

# Board of Trustees



# Handout Book

# Table of Contents

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## **Investment Committee**

Performance Review.....	1-27
-------------------------	------

## **Management Committee**

LASERS Expected Return Update.....	28-40
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# Performance Update

July 28, 2022

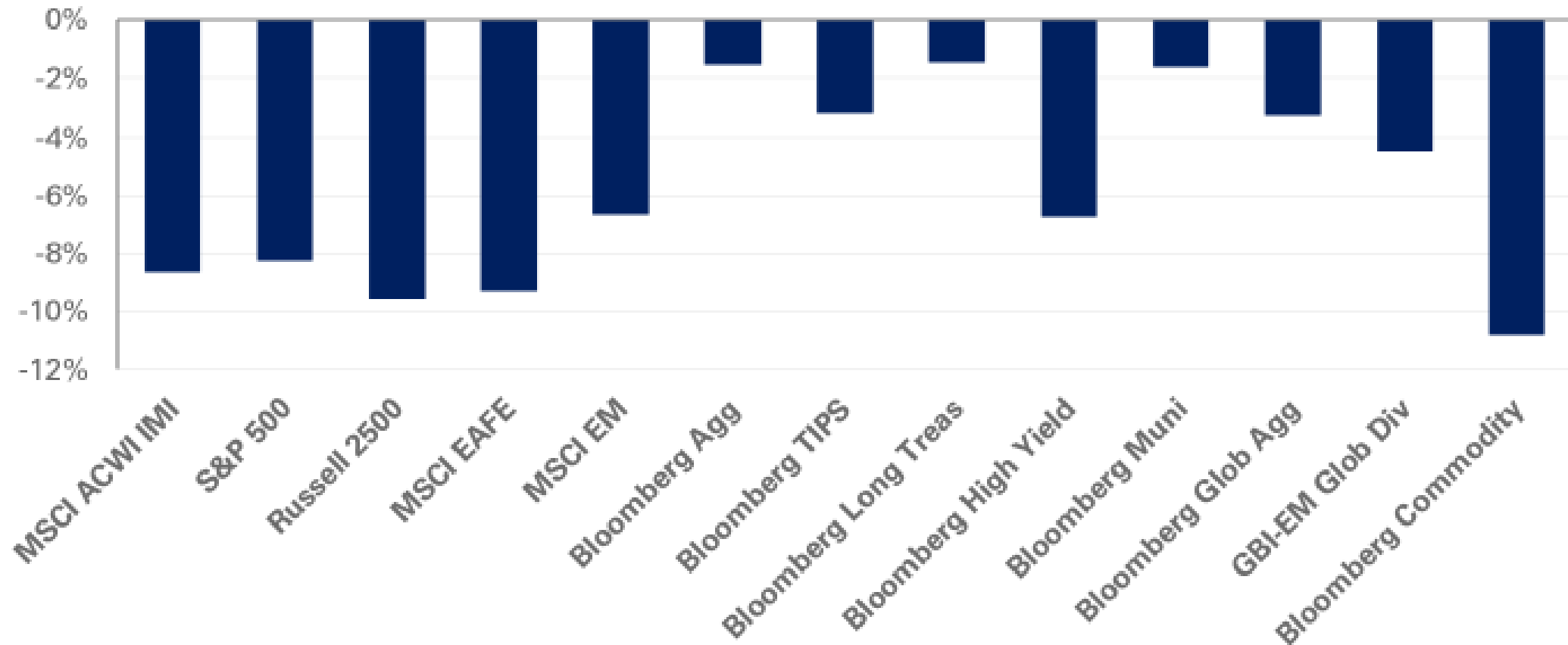
# June Market Commentary



- June marked the end of the worst first half of a year since 1972. The month of June was, by far, the worst month of both the calendar year and LASERS fiscal year.
  - All markets posted negative returns.
    - In Equities, Emerging Markets posted the highest (negative) return, down -6.6%, followed by Domestic (the S&P 500 returned -8.3%) and lastly Developed International (the MSCI World Ex-USA returned -9.4%)
    - In Fixed Income, Investment Grade returned -1.6% and High Yield returned -6.6%
- The June CPI release showed 9.1% as the annual increase, yet another 40-year high. The increase was led by gasoline, shelter and food prices. Expectations remain for the Federal Reserve to again raise rates by 75bps, possibly more.
- Covid variant and subvariant concerns (Delta and Omicron), production & shipping delays, the Russia/Ukraine war, China lockdowns, and global inflation concerns have resulted in this being a year of increased volatility.

# June Index Returns

LASERS

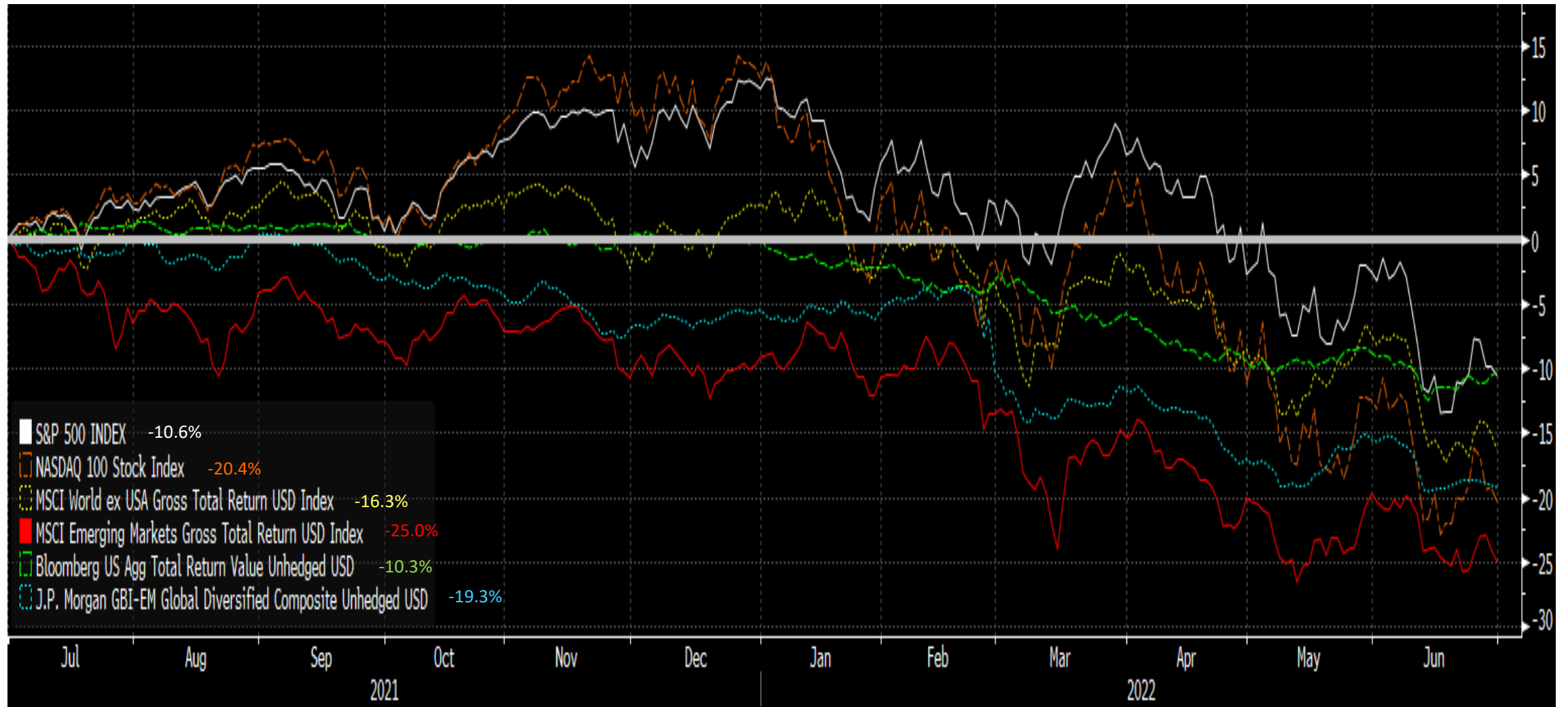


As of 06/30/2022, Source: S&P, Russell, MSCI, JPM, Bloomberg, Factset

# Major Indices Performance over Fiscal Year

LASERS FYE Return -6.8% *Preliminary*

LASERS



# June Performance Summary *Preliminary*



## Equities

LASERS Composite / <i>Index</i>	June	3 mos	6 mos	FYE
U.S. Large Cap Equity	-8.4	-17.5	-22.2	-13.0
<i>S&amp;P 500 Index</i>	<i>-8.3</i>	<i>-16.1</i>	<i>-20.0</i>	<i>-10.6</i>
<i>Nasdaq 100 Index</i>	<i>-8.9</i>	<i>-22.3</i>	<i>-29.2</i>	<i>-20.4</i>
U.S. Mid Cap Equity	-9.6	-15.4	-19.6	-14.6
<i>S&amp;P 400 Index</i>	<i>-9.6</i>	<i>-15.4</i>	<i>-19.5</i>	<i>-14.6</i>
U.S. Small Cap Equity	-9.1	-13.8	-18.1	-15.1
<i>S&amp;P 600 Index</i>	<i>-8.5</i>	<i>-14.1</i>	<i>-18.9</i>	<i>-16.8</i>
<b>LASERS U.S. Equity</b>	<b>-8.7</b>	<b>-16.7</b>	<b>-21.2</b>	<b>-13.6</b>
Int'l Large Cap Equity	-9.4	-13.6	-16.9	-15.4
<i>MSCI World Ex-USA</i>	<i>-9.4</i>	<i>-14.4</i>	<i>-18.4</i>	<i>-16.3</i>
Int'l Small Cap Equity	-10.5	-15.7	-22.0	-22.9
<i>MSCI World Ex-USA Small Cap</i>	<i>-11.2</i>	<i>-17.8</i>	<i>-23.6</i>	<i>-22.7</i>
Int'l Emerging Markets Equity	-7.8	-11.8	-15.9	-19.8
<i>MSCI Emerging Markets</i>	<i>-6.6</i>	<i>-11.3</i>	<i>-17.5</i>	<i>-25.0</i>
<b>LASERS Non-U.S. Equity</b>	<b>-9.1</b>	<b>-13.4</b>	<b>-17.7</b>	<b>-18.7</b>

# June Performance Summary *Preliminary*

Fixed Income, Alternatives & Total Plan



LASERS Composite / <i>Index</i>	June	3 mos	6 mos	FYE
U.S. Investment Grade	-2.0	-5.3	-10.4	-10.4
<i>BB BC Barclay's Aggregate</i>	<i>-1.6</i>	<i>-4.7</i>	<i>-10.3</i>	<i>-10.3</i>
U.S. High Yield	-7.0	-8.9	-11.5	-9.9
<i>Credit Suisse High Yield</i>	<i>-6.6</i>	<i>-9.7</i>	<i>-13.4</i>	<i>-12.1</i>
<b>LASERS U.S. Fixed Income</b>	<b>-3.7</b>	<b>-6.5</b>	<b>-10.8</b>	<b>-10.1</b>
Emerging Market Debt	-1.7	-3.6	-6.0	-3.4
<i>J.P. Morgan GBI-EM Global Diversified</i>	<i>-4.5</i>	<i>-8.6</i>	<i>-14.5</i>	<i>-19.3</i>
Global Multi-Sector	-1.8	-3.3	-4.6	-1.1
<i>50/50 Barclay's Agg/CS HY</i>	<i>-4.9</i>	<i>-8.9</i>	<i>-13.6</i>	<i>-13.6</i>
Alternatives	-2.6	-2.7	2.9	12.5
<b>LASERS Total Plan</b>	<b>-5.8</b>	<b>-9.9</b>	<b>-11.6</b>	<b>-6.8</b>



# Performance: Closer Look at 2<sup>nd</sup> Quarter



## Equities

*\*Total Plan returns listed for June '22 and FYTD are preliminary.*

LASERS Composite / <i>Index</i>	Mar 31 FYTD	April	FYTD	May	FYTD	June	FYE
U.S. Large Cap Equity	5.6	-9.8	-4.8	-0.2	-5.0	-8.4	-13.0
<i>S&amp;P 500 Index</i>	<i>6.5</i>	<i>-8.7</i>	<i>-2.8</i>	<i>0.2</i>	<i>-2.6</i>	<i>-8.3</i>	<i>-10.6</i>
<i>Nasdaq 100 Index</i>	<i>2.5</i>	<i>-13.3</i>	<i>-11.2</i>	<i>-1.5</i>	<i>-12.6</i>	<i>-8.9</i>	<i>-20.4</i>
U.S. Mid Cap Equity	0.9	-7.1	-6.2	0.7	-5.5	-9.6	-14.6
<i>S&amp;P 400 Index</i>	<i>0.9</i>	<i>-7.1</i>	<i>-6.3</i>	<i>0.7</i>	<i>-5.6</i>	<i>-9.6</i>	<i>-14.6</i>
U.S. Small Cap Equity	-1.4	-7.3	-8.7	2.2	-6.6	-9.1	-15.1
<i>S&amp;P 600 Index</i>	<i>-3.1</i>	<i>-7.8</i>	<i>-10.7</i>	<i>1.9</i>	<i>-9.0</i>	<i>-8.5</i>	<i>-16.8</i>
<b>LASERS U.S. Equity</b>	<b>3.7</b>	<b>-9.0</b>	<b>-5.6</b>	<b>0.3</b>	<b>-5.3</b>	<b>-8.7</b>	<b>-13.6</b>
Int'l Large Cap Equity	-2.0	-5.9	-7.8	1.3	-6.6	-9.4	-15.4
<i>MSCI World Ex-USA</i>	<i>-2.2</i>	<i>-6.5</i>	<i>-8.5</i>	<i>1.0</i>	<i>-7.6</i>	<i>-9.4</i>	<i>-16.3</i>
Int'l Small Cap Equity	-8.6	-5.4	-13.5	-0.4	-13.9	-10.5	-22.9
<i>MSCI World Ex-USA Small Cap</i>	<i>-6.0</i>	<i>-6.9</i>	<i>-12.4</i>	<i>-0.6</i>	<i>-12.9</i>	<i>-11.2</i>	<i>-22.7</i>
Int'l Emerging Markets Equity	-9.1	-5.5	-14.1	1.3	-13.0	-7.8	-19.8
<i>MSCI Emerging Markets</i>	<i>-15.4</i>	<i>-5.5</i>	<i>-20.1</i>	<i>0.5</i>	<i>-19.7</i>	<i>-6.6</i>	<i>-25.0</i>
<b>LASERS Non-U.S. Equity</b>	<b>-6.1</b>	<b>-5.7</b>	<b>-11.4</b>	<b>0.9</b>	<b>-10.6</b>	<b>-9.1</b>	<b>-18.7</b>

# Performance: Closer Look at 2<sup>nd</sup> Quarter

Fixed Income, Alternatives & Total Plan



*\*Total Plan returns listed for June '22 and FYTD are preliminary.*

LASERS Composite / <i>Index</i>	Mar 31 FYTD	April	FYTD	May	FYTD	June	FYE
U.S. Investment Grade	-5.4	-3.9	-9.1	0.6	-8.5	-2.0	-10.4
<i>BB BC Barclay's Aggregate</i>	<i>-5.9</i>	<i>-3.8</i>	<i>-9.4</i>	<i>0.6</i>	<i>-8.9</i>	<i>-1.6</i>	<i>-10.3</i>
U.S. High Yield	-1.0	-3.6	-4.6	1.6	-3.1	-7.0	-9.9
<i>Credit Suisse High Yield</i>	<i>-2.7</i>	<i>-3.5</i>	<i>-6.1</i>	<i>0.3</i>	<i>-5.9</i>	<i>-6.6</i>	<i>-12.1</i>
LASERS U.S. Fixed Income	-3.9	-3.8	-7.5	1.0	-6.6	-3.7	-10.1
Emerging Market Debt	0.2	-2.0	-1.9	0.2	-1.7	-1.7	-3.4
<i>J.P. Morgan GBI-EM Global Diversified</i>	<i>-11.7</i>	<i>-6.0</i>	<i>-17.0</i>	<i>1.8</i>	<i>-15.5</i>	<i>-4.5</i>	<i>-19.3</i>
Global Multi-Sector	2.4	-0.7	1.6	-0.9	0.7	-1.8	-1.1
<i>50/50 Barclay's Agg/CS HY</i>	<i>-5.2</i>	<i>-4.5</i>	<i>-9.4</i>	<i>0.3</i>	<i>-9.2</i>	<i>-4.9</i>	<i>-13.6</i>
Alternatives	15.6	0.1	15.7	-0.2	15.5	-2.6	12.5
<b>LASERS Total Plan</b>	<b>3.4%</b>	<b>-4.5%</b>	<b>-1.2%</b>	<b>0.2%</b>	<b>-1.0%</b>	<b>-5.8%</b>	<b>-6.8%</b>

# One-Year Comparison



## Current Fiscal Year:

*\*Total Plan returns listed for June '22 and FYTD are preliminary.*

	Jul '21	Aug '21	Sept '21	Oct '21	Nov '21	Dec '21	Jan '22	Feb '22	Mar '22	Apr '22	May '22	Jun '22	FYTD
Total Plan – Monthly	0.3	2.1	-1.9	2.7	-0.5	2.8	-2.8	-0.6	1.5	-4.5	0.2	-5.8	
Cumulative FYTD	0.3	2.4	0.5	3.2	2.6	5.5	2.5	1.9	3.4	-1.2	-1.0	-6.8	-6.8

## Last Fiscal Year:

	Jul '20	Aug '20	Sept '20	Oct '20	Nov '20	Dec '20	Jan '21	Feb '21	Mar '21	Apr '21	May '21	Jun '21	FYTD
Total Plan – Monthly	3.0	3.3	-1.3	-0.5	9.1	4.1	0.8	3.2	2.3	3.0	2.4	1.9	
Cumulative FYTD	3.0	6.3	4.9	4.4	13.8	18.5	19.5	23.4	26.2	30.0	33.1	35.6	35.6

# Equity Indices – Monthly Returns during Fiscal Year



*\*Total Plan returns listed for June '22 and FYTD are preliminary.*

	Jul '21	Aug '21	Sept '21	Oct '21	Nov '21	Dec '21	Jan '22	Feb '22	Mar '22	Apr '22	May '22	June '22	FYTD
<b>LASERS Total Plan*</b>	<b>0.3</b>	<b>2.1</b>	<b>-1.9</b>	<b>2.7</b>	<b>-0.5</b>	<b>2.8</b>	<b>-2.8</b>	<b>-0.6</b>	<b>1.5</b>	<b>-4.5</b>	<b>0.2</b>	<b>-5.8</b>	<b>-6.8</b>
<u>Index</u>													
S&P 500	2.4	3.0	-4.7	7.0	-0.7	4.5	-5.2	-3.0	3.7	-8.7	0.2	-8.3	-10.6
S&P 500 Value	0.8	1.7	-3.3	4.6	-3.3	7.0	-1.6	-1.4	3.0	-4.9	1.6	-8.2	-4.9
S&P 500 Growth	3.8	4.2	-5.8	9.1	1.4	2.5	-8.4	-4.5	4.5	-12.5	-1.4	-8.3	-16.4
Nasdaq 100	2.8	4.3	-5.7	7.9	1.9	1.2	-8.5	-4.5	4.3	-13.3	-1.5	-8.9	-20.4
S&P 400	0.3	1.9	-4.0	5.9	-2.9	5.1	-7.2	1.1	1.4	-7.1	0.7	-9.6	-14.6
S&P 600	-2.4	2.0	-2.4	3.4	-2.3	4.5	-7.3	1.4	0.4	-7.8	1.9	-8.5	-16.8
S&P 600 Value	-4.4	1.9	-1.5	2.8	-2.5	4.2	-4.3	2.3	0.5	-6.3	2.3	-9.0	-13.9
S&P 600 Growth	-0.1	2.1	-3.4	4.1	-2.0	4.8	-10.1	0.4	0.3	-9.5	1.4	-8.0	-19.6
MSCI World Ex-USA	0.7	1.6	-2.8	3.0	-4.7	5.1	-4.4	-1.5	1.3	-6.5	1.0	-9.4	-16.3
MSCI World Ex-USA Value	-0.4	1.0	-1.5	2.3	-6.0	6.1	1.6	-1.0	1.2	-4.9	2.9	-10.1	-9.6
MSCI World Ex-USA Sm Cap	1.5	2.7	-3.3	2.0	-5.6	4.3	-6.8	-0.9	0.6	-6.9	-0.6	-11.2	-22.7
MSCI Emerging Mkts	-6.7	2.6	-3.9	1.0	-4.1	1.9	-1.9	-3.0	-2.2	-5.5	0.5	-6.6	-25.0

# Fixed Income Indices – Monthly Returns during Fiscal Year



*\*Total Plan returns listed for June '22 and FYTD are preliminary.*

	Jul '21	Aug '21	Sept '21	Oct '21	Nov '21	Dec '21	Jan '22	Feb '22	Mar '22	Apr '22	May '22	June '22	FYTD
<b>LASERS Total Plan*</b>	<b>0.3</b>	<b>2.1</b>	<b>-1.9</b>	<b>2.7</b>	<b>-0.5</b>	<b>2.8</b>	<b>-2.8</b>	<b>-0.6</b>	<b>1.5</b>	<b>-4.5</b>	<b>0.2</b>	<b>-5.8</b>	<b>-6.8</b>
<u>Index</u>													
BB Barclay's Agg	1.1	-0.2	-0.9	0.0	0.3	-0.3	-2.2	-1.1	-2.8	-3.8	0.6	-1.6	-10.3
Credit Suisse High Yield	0.2	0.5	0.2	-0.3	-1.0	1.9	-2.6	-0.8	-0.8	-3.5	0.3	-6.6	-12.1
JPM GBI-EM	-0.4	0.8	-3.4	-1.3	-2.7	1.6	0.0	-5.0	-1.5	-6.0	1.8	-4.5	-19.3

# Equity Indices – Historical Returns

As of June 30, 2022

	1 year	2 years	3 years	5 years	7 years	10 years
<b>LASERS Total Plan <i>Preliminary</i></b>	<b>-6.8</b>	<b>12.4</b>	<b>6.7</b>	<b>6.8</b>	<b>6.7</b>	<b>7.9</b>
<u>Index</u>						
S&P 500	-10.6	12.2	10.6	11.3	11.1	13.0
S&P 500 Value	-4.9	15.2	8.2	8.2	8.5	11.0
S&P 500 Growth	-16.4	8.7	11.6	13.5	12.9	14.3
Nasdaq 100	-20.4	7.2	15.4	16.4	15.9	17.3
S&P 400	-14.6	14.4	6.9	7.0	7.8	10.9
S&P 600	-16.8	18.0	7.3	7.2	8.2	11.3
S&P 600 Value	-13.9	23.5	8.0	6.7	7.9	11.0
S&P 600 Growth	-19.6	12.5	6.1	7.4	8.3	11.4
MSCI World Ex-USA	-16.3	6.0	2.2	3.2	3.5	5.9
MSCI World Ex-USA Value	-9.6	11.2	1.8	1.9	2.4	5.1
MSCI World Ex-USA Sm Cap	-22.7	5.1	2.4	2.6	4.3	7.1
MSCI Emerging Mkts	-25.0	3.0	0.9	2.5	3.2	3.4

# Fixed Income Indices – Historical Returns

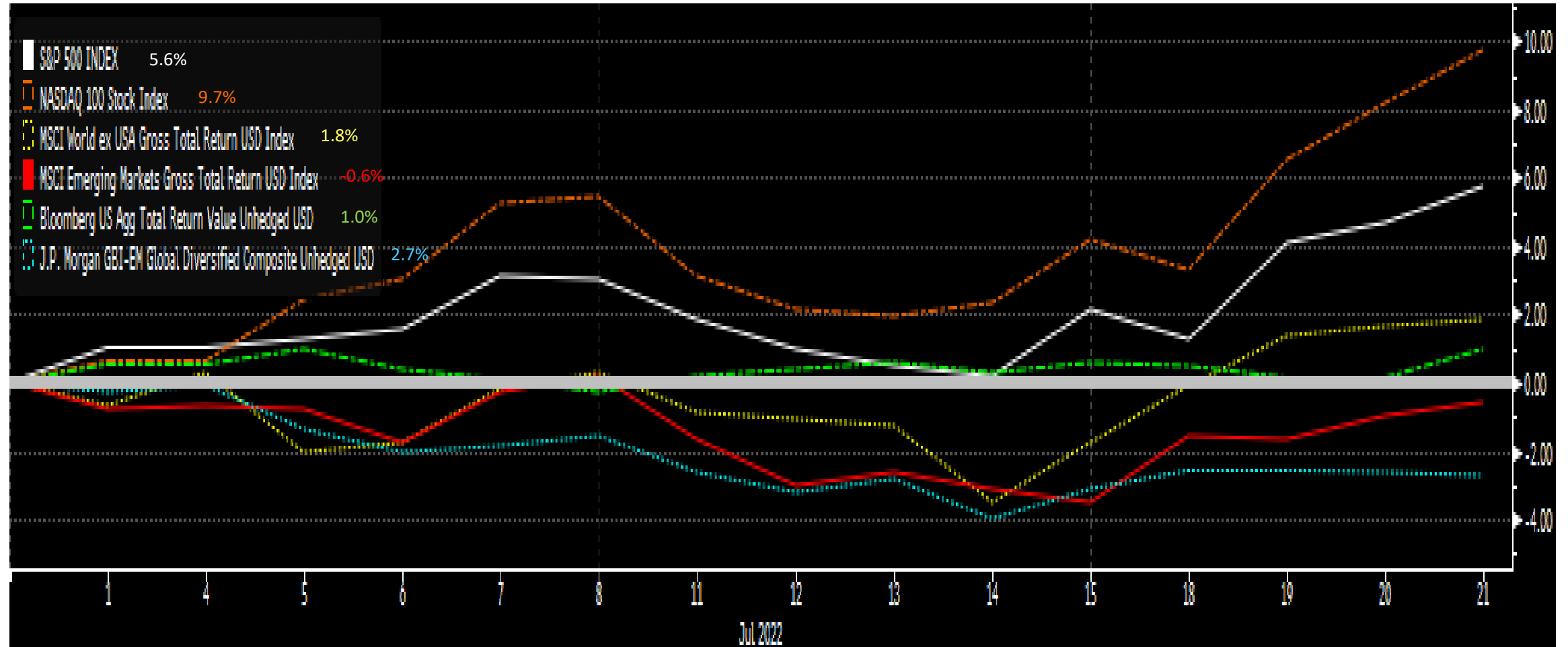
As of June 30, 2022



	1 year	2 years	3 years	5 years	7 years	10 years
<b>LASERS Total Plan <i>Preliminary</i></b>	<b>-6.8</b>	<b>12.4</b>	<b>6.7</b>	<b>6.8</b>	<b>6.7</b>	<b>7.9</b>
<u>Index</u>						
BB Barclay's Agg	-10.3	-5.4	-0.9	0.9	1.4	1.5
Credit Suisse High Yield	-12.1	0.8	0.0	1.9	3.3	4.3
JPM GBI-EM	-19.3	-7.3	-5.8	-2.3	-0.5	-1.5

# July MTD Indices Performance

Thru July 21, 2022





# July MTD Performance Summary

As of July 21, 2022

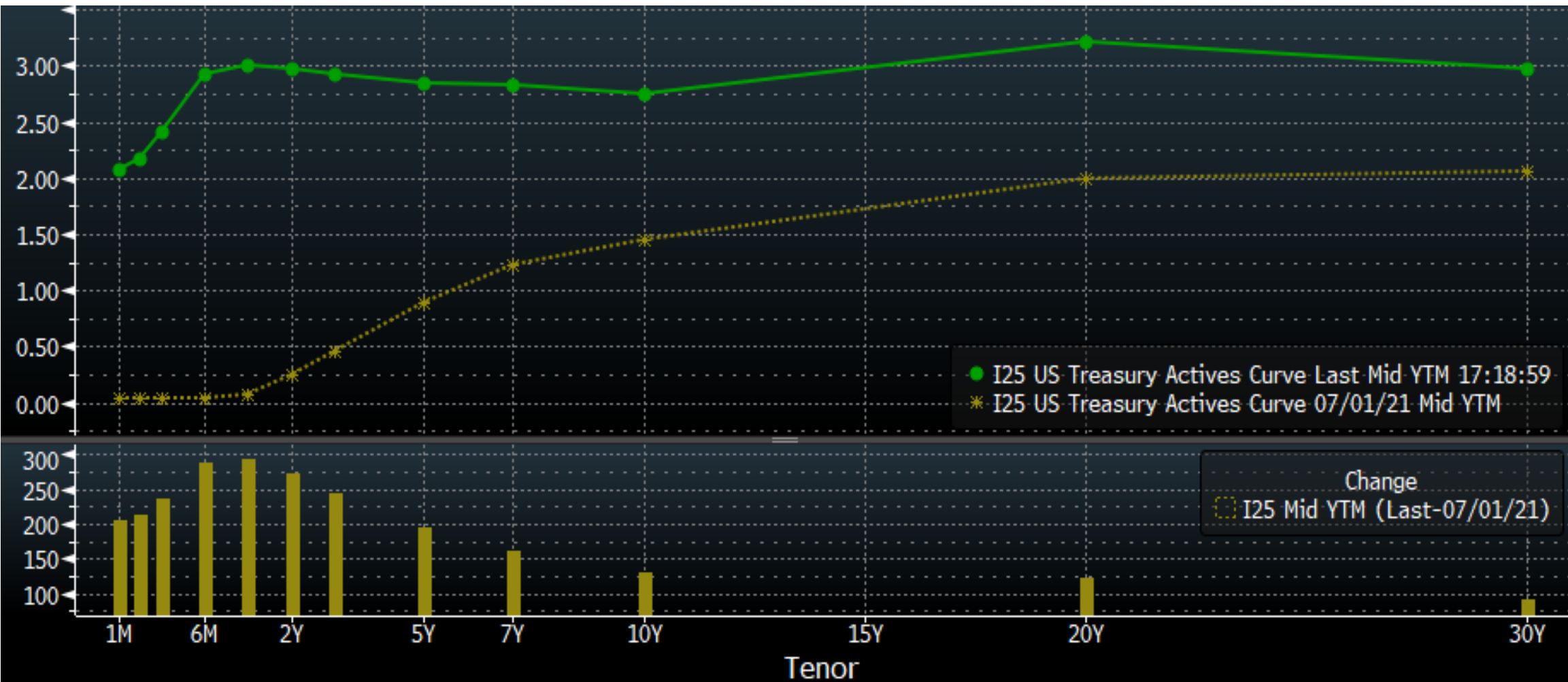


	July MTD
U.S. Large Cap Equity	6.6
<i>S&amp;P 500 Index</i>	<i>5.6</i>
<i>Nasdaq 100 Index</i>	<i>9.7</i>
U.S. Mid Cap Equity	6.6
<i>S&amp;P 400 Index</i>	<i>6.6</i>
U.S. Small Cap Equity	6.1
<i>S&amp;P 600 Index</i>	<i>6.2</i>
<b>LASERS U.S. Equity</b>	<b>6.5</b>
Int'l Large Cap Equity	1.6
<i>MSCI World Ex-USA</i>	<i>1.8</i>
Int'l Small Cap Equity	3.1
<i>MSCI World Ex-USA Small Cap</i>	<i>3.1</i>
Int'l Emerging Markets Equity	--
<i>MSCI Emerging Markets</i>	<i>-0.6</i>
<b>LASERS Non-U.S. Equity</b>	<b>--</b>

	July MTD
U.S. Investment Grade	1.0
<i>BB BC Barclay's Aggregate</i>	<i>1.0</i>
U.S. High Yield	3.9
<i>Credit Suisse High Yield</i>	<i>3.7</i>
<b>LASERS U.S. Fixed Income</b>	<b>1.9</b>
Emerging Market Debt	-3.7
<i>J.P. Morgan GBI-EM Global Diversified</i>	<i>-2.7</i>
Global Multi-Sector	1.0
<i>50/50 Barclay's Agg/CS HY</i>	<i>2.4</i>
Alternatives	0.0
<b>LASERS Total Plan</b>	<b>2.6%</b>

# Market and Economic Snapshot

## FYTD: Yield Curve



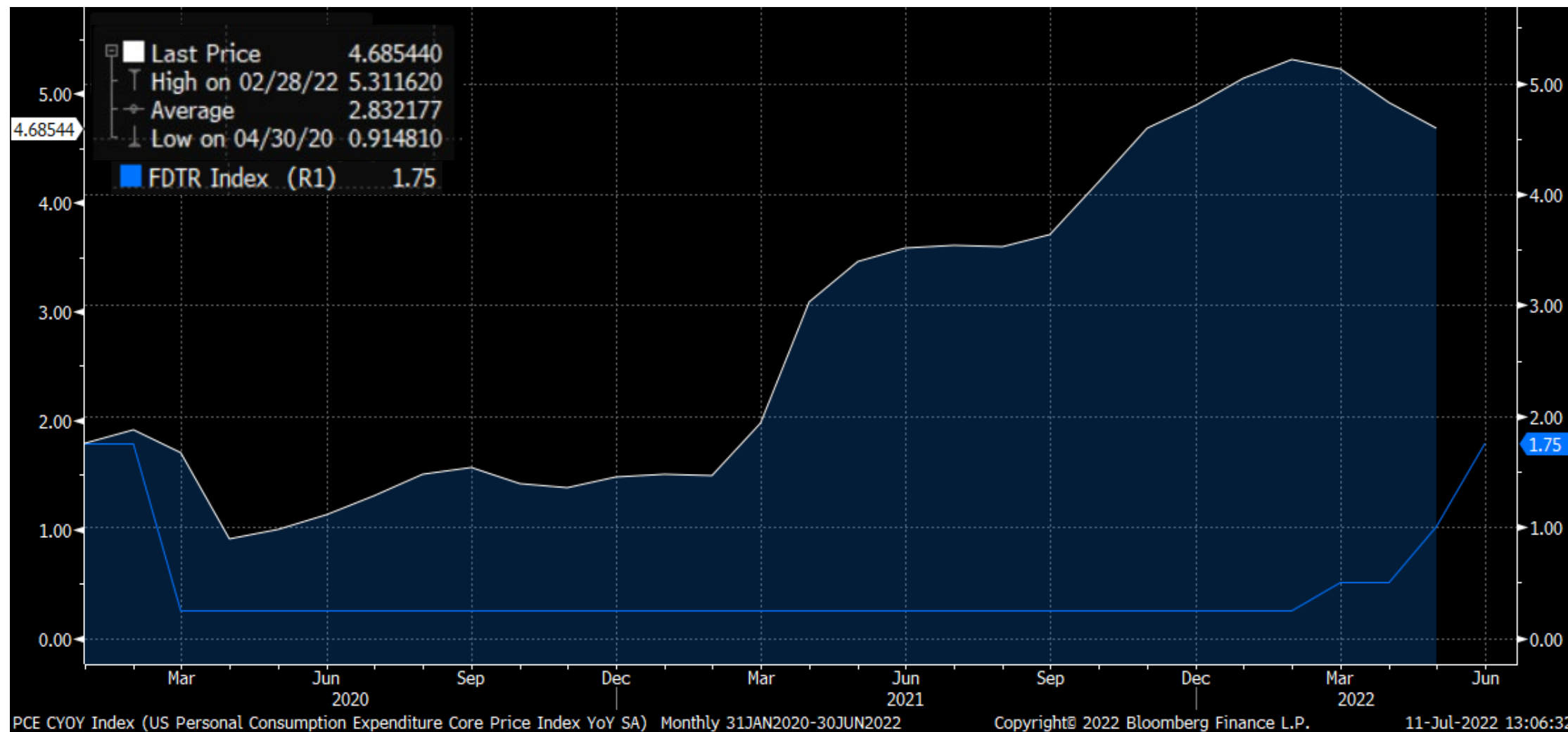
# Oil Prices

LASERS

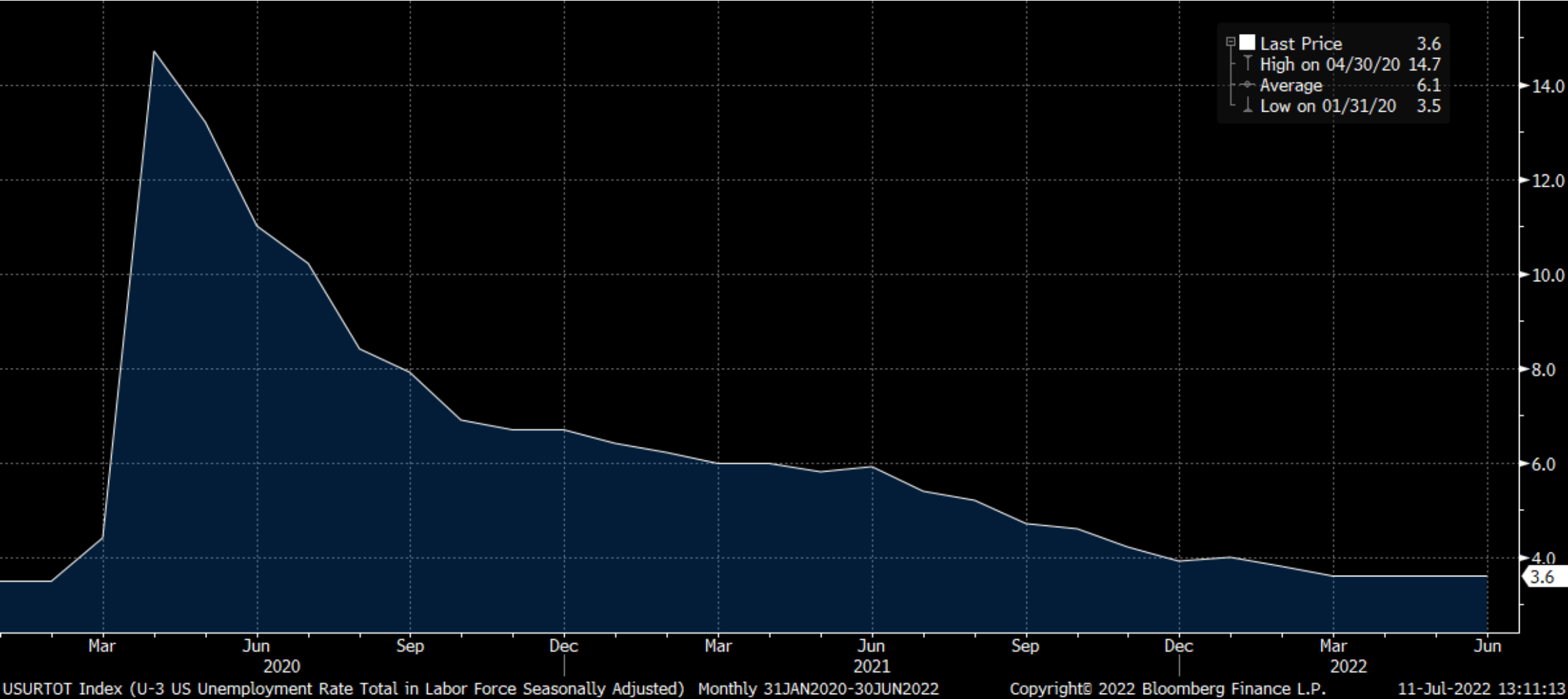


# Pre-Pandemic to Current: U.S. Inflation - Core PCE & Fed Funds Rate

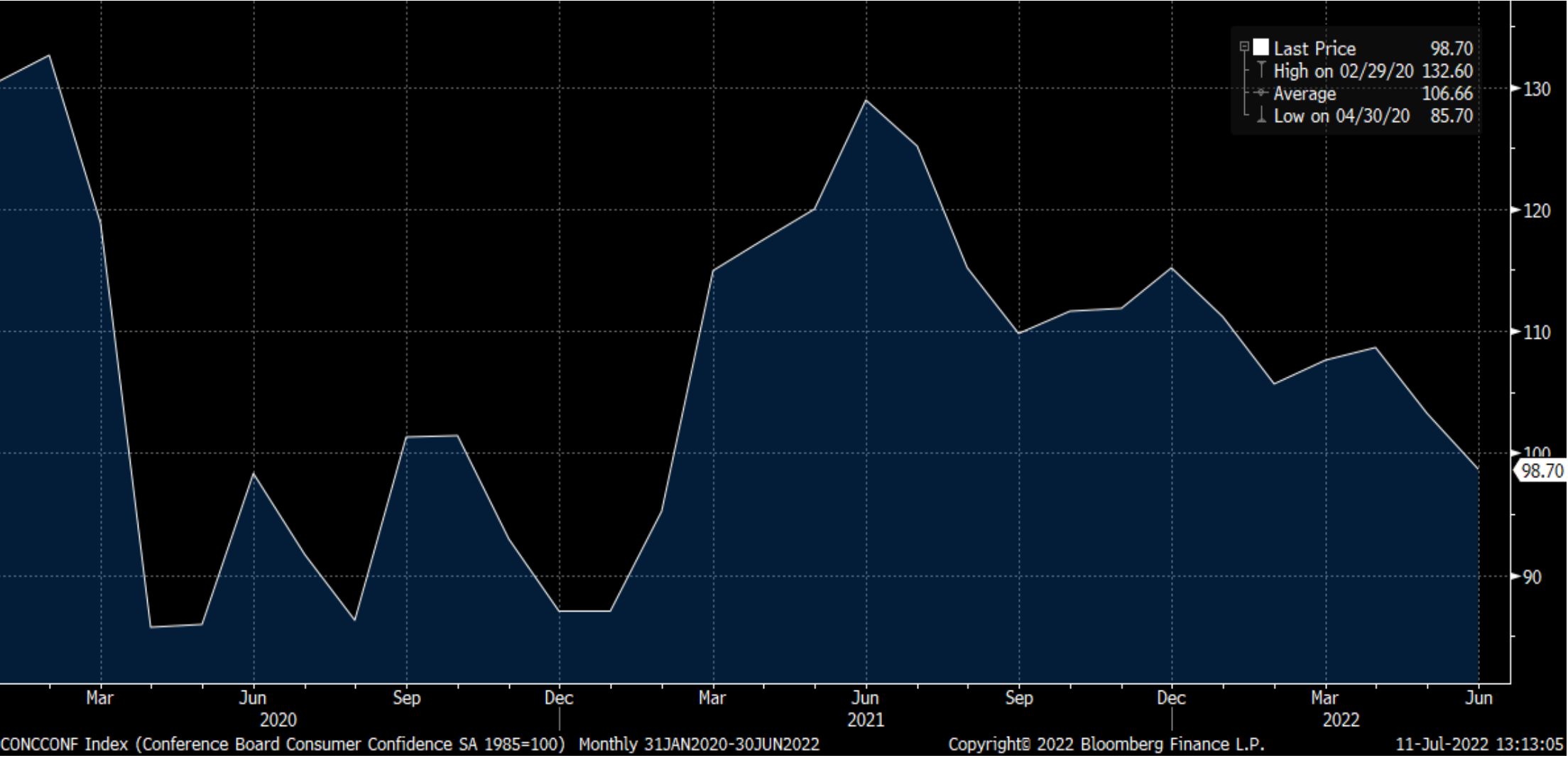
LASERS



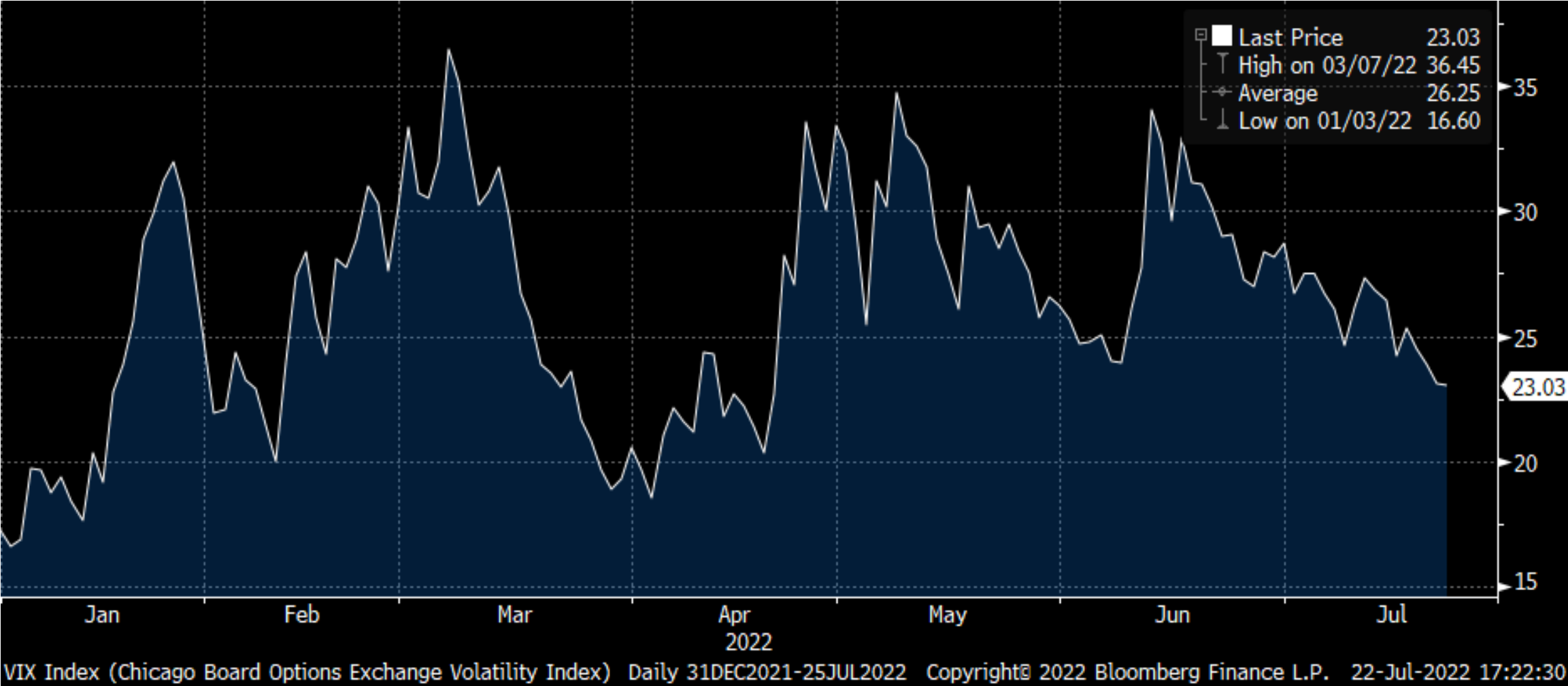
# Pre-Pandemic to Current: Unemployment



## Pre-Pandemic to Current: Consumer Confidence



## Recent Volatility (2022 to-date)





# Comparison: U.S. Equity

## Size & Style Returns



Pre-Pandemic:

(as of 01/31/20)

	Year-to-Date		
	Value	Core	Growth
Large	-2.15%	0.11%	2.24%
Medium	-1.95%	-0.80%	0.94%
Small	-5.39%	-3.21%	-1.10%

Last Fiscal-Year-End:

(as of 07/02/21)

	Year-to-Date		
	Value	Core	Growth
Large	18.10%	16.29%	14.59%
Medium	20.50%	17.09%	10.95%
Small	26.42%	17.30%	8.78%

Current Fiscal-Year-End:

(as of 07/01/22)

	Year-to-Date		
	Value	Core	Growth
Large	-11.75%	-20.05%	-27.35%
Medium	-15.03%	-20.45%	-30.03%
Small	-16.07%	-22.54%	-28.87%

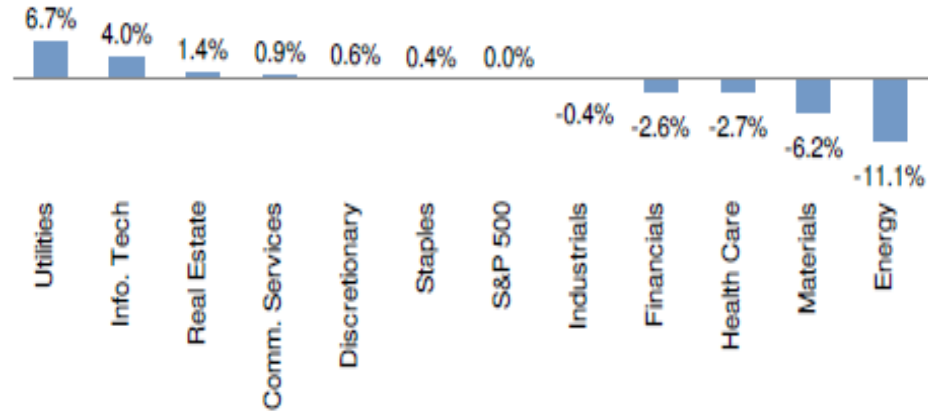
# Comparison: U.S. Equity

## S&P 500 Index Sector Returns



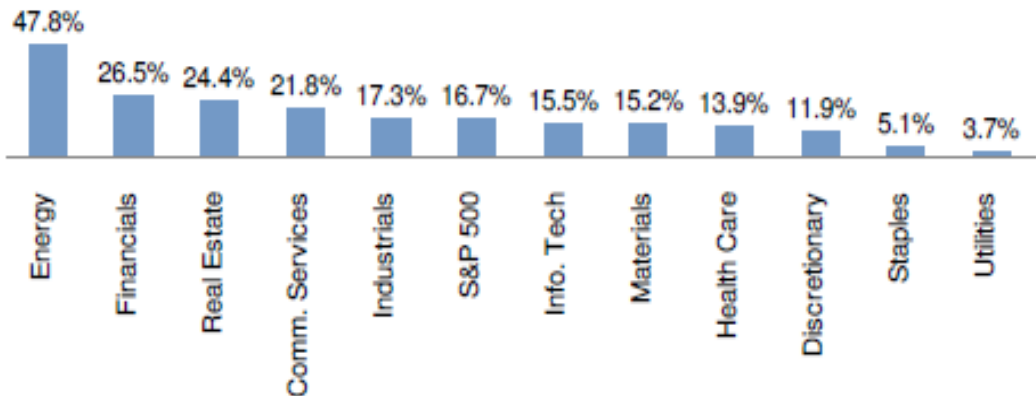
### Pre-Pandemic

Year-to-Date, As of 01/31/20



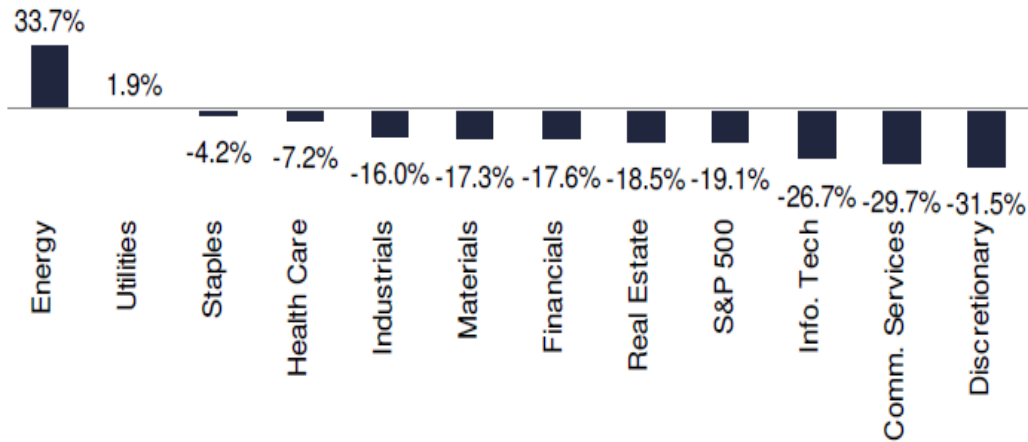
### Last Fiscal-Year-End

Year-to-Date, As of 07/02/21



### Current Fiscal-Year-End

YEAR-TO-DATE, AS OF 07/01/22



# Comparison: Int'l Developed Equity

## Size & Style Returns



Pre-Pandemic:

(as of 01/31/20)

Year-to-Date

	Value	Core	Growth
Large	-2.95%	-0.50%	2.05%
Medium	-2.77%	-1.17%	0.10%
Small	-3.93%	-2.78%	-1.64%

Last Fiscal-Year-End:

(as of 07/02/21)

Year-to-Date

	Value	Core	Growth
Large	15.41%	14.32%	13.03%
Medium	16.66%	13.26%	9.13%
Small	18.83%	15.31%	11.56%

Current Fiscal-Year-End:

(as of 07/01/22)

Year-to-Date

	Value	Core	Growth
Large	-10.53%	-19.67%	-28.33%
Medium	-16.86%	-22.20%	-29.14%
Small	-16.03%	-22.18%	-28.42%

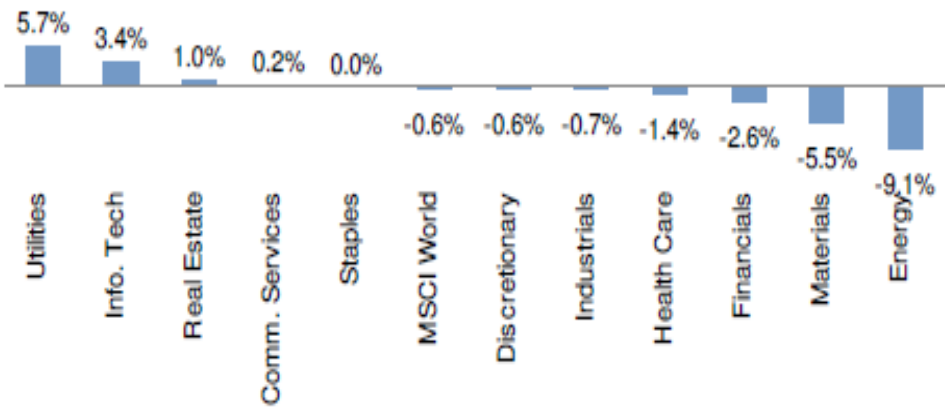
# Comparison: Int'l Developed Equity

MSCI World Index Sector Returns



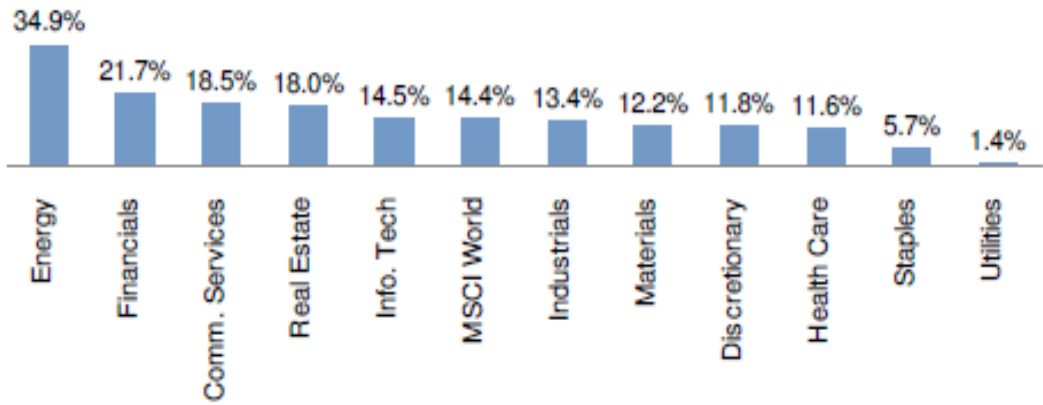
## Pre-Pandemic

Year-to-Date, As of 01/31/20



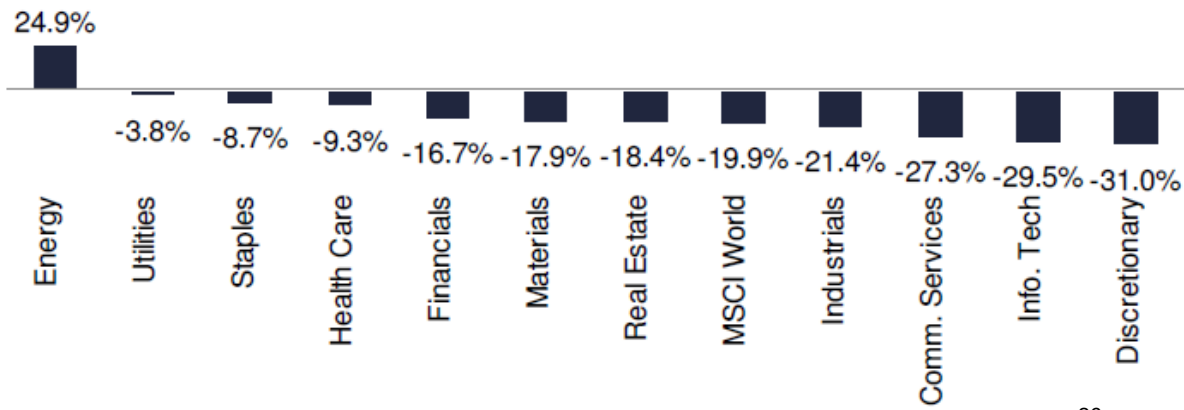
## Last Fiscal-Year-End

Year-to-Date, As of 07/02/21



## Current Fiscal-Year-End

YEAR-TO-DATE, AS OF 07/01/22



# Comparison: U.S. Fixed Income



Pre-Pandemic:

(as of 01/31/20)

Year-to-Date

	Short	Intermed.	Long
Government	0.91%	1.43%	6.85%
Corporate	0.88%	1.46%	3.96%
High Yield	0.05%	-0.06%	1.58%

Last Fiscal-Year-End:

(as of 07/02/21)

Year-to-Date

	Short	Intermed.	Long
Government	-0.44%	-1.05%	-7.50%
Corporate	0.14%	-0.43%	-2.18%
High Yield	4.71%	3.70%	5.61%

Current Fiscal-Year-End:

(as of 07/01/22)

Year-to-Date

	Short	Intermed.	Long
Government	-3.84%	-5.33%	-20.76%
Corporate	-5.23%	-8.49%	-22.28%
High Yield	-9.58%	-13.42%	-24.05%

# **Louisiana State Employees' Retirement System**

## **July 2022 Board Meeting Expected Return Update**

*July 28, 2022*

*Shelley Johnson, ASA, MAAA  
Consulting Actuary*



**FOSTER & FOSTER**  
ACTUARIES AND CONSULTANTS



# REVIEW

## Components of LASERS' Total Expected Return

- LASERS discount rate represents the assumed long-term rate of return expected to fund regular plan benefits (net of gain-sharing).
- June 30, 2021 valuation discount rate: 7.40% (7.25% for the projected contribution rate beginning July 1, 2022)
- Current Board adopted rate for the June 30, 2022 valuation: 7.25%
- When determining if this is reasonable, we compare the discount rate PLUS 0.35% for gain-sharing, or 7.60%, to current long-term expected returns for LASERS portfolio.
- LASERS current assumed long-term inflation is 2.30%.

# REVIEW

## Expected Returns Considered for June 30, 2021 Valuation

Assumptions vs. Current Market Expectations Long-Term Expected Returns			Projected 2022 Valuation
June 30, 2021 Valuation Assumptions	LASERS June 30, 2021 Valuation Discount Rate	7.40%	7.25%
	Expected Gain-Sharing	0.35%	0.35%
	Total Assumed Return (including Gain-Sharing)	7.75%	7.60%
2021 Market Expectations for LASERS Portfolio, 2.30% Inflation Assumption	NEPC 2021 Expected Returns (50 <sup>th</sup> Percentile, 30-Year)	7.60%	
	HAS 2020 Survey of Capital Market Assumptions HAS 2021 Survey of Capital Market Assumptions (50 <sup>th</sup> Percentile, 20-Year)	8.24% 7.77%	

- A 7.40% discount rate provided sufficient margin to recognize potential gain-sharing and a reasonable conservative margin (return achieved or exceeded in greater than 50% of investment scenarios modeled)
- Reduction to 7.25% remains increases conservative margin within but remains reasonable.



# REVIEW

## NEPC 2021-1Q Expected Returns

(2021 target asset allocation)

Investment Consultant 2022 1Q Expected Returns			
TRSL Portfolio Expected Returns	60 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	40 <sup>th</sup> Percentile
NEPC's raw assumptions (2.20% inflation)	6.61%	7.50%	8.39%
Adjustment to LASERS Inflation assumption of 2.30%	0.10%	0.10%	0.10%
Expected return considered by Foster & Foster:	6.71%	7.60%	8.49%
Less 35 basis points for gain-sharing (for discount rate comparison)	6.46%	7.25%	8.14%

# REVIEW

## HAS 2021 Expected Returns

(2021 target asset allocation)

2021 Horizon Survey (20-year) Expected Returns			
LASERS Portfolio Expected Returns	60 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	40 <sup>th</sup> Percentile
LASERS' 2021 Asset Allocation & 2.30% Inflation Assumption	6.78%	7.77%	8.75%
<i>Less 35 basis points for gain-sharing</i>	<b>6.43%</b>	<b>7.42%</b>	<b>8.40%</b>

# 2022 Update Considers:

- NEPC Capital Market Assumptions
  - NEPC updates CMA's quarterly
  - June 30, 2022 update increased aggregate 30-year expected return from 7.67% to 8.40%
  - Decreased 30-Year inflation assumption to 2.5% (from 2.6%); 10-Yr remains at 2.4%
- Revised target asset allocation, adopted by Board February 2022
  - See slide 7
- 45<sup>th</sup> and 55<sup>th</sup> Percentiles
  - With special consideration for 55<sup>th</sup> percentile of returns; see slide 8 and 9
- LASERS' adjustment to Private Equity expected return
  - NEPC 6/30/2022 general assumption for Private Equity: 10.3%
  - LASERS expected return for LASERS Private Equity Investments: 11%

# 2022 LASERS ASSET ALLOCATION

Asset Class	Current Policy Target	Recommendation	Δ (+/-)
Large Cap Equity	23%	23%	--
Small/Mid Cap Equity	8%	8%	--
International Equity (Large Cap)	10%	10%	--
International Equity (Small Cap)	5%	5%	--
Emerging Markets Equity	8%	8%	--
<b>Total Equities</b>	<b>54%</b>	<b>54%</b>	--
Core Bonds	3%	3%	--
Global Multi-Sector Fixed Income <sup>(1)</sup>	14%	14%	--
Emerging Market Debt (Blended) <sup>(2)</sup>	4%	3%	(1.0%)
<b>Total Fixed Income</b>	<b>21%</b>	<b>20%</b>	--
Private Equity	20%	22%	+2.0%
Absolute Return <sup>(3)</sup>	4%	4%	--
<b>Total Alternative Assets</b>	<b>24%</b>	<b>26%</b>	--
<b>Cash</b>	<b>1%</b>	<b>0%</b>	(1.0%)
<b>Total Portfolio</b>	<b>100%</b>	<b>100%</b>	
<b>10 Year Expected Return (Geometric)</b>	<b>6.36%</b>	<b>6.47%</b>	
<b>30 Year Expected Return (Geometric)</b>	<b>7.55%</b>	<b>7.67%</b>	
<b>Standard Deviation</b>	<b>16.53%</b>	<b>16.92%</b>	

NEPC  
12/31/2021  
expected  
returns for  
prior and  
revised target  
allocations



Change in target  
allocation increased  
30-year expected  
returns by 0.12%.



<sup>1</sup>Global Multi-Sector Fixed Income is modeled as 1/3 Private Debt-Direct Lending, 1/3 Private Debt-Distressed, 1/3 Diversified Fixed Income  
<sup>2</sup> Emerging Markets Debt (Blended) is modeled as ½ Emerging Markets Debt (local) and ½ Emerging Markets Debt (external)  
<sup>3</sup>Absolute Return is modeled as Hedge Funds

# 2022 Update:

## NEPC 2022-3Q Expected Returns

### With 2022 Revised Target Asset Allocation

Investment Consultant 2022 3Q (30-Year) Expected Returns					
LASERS Portfolio Expected Returns	60 <sup>th</sup> Percentile	55 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	45 <sup>th</sup> Percentile	40 <sup>th</sup> Percentile
NEPC's raw assumptions (2.50% inflation)	7.62%	8.01%	8.40%	8.90%	9.40%
Adjustment to LASERS Inflation assumption of 2.30%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%
Expected return considered by Foster & Foster:	7.42%	7.81%	8.20%	8.70%	9.20%
Less 35 basis points for gain-sharing (for discount rate comparison)	7.07%	7.46%	7.85%	8.35%	8.85%

# 2022 Update:

## NEPC 2022-3Q Expected Returns (30-Yr)

With LASERS' Private Equity Adjustment & 2022 Revised Target Asset Allocation

Investment Consultant/LASERS 2022 2Q (30-Year) Expected Returns					
LASERS Portfolio Expected Returns	60 <sup>th</sup> Percentile	55 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	45 <sup>th</sup> Percentile	40 <sup>th</sup> Percentile
NEPC's raw assumptions (2.50% inflation)	7.62%	8.01%	8.40%	8.90%	9.40%
+ LASERS' Private Equity adjustment *	0.15%	0.15%	0.15%	0.15%	0.15%
LASERS' Consultant/System expected return	7.77%	8.16%	8.55%	9.05%	9.55%
Adjustment to LASERS Inflation assumption of 2.30%	-0.20%	-0.20%	-0.20%	-0.20%	-0.20%
Expected return considered by Foster & Foster:	7.57%	7.96%	8.35%	8.85%	9.35%
Less 35 basis points for gain-sharing (for discount rate comparison)	7.22%	7.61%	8.00%	8.50%	9.00%

# HAS 2021 Expected Returns

## With 2022 Revised Target Asset Allocation

2021 Horizon Survey (20-year) Expected Returns				
LASERS Portfolio Expected Returns	60 <sup>th</sup> Percentile	55 <sup>th</sup> Percentile	50 <sup>th</sup> Percentile	40 <sup>th</sup> Percentile
LASERS <u>2021 Asset Allocation</u> & 2.30% Inflation Assumption	6.78%	7.28%	7.77%	8.75%
<i>Less 35 basis points for gain-sharing</i>	6.43%	6.93%	7.42%	8.40%
LASERS <u>2022 Asset Allocation</u> & 2.30% Inflation Assumption	6.92%	7.42%	7.92%	8.91%
<i>Less 35 basis points for gain-sharing</i>	6.57%	7.07%	7.57%	8.56%

# Summary of 2022 Update

Assumptions vs. Current Market Expectations Long-Term Expected Returns		
<b>June 30, 2022 Valuation Assumptions</b>	LASERS June 30, 2022 Valuation Discount Rate	7.25%
	Expected Gain-Sharing	0.35%
	Total Assumed Return (including Gain-Sharing)	7.60%
<b>Current Market Expectations for LASER Portfolio, 2.30% Inflation Assumption</b>	NEPC 2022-3Q Exp. Returns (55 <sup>th</sup> Percentile, 30-Year)	7.81%
	NEPC/LASERS 2022-3Q Exp. Returns (55 <sup>th</sup> Percentile, 30-Year)	7.96%
	HAS 2021 Survey of Capital Market Assumptions (55 <sup>th</sup> Percentile, 20-Year)	7.42%

- A 7.25% discount rate provides sufficient margin to recognize potential gain-sharing and includes a reasonable conservative margin, therefore is reasonable in our opinion.



# Recommendation

- Retain 7.25% discount rate for June 30, 2022 GASB and Funding Actuarial Valuations
- Retain 7.25% discount rate for projected FY 2023/24 funding requirements



# Questions?