

## 2. Joint Meeting of the Board of Trustees and Investment Advisory Committee

August 21, 2019



## Public Agenda #1.1

### *Call Meeting to Reconvene the Board of Trustees*

August 21, 2019

## Public Agenda #1.2

# *Call Meeting of the Investment Advisory Committee to Order*

August 21, 2019

## Public Agenda #2.1

*Review and Approval of the Minutes to the May 22, 2019 Joint Meeting of the Board of Trustees and Investment Advisory Committee – (Action)*

August 21, 2019

Questions?  
**Action Item**

## Public Agenda #3.1

# Annual Review and Consideration of *Asset Class Investment Committee Charter – (Action)*

August 21, 2019

Aaron Ismail, Investment Compliance Officer

# Asset Class Investment Committee (“ACIC”)



## Background

- Review prospective investment’s alignment with Policy objectives
- Approve investment strategy based on business merits
- Voting Member of ACIC

- Provides expertise in the relevant asset class
- Voting Member of ACIC

- Conduct Due Diligence
- Portfolio Construction and Fit
- Review of risk management issues
- Review Company/Manager Operations
- Formal investment recommendation

- Conduct Parallel due diligence
- Independent Manager and/or portfolio company assessment
- Independent investment recommendation

- Assessment and negotiation of legal issues
- Ensure compliance with ERS Investment Policy

Executive Director, CIO,  
Senior Investment Staff

IAC Member

ERS Investment Staff

Investment Consultant

ERS Legal, Investment  
Compliance, Internal Audit

**ACIC**

# Asset Class Investment Committee (“ACIC”)

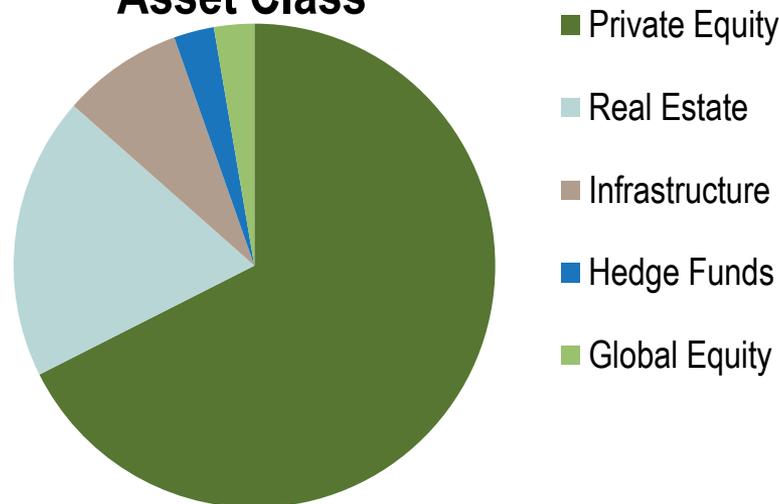


## *Background*

### **During FY 2019:**

- 41 ACIC meetings held
- \$2.3 billion in commitments

**ACIC Meetings by  
Asset Class**



# Statutory Requirements



- **Texas Government Code 815.3016**
  - Procedures for Approval of certain “Alternative Investments” (as defined in Sec. 815.3015).
  - Alternative Investments exceeding the threshold requires the Board of Trustees to approve the investment in either a regularly scheduled board meeting or executive session.

# ACIC Charter



## **Elements of the Charter include:**

- Purpose
- Authority and Responsibilities
- Meeting Procedures
- Composition
- Approval
- Conflicts of Interests

The purpose of the ACIC Charter is a record of the responsibilities, structure, and authority of the ACIC, and establishes written procedures that foster prudent investment practices and active participation by ACIC members.

# ACIC Charter Review



Annual review of the Charter by Executive Office, Investment Compliance, OGC and the CIO.

## Investment Committee Best Practices

- ❖ Meeting Fiduciary Requirements
- ❖ Building an effective committee
- ❖ Conducting an effective meeting
- ❖ Overcoming Committee behavioral hurdles
- ❖ Focusing on the fundamentals of Investing

# Proposed Changes to the ACIC Charter



- Define the objectives of the ACIC and Board delegation of authority
- Emphasize authority of the Executive Director
- Clarify responsibilities of Voting and Non-Voting Members
- New meeting procedures for Co-Investments under the designated threshold
- Identify of Conflicts of Interests

Questions?  
**Action Item**

## Public Agenda #4.1

# *Review of Investment Performance for the Second Calendar Quarter of 2019 and Risk Update*

August 21, 2019

Tom Tull, CFA, Chief Investment Officer  
Carlos Chujoy, CFA, Risk Officer, Risk Management and Applied Research  
Stuart Williams, CFA, Portfolio Manager  
Sam Austin and Tim Bruce, NEPC

## QUARTERLY PERFORMANCE REPORT

# EMPLOYEES RETIREMENT SYSTEM OF TEXAS

August 21, 2019

Sam Austin, Partner

Tim Bruce, Partner



BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

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# EXECUTIVE SUMMARY

NEPC, LLC

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# ERS TRUST DASHBOARD

	CYTD	FYTD
<b>Fund Performance</b>	9.0%	2.8%
<b>Policy Benchmark</b>	11.2%	3.5%
<b>Excess Return</b>	-2.2%	-0.7%

**3 Yr Tracking Error** 1.65%

**5 Yr Sharpe Ratio** 0.92

**5 Yr Sortino Ratio** 1.34

## Largest Contributors (Quarter)

Private Real Estate outperformed and contributed +0.1% versus the policy benchmark

## Largest Detractors (Quarter)

Private Equity underperformed and detracted -0.4% versus the policy benchmark

## Profile

### Market Value at 6/30/2019:

\$28.7 Billion

### Actuarial Accrued Liability 8/31/18:

\$39.0 Billion

### Actuarial Assumed Rate of Return:

7.50%

### Retirees and Beneficiaries 8/31/2018:

111,361

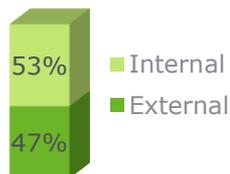
### Retirement Payments Annually 8/31/2018:

\$2.4 Billion

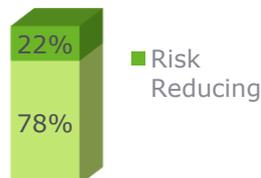
### ERS Trust Funding Ratio 8/31/2018

70.20%

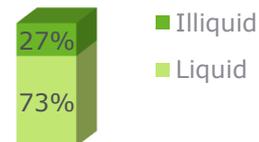
## Management



## Allocation



## Liquidity



# TOTAL FUND PERFORMANCE DETAIL (NET OF FEES)

	Market Value(\$)	3 Mo(%)	YTD(%)	Fiscal YTD(%)	1 Yr(%)	3 Yrs(%)	5 Yrs(%)
Total Fund	28,668,965,891	2.5	9.0	2.8	5.2	9.1	6.2
<i>Total Fund Policy Index</i>		2.8	11.2	3.5	6.1	8.6	5.9
<i>Long Term Public Index</i>		3.4	13.9	2.3	5.4	9.4	5.4

- **One-year ended June 30, 2019, the Fund underperformed the policy benchmark by 0.9%.**
- **The Fund's assets increased from \$28.50 billion to \$28.67 billion in the past calendar year which includes a \$590.47 million investment gain in the second calendar quarter of 2019.**



# TOTAL FUND PERFORMANCE DETAIL (NET OF FEES)

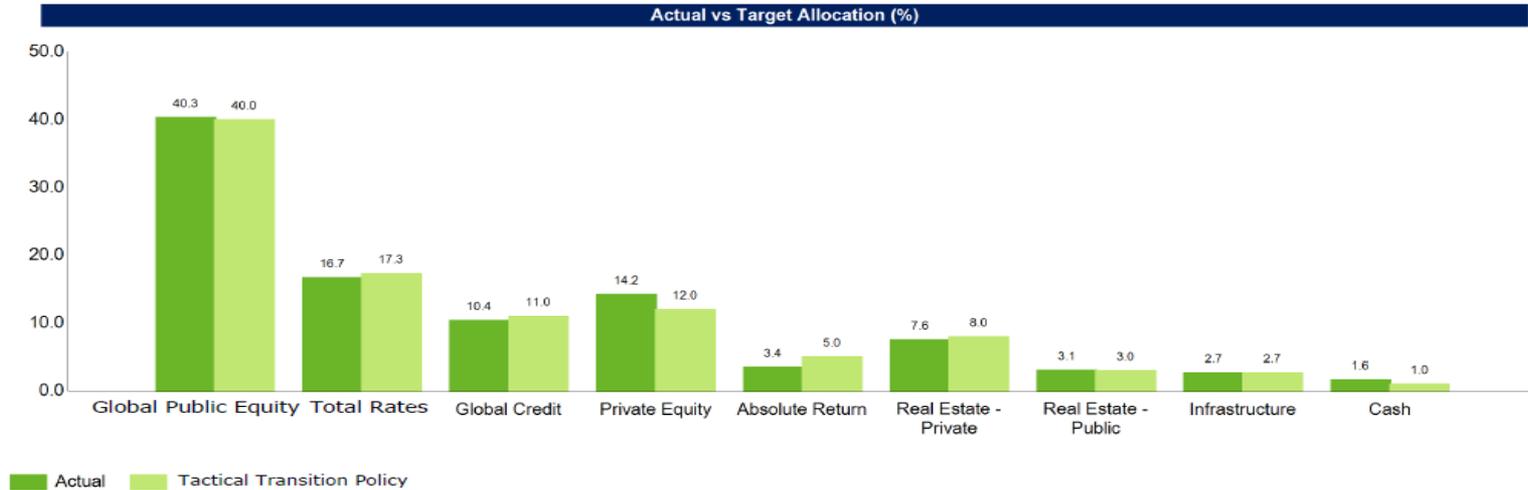
3 Years Ending June 30, 2019				
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio RF
Total Fund	9.15%	5.25%	1.48	1.64
Total Fund Policy Index	8.65%	6.62%	1.10	1.27

5 Years Ending June 30, 2019				
	Anlzd Return	Anlzd Standard Deviation	Sharpe Ratio	Sortino Ratio RF
Total Fund	6.18%	5.74%	0.92	1.34
Total Fund Policy Index	5.90%	6.90%	0.73	1.08

- **Three-year period ended June 30, 2019, the return of 9.1% outperformed the benchmark by 0.5%. On a risk-adjusted basis, the Sharpe and Sortino Ratios over this period indicate active management benefited the Plan.**
- **Five-year period ended June 30, 2019, the Fund returned 6.2% and outperformed the policy benchmark by 0.3%. On a risk-adjusted basis, the Fund's Sharpe Ratio (0.92 vs. 0.73) and Sortino Ratio (1.34 vs. 1.08) indicate strong returns per unit of risk taken and strong returns per unit of downside risk experienced relative to the policy benchmark.**



# TOTAL FUND ASSET GROWTH SUMMARY



## Summary of Cash Flows

Last Three Months

Year-To-Date

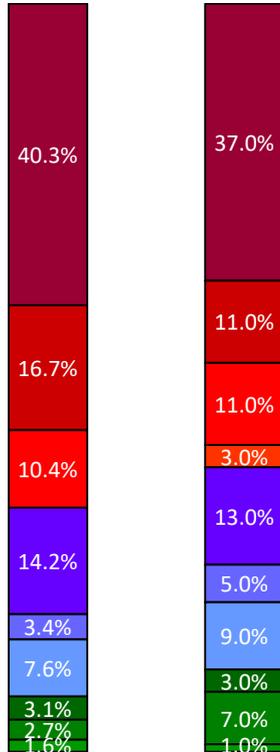
Fiscal Year-To-Date

One Year

Three Years

Beginning Market Value	\$28,285,241,189	\$26,873,073,745	\$29,009,798,984	\$28,499,395,903	\$24,886,299,910
Contributions	\$1,982,142,579	\$4,776,397,200	\$8,255,787,809	\$10,065,135,835	\$26,432,575,832
Withdrawals	-\$2,188,886,235	-\$5,081,327,385	-\$9,045,149,959	-\$11,023,517,829	-\$29,491,277,265
Net Cash Flow	-\$206,743,656	-\$258,195,884	-\$742,627,848	-\$911,647,693	-\$3,011,967,131
Net Investment Change	\$590,468,358	\$2,054,088,029	\$401,794,755	\$1,081,217,680	\$6,794,633,112
Ending Market Value	\$28,668,965,891	\$28,668,965,891	\$28,668,965,891	\$28,668,965,891	\$28,668,965,891

# FUND ASSET ALLOCATION VS. POLICY TARGETS

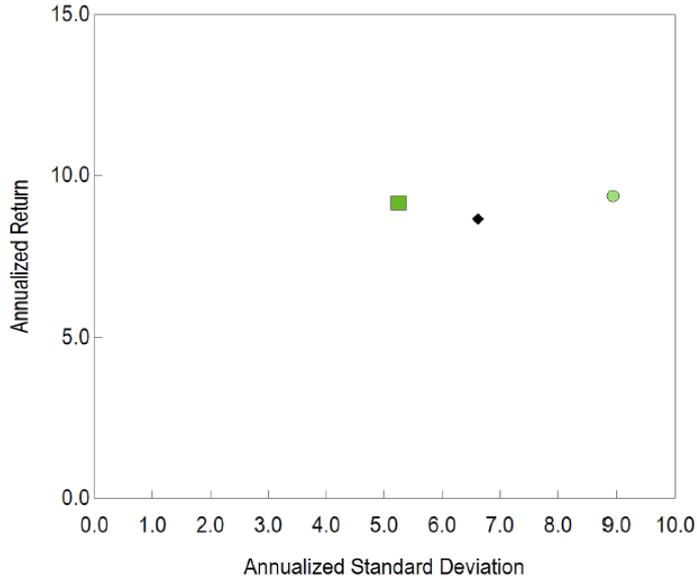


Asset Allocation on June 30, 2019				
	Current	Current	Long-Term Target	Long-Term Target Range
Public Equity	\$11,550,267,289	40.3%	37.0%	27.0% - 47.0%
Total Rates	\$4,794,207,418	16.7%	11.0%	
Global Credit	\$2,983,664,394	10.4%	11.0%	1.0% - 21.0%
Opportunistic Credit	-	-	3.0%	0.0% - 8.0%
Private Equity	\$4,079,961,710	14.2%	13.0%	8.0% - 18.0%
Absolute Return	\$988,293,555	3.4%	5.0%	0.0% - 10.0%
Real Estate - Private	\$2,167,409,498	7.6%	9.0%	4.0% - 14.0%
Real Estate - Public	\$877,922,349	3.1%	3.0%	0.0% - 13.0%
Infrastructure	\$768,265,447	2.7%	7.0%	2.0% - 12.0%
Cash	\$458,974,230	1.6%	1.0%	0.0% - 1.0%
<b>Total</b>	<b>\$28,668,965,891</b>	<b>100.0%</b>	<b>100.0%</b>	



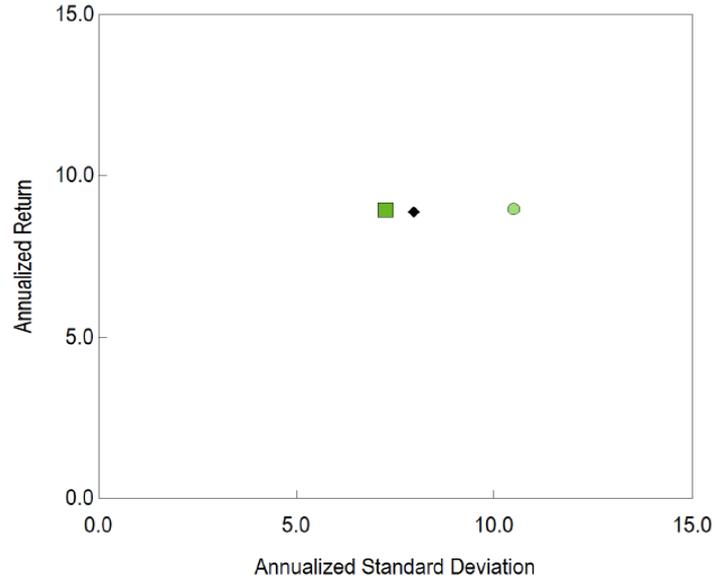
# TOTAL FUND RISK/ RETURN

3 Years Ending June 30, 2019



- Total Fund
- ◆ Total Fund Policy Index
- Long Term Public Index

10 Years Ending June 30, 2019



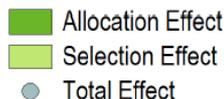
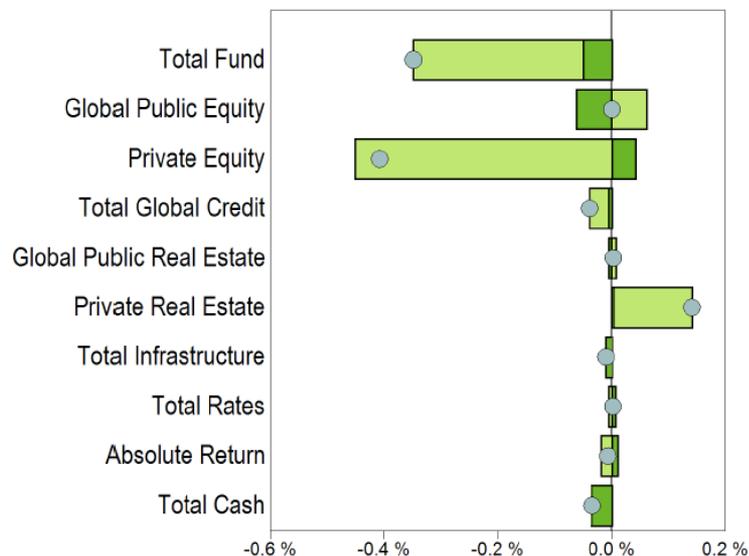
- Total Fund
- ◆ Total Fund Policy Index
- Long Term Public Index



Note: Long Term Public Index is comprised of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index. Index Definitions can be found in the appendix.

# TOTAL FUND ATTRIBUTION ANALYSIS

## Attribution Effects 3 Months Ending June 30, 2019



Attribution Summary						
3 Months Ending June 30, 2019						
	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Global Public Equity	3.6%	3.4%	0.1%	0.1%	-0.1%	0.0%
Private Equity	0.8%	3.5%	-2.7%	-0.4%	0.0%	-0.4%
Total Global Credit	2.2%	2.5%	-0.3%	0.0%	0.0%	0.0%
Global Public Real Estate	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%
Private Real Estate	3.0%	1.2%	1.8%	0.1%	0.0%	0.1%
Total Infrastructure	1.7%	1.7%	0.0%	0.0%	0.0%	0.0%
Total Rates	2.3%	2.4%	0.0%	0.0%	0.0%	0.0%
Absolute Return	1.1%	1.6%	-0.5%	0.0%	0.0%	0.0%
Total Cash	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%
<b>Total</b>	<b>2.5%</b>	<b>2.8%</b>	<b>-0.3%</b>	<b>-0.3%</b>	<b>-0.1%</b>	<b>-0.3%</b>

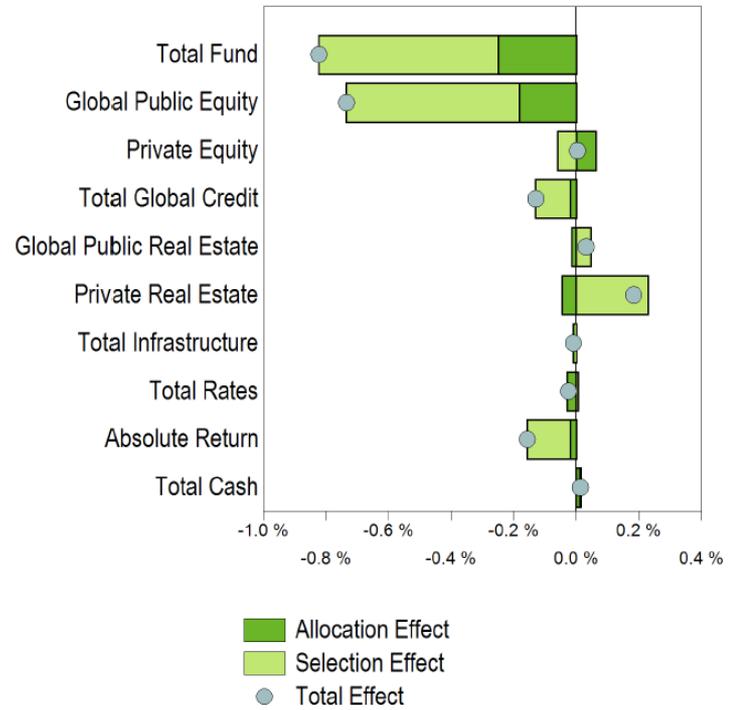
Note: Not all assets marked through June 30, 2019 within Private Equity, Total Global Credit, Private Real Estate, Total Infrastructure and Absolute Return.

\* Total Fund Attribution Analysis uses policy weights.



# TOTAL FUND ATTRIBUTION ANALYSIS

**Attribution Effects**  
1 Year Ending June 30, 2019



**Attribution Summary**  
1 Year Ending June 30, 2019

	Wtd. Actual Return	Wtd. Index Return	Excess Return	Selection Effect	Allocation Effect	Total Effects
Global Public Equity	3.6%	4.9%	-1.3%	-0.6%	-0.2%	-0.7%
Private Equity	6.3%	5.2%	1.1%	-0.1%	0.1%	0.0%
Total Global Credit	6.5%	7.5%	-0.9%	-0.1%	0.0%	-0.1%
Global Public Real Estate	10.0%	8.3%	1.7%	0.0%	0.0%	0.0%
Private Real Estate	9.7%	6.5%	3.1%	0.2%	0.0%	0.2%
Total Infrastructure	4.7%	4.7%	0.0%	0.0%	0.0%	0.0%
Total Rates	6.2%	6.2%	0.0%	0.0%	0.0%	0.0%
Absolute Return	2.9%	6.3%	-3.4%	-0.1%	0.0%	-0.2%
Total Cash	2.6%	2.3%	0.3%	0.0%	0.0%	0.0%
<b>Total</b>	<b>5.3%</b>	<b>6.1%</b>	<b>-0.8%</b>	<b>-0.6%</b>	<b>-0.3%</b>	<b>-0.8%</b>

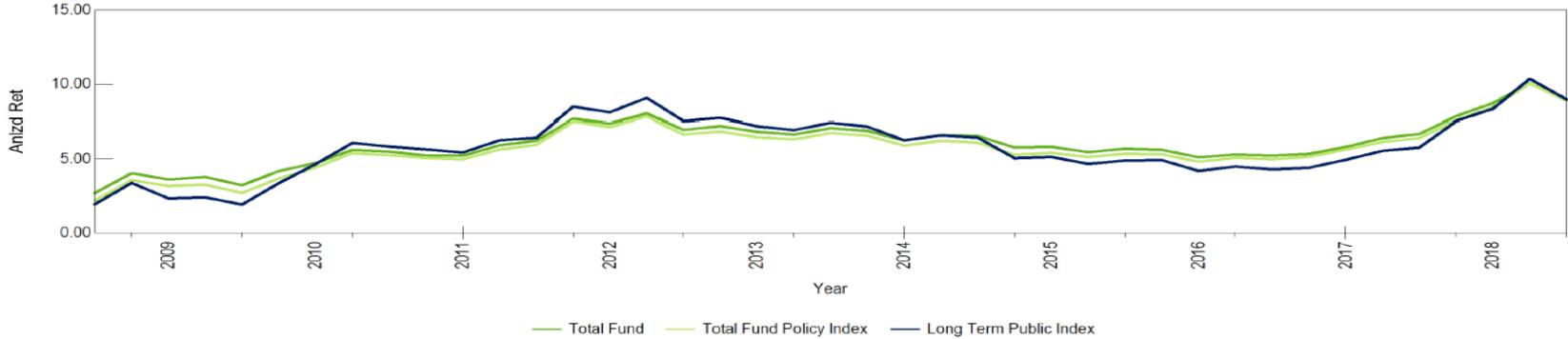
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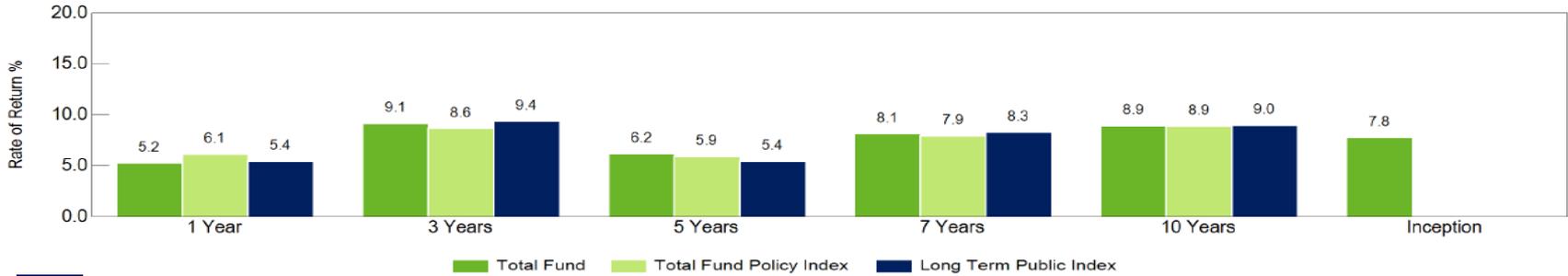


# LONG TERM INVESTMENT RESULTS

Rolling 10 Year Annualized Return (%)



Return Summary  
Ending June 30, 2019



Note: Long Term Public Index is comprised of 79% MSCI ACW IMI and 21% Barclays Intermediate Treasury Index. Index Definitions can be found in the appendix.

# ROLLING INFORMATION RATIO AND TRACKING ERROR

Rolling 3 Year Information Ratio



Rolling 3 Year Tracking Error



# SUMMARY PERFORMANCE COMMENTARY

- **Over the past 10 years Total Fund returns equaled the policy benchmark. Returns have also outperformed the Fund's actuarial rate of return.**
- **In the past one-year period ended June 30,2019 the Fund underperformed (-0.9%) against the policy benchmark.**
  - Global Public Equity detracted -0.7% from Fund returns vs. the policy benchmark primarily due to underperformance in Domestic and International Equity
  - Private Real Estate outperformed contributing +0.2% to returns vs. the policy benchmark
- **In the past one-year portfolio positioning at the asset class level has had a slight negative impact (-0.3%) on Total Fund returns vs. policy benchmark.**
  - An over-weight position to Global Public Equity contributed negatively (-0.2%) to total fund returns vs. the policy benchmark while an over-weight position to Private Equity has contributed positively (+0.1%) to total fund returns versus the policy benchmark.

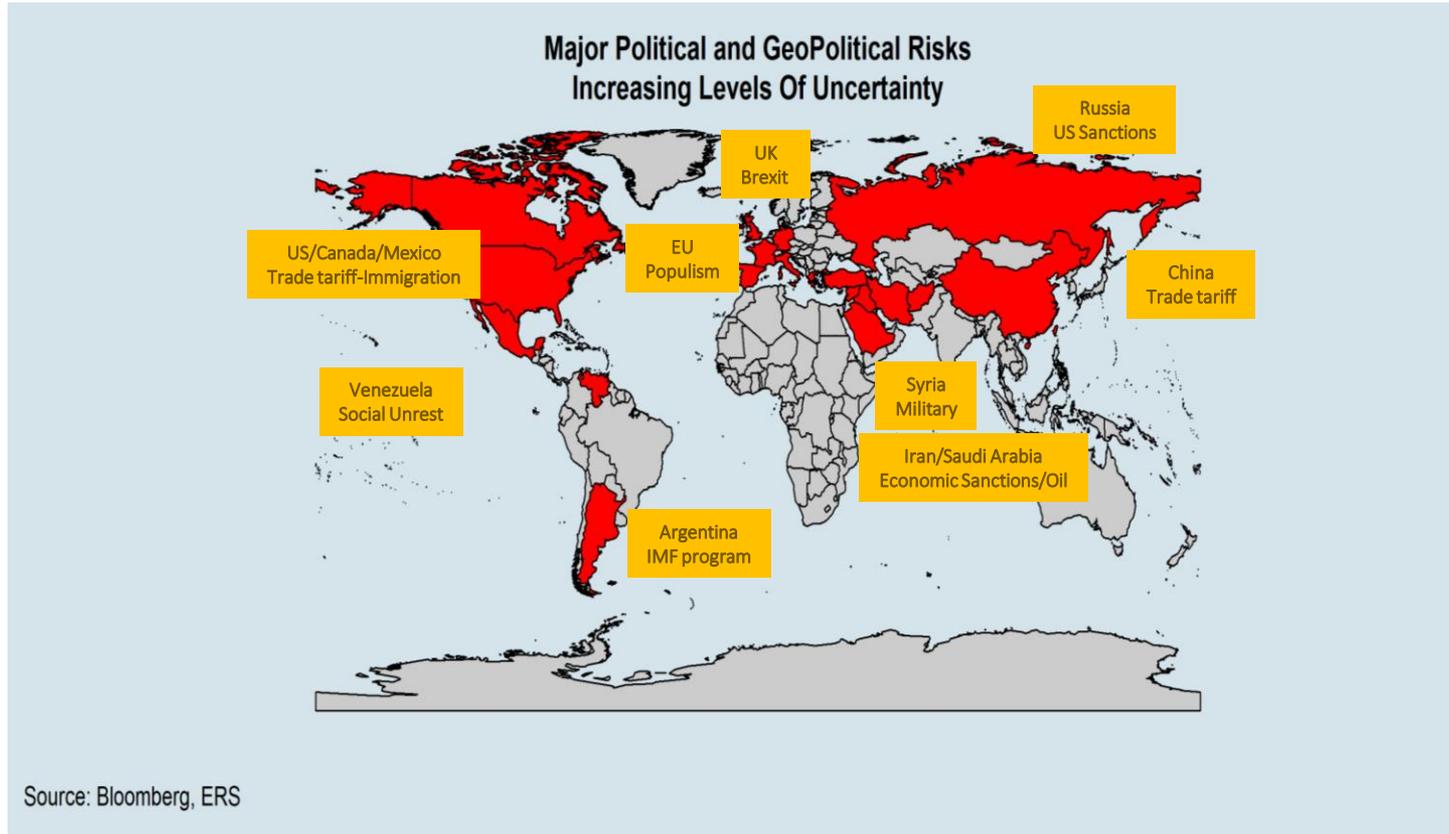


# Risk Management & Applied Research

## 2Q 2019 Risk Update

# Risk Update

## Major geopolitical risks in the current environment

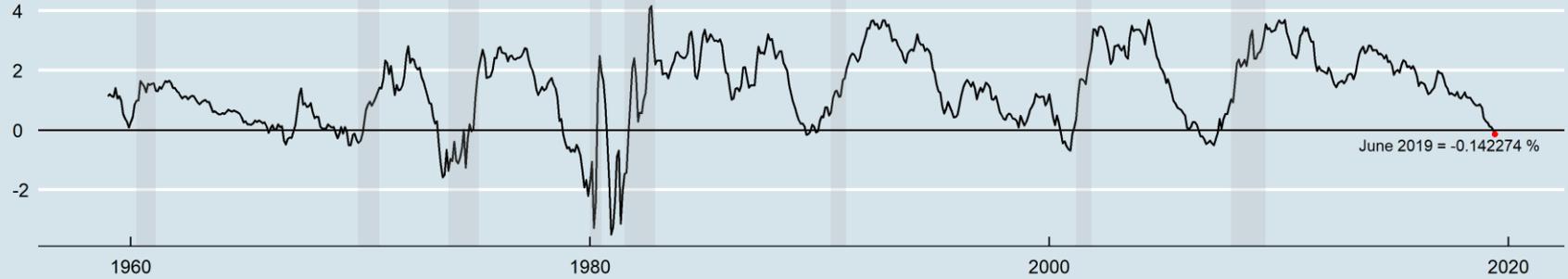




# Risk Update

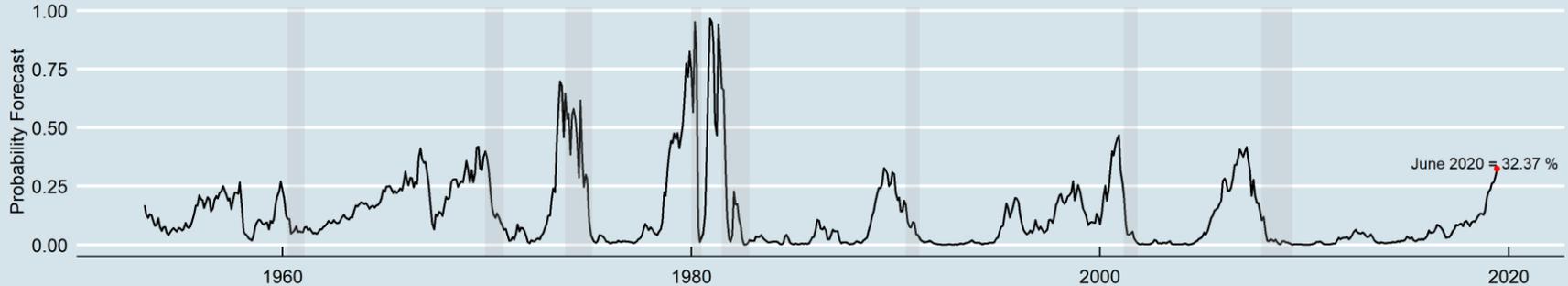
## *The yield curve and the probability of recession*

**Treasury Spread: 10 yr bond rate - 3 month bill rate. Monthly Average (Percent)**



Source: Federal Reserve Bank of St. Louis, ERS

**Probability of a US Recession Twelve Months Ahead, as Predicted by the Treasury Spread**



Source: Federal Reserve Bank of St. Louis, ERS

# Risk Update

*Probabilities of a recession implied by other assets*



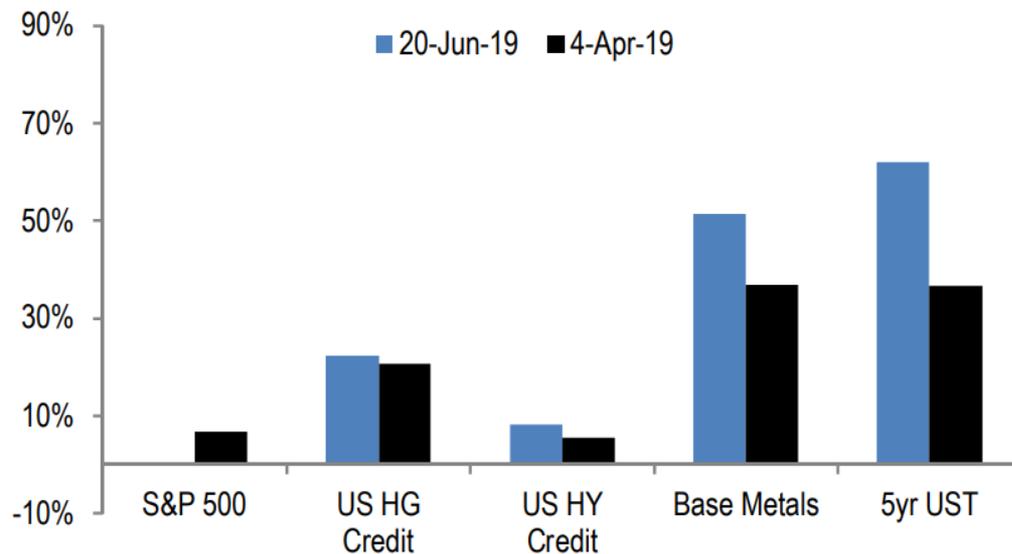
## Bifurcated Markets?

Risk-On assets such as Equities and Credit imply a low probability of recession

While assets such as base metals and US treasuries imply otherwise

## Chart A60: Probability of a recession as currently priced across asset classes

In %, as of close of business on Jun 20, 2019.

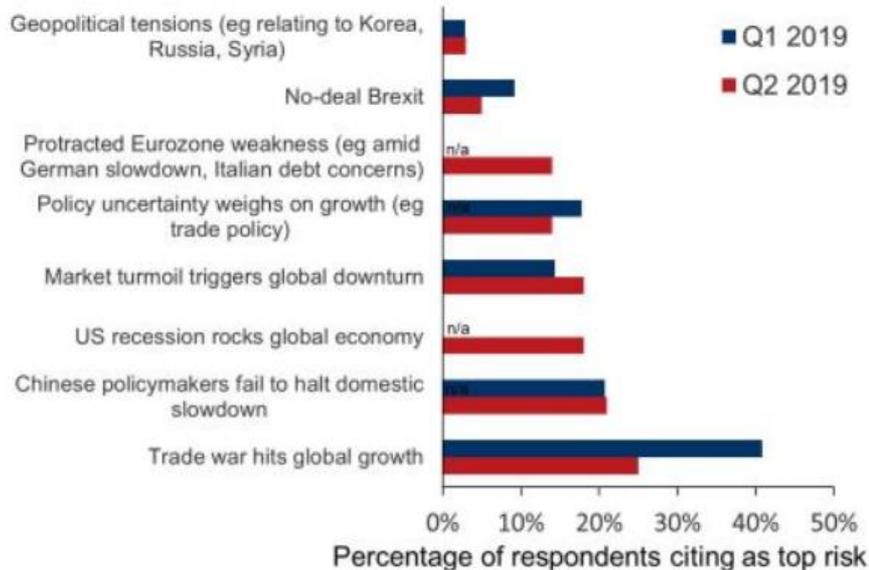


Source: J.P. Morgan

# Risk Update

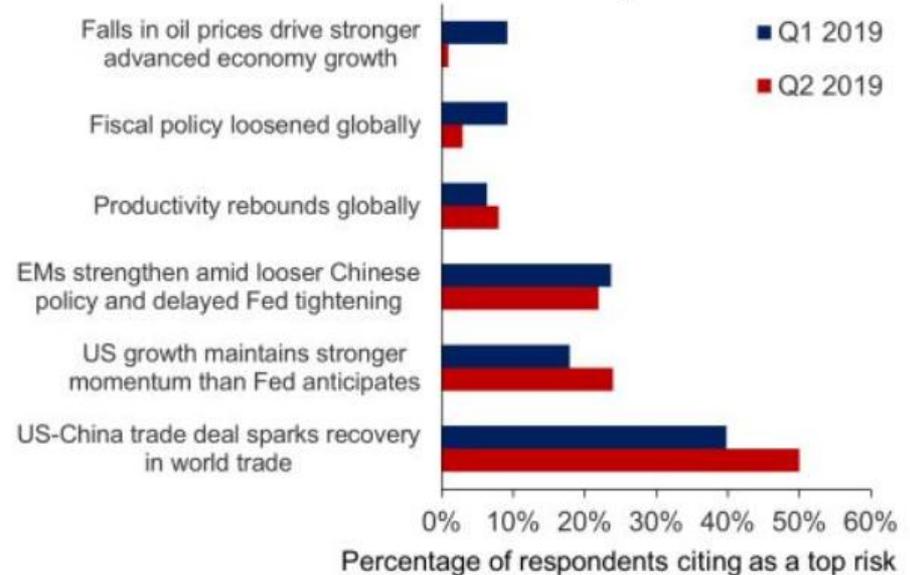
Survey regarding most important risk drivers in the financial markets

## What do you see as the top 3 downside global economic risks over the next two years?



Source : Oxford Economics Global Risk Survey

## What do you see as the top upside global economic risks over the next two years?



Source : Oxford Economics Global Risk Survey

# Risk Update

## Likelihood and Impact Analysis

### Relative likelihood and market impact of risks



Questions?

## Public Agenda Item #5.1

### *Market Update and Hedge Fund Program Overview*

August 21, 2019

Anthony Curtiss, CFA, Director of Hedge Funds  
Nicholas Maffeo, CAIA, Hedge Funds Portfolio Manager  
John Claisse and Tathata Lohachitkul, Albourne America

# Hedge Fund Program Overview



## *Agenda*

- **Staffing Update**
- **Hedge Fund Portfolio Overview**
  - Absolute Return Portfolio
  - Directional Growth Portfolio
  - Other Hedge Fund Allocations
- **Industry Review & Topical Issues presented by Albourne Partners**
- **ERS Absolute Return Portfolio Tactical Plan**

# Hedge Fund Program Overview

## Staffing Update



- **Current Staff**

- Anthony Curtiss – Director of Hedge Funds
- Panayiotis Lambropoulos – Hedge Funds Portfolio Manager
- Nick Maffeo – Hedge Funds Portfolio Manager
- Courtney Dunn – Hedge Funds Investment Analyst
- Seeking one Analyst

- **Consultant**

- Albourne Partners (since inception)

# Hedge Fund Program Overview

## *Hedge Fund Portfolios*



- **Absolute Return Portfolio**
  - Risk-Reducing Hedge Fund Portfolio
    - Diversification and low correlation to the Trust
    - Low beta to Trust, low volatility
- **Directional Growth Portfolio**
  - Return-Seeking Hedge Fund Portfolio
    - Complementary to Trust
    - Directional and tactical market beta
- **Other Hedge Funds**
  - Within other asset classes when appropriate

# Hedge Fund Program Overview

## Current Allocation Summary



Absolute Return Portfolio			
Holding Name	Asset Type	Initial Allocation	Current Value
(PAX) Pacific Alliance Asia Opp Fund L.P.	HF - Multi-Strategy Event Driven	1/1/2017	\$136,299,083
Arrowgrass Partnership LP (Initial Series E)	HF - Multi-Strategy Relative Value	8/1/2012	\$45,942,592
Complus Asia Macro Fund Ltd.	HF - Global Macro	10/1/2016	\$115,394,639
Garda Fixed Income Relative Value Opportunity Fund (Onshore)	HF - Relative Value	11/1/2018	\$72,289,117
Glazer Enhanced L.P.	HF - Merger Arbitrage	1/1/2016	\$135,920,930
Graham Absolute Return Trading Ltd.	HF - Global Macro	2/1/2018	\$101,698,115
Iguazu Partners LP	HF - RV - Emerging Markets	12/1/2013	\$69,518,302
Magnetar Structured Credit Fund LP	HF - Structured Credit	1/1/2014	\$69,167,466
MW European TOPS (US) Fund	HF - Equity Long/Short	3/1/2013	\$90,508,078
Southpaw Credit Opportunity Partners L.P.	HF - Distressed / Stressed	8/1/2012	\$106,990,502
Taiga Special Opportunities Fund	HF - Opportunistic	7/1/2017	\$45,236,803

ERS Directional Growth Portfolio			
Algert Japan 150/50 Fund L.P.	HF - Equity Long/Short	5/1/2018	\$133,006,813
MW TOPS World Equities (US) Fund	HF - Equity Long/Short	4/1/2014	\$350,173,731
OrbiMed Global Healthcare Fund L.P.	HF - Equity Long/Short	6/1/2016	\$80,193,648

**Total Hedge Fund Assets \$1,552,339,820**

# Absolute Return Portfolio

Performance Review

# Hedge Fund Program Overview

## *Objectives & Accomplishments*



### **Objectives**

- Outperform T-Bills + 4% return benchmark
- Maintain a beta to the Trust of 0.40 or lower
- Maintain a standard deviation (volatility) target of 4% to 8%
- Operate with a low correlation to the Trust

### **Accomplishments**

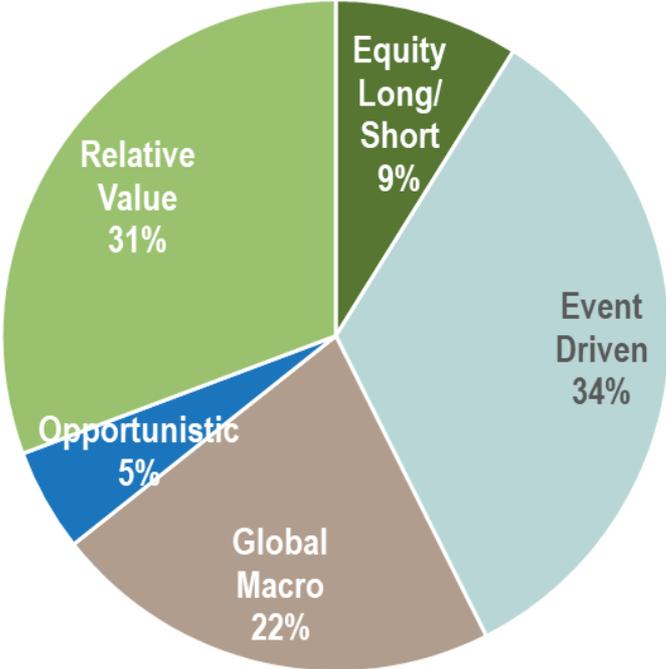
- Annualized return since inception (August 2012) of 5.16% versus 4.61% for the benchmark
- Beta to the Trust is 0.28 (since inception)
- Current standard deviation (volatility) of 2.35%
- Correlation to the Trust is 0.66

# Hedge Fund Program Overview

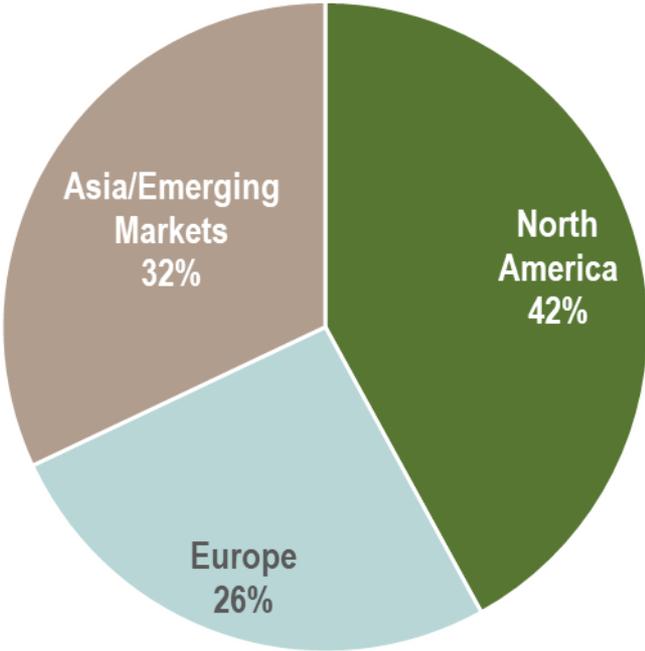


## Current Portfolio

### Strategy Exposures



### Geographic Exposure



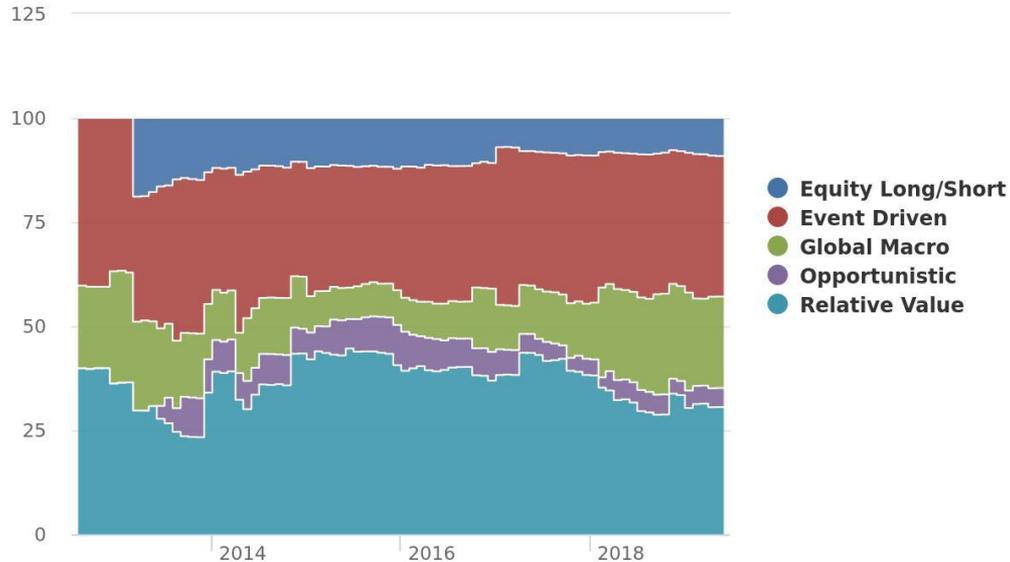
# Hedge Fund Program Overview

## Current Portfolio



### Strategy Exposures - Hedge Funds - Allocation, %

August-2012 to May-2019



Strategy Class	Targeted Range	Actual
Equity Long/Short	0% - 30%	9%
Event Driven	0% - 60%	34%
Global Macro	10% - 40%	22%
Opportunistic	0% - 30%	5%
Relative Value	20% - 60%	31%

# Hedge Fund Program Overview



## *Strategy Overview & Characteristics*

- **Relative Value**

- Capitalizes on the mispricing of an asset
- Exposure typically lacks market directionality (non-directional)

- **Event Driven**

- Identifies and analyzes securities associated with a corporate event
- Examples include: mergers, divestitures, stressed/distressed, spin-offs.
- This strategy often exhibits a longer-bias/higher net market exposure and often a higher degree of risk through potential drawdowns.

# Hedge Fund Program Overview

## *Strategy Overview & Characteristics*



- **Global Macro**

- Exposure is often directional, but may be relative value. The strategy has significant flexibility around the use of instruments traded (i.e. derivatives, equity, fixed income, and currencies)

- **Equity Long/Short**

- The strategy focuses on buying undervalued stocks while shorting stocks that are determined overvalued
- Emphasis is placed on stock selection along with managing both net market exposure and leverage (gross exposure)

- **Opportunistic**

- Characteristics: portfolio return enhancement, long-bias exposure (in most instances), committed and drawn capital (5 years total term or less), and asymmetric return profile.

# Hedge Fund Program Overview

Performance Metrics – Inception to May 2019



ERS Portfolio & Benchmark	Annualized Return	Annualized Standard Deviation	Sharpe Ratio	Sortino Ratio	Largest Drawdown
Absolute Return Portfolio	5.16%	2.35%	1.89	4.13	-2.57%
<b>Policy Benchmark</b>					
90 Day T-Bills + 4% (G001)	4.61%	0.22%	76.99	N/A	N/A
<b>Industry Benchmarks</b>					
HFRI FOF: Diversified Index	3.39%	3.39%	0.80	1.23	-6.52%
HFRI FOF: Conservative Index	3.36%	2.26%	1.17	1.89	-4.54%
HFRX Global Hedge Fund Index	1.15%	3.71%	0.15	0.20	-8.95%

# Hedge Fund Program Overview



## Performance Metrics – Trailing Annualized Performance

	YTD	1 Yr. Annualized	3 Yr. Annualized	5 Yr. Annualized	ITD
<b>Absolute Return Portfolio</b>	<b>3.26%</b>	<b>2.72%</b>	<b>5.23%</b>	<b>4.39%</b>	<b>5.16%</b>
<b>Policy Benchmark</b>					
T-Bills + 4% (Ticker: GOO1 Index)	2.64%	6.27%	5.30%	4.81%	4.61%
<b>Industry Benchmarks</b>					
HFRI FOF: Diversified Index	4.61%	0.17%	3.48%	2.12%	3.39%
HFRI FOF: Conservative Index	3.96%	1.44%	3.40%	2.12%	3.36%
HFRX Global Hedge Fund Index	2.57%	-3.68%	1.65%	-0.25%	1.15%

# Hedge Fund Program Overview

## Performance Metrics – Fiscal Year Returns



	FYTD	FY2018	FY2017	FY2016	FY2015	FY2014	FY2013
<b>Absolute Return Portfolio</b>	<b>1.85%</b>	<b>5.57%</b>	<b>5.29%</b>	<b>4.24%</b>	<b>3.41%</b>	<b>7.01%</b>	<b>8.01%</b>
<b>Policy Benchmark</b>							
T-Bills + 4% (Ticker: GOO1 Index)	4.73%	5.49%	4.55%	4.23%	4.02%	4.03%	4.11%
<b>Industry Benchmarks</b>							
HFRI FOF: Diversified Index	-0.19%	3.97%	5.47%	-2.11%	2.22%	7.71%	5.76%
HFRI FOF: Conservative Index	0.94%	3.66%	4.64%	-1.33%	1.91%	6.49%	6.19%
HFRX Global Hedge Fund Index	-3.80%	1.54%	5.59%	-1.91%	-3.47%	5.34%	4.53%

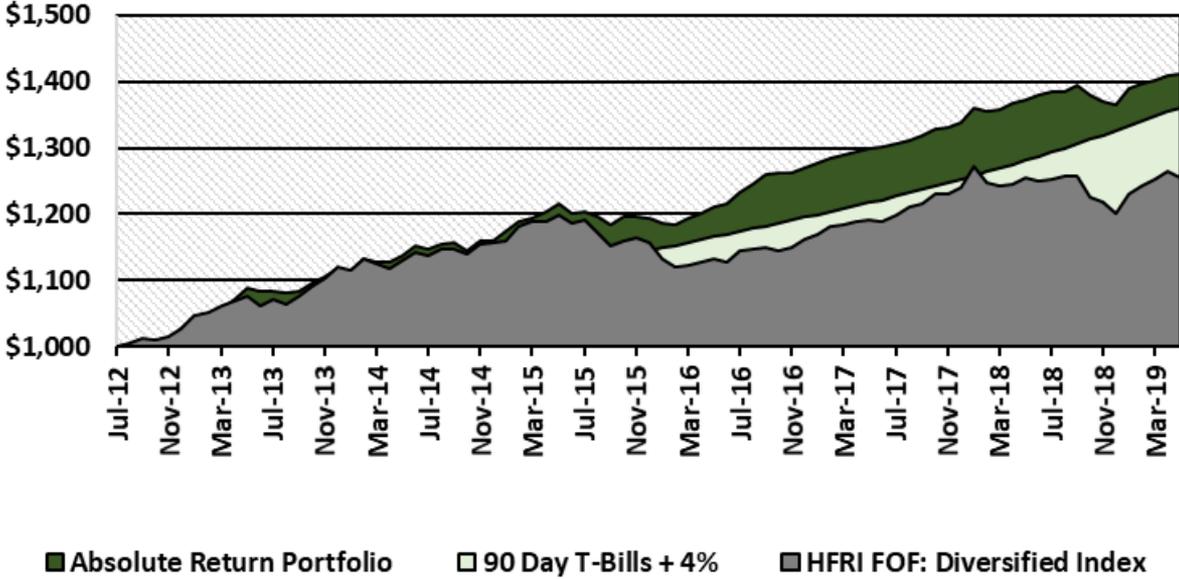
*Partial periods have been excluded from calculations. FYTD ends as of May 2019. The start date of the Absolute Return Portfolio is August of 2012.*

# Hedge Fund Program Overview

## Growth of \$1,000



ERS Absolute Return Portfolio  
Growth of \$1,000  
July 2012 to May 2019



# Hedge Fund Program Overview

## Relative Down Period Performance



### Down Period Performance

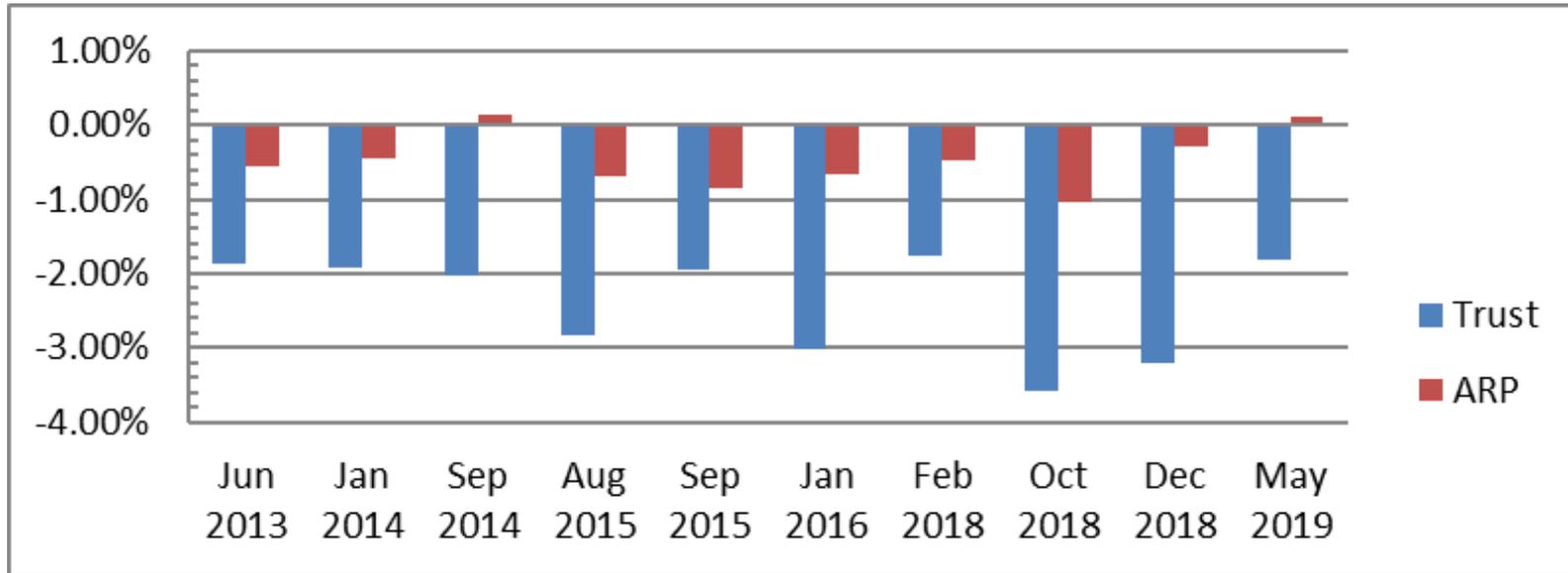
August-12 to May-19 (monthly)



# Hedge Fund Program Overview



## Top 10 Monthly Trust Drawdowns vs. ARP Performance



# Hedge Fund Program Overview



## *Portfolio Construction*

- The largest allocations remain focused on Relative Value and Event Driven strategies (64%)
- Global Macro exposure remains additive given the desire to allocate to less correlated strategies
- The portfolio remains diversified based both on geography and by strategy
- Liquidity remains a focus for all allocations
- New allocations will be focused on Relative Value, Equity Long/Short, and Opportunistic strategies.

# Hedge Fund Program Overview



## Performance Overview – By Strategy (annualized performance)

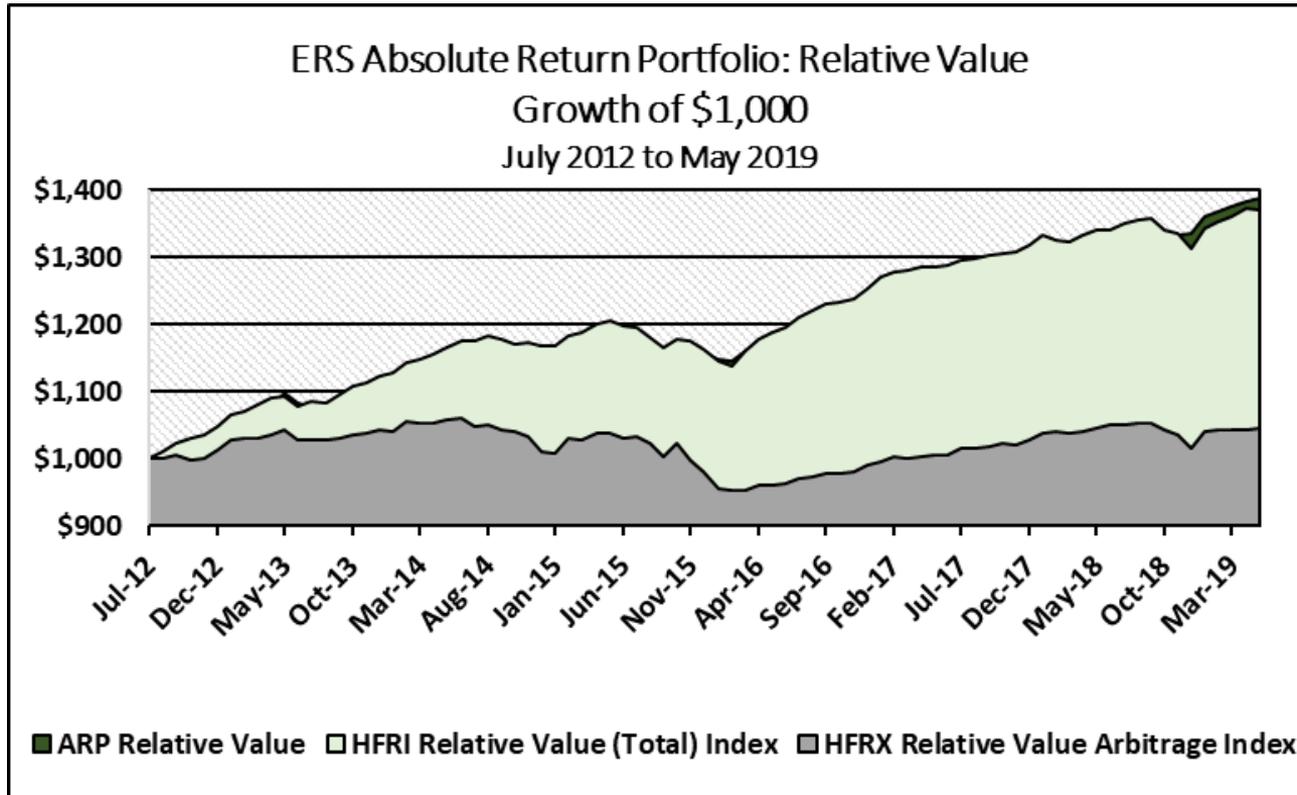
Investment Strategy	Current Allocation	MTD	QTD	YTD	3 Yr	5 Yr	ITD
<b>Relative Value</b>	\$302,095,722	0.25%	0.87%	3.87%	5.67%	4.14%	4.91%
HFRX Relative Value Arbitrage Index		0.18%	0.39%	3.02%	2.90%	-0.21%	0.67%
<b>Event Driven</b>	\$334,032,270	-0.21%	0.19%	2.70%	5.54%	4.20%	5.48%
HFRX Event Driven Index		-0.44%	0.03%	0.82%	1.13%	-1.76%	1.39%
<b>Equity Long/Short</b>	\$90,508,078	1.06%	0.47%	5.59%	3.32%	5.19%	6.15%
HFRX Equity Hedge Index		-2.01%	-1.35%	4.52%	2.24%	0.69%	1.61%
<b>Global Macro</b>	\$217,092,755	-0.06%	1.18%	2.27%	4.10%	4.69%	3.52%
HFRX Macro Index		-0.27%	0.87%	0.00%	-0.82%	0.03%	-0.46%
<b>Opportunistic</b>	\$45,236,803	0.63%	1.53%	3.55%	12.48%	9.54%	8.96%

Information as of May 31<sup>st</sup>, 2019

Benchmark	Symbol
HFRX Relative Value Arbitrage Index	HFRXRVA
HFRX Event Driven Index	HFRXED
HFRX Equity Hedge Index	HFRXEH
HFRX Macro Index	HFRXM

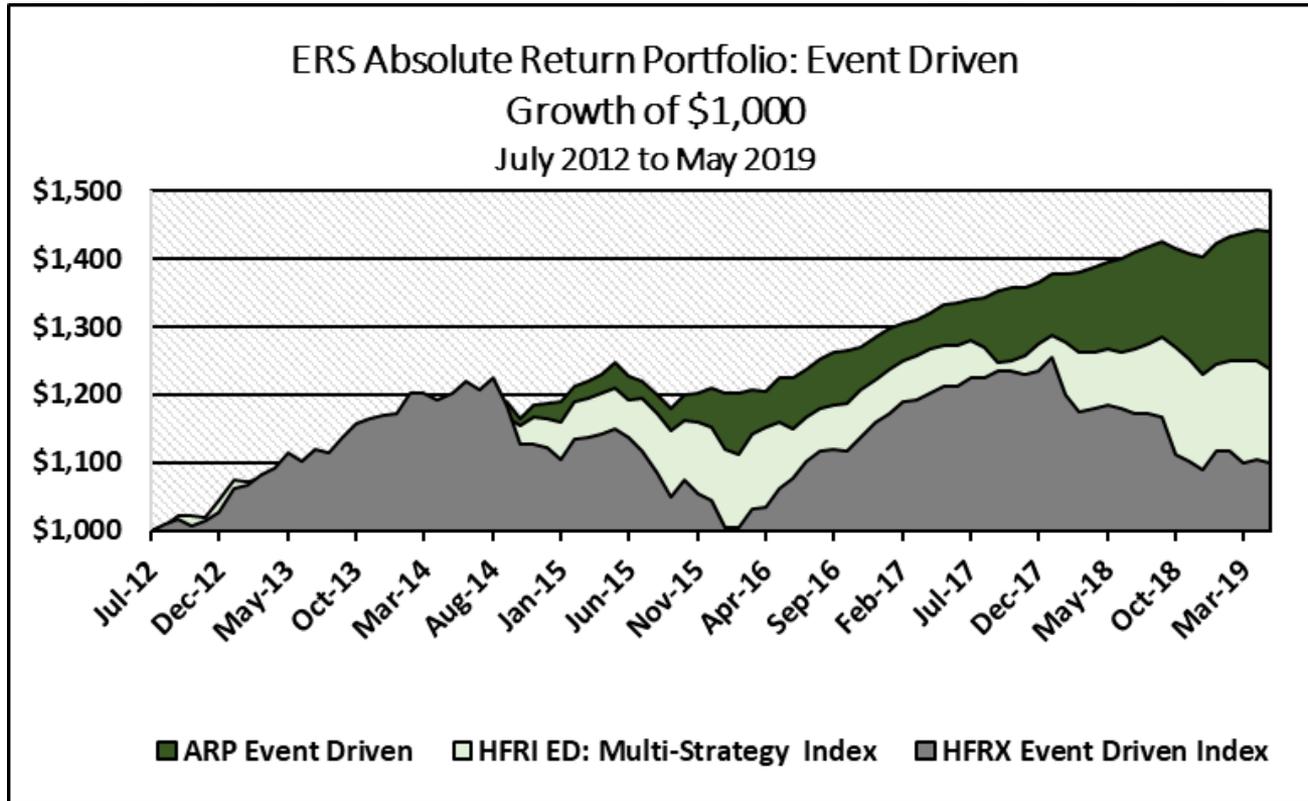
# Hedge Fund Program Overview

## Performance Overview – Growth of \$1K



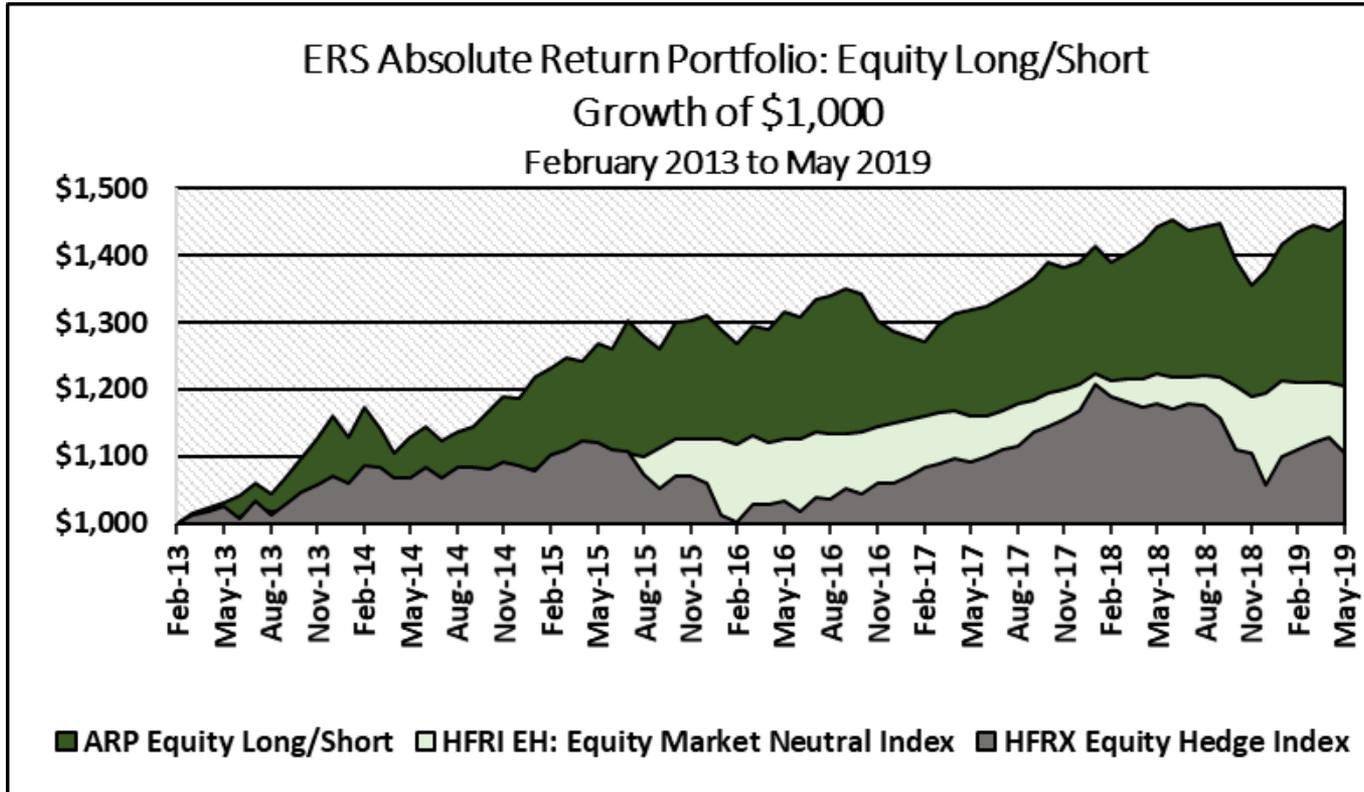
# Hedge Fund Program Overview

## Performance Overview – Growth of \$1K



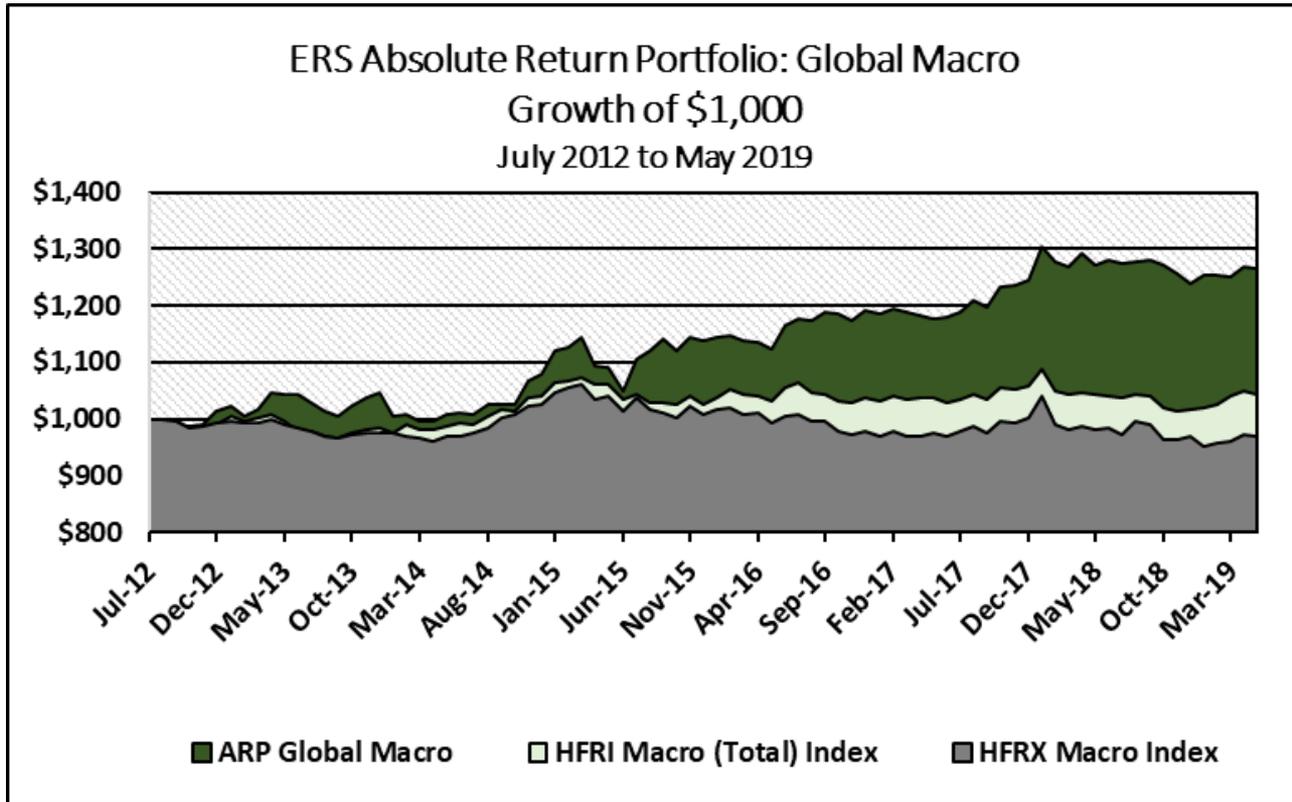
# Hedge Fund Program Overview

Performance Overview – Growth of \$1K



# Hedge Fund Program Overview

## Performance Overview – Growth of \$1K

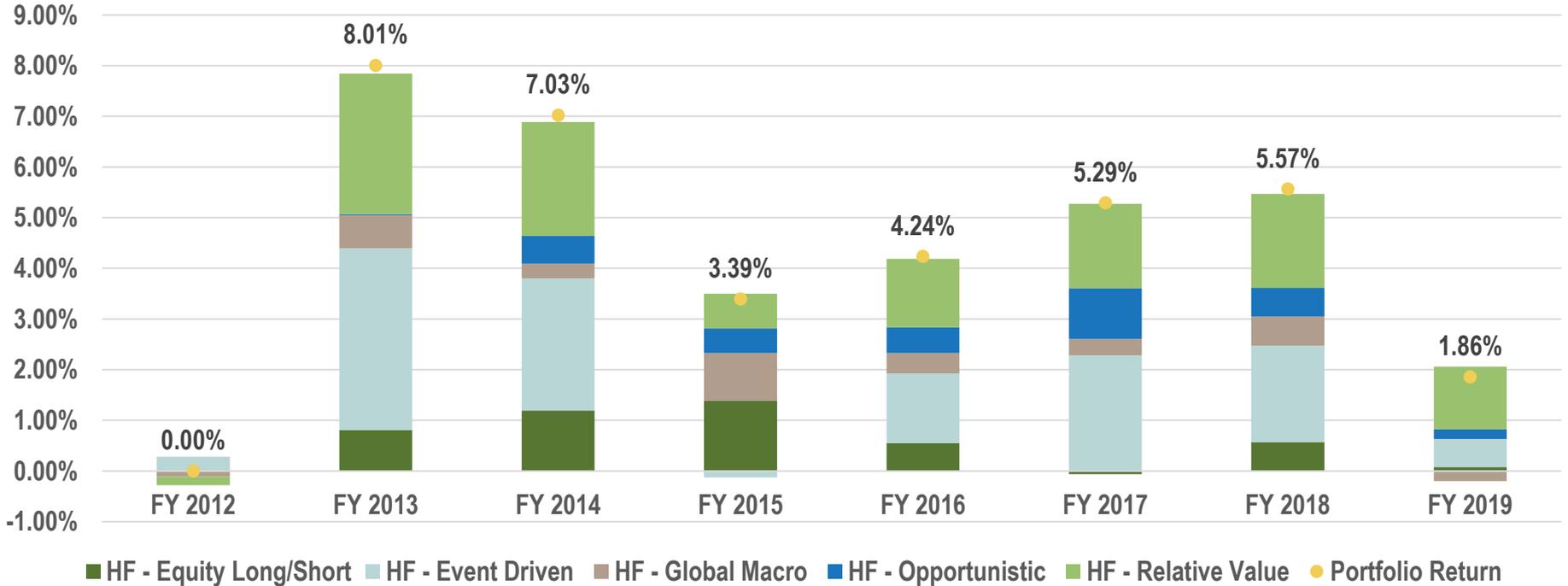


# Hedge Fund Program Overview

## Historical Attribution – Fiscal Year



Fiscal Year Historical Attribution

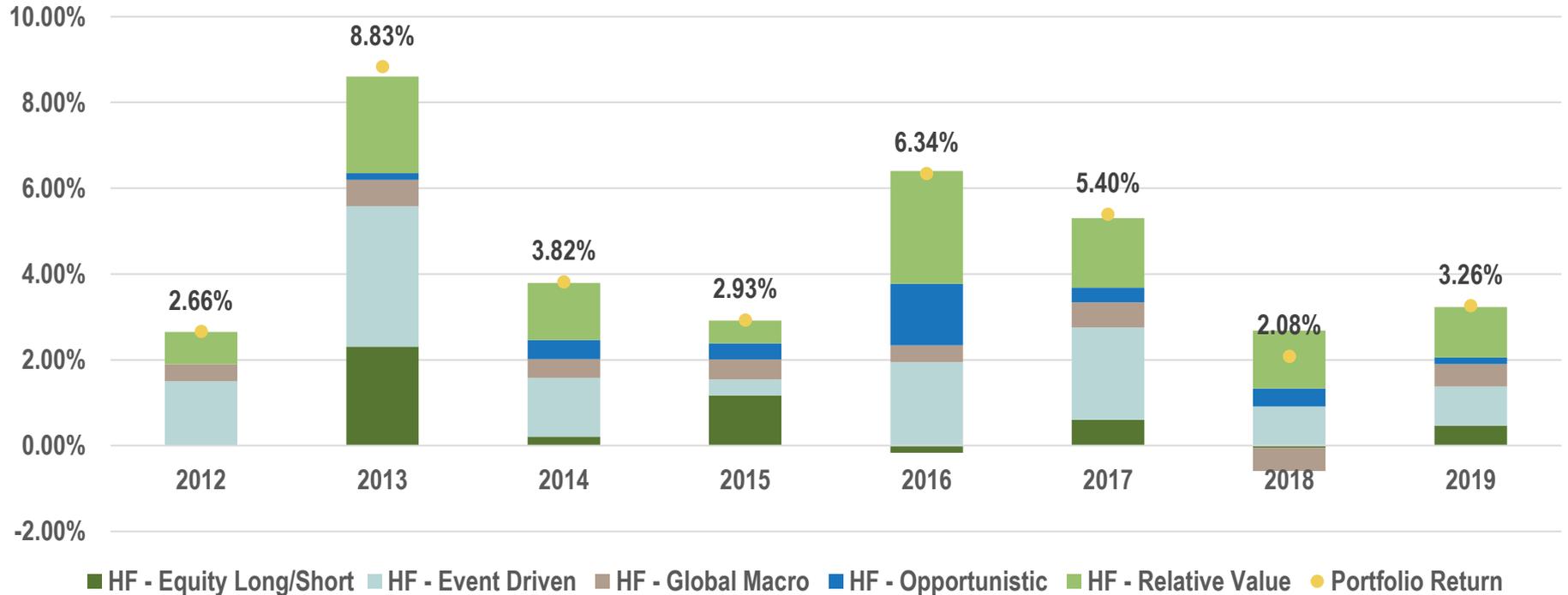


# Hedge Fund Program Overview

## Historical Attribution – Calendar Year



Calendar Year Historical Attribution



# Hedge Fund Program Overview

## Correlations by Sub-Strategies



Strategy Correlation	Relative Value	Event Driven	Global Macro	Equity Long/Short	Opportunistic
<b>Relative Value</b>					
<b>Event Driven</b>	0.65				
<b>Global Macro</b>	0.18	0.12			
<b>Equity Long/Short</b>	0.21	0.33	0.31		
<b>Opportunistic</b>	0.19	0.07	-0.17	-0.09	

Correlation is the degree to which two securities move in relation to each other.

Inception of strategy through May 31<sup>st</sup>, 2019

# Directional Growth Portfolio

Performance Review

# Hedge Fund Program Overview

## *Objectives & Accomplishments*



### **Objectives**

- Strive to outperform each underlying benchmark
- Maintain a tight beta and correlation to each respective benchmark
- Act as a complement to Trust

### **Accomplishments**

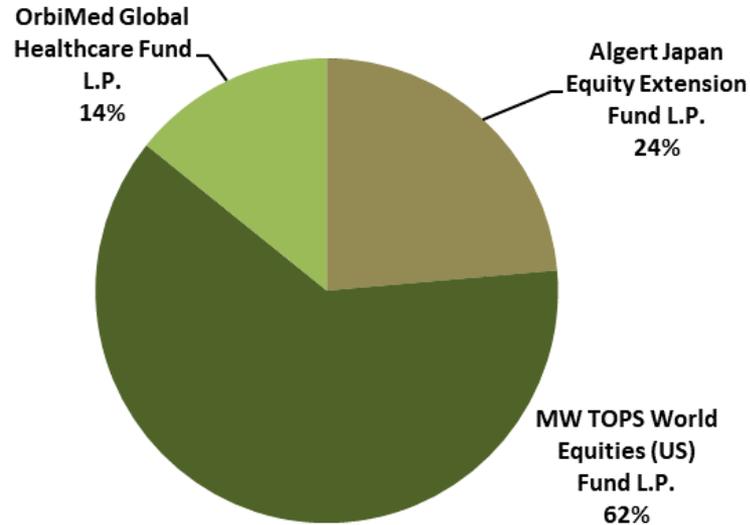
- In most instances, relative performance has been strong and has met internal objectives
- Beta and correlation guidelines have been met for each underlying manager
- Has been able to source unique sector and geographic exposures for the Trust

# Hedge Fund Program Overview

## Portfolio Allocations



Fund	Current Allocation	Inception Date
Algert Japan Equity Extension Fund L.P.	\$133,006,813	05/01/18
MW TOPS World Equities (US) Fund L.P.	\$350,173,731	04/01/14
OrbiMed Global Healthcare Fund L.P.	\$80,193,648	06/01/16
<b>Total Value</b>	<b>\$563,374,192</b>	



# Hedge Fund Program Overview

## Performance Metrics – Inception to May 2019



Fund Name & Benchmarks	Annualized Return	Annualized Standard Deviation	Sharpe Ratio	Sortino Ratio	Largest Drawdown
<b>Algert Japan 150/50 Fund L.P.</b>	<b>-10.50%</b>	<b>13.88%</b>	<b>-0.76</b>	<b>-1.01</b>	<b>-16.18%</b>
MSCI JAPAN	-10.07%	13.40%	-0.72	-1.02	-14.23%
<b>MW TOPS World Equities (US) Fund</b>	<b>12.41%</b>	<b>10.86%</b>	<b>1.06</b>	<b>1.65</b>	<b>-14.27%</b>
MSCI AC World Daily Net Local	7.46%	10.46%	0.63	0.96	-12.51%
<b>OrbiMed Global Healthcare Fund L.P.</b>	<b>2.26%</b>	<b>17.29%</b>	<b>0.05</b>	<b>0.18</b>	<b>-18.78%</b>
MSCI World Healthcare Net Return Index (USD)	6.43%	12.16%	0.41	0.65	-10.89%

Inception of strategy through May 31<sup>st</sup>, 2019

# Hedge Fund Program Overview



## Performance Metrics – Trailing Annualized Performance

Fund Name	YTD	1 Yr	3 Yr	5 Yr	ITD
<b>Algert Japan 150/50 Fund L.P.</b>	<b>5.63%</b>	<b>-11.46%</b>	<b>N/A</b>	<b>N/A</b>	<b>-10.50%</b>
MSCI JAPAN	3.86%	-9.97%	N/A	N/A	-10.07%
<b>MW TOPS World Equities (US) Fund</b>	<b>13.53%</b>	<b>3.14%</b>	<b>13.30%</b>	<b>12.12%</b>	<b>12.41%</b>
MSCI AC World Daily Net Local	9.60%	0.37%	9.47%	7.09%	7.46%
<b>OrbiMed Global Healthcare Fund L.P.</b>	<b>8.13%</b>	<b>-5.94%</b>	<b>2.26%</b>	<b>N/A</b>	<b>2.26%</b>
MSCI World Healthcare Net Return Index (USD)	2.82%	5.22%	6.43%	N/A	6.43%

Inception of strategy through May 31<sup>st</sup>, 2019

Benchmark	Bloomberg Ticker
MSCI JAPAN	M1JP INDEX
MSCI AC World Daily Net Local	NDLEACWF INDEX
MSCI World Healthcare Net Return Index (USD)	M1WO0HC INDEX

# Hedge Fund Program Overview

## Performance Metrics – Fiscal Year Returns



Fund Name	FYTD	FY2018	FY2017	FY2016	FY2015
<b>Algert Japan 150/50 Fund L.P.</b>	<b>-8.41%</b>	<b>-3.19%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
JAPAN (NET)	-8.22%	-2.88%	N/A	N/A	N/A
<b>MW TOPS World Equities (US) Fund</b>	<b>-1.50%</b>	<b>15.48%</b>	<b>23.31%</b>	<b>10.81%</b>	<b>8.93%</b>
MSCI AC World Daily Net Local (Total Return)	-3.61%	12.90%	16.17%	6.81%	0.59%
<b>OrbiMed Global Healthcare Fund L.P.</b>	<b>-11.37%</b>	<b>6.63%</b>	<b>15.53%</b>	<b>-2.06%</b>	<b>N/A</b>
MSCI World Healthcare Net Return Index (USD)	-4.98%	13.42%	10.77%	1.00%	N/A

*Disclosure: Fiscal year data may not be inclusive of full time period*

# Other Hedge Fund Allocations

General Update

# Other Hedge Fund Allocations



## *Update*

- PAAMCO Launchpad continues to source new opportunities. At this time, one investment is in late stage due diligence and may be funded soon.
- Expectations are to provide the board an update regarding PAAMCO Launchpad in December. This will entail further details about the initial investment.
- At this time, no investments are planned for Opportunistic Credit. The ERS Hedge Fund team continues to review opportunities.
- Expectations are for a new Opportunistic Credit Tactical Plan to be presented to the board early next calendar year 2020.

# Albourne Annual Hedge Fund Update

Employees Retirement System of Texas

21 August 2019

## ERS Absolute Return Portfolio

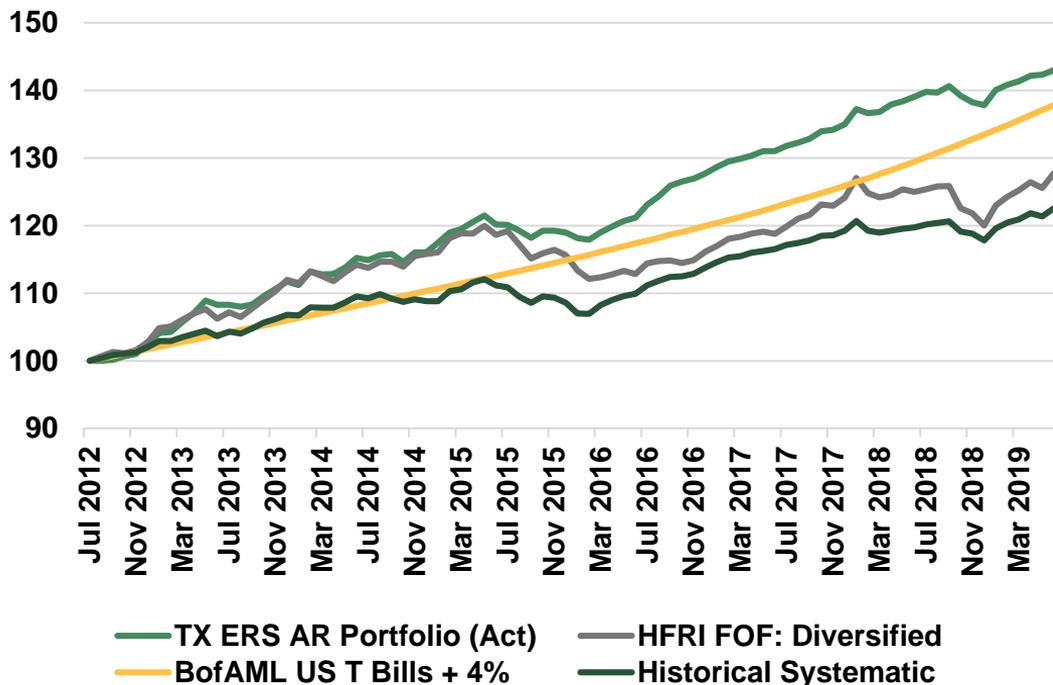
- Performance
- Implementation consistent with policy
- Strategy Outlook

## Market Observations

- Flow of Funds
- Evolving Role of Hedge Funds
- Due Diligence Trends

# TX ERS Absolute Return Performance\*

## TX ERS Absolute Return VAMI



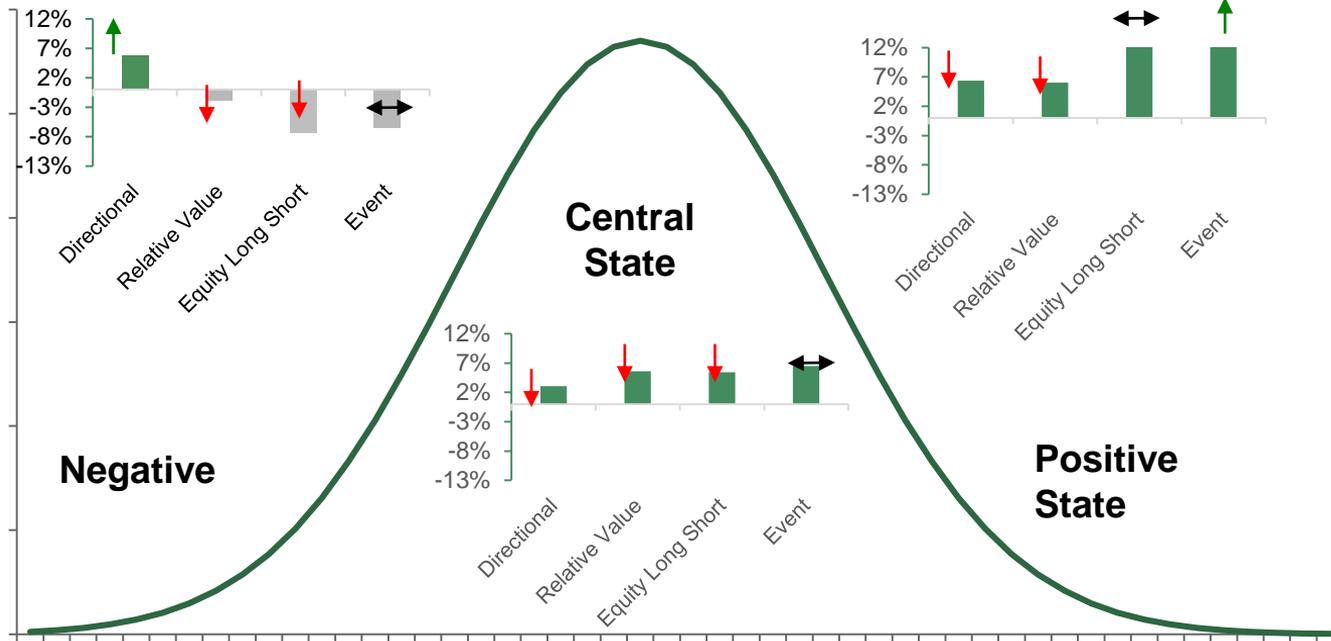
- Performance

- Exceeds Strategic Benchmark since inception, however, a weak Q4 2018 impaired recent relative performance
- Exceeds Tactical Benchmark over last fiscal year, 12 months, 5 years and since inception
- With less volatility than the Tactical Benchmark since inception

- Implementation consistent with policy

- Realized beta to TX ERS Trust <0.4
- Super-strategy mix within stated policy guidelines

# Strategy Outlook\*



Rank	Super-Strategy
1	Directional
2	Relative Value
3	Equity Long Short
4	Event

- In 2018, allocated to
  - Relative Value & Directional
- Currently reviewing additional
  - Multi-Strategy Relative Value funds

# Market Observations

- **Flow of Funds**
  - Increased pace of new launches
  - Role of platform funds
  - Trends in strategy flows
- **Evolving Role of Hedge Funds**
  - Renewed interest in overlays
  - Pros and cons of co-investments
  - Separate accounts (outside the US)
- **Due Diligence Trends**
  - ESG policies, resources, engagement and reporting
  - Employment Practices: Anti-Harassment, Equal Pay and Diversity & Inclusion
  - Fees and terms

Questions?

## Public Agenda Item #5.2

# *Review and Approval of Proposed Hedge Fund Annual Tactical Plan for Fiscal Year 2020 – (Action)*

August 21, 2019

Anthony Curtiss, CFA, Director of Hedge Funds  
Nicholas Maffeo, CAIA, Hedge Funds Portfolio Manager

# Absolute Return Portfolio

Tactical Plan Fiscal Year 2020

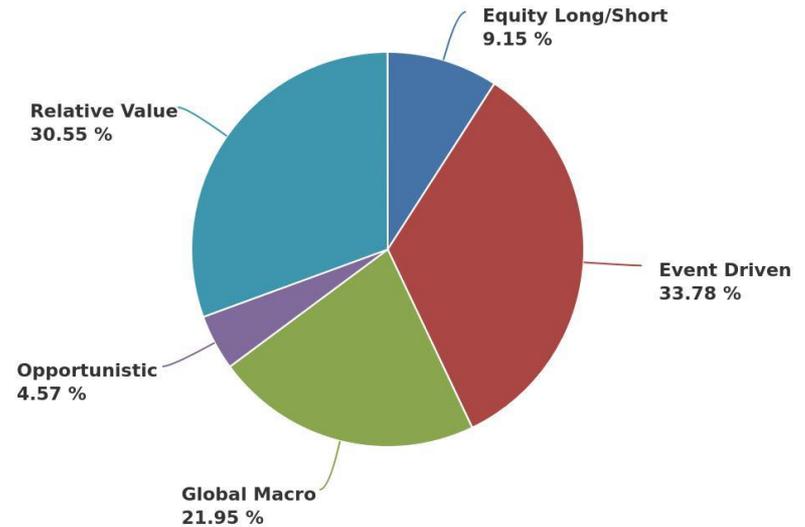
# Hedge Fund Program

## Tactical Plan FY2020 – Exposures

### Strategy Exposures - Hedge Funds - Allocation, %

May-2019

Strategy Class	Targeted Range		Actual
Equity Long/Short	0%	30%	9%
Event Driven	0%	60%	34%
Global Macro	10%	40%	22%
Opportunistic	0%	30%	5%
Relative Value	20%	60%	31%



# Hedge Fund Program

## *Tactical Plan FY2020*



- Currently, the Absolute Return Portfolio is approximately 3.53% of the Trust's assets
- The targeted allocation remains at 5%
- Expectations are for up to 6 new investments during FY2020
- New opportunities focus on Opportunistic, Relative Value, Equity Long/Short strategies
- Additional consideration will be given to low net and market neutral strategies
- Emphasis remains on liquid strategies within developed markets

Questions?  
**Action Item**

## Public Agenda Item #6.1

# *Consideration of Proposed Contract Award for Hedge Fund Consulting Services– (**Action**)*

August 21, 2019

Tom Tull, CFA, Chief Investment Officer  
Gabrielle Schreiber, Director of Procurement and Contract Oversight  
Anthony Curtiss, CFA, Director of Hedge Funds

# Hedge Fund Consulting Services

## *Background*



ERS contracted with Albourne America LLC (Albourne) as ERS's hedge fund consultant on July 15, 2011.

# Hedge Fund Consulting Services

## *Request for Proposals (RFP)*



- ERS issued the RFP on March 21, 2019.
- Requested Services include, but are not limited to:
  - Portfolio Planning and Construction;
  - Market and Investment Analysis; and
  - Portfolio Monitoring and Management.

# Hedge Fund Consulting Services

## *Request for Proposals (RFP)*



- 16 companies requested access to the RFP.
- Responses were due April 19, 2019.
- The following three entities submitted proposals:
  - Aksia LLC;
  - Albourne; and
  - NEPC, LLC (NEPC).

# Hedge Fund Consulting Services

## *Preliminary Review Phase*



ERS's Office of Procurement and Contract Oversight (OPCO) evaluated the following criteria on a pass/fail basis:

- Responsiveness;
- Compliance with the RFP; and
- Certain vendor performance checks required by the Texas Comptroller of Public Accounts.

# Hedge Fund Consulting Services

## *Preliminary Review Phase*



OPCO also verified the following Minimum Requirements were met:

- Maintain a business location within North America;
- Maintain a registered agent in the United States;
- Registered and in good standing with SEC as an investment advisor;
- Firm has at least five years experience providing these services to public retirement system clients;
- Primary individual has at least eight years experience providing these services to public retirement system clients; and
- Anticipated revenue from the ERS relationship will not exceed 20% of Respondent's total consulting revenue.

All Respondents met the Minimum Requirements.

# Hedge Fund Consulting Services

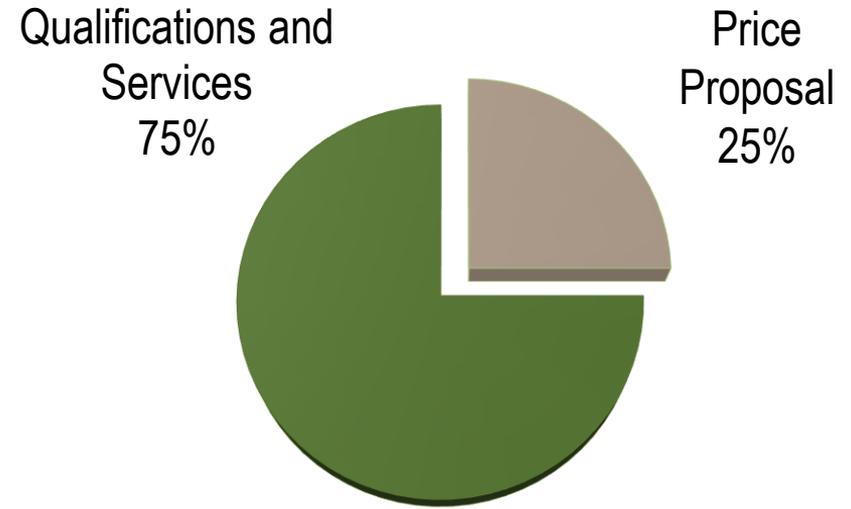
## *Proposal Review*



Two main categories scored:

- Qualifications and Services: 75%
- Price Proposal: 25%

### Proposal Evaluation Criteria



# Hedge Fund Consulting Services

## *Proposal Review*



Pass/Fail items (initially reviewed in this phase):

- Contractibility;
- Legal Requirements and Regulatory Compliance; and
- Financial Stability.

# Hedge Fund Consulting Services

## *Finalists Review Phase*



Based on the Pass/Fail items and the scoring of Price Proposals and Qualifications and Services requirements during the Proposal Review Phase, two Respondents were recommended as Finalists:

- Albourne; and
- NEPC.

# Hedge Fund Consulting Services

## *Finalists Review Phase*



- Finalists Review:

- Qualifications and Services

- *Teleconference Interviews*

- Albourne on June 24, 2019*

- NEPC on June 27, 2019*

- Best and Final Offers (BAFOs)

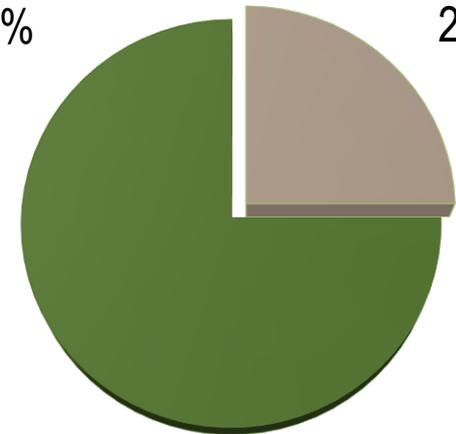
- Contractibility and Legal Requirements and Regulatory Compliance (finalized)

- References

### Finalist Review Criteria

Qualifications and  
Services  
75%

Price  
Proposal  
25%



# Hedge Fund Consulting Services

## *Finalists Review Phase*



- Staff met with Executive Office and reviewed RFP evaluation team findings.
- A best-value determination was made.

# Hedge Fund Consulting Services

## *Staff Recommendation*



Staff recommends that the Board of Trustees of the Employees Retirement System of Texas award the Hedge Fund Consulting Services contract to [\_\_\_\_\_].

Questions?  
**Action Item**

## Public Agenda Item #7.1

### *Presentation of Board of Trustee Recognitions*

August 21, 2019

Craig Hester, Chair of the Board of Trustees

Porter Wilson, Executive Director

## Public Agenda Item #8.1

# *Market Update and Private Equity Program Overview*

August 21, 2019

Ricky Lyra, Interim Director of Private Equity  
Davis Peacock, Private Equity Portfolio Manager  
Adriana Ballard, Private Equity Portfolio Manager  
Brad Young and William Charlton, Mercer

# Private Equity Program Overview



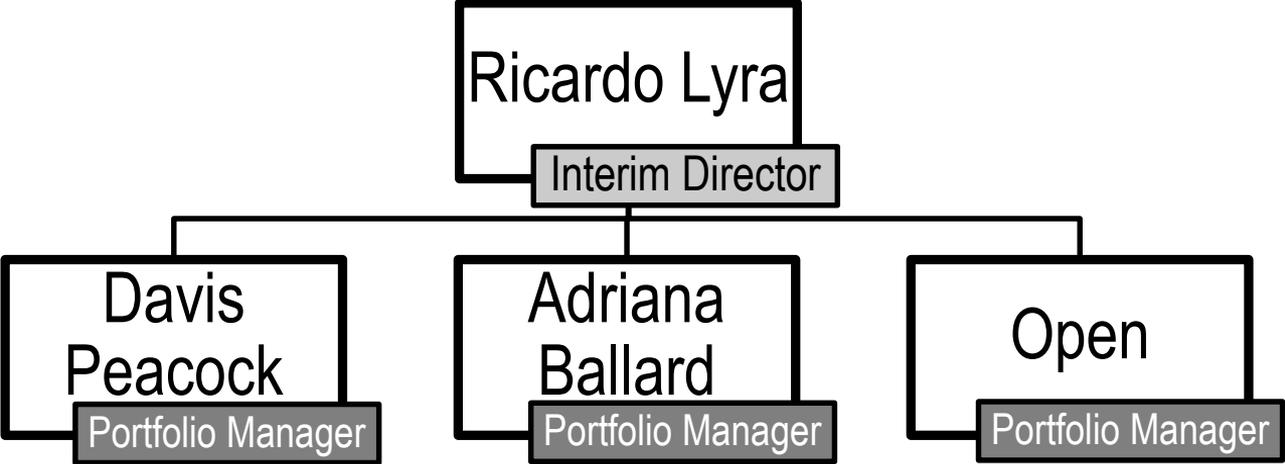
## *Agenda*

- Team Update
- Program Summary
- Cash Flows
- Performance
- Program Economics
- Diversification Metrics
- Goals and Objectives for Fiscal Year 2019 and 2020

# ERS Private Equity Program Overview



## Team



# Private Equity Program Overview

Portfolio Update (June 30, 2019)

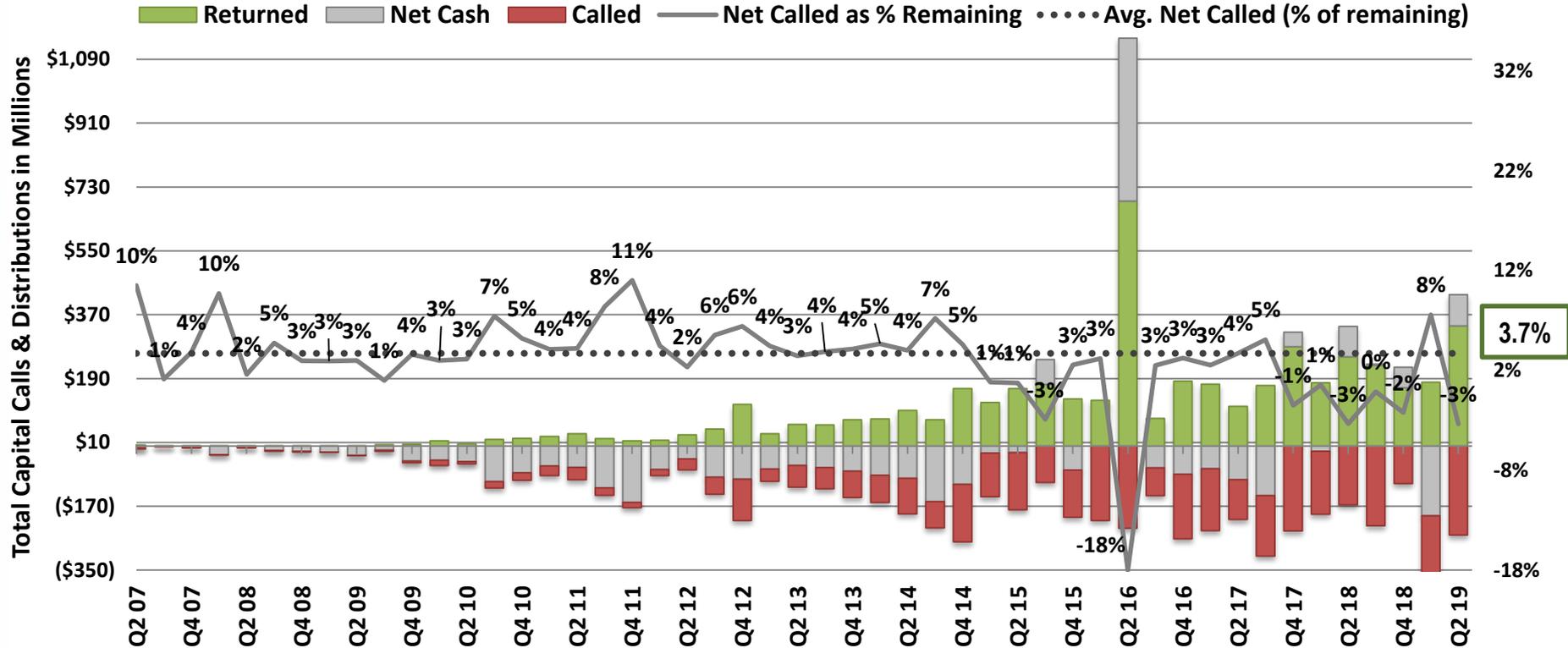


	Inception <sup>1</sup> - FY18	FYTD 19	Inception - FYTD19
<b>Committed</b>	<b>\$7.9 billion</b>	<b>\$1.0 billion</b>	<b>\$8.9 billion</b>
<b>Called</b>	<b>\$5.9 billion</b>	<b>\$835 million</b>	<b>\$6.7 billion</b>
<b>Distributed</b>	<b>\$4.2 billion</b>	<b>\$740 million</b>	<b>\$4.9 billion</b>
<b>Net Asset Value (NAV)</b>	<b>\$3.9 billion</b>	<b>\$219 million</b>	<b>\$4.1 billion</b>
<b>% of Trust</b>	<b>13.3%</b>	<b>90 bps</b>	<b>14.2%</b>
<b>Total Value to Paid in Capital (TVPI)<sup>2</sup></b>	<b>1.37x</b>	<b>(0.03)x</b>	<b>1.34x</b>
<b>Distributed to Paid in Capital (DPI)<sup>3</sup></b>	<b>0.71x</b>	<b>0.02x</b>	<b>0.73x</b>
<b>Internal Rate of Return (IRR)<sup>4</sup></b>	<b>12.5%</b>	<b>(87) bps</b>	<b>11.6%</b>

1. **Inception** goes back to the first private equity fund commitment by ERS in December of 1998
2. **TVPI, Total Value to Paid in Capital**, is equal to (NAV + Distributions) / Paid in Capital;
3. **DPI, Distributions Paid in Capital**, is equal to Distributions / Paid in Capital;
4. **IRR, Internal Rate of Return**, is equal to the discount rate that will bring a series of cash flows to a net present value (NPV) of zero (or to the current value of cash invested)

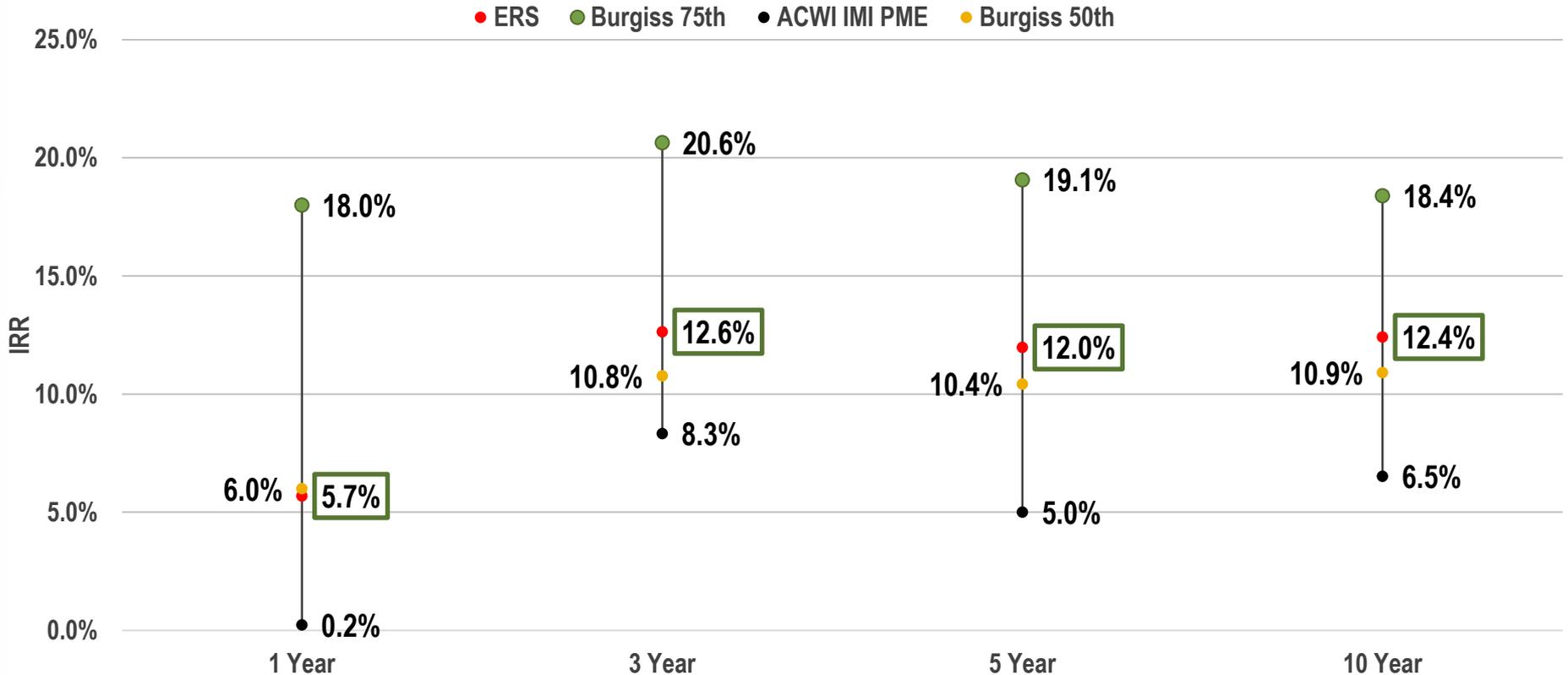
# Private Equity Program Overview

## Cash Flow Summary (June 30, 2019)



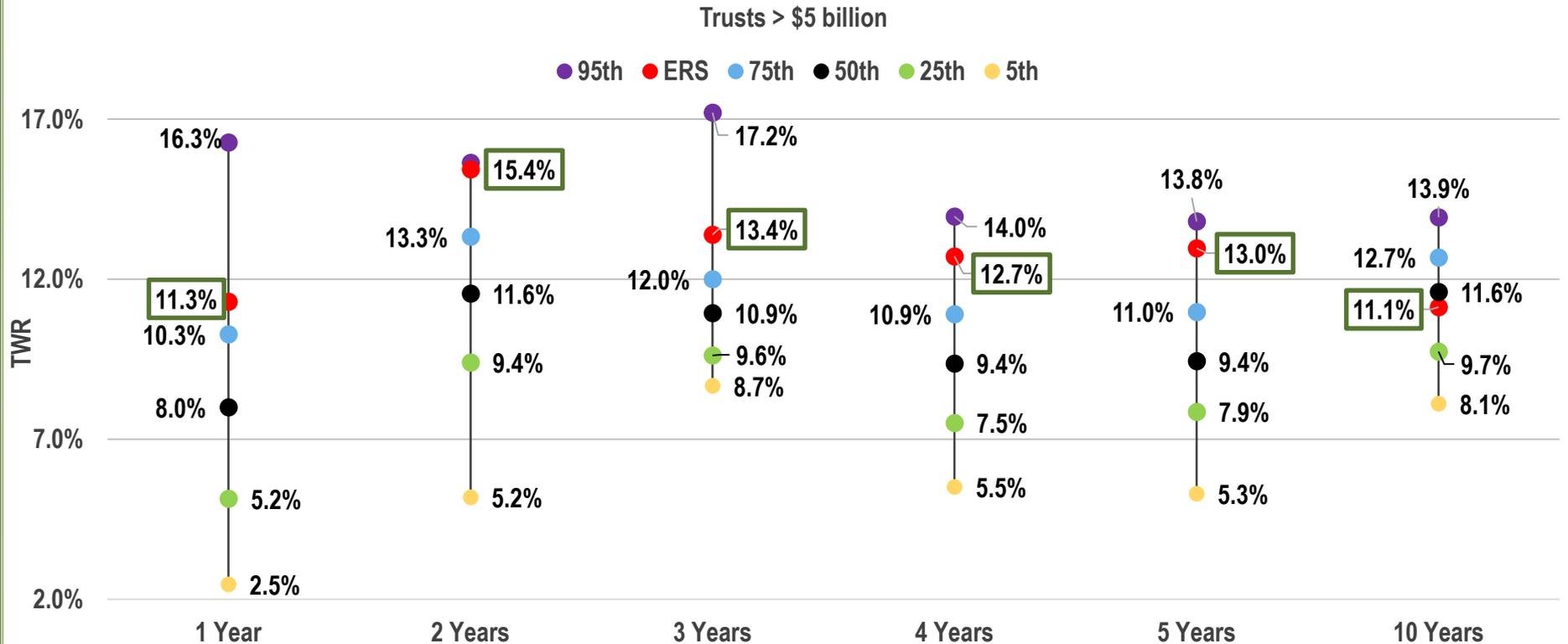
# Private Equity Program Overview

## Benchmark IRR Comparison (March 31, 2019)



# Private Equity Program Overview

## Wilshire Trust Comparison (March 31, 2019)

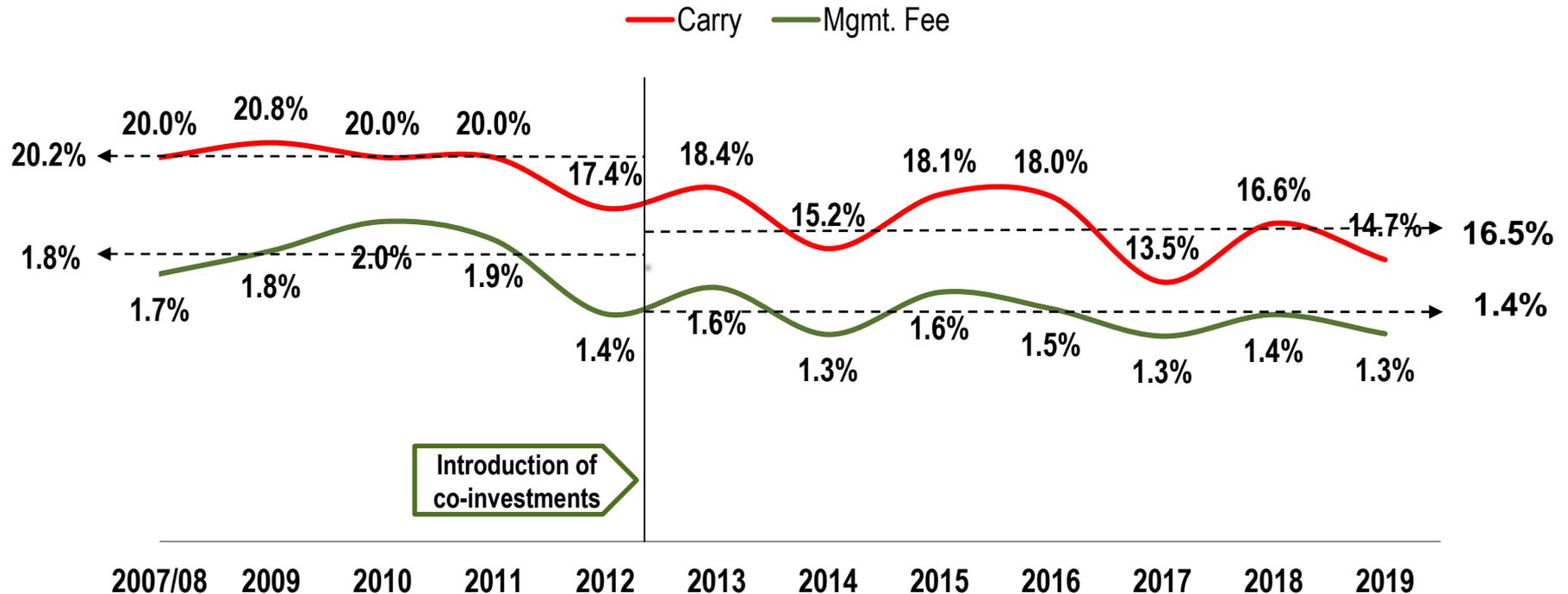


# Private Equity Program Overview

## Terms Evolution by Fiscal Year



### Weighted Economic Terms - Buyouts

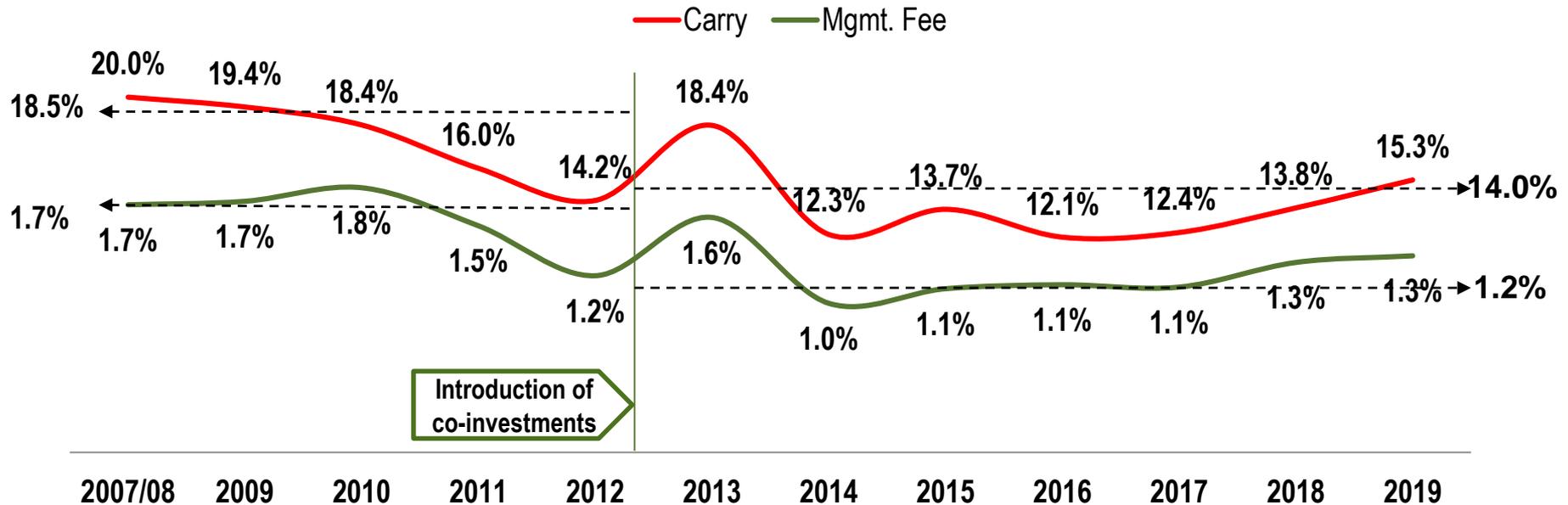


# Private Equity Program Overview

## Terms Evolution by Fiscal Year

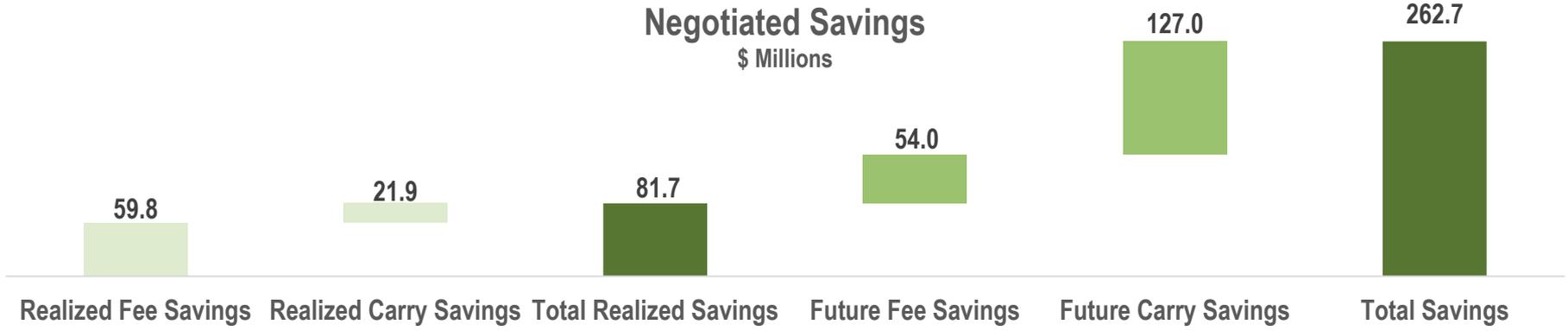


### Weighted Economic Terms - All PE



# Private Equity Program Overview

Program Savings (June 30, 2019)



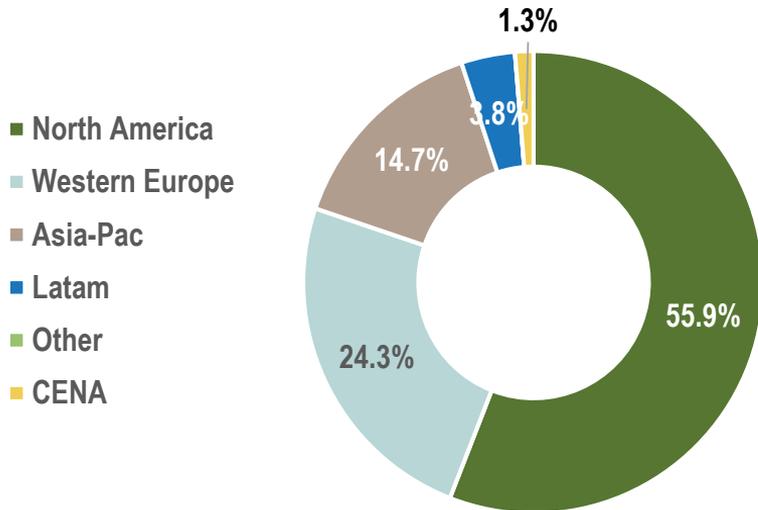
# Private Equity Program Overview

## Diversification Metrics (March 31, 2019)



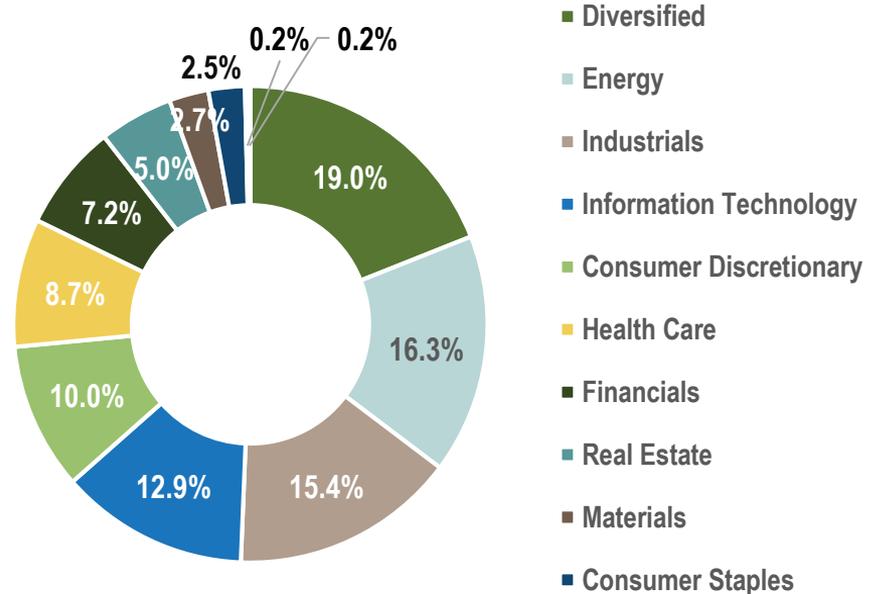
### NAV by Geography

Guideline: US ≥ 50%



### NAV by Sector

Guideline: <20%



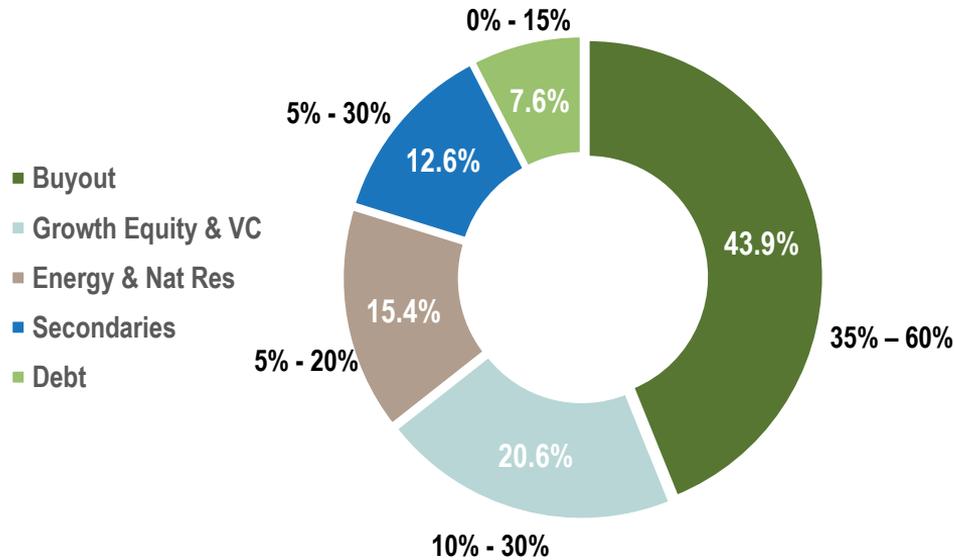
# Private Equity Program Overview

## Diversification Metrics



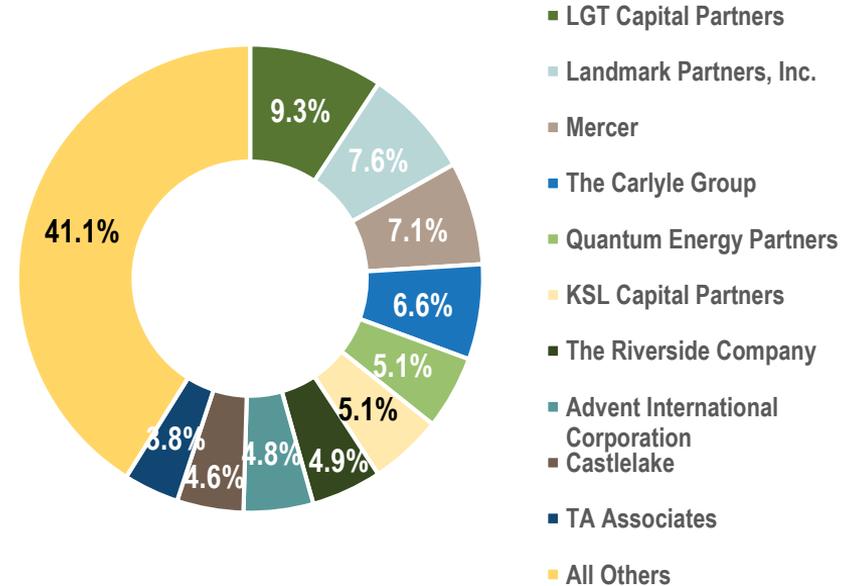
### NAV by Strategy

(3/31/19)



### NAV by Manager

(3/31/19)

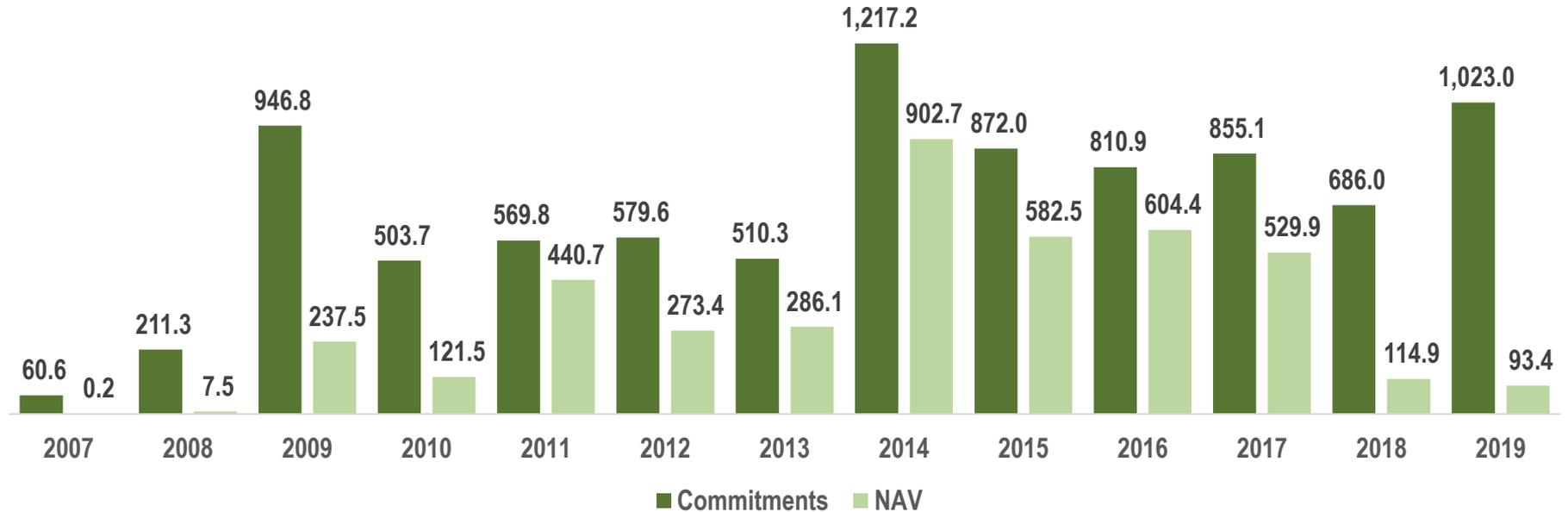


# Private Equity Program Overview

## Portfolio Diversification by Vintage Year



**Commitments and NAV by Fiscal Year**  
(NAV based on 3/31/19)



# Private Equity Program Overview

## *Goals and Objectives for FYs 2019 & 2020*



### FY 2019

- Execute on Tactical Plan
- Strategy Shift

### FY 2020

- Execute on Tactical Plan
- Process & Procedures
- Hire Portfolio Manager

HEALTH WEALTH CAREER

## MERCER ALTERNATIVES

EMPLOYEES RETIREMENT SYSTEM OF  
TEXAS

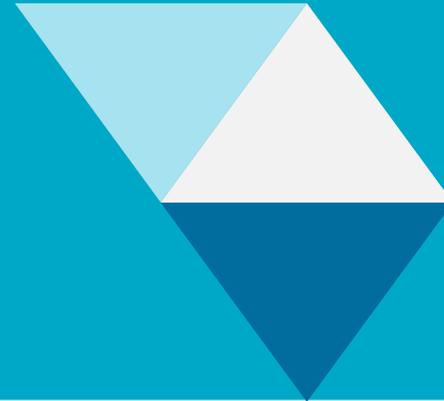
PRIVATE EQUITY PROGRAM REVIEW &  
MARKET OUTLOOK 2020

AUGUST 21, 2019

# TABLE OF CONTENTS

- I. ERS Private Equity Program Update
- II. Private Equity Market Statistics & Outlook
- III. Summary

# ERS PRIVATE PROGRAM UPDATE



# COMPARISON TO PUBLIC MARKETS

The ERS private equity portfolio has outperformed public market equivalents over the longer investment horizons

## Portfolio Performance Compared to Public Market Equivalents (PME)

Portfolio Performance	Quarter	1-Year	3-Year	5-Year	10-Year	Inception
<b><u>Portfolio IRR</u></b>	(1.2%)	6.7%	12.4%	11.7%	12.1%	<b>11.9%</b>
<b><u>Public Market Equivalents</u></b>						
S&P 1500	(13.9%)	(3.7%)	9.7%	8.5%	11.6%	<b>11.4%</b>
MSCI ACWI + 300 bps	(10.0%)	(6.8%)	8.1%	5.6%	8.0%	<b>7.8%</b>
<b><u>Private Market Benchmarks</u></b>						
Burgiss North America Private Capital (\$)	(1.0%)	11.5%	13.3%	12.7%	14.5%	<b>12.7%</b>
Burgiss Europe Private Capital (€)	1.6%	13.7%	14.0%	15.6%	13.8%	<b>12.2%</b>

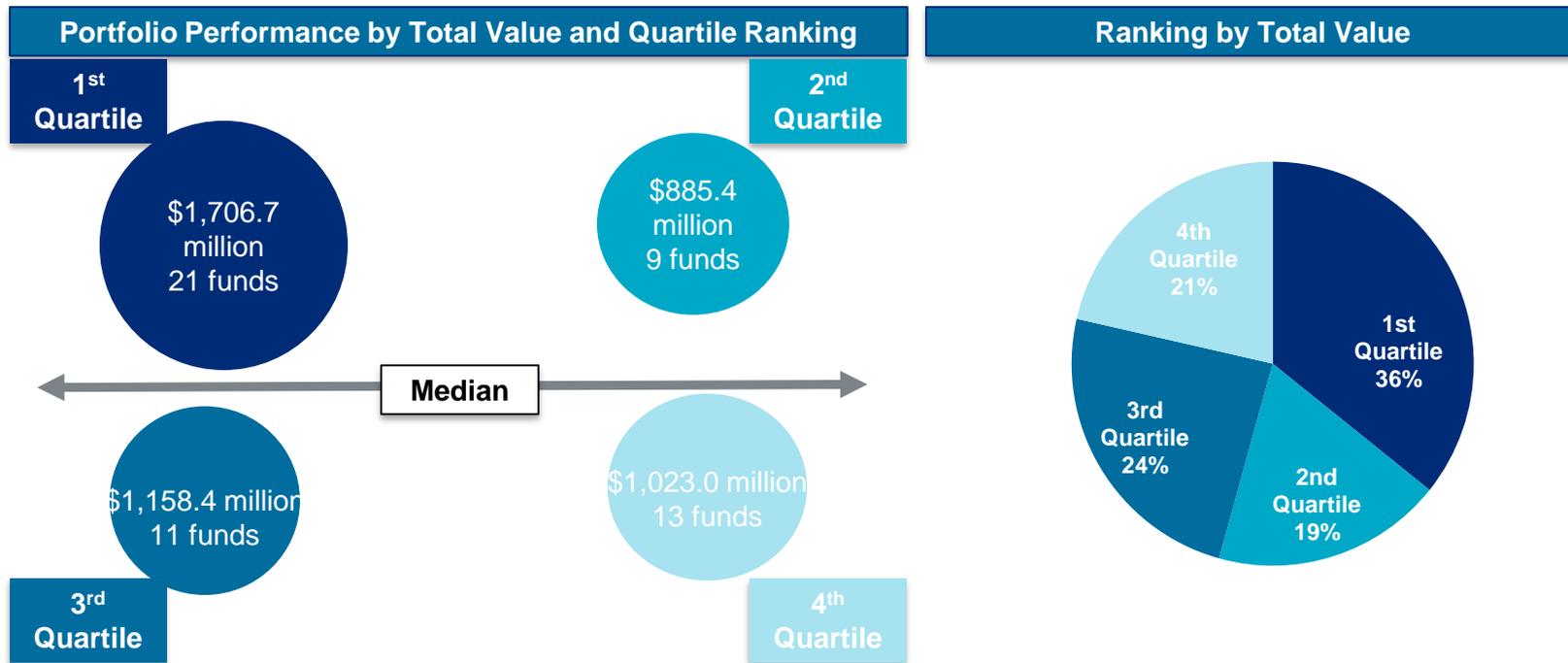
Benchmark returns are deemed not to be meaningful when the underlying portfolio has less than three years of activity.

When performing an index comparison using the Long Nickels method, the internal rate of return may be deemed to be not meaningful if the final valuation of the theoretical investment is negative.

Figures use the Long Nickels PME method. This method runs an IRR using the original cash flows, but the ending value is the total of all the public market adjusted cash flows. The time frame used is since the inception of the Private Equity program on July 31, 2007. All 1, 3, 5, and 10 year figures are using cash flows from December 31, 2018 back until April 1 on the corresponding time frame. All figures are calculated using monthly aggregated cash flows as of December 31, 2018. The portfolio performance and PME analysis is based on NAVs as of December 31, 2018.

# PORTFOLIO PERFORMANCE: PRIVATE EQUITY FUNDS

As measured by total value, approximately 55% of the funds in the ERS portfolio with vintages of 2007-2015 are in either the 1<sup>st</sup> or 2<sup>nd</sup> quartile

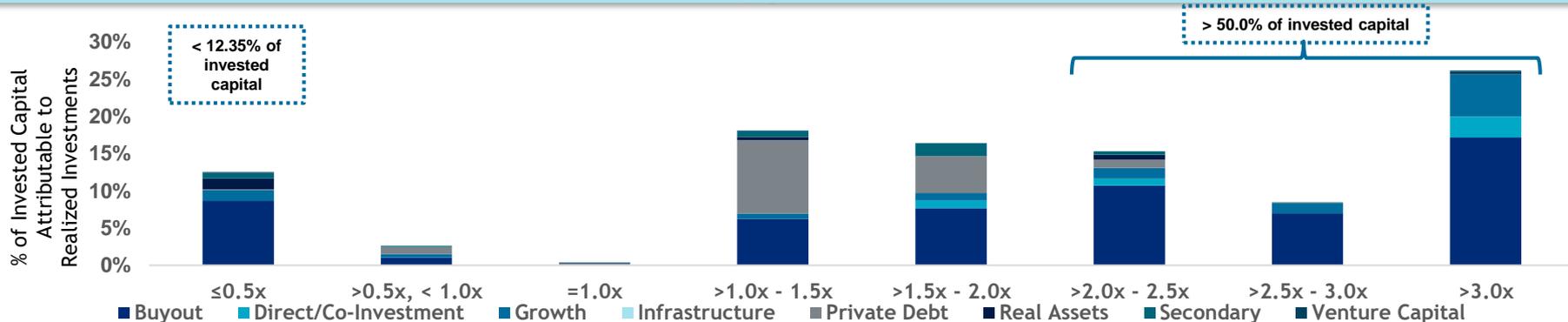


All figures as of December 31, 2018, and benchmark is Burgiss PrivateIQ measured by TVPI. Only includes private equity funds with vintage years 2007-2015. Excludes direct co-investments. Bubble size represents aggregate total value (NAV + distributions) by quartile.

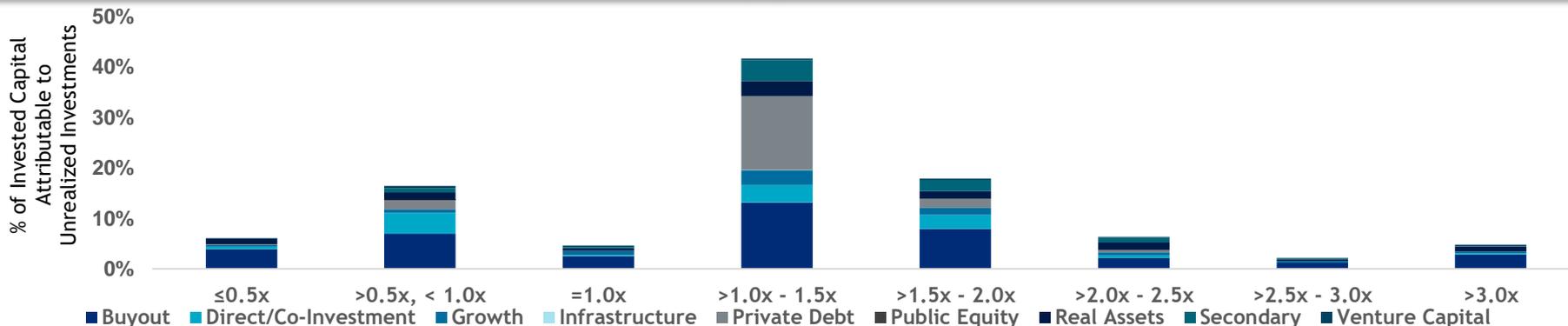
# PORTFOLIO PERFORMANCE: UNDERLYING HOLDINGS ANALYSIS

## Volatility Dispersion by Gross Multiple

### Realized Underlying Portfolio Companies



### Unrealized Underlying Portfolio Companies



All figures as of December 31, 2018. Includes co-investments.

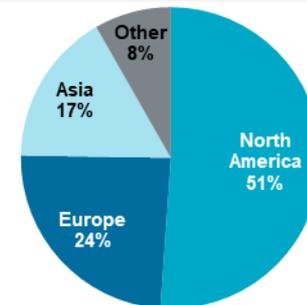
# PORTFOLIO PERFORMANCE: UNDERLYING HOLDINGS ANALYSIS

## Diversification and Performance

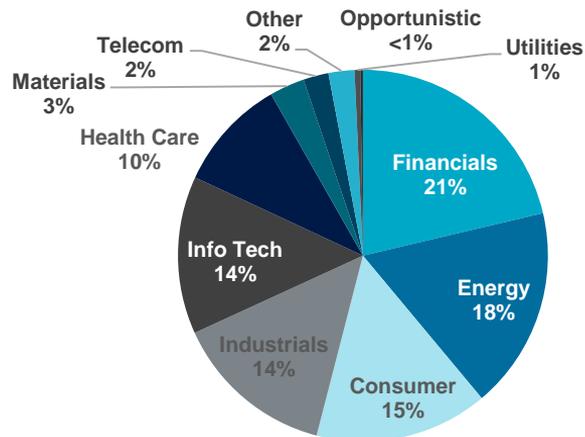
### Remaining Value by Geography

Geography	Realized		Unrealized		Total	
	Gross Gain / Loss	Gross Mult.	Gross Gain / Loss	Gross Mult.	Gross Gain / Loss	Gross Mult.
North America	\$ 695.6	2.44x	\$ 877.8	1.44x	\$ 1,573.4	1.64x
Europe	181.0	1.92x	395.6	1.45x	576.6	1.64x
Asia	79.2	1.86x	236.8	1.41x	316.1	1.44x
Other	12.9	1.70x	95.5	1.24x	108.4	1.26x
<b>Grand Total</b>	<b>\$ 968.8</b>	<b>2.22x</b>	<b>\$ 1,605.7</b>	<b>1.42x</b>	<b>\$ 2,574.5</b>	<b>1.56x</b>

### Return by Geography



### Remaining Value by Industry



### Return by Industry

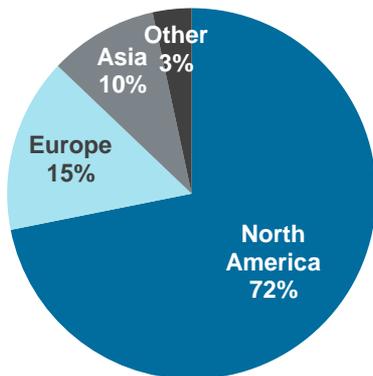
Industry	Realized		Unrealized		Total	
	Gross Gain / Loss	Gross Mult.	Gross Gain / Loss	Gross Mult.	Gross Gain / Loss	Gross Mult.
Consumer	\$ 143.3	1.71x	\$ 394.3	1.39x	\$ 501.4	1.45x
Info Tech	90.7	2.25x	207.2	1.42x	297.9	1.52x
Health Care	135.0	2.96x	212.0	1.71x	346.9	1.94x
Industrials	207.6	2.37x	178.0	1.38x	385.6	1.62x
Financials	107.1	2.04x	394.3	1.39x	501.4	1.45x
Materials	166.6	3.46x	84.0	1.75x	250.6	2.39x
Energy	16.0	1.32x	245.1	1.41x	261.0	1.40x
Telecom	26.9	1.83x	34.5	1.56x	61.4	1.65x
Utilities	15.3	2.83x	4.2	1.13x	19.6	1.48x
Opportunistic	0.0	1.67x	2.1	1.22x	2.1	1.22x
Real Estate	59.7	2.79x	18.0	1.13x	19.6	1.48x
Other	0.6	1.22x	17.5	1.66x	18.0	1.62x
<b>Grand Total</b>	<b>\$ 968.8</b>	<b>2.22x</b>	<b>\$ 1,605.7</b>	<b>1.42x</b>	<b>\$ 2,574.5</b>	<b>1.56x</b>

# PORTFOLIO SNAPSHOT: CO-INVESTMENT PROGRAM

The ERS co-investment program is well-diversified across GPs, strategies and sectors, with an intentional weighting towards buyouts and North America

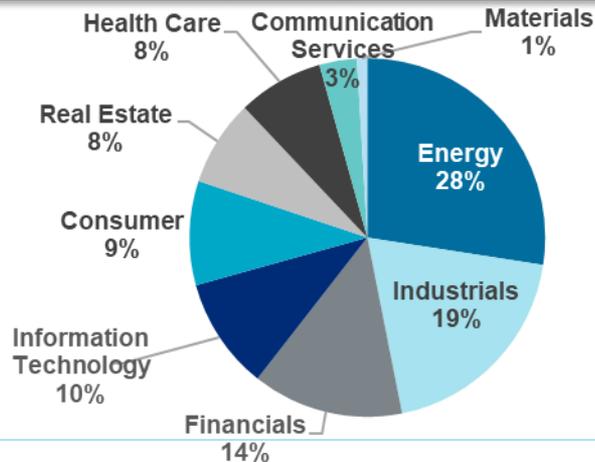
- From year-end 2011 through Q4 2018, ERS has committed approximately \$546.4 million to 40 co-investments alongside 16 unique sponsors
- Approximately 64% of the co-investment commitments are allocated to buyout strategies
- Aside from The Carlyle Group, no single GP sponsor accounts for more than 10.8% of co-invest commitments
  - Carlyle accounts for approximately 25.9% of ERS' co-investment commitments, however these co-investments are diversified across two distinct strategies within the Carlyle platform
  - Approximately 47% of these co-investments are in energy assets and the remainder in financial services buyouts

## Geographic Exposure by Committed Capital



All figures as of December 31, 2018.

## Sector Exposure by Committed Capital

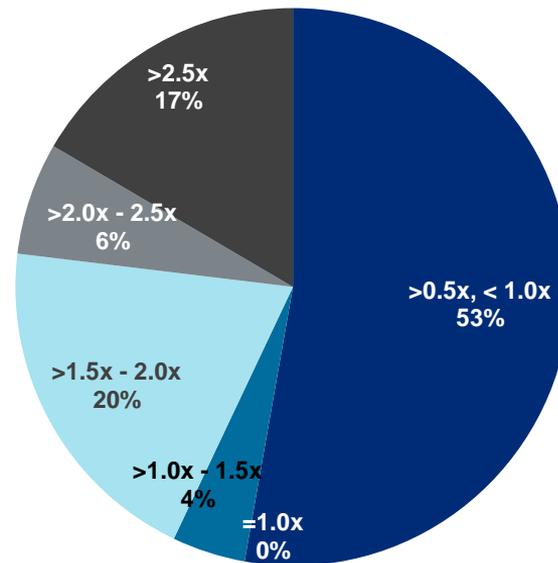
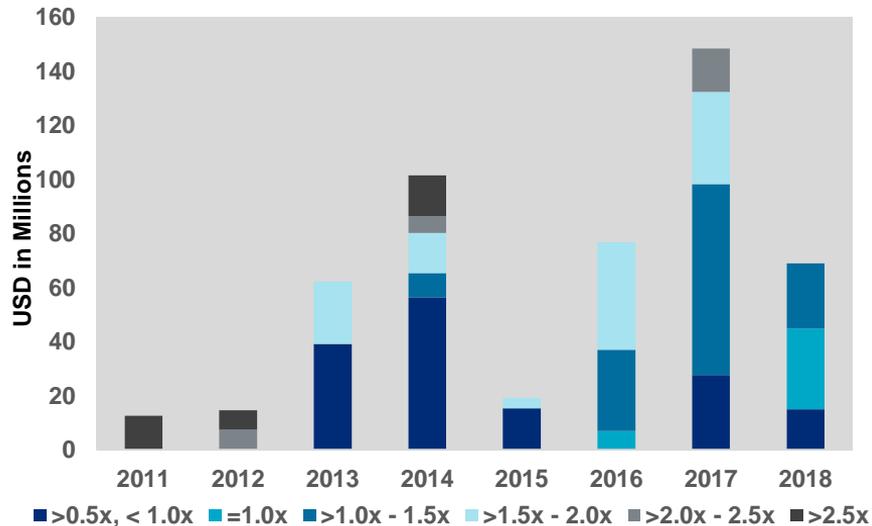


# PORTFOLIO PERFORMANCE: CO-INVESTMENT PROGRAM

The ERS co-investment program is performing well and generating a 1.4x multiple as of December 31, 2018

**Net Multiple by Amount Drawn and Commitment Year (All Direct Co-Investments)**

**Net Multiple by Amount Drawn (Only Includes Direct Co-Investments from 2011-2015)\***



# PRIVATE EQUITY MARKET STATISTICS & OUTLOOK



# PRIVATE EQUITY MARKET SNAPSHOT

## Fundraising

- Private equity fundraising, especially for U.S. and global mega-funds, remains strong. In Q1 2019, a total of \$45.6 billion of capital commitment was raised by 29 new U.S. funds. Of the capital raised in Q1 2019, 31% were with vehicles of \$1 billion or more.

## Deal Flow

- Private equity deal flow has remained flat in terms of value and decreased in terms of volume YoY. In Q1 2019, U.S. and Europe saw deal flow decline to \$121.4 billion and €85.7 million, which represent year-over-year declines of 42.3% and 28.9%, respectively.

## Pricing

- Pricing has remained robust in the U.S. with median EBITDA multiples of 11.5x
- Europe has seen an increase of EBITDA multiples of 11.5x

## Credit Markets

- Both U.S. and Europe have strong credit markets with median debt levels of 5.8x in the U.S. and 6.0x in Europe

Source: Pitchbook.  
All figures as of March 31, 2019.

# PRIVATE EQUITY MARKET SNAPSHOT

## Asset Pricing

- Asset prices are expected to remain close to historical highs due to the increase in dry powder, the ready availability of debt and an improved economic environment. In Q1 2019, U.S. GDP was 3.2%, the strongest first quarter GDP growth in the last four years. Growth in Europe is expected to remain muted as the IMF forecasts growth to reach 1.6% in 2019 and 1.8% in 2020.

## Returns

- Over longer investment horizons, private equity funds continue to generate returns above corresponding public equity markets. Over an 18-year period, private equity has generated a 11.58% return, compared to 6.22% return on the S&P 500 and a 8.72% return on the Russell 3000 over the same period.

Source: IMF, Pitchbook.  
All figures as of March 31, 2019.

# SUMMARY



## SUMMARY

- To date, The ERS private equity portfolio has consistently exceeded its investment benchmark over the longer investment horizons
- As of December 31, 2018, the ERS private equity portfolio has invested \$4,627.9 million that has generated \$3,114.3 million in realizations. ERS should continue to enjoy the benefits of a maturing private equity portfolio
- The ERS private equity portfolio is well diversified across geographies, sectors, and styles
- The ERS private equity portfolio is primarily populated with top tier fund managers
- The ERS co-investment program continues to provide concentrated exposure to portfolio companies and is currently outperforming the broader private equity portfolio, all while increasing the portfolio's economic efficiency
- Mercer continues to value its relationship with ERS

Questions?

## Public Agenda Item #8.2

### *Consideration of Proposed Private Equity Annual Tactical Plan for Fiscal Year 2020 – (Action)*

August 21, 2019

Ricky Lyra, Interim Director of Private Equity  
Davis Peacock, Private Equity Portfolio Manager

# Private Equity FY2020 Tactical Plan

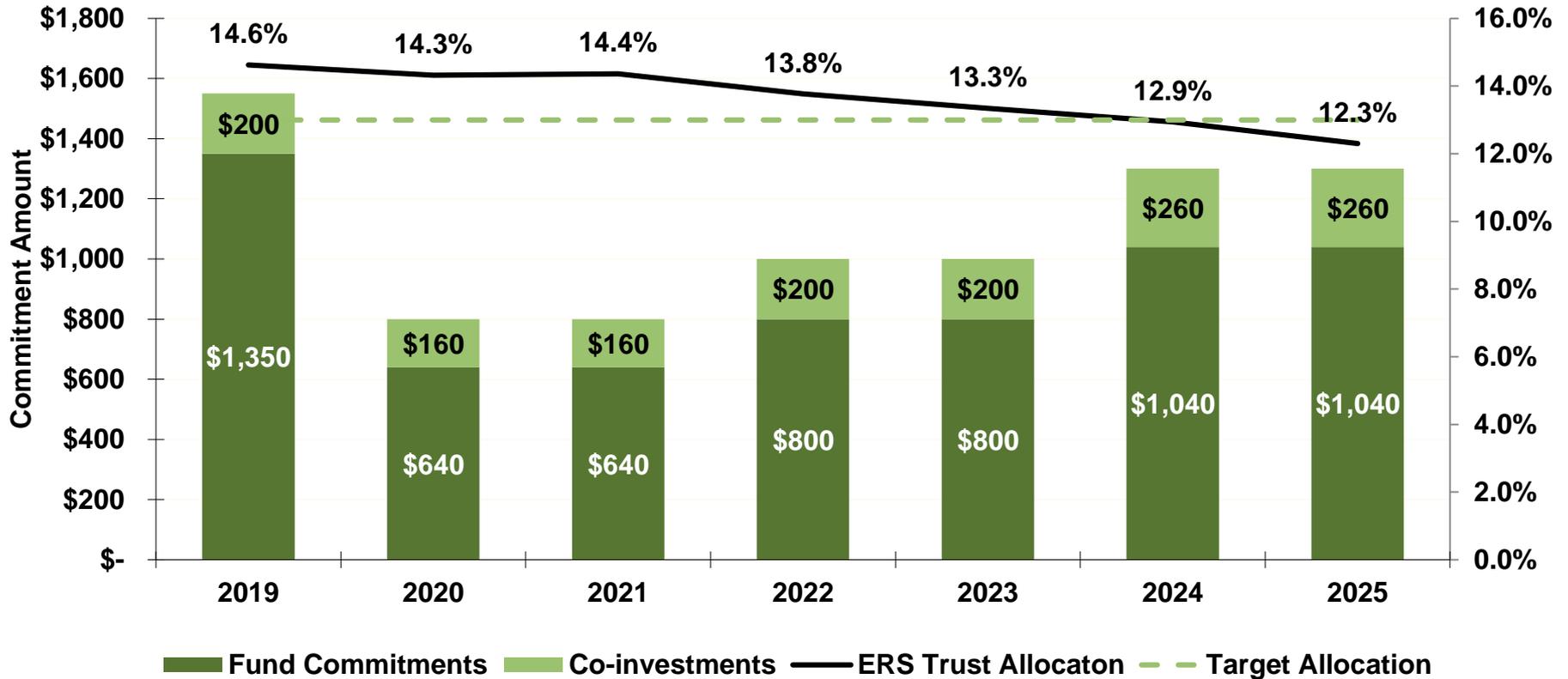
## *IAC and Board Approval Request*



- **Review and consideration of ERS Private Equity Annual Tactical Plan for FY2020:**
  - Propose to invest in 9-18 commitments totaling \$800.0 million (including co-investments)
  - Commitment target range +/- 25% (\$600M – 1B)

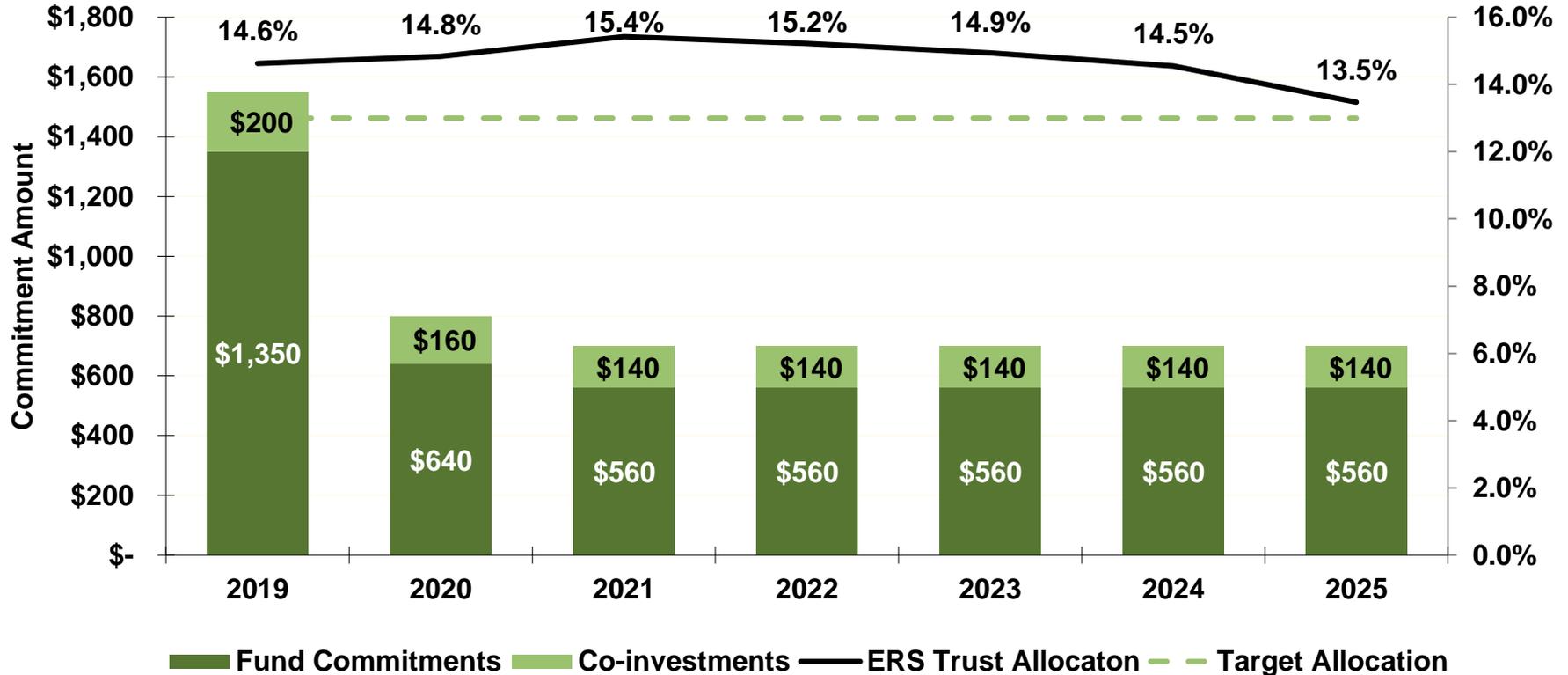
# Private Equity FY2020 Tactical Plan

## 7.5% Trust Growth



# Private Equity FY2020 Tactical Plan

## Sensitivity Analysis – 3.75% Trust Growth



Questions?  
**Action Item**

## Public Agenda Item #9.1

# *Election of Chair and Vice Chair of the ERS Investment Advisory Committee for Fiscal Years 2020 and 2021 – (Action)*

August 21, 2019

Tom Tull, CFA, Chief Investment Officer

# IAC Skills Assessment

	Term Expiration	Investment Experience	Global Equity	Fixed Income	Private Equity	Real Estate	Hedge Funds	Infrastructure	Derivatives
<b>Bob Alley, CFA</b> Retired from AIM Advisors, Inc. as Chief Fixed Income Officer	8/31/2021	42 years	X	X	X				
<b>Gene L. Needles, Jr.</b> Chairman, President and CEO American Beacon Advisors	5/31/2020	24 years	X	X	X	X	X		X
<b>Caroline Cooley</b> CIO – Diversified Funds Crestline Investors, Inc.	12/31/2019	33 years					X		X
<b>James Hille, CFA, CAIA</b> CIO Texas Christian University Endowment	8/31/2020	26 years	X	X	X	X	X		
<b>Ken Mindell</b> Sr. VP, Treasurer & Director of Investments Rosewood Management Corporation	5/31/2022	37 years	X	X	X	X	X		X
<b>Laurie Dotter</b> Retired from Transwestern Corporation Properties as President	5/31/2022	35 years				X		X	
<b>Didi Weinblatt, Ph.D., CFA</b> Retired – USAA Investment Mgmt Co as Vice Chairman of Mutual Fund Portfolios	8/31/2020	37 years	X	X					

Questions?  
**Action Item**

## Public Agenda Item #10.1

*Reminder date for the next Joint Meeting of the Board of Trustees and Investment Advisory Committee, the next meeting of the Board of Trustees, and the next meeting of the Audit Committee*

August 21, 2019

## 2019 Meeting Dates

Wednesday, March 6, 2019

Wednesday, May 22, 2019

Wednesday, August 21, 2019

### **2-Day Workshop:**

**Tuesday – Wednesday, December 10-11, 2019**

Public Agenda Item #11.1

*Adjournment of the Joint Meeting of the Board of Trustees and  
Investment Advisory Committee*

August 21, 2019

## Public Agenda Item #11.2

*Recess of the Board of Trustees –*

*Following a temporary recess, the Board of Trustees will reconvene to take up the Board agenda items*

August 21, 2019