

# INVESTMENT MARKET UPDATE

(As of July 31, 2020)



Firefighters' Retirement System of Louisiana

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

# MARKET ENVIRONMENT

Risk assets enjoyed another strong month as optimism around a COVID-19 vaccine, hopes of additional stimulus, and better-than-expected quarterly corporate earnings in the US bolstered investor sentiment. The S&P 500 Index was up for the fourth straight month, increasing 5.6% in July; the gains pushed the index into positive territory with a year-to-date returns of 2.4%. This confidence comes despite a record spike in infection rates in many parts of the country, and macroeconomic data underscoring the economic fallout from the pandemic.

Non-US equities also benefitted from the risk-on sentiment and the continued weakness in the dollar in July. During this period, emerging markets led performance with gains of 8.9%, driven by a significant rally in Taiwanese stocks following an announcement that chip maker Intel Corp. may outsource production to Taiwan Semiconductor Manufacturing Company. Developed market stocks, excluding the US, rose 2.3%, according to the MSCI EAFE Index; the euro appreciated 5.3% relative to the dollar in July. The DXY Index, which represents a trade-weighted index for the US dollar, fell over 4% — its worst monthly performance since 2010.

In fixed income, global rates moved lower, reflecting the bond market's concerns over the economy. In the US, yields on 10- and 30-year Treasury bonds fell 11 and 21 basis points, respectively. The larger move on the long end of the yield curve incited a rally in longer-dated Treasuries, with the Barclays Long Treasury Index increasing 4.2% in July. In addition, US real rates moved further into negative territory, causing the US 10-year breakeven rate to tick up 21 basis points. In credit, spreads continued to tighten amid central bank intervention in the fixed-income market. The largest movement occurred in lower-quality credit with the option-adjusted spread on the Barclays US Corporate High Yield Index down 138 basis points, fueling returns of 4.7% for the index in July.

In real assets, broad commodity indexes rallied amid higher spot gold prices. Gold increased 11% during the month, pushing year-to-date returns to 30.3%; the recent rally reflects weakness in the US dollar and the asset's negative correlation to real rates, which have moved lower.

While the recent performance of risk assets has been encouraging, we remind investors of the significant uncertainties still surrounding the global economy. As such, we expect heightened volatility to continue across capital markets given the wide range of potential economic outcomes. We recommend investors maintain discipline and remain mindful of market liquidity. To that end, we suggest a dedicated allocation to Treasuries to support liquidity levels and cash-flow needs as potential market dislocations can introduce bouts of illiquidity across publicly-traded markets.



# CALENDAR YEAR INDEX PERFORMANCE

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Jul	YTD
<b>S&amp;P 500</b>	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	5.6%	2.4%
<b>Russell 1000</b>	16.1%	1.5%	16.4%	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	5.9%	2.9%
<b>Russell 2000</b>	26.9%	-4.2%	16.3%	38.8%	4.9%	-4.4%	21.3%	14.6%	-11.0%	25.5%	2.8%	-10.6%
<b>Russell 2500</b>	26.7%	-2.5%	17.9%	36.8%	7.1%	-2.9%	17.6%	16.8%	-10.0%	27.8%	4.0%	-7.5%
<b>MSCI EAFE</b>	7.8%	-12.1%	17.3%	22.8%	-4.9%	-0.8%	1.0%	25.0%	-13.8%	22.0%	2.3%	-9.3%
<b>MSCI EM</b>	18.9%	-18.4%	18.2%	-2.6%	-2.2%	-14.9%	11.2%	37.3%	-14.6%	18.4%	8.9%	-1.7%
<b>MSCI ACWI</b>	12.7%	-7.3%	16.1%	22.8%	4.2%	-2.4%	7.9%	24.0%	-9.4%	26.6%	5.3%	-1.3%
<b>Private Equity</b>	19.8%	9.5%	12.6%	22.3%	14.6%	10.4%	10.3%	21.0%	13.1%	17.2%	-	-7.3%
<b>BC TIPS</b>	6.3%	13.6%	7.0%	-8.6%	3.6%	-1.4%	4.7%	3.0%	-1.3%	8.4%	2.3%	8.4%
<b>BC Municipal</b>	2.4%	10.7%	6.8%	-2.6%	9.1%	3.3%	0.2%	5.4%	1.3%	7.5%	1.7%	3.8%
<b>BC Muni High Yield</b>	7.8%	9.2%	18.1%	-5.5%	13.8%	1.8%	3.0%	9.7%	4.8%	10.7%	2.7%	0.0%
<b>BC US Corporate HY</b>	15.1%	5.0%	15.8%	7.4%	2.5%	-4.5%	17.1%	7.5%	-2.1%	14.3%	4.7%	0.7%
<b>BC US Agg Bond</b>	6.5%	7.8%	4.2%	-2.0%	6.0%	0.5%	2.6%	3.5%	0.0%	8.7%	1.5%	7.7%
<b>BC Global Agg</b>	5.5%	5.6%	4.3%	-2.6%	0.6%	-3.2%	2.1%	7.4%	-1.2%	6.8%	3.2%	6.3%
<b>BC Long Treasuries</b>	9.4%	29.9%	3.6%	-12.7%	25.1%	-1.2%	1.3%	8.5%	-1.8%	14.8%	4.2%	26.3%
<b>BC US Long Credit</b>	10.7%	17.1%	12.7%	-6.6%	16.4%	-4.6%	10.2%	12.2%	-6.8%	23.4%	6.1%	12.4%
<b>BC US STRIPS 20+ Yr</b>	10.9%	58.5%	3.0%	-21.0%	46.4%	-3.7%	1.4%	13.7%	-4.1%	20.9%	6.4%	37.0%
<b>JPM GBI-EM Global Div</b>	15.7%	-1.8%	16.8%	-9.0%	-5.7%	-14.9%	9.9%	15.2%	-6.2%	13.5%	3.0%	-4.1%
<b>JPM EMBI Glob Div</b>	12.2%	7.3%	17.4%	-5.3%	7.4%	1.2%	10.2%	10.3%	-4.3%	15.0%	3.7%	0.8%
<b>CS Hedge Fund</b>	10.9%	-2.5%	7.7%	9.7%	4.1%	-0.7%	1.2%	7.1%	-3.2%	9.3%	-	-3.3%
<b>BBG Commodity</b>	16.8%	-13.3%	-1.1%	-9.5%	-17.0%	-24.7%	11.8%	1.7%	-11.2%	7.7%	5.7%	-14.8%
<b>Alerian MLP</b>	35.9%	13.9%	4.8%	27.6%	4.8%	-32.6%	18.3%	-6.5%	-12.4%	6.6%	-3.6%	-38.0%
<b>FTSE NAREIT Equity REITs</b>	28.0%	8.3%	18.1%	2.5%	30.1%	3.2%	8.5%	5.2%	-4.6%	26.0%	4.0%	-15.4%

Source: FactSet, Barclays, Thomson One

\*Private Equity return represents calendar year pooled IRR and is subject to a one quarter lag



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

### Investment Performance Summary - Net of Fees

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Total Plan Composite</b>	<b>1,852,130,970</b>	<b>100.0</b>	<b>100.0</b>	<b>3.3</b>	<b>0.0</b>	<b>6.2</b>	<b>5.1</b>	<b>5.6</b>	<b>5.8</b>	<b>5.8</b>	<b>Sep-92</b>
<i>Policy Index</i>				3.6	1.2	7.1	6.6	7.0	--	--	Sep-92
<i>Allocation Index</i>				3.5	1.3	7.1	6.4	6.9	--	--	Sep-92
<b>Total Equity Composite</b>	<b>912,711,223</b>	<b>50.0</b>	<b>49.3</b>	<b>4.9</b>	<b>-5.0</b>	<b>3.9</b>	<b>4.1</b>	<b>5.8</b>	<b>8.8</b>	<b>7.1</b>	<b>Sep-92</b>
<i>MSCI ACWI</i>				5.3	-1.3	7.2	7.0	7.4	8.9	7.5	Sep-92
<b>Domestic Equity Composite</b>	<b>420,565,053</b>	<b>22.5</b>	<b>22.7</b>	<b>5.0</b>	<b>-1.9</b>	<b>6.7</b>	<b>8.6</b>	<b>8.6</b>	<b>11.5</b>	<b>7.9</b>	<b>Sep-92</b>
<i>Russell 3000</i>				5.7	2.0	10.9	11.4	10.9	13.6	9.9	Sep-92
Mellon Stock Index Fund	325,372,226		17.6	5.6	2.4	12.0	12.0	11.5	--	11.9	Nov-13
<i>S&amp;P 500</i>				5.6	2.4	12.0	12.0	11.5	13.8	11.9	Nov-13
<b>SMID Cap Composite</b>	<b>95,190,072</b>	<b>5.5</b>	<b>5.1</b>	<b>3.0</b>	<b>-15.4</b>	<b>-9.7</b>	<b>-0.3</b>	<b>2.1</b>	<b>--</b>	<b>6.1</b>	<b>Oct-12</b>
<i>Russell 2500</i>				4.0	-7.5	-1.9	5.1	6.3	11.1	10.2	Oct-12
Rothschild U.S. SMID Core	48,134,426		2.6	2.0	-14.3	-9.0	1.0	3.4	--	3.6	Jul-15
<i>Russell 2500</i>				4.0	-7.5	-1.9	5.1	6.3	11.1	6.1	Jul-15
QMA SMID	47,055,646		2.5	4.1	-16.6	-10.4	--	--	--	-6.3	Jul-18
<i>Russell 2500</i>				4.0	-7.5	-1.9	5.1	6.3	11.1	0.4	Jul-18
<b>International Equity Composite</b>	<b>217,636,512</b>	<b>12.0</b>	<b>11.8</b>	<b>4.2</b>	<b>-9.5</b>	<b>-0.1</b>	<b>0.0</b>	<b>3.0</b>	<b>--</b>	<b>5.0</b>	<b>Oct-12</b>
<i>MSCI ACWI ex USA</i>				4.5	-7.0	0.7	1.4	3.2	4.5	4.6	Oct-12
LSV International Equity Value	98,885,295		5.3	2.8	-16.1	-7.1	-3.4	1.4	4.4	4.6	Oct-04
<i>MSCI Custom Benchmark</i>				4.5	-7.0	0.7	1.4	3.2	4.5	4.7	Oct-04
Fisher All Foreign Equity	118,751,217		6.4	5.3	-3.3	6.7	3.1	4.4	6.3	6.6	Oct-04
<i>MSCI ACWI ex USA</i>				4.5	-7.0	0.7	1.4	3.2	4.5	5.4	Oct-04

Rothschild U.S. SMID Core and QMA SMID are preliminary as of 07/31/2020 and subject to change when finalized.

Returns are net of manager fees.

Results for periods longer than one year are annualized.

Fiscal Year ends June 30th.

SMID Cap Composite start date is 10/1/2012.

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.

Returns are net of manager fees.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Global Equity Composite</b>	<b>179,668,889</b>	<b>10.0</b>	<b>9.7</b>	<b>4.2</b>	<b>-6.4</b>	<b>2.3</b>	<b>0.7</b>	<b>2.6</b>	--	<b>7.7</b>	<b>Oct-12</b>
MSCI ACWI				5.3	-1.3	7.2	7.0	7.4	8.9	8.9	Oct-12
Boston Partners Global Equity	91,237,174		4.9	3.1	-14.1	-7.4	-1.1	--	--	3.8	Nov-16
MSCI ACWI				5.3	-1.3	7.2	7.0	7.4	8.9	10.3	Nov-16
State Street ACWI Index Fund	88,117,523		4.8	5.3	-1.1	--	--	--	--	10.2	Sep-19
MSCI ACWI				5.3	-1.3	7.2	7.0	7.4	8.9	9.8	Sep-19
<b>Emerging Markets Equity</b>	<b>94,840,769</b>	<b>5.5</b>	<b>5.1</b>	<b>7.2</b>	<b>-4.4</b>	<b>4.5</b>	<b>0.9</b>	<b>5.1</b>	--	<b>2.6</b>	<b>Oct-13</b>
MSCI Emerging Markets				8.9	-1.7	6.5	2.8	6.1	3.3	3.8	Oct-13
Acadian Emerging Markets Equity	61,901,589		3.3	7.6	-5.2	3.6	-0.9	4.3	--	2.0	Dec-13
MSCI Emerging Markets				8.9	-1.7	6.5	2.8	6.1	3.3	3.3	Dec-13
Invesco Oppenheimer Developing Markets	32,939,179		1.8	6.5	-2.8	6.2	4.9	7.1	--	3.8	Jan-14
MSCI Emerging Markets				8.9	-1.7	6.5	2.8	6.1	3.3	3.6	Jan-14
<b>Total Fixed Income Composite</b>	<b>561,741,525</b>	<b>31.0</b>	<b>30.3</b>	<b>1.8</b>	<b>8.0</b>	<b>10.4</b>	<b>6.3</b>	<b>5.2</b>	--	<b>3.0</b>	<b>Oct-12</b>
Total Fixed Income Custom Benchmark				1.9	5.5	8.1	5.0	4.2	3.1	2.5	Oct-12
<b>Core Fixed Income</b>	<b>480,047,783</b>	<b>26.5</b>	<b>25.9</b>	<b>1.6</b>	<b>7.6</b>	<b>10.0</b>	<b>7.0</b>	<b>5.3</b>	--	<b>4.0</b>	<b>Dec-10</b>
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	3.9	Dec-10
Orleans Core Fixed Income	102,268,993		5.5	2.0	6.8	9.4	5.6	4.7	4.1	5.8	Aug-92
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	5.5	Aug-92
Blackrock US Debt	377,778,790		20.4	1.5	7.7	10.1	5.7	4.5	--	4.1	Nov-14
BBgBarc US Aggregate TR				1.5	7.7	10.1	5.7	4.5	3.9	4.1	Nov-14
<b>US TIPS Composite</b>	<b>59,237,710</b>	<b>3.0</b>	<b>3.2</b>	<b>2.3</b>	<b>8.4</b>	<b>10.3</b>	--	--	--	<b>9.0</b>	<b>Oct-18</b>
Blackrock US TIPS Index	59,237,710		3.2	2.3	8.4	10.3	--	--	--	9.0	Oct-18
BBgBarc US TIPS TR				2.3	8.4	10.4	5.7	4.2	3.7	9.0	Oct-18
<b>Emerging Markets Debt</b>	<b>22,456,033</b>	<b>1.5</b>	<b>1.2</b>	<b>3.4</b>	--	--	--	--	--	<b>12.1</b>	<b>May-20</b>
EMD Custom Benchmark				3.4	--	--	--	--	--	11.4	May-20
Wellington Blended Opportunistic EMD	22,456,033		1.2	3.4	--	--	--	--	--	12.1	May-20
EMD Custom Benchmark				3.4	--	--	--	--	--	11.4	May-20

Thornburg Global Opportunities market value as of 07/31/2020 is \$305,947.

Boston Partners Global Equity, State Street ACWI Index Fund, Acadian Emerging Markets Equity, and Orleans Core Fixed Income are preliminary as of 07/31/2020, and subject to change when finalized.

Results for periods longer than one year are annualized.

Fiscal YTD ends June 30th.

Global Equity Composite start date is 10/1/2012.

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 from 3/1/2016 to 12/31/2018; 70% Barclays Aggregate/20% JPM GBI EM Diversified/ 10% Barclays US TIPS going forward.

EMD Custom Benchmark is comprised of 50% JPMorgan EMBI Global Diversified/50% JPMorgan GBI-EM Global Diversified as of 05/01/2020.

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 (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>GAA Composite</b>	<b>173,058,544</b>	<b>8.0</b>	<b>9.3</b>	<b>4.7</b>	<b>2.6</b>	<b>8.7</b>	<b>6.3</b>	<b>5.6</b>	<b>--</b>	<b>4.8</b>	<b>Apr-14</b>
60% MSCI World (Net) / 40% FTSE WGBI				4.3	2.8	8.5	6.7	6.5	6.9	5.5	Apr-14
Blackrock Global Allocation	98,132,695		5.3	5.5	6.2	13.8	6.7	6.2	--	5.6	Apr-14
60% MSCI World (Net) / 40% FTSE WGBI				4.3	2.8	8.5	6.7	6.5	6.9	5.5	Apr-14
AQR Global Risk Premium – EL	74,925,850		4.0	3.5	-2.0	2.7	6.2	4.8	--	3.9	May-14
60% MSCI World (Net) / 40% FTSE WGBI				4.3	2.8	8.5	6.7	6.5	6.9	5.4	May-14
<b>Total Alternative Composite</b>	<b>180,664,531</b>	<b>11.0</b>	<b>9.8</b>	<b>0.0</b>	<b>-2.2</b>	<b>1.0</b>	<b>3.9</b>	<b>4.2</b>	<b>1.8</b>	<b>2.1</b>	<b>Jun-05</b>
<b>Private Equity Composite</b>	<b>68,911,424</b>	<b>5.0</b>	<b>3.7</b>	<b>0.0</b>	<b>-6.5</b>	<b>-0.6</b>	<b>3.5</b>	<b>4.4</b>	<b>1.8</b>	<b>-2.4</b>	<b>Jul-05</b>
CJA US All PE (1 Qtr Lag)				0.0	-6.7	-2.3	8.6	9.2	12.1	12.2	Jul-05
Murphree Venture (\$2,000,000)	346,249		0.0	0.0	-34.9	-50.6	-40.2	-25.7	-12.2	-9.9	Sep-05
Louisiana Fund I (\$1,000,000)	1,439,848		0.1	0.0	0.5	0.3	-7.8	-7.2	-2.8	-6.8	Jul-05
DTC Private Equity II-Q, L.P. (\$7,500,000)	1,088,206		0.1	0.0	-5.7	-6.4	1.7	2.7	8.5	5.0	Feb-06
Greenspring Associates III (\$9,230,000)	399,744		0.0	0.0	-38.8	-21.7	-7.1	-5.8	8.6	3.6	Feb-06
DCM Private Equity II (\$7,500,000)	846,883		0.0	0.0	-14.2	-19.4	-8.8	-6.5	-1.0	-2.9	Feb-06
GA Crossover Fund (\$25,000,000)	3,747,282		0.2	0.0	28.1	14.1	7.3	8.3	17.1	13.2	Jan-08
CCMP Capital Investors III (\$15,000,000)	12,406,335		0.7	0.0	-7.3	-2.1	3.6	6.9	--	7.6	Oct-14
Landmark Equity Partners XV (\$25,000,000)	10,168,533		0.5	0.0	2.1	14.3	12.7	9.6	--	13.5	Dec-14
Harbourvest IV (\$20,000,000)	16,197,069		0.9	0.0	-10.2	-1.0	4.7	--	--	7.1	Nov-16
Mesirow (\$35,000,000)	16,574,177		0.9	0.0	-2.5	-1.7	--	--	--	-3.4	Dec-18
HarbourVest Partners XI Buyout (\$35,000,000)	5,697,099		0.3	0.0	-11.3	-6.3	--	--	--	-4.0	Jan-19

Results for periods longer than one year are annualized.

Fiscal YTD ends June 30th.

Private Equity valuations are as of 06/30/2020 and cash adjusted to date with the exception of Murphree Venture which is valued as of 03/31/2020 and cash adjusted to date.



## Firefighters' Retirement System of Louisiana

# INVESTMENT PERFORMANCE FLASH REPORT

	Market Value (\$)	Policy %	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
<b>Real Estate Composite</b>	<b>111,753,107</b>	<b>6.0</b>	<b>6.0</b>	<b>0.0</b>	<b>0.7</b>	<b>2.3</b>	<b>4.3</b>	<b>4.2</b>	<b>5.2</b>	<b>4.9</b>	<b>Dec-09</b>
<i>NCREIF Property Index 1 Qtr. Lag</i>				0.0	2.3	5.3	6.4	7.6	10.2	9.0	Dec-09
Sentinel Real Estate Fund (\$30,000,000)	38,027,719		2.1	0.0	2.5	6.6	7.1	7.8	13.2	6.5	Feb-06
JP Morgan India (\$8,990,000)	721,655		0.0	0.0	-34.9	-63.2	-37.9	-25.2	-13.2	-18.4	Apr-07
Timbervest Crossover Fund (\$16,000,000)	6,317,952		0.3	0.0	-0.2	1.0	-2.7	-4.0	-1.2	-1.2	Apr-08
AEW Partners VI LP (\$20,000,000)	407,908		0.0	0.0	83.5	175.5	52.4	37.4	24.9	24.3	Mar-10
AEW Core Property (\$12,000,000)	16,672,777		0.9	0.0	-0.3	2.5	5.2	6.2	--	6.5	May-15
FRS-GA (Georgia)	3,463,043		0.2	0.0	0.0	0.0	-10.1	-6.1	-4.6	-8.1	Jun-08
FRS-LB I (NLTP AZ)	7,315,110		0.4	0.0	0.0	-0.9	17.9	10.3	-9.5	-10.6	Jun-07
FRS-LB III (ST George UT)	9,281,546		0.5	0.0	0.0	-0.1	0.0	3.4	1.2	2.5	Jun-08
ASB Real Estate Fund	15,016,426		0.8	0.0	3.0	3.9	5.6	--	--	5.0	Jan-16
Heitman America Real Estate Trust	14,528,971		0.8	0.0	-2.7	-0.7	3.8	--	--	5.3	Nov-15
<b>Total Cash (\$9 MM)</b>	<b>23,955,147</b>	<b>--</b>	<b>1.3</b>	<b>0.0</b>	<b>0.5</b>	<b>1.3</b>	<b>1.6</b>	<b>1.1</b>	<b>0.6</b>	<b>2.7</b>	<b>Jun-92</b>
<i>91 Day T-Bills</i>				0.0	0.4	1.1	1.6	1.1	0.6	2.4	Jun-92

Results for periods longer than one year are annualized.

Fiscal YTD ends June 30th.

FRS-GA, FRS-LB, and FRS-LB III are valued as of 09/30/2019 and cash adjusted to date. Timbervest Crossover Fund is valued as of 03/31/2020 and cash adjusted to date. All other RE managers are valued as of 06/30/2020 and cash adjusted to date.

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



## Firefighters' Retirement System of Louisiana

# CURRENT MONTH CHANGE IN VALUE

### Total Cash Flow Summary

Month Ending July 31, 2020

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$57,555,410	\$0	\$0	\$0	-\$100,493	\$4,346,179	\$61,901,589
AEW Core Property (\$12,000,000)	\$16,672,777	\$0	\$0	\$0	\$0	\$0	\$16,672,777
AEW Partners VI LP (\$20,000,000)	\$407,908	\$0	\$0	\$0	\$0	\$0	\$407,908
AQR Global Risk Premium – EL	\$72,379,028	\$0	\$0	\$0	-\$59,316	\$2,546,822	\$74,925,850
ASB Real Estate Fund	\$14,976,164	\$40,262	\$0	\$40,262	\$0	\$0	\$15,016,426
Blackrock Global Allocation	\$92,987,162	\$0	\$0	\$0	\$0	\$5,145,532	\$98,132,695
Blackrock US Debt	\$372,207,591	\$0	\$0	\$0	\$0	\$5,571,199	\$377,778,790
Blackrock US TIPS Index	\$57,903,123	\$0	\$0	\$0	\$0	\$1,334,586	\$59,237,710
Boston Partners Global Equity	\$88,424,745	\$0	\$0	\$0	-\$41,140	\$2,812,428	\$91,237,174
Cash/Clearing Account	\$20,996,117	\$621,478	-\$2,313,233	-\$1,691,755	\$0	\$1,620	\$19,305,982
CCMP Capital Investors III (\$15,000,000)	\$12,406,335	\$0	\$0	\$0	\$0	\$0	\$12,406,335
DCM Private Equity II (\$7,500,000)	\$846,883	\$0	\$0	\$0	\$0	\$0	\$846,883
DTC Private Equity II-Q, L.P. (\$7,500,000)	\$1,088,206	\$0	\$0	\$0	\$0	\$0	\$1,088,206
Energy Opportunities Fund	\$2,755	\$0	\$0	\$0	\$0	\$0	\$2,755
Fisher All Foreign Equity	\$112,749,013	\$0	\$0	\$0	-\$162,645	\$6,002,204	\$118,751,217
FRS-GA (Georgia)	\$3,463,043	\$0	\$0	\$0	\$0	\$0	\$3,463,043
FRS-LB I (NLTP AZ)	\$7,315,110	\$0	\$0	\$0	\$0	\$0	\$7,315,110
FRS-LB III (ST George UT)	\$9,281,546	\$0	\$0	\$0	\$0	\$0	\$9,281,546
GA Crossover Fund (\$25,000,000)	\$3,747,282	\$0	\$0	\$0	\$0	\$0	\$3,747,282
Greenspring Associates III (\$9,230,000)	\$399,744	\$0	\$0	\$0	\$0	\$0	\$399,744
Harbourvest IV (\$20,000,000)	\$16,197,069	\$0	\$0	\$0	\$0	\$0	\$16,197,069
HarbourVest Partners XI Buyout (\$35,000,000)	\$5,697,099	\$0	\$0	\$0	\$0	\$0	\$5,697,099
Heitman America Real Estate Trust	\$14,528,971	\$0	\$0	\$0	\$0	\$0	\$14,528,971





## Firefighters' Retirement System of Louisiana

# CURRENT MONTH CHANGE IN VALUE

	Month Ending July 31, 2020						Ending Market Value
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	
Invesco Oppenheimer Developing Markets	\$30,932,506	\$0	\$0	\$0	-\$23,606	\$2,006,674	\$32,939,179
JP Morgan India (\$8,990,000)	\$721,655	\$0	\$0	\$0	\$0	\$0	\$721,655
Landmark Equity Partners XV (\$25,000,000)	\$10,392,974	\$0	-\$224,442	-\$224,442	\$0	\$0	\$10,168,533
Liquidating - BlackRock Global Focused	\$8,060	\$0	\$0	\$0	\$0	\$186	\$8,246
Louisiana Asset Management Pool	\$4,647,959	\$0	\$0	\$0	\$0	\$1,207	\$4,649,165
Louisiana Fund I (\$1,000,000)	\$1,439,848	\$0	\$0	\$0	\$0	\$0	\$1,439,848
LSV International Equity Value	\$96,170,249	\$0	\$0	\$0	-\$164,339	\$2,715,046	\$98,885,295
Mellon Stock Index Fund	\$308,002,682	\$20,289	\$0	\$20,289	-\$20,289	\$17,349,255	\$325,372,226
Mesirow (\$35,000,000)	\$16,574,177	\$0	\$0	\$0	\$0	\$0	\$16,574,177
Murphree Venture (\$2,000,000)	\$346,249	\$0	\$0	\$0	\$0	\$0	\$346,249
Orleans Core Fixed Income	\$100,244,223	\$0	\$0	\$0	-\$32,561	\$2,024,770	\$102,268,993
QMA SMID	\$45,208,565	\$0	\$0	\$0	-\$57,504	\$1,847,081	\$47,055,646
Rothschild U.S. SMID Core	\$47,176,206	\$0	\$0	\$0	\$0	\$958,220	\$48,134,426
Sentinel Real Estate Fund (\$30,000,000)	\$38,424,756	\$0	-\$397,037	-\$397,037	\$0	\$0	\$38,027,719
State Street ACWI Index Fund	\$83,672,961	\$0	\$0	\$0	-\$4,406	\$4,444,562	\$88,117,523
Thornburg Global Opportunities	\$293,335	\$0	\$0	\$0	\$0	\$12,612	\$305,947
Timbervest Crossover Fund (\$16,000,000)	\$6,317,952	\$0	\$0	\$0	\$0	\$0	\$6,317,952
Wellington Blended Opportunistic EMD	\$21,706,373	\$0	\$0	\$0	-\$10,292	\$749,660	\$22,456,033
<b>Total</b>	<b>\$1,794,513,812</b>	<b>\$682,029</b>	<b>-\$2,934,712</b>	<b>-\$2,252,683</b>	<b>-\$676,593</b>	<b>\$59,869,841</b>	<b>\$1,852,130,970</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 July 31, 2020

	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Acadian Emerging Markets Equity	\$57,555,410	\$0	\$0	\$0	-\$100,493	\$4,346,179	\$61,901,589
AEW Core Property (\$12,000,000)	\$16,672,777	\$0	\$0	\$0	\$0	\$0	\$16,672,777
AEW Partners VI LP (\$20,000,000)	\$407,908	\$0	\$0	\$0	\$0	\$0	\$407,908
AQR Global Risk Premium – EL	\$72,379,028	\$0	\$0	\$0	-\$59,316	\$2,546,822	\$74,925,850
ASB Real Estate Fund	\$14,976,164	\$40,262	\$0	\$40,262	\$0	\$0	\$15,016,426
Blackrock Global Allocation	\$92,987,162	\$0	\$0	\$0	\$0	\$5,145,532	\$98,132,695
Blackrock US Debt	\$372,207,591	\$0	\$0	\$0	\$0	\$5,571,199	\$377,778,790
Blackrock US TIPS Index	\$57,903,123	\$0	\$0	\$0	\$0	\$1,334,586	\$59,237,710
Boston Partners Global Equity	\$88,424,745	\$0	\$0	\$0	-\$41,140	\$2,812,428	\$91,237,174
Cash/Clearing Account	\$20,996,117	\$621,478	-\$2,313,233	-\$1,691,755	\$0	\$1,620	\$19,305,982
CCMP Capital Investors III (\$15,000,000)	\$12,406,335	\$0	\$0	\$0	\$0	\$0	\$12,406,335
DCM Private Equity II (\$7,500,000)	\$846,883	\$0	\$0	\$0	\$0	\$0	\$846,883
DTC Private Equity II-Q, L.P. (\$7,500,000)	\$1,088,206	\$0	\$0	\$0	\$0	\$0	\$1,088,206
Energy Opportunities Fund	\$2,755	\$0	\$0	\$0	\$0	\$0	\$2,755
Fisher All Foreign Equity	\$112,749,013	\$0	\$0	\$0	-\$162,645	\$6,002,204	\$118,751,217
FRS-GA (Georgia)	\$3,463,043	\$0	\$0	\$0	\$0	\$0	\$3,463,043
FRS-LB I (NLTP AZ)	\$7,315,110	\$0	\$0	\$0	\$0	\$0	\$7,315,110
FRS-LB III (ST George UT)	\$9,281,546	\$0	\$0	\$0	\$0	\$0	\$9,281,546
GA Crossover Fund (\$25,000,000)	\$3,747,282	\$0	\$0	\$0	\$0	\$0	\$3,747,282
Greenspring Associates III (\$9,230,000)	\$399,744	\$0	\$0	\$0	\$0	\$0	\$399,744
Harbourvest IV (\$20,000,000)	\$16,197,069	\$0	\$0	\$0	\$0	\$0	\$16,197,069
HarbourVest Partners XI Buyout (\$35,000,000)	\$5,697,099	\$0	\$0	\$0	\$0	\$0	\$5,697,099
Heitman America Real Estate Trust	\$14,528,971	\$0	\$0	\$0	\$0	\$0	\$14,528,971



## Firefighters' Retirement System of Louisiana

# CURRENT FYTD CHANGE IN VALUE

	Fiscal YTD Ending July 31, 2020						
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Fees	Net Investment Change	Ending Market Value
Invesco Oppenheimer Developing Markets	\$30,932,506	\$0	\$0	\$0	-\$23,606	\$2,006,674	\$32,939,179
JP Morgan India (\$8,990,000)	\$721,655	\$0	\$0	\$0	\$0	\$0	\$721,655
Landmark Equity Partners XV (\$25,000,000)	\$10,392,974	\$0	-\$224,442	-\$224,442	\$0	\$0	\$10,168,533
Liquidating - BlackRock Global Focused	\$8,060	\$0	\$0	\$0	\$0	\$186	\$8,246
Louisiana Asset Management Pool	\$4,647,959	\$0	\$0	\$0	\$0	\$1,207	\$4,649,165
Louisiana Fund I (\$1,000,000)	\$1,439,848	\$0	\$0	\$0	\$0	\$0	\$1,439,848
LSV International Equity Value	\$96,170,249	\$0	\$0	\$0	-\$164,339	\$2,715,046	\$98,885,295
Mellon Stock Index Fund	\$308,002,682	\$20,289	\$0	\$20,289	-\$20,289	\$17,349,255	\$325,372,226
Mesirow (\$35,000,000)	\$16,574,177	\$0	\$0	\$0	\$0	\$0	\$16,574,177
Murphree Venture (\$2,000,000)	\$346,249	\$0	\$0	\$0	\$0	\$0	\$346,249
Orleans Core Fixed Income	\$100,244,223	\$0	\$0	\$0	-\$32,561	\$2,024,770	\$102,268,993
QMA SMID	\$45,208,565	\$0	\$0	\$0	-\$57,504	\$1,847,081	\$47,055,646
Rothschild U.S. SMID Core	\$47,176,206	\$0	\$0	\$0	\$0	\$958,220	\$48,134,426
Sentinel Real Estate Fund (\$30,000,000)	\$38,424,756	\$0	-\$397,037	-\$397,037	\$0	\$0	\$38,027,719
State Street ACWI Index Fund	\$83,672,961	\$0	\$0	\$0	-\$4,406	\$4,444,562	\$88,117,523
Thornburg Global Opportunities	\$293,335	\$0	\$0	\$0	\$0	\$12,612	\$305,947
Timbervest Crossover Fund (\$16,000,000)	\$6,317,952	\$0	\$0	\$0	\$0	\$0	\$6,317,952
Wellington Blended Opportunistic EMD	\$21,706,373	\$0	\$0	\$0	-\$10,292	\$749,660	\$22,456,033
<b>Total</b>	<b>\$1,794,513,812</b>	<b>\$682,029</b>	<b>-\$2,934,712</b>	<b>-\$2,252,683</b>	<b>-\$676,593</b>	<b>\$59,869,841</b>	<b>\$1,852,130,970</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 July 31, 2020		Net Investment Change	Ending Market Value
			Withdrawals	Net Cash Flow		
Acadian Emerging Markets Equity	--	\$65,000,000	-\$10,000,000	\$55,000,000	\$6,901,589	\$61,901,589
AEW Core Property (\$12,000,000)	--	\$12,000,000	\$0	\$12,000,000	\$4,672,777	\$16,672,777
AEW Partners VI LP (\$20,000,000)	--	\$18,420,450	-\$34,539,873	-\$16,119,423	\$16,527,331	\$407,908
AQR Global Risk Premium – EL	--	\$101,500,000	-\$39,700,000	\$61,800,000	\$13,125,850	\$74,925,850
ASB Real Estate Fund	--	\$12,297,005	-\$141,910	\$12,155,096	\$2,861,330	\$15,016,426
Blackrock Global Allocation	--	\$68,802,555	\$0	\$68,802,555	\$29,330,139	\$98,132,695
Blackrock US Debt	--	\$407,569,625	-\$94,500,000	\$313,069,625	\$64,709,165	\$377,778,790
Blackrock US TIPS Index	--	\$50,023,027	-\$4,805	\$50,018,222	\$9,219,487	\$59,237,710
Boston Partners Global Equity	--	\$80,939,406	-\$1,853,209	\$79,086,196	\$12,150,977	\$91,237,174
Cash/Clearing Account	--	\$2,668,725,224	-\$2,653,287,755	\$15,437,470	\$3,868,512	\$19,305,982
CCMP Capital Investors III (\$15,000,000)	--	\$13,421,953	-\$4,742,087	\$8,679,866	\$3,726,469	\$12,406,335
DCM Private Equity II (\$7,500,000)	--	\$8,268,833	-\$7,476,368	\$792,466	\$54,417	\$846,883
DTC Private Equity II-Q, L.P. (\$7,500,000)	--	\$5,480,845	-\$8,437,500	-\$2,956,655	\$4,044,861	\$1,088,206
Energy Opportunities Fund	--	\$50,039,277	-\$44,450,083	\$5,589,194	-\$5,586,439	\$2,755
Fisher All Foreign Equity	--	\$121,180,807	-\$80,308,187	\$40,872,620	\$77,878,597	\$118,751,217
FRS-GA (Georgia)	--	\$9,416,075	\$0	\$9,416,075	-\$5,953,032	\$3,463,043
FRS-LB I (NLTP AZ)	--	\$24,900,208	\$0	\$24,900,208	-\$17,585,098	\$7,315,110
FRS-LB III (ST George UT)	--	\$6,878,923	\$0	\$6,878,923	\$2,402,623	\$9,281,546
GA Crossover Fund (\$25,000,000)	--	\$25,000,000	-\$47,276,687	-\$22,276,687	\$26,023,969	\$3,747,282
Greenspring Associates III (\$9,230,000)	--	\$8,491,600	-\$15,216,208	-\$6,724,608	\$7,124,352	\$399,744
Harbourvest IV (\$20,000,000)	--	\$17,325,303	-\$4,447,769	\$12,877,534	\$3,319,535	\$16,197,069
HarbourVest Partners XI Buyout (\$35,000,000)	--	\$6,169,321	\$0	\$6,169,321	-\$472,222	\$5,697,099

Cash flow statistics exclude management fees and expenses.



## Firefighters' Retirement System of Louisiana

# SINCE INCEPTION CHANGE IN VALUE

	Ending July 31, 2020					
	Beginning Market Value	Contributions	Withdrawals	Net Cash Flow	Net Investment Change	Ending Market Value
Heitman America Real Estate Trust	--	\$12,000,000	-\$329,863	\$11,670,137	\$2,858,834	\$14,528,971
Invesco Oppenheimer Developing Markets	--	\$37,500,000	-\$11,500,000	\$26,000,000	\$6,939,179	\$32,939,179
JP Morgan India (\$8,990,000)	--	\$8,307,355	-\$3,814,303	\$4,493,052	-\$3,771,397	\$721,655
Landmark Equity Partners XV (\$25,000,000)	--	\$18,945,886	-\$14,492,034	\$4,453,853	\$5,714,680	\$10,168,533
Liquidating - BlackRock Global Focused	--	\$46,832,890	-\$59,572,953	-\$12,740,063	\$12,748,309	\$8,246
Louisiana Asset Management Pool	--	\$943,990,965	-\$944,296,689	-\$305,724	\$4,954,889	\$4,649,165
Louisiana Fund I (\$1,000,000)	--	\$1,010,000	\$0	\$1,010,000	\$429,848	\$1,439,848
LSV International Equity Value	--	\$107,818,122	-\$42,314,883	\$65,503,239	\$33,382,056	\$98,885,295
Mellon Stock Index Fund	--	\$280,551,812	-\$175,500,001	\$105,051,811	\$220,320,415	\$325,372,226
Mesirow (\$35,000,000)	--	\$17,253,620	\$0	\$17,253,620	-\$679,443	\$16,574,177
Murphree Venture (\$2,000,000)	--	\$2,058,578	-\$848,459	\$1,210,119	-\$863,870	\$346,249
Orleans Core Fixed Income	\$0	\$146,099,081	-\$91,022,995	\$55,076,086	\$47,192,907	\$102,268,993
QMA SMID	--	\$51,715,738	\$0	\$51,715,738	-\$4,660,092	\$47,055,646
Rothschild U.S. SMID Core	--	\$60,500,000	-\$27,500,000	\$33,000,000	\$15,134,426	\$48,134,426
Sentinel Real Estate Fund (\$30,000,000)	--	\$30,000,000	-\$19,938,122	\$10,061,878	\$27,965,841	\$38,027,719
State Street ACWI Index Fund	--	\$79,000,000	\$0	\$79,000,000	\$9,117,523	\$88,117,523
Thornburg Global Opportunities	--	\$47,500,000	-\$134,170,030	-\$86,670,030	\$86,975,976	\$305,947
Timbervest Crossover Fund (\$16,000,000)	--	\$13,600,000	-\$8,679,895	\$4,920,105	\$1,397,847	\$6,317,952
Wellington Blended Opportunistic EMD	--	\$20,000,000	\$0	\$20,000,000	\$2,456,033	\$22,456,033

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.
- This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.

### **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.



# ASSET ALLOCATION DECISION TREE

