

# INVESTMENT MARKET UPDATE

(AS OF OCTOBER 31, 2018)



Firefighters' Retirement System of Louisiana

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

# CALENDAR YEAR INDEX PERFORMANCE

	2009	2010	2011	2012	2013	2014	2015	2016	2017	Q1	Q2	Q3	Oct	YTD
<b>S&amp;P 500</b>	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-0.8%	3.4%	7.7%	-6.8%	3.0%
<b>Russell 1000</b>	28.4%	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-0.7%	3.6%	7.4%	-7.1%	2.7%
<b>Russell 2000</b>	27.2%	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-0.1%	7.8%	3.6%	-10.9%	-0.6%
<b>Russell 2500</b>	34.4%	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-0.2%	5.7%	4.7%	-10.2%	-0.8%
<b>MSCI EAFE</b>	31.8%	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-1.5%	-1.2%	1.4%	-8.0%	-9.3%
<b>MSCI EM</b>	78.5%	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	1.4%	-8.0%	-1.1%	-8.7%	-15.7%
<b>MSCI ACWI</b>	34.6%	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-1.0%	0.5%	4.3%	-7.5%	-4.0%
<b>Private Equity*</b>	13.7%	19.7%	7.9%	12.5%	20.6%	12.7%	9.6%	8.3%	19.9%	3.2%	-	-	-	3.2%
<b>BC TIPS</b>	11.4%	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-0.8%	0.8%	-0.8%	-1.4%	-2.3%
<b>BC Municipal Bond</b>	12.9%	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	-1.1%	0.9%	-0.2%	-0.6%	-1.0%
<b>BC Muni High Yield</b>	32.7%	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	0.6%	3.1%	0.8%	-1.3%	3.1%
<b>BC US Corp High Yield</b>	58.2%	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-0.9%	1.0%	2.4%	-1.6%	0.9%
<b>BC US Aggregate</b>	5.9%	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	-1.5%	-0.2%	0.0%	-0.8%	-2.4%
<b>BC Global Aggregate</b>	2.6%	5.2%	6.4%	1.6%	-4.0%	-0.5%	-3.6%	1.6%	7.5%	1.4%	-2.8%	-0.9%	-1.1%	-3.5%
<b>BC Long Treasuries</b>	-12.9%	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-3.3%	0.3%	-2.9%	-3.0%	-8.7%
<b>BC US Long Credit</b>	16.8%	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-3.8%	-2.7%	1.3%	-3.6%	-8.6%
<b>BC US STRIPS 20+ Yr</b>	-36.0%	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.6%	0.9%	-4.7%	-5.3%	-13.1%
<b>JPM GBI-EM Glob Div</b>	22.0%	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	4.4%	-10.4%	-1.8%	-2.0%	-9.9%
<b>JPM EMBI Glob Div</b>	29.8%	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.1%	-1.7%	-3.5%	2.3%	-2.2%	-5.1%
<b>CS Leveraged Loan</b>	44.9%	10.0%	1.8%	9.4%	6.2%	2.1%	-0.4%	9.9%	4.2%	1.6%	0.8%	1.9%	0.0%	4.4%
<b>CS Hedge Fund</b>	18.6%	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	0.5%	0.1%	0.6%	-	1.2%
<b>BBG Commodity</b>	18.9%	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-0.4%	0.4%	-2.0%	-2.2%	-4.1%
<b>Alerian MLP</b>	76.4%	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-11.1%	11.8%	6.6%	-8.0%	-2.6%
<b>FTSE NAREIT Eq REITs</b>	28.0%	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-8.2%	10.0%	0.8%	-3.0%	-1.2%

Source: Bloomberg, Barclays, Alerian, Nareit, MSCI, JP Morgan, Credit Suisse, Thomson One  
 \*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



# MARKET COMMENTARY – OCTOBER 2018

## Market Environment

Volatility made a comeback in October as a wave of risk aversion washed over markets amid rising rates in the United States, growing concerns over slowing economic growth in China, and ongoing geopolitical tensions. Equities declined with international and emerging economies faring worse than US markets. The S&P 500 Index fell 6.8% even as the US unemployment rate declined to 3.7%, the lowest it has been in nearly 50 years. The MSCI EAFE Index lost 8%, while the MSCI Emerging Markets Index declined 8.7% last month.

Despite the risk-off sentiment, fixed income moved lower as well with US yields moving higher. The 10-year Treasury increased eight basis points to 3.14% and the 30-year Treasury increased 19 basis points – causing long-duration US assets to decline. The Barclays Long Treasury Index and Barclays Long Credit Index fell 3.0% and 3.6%, respectively. Local- and dollar-denominated emerging market bonds declined during the month. The JPM EMBI Global Diversified Index fell 2% as spreads increased 31 basis points in October.

In real assets, crude oil gave up some of its third-quarter gains, falling 10.8% last month. Despite this decline, spot WTI crude oil remains up 8.1% year-to-date. The Alerian MLP Index declined 8% in October as higher yields in the US render riskier assets relatively less attractive.

As rates edge higher, we encourage the addition of safe-haven fixed-income debt. We advise investors to trim any overweight positions in US stocks and consider reducing their overall exposure given current valuations and profit margins. Despite the continued pressure on emerging market assets, we still believe these economies are attractive investments and that the macro forces currently weighing on them will moderate in 2019. Finally, we remind investors to remain vigilant in the face of elevated volatility and to maintain a diversified risk-balanced portfolio to weather potential market sell-offs.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

### Investment Performance Summary - Net of Fees

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Plan Composite</b>	<b>1,604,771,610</b>	<b>100.0</b>	<b>100.0</b>	<b>-5.4</b>	<b>-3.9</b>	<b>-3.3</b>	<b>-1.5</b>	<b>5.6</b>	<b>3.8</b>	<b>5.9</b>	<b>5.6</b>	<b>Sep-92</b>
<i>Policy Index</i>				-5.2	-2.8	-2.8	0.1	6.8	5.8	--	--	Sep-92
<i>Allocation Index</i>				-5.2	-3.0	-2.9	-0.2	6.5	5.3	--	--	Sep-92
<b>Total Equity Composite</b>	<b>849,311,024</b>	<b>57.0</b>	<b>52.9</b>	<b>-8.2</b>	<b>-6.2</b>	<b>-4.6</b>	<b>-3.0</b>	<b>7.2</b>	<b>5.9</b>	<b>10.6</b>	<b>7.1</b>	<b>Sep-92</b>
<i>MSCI ACWI</i>				-7.5	-4.0	-3.5	-0.5	7.7	6.1	9.7	7.4	Sep-92
<b>Domestic Equity Composite</b>	<b>377,508,006</b>	<b>27.0</b>	<b>23.5</b>	<b>-7.8</b>	<b>0.7</b>	<b>-1.6</b>	<b>5.1</b>	<b>9.7</b>	<b>8.5</b>	<b>12.8</b>	<b>7.8</b>	<b>Sep-92</b>
<i>Russell 3000</i>				-7.4	2.4	-0.8	6.6	11.3	10.8	13.3	9.7	Sep-92
Mellon Stock Index Fund	279,451,155		17.4	-6.8	3.0	0.3	7.3	11.5	11.3	--	11.3	Nov-13
<i>S&amp;P 500</i>				-6.8	3.0	0.3	7.3	11.5	11.3	13.2	11.3	Nov-13
<b>SMID Cap Composite</b>	<b>98,056,851</b>	<b>8.0</b>	<b>6.1</b>	<b>-10.8</b>	<b>-5.8</b>	<b>-7.3</b>	<b>-1.5</b>	<b>4.9</b>	<b>1.6</b>	<b>--</b>	<b>5.4</b>	<b>Oct-12</b>
<i>Russell 2500</i>				-10.2	-0.8	-5.9	2.8	10.0	8.3	13.6	12.0	Oct-12
Energy Opportunities Fund	13,998,745		0.9	-16.5	-15.4	-15.9	-6.6	-7.8	-12.1	0.1	-3.4	Jul-07
<i>OIH/XLE Blended Energy Benchmark</i>				-14.9	-13.4	-16.5	-5.7	-4.0	-8.8	0.8	-2.4	Jul-07
<i>Russell 2500</i>				-10.2	-0.8	-5.9	2.8	10.0	8.3	13.6	8.0	Jul-07
<b>SMID Cap Composite ex Energy</b>	<b>84,058,106</b>	<b>--</b>	<b>5.2</b>	<b>-9.8</b>	<b>-4.0</b>	<b>-5.7</b>	<b>-0.5</b>	<b>7.5</b>	<b>5.6</b>	<b>--</b>	<b>9.0</b>	<b>Oct-12</b>
<i>Russell 2500</i>				-10.2	-0.8	-5.9	2.8	10.0	8.3	13.6	12.0	Oct-12
Rothschild U.S. SMID Core	43,961,698		2.7	-9.7	-1.1	-4.6	2.4	9.7	--	--	7.0	Jul-15
<i>Russell 2500</i>				-10.2	-0.8	-5.9	2.8	10.0	8.3	13.6	7.2	Jul-15
QMA SMID	40,096,408		2.5	-9.8	--	-6.9	--	--	--	--	-8.8	Jun-18
<i>Russell 2500</i>				-10.2	-0.8	-5.9	2.8	10.0	8.3	13.6	-5.3	Jun-18

Performance and values are preliminary and subject to change.

Returns are net of manager fees.

Results for periods longer than one year are annualized.

Fiscal Year ends June 30th.

SMID Cap and International Equity Composites start date is 10/1/2012.

MSCI Custom Benchmark is comprised of the MSCI EAFE until 12/31/2009 and MSCI ACWI ex USA beginning 1/1/2010.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>International Equity Composite</b>	<b>241,749,579</b>	<b>15.0</b>	<b>15.1</b>	<b>-8.8</b>	<b>-11.7</b>	<b>-7.0</b>	<b>-10.2</b>	<b>4.4</b>	<b>2.5</b>	<b>--</b>	<b>5.4</b>	<b>Oct-12</b>
<i>MSCI ACWI ex USA</i>				-8.1	-11.0	-7.5	-8.2	4.4	1.6	6.9	4.5	Oct-12
LSV International Equity Value	121,788,762		7.6	-8.3	-11.4	-5.8	-9.1	5.4	2.6	8.1	5.5	Oct-04
<i>MSCI Custom Benchmark</i>				-8.1	-11.0	-7.5	-8.2	4.4	1.6	6.2	4.7	Oct-04
Fisher All Foreign Equity	119,960,817		7.5	-9.3	-12.1	-8.2	-11.2	3.5	2.4	8.6	6.2	Oct-04
<i>MSCI ACWI ex USA</i>				-8.1	-11.0	-7.5	-8.2	4.4	1.6	6.9	5.5	Oct-04
<b>Global Equity Composite</b>	<b>154,195,020</b>	<b>10.0</b>	<b>9.6</b>	<b>-8.1</b>	<b>-9.1</b>	<b>-5.9</b>	<b>-6.2</b>	<b>5.0</b>	<b>5.4</b>	<b>--</b>	<b>9.0</b>	<b>Oct-12</b>
<i>MSCI ACWI</i>				-7.5	-4.0	-3.5	-0.5	7.7	6.1	9.7	8.6	Oct-12
Thornburg Global Opportunities	57,494,882		3.6	-9.2	-15.0	-10.0	-13.5	2.7	6.5	11.4	9.8	Oct-04
<i>MSCI ACWI</i>				-7.5	-4.0	-3.5	-0.5	7.7	6.1	9.7	6.8	Oct-04
Boston Partners Global Equity	96,687,767		6.0	-7.4	-5.2	-3.2	-1.3	--	--	--	10.4	Nov-16
<i>MSCI ACWI</i>				-7.5	-4.0	-3.5	-0.5	7.7	6.1	9.7	10.7	Nov-16
<b>Emerging Markets Equity</b>	<b>75,858,419</b>	<b>5.0</b>	<b>4.7</b>	<b>-8.8</b>	<b>-16.7</b>	<b>-10.6</b>	<b>-14.0</b>	<b>6.1</b>	<b>0.4</b>	<b>--</b>	<b>0.9</b>	<b>Oct-13</b>
<i>MSCI Emerging Markets</i>				-8.7	-15.7	-9.7	-12.5	6.5	0.8	7.8	1.7	Oct-13
Acadian Emerging Markets Equity	51,776,881		3.2	-8.5	-18.2	-9.7	-15.3	6.0	--	--	0.8	Dec-13
<i>MSCI Emerging Markets</i>				-8.7	-15.7	-9.7	-12.5	6.5	0.8	7.8	1.1	Dec-13
OFI Emerging Markets	24,081,538		1.5	-9.4	-13.3	-12.3	-11.2	6.5	--	--	0.8	Jan-14
<i>MSCI Emerging Markets</i>				-8.7	-15.7	-9.7	-12.5	6.5	0.8	7.8	1.4	Jan-14

Performance and values are preliminary and subject to change.  
 Results for periods longer than one year are annualized.  
 Fiscal YTD ends June 30th.  
 Global Equity Composite start date is 10/1/2012.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Fixed Income Composite</b>	<b>421,518,869</b>	<b>23.0</b>	<b>26.3</b>	<b>-1.1</b>	<b>-1.9</b>	<b>-1.6</b>	<b>-1.0</b>	<b>2.0</b>	<b>0.6</b>	<b>--</b>	<b>0.7</b>	<b>Oct-12</b>
<i>Total Fixed Income Custom Benchmark</i>				<i>-1.0</i>	<i>-3.5</i>	<i>-1.2</i>	<i>-2.7</i>	<i>1.3</i>	<i>0.6</i>	<i>3.3</i>	<i>0.3</i>	<i>Oct-12</i>
<b>Core Fixed Income</b>	<b>351,185,530</b>	<b>19.0</b>	<b>21.9</b>	<b>-0.8</b>	<b>1.1</b>	<b>-0.7</b>	<b>1.4</b>	<b>2.3</b>	<b>2.0</b>	<b>--</b>	<b>2.6</b>	<b>Dec-10</b>
<i>BBgBarc US Aggregate TR</i>				<i>-0.8</i>	<i>-2.4</i>	<i>-0.8</i>	<i>-2.1</i>	<i>1.0</i>	<i>1.8</i>	<i>3.9</i>	<i>2.4</i>	<i>Dec-10</i>
Orleans Core Fixed Income	66,636,984		4.2	-0.9	-2.5	-0.4	-2.1	1.6	1.9	4.6	5.5	Aug-92
<i>BBgBarc US Aggregate TR</i>				<i>-0.8</i>	<i>-2.4</i>	<i>-0.8</i>	<i>-2.1</i>	<i>1.0</i>	<i>1.8</i>	<i>3.9</i>	<i>5.2</i>	<i>Aug-92</i>
Blackrock US Debt	284,548,546		17.7	-0.8	-2.4	-0.8	-2.1	1.0	--	--	1.3	Nov-14
<i>BBgBarc US Aggregate TR</i>				<i>-0.8</i>	<i>-2.4</i>	<i>-0.8</i>	<i>-2.1</i>	<i>1.0</i>	<i>1.8</i>	<i>3.9</i>	<i>1.3</i>	<i>Nov-14</i>
<b>Emerging Markets Debt</b>	<b>70,333,338</b>	<b>4.0</b>	<b>4.4</b>	<b>-2.2</b>	<b>-13.1</b>	<b>-5.4</b>	<b>-10.1</b>	<b>1.3</b>	<b>-4.3</b>	<b>--</b>	<b>-4.3</b>	<b>Nov-13</b>
<i>JP Morgan GBI - EM Global Diversified Index</i>				<i>-2.0</i>	<i>-9.9</i>	<i>-3.7</i>	<i>-6.6</i>	<i>2.9</i>	<i>-2.6</i>	<i>4.1</i>	<i>-2.6</i>	<i>Nov-13</i>
Stone Harbor	70,333,338		4.4	-2.2	-13.1	-5.4	-10.1	1.3	-4.3	--	-4.3	Nov-13
<i>JP Morgan GBI - EM Global Diversified Index</i>				<i>-2.0</i>	<i>-9.9</i>	<i>-3.7</i>	<i>-6.6</i>	<i>2.9</i>	<i>-2.6</i>	<i>4.1</i>	<i>-2.6</i>	<i>Nov-13</i>
<b>GAA Composite</b>	<b>153,596,170</b>	<b>10.0</b>	<b>9.6</b>	<b>-4.8</b>	<b>-4.1</b>	<b>-3.7</b>	<b>-2.0</b>	<b>4.1</b>	<b>--</b>	<b>--</b>	<b>2.7</b>	<b>Apr-14</b>
<i>60% MSCI World (Net) / 40% FTSE WGBI</i>				<i>-4.8</i>	<i>-2.7</i>	<i>-2.6</i>	<i>0.0</i>	<i>5.4</i>	<i>4.1</i>	<i>7.1</i>	<i>3.7</i>	<i>Apr-14</i>
Blackrock Global Allocation	79,756,485		5.0	-4.6	-4.5	-3.3	-2.7	4.0	--	--	3.1	Apr-14
<i>60% MSCI World (Net) / 40% FTSE WGBI</i>				<i>-4.8</i>	<i>-2.7</i>	<i>-2.6</i>	<i>0.0</i>	<i>5.4</i>	<i>4.1</i>	<i>7.1</i>	<i>3.7</i>	<i>Apr-14</i>
AQR Global Risk Premium – EL	43,813,984		2.7	-4.6	-4.2	-4.4	-2.0	3.9	--	--	2.0	May-14
<i>60% MSCI World (Net) / 40% FTSE WGBI</i>				<i>-4.8</i>	<i>-2.7</i>	<i>-2.6</i>	<i>0.0</i>	<i>5.4</i>	<i>4.1</i>	<i>7.1</i>	<i>3.5</i>	<i>May-14</i>
Putnam Risk Parity	30,025,701		1.9	-5.6	-3.4	-4.3	-0.8	4.4	--	--	1.9	Jul-14
<i>60% MSCI World (Net) / 40% FTSE WGBI</i>				<i>-4.8</i>	<i>-2.7</i>	<i>-2.6</i>	<i>0.0</i>	<i>5.4</i>	<i>4.1</i>	<i>7.1</i>	<i>3.0</i>	<i>Jul-14</i>

Results for periods longer than one year are annualized. Results are preliminary and subject to change.

Fiscal YTD ends June 30th.

Total Fixed Income Custom Benchmark is comprised of the Barclays Aggregate from 10/1/2012 to 10/31/2013; 75% Barclays Aggregate/25% JPM GBI EM Diversified from 11/1/2013 to 2/29/2016; 85% Barclays Aggregate/15% JPM GBI EM Diversified going forward.

Total Fixed Income Composite start date is 10/1/2012.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Alternative Composite</b>	<b>172,407,224</b>	<b>10.0</b>	<b>10.7</b>	<b>0.0</b>	<b>3.9</b>	<b>0.0</b>	<b>5.1</b>	<b>5.6</b>	<b>1.0</b>	<b>3.0</b>	<b>2.1</b>	<b>Jun-05</b>
<b>Private Equity Composite</b>	<b>54,572,290</b>	<b>4.0</b>	<b>3.4</b>	<b>0.0</b>	<b>6.3</b>	<b>0.0</b>	<b>9.3</b>	<b>8.2</b>	<b>-3.4</b>	<b>2.4</b>	<b>-2.7</b>	<b>Jul-05</b>
<i>Cambridge Associates US All PE</i>				0.0	8.7	0.0	14.2	13.2	12.7	11.7	12.8	Jul-05
Murphree Venture (\$2,000,000)	697,980		0.0	0.0	-9.5	0.0	-9.4	-22.7	-14.8	-7.5	-6.3	Sep-05
Louisiana Fund I (\$1,000,000)	1,734,135		0.1	0.0	-4.1	0.0	-5.1	-6.0	-3.3	-0.7	-6.4	Jul-05
DTC Private Equity II-Q, L.P. (\$7,500,000)	1,451,710		0.1	0.0	6.6	0.0	6.6	8.2	9.3	8.8	6.3	Feb-06
Greenspring Associates (\$9,230,000)	3,938,920		0.2	0.0	2.5	0.0	4.1	0.9	11.2	11.9	6.4	Feb-06
DCM Private Equity II (\$7,500,000)	1,449,621		0.1	0.0	-3.2	0.0	2.4	-0.9	-2.5	0.2	-1.2	Feb-06
FECF II (\$20,000,000)	355,146		0.0	0.0	29.6	0.0	33.5	4.1	19.8	12.3	11.2	Mar-08
GA Crossover Fund (\$25,000,000)	4,373,664		0.3	0.0	3.9	0.0	3.7	12.7	16.2	18.3	14.5	Jan-08
CCMP Capital Investors III (\$15,000,000)	14,291,309		0.9	0.0	9.5	0.0	15.9	13.0	--	--	12.0	Oct-14
Landmark Equity Partners XV (\$25,000,000)	10,499,933		0.7	0.0	11.1	0.0	17.5	11.3	--	--	16.7	Dec-14
Harbourvest IV (\$20,000,000)	15,779,871		1.0	0.0	4.7	0.0	4.1	--	--	--	10.6	Nov-16
<b>Real Estate Composite</b>	<b>117,834,935</b>	<b>6.0</b>	<b>7.3</b>	<b>0.0</b>	<b>2.8</b>	<b>0.0</b>	<b>3.3</b>	<b>4.5</b>	<b>5.5</b>	<b>--</b>	<b>5.1</b>	<b>Dec-09</b>
<i>NCREIF Property Index</i>				0.0	5.3	1.7	7.2	7.8	9.6	6.4	10.3	Dec-09
Sentinel Real Estate Fund (\$30,000,000)	36,492,847		2.3	0.0	4.2	0.0	6.2	8.1	9.7	7.4	6.4	Feb-06
JP Morgan India (\$8,990,000)	2,089,471		0.1	0.0	-19.3	0.0	-22.9	-11.8	-6.8	-4.9	-13.4	Apr-07
Timbervest Crossover Fund (\$16,000,000)	7,308,376		0.5	0.0	5.5	0.0	-7.5	-5.7	-3.9	-1.0	-1.4	Apr-08
AEW Partners VI LP (\$20,000,000)	8,213,548		0.5	0.0	3.6	0.0	8.0	14.3	16.1	--	13.4	Mar-10
AEW Core Property (\$12,000,000)	15,558,497		1.0	0.0	3.5	0.0	5.4	7.0	--	--	7.7	May-15
FRS-GA (Georgia)	3,463,900		0.2	0.0	-0.8	0.0	-0.8	-10.0	-8.7	-9.8	-9.4	Jun-08
FRS-LB I (NLTP AZ)	7,380,981		0.5	0.0	-0.3	0.0	-0.3	18.1	11.5	-13.6	-12.0	Jun-07
FRS-LB III (ST George UT)	9,288,030		0.6	0.0	0.0	0.0	0.0	5.8	3.5	3.0	2.9	Jun-08
ASB Real Estate Fund	13,622,620		0.8	0.0	4.0	0.0	6.2	--	--	--	5.0	Jan-16
Heitman America Real Estate Trust	14,416,665		0.9	0.0	3.8	0.0	5.7	7.4	--	--	7.4	Nov-15
<b>Total Cash (\$9 MM)</b>	<b>7,938,322</b>	<b>--</b>	<b>0.5</b>	<b>0.2</b>	<b>1.4</b>	<b>0.7</b>	<b>1.6</b>	<b>0.9</b>	<b>0.5</b>	<b>0.4</b>	<b>2.8</b>	<b>Jun-92</b>
<i>91 Day T-Bills</i>				0.2	1.5	0.7	1.7	0.9	0.6	0.3	2.4	Jun-92

Results for periods longer than one year are annualized.

Fiscal YTD ends June 30th.

Real Estate valuations are as of 06/30/2018 and adjusted for cash flows.

FRS - LB I is part of the Real Estate Composite as of 12/1/2012.

Harbourvest IV was funded 10/01/2016.

Private Equity valuations are as of 06/30/2018 and adjusted for cash flows.



## Firefighters' Retirement System of Louisiana

# CURRENT MONTH CHANGE IN VALUE

### Total Cash Flow Summary

Month Ending October 31, 2018

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$56,590,447	\$0	\$0	\$0	-\$106,619	-\$4,813,566	\$51,776,881
AEW Core Property (\$12,000,000)	\$15,558,497	\$0	\$0	\$0	\$0	\$0	\$15,558,497
AEW Partners VI LP (\$20,000,000)	\$8,213,548	\$0	\$0	\$0	\$0	\$0	\$8,213,548
AQR Global Risk Premium – EL	\$45,937,999	\$0	\$0	\$0	-\$34,686	-\$2,124,015	\$43,813,984
ASB Real Estate Fund	\$13,622,620	\$0	\$0	\$0	\$0	\$0	\$13,622,620
Blackrock Global Allocation	\$83,607,383	\$0	\$0	\$0	\$0	-\$3,850,898	\$79,756,485
Blackrock US Debt	\$236,485,705	\$50,000,000	\$0	\$50,000,000	\$0	-\$1,937,159	\$284,548,546
Boston Partners Global Equity	\$104,330,321	\$0	\$0	\$0	-\$43,412	-\$7,642,554	\$96,687,767
Cash/Clearing Account	\$5,928,098	\$50,631,319	-\$53,152,162	-\$2,520,843	\$0	\$29,562	\$3,436,817
CCMP Capital Investors III (\$15,000,000)	\$14,291,309	\$0	\$0	\$0	\$0	\$0	\$14,291,309
DCM Private Equity II (\$7,500,000)	\$1,449,621	\$0	\$0	\$0	\$0	\$0	\$1,449,621
DTC Private Equity II-Q, L.P. (\$7,500,000)	\$1,451,710	\$0	\$0	\$0	\$0	\$0	\$1,451,710
Energy Opportunities Fund	\$16,756,248	\$0	\$0	\$0	\$0	-\$2,757,503	\$13,998,745
FECF II (\$20,000,000)	\$355,146	\$0	\$0	\$0	\$0	\$0	\$355,146
Fisher All Foreign Equity	\$132,312,911	\$0	\$0	\$0	-\$275	-\$12,352,094	\$119,960,817
FRS-GA (Georgia)	\$3,463,900	\$0	\$0	\$0	\$0	\$0	\$3,463,900
FRS-LB I (NLTP AZ)	\$7,380,981	\$0	\$0	\$0	\$0	\$0	\$7,380,981
FRS-LB III (ST George UT)	\$9,288,030	\$0	\$0	\$0	\$0	\$0	\$9,288,030
GA Crossover Fund (\$25,000,000)	\$4,373,664	\$0	\$0	\$0	\$0	\$0	\$4,373,664
Greenspring Associates (\$9,230,000)	\$3,938,920	\$0	\$0	\$0	\$0	\$0	\$3,938,920
Harbourvest IV (\$20,000,000)	\$15,779,871	\$0	\$0	\$0	\$0	\$0	\$15,779,871
Heitman America Real Estate Trust	\$14,416,665	\$0	\$0	\$0	\$0	\$0	\$14,416,665
JP Morgan India (\$8,990,000)	\$2,089,471	\$0	\$0	\$0	\$0	\$0	\$2,089,471





## Firefighters' Retirement System of Louisiana

# CURRENT MONTH CHANGE IN VALUE

	Month Ending October 31, 2018						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Landmark Equity Partners XV (\$25,000,000)	\$10,772,316	\$0	-\$272,383	-\$272,383	\$0	\$0	\$10,499,933
Liquidating - BlackRock Global Focused	\$12,477	\$0	\$0	\$0	\$0	-\$105	\$12,372
Louisiana Asset Management Pool	\$4,493,159	\$0	\$0	\$0	\$0	\$8,345	\$4,501,505
Louisiana Fund I (\$1,000,000)	\$1,734,135	\$0	\$0	\$0	\$0	\$0	\$1,734,135
LSV International Equity Value	\$132,806,588	\$0	\$0	\$0	-\$267	-\$11,017,826	\$121,788,762
Mellon Stock Index Fund	\$351,774,269	\$0	-\$50,000,000	-\$50,000,000	\$0	-\$22,323,114	\$279,451,155
Murphree Venture (\$2,000,000)	\$697,980	\$0	\$0	\$0	\$0	\$0	\$697,980
OFI Emerging Markets	\$26,566,038	\$0	\$0	\$0	-\$17,258	-\$2,484,500	\$24,081,538
Orleans Core Fixed Income	\$67,220,087	\$0	\$0	\$0	-\$23,916	-\$583,102	\$66,636,984
Putnam Risk Parity	\$31,822,343	\$0	\$0	\$0	-\$18,015	-\$1,796,642	\$30,025,701
QMA SMID	\$44,470,841	\$0	\$0	\$0	\$0	-\$4,374,433	\$40,096,408
Rothschild U.S. SMID Core	\$48,688,071	\$0	\$0	\$0	\$0	-\$4,726,373	\$43,961,698
Sentinel Real Estate Fund (\$30,000,000)	\$36,851,782	\$0	-\$358,936	-\$358,936	\$0	\$0	\$36,492,847
Stone Harbor	\$71,946,077	\$0	\$0	\$0	-\$49,819	-\$1,612,739	\$70,333,338
Thornburg Global Opportunities	\$63,352,258	\$0	\$0	\$0	\$0	-\$5,857,376	\$57,494,882
Timbervest Crossover Fund (\$16,000,000)	\$7,308,376	\$0	\$0	\$0	\$0	\$0	\$7,308,376
<b>Total</b>	<b>\$1,698,139,864</b>	<b>\$100,631,319</b>	<b>-\$103,783,481</b>	<b>-\$3,152,162</b>	<b>-\$294,268</b>	<b>-\$90,216,092</b>	<b>\$1,604,771,610</b>

Beginning Market Value may not match the Ending Market Value of the previous Flash report due to delayed reporting of private investments (private equity and real estate).



## Firefighters' Retirement System of Louisiana

# CURRENT FYTD CHANGE IN VALUE

### Total Cash Flow Summary

Fiscal YTD Ending October 31, 2018

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$57,333,700	\$0	\$0	\$0	-\$222,857	-\$5,556,819	\$51,776,881
AEW Core Property (\$12,000,000)	\$15,558,497	\$0	\$0	\$0	\$0	\$0	\$15,558,497
AEW Partners VI LP (\$20,000,000)	\$8,213,548	\$0	\$0	\$0	\$0	\$0	\$8,213,548
AQR Global Risk Premium – EL	\$45,839,208	\$0	\$0	\$0	-\$143,593	-\$2,025,224	\$43,813,984
ASB Real Estate Fund	\$13,622,620	\$0	\$0	\$0	\$0	\$0	\$13,622,620
Blackrock Global Allocation	\$82,124,034	\$403,544	\$0	\$403,544	-\$403,544	-\$2,771,093	\$79,756,485
Blackrock US Debt	\$206,535,451	\$80,057,915	\$0	\$80,057,915	-\$57,915	-\$2,044,819	\$284,548,546
Boston Partners Global Equity	\$100,016,730	\$0	-\$336,640	-\$336,640	-\$182,553	-\$2,992,324	\$96,687,767
Cash/Clearing Account	\$35,957,739	\$59,667,648	-\$92,257,683	-\$32,590,036	\$0	\$69,114	\$3,436,817
CCMP Capital Investors III (\$15,000,000)	\$14,180,095	\$111,214	\$0	\$111,214	\$0	\$0	\$14,291,309
DCM Private Equity II (\$7,500,000)	\$1,727,569	\$0	-\$277,948	-\$277,948	\$0	\$0	\$1,449,621
DTC Private Equity II-Q, L.P. (\$7,500,000)	\$1,729,658	\$0	-\$277,948	-\$277,948	\$0	\$0	\$1,451,710
Energy Opportunities Fund	\$16,635,881	\$0	\$0	\$0	-\$41,590	-\$2,637,136	\$13,998,745
FECF II (\$20,000,000)	\$388,146	\$0	-\$33,000	-\$33,000	\$0	\$0	\$355,146
Fisher All Foreign Equity	\$130,665,252	\$0	\$0	\$0	-\$187,578	-\$10,704,435	\$119,960,817
FRS-GA (Georgia)	\$3,463,900	\$0	\$0	\$0	\$0	\$0	\$3,463,900
FRS-LB I (NLTP AZ)	\$7,380,981	\$0	\$0	\$0	\$0	\$0	\$7,380,981
FRS-LB III (ST George UT)	\$9,288,030	\$0	\$0	\$0	\$0	\$0	\$9,288,030
GA Crossover Fund (\$25,000,000)	\$4,373,664	\$0	\$0	\$0	\$0	\$0	\$4,373,664
Greenspring Associates (\$9,230,000)	\$4,105,060	\$0	-\$166,140	-\$166,140	\$0	\$0	\$3,938,920
Harbourvest IV (\$20,000,000)	\$15,779,871	\$0	\$0	\$0	\$0	\$0	\$15,779,871
Heitman America Real Estate Trust	\$14,416,665	\$0	\$0	\$0	\$0	\$0	\$14,416,665
JP Morgan India (\$8,990,000)	\$2,089,471	\$0	\$0	\$0	\$0	\$0	\$2,089,471



## Firefighters' Retirement System of Louisiana

# CURRENT FYTD CHANGE IN VALUE

	Fiscal YTD Ending October 31, 2018						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Landmark Equity Partners XV (\$25,000,000)	\$11,931,304	\$236,430	-\$1,667,801	-\$1,431,371	\$0	\$0	\$10,499,933
Liquidating - BlackRock Global Focused	\$12,561	\$0	\$0	\$0	\$0	-\$189	\$12,372
Louisiana Asset Management Pool	\$4,470,256	\$0	\$0	\$0	\$0	\$31,248	\$4,501,505
Louisiana Fund I (\$1,000,000)	\$1,734,135	\$0	\$0	\$0	\$0	\$0	\$1,734,135
LSV International Equity Value	\$129,346,061	\$0	-\$10,990	-\$10,990	-\$217,460	-\$7,546,309	\$121,788,762
Mellon Stock Index Fund	\$331,287,394	\$21,505	-\$55,000,000	-\$54,978,495	-\$21,505	\$3,142,256	\$279,451,155
Murphree Venture (\$2,000,000)	\$697,980	\$0	\$0	\$0	\$0	\$0	\$697,980
OFI Emerging Markets	\$27,471,846	\$0	\$0	\$0	-\$75,349	-\$3,390,308	\$24,081,538
Orleans Core Fixed Income	\$66,932,337	\$0	\$0	\$0	-\$47,746	-\$295,353	\$66,636,984
Putnam Risk Parity	\$31,359,572	\$0	\$0	\$0	-\$74,920	-\$1,333,871	\$30,025,701
QMA SMID	\$43,078,804	\$469	\$0	\$469	\$0	-\$2,982,864	\$40,096,408
Rothschild U.S. SMID Core	\$46,082,566	\$0	\$0	\$0	-\$111,912	-\$2,120,868	\$43,961,698
Sentinel Real Estate Fund (\$30,000,000)	\$37,256,961	\$0	-\$764,114	-\$764,114	\$0	\$0	\$36,492,847
Stone Harbor	\$74,365,185	\$0	\$0	\$0	-\$204,418	-\$4,031,847	\$70,333,338
Thornburg Global Opportunities	\$63,913,049	\$0	\$0	\$0	-\$96,305	-\$6,418,167	\$57,494,882
Timbervest Crossover Fund (\$16,000,000)	\$7,948,376	\$0	-\$640,000	-\$640,000	\$0	\$0	\$7,308,376
Z-Terminated Advisory Research SMID	\$2,776	-\$2,776	\$0	-\$2,776	\$0	\$0	--
<b>Total</b>	<b>\$1,669,316,932</b>	<b>\$140,495,948</b>	<b>-\$151,432,263</b>	<b>-\$10,936,315</b>	<b>-\$2,089,245</b>	<b>-\$53,609,007</b>	<b>\$1,604,771,610</b>

Beginning Market Value may not match the Ending Market Value of the previous Flash report due to delayed reporting of private investments (private equity and real estate).



## Firefighters' Retirement System of Louisiana

# SINCE INCEPTION CHANGE IN VALUE

### Total Cash Flow Summary

	Beginning Market Value	Contributions	Ending October 31, 2018		Net Investment Change	Ending Market Value
			Withdrawals	Net Cash Flow		
Acadian Emerging Markets Equity	--	\$60,000,000	-\$10,000,000	\$50,000,000	\$1,776,881	\$51,776,881
AEW Core Property (\$12,000,000)	--	\$12,000,000	\$0	\$12,000,000	\$3,558,497	\$15,558,497
AEW Partners VI LP (\$20,000,000)	--	\$18,420,450	-\$23,680,497	-\$5,260,047	\$13,473,595	\$8,213,548
AQR Global Risk Premium – EL	--	\$40,100,000	\$0	\$40,100,000	\$3,713,984	\$43,813,984
ASB Real Estate Fund	--	\$12,216,279	-\$141,910	\$12,074,369	\$1,548,251	\$13,622,620
Blackrock Global Allocation	--	\$68,445,535	\$0	\$68,445,535	\$11,310,950	\$79,756,485
Blackrock US Debt	--	\$337,470,382	-\$58,500,000	\$278,970,382	\$5,578,164	\$284,548,546
Boston Partners Global Equity	--	\$80,939,406	-\$934,698	\$80,004,708	\$16,683,059	\$96,687,767
Cash/Clearing Account	--	\$2,232,475,678	-\$2,232,465,725	\$9,954	\$3,426,864	\$3,436,817
CCMP Capital Investors III (\$15,000,000)	--	\$11,753,614	-\$1,607,574	\$10,146,040	\$4,145,269	\$14,291,309
DCM Private Equity II (\$7,500,000)	--	\$8,230,128	-\$7,125,048	\$1,105,080	\$344,542	\$1,449,621
DTC Private Equity II-Q, L.P. (\$7,500,000)	--	\$5,480,845	-\$8,190,448	-\$2,709,603	\$4,161,313	\$1,451,710
Energy Opportunities Fund	--	\$50,034,322	-\$33,002,876	\$17,031,446	-\$3,032,702	\$13,998,745
FECF II (\$20,000,000)	--	\$19,188,998	-\$22,169,262	-\$2,980,264	\$3,335,410	\$355,146
Fisher All Foreign Equity	--	\$117,180,807	-\$55,165,618	\$62,015,189	\$57,945,628	\$119,960,817
FRS-GA (Georgia)	--	\$9,416,075	\$0	\$9,416,075	-\$5,952,175	\$3,463,900
FRS-LB I (NLTP AZ)	--	\$24,900,208	\$0	\$24,900,208	-\$17,519,227	\$7,380,981
FRS-LB III (ST George UT)	--	\$6,878,923	\$0	\$6,878,923	\$2,409,107	\$9,288,030
GA Crossover Fund (\$25,000,000)	--	\$25,000,000	-\$46,276,687	-\$21,276,687	\$25,650,351	\$4,373,664
Greenspring Associates (\$9,230,000)	--	\$8,491,600	-\$12,419,518	-\$3,927,918	\$7,866,838	\$3,938,920
Harbourvest IV (\$20,000,000)	--	\$15,722,907	-\$1,750,000	\$13,972,907	\$1,806,964	\$15,779,871
Heitman America Real Estate Trust	--	\$12,000,000	\$0	\$12,000,000	\$2,416,665	\$14,416,665

Cash flow statistics exclude management fees and expenses.



October 31, 2018

## Firefighters' Retirement System of Louisiana

# SINCE INCEPTION CHANGE IN VALUE

	Beginning Market Value	Contributions	Ending October 31, 2018		Net Investment Change	Ending Market Value
			Withdrawals	Net Cash Flow		
JP Morgan India (\$8,990,000)	--	\$8,307,355	-\$3,814,303	\$4,493,052	-\$2,403,581	\$2,089,471
Landmark Equity Partners XV (\$25,000,000)	--	\$17,163,798	-\$11,236,378	\$5,927,420	\$4,572,513	\$10,499,933
Liquidating - BlackRock Global Focused	--	\$46,832,890	-\$59,568,544	-\$12,735,654	\$12,748,026	\$12,372
Louisiana Asset Management Pool	--	\$943,990,965	-\$944,296,689	-\$305,724	\$4,807,229	\$4,501,505
Louisiana Fund I (\$1,000,000)	--	\$1,010,000	\$0	\$1,010,000	\$724,135	\$1,734,135
LSV International Equity Value	--	\$103,818,122	-\$17,294,307	\$86,523,815	\$35,264,947	\$121,788,762
Mellon Stock Index Fund	--	\$275,434,623	-\$149,500,001	\$125,934,622	\$153,516,534	\$279,451,155
Murphree Venture (\$2,000,000)	--	\$2,058,578	-\$848,459	\$1,210,119	-\$512,139	\$697,980
OFI Emerging Markets	--	\$31,500,000	-\$8,500,000	\$23,000,000	\$1,081,538	\$24,081,538
Orleans Core Fixed Income	\$0	\$126,099,081	-\$91,022,995	\$35,076,086	\$31,560,898	\$66,636,984
Putnam Risk Parity	--	\$27,400,000	\$0	\$27,400,000	\$2,625,701	\$30,025,701
QMA SMID	--	\$43,715,738	\$0	\$43,715,738	-\$3,619,330	\$40,096,408
Rothschild U.S. SMID Core	--	\$55,500,000	-\$27,500,000	\$28,000,000	\$15,961,698	\$43,961,698
Sentinel Real Estate Fund (\$30,000,000)	--	\$30,000,000	-\$17,184,935	\$12,815,065	\$23,677,782	\$36,492,847
Stone Harbor	--	\$86,000,000	\$0	\$86,000,000	-\$15,666,662	\$70,333,338
Thornburg Global Opportunities	--	\$47,500,000	-\$70,306,258	-\$22,806,258	\$80,301,140	\$57,494,882
Timbervest Crossover Fund (\$16,000,000)	--	\$13,600,000	-\$7,688,000	\$5,912,000	\$1,396,376	\$7,308,376

Cash flow statistics exclude management fees and expenses.



## **Information Disclaimer**

- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
- Some index returns displayed in this report or used in calculation of a policy, allocation or custom benchmark may be preliminary and subject to change.
- This report is provided as a management aid for the client's internal use only. Information contained in this report does not constitute a recommendation by NEPC.
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## **Reporting Methodology**

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

