

Board of Trustees



Handout Book

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Performance Review

June 27, 2019

May Performance

May was a tough month for Equities all around the globe.

Domestic Equities

- S&P 500 Index returned -6.4%
- S&P 400 Index returned -8.0%
- S&P 600 Index returned -9.9%

International Equities

- MSCI World Ex-USA Index returned -4.6%
- MSCI World Ex-USA Small Cap Index returned -5.2%
- MSCI Emerging Markets Index returned -7.2%

Fixed Income

- Barclay's Aggregate Index returned 1.8%
- Credit Suisse High Yield Index returned -1.4%
- J.P. Morgan GBI-EM Global Diversified Index returned 0.3%

Major Indices Performance FYTD thru May 2019





Returns thru May

	May	FYTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
LASERS U.S. Equity	-7.5	-3.6	-3.0	9.5	7.9	12.4	13.7
<i>S&P 500 Index</i>	-6.4	3.1	3.8	11.7	9.7	13.5	13.9
LASERS Int'l Developed	-5.0	-5.2	-6.4	6.2	1.9	7.6	7.0
<i>MSCI World Ex-USA Index</i>	-4.6	-3.9	-4.9	6.4	1.7	7.6	6.5
LASERS Int'l Emerging	-5.7	-2.0	-6.8	10.3	2.4	5.1	6.7
<i>MSCI Emg Mkts Index</i>	-7.2	-4.4	-8.3	10.3	2.2	4.2	5.4
LASERS U.S. Fixed Income	0.1	5.1	5.3	5.6	4.1	6.1	8.6
<i>Barclay's Agg Index</i>	1.8	6.5	6.4	2.5	2.7	2.4	3.8
LASERS EMD	0.4	2.0	-1.4	3.9	-2.0	n/a	n/a
<i>J.P. Morgan GBI-EM Index</i>	0.3	3.3	0.3	4.4	-1.3	n/a	n/a
LASERS Global Multi-Sector	0.2	5.0	5.6	n/a	n/a	n/a	n/a
<i>50/50 Bar Global Agg/CS HY Index</i>	0.0	4.1	4.1	n/a	n/a	n/a	n/a
LASERS Alternatives	0.2	4.8	6.8	9.3	6.3	7.3	8.3
Total Plan	-3.3	-0.2	-0.4	8.3	5.1	8.1	9.3



LASERS Total Plan Performance Monthly, Over Last 10 Fiscal Years

Fiscal Year	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	FYE
2009-2010	5.8	2.5	3.6	-0.7	2.9	2.0	-1.4	1.2	4.1	1.9	-5.1	-1.4	16.1
2010-2011	4.6	-1.4	6.3	2.7	-0.5	4.7	1.1	2.1	1.1	2.8	-0.7	-0.7	24.3
2011-2012	-0.2	-4.2	-5.3	6.1	-1.6	0.1	4.1	2.9	0.6	-0.1	-4.5	3.0	0.2
2012-2013	1.1	1.8	2.0	-.02	1.0	1.9	2.9	0.2	1.6	1.8	-.07	-2.1	12.6
2013-2014	3.1	-1.5	4.0	2.9	0.9	1.1	-2.2	3.3	1.2	0.7	1.6	2.2	18.8
2014-2015	-1.2	1.9	-2.6	0.9	0.8	-1.0	-0.6	3.3	-0.4	2.0	.06	-1.3	1.7
2015-2016	-0.5	-4.4	-2.2	4.6	-0.7	-1.9	-3.8	-0.2	5.3	1.4	-.08	0.5	-2.4
2016-2017	3.2	0.6	0.7	-0.7	0.6	1.7	2.0	1.8	1.2	1.3	1.5	0.8	15.8
2017-2018	1.9	0.3	1.7	1.4	1.4	1.5	3.6	-2.6	-0.4	0.5	0.3	-0.3	9.5
2018-2019	1.7	0.2	0.3	-5.3	1.1	-3.9	5.3	1.6	0.4	2.1	-3.3		

Best & Worst Monthly Returns Over the Last 10 Years

Top 10 Best

Month	Return
Sept 2010	6.31%
Oct 2011	6.08%
July 2009	5.84%
Mar 2016	5.34%
Jan 2019	5.27%
Dec 2010	4.71%
Oct 2015	4.61%
July 2010	4.59%
Mar 2010	4.07%
Jan 2012	4.06%

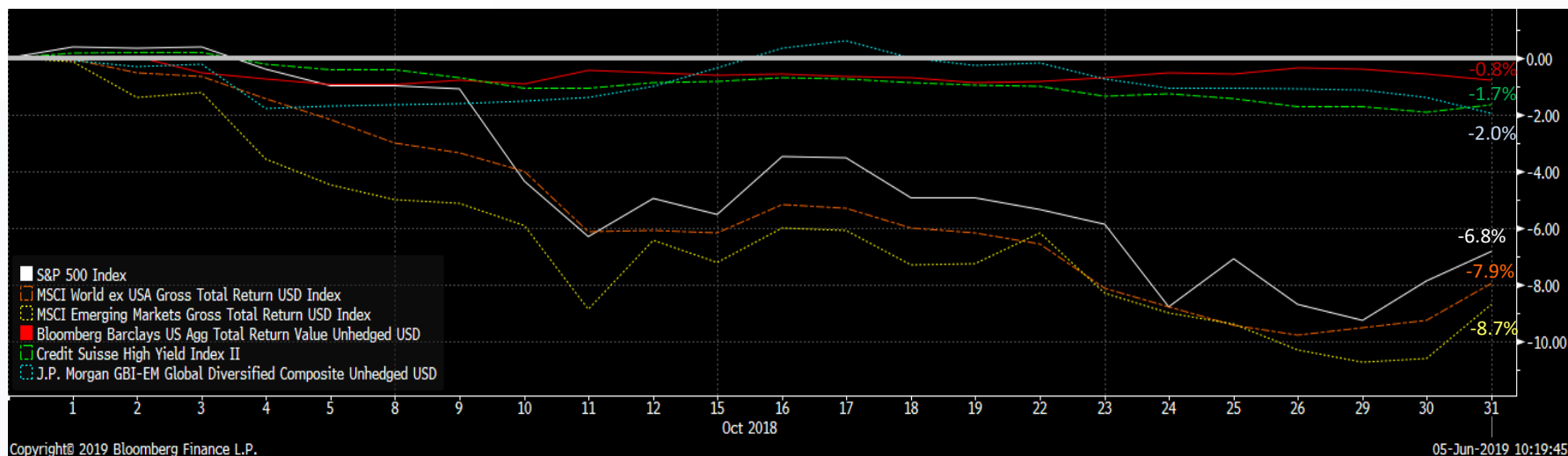
Top 10 Worst

Month	Return
Sept 2011	-5.34%
Oct 2018	-5.25%
May 2010	-5.11%
May 2012	-4.48%
Aug 2015	-4.41%
Aug 2011	-4.16%
Dec 2018	-3.88%
Jan 2016	-3.79%
May 2019	-3.34%
Sept 2014	-2.64%

October 2018

LASERS Total Plan Return

-5.3%



On-going Issues Effecting Markets:

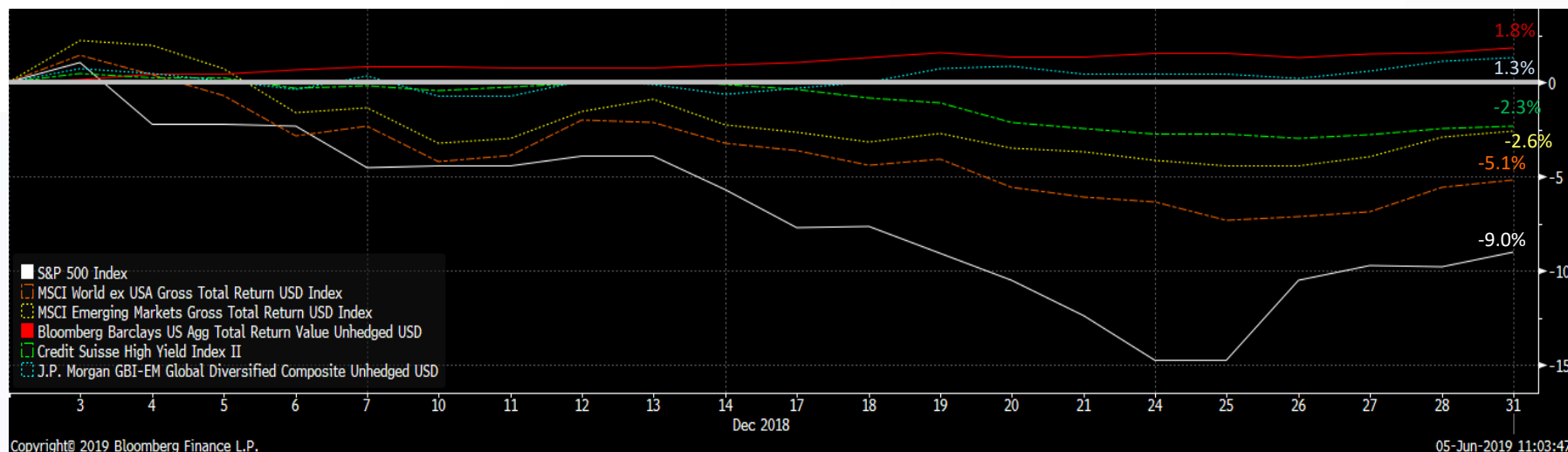
- US-China trade war
- Slowing Chinese economy
- Brexit
- Italy's budget problems

What Happened This Month:

- Volatility returned
- Rise in interest rates – Fed Funds rate increased 0.25% on Sept 27
- Weak quarterly earnings reports in U.S.

December 2018

LASERS Total Plan Return **-3.9%**



On-going Issues Effecting Markets:

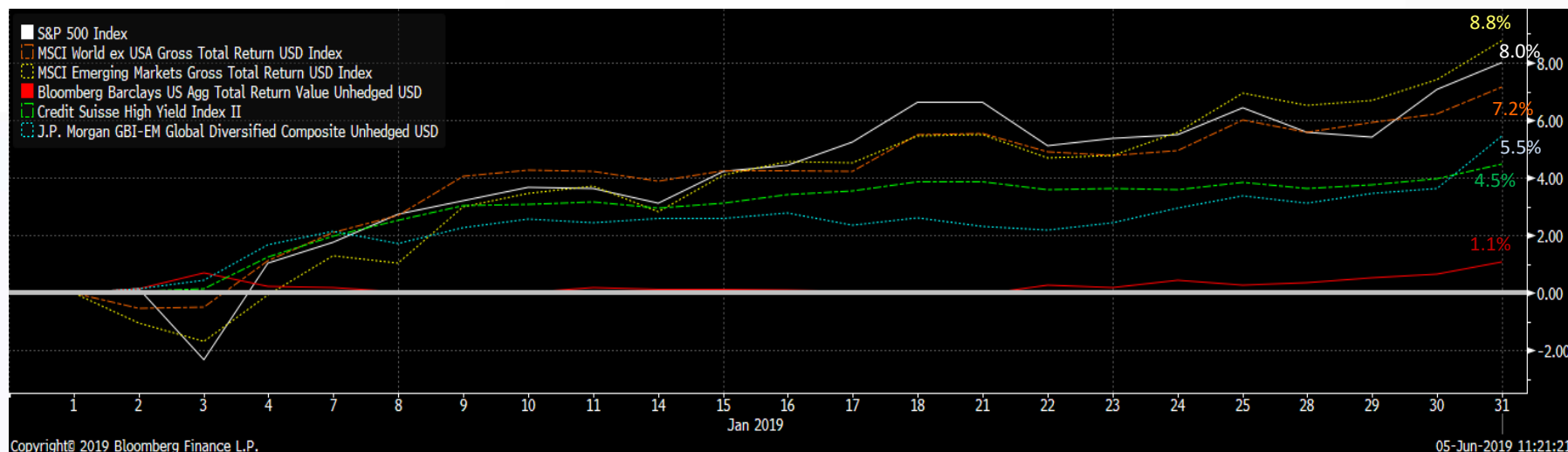
- US-China trade war
- Brexit
- Rising rate environment
- Ongoing volatility

What Happened This Month:

- Rise in interest rates – Fed Funds rate increased 0.25% on Dec 19
- Uncertainty about Fed's 2019 stance
- Concerns over partial government shutdown
- Weak economic data all around the globe

January 2019

LASERS Total Plan Return 5.3%



On-going Issues Effecting Markets:

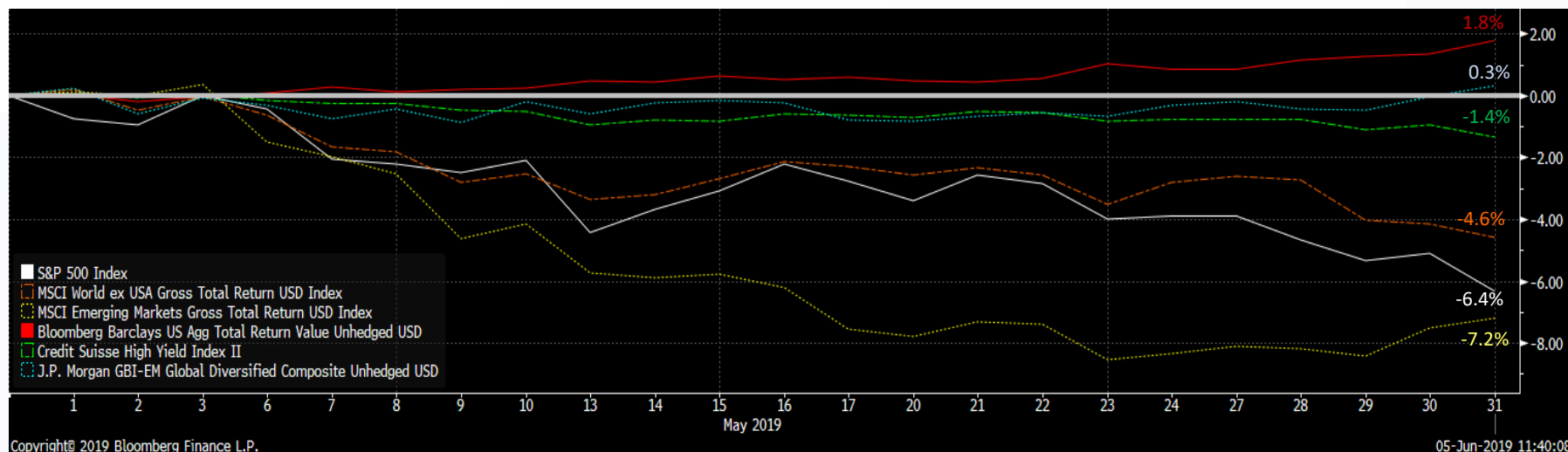
- US-China trade war
- Brexit
- Ongoing volatility

What Happened This Month:

- Fed statement indicating no interest rate increases in 2019
- Improvement in China trade talks
- Better than expected earnings reports

May 2019

LASERS Total Plan Return -3.3%



On-going Issues Effecting Markets:

- US-China trade war
- Brexit
- Ongoing volatility

What Happened This Month:

- Additional China tariffs
- Mexico tariffs threat

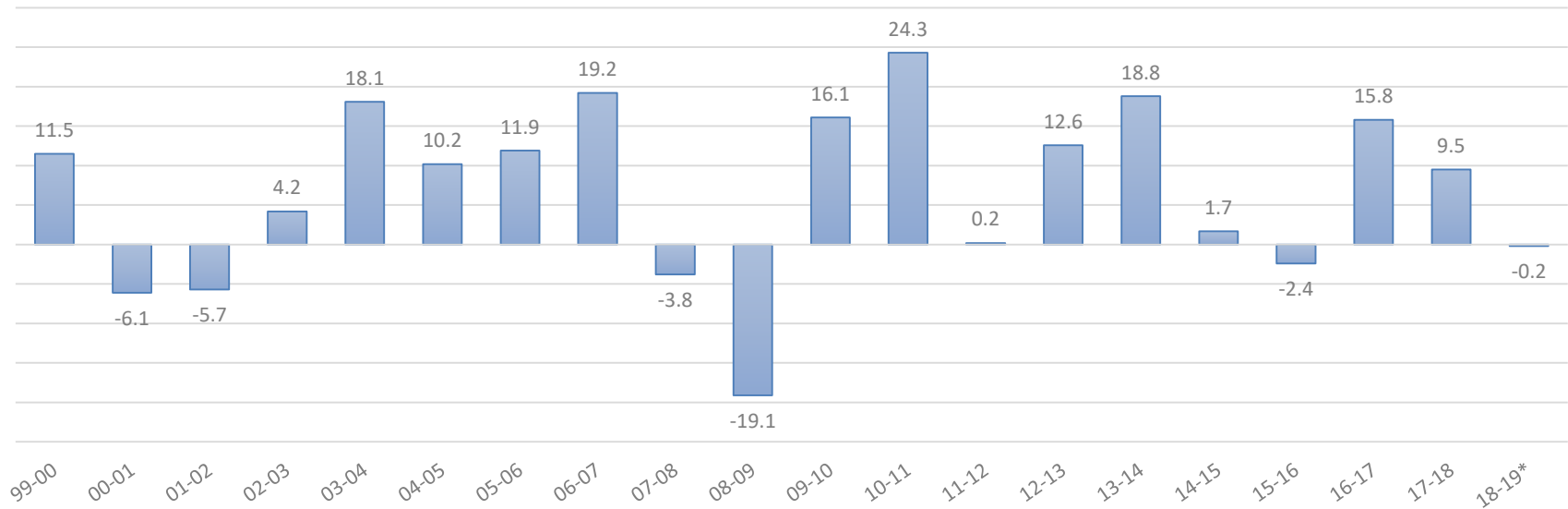


LASERS Total Plan Performance Monthly, Over Previous 10 Fiscal Years

Fiscal Year	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	FYE
1999-2000	-1.1	-1.1	-0.6	2.8	2.6	5.4	-2.9	3.2	3.7	-3.8	-1.3	4.5	11.5
2000-2001	-1.1	3.9	-2.9	-2.3	-4.2	3.8	2.2	-4.4	-4.6	4.5	0.9	-1.2	-6.1
2001-2002	-0.5	-2.0	-6.4	2.1	3.7	1.3	-0.6	-0.3	2.8	-0.9	-0.5	-4.1	-5.7
2002-2003	-5.7	0.9	-5.1	2.9	3.7	-2.0	-1.2	-0.7	0.2	5.3	4.8	1.0	4.2
2003-2004	1.1	2.2	0.7	4.3	1.5	3.8	1.6	1.4	0.2	-2.3	0.3	1.9	18.1
2004-2005	-2.3	0.6	2.0	1.6	4.1	2.7	-1.3	2.2	-1.7	-1.7	2.4	1.4	10.2
2005-2006	2.9	0.2	1.1	-2.0	2.7	1.4	3.8	.01	1.7	1.8	-2.3	0.1	11.9
2006-2007	-.08	1.8	1.3	3.0	2.3	1.3	1.1	-.06	1.6	3.3	2.4	-0.2	19.2
2007-2008	-1.3	0.3	3.6	2.7	-3.3	-0.2	-4.9	.07	-0.5	3.2	1.7	-4.9	-3.8
2008-2009	-1.4	-0.6	-8.1	-13.0	-4.6	2.7	-4.6	-5.1	3.2	7.1	5.0	0.4	-19.1

The Last 20 Years

FYE Returns



FYEs 2000 – 2009

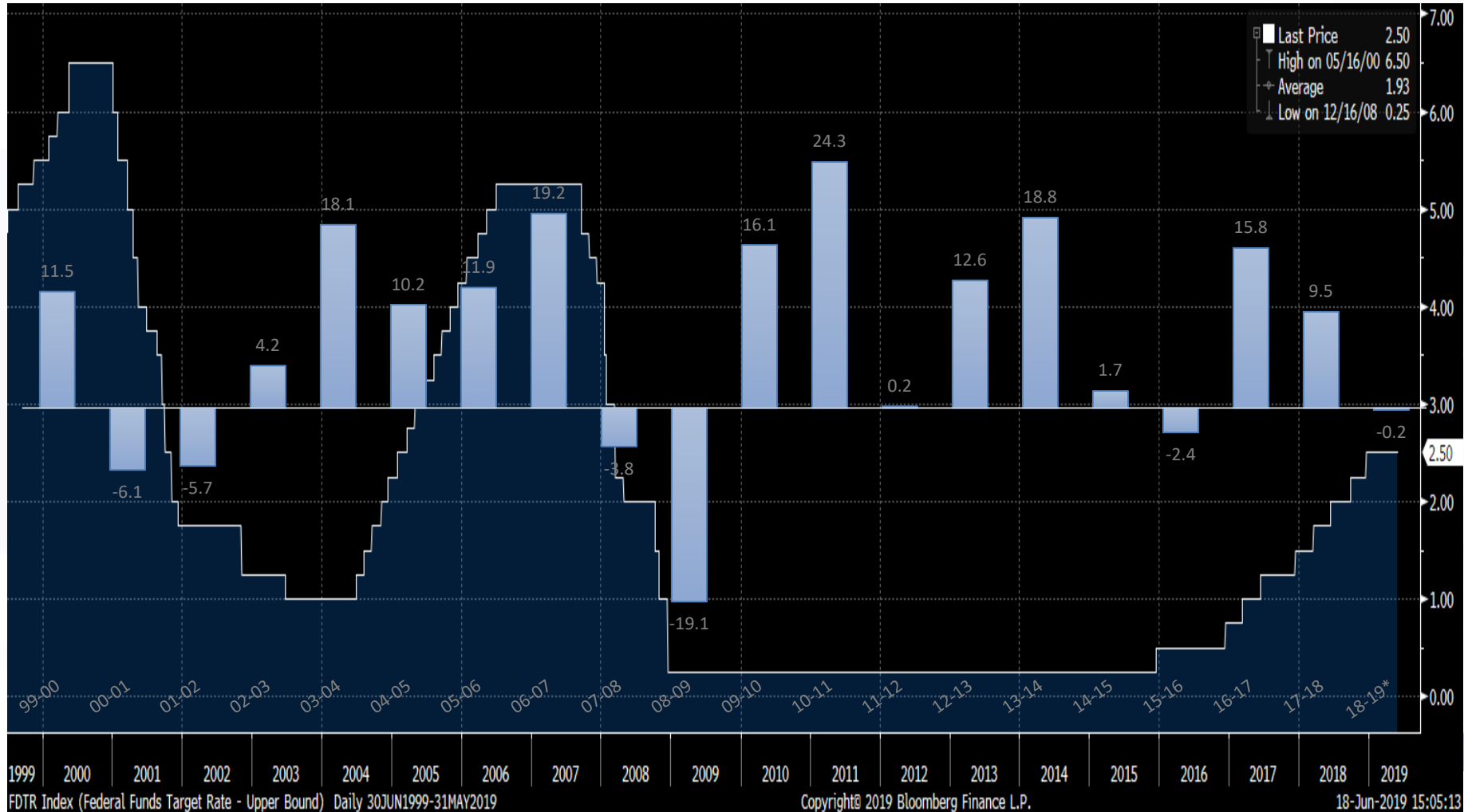
120 months

22 with returns $\geq 3.0\%$

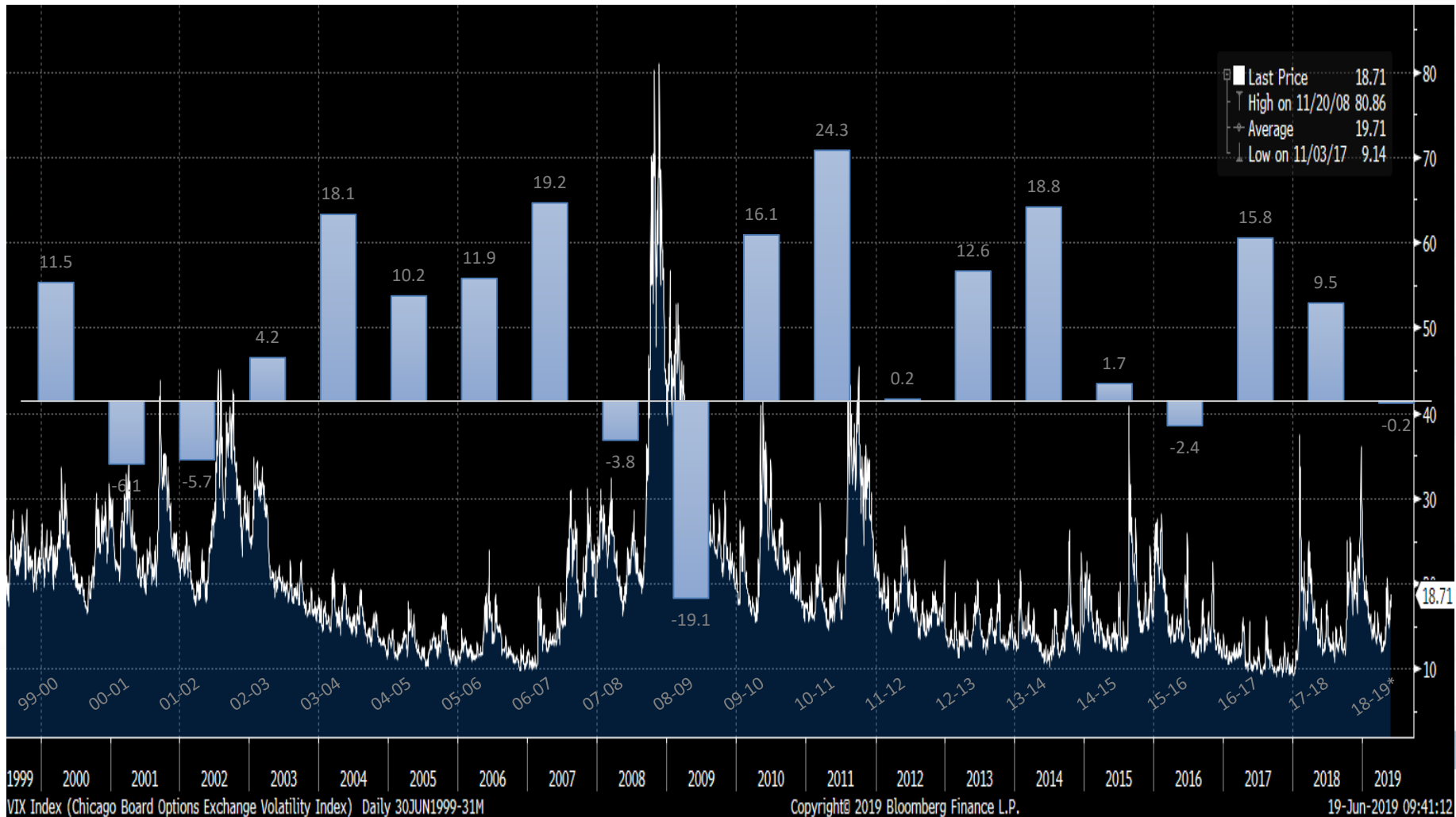
16 with returns $\leq -3.0\%$

*Return shown for FYE 18-19 is thru May

Interest Rates & LASERS Returns Last 20 Years



Volatility & LASERS Returns Last 20 Years



LASERS
SUMMARY OF MANAGER PERFORMANCE
RATES OF RETURN
TOTAL GROSS OF FEES
(For Period Ending May 31, 2019)

	Contract Exp. Date	Approx. Mgt. Fees	Curr. Mkt. Value (\$M)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
U.S. EQUITY													
LARGE CAP VALUE													
AJO, LP	03/31/22	11.3 bps	\$ 216.6	-7.6	-3.4	8.0	-3.8	-4.4	5.1	8.9	5.0	6.4	8.8
S&P 500 VALUE INDEX				-7.6	-2.7	8.0	0.5	1.2	5.0	8.1	6.2	6.7	8.6
S&P 500 INDEX				-6.4	-0.7	10.7	3.1	3.8	9.0	11.7	9.1	9.7	11.4
TOTAL LARGE VALUE		11.3 bps	\$ 216.6	-7.6	-3.4	8.0	-3.8	-4.4	5.1	8.9	5.0	6.4	8.8
LARGE CAP INDEX FUNDS													
LASERS S&P 500 INDEX FUND		1.3 bps	\$ 1,180.1	-6.3	-0.7	10.7	3.2	3.8	8.9	11.7	9.1	9.6	11.4
S&P 500 INDEX				-6.4	-0.7	10.7	3.1	3.8	9.0	11.7	9.1	9.7	11.4
TOTAL DOMESTIC LARGE CAP		2.9 bps	\$ 1,396.7	-6.5	-1.1	10.3	1.8	2.2	8.2	11.2	8.4	9.1	10.9
MID CAP INDEX FUNDS													
LASERS S&P 400 INDEX FUND		1.3 bps	\$ 418.6	-8.0	-4.8	9.6	-5.9	-5.4	4.2	8.4	6.2	7.4	9.1
S&P MIDCAP 400 INDEX				-8.0	-4.8	9.6	-5.8	-5.4	4.2	8.4	6.1	7.3	9.0
TOTAL DOMESTIC MID CAP INDEX		1.3 bps	\$ 418.6	-8.0	-4.8	9.6	-5.9	-5.4	4.2	8.4	6.2	7.4	9.1
SMALL CAP GROWTH													
RICE HALL JAMES	07/31/20	0.0bps	\$ 190.5	-7.4	-5.7	9.6	-9.4	-8.0	2.8	6.2	2.6	5.5	7.1
S&P 600 GROWTH INDEX				-7.5	-7.0	6.1	-8.8	-7.6	7.2	11.3	8.5	9.6	11.0
S&P SMALLCAP 600 INDEX				-8.7	-8.4	5.8	-11.5	-10.5	4.8	9.5	7.2	7.9	9.7
TOTAL SMALL GROWTH		0.0bps	\$ 190.5	-7.4	-5.7	9.6	-9.4	-8.0	2.8	6.2	2.6	5.5	7.1
SMALL CAP VALUE													
LSV	05/31/21	55.9 bps	\$ 185.5	-12.2	-12.5	2.3	-16.9	-16.5	-2.3	4.4	3.1	4.9	8.5
S&P 600 VALUE INDEX				-9.9	-9.7	5.6	-13.9	-13.1	2.5	7.8	5.9	6.2	8.5
S&P SMALLCAP 600 INDEX				-8.7	-8.4	5.8	-11.5	-10.5	4.8	9.5	7.2	7.9	9.7
TOTAL SMALL VALUE		55.9 bps	\$ 185.5	-12.2	-12.5	2.3	-16.9	-16.5	-2.3	4.4	2.9	4.1	6.7
SMALL CAP INDEX FUNDS													
LASERS S&P 600 INDEX FUND		1.3 bps	\$ 263.9	-8.6	-8.3	5.9	-11.4	-10.4	4.9	9.5	7.2	7.9	9.8
S&P SMALLCAP 600 INDEX				-8.7	-8.4	5.8	-11.5	-10.5	4.8	9.5	7.2	7.9	9.7
TOTAL DOMESTIC SMALL CAP		16.7 bps	\$ 639.8	-9.3	-8.8	6.0	-12.4	-11.5	1.9	6.8	4.2	5.7	7.8
TOTAL U.S. EQUITY		6.2 bps	\$ 2,455.2	-7.5	-3.8	9.0	-3.6	-3.0	5.8	9.5	6.9	7.9	9.8

LASERS

SUMMARY OF MANAGER PERFORMANCE
RATES OF RETURN
TOTAL GROSS OF FEES
(For Period Ending May 31, 2019)

	Contract Exp. Date	Approx. Mgt. Fees	Curr. Mkt. Value (\$M)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
NON-U.S. EQUITY													
LARGE CAP VALUE													
MONDRIAN INVESTMENT PARTNERS	12/31/20	28.5 bps	\$ 213.9	-6.9	-3.2	5.7	-1.8	-2.8	0.3	5.5	2.4	2.1	5.2
MSCI WORLD EX-USA VALUE INDEX				-5.6	-3.7	5.2	-6.3	-7.3	-0.2	5.7	0.8	-0.1	3.0
MSCI WORLD EX-USA INDEX				-4.6	-1.2	8.6	-3.9	-4.9	1.7	6.4	2.3	1.7	4.2
TOTAL INT'L LARGE VALUE		28.5 bps	\$ 213.9	-6.9	-3.2	5.7	-1.8	-2.8	0.3	5.5	2.4	2.1	5.2
LARGE CAP CORE													
LASERS MSCI WORLD EX-USA INDEX FUND		1.3 bps	\$ 1,430.5	-4.6	-1.3	8.2	-3.9	-5.0	1.5	6.1	2.0	1.4	4.0
MSCI WORLD EX-USA INDEX				-4.6	-1.2	8.6	-3.9	-4.9	1.7	6.4	2.3	1.7	4.2
TOTAL INT'L LARGE CORE		1.3 bps	\$ 1,430.5	-4.6	-1.3	8.2	-3.9	-5.0	1.5	6.1	2.0	1.4	4.0
LARGE CAP TERROR-FREE													
LASERS TERROR-FREE INT'L FUND		1.3 bps	\$ 27.5	-4.1	-0.8	8.6	-2.8	-4.0	1.6	6.8	2.7	2.0	4.5
MSCI WORLD EX-USA INDEX				-4.6	-1.2	8.6	-3.9	-4.9	1.7	6.4	2.3	1.7	4.2
TOTAL INT'L LARGE CAP		4.8 bps	\$ 1,671.8	-4.9	-1.6	7.8	-3.6	-4.7	1.3	6.0	2.1	1.6	4.1
INT'L SMALL CAP													
MONDRIAN INVESTMENT PARTNERS	02/14/21	70.5 bps	\$ 225.4	-5.8	-0.7	8.7	-7.0	-7.7	2.9	7.2	4.9	3.7	6.1
GOLDMAN SACHS	02/17/21	51.3 bps	\$ 327.0	-4.9	-3.6	7.6	-11.1	-12.6	0.8	6.5			
MSCI WORLD EX-USA SMALL CAP INDEX				-5.2	-2.5	8.2	-9.9	-11.4	0.8	5.6	4.2	3.3	6.3
TOTAL INT'L SMALL CAP		59.1 bps	\$ 552.4	-5.3	-2.5	8.0	-9.6	-10.8	1.5	6.7	5.0	3.8	6.2
EMERGING MARKETS													
CITY OF LONDON	08/31/24	93.0 bps	\$ 393.7	-6.1	-2.3	6.5	-0.9	-4.0	2.6	10.5	3.7	4.0	4.6
WESTWOOD GLOBAL EMERGING MKTS	OPEN	89.2 bps	\$ 272.0	-6.4	-6.4	-1.5	-6.5	-10.5	0.4	10.2	4.1	2.6	4.1
LSV CUSTOM EMERGING MARKETS	08/22/23	50.0 bps	\$ 641.8	-5.2	-5.1	3.0	-0.9	-6.8	1.1	10.3	1.7	1.5	2.2
MSCI EMERGING MARKETS INDEX				-7.2	-4.4	4.2	-4.4	-8.3	2.4	10.3	2.6	2.2	2.6
TOTAL EMERGING MARKETS		71.1 bps	\$ 1,307.4	-5.7	-4.6	3.1	-2.0	-6.8	1.4	10.3	2.7	2.4	3.2
TOTAL NON-U.S. EQUITY		37.8 bps	\$ 3,531.7	-5.3	-2.9	6.0	-4.0	-6.5	1.4	7.7	2.6	2.1	4.0
TOTAL EQUITY		24.9 bps	\$ 5,986.9	-6.2	-3.3	7.3	-3.8	-5.0	3.3	8.5	4.6	4.8	6.8

LASERS

SUMMARY OF MANAGER PERFORMANCE
 RATES OF RETURN
 TOTAL GROSS OF FEES
 (For Period Ending May 31, 2019)

	Contract Exp. Date	Approx. Mgt. Fees	Curr. Mkt. Value (\$M)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
US FIXED INCOME													
INVESTMENT GRADE													
LOOMIS SAYLES & CO	12/31/19	17.5 bps	\$ 197.8	1.7	3.7	5.6	6.3	6.4	3.8	4.4	3.5	3.2	3.7
ORLEANS CAPITAL MGT	12/31/19	11.9 bps	\$ 152.7	1.3	3.4	5.2	6.4	6.1	2.9	2.7	2.8	2.5	2.7
BB BC US AGGREGATE BOND INDEX				1.8	3.8	4.8	6.5	6.4	3.0	2.5	2.6	2.7	2.7
TOTAL INVESTMENT GRADE		15.1 bps	\$ 350.5	1.5	3.5	5.4	6.3	6.2	3.4	3.7	3.2	2.9	3.3
HIGH YIELD													
JPMORGAN	06/30/22	27.0 bps	\$ 170.7	-1.4	0.7	7.5	4.6	5.1	3.8	6.6	4.6	4.3	4.8
NOMURA	06/30/22	45.0 bps	\$ 167.2	-1.4	0.8	6.9	2.4	2.8	3.8	7.8	5.6	5.0	6.2
CREDIT SUISSE HY INDEX				-1.4	1.1	7.3	4.6	5.0	3.7	7.1	4.9	4.2	4.8
TOTAL HIGH YIELD		35.9 bps	\$ 337.9	-1.4	0.8	7.3	3.7	4.0	3.9	7.2	5.1	4.7	5.5
TOTAL U.S. FIXED INCOME													
		25.3 bps	\$ 688.5	0.1	2.2	6.3	5.1	5.3	3.8	5.6	4.3	4.1	4.6
EMERGING MARKET DEBT (+)													
STONE HARBOR	10/02/22	52.5 bps	\$ 196.2	0.3	-1.4	3.7	1.6	-1.8	-0.6	3.7	1.3	-2.1	-2.1
GRAMERCY*	OPEN	100.0 bps	\$ 67.1	0.5	3.4	5.1							
J.P. MORGAN GBI-EM GLOBAL DIVERSIFIED INDEX				0.3	-1.2	3.0	3.3	0.3	0.7	4.4	2.0	-1.3	-1.3
TOTAL EMERGING MARKET DEBT (+)		64.6 bps	\$ 263.3	0.4	-0.2	4.1	2.0	-1.4	-0.4	3.9	1.4	-2.0	-2.1
GLOBAL MULTI-SECTOR (+)													
DOUBLELINE	05/05/21	60.0 bps	\$ 245.7	0.9	2.7	5.4	5.8	5.9	5.3				
GOLDENTREE	05/01/21	75.0 bps	\$ 247.6	-0.4	1.9	7.4	5.5	6.0	6.5				
PIMCO*	OPEN	95.0 bps	\$ 135.7	0.0	3.2	3.2							
BLACKSTONE*	OPEN	78.1 bps	\$ 70.4	0.4	0.5	0.3							
ZAIS GROUP*	OPEN	62.5 bps	\$ 25.2	0.3									
50/50 BB BARCLAYS GLOBAL AGG/CS HY INDEX				0.0	1.7	5.3	4.1	4.1	3.1				
TOTAL GLOBAL MULTI-SECTOR (+)		65.9 bps	\$ 724.6	0.2	2.4	5.6	5.0	5.4	5.6				
TOTAL FIXED INCOME (+)													
		49.0 bps	\$ 1,676.3	0.2	1.9	5.7	4.7	4.4	3.7	5.8	4.2	3.5	3.9

LASERS

SUMMARY OF MANAGER PERFORMANCE
RATES OF RETURN
TOTAL GROSS OF FEES
(For Period Ending May 31, 2019)

	Contract Exp. Date	Approx. Mgt. Fees	Curr. Mkt. Value (\$M)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
ALTERNATIVE ASSETS*													
PRIVATE MARKETS* (for breakout see pages 5-6)													
TOTAL PRIVATE MARKETS*		88.3 bps	\$ 1,783.9	1.9	2.9	2.5	8.8	13.3	16.2	14.7	12.7	12.2	13.1
ABSOLUTE RETURN STRATEGIES*													
BRIDGEWATER PURE ALPHA		191.8 bps	\$ 179.5	-2.2	-0.9	-4.1	1.2	2.5	4.0	5.2	0.8	2.2	2.9
PRISMA CAPITAL PARTNERS		65.0 bps	\$ 262.8	-0.1	1.7	4.9	0.2	0.3	3.0	3.6	0.4	1.9	2.3
ENTRUST CAPITAL PARTNERS		111.8 bps	\$ 270.1	-1.4	0.8	4.1	-1.7	0.5	-1.1	2.4	2.0	2.5	6.7
HFRI FUND OF FUNDS COMPOSITE INDEX				-0.6	1.3	5.0	1.8	1.5	3.9	4.3	1.6	2.5	2.9
ABSOLUTE RETURN STRATEGIES*~		113.0 bps	\$ 722.8	-1.4	0.8	1.8	0.1	1.1	2.4	3.4	0.4	1.6	2.7
~includes assets being liquidated: PAAMCO \$8.1m; Stark \$2.3m													
RISK PARITY*													
BRIDGEWATER CUSTOM		63.6 bps	\$ 415.4	-1.6	1.0	5.1	1.6	1.3					
AQR CAPITAL MANAGEMENT		110.0 bps	\$ 380.2	-2.2	2.2	10.8	1.1	-1.7					
LASERS 8% NOMINAL BENCHMARK				0.6	1.9	3.3	7.3	8.0	8.0	8.0	8.0	8.0	8.0
TOTAL RISK PARITY*		85.8 bps	\$ 795.6	-1.9	1.6	7.7	1.4	-0.2	3.1	5.5	2.5	2.6	3.2
TOTAL ALTERNATIVE ASSETS*		93.1 bps	\$ 3,302.3	0.2	2.1	3.6	4.8	6.8	9.1	9.3	6.4	6.3	7.1
CASH EQUIVALENTS													
HOLDING ACCOUNT		\$ 120.2											
EB TEMPORARY INVESTMENT FUND		9.0 bps		0.22	0.66	1.09	2.28	2.46	1.99	1.59	1.28	1.06	0.91
90 DAY T-BILL INDEX				0.21	0.62	1.01	2.09	2.24	1.74	1.30	1.00	0.80	0.68
TOTAL PLAN													
FINANCIAL COMPOSITE		29.8 bps	\$ 7,783.4	-4.8	-2.1	7.0	-2.1	-3.1	3.5	8.1	4.6	4.7	6.3
FINANCIAL ALLOCATION INDEX				-5.0	-2.0	7.4	-2.3	-3.2	4.0	8.2	4.9	4.8	6.4
FINANCIAL POLICY INDEX				-5.0	-2.1	7.4	-1.9	-2.8	4.1	8.4	5.0	4.9	6.4
TOTAL PLAN		48.7 bps	\$ 11,085.7	-3.3	-0.9	6.0	-0.2	-0.4	5.0	8.3	5.1	5.1	6.5
TOTAL PLAN ALLOCATION INDEX				-3.3	-0.7	6.2	0.2	0.1	5.8	8.7	5.7	5.6	6.8
TOTAL PLAN POLICY INDEX				-3.3	-0.8	6.3	0.6	0.6	6.2	9.0	6.0	5.7	6.9
Cells highlighted in green represent performance above the benchmark. Cells highlighted in yellow represent manager performance below the benchmark. Cells highlighted in red represent asset class performance below the benchmark. Royal blue lines represent specific benchmarks. Light blue lines represent broad benchmarks. *Net of fee information is reported. (+) Composite is mixed, containing both gross-of-fee and net-of-fee portfolios.										LONG TERM RETURNS FOR TOTAL PLAN			
										7 Years	8 Years	9 Years	10 Years
										8.1	6.6	8.4	9.3

LASERS
SUMMARY OF MANAGER PERFORMANCE
RATES OF RETURN
TOTAL NET OF FEES
(For Period Ending April 30, 2019)

	Vintage Year	Contract Exp. Date	Commit. Amount	Approx. Mgt. Fees	Curr. Mkt. Value (\$M)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
PRIVATE MARKETS BREAKOUT															
ADAMS STREET 2005 NON-US	2005	12/31/20	\$ 15.0	18.6 bps	\$ 3.2	0.0	-4.2	-4.2	-5.2	-4.5	9.0	5.7	5.2	3.8	4.8
ADAMS STREET PARTNERSHIP 2002 US	2002	12/31/19	\$ 15.0	0.0 bps	\$ 1.4	0.0	-6.9	-6.9	-1.1	0.4	6.7	7.1	6.3	7.0	9.3
ADAMS STREET PARTNERSHIP 2005 US	2005	12/31/20	\$ 35.0	18.6 bps	\$ 7.0	0.0	-6.2	-6.2	0.9	3.7	7.1	7.4	7.2	8.2	10.1
ADAMS STREET 2007 US FUND	2007	12/31/19	\$ 27.5	30.0 bps	\$ 12.9	0.0	0.0	0.0	3.1	8.0	11.5	12.1	11.8	13.4	14.8
ADAMS STREET 2007 NON-US	2007	12/31/19	\$ 17.5	30.0 bps	\$ 7.9	0.0	-6.3	-6.3	4.1	6.0	13.6	10.3	10.5	10.3	11.2
ADAMS STREET 2007 DIRECT	2007	12/31/19	\$ 5.0	60.0 bps	\$ 2.5	0.0	-16.0	-16.0	8.9	21.9	25.6	15.1	15.4	26.1	23.2
ADAMS STREET 2009 US FUND	2009	12/31/20	\$ 25.0	50.0 bps	\$ 19.7	0.0	2.1	2.1	7.7	14.7	14.6	13.1	12.0	13.6	14.1
ADAMS STREET 2009 NON-US DEV	2009	12/31/20	\$ 15.0	50.0 bps	\$ 9.7	0.0	1.9	1.9	12.9	15.4	21.9	18.1	16.2	13.7	13.4
ADAMS STREET 2009 NON-US EMG	2009	12/31/20	\$ 5.0	50.0 bps	\$ 5.4	0.0	0.1	0.1	-0.5	3.6	11.5	9.2	10.6	12.2	11.3
ADAMS STREET 2009 DIRECT	2009	12/31/20	\$ 5.0	100.0 bps	\$ 3.0	0.0	-11.1	-11.1	4.3	10.8	15.2	9.7	10.0	11.7	13.3
AEA INVESTORS FUND VI	2015	05/31/25	\$ 50.0	175.0 bps	\$ 45.6	-0.4	-0.3	8.9	8.5	16.9	8.7	10.0			
BARING PE ASIA FUND VII	2018	08/08/28	\$ 100.0	175.0 bps	\$ 10.3	0.0									
BCP ENERGY SERVICES FUND A	2015	09/23/25	\$ 50.0	200.0 bps	\$ 48.5	-2.9	0.6	0.6	3.6	3.8	22.2	17.8			
BCP FUND II A	2017	12/31/27	\$ 75.0	200.0 bps	\$ 3.7	4.4	83.5								
BRINSON (φ)	'97-'03	termed out	\$ 202.8	0.0 bps	\$ 3.3	0.0	-6.1	-6.1	2.3	4.2	5.1	3.6	2.6	1.0	2.9
BROOKFIELD CAPITAL IV	2015	05/31/25	\$ 50.0	175.0 bps	\$ 52.1	11.8	32.6	30.4	24.4	36.8	96.2	67.8			
ADAMS STREET V	2003	08/08/19	\$ 15.0	0.0 bps	\$ 4.2	-0.1	3.8	3.8	5.2	6.2	2.5	0.2	6.5	4.8	8.9
APOLLO INV FUND VII	2008	12/17/19	\$ 60.0	0.0 bps	\$ 10.7	0.0	3.7	-11.6	-15.1	-13.0	-6.3	-0.6	-2.8	-0.3	6.8
APOLLO INV FUND VIII	2013	06/30/23	\$ 70.0	150.0 bps	\$ 59.7	0.0	3.6	-5.5	-3.2	-1.3	8.7	12.8	12.2	10.8	
APOLLO EUROPEAN FUND II	2011	12/31/19	\$ 100.0	175.0 bps	\$ 30.1	0.0	-1.2	-0.3	-5.5	-4.3	6.2	9.2	8.7	9.4	10.1
APOLLO INV FUND IX	2017	06/01/27	\$ 85.0	130.0 bps	\$ 6.8	0.0	3.2								
ARCLIGHT ENERGY FUND VI	2015	07/28/25	\$ 75.0	150.0 bps	\$ 69.8	3.4	1.6	1.6	12.2	28.1	17.3	16.9			
CCMP CAPITAL III	2013	12/31/23	\$ 60.0	150.0 bps	\$ 56.8	2.8	-3.8	-3.8	0.5	7.8	6.6	11.1	12.4	10.7	
CERBERUS VI	2016	08/31/26	\$ 125.0	150.0 bps	\$ 119.6	0.0	7.7	3.7	7.0	-0.8	0.5				
COLLER INTERNATIONAL PTNRS VI	2012	06/15/22	\$ 100.0	81.0 bps	\$ 34.8	3.4	2.9	7.0	17.6	17.0	22.6	18.6	17.8	15.7	17.8
COLLER INTERNATIONAL PTNRS VII	2015	12/31/25	\$ 75.0	150.0 bps	\$ 57.5	-3.2	-3.2	-2.0	6.6	5.9	19.8	43.3			
DOUBLELINE MORTGAGE OPP FUND	2018	10/31/20	\$ 125.0	100.0 bps	\$ 112.0	1.6	7.8	7.8							
DRUG ROYALTY FUND III	2013	06/30/23	\$ 50.0	150.0 bps	\$ 7.4	3.9	17.1	16.9	20.8	30.1	41.5	33.5	28.0	22.1	
EIG ENERGY FUND XIV	2007	11/07/19	\$ 50.0	0.0 bps	\$ 5.4	0.0	-4.2	-19.3	-18.3	5.1	-3.1	3.3	-22.8	-21.3	-19.4
EIG ENERGY FUND XV	2010	06/06/20	\$ 40.0	125.0 bps	\$ 18.3	1.0	0.6	-3.3	2.1	-0.4	0.2	7.9	2.0	0.6	1.3
EIG ENERGY FUND XVI	2013	05/13/23	\$ 70.0	125.0 bps	\$ 48.7	0.2	-0.5	-1.8	-1.3	0.0	9.0	26.5	20.4	-2.7	
ENERGY SPECTRUM FUND V	2007	04/01/19	\$ 30.0	0.0 bps	\$ 0.1	-0.2	-69.5	-69.5	-75.1	-84.7	-58.1	-26.2	-43.8	-43.5	32.5
ENERGY SPECTRUM FUND VI	2010	12/31/20	\$ 40.0	175.0 bps	\$ 9.8	3.8	4.8	4.8	75.6	89.3	49.6	52.8	30.1	27.1	25.2
GTCR FUND XI	2014	05/21/23	\$ 50.0	135.0 bps	\$ 43.0	9.2	9.2	13.9	23.9	32.9	31.7	31.3	23.5		
GTCR Fund XII	2017	09/14/27	\$ 60.0	150.0 bps	\$ 10.7	9.6	8.3	-4.5							
LOUISIANA GROWTH FUND	2004	11/13/19	\$ 50.0	50.0 bps	\$ 0.1	0.0	20.6	20.6	15.3	34.3	27.5	-9.0	-5.2	-0.7	1.0
LOUISIANA GROWTH FUND II	2007	06/26/19	\$ 73.5	50.0 bps	\$ 11.0	0.0	-0.3	-0.3	12.8	63.3	41.1	38.5	26.0	23.0	28.1
GAMUT FUND I	2016	07/28/26	\$ 50.0	200.0 bps	\$ 16.8	0.0	8.5	8.4	12.1	11.9	-45.0				
GOLDMAN SACHS PEP IX	2007	12/31/19	\$ 100.0	10.7 bps	\$ 23.9	-0.3	-4.3	-4.3	3.8	9.6	14.4	14.8	14.6	14.0	14.6
GOLDENTREE DISTRESSED FUND III	2018	01/31/23	\$ 75.0	125.0 bps	\$ 6.9	2.5	7.6	4.7							
JOHN HANCOCK*	multiple	OPEN	\$ 55.5	0.0 bps	\$ 0.4	53.3	53.3	53.3	51.5	51.5	-1.9	-3.1	2.9	2.6	2.7
HIPEP PARTNERSHIP III	1997	12/31/19	\$ 60.0	0.0 bps	\$ 0.1	-0.3	-0.3	-0.3	-7.2	-7.2	-4.3	-0.7	-4.0	-2.4	1.4

LASERS
SUMMARY OF MANAGER PERFORMANCE
RATES OF RETURN
TOTAL NET OF FEES
(For Period Ending April 30, 2019)

	Vintage Year	Contract Exp. Date	Commit. Amount	Approx. Mgt. Fees	Curr. Mkt. Value (\$M)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years	3 Years	4 Years	5 Years	6 Years
HARBOURVEST VI - BUYOUT	1999	termed out	\$ 25.0	0.0 bps	\$ 0.0	-0.2	-0.2	-6.3	-4.0	-4.8	-6.0	-2.4	-2.3	-1.0	3.0
HARBOURVEST VI - DIRECT	1999	termed out	\$ 25.0	0.0 bps	\$ 1.6	9.0	9.0	9.0	13.6	16.5	-8.0	-8.5	-11.8	-5.8	-3.2
HARBOURVEST VI - PTNR	1999	termed out	\$ 150.0	0.0 bps	\$ 1.4	8.5	-5.1	-5.1	7.7	7.7	1.1	2.5	1.0	2.1	3.4
HIPEP DIRECT IV	2000	12/31/19	\$ 10.0	0.0 bps	\$ 0.3	0.0	-1.8	-1.8	-19.1	21.5	47.4	28.1	14.0	6.4	16.1
HUFF ALTERNATIVE FUND	2001	10/15/19	\$ 32.5	0.0 bps	\$ 10.2	0.0	0.0	0.0	-2.4	-3.1	6.3	6.0	3.6	3.5	3.2
INSIGHT VENTURE PARTNERS X	2017	07/14/27	\$ 50.0	175.0 bps	\$ 32.9	6.7	6.7	7.7	12.5	2.4					
KKR ASIAN FUND III	2017	05/31/28	\$ 50.0	125.0 bps	\$ 19.1	-1.4	7.8	11.3	34.7	28.1					
MARATHON EUROPEAN CREDIT OPP	2012	12/31/19	\$ 100.0	0.0 bps	\$ 8.4	-0.1	0.0	6.3	13.8	26.8	19.8	15.5	13.8	11.5	11.0
MESIROW III	2005	04/06/19	\$ 23.0	40.0 bps	\$ 4.5	-6.9	-6.9	-6.9	-5.6	-4.3	1.7	0.4	1.9	5.7	8.6
MESIROW IV	2006	11/21/19	\$ 60.0	37.2 bps	\$ 27.2	1.1	1.1	1.1	8.5	8.9	11.6	11.7	11.6	12.3	14.0
MESIROW V	2008	11/05/20	\$ 60.0	45.9 bps	\$ 46.5	3.2	3.2	3.2	12.3	16.8	18.8	17.5	17.0	17.0	17.6
NEWSTONE MEZZANINE II	2010	03/05/20	\$ 40.0	100.0 bps	\$ 5.8	4.7	14.5	14.5	17.5	22.4	17.2	13.8	12.7	15.4	14.2
OHA STRATEGIC CREDIT FUND II	2017	07/14/27	\$ 50.0	175.0 bps	\$ 8.6	2.4	5.2	6.7	13.4	20.1					
OAKTREE EUROPEAN FUND III	2011	03/31/22	\$ 45.1	175.0 bps	\$ 31.3	-0.6	-1.3	-3.0	4.0	4.8	9.4	10.5	11.2	9.0	10.5
PANTHEON EUROPE VI	2008	12/19/20	\$ 44.9	60.8 bps	\$ 16.1	-0.6	-0.8	-1.2	15.2	15.9	16.9	15.8	17.4	12.4	13.3
PANTHEON VI	2004	07/12/19	\$ 50.0	38.4 bps	\$ 11.0	0.0	-4.5	-4.5	0.9	1.9	5.6	5.5	3.6	4.7	7.3
PANTHEON VII	2006	04/28/19	\$ 50.0	54.7 bps	\$ 19.4	0.0	-5.8	-5.8	2.2	5.3	10.8	9.9	9.2	10.8	12.8
STEPSTONE FUND II	2006	05/12/19	\$ 50.0	37.5 bps	\$ 30.0	-4.2	-4.2	-4.2	22.0	31.2	26.9	18.5	19.3	21.9	20.4
STEPSTONE EUROPE FUND II	2010	12/15/22	\$ 25.9	50.0 bps	\$ 16.5	-0.7	-2.4	-2.8	-2.5	-1.1	5.9	6.1	9.2	5.3	8.5
PRIVATE ADVISORS IV	2011	12/15/26	\$ 35.0	60.8 bps	\$ 19.3	0.0	0.0	-0.7	16.0	16.0	22.8	20.2	16.6	15.8	15.3
PRIVATE ADVISORS V	2012	06/30/25	\$ 40.0	81.0 bps	\$ 34.5	0.0	0.0	-0.5	14.0	17.9	17.1	15.9	15.0	13.7	10.0
PRIVATE ADVISORS VI	2014	06/30/26	\$ 40.0	90.0 bps	\$ 27.3	0.0	0.0	-0.3	6.1	10.0	11.9	8.8	5.2		
Q-BLK II	2005	12/04/19	\$ 50.0	45.9 bps	\$ 14.4	0.0	0.0	11.2	12.2	11.4	13.8	9.4	6.4	9.1	10.3
Q-BLK III	2007	12/29/19	\$ 60.0	0.0 bps	\$ 24.9	0.0	0.0	10.3	14.3	24.0	18.0	12.1	11.5	11.8	13.2
SIGULER GUFF DOF III	2008	12/31/19	\$ 200.0	16.0 bps	\$ 32.9	0.0	-2.2	-2.3	0.9	4.1	6.7	8.9	6.7	6.9	7.9
SIGULER GUFF FUND IV	2011	09/03/23	\$ 40.0	45.4 bps	\$ 16.5	0.0	-0.8	1.5	2.3	4.1	5.7	7.5	7.8	8.5	8.9
SIGULER GUFF PELICAN GEM	2016	10/10/28	\$ 100.0	75.0 bps	\$ 59.3	0.0	0.8	2.2	5.0	2.4	8.9				
STERLING PARTNERS	2011	09/30/23	\$ 35.0	200.0 bps	\$ 17.5	-2.3	-2.3	-10.9	-19.8	-18.9	-8.3	-9.3	-6.3	-3.8	-3.4
VISTA EQUITY PARTNERS IV	2011	03/31/22	\$ 35.0	150.0 bps	\$ 25.5	9.2	0.3	0.3	11.9	14.7	13.1	12.4	16.5	21.2	19.5
VISTA EQUITY PARTNERS V	2014	10/15/24	\$ 75.0	150.0 bps	\$ 86.4	5.1	4.1	4.1	20.2	38.8	38.7	28.0	25.3	21.6	
VISTA EQUITY PARTNERS VI	2015	03/11/26	\$ 100.0	150.0 bps	\$ 116.8	9.3	11.1	11.0	33.7	37.2	24.2	16.9			
VISTA EQUITY PARTNERS VII	2018	02/28/28	\$ 125.0	150.0 bps	\$ 14.6	4.6	3.7								
WARBURG PINCUS	2018	02/28/29	\$ 100.0	140.0 bps	\$ 0.9	-26.8	-26.8								
WILLIAMS CAPITAL	2004	termed out	\$ 30.0	0.0 bps	\$ 1.3	0.0	-0.2	-0.2	133.0	207.9	172.2	1.0	-6.0	-4.9	-2.6
TOTAL PRIVATE MARKETS*			\$ 4,443.2	88.3 bps	\$ 1,783.9	1.9	2.9	2.5	8.8	13.3	16.2	14.7	12.7	12.2	13.1
(¶) Brinson consists of five limited partnerships Private Markets fees are based on commitment amounts rather than market value.															

LASERS FLASH REPORT

The return numbers are expressed as percentages and are listed in columns 5-14

The far left hand column lists the asset class headings, investment managers, benchmarks and composites

The contract expiration date is listed in the second column

The % return for the month

Year to Date (YTD) is the % return since Jan. 1

The 1-6 year columns represent the % return per year for each number of years

	Contract Exp. Date	Mgt. Fees	MKT VAL \$ (Million)	Month	3 mos	YTD	Fiscal YTD	1 Year	2 Years
U.S. EQUITY									
LARGE CAP GROWTH									
GOLDMAN SACHS	01/31/08	44.0 bps	\$ 130.4	-0.5	6.4	10.7	11.5	10.7	7.7
CHICAGO EQUITY PARTNERS	01/31/08	30.0 bps	\$ 136.8	-0.1	5.3	15.0	11.3	15.0	10.4
S&P 500 / CITIGROUP GROWTH				0.4	5.6	11.0	12.1	11.0	6.0
S&P 500				1.4	6.7	15.8	12.7	15.8	10.2
TOTAL LARGE GROWTH		36.8 bps	\$ 267.2	-0.2	5.9	12.9	11.5	12.9	9.0

The broader benchmarks are in light blue and style specific ones in royal blue

The management fees charged are listed third (bps stands for basis points)
"36.8 bps" equals .368%

The market value column tells us the size of each account in millions. For example, \$267.2 equals \$267,200,000

Fiscal YTD is the % return since July 1

Green = manager outperformed style benchmark

Yellow = manager underperformed style benchmark

Red = composite underperformed style benchmark

LASERS FLASH REPORT

WHAT IS IT?

- A snapshot look at the composition and investment returns of LASERS Trust Fund
- Summary of investment manager performance

WHAT INFORMATION DOES IT PROVIDE?

- Asset classes and the investment managers we use to invest the money
- Fees charged by the investment managers who invest our money
- Amount of money we have allocated to each manager
- Investment returns of each investment

HOW CAN I USE THE INFORMATION?

- To evaluate investment manager returns against a set benchmark ⁽¹⁾ return
- To evaluate the return of each asset or asset class
- Analyze LASERS investments gains/losses over time

HOW DO I READ THE REPORT?

Left Side (Asset Classes)

Broken down by each investment manager

Blue lines are benchmarks used to evaluate asset class

Top (contract data & returns):

Management fees in basis points ⁽²⁾

Market value

Returns -

Month	% return that month
3 months	% return from the past 3 months
YTD	Year to date return (since January 1)
Fiscal YTD	Fiscal year to date return (since July 1)
1 year, 2 years, etc.	% return for the specified time period

Colors

Green – performance of asset was above benchmark (think *money*)

Yellow – manager performed below benchmark

Red – asset class as a whole performed below benchmark

Total Plan (last page of Flash Report)

Financial composite – portfolio excluding alternative investments asset class

Total plan – includes alternative investments

Policy index – return of portfolio based on allocation set forth in investment policy

Allocation index – return of portfolio based the actual allocation LASERS maintained
(Investment policy provides a model for allocation; however, small deviations from this model may occur to take advantage of certain market conditions.)

DEFINITIONS:

1. **Benchmark** – an index whose returns can be used to measure investment performance
2. **Basis Point (bps)** – 0.01%, 100 basis points equals 1%, investment managers charge fees as a percentage of the money invested, fees are usually defined in basis points



LOUISIANA STATE EMPLOYEES'
RETIREMENT SYSTEM

Investment Division

As of May 31, 2019

ASSET ALLOCATION

Asset Class	Target Weight	Actual Weight	Over/(Under) Weight
U.S. Equity	23%	22.1%	-0.9%
Non-U.S. Equity	32%	31.9%	-0.1%
U.S. Fixed Income	6%	6.2%	0.2%
Emerging Market Debt	3%	2.4%	-0.6%
Global Multi-Sector	7%	6.5%	-0.5%
Private Markets	15%	16.1%	1.1%
Absoulte Return	7%	6.5%	-0.5%
Risk Parity	7%	7.2%	0.2%
Cash	0%	1.1%	1.1%

*Target weights listed above were approved March 2018.