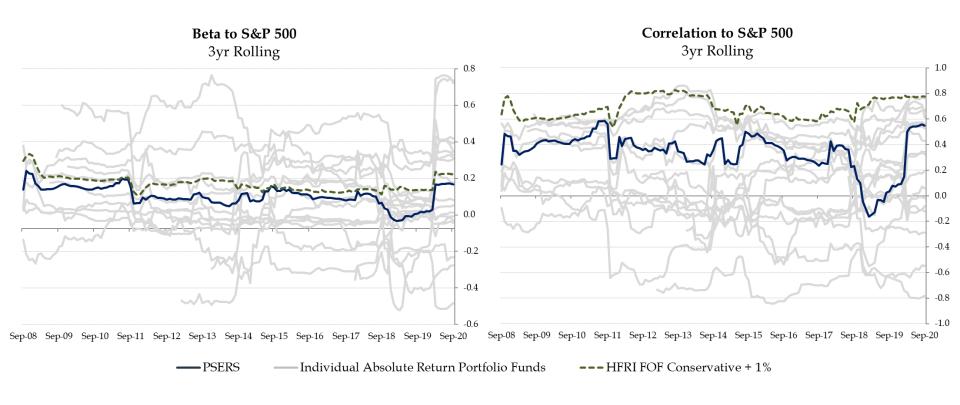


- The Sharpe and volatility analysis for the Absolute Return portfolio funds utilizes PSERS' realized performance for the 36-month period prior to and including September 2020. If PSERS has been invested in a fund for less than 36 months, the analysis uses the blended performance of realized returns and fund-level returns prior to PSERS initial investment date. Please see pages 9-11 in this presentation for the inception date of each fund in PSERS portfolio. Analysis for PSERS is performed on realized performance for the Absolute Return portfolio. Sharpe Ratio uses LIBOR as the risk-free rate.
- For a broad indicator of average 'hedge fund portfolio' performance, Aksia prefers to use the HFRI FOF index group, as there tends to be less self-reporting/dropout bias and losses and side pockets are captured by the FOF vehicle.



### BETA & CORRELATION (AS OF SEPTEMBER 30, 2020)

PSERS Absolute Return Portfolio has exhibited consistently low beta and correlation to U.S. equities



- The beta and correlation analysis for the Absolute Return portfolio funds utilizes PSERS' realized performance for the 36-month period prior to and including September 2020. If PSERS has been invested in a fund for less than 36 months, the analysis uses the blended performance of realized returns and fund-level returns prior to PSERS initial investment date. Please see pages 9-11 in this presentation for the inception date of each fund in PSERS portfolio. Analysis for PSERS is performed on realized performance for the Absolute Return portfolio.
- For a broad indicator of average 'hedge fund portfolio' performance, Aksia prefers to use the HFRI FOF index group, as there tends to be less self-reporting/dropout bias and losses and side pockets are captured by the FOF vehicle.



#### APPENDIX - ABSOLUTE RETURN PROGRAM REVIEW - PERFORMANCE

Performance Objective: Target risk-adjusted returns in excess of the HRFI Fund of Funds Conservative Index +1%, net of fees, over a full market cycle

**Actual Performance** 

Beta-Adjusted Performance ("Alpha")<sup>3</sup>

	Actual I CHOIIIance			beta-rajusted refrontiance (riipha)		
Time Period	PSERS <sup>1</sup>	Policy Index <sup>2</sup>	HFRI FOF Conservative + 1%	PSERS <sup>1</sup>	HFRI FOF Conservative + 1%	
Current Fiscal YTD (Jul '20 - Sep '20)	2.8%	2.6%	2.6%	1.3%	0.5%	
Last Fiscal Year (Jul '19 - Jun '20)	-0.4%	1.7%	0.5%	-3.2%	-2.4%	
CYTD 2020	-0.5%	1.0%	1.0%	-4.6%	-2.5%	
2019	4.0%	6.4%	7.4%	4.1%	3.3%	
2018	3.8%	5.8%	0.1%	3.6%	0.6%	
2017	4.2%	4.7%	5.2%	2.3%	2.5%	
2016	4.0%	4.2%	2.9%	2.7%	1.3%	
2015	3.8%	3.8%	1.4%	3.7%	0.9%	
2014	3.1%	5.6%	4.2%	2.1%	1.8%	
2013	4.8%	7.5%	8.8%	2.0%	3.2%	
2012	3.5%	7.5%	5.3%	2.2%	3.1%	
2011	7.7%	7.7%	-2.6%	8.0%	-2.8%	
2010	17.3%	8.0%	6.1%	14.7%	3.1%	
2009	15.3%	-	10.7%	11.8%	6.2%	
2008	-8.6%	-	-19.0%	-1.7%	-4.7%	
2007	8.2%	-	8.7%			
2006	3.7%	-	10.3%			
2005	0.2%	-	1.7%			

<sup>&</sup>lt;sup>1</sup> Net of hedge fund fees and expenses but gross of Aksia's fees.

EXECUTIVE SUMMARY

<sup>&</sup>lt;sup>2</sup>The Policy Index is comprised of the following: April 2009 (this is when Absolute Return became a separate part of the Asset Allocation) – June 2011: 8% annualized return, July 2011 - June 2014: 7.5% annualized return, July 2014 - September 2019: 3m LIBOR plus 3.5%, October 2019 - Present: HFRI FOF Conservative Index plus 1%.

<sup>&</sup>lt;sup>3</sup> The beta-adjustment calculation requires 36 months of data, therefore the first available date for beta-adjusted performance is October 2008. The referenced index used to calculate Beta-adjusted performance is the S&P 500 TR.



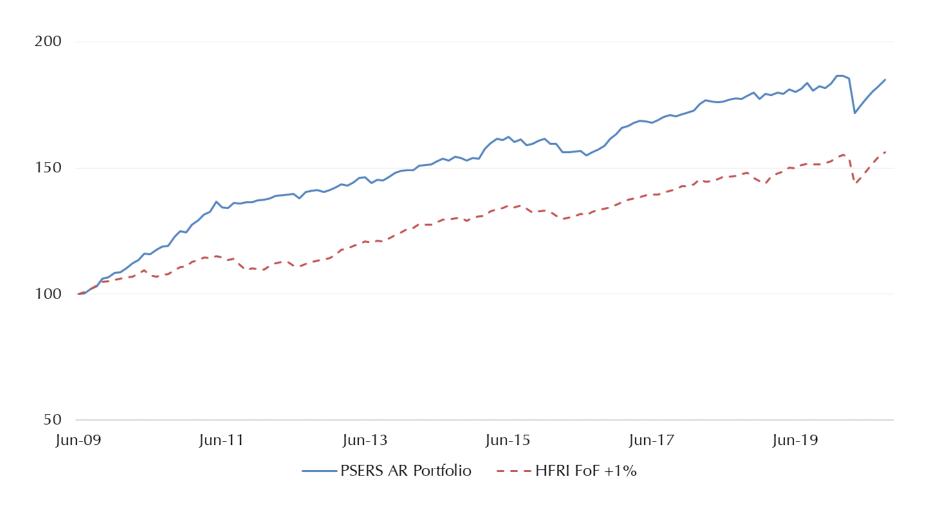
### APPENDIX – PORTFOLIO RETURNS VS HFRI FOF CONSERVATIVE + 1%

\$100 INVESTED OCTOBER 1, 2005 (Inception Date of the Absolute Return Program)





# APPENDIX – PORTFOLIO RETURNS VS HFRI FOF CONSERVATIVE + 1% \$100 invested June 1, 2009 (end of financial crisis)



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