



Hedge Fund Portfolio Review as of December 31, 2015

Los Angeles • New York

Prepared for the Rhode Island State Investment Commission

January 27, 2016



Contents

Role in the Total Fund

Overview of the Portfolios

- Equity Hedge Portfolio
- Real Return Portfolio

Portfolio Performance

Portfolio Attribution

Market Outlook

Description of Strategy

Managers investing primarily in equities making active security selection on long and short positions.

Sub-strategies:

- Equity long/short – investing in equities
- Event Driven – investing primarily in equities but also debt while anticipating a particular change or event to occur with a company (e.g. acquisition)

Role in the Total Fund

The equity hedge fund portfolio's role is to increase the Sharpe ratio of the total fund's equity exposure by:

- Over the long term, producing equity returns by combining some equity exposure and significant alpha generation
- Over the short/medium term, reduce the volatility of the equity portfolio by hedging the exposure

Description of Strategy

Managers generally investing in non-equity asset classes or investing with a low net exposure (i.e. low equity beta). Exposures include both long and short positions on interest rates, credit, currency, commodities, and to a limited degree equities.

Sub-strategies:

- Credit– investing in corporate credit instruments taking both long and short positions
- Relative Value– investing in fixed income, on a long and short basis, seeking price discrepancies of instruments with similar fixed income risk
- Macro – investing across asset classes, on a long and short basis, based on fundamental or quantitative judgments
- Multi-strategy- investing across hedge fund strategies

Role in the Total Fund

The real return hedge fund portfolio’s role is to increase the Sharpe ratio of the total fund and to provide an expected return with low volatility by:

- Over the long term, produce a significant return premium over the risk free rate (e.g. T-bills)
- Over the short/medium term, maintain a low beta or exposure to equity markets
- Over the long term, produce a level of volatility comparable to fixed income

Equity Hedge Portfolio

Equity Hedge Managers

Fund	Strategy	Market Value	Portfolio Weight	Total Fund Weight
Ascend ERSRI Fund LP	Equity Long/Short	73,298,448	12%	0.96%
ESG Cross Border Equity Fund LP	Equity Long/Short	43,917,460	7%	0.58%
PFM Diversified Fund, L.P.	Equity Long/Short	82,798,166	14%	1.09%
Samlyn Onshore Fund, L.P.	Equity Long/Short	106,905,670	18%	1.41%
Viking Global Equities, LP	Equity Long/Short	102,289,325	17%	1.35%
Davidson Kempner Institutional Partners, L.P.	Event Driven	75,454,102	12%	0.99%
Elliott Associates, L.P.	Event Driven	84,772,954	14%	1.12%
Luxor Capital Partners, LP	Event Driven	36,219,404	6%	0.48%
Total ERSRI Equity Hedge Portfolio		605,655,529		

Total portfolio market value:

- \$617 million
- 8% of total fund

Diversification

Two substrategies

- 67% Equity Long Short
- 33% Event Driven

Eight managers

- Largest 18%

Risk

Beta (ACWI)

- 0.26

Gross Exposure

- 187%

Net Exposure

- 39%

Since Inception Standard Deviation

- 4.08%

Real Return Portfolio

Real Return Managers

Fund	Strategy	Market Value	Portfolio Weight	Total Fund Weight
Brigade Leveraged Capital Structures Fund LP	Credit Long/Short	49,865,010	10%	0.66%
Claren Road Credit Fund, Ltd.	Credit Long/Short	42,592,919	8%	0.56%
Brevan Howard LP	Global Macro Disc	78,357,893	15%	1.03%
Graham Absolute Return Trading Ltd.	Global Macro Disc	55,373,987	11%	0.73%
Winton Futures Fund Limited	Global Macro Syst	36,860,694	7%	0.49%
Capula Global Relative Value Fund Ltd.	Market Neutral	62,720,548	12%	0.83%
DE Shaw Composite Fund LLC	Multistrategy	89,783,203	17%	1.18%
OZ Domestic Partners II, L.P.	Multistrategy	102,315,075	20%	1.35%
Total ERSRI Real Return Portfolio		517,869,329		

Total portfolio market value:

\$517 million

7% of total fund

Diversification

Four sub-strategies

- 26% Discretionary Macro
- 7% Systematic Macro
- 19% Long Short Credit
- 36% Multi Strategy
- 12% Market Neutral

Nine managers

- Largest 20%

Risk

Beta (ACWI)

- .10

Gross Exposure

- 846%

Net Exposure

- 40%

Standard Deviation

- 2.74%

Performance as of December 31, 2015

All returns are net-of-fees and annualized, as are risk measures

Three hedge fund composites are evaluated:

– **Real Return Hedge Funds:**

- \$518 million invested in 8 hedge funds
- Target 7% of total assets, within the 17% overall real return allocation
- Benchmarks – T-bills+4%; HFRI Fund-of-Funds Index

– **Equity Hedge Funds:**

- \$606 million invested in 8 hedge funds
- Target 8% of total assets, within the 60% overall global equity allocation
- Benchmarks – MSCI ACWI Index; HFRI Equity Hedged Index

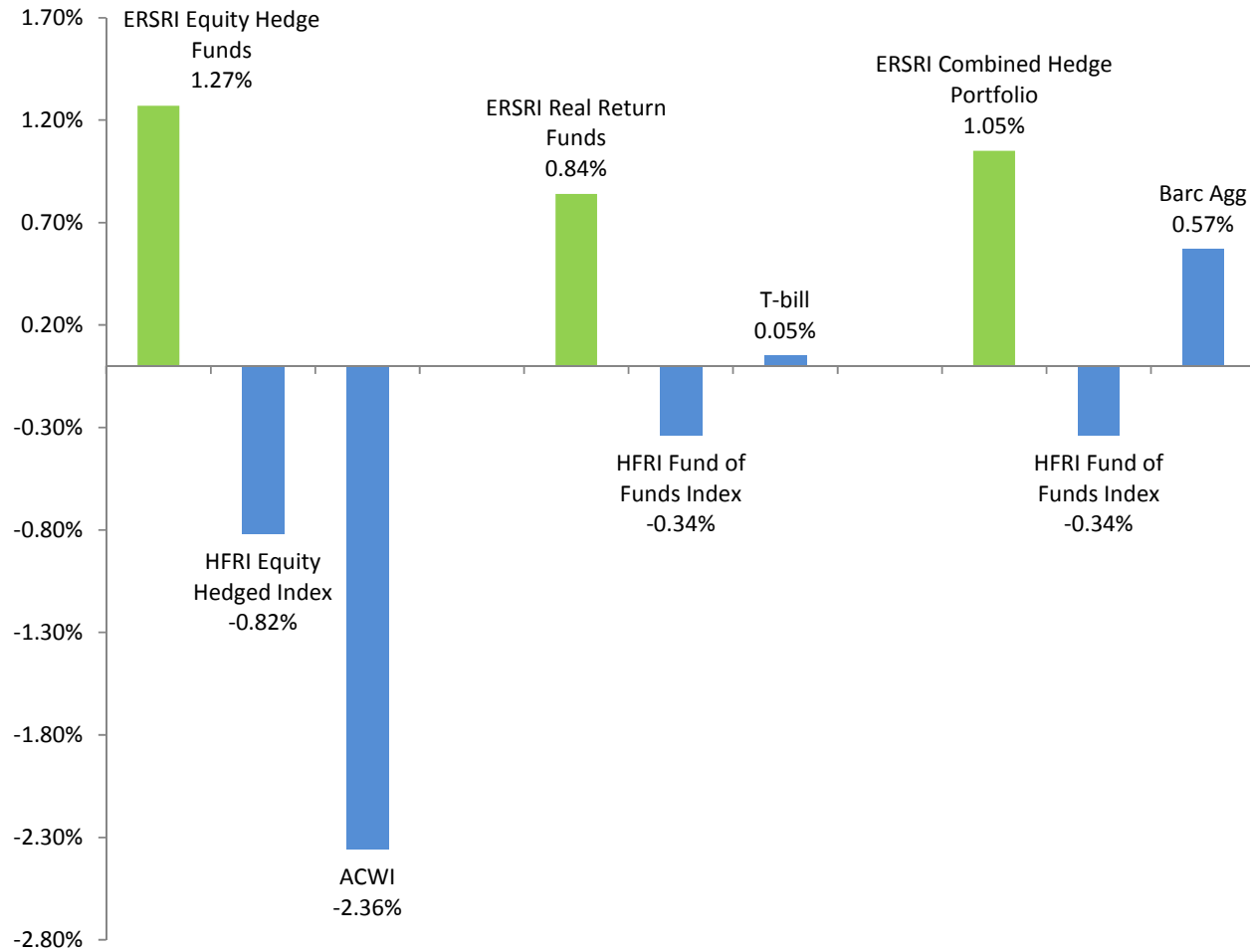
– **Combined Hedge Funds:**

- Combines the Real Return and Equity Hedge Funds into one composite

Hedge Fund Portfolio Return and Risk: Inception through December 31, 2015

	ERSRI Equity Hedge Funds	ERSRI Real Return Funds	Combined ERSRI Hedge	HFRI Fund of Funds Index	HFRI Equity Hedged Index	ACWI	T-bill	Barc Agg
Total Return	6.53%	4.32%	5.52%	3.59%	4.54%	8.49%	0.06%	2.29%
Total Risk	4.15%	2.79%	3.29%	3.43%	6.05%	11.46%	0.02%	2.70%

Hedge Fund Performance for 2015

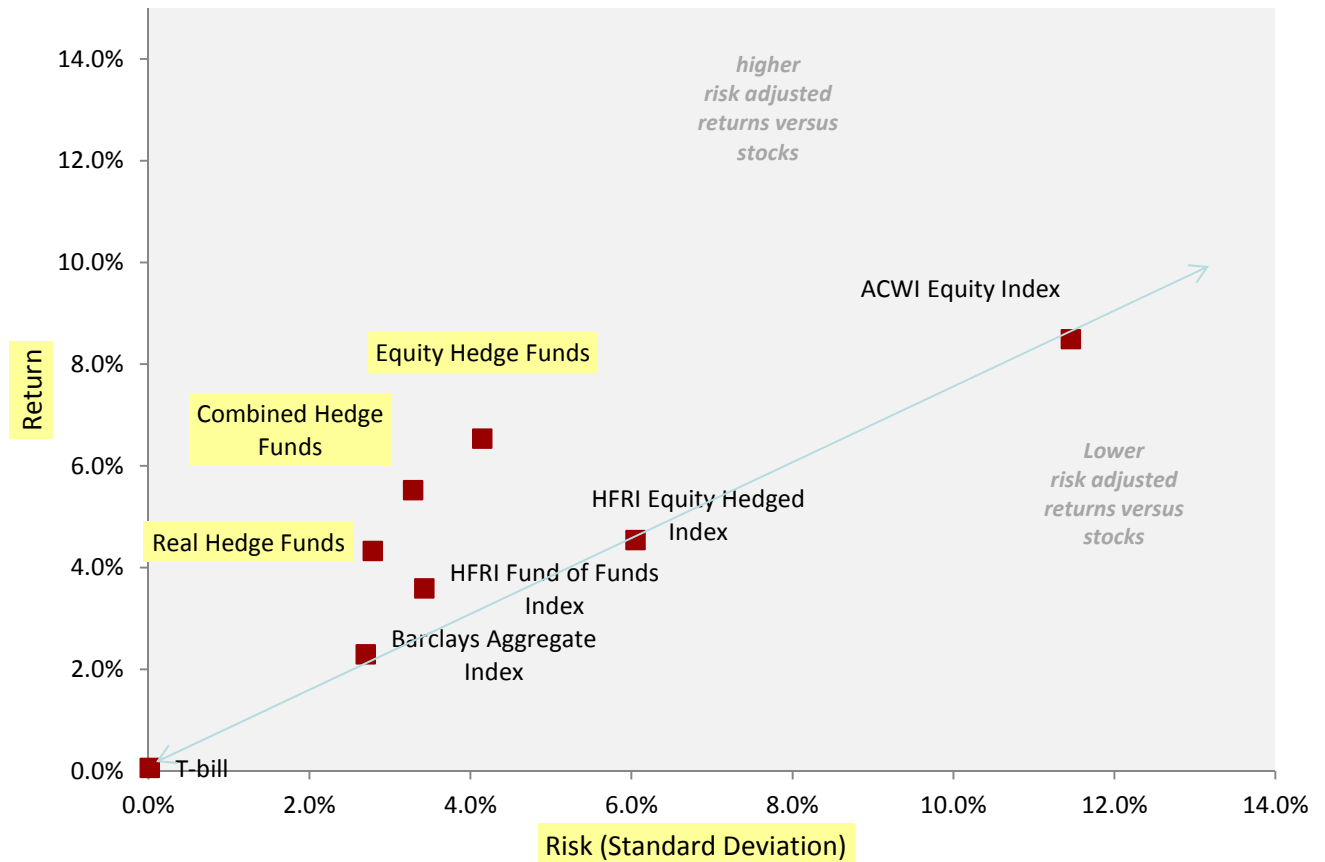


Risk and Return Since Inception

Rhode Island hedge fund portfolios outperformed HFRI FOF Index over the 50 month period from inception (**5.55%** versus 3.59%, respectively) and had significantly better risk-adjusted returns

Both the RI Equity hedge funds (**6.53%** return) and the Real Return hedge funds (**4.32%** return) earned returns above their respective benchmarks (HFRI Equity Hedged Index and HFRI Fund of Funds Index, respectively) and at a lower level of risk.

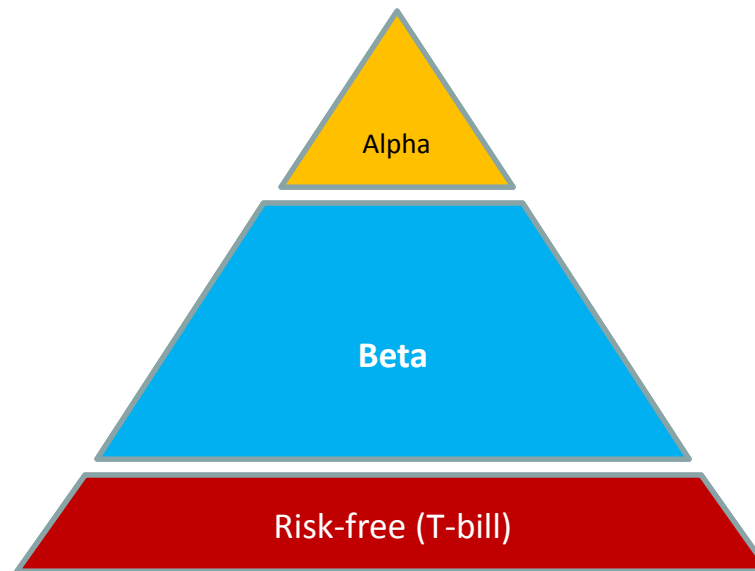
**Return and Risk (Standard Deviation)
(Nov 1, 2011 to Dec 31, 2015)**



All assets have three return components:

- **Risk-free return:** all assets are priced to earn at least the risk free return (T-bill)
- **Beta return:** markets themselves generate investor returns to reward risk taking. These returns can be accessed at little to no fee through index funds and ETFs
- **Alpha return:** active managers try to produce excess return but often competition and fees get in their way

Three Components of Return



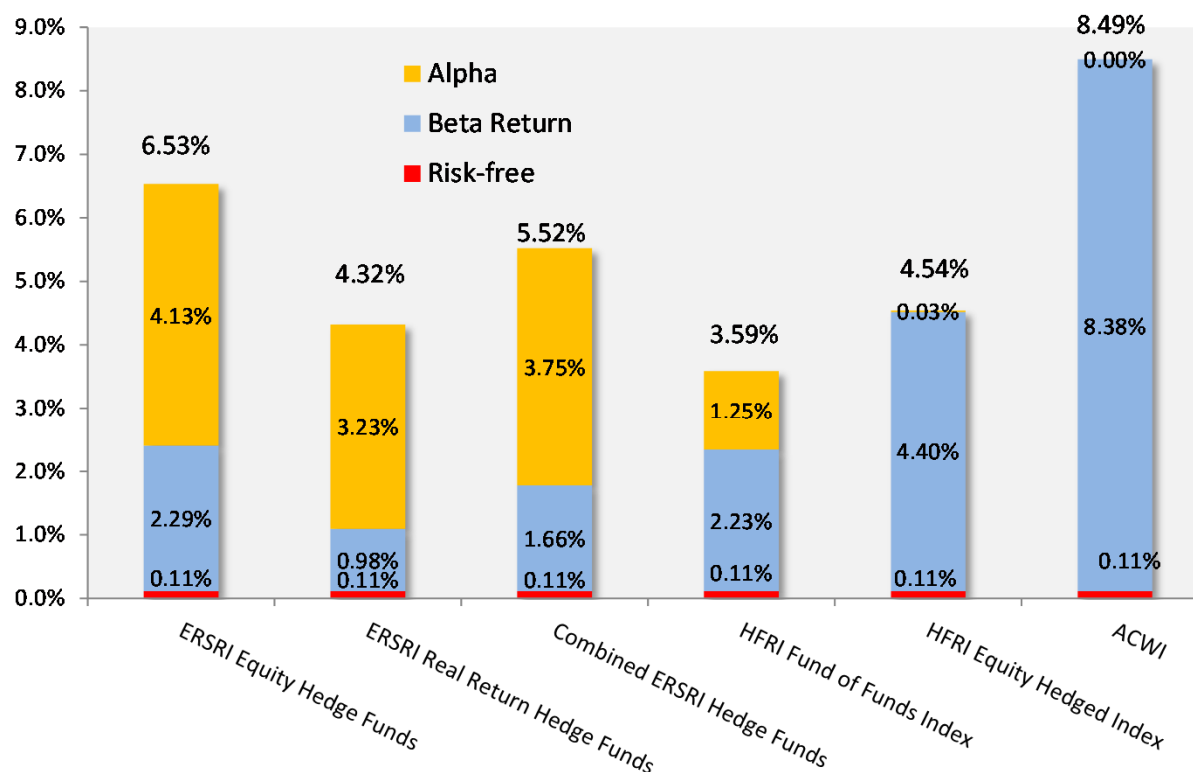
Rhode Island Hedge Fund Return Attribution into Alpha, Beta, and Risk Free

Rhode Island hedge funds combined earned alpha equal to 3.75%, which equaled Cliffwater's expected combined alpha of 3.75%

The equity beta for the Equity Hedge Fund portfolio equaled 0.26 over the period, well below the 0.49 average beta for equity hedge funds. The Real Return Hedge Fund portfolio had a beta of 0.10 over this period.

Both the Equity and Real Return portfolios produced good alpha of 4.13% and 3.23%, respectively.

Annualized Returns: November 2011 to December 2015



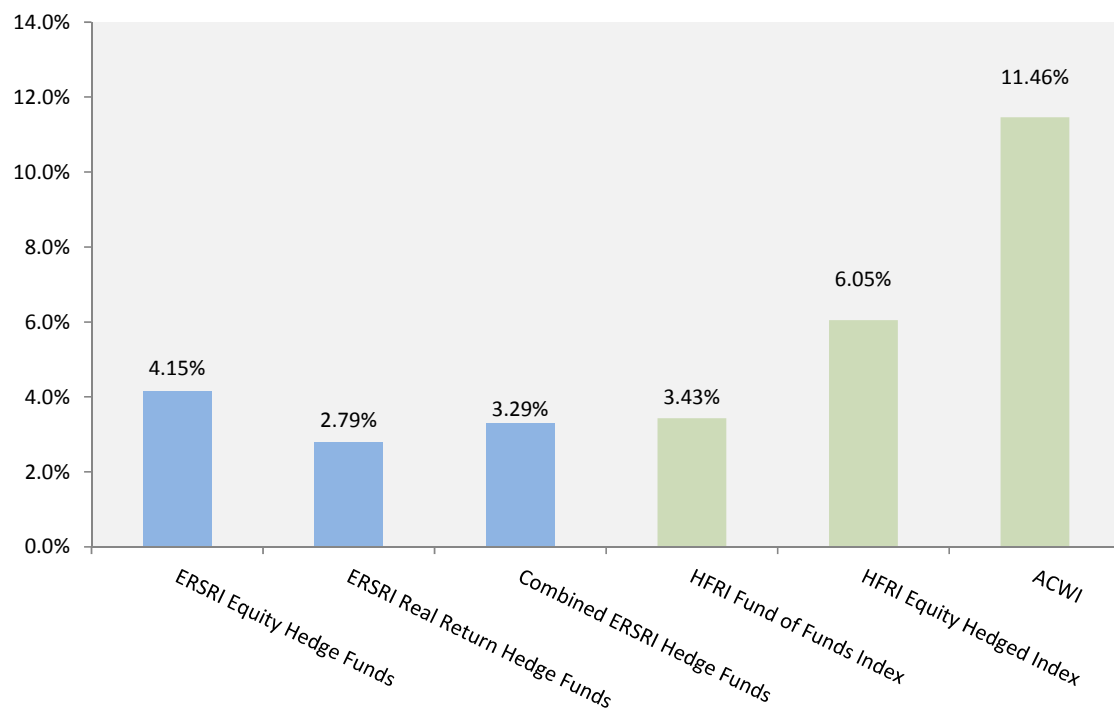
Rhode Island Hedge Fund Risk

Rhode Island hedge funds combined have generated an annualized risk (standard deviation) 3.29% since inception versus 3.43% for the HFRI Fund of Funds Index

The Equity Hedge Fund portfolio's risk has been 4.15% versus 6.05% for the HFRI Equity Hedge Index and 11.46% for ACWI.

The Real Return portfolio's risk has been 2.79%.

Annualized Standard Deviation: November 2011 to December 2015



Cliffwater 2016 Long Term Forecast of Hedge Funds Returns and Risk

Expected Sources of Hedge Fund Return and Risk -- Jan 1, 2016

	1	2	Beta				Alpha			Libor+Beta+Alpha	
Strategy	Model Weights	Cash Rate	Equity Beta*	Credit Beta**	Beta Return	Beta Risk	Alpha Return	Alpha Risk	Info Ratio	Total Return	Total Risk
Market Neutral	10.0%	1.25%	-0.05	0.00	-0.31%	0.90%	3.68%	4.70%	0.78	4.62%	4.78%
Credit/Distressed	20.0%	1.25%	0.10	0.50	3.19%	5.83%	2.25%	4.15%	0.54	6.69%	7.16%
Event Driven	17.5%	1.25%	0.25	0.15	2.30%	5.47%	4.97%	6.35%	0.78	8.52%	8.38%
Equity Long/Short	25.0%	1.25%	0.35	0.05	2.39%	6.60%	4.90%	5.77%	0.85	8.54%	8.77%
Macro-Discretionary	15.0%	1.25%	0.10	0.00	0.61%	1.80%	3.50%	5.99%	0.58	5.36%	6.26%
Macro-Systematic	5.0%	1.25%	0.05	0.00	0.31%	0.90%	3.30%	11.00%	0.30	4.86%	11.04%
Multistrategy	7.5%	1.25%	0.10	0.15	1.38%	2.87%	2.50%	4.61%	0.54	5.13%	5.43%
Hedge Fund Portfolio	100%	1.25%	0.17	0.22	1.82%	4.62%	3.79%	3.98%	0.95	6.86%	6.12%

* MSCI World Equity Index

** S&P/LSTA Leveraged Loan Index

Cliffwater Hedge Fund Model Performance Attribution: 5 Years ending Sept 30, 2015*

	1	2	Beta*				Alpha			Libor+Beta+Alpha	
Strategy	Model Weights	Libor	Equity Beta*	Credit Beta**	Beta Return	Beta Risk	Alpha Return	Alpha Risk	Info Ratio	Total Return	Total Risk
Market Neutral	5%	0.31%	-0.09	0.10	-0.23%	0.97%	1.49%	1.82%	0.82	1.57%	2.06%
Credit/Distressed	15%	0.31%	0.10	0.47	2.75%	2.69%	1.62%	2.16%	0.75	4.68%	3.45%
Event Driven	21%	0.31%	0.40	0.34	4.20%	6.03%	2.08%	3.53%	0.59	6.59%	6.99%
Equity Long/Short	29%	0.31%	0.34	0.39	3.99%	5.40%	1.32%	3.13%	0.42	5.62%	6.24%
Macro-Discretionary	11%	0.31%	0.15	-0.25	-0.01%	1.54%	2.30%	4.05%	0.57	2.61%	4.33%
Macro-Systematic	5%	0.31%	0.15	-0.36	-0.86%	1.39%	5.24%	10.25%	0.51	4.68%	10.34%
Multistrategy	15%	0.31%	0.14	0.26	2.23%	2.56%	3.71%	1.93%	1.92	6.25%	3.20%
CW Model Portfolio	100%	0.31%	0.23	0.25	2.75%	3.68%	2.17%	2.18%	1.00	5.23%	4.27%

ERSRI Hedge Fund Performance as of December 31, 2015

Fund	Market Value	Actual %	Returns								Std Dev	Sharpe Ratio	Incep Date
			Dec	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep			
Global Equities													
Ascend Partners Fund II LP	73,298,448	6.5%	-0.86%	1.09%	2.24%	0.39%	2.24%	6.37%	-	4.92%	2.73%	1.65	Nov-11
Davidson Kempner Institutional Partners, L.P.	75,454,102	6.7%	0.00%	0.24%	1.49%	-0.11%	1.49%	5.12%	-	5.65%	2.14%	2.44	Nov-11
Elliott Associates, L.P.	84,772,954	7.5%	-0.30%	-0.20%	3.03%	-0.11%	3.03%	8.15%	-	8.65%	3.33%	2.42	Nov-11
ESG Cross Border Equity Fund LP	43,917,460	3.9%	1.80%	2.52%	-5.03%	-4.30%	-5.03%	-	-	-7.83%	7.72%	-1.05	Jun-14
Indus Asia Pacific Fund, LP	453,637	0.0%	3.85%	-7.08%	-33.23%	-32.35%	-33.23%	-16.28%	-	-11.02%	14.79%	-0.72	Jan-12
Luxor Capital Partners, LP	36,219,404	3.2%	-6.71%	-11.01%	-18.60%	-22.15%	-18.60%	-	-	-17.59%	10.56%	-1.79	May-14
PFMDiversified Fund, L.P.	82,798,166	7.4%	-0.84%	0.04%	8.25%	-1.91%	8.25%	10.98%	-	8.96%	8.69%	1.00	Mar-12
Samlyn Onshore Fund, L.P.	106,905,670	9.5%	-1.18%	-0.47%	-0.89%	-7.05%	-0.89%	9.01%	-	9.16%	6.20%	1.40	Jan-12
Viking Global Equities, LP	102,289,325	9.1%	1.00%	4.05%	8.29%	2.55%	8.29%	14.75%	-	13.96%	6.02%	2.16	Dec-11
Total Global Equities	606,109,166	53.9%	-0.60%	0.14%	1.27%	-3.13%	1.27%	6.79%	-	6.53%	4.15%	1.47	Nov-11
MSC AC World Index Free - Net			-1.80%	5.03%	-2.36%	-4.90%	-2.36%	7.69%	-	8.49%	11.46%	0.74	Nov-11
Russell 3000 Index (DRI)			-2.05%	6.27%	0.48%	-1.43%	0.48%	14.74%	-	14.66%	10.42%	1.34	Nov-11
HFR1 Equity Hedge (Total) Index			-0.98%	1.88%	-0.82%	-4.49%	-0.82%	4.89%	-	4.54%	6.05%	0.71	Nov-11
Real Return													
BlueCrest Capital LP	506,906	0.0%	0.00%	0.00%	-2.76%	0.00%	-2.76%	-1.41%	-	0.34%	3.97%	0.03	Jan-12
Brevan Howard LP	78,357,893	7.0%	-3.91%	-2.22%	-1.99%	-3.55%	-1.99%	-0.11%	-	1.06%	5.46%	0.16	Nov-11
Brigade Leveraged Capital Structures Fund LP	49,865,010	4.4%	-3.74%	-6.40%	-10.73%	-14.25%	-10.73%	-1.59%	-	-0.07%	5.07%	-0.05	Mar-12
Capula Global Relative Value Fund Ltd.	62,720,548	5.6%	0.32%	1.18%	7.55%	3.16%	7.55%	7.77%	-	5.71%	1.95%	2.69	Dec-11
Claren Road Credit Fund, Ltd.	42,592,919	3.8%	-0.58%	-1.85%	-6.75%	-2.20%	-6.75%	-	-	-5.66%	7.56%	-0.77	Apr-13
DE Shaw Composite Fund LLC	89,783,203	8.0%	3.00%	4.62%	15.14%	6.24%	15.14%	15.07%	-	15.08%	4.45%	3.13	Nov-11
Graham Absolute Return Trading Ltd.	55,373,987	4.9%					-0.25%	2.17%	-	2.59%	4.65%	0.50	Jan-12
OZ Domestic Partners II, L.P.	102,315,075	9.1%	-0.19%	2.01%	-0.25%	-4.23%	-0.25%	6.73%	-	7.74%	4.55%	1.60	Nov-11
Winton Futures Fund Linnited	36,860,694	3.3%	-1.94%	-0.83%	0.93%	2.91%	0.93%	7.93%	-	5.17%	8.89%	0.58	Dec-11
Total Real Return	518,376,234	46.1%	-0.86%	0.08%	0.84%	-1.68%	0.84%	4.10%	-	4.32%	2.79%	1.41	Nov-11
ML 3-month T-Bills			0.03%	0.03%	0.05%	0.04%	0.05%	0.05%	-	0.06%	0.02%	-	Nov-11
HFR1 Fund of Funds Composite Index			-0.53%	0.65%	-0.34%	-2.97%	-0.34%	3.92%	-	3.59%	3.43%	0.95	Nov-11
Total Hedge Fund Portfolio	1,124,485,400	100.0%	-0.72%	0.11%	1.05%	-2.47%	1.05%	5.55%	-	5.52%	3.29%	1.55	Nov-11
HFR1 Fund of Funds Composite Index			-0.53%	0.65%	-0.34%	-2.97%	-0.34%	3.92%	-	3.59%	3.43%	0.95	Nov-11

Cliffwater Disclosures

Important Notice

This presentation has been provided to you for the purpose of discussing an investment advisory relationship. The material contained herein is confidential and is intended for one-on-one or small group meetings with qualified, sophisticated, institutional investors. It may not be copied, transmitted, given, or disclosed to any person other than your authorized representatives. This presentation is not an advertisement and is not intended for public use for distribution. This material is not meant to be, nor shall it be construed as, an offer or solicitation of an offer for the purchase or sale of any security.

This presentation was prepared exclusively for information and discussion purposes, and is not meant to be, nor shall it be construed as, an attempt to define all information that may be material to you. All information including opinions or facts expressed herein are current as of the date appearing in this presentation and is subject to change without notice. All information has been obtained from sources believed to be reliable. No representation, warranty, or undertaking, express or implied, is given as to the accuracy or completeness of the information or opinions contained in this presentation. The information and opinions in this presentation do not constitute investment advice. The list of clients included in this presentation is a partial list selected to illustrate size and type and does not represent an endorsement or approval of Cliffwater or the advisory services provided.

This presentation may include sample or pro forma performance. Such information is presented for illustrative purposes only and is based on various assumptions, not all of which are described herein. Such assumptions, data, or projections may have a material impact on the returns shown. Nothing contained in this presentation is, or shall be relied upon as, a representation as to past or future performance, and no assurance, promise, or representation can be made as to actual returns. Past performance does not guarantee future performance.

References to market or composite indices (such as the S&P 500), benchmarks or other measures of relative market performance over a specified period of time (each, an “index”) are provided for information only. Reference to an index does not imply that a portfolio will achieve returns, volatility or other results similar to the index. The composition of an index may not reflect the manner in which a portfolio is constructed in relation to expected or achieved returns, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility or tracking error targets, all of which are subject to change over time.

- Hedge Fund Research, Inc. (“HFR”) is the source and owner of the HFR data contained or reflected in this report and all trademarks related thereto.
- Frank Russell Company (“FRC”) is the source and owner of the Russell Index data contained or reflected in this material and all trademarks and copyrights related thereto. The Russell Index data may contain confidential information and unauthorized use, disclosure, copying, dissemination or redistribution is strictly prohibited.
- Thomson Financial Inc. is the owner and/or licensor of the Venture Economics data contained or reflected in this material.