



# INVESTMENT PERFORMANCE SUMMARY

OFFICE OF THE STATE TREASURER &  
CASH MANAGEMENT POLICY BOARD

DECEMBER 31, 2021

Jennifer Appel, CFA, Research Consultant  
Kevin M. Leonard, Partner  
Brendan Heaney, CFA, Sr. Consulting Analyst



PROPRIETARY & CONFIDENTIAL



# EXECUTIVE SUMMARY



PROPRIETARY & CONFIDENTIAL

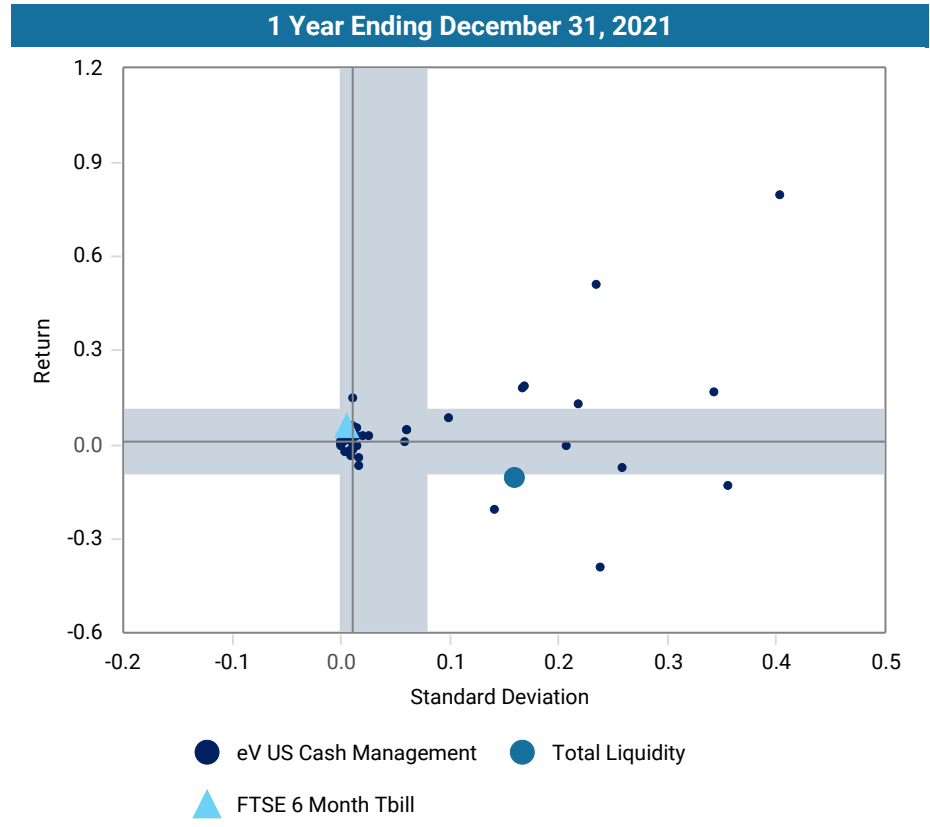
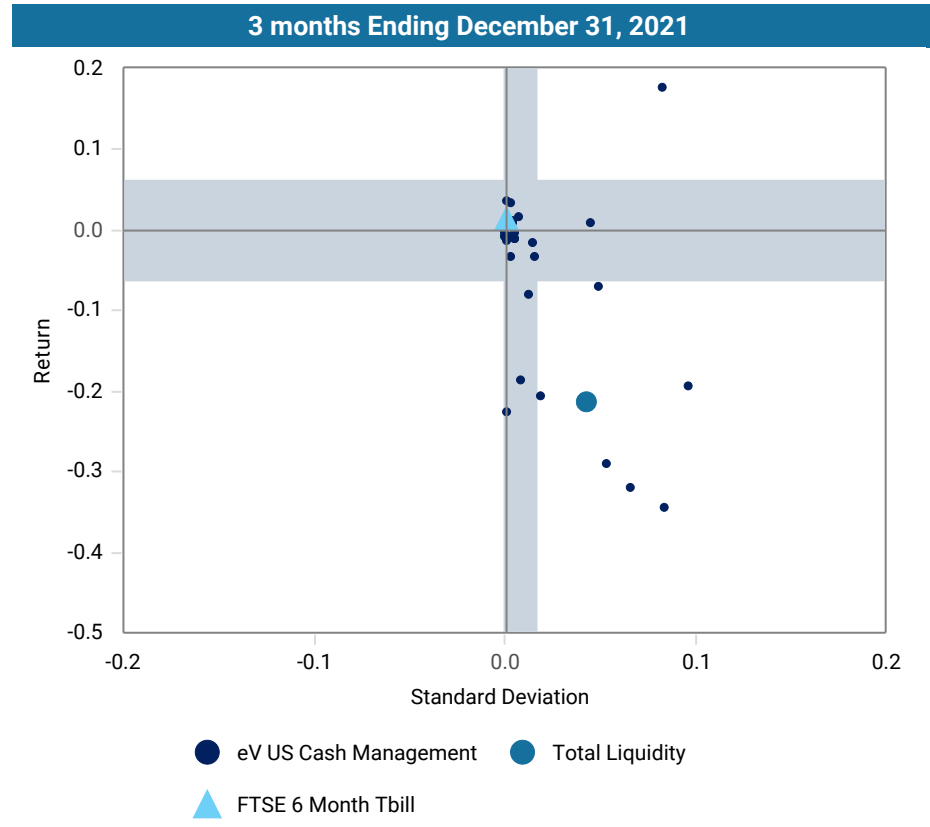
# TOTAL FUND PERFORMANCE SUMMARY

	Market Value (\$)	Performance (%)						
		3 Mo (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
<b>Delaware Total Consolidation</b>	<b>5,262,593,654</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.9</b>	<b>3.2</b>	<b>2.6</b>	<b>2.1</b>	<b>Jan-05</b>
<b>Delaware Total Consolidation ex. CARES &amp; ARPA</b>	<b>4,243,972,148</b>	<b>-0.2</b>	<b>-0.3</b>	<b>-1.0</b>	<b>3.3</b>	<b>2.6</b>	<b>2.1</b>	<b>Jan-05</b>
<b>Total Liquidity &amp; Reserve</b>	<b>4,138,089,807</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-1.3</b>	<b>3.0</b>	<b>2.4</b>	<b>2.4</b>	<b>Dec-16</b>
<b>Total Liquidity</b>	<b>2,125,106,770</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.1</b>	<b>1.4</b>	<b>1.5</b>	<b>1.7</b>	<b>Jan-05</b>
<i>eV US Cash Management Median</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.9</i>	<i>1.1</i>	<i>1.3</i>	
<b>Total Reserve</b>	<b>2,012,983,037</b>	<b>-0.4</b>	<b>-0.5</b>	<b>-1.8</b>	<b>3.7</b>	<b>2.8</b>	<b>2.5</b>	<b>Jan-05</b>
<i>Reserve Custom Index</i>		<i>-0.4</i>	<i>-0.5</i>	<i>-1.7</i>	<i>3.8</i>	<i>2.8</i>	<i>2.6</i>	
<i>eV US Interm Duration Fixed Inc Median</i>		<i>-0.6</i>	<i>-0.6</i>	<i>-1.3</i>	<i>4.0</i>	<i>3.0</i>	<i>3.6</i>	
<b>Total Endowment</b>	<b>105,882,341</b>	<b>4.3</b>	<b>3.7</b>	<b>11.7</b>	<b>13.2</b>	<b>9.5</b>	<b>7.7</b>	<b>Aug-15</b>
<i>Endowment Custom Index</i>		<i>4.7</i>	<i>4.7</i>	<i>12.0</i>	<i>15.1</i>	<i>10.6</i>	<i>8.6</i>	
<i>eV Global Balanced Median</i>		<i>3.4</i>	<i>3.0</i>	<i>9.7</i>	<i>12.5</i>	<i>9.0</i>	<i>7.1</i>	
<b>CARES</b>	<b>95,666,710</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>-</b>	<b>-</b>	<b>0.1</b>	<b>Apr-20</b>
<i>FTSE 1 Month T-Bill</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>-</i>	<i>-</i>	<i>0.1</i>	
<i>eV US Cash Management Median</i>		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>-</i>	<i>-</i>	<i>0.1</i>	
<b>ARPA</b>	<b>922,954,797</b>	<b>-0.2</b>	<b>-0.1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-0.2</b>	<b>May-21</b>
<i>FTSE 1 Month T-Bill</i>		<i>0.0</i>	<i>0.0</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>0.0</i>	
<i>eV US Cash Management Median</i>		<i>0.0</i>	<i>0.0</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>0.0</i>	

# Total Reserve vs. Reserve Custom Index



# LIQUIDITY RISK/RETURN - 3 MONTHS & 1 YEAR



**3 months Ending December 31, 2021**

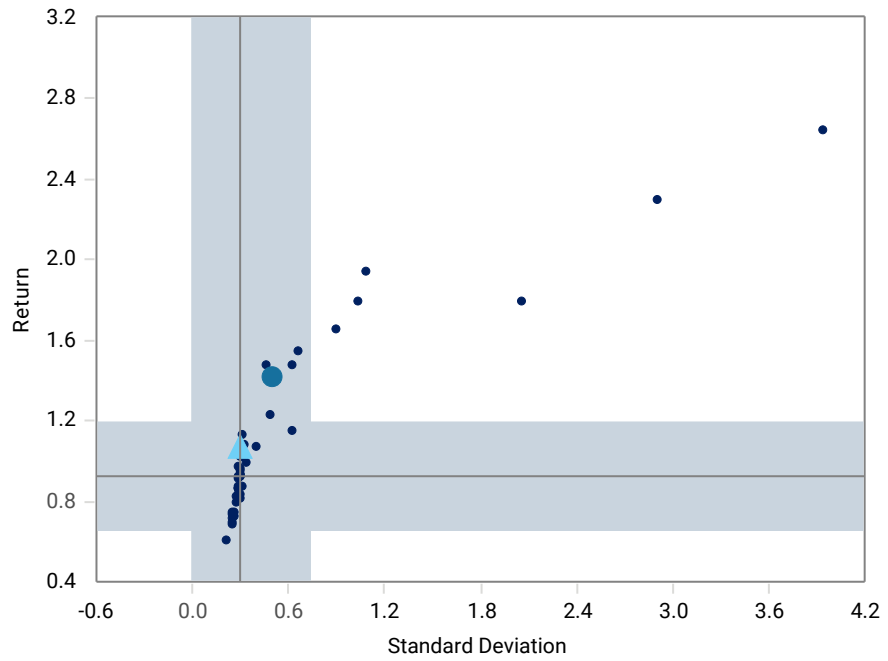
	Return	Standard Deviation	Sharpe Ratio
Total Liquidity	-0.2	0.0	-1.9
FTSE 6 Month Tbill	0.0	0.0	0.3

**1 Year Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Liquidity	-0.1	0.2	-1.0
FTSE 6 Month Tbill	0.1	0.0	1.3

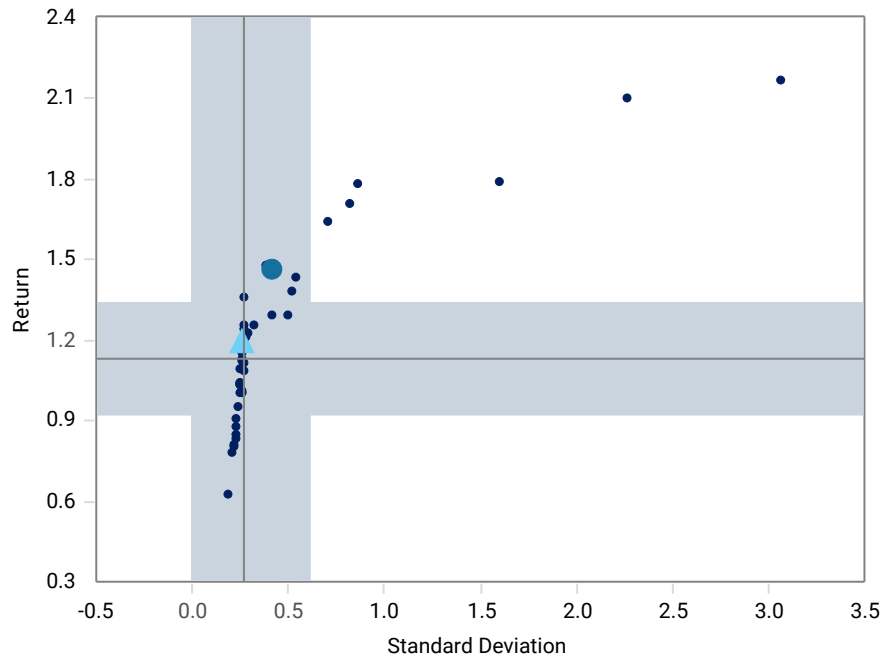
# LIQUIDITY RISK/RETURN - 3 & 5 YEARS

3 Years Ending December 31, 2021



- eV US Cash Management
- Total Liquidity
- ▲ FTSE 6 Month Tbill

5 Years Ending December 31, 2021



- eV US Cash Management
- Total Liquidity
- ▲ FTSE 6 Month Tbill

3 Years Ending December 31, 2021

	Return	Standard Deviation	Sharpe Ratio
Total Liquidity	1.4	0.5	1.0
FTSE 6 Month Tbill	1.1	0.3	0.6

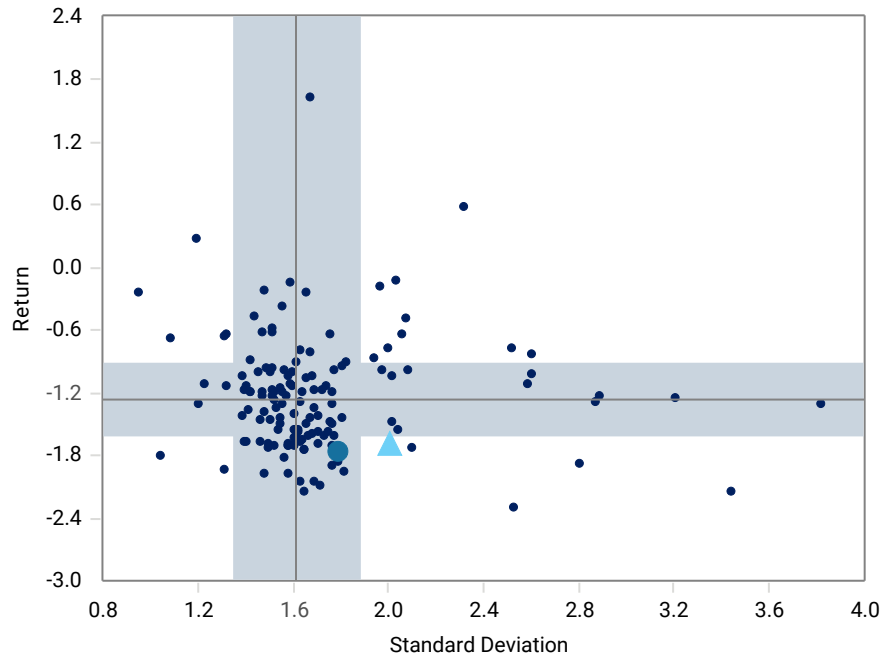
5 Years Ending December 31, 2021

	Return	Standard Deviation	Sharpe Ratio
Total Liquidity	1.5	0.4	0.9
FTSE 6 Month Tbill	1.2	0.3	0.6



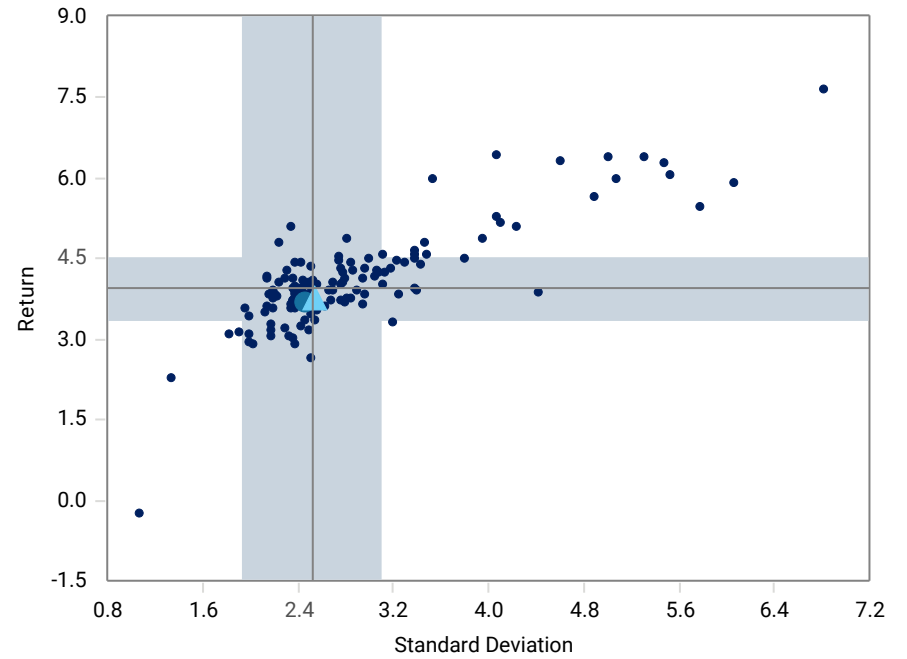
# RESERVE RISK/RETURN - 1 & 3 YEARS

1 Year Ending December 31, 2021



● eV US Interm Duration Fixed Inc ● Total Reserve  
▲ Reserve Custom Index

3 Years Ending December 31, 2021



● eV US Interm Duration Fixed Inc ● Total Reserve  
▲ Reserve Custom Index

1 Years Ending December 31, 2021

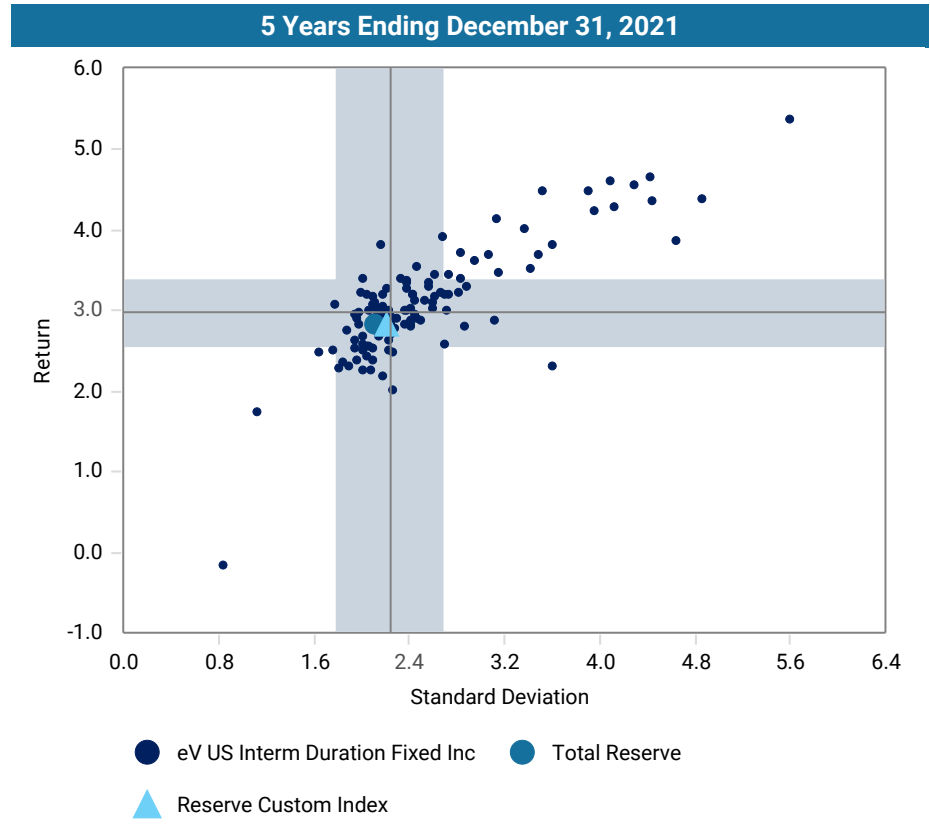
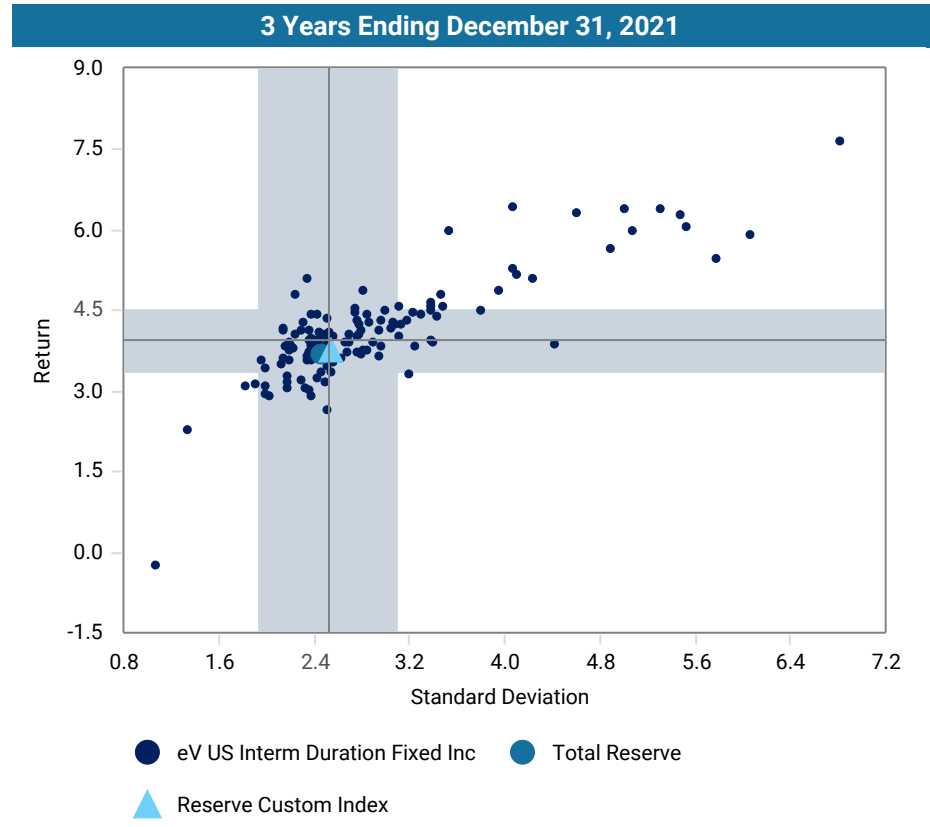
	Return	Standard Deviation	Sharpe Ratio
Total Reserve	-1.8	1.8	-1.0
Reserve Custom Index	-1.7	2.0	-0.9

3 Years Ending December 31, 2021

	Return	Standard Deviation	Sharpe Ratio
Total Reserve	3.7	2.5	1.2
Reserve Custom Index	3.8	2.5	1.1



# RESERVE RISK/RETURN - 3 & 5 YEARS



**3 Years Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Reserve	3.7	2.5	1.2
Reserve Custom Index	3.8	2.5	1.1

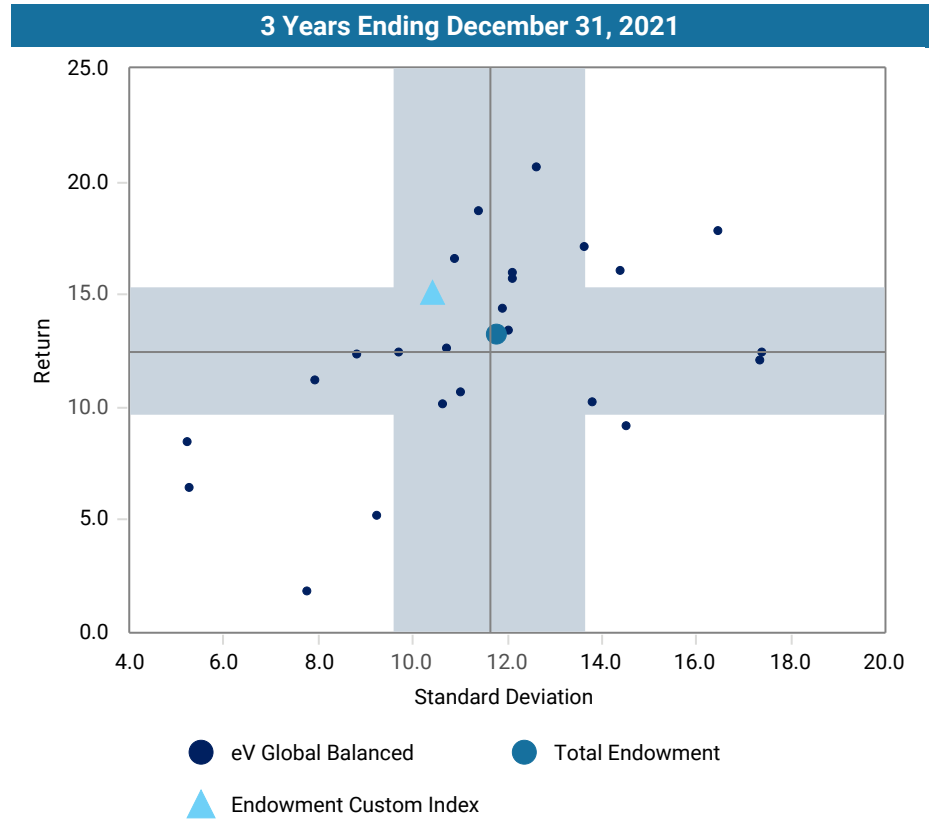
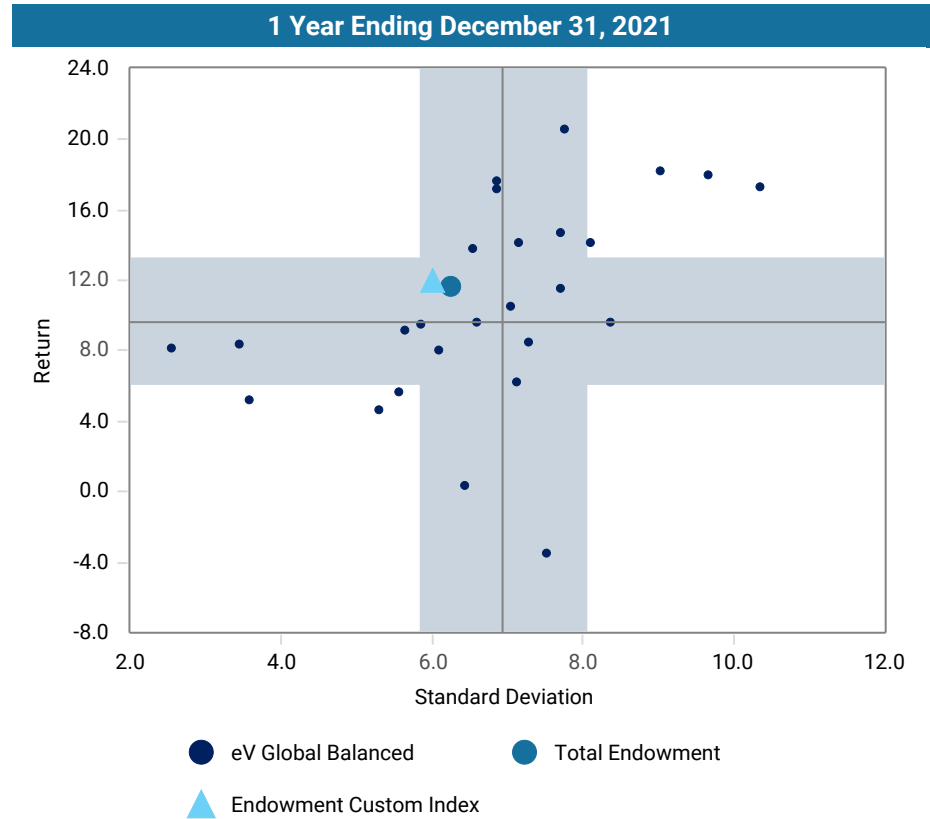
**5 Years Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Reserve	2.8	2.1	0.8
Reserve Custom Index	2.8	2.2	0.8





# ENDOWMENT RISK/RETURN - 1 & 3 YEARS



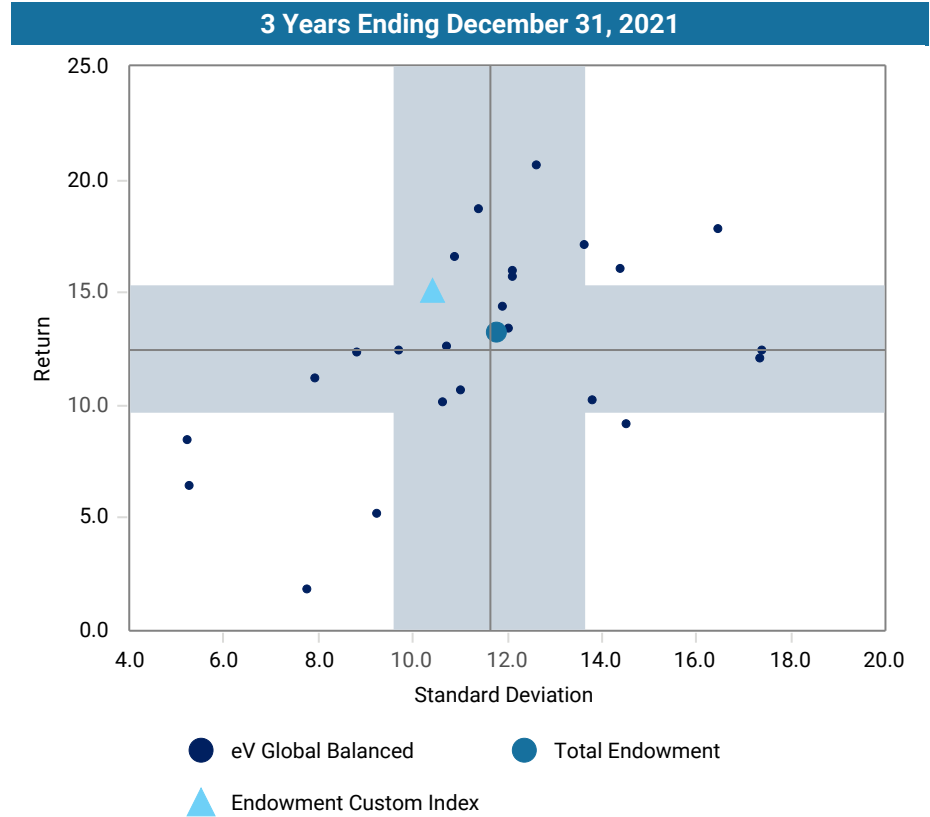
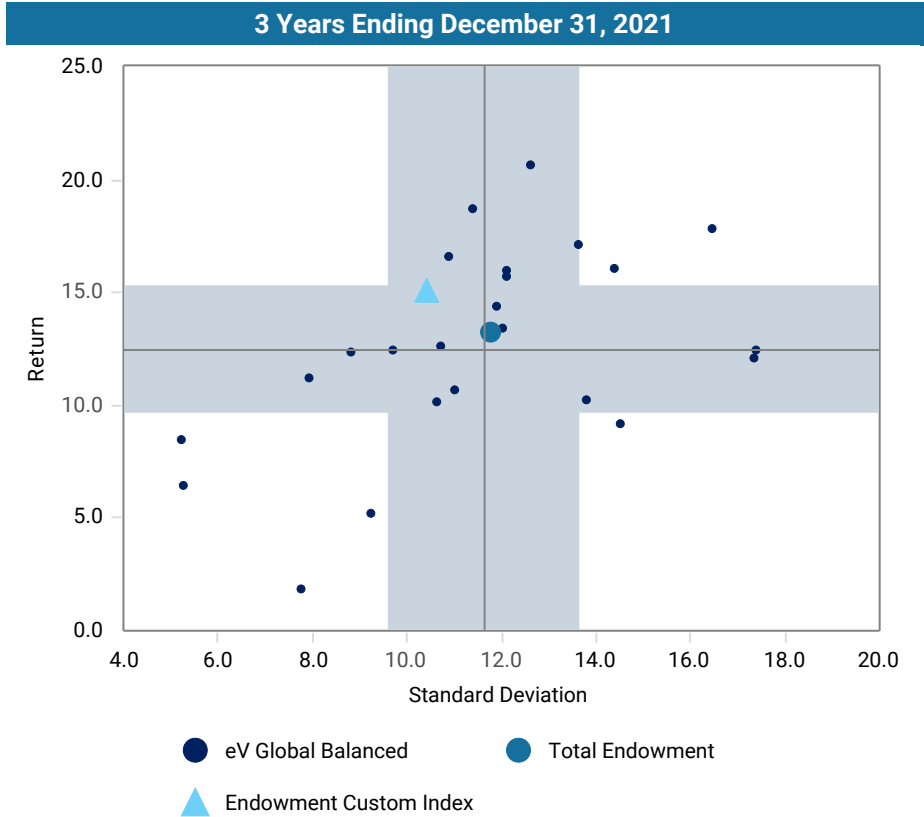
**1 Years Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Endowment	13.2	11.8	1.0
Endowment Custom Index	15.1	10.4	1.3

**3 Years Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Endowment	13.2	11.8	1.0
Endowment Custom Index	15.1	10.4	1.3

# ENDOWMENT RISK/RETURN - 3 & 5 YEARS



**3 Years Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Endowment	13.2	11.8	1.0
Endowment Custom Index	15.1	10.4	1.3

**5 Years Ending December 31, 2021**

	Return	Standard Deviation	Sharpe Ratio
Total Endowment	9.5	10.1	0.8
Endowment Custom Index	10.6	9.1	1.0



# PERFORMANCE DETAIL

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
<b>Delaware Total Consolidation</b>	<b>5,262,593,654</b>	<b>100.0</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.9</b>	<b>3.2</b>	<b>2.6</b>	<b>2.1</b>	<b>Jan-05</b>
<b>Delaware Total Consolidation ex. CARES &amp; ARPA</b>	<b>4,243,972,148</b>	<b>80.6</b>	<b>-0.2</b>	<b>-0.3</b>	<b>-1.0</b>	<b>3.3</b>	<b>2.6</b>	<b>2.1</b>	<b>Jan-05</b>
<b>Total Liquidity &amp; Reserve</b>	<b>4,138,089,807</b>	<b>78.6</b>	<b>-0.4</b>	<b>-0.4</b>	<b>-1.3</b>	<b>3.0</b>	<b>2.4</b>	<b>2.4</b>	<b>Dec-16</b>
<b>Total Liquidity</b>	<b>2,125,106,770</b>	<b>40.4</b>	<b>-0.2</b>	<b>-0.2</b>	<b>-0.1</b>	<b>1.4</b>	<b>1.5</b>	<b>1.7</b>	<b>Jan-05</b>
<i>eV US Cash Management Median</i>			<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.9</i>	<i>1.1</i>	<i>1.3</i>	
PFM Asset Management	1,064,289,558	20.2	-0.1	-0.1	0.0	1.4	1.5	1.2	Jun-13
Wilmington Liquidity	1,060,817,212	20.2	-0.3	-0.2	-0.2	1.4	1.4	4.0	Jan-85
<b>Total Reserve</b>	<b>2,012,983,037</b>	<b>38.3</b>	<b>-0.4</b>	<b>-0.5</b>	<b>-1.8</b>	<b>3.7</b>	<b>2.8</b>	<b>2.5</b>	<b>Jan-05</b>
<i>Reserve Custom Index</i>			<i>-0.4</i>	<i>-0.5</i>	<i>-1.7</i>	<i>3.8</i>	<i>2.8</i>	<i>2.6</i>	
<i>eV US Interm Duration Fixed Inc Median</i>			<i>-0.6</i>	<i>-0.6</i>	<i>-1.3</i>	<i>4.0</i>	<i>3.0</i>	<i>3.6</i>	
JPM Intermediate	681,544,131	13.0	-0.5	-0.4	-0.4	2.4	2.0	1.5	Jun-13
<i>J.P. Morgan Custom Index</i>			<i>-0.5</i>	<i>-0.5</i>	<i>-0.5</i>	<i>2.2</i>	<i>1.8</i>	<i>1.4</i>	
Blackrock Financial Mangement	519,327,762	9.9	-0.7	-0.7	-0.9	2.8	-	2.8	Mar-18
<i>Blackrock Custom Index</i>			<i>-0.7</i>	<i>-0.7</i>	<i>-1.0</i>	<i>2.6</i>	<i>2.1</i>	<i>2.6</i>	
Chandler Asset Management	411,041,135	7.8	-0.3	-0.4	-2.6	4.9	3.6	2.5	Jun-13
Lazard Financial Management	401,070,009	7.6	-0.2	-0.3	-2.7	4.7	-	4.3	Mar-18
<i>Chandler/Lazard Custom Index</i>			<i>-0.2</i>	<i>-0.4</i>	<i>-2.6</i>	<i>5.1</i>	<i>3.7</i>	<i>4.7</i>	
<b>Total Endowment</b>	<b>105,882,341</b>	<b>2.0</b>	<b>4.3</b>	<b>3.7</b>	<b>11.7</b>	<b>13.2</b>	<b>9.5</b>	<b>7.7</b>	<b>Aug-15</b>
<i>Endowment Custom Index</i>			<i>4.7</i>	<i>4.7</i>	<i>12.0</i>	<i>15.1</i>	<i>10.6</i>	<i>8.6</i>	
<i>eV Global Balanced Median</i>			<i>3.4</i>	<i>3.0</i>	<i>9.7</i>	<i>12.5</i>	<i>9.0</i>	<i>7.1</i>	
SEI Balanced Strategy	54,578,600	1.0	4.4	3.6	11.8	15.8	11.1	9.4	Aug-15
Vanguard Funds	51,303,657	1.0	4.1	3.7	11.7	-	-	14.7	Sep-20
<i>eV Global Balanced Median</i>			<i>3.4</i>	<i>3.0</i>	<i>9.7</i>	<i>12.5</i>	<i>9.0</i>	<i>13.9</i>	

# PERFORMANCE DETAIL

	Allocation		Performance (%)						
	Market Value (\$)	% of Portfolio	3 Mo (%)	FYTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
<b>CARES</b>	<b>95,666,710</b>	<b>1.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	-	-	<b>0.1</b>	<b>Apr-20</b>
<i>FTSE 1 Month T-Bill</i>			0.0	0.0	0.0	0.9	1.1	0.1	
<i>eV US Cash Management Median</i>			0.0	0.0	0.0	0.9	1.1	0.1	
PFM CARES	46,351,608	0.9	0.0	0.0	0.1	-	-	0.1	Apr-20
PFM NCC CARES	1,507,296	0.0	0.0	0.0	0.0	-	-	0.0	Jan-21
Wilmington CARES	46,296,877	0.9	0.0	0.0	0.0	-	-	0.0	Apr-20
Wilmington NCC CARES	1,510,929	0.0	0.0	0.0	0.0	-	-	0.0	Jan-21
<i>FTSE 1 Month T-Bill</i>			0.0	0.0	0.0	0.9	1.1	0.0	
<b>ARPA</b>	<b>922,954,797</b>	<b>17.5</b>	<b>-0.2</b>	<b>-0.1</b>	-	-	-	<b>-0.2</b>	<b>May-21</b>
<i>FTSE 1 Month T-Bill</i>			0.0	0.0	0.0	0.9	1.1	0.0	
<i>eV US Cash Management Median</i>			0.0	0.0	0.0	0.9	1.1	0.0	
PFM ARPA	461,860,721	8.8	-0.1	-0.1	-	-	-	-0.1	May-21
<i>FTSE 1 Month T-Bill</i>			0.0	0.0	0.0	0.9	1.1	0.0	
<i>eV US Cash Management Median</i>			0.0	0.0	0.0	0.9	1.1	0.0	
Wilmington ARPA	461,094,076	8.8	-0.2	-0.2	-	-	-	-0.3	May-21
<i>FTSE 1 Month T-Bill</i>			0.0	0.0	0.0	0.9	1.1	0.0	
<i>eV US Cash Management Median</i>			0.0	0.0	0.0	0.9	1.1	0.0	

PG 11. Notes: Net of Fees. Results for periods longer than one year are annualized.

Performance history through 12/2015 is from BNY Mellon. NEPC Performance start date is January 2016. Fiscal Year end is June 30.

Reserve Custom Index consists of 25% ICE BofAML 1-5 Yrs AAA-A US Corp & Govt TR / 25% ICE BofAML 1-3 Yrs AAA-A US Corp & Govt / 50% ICE BofA ML US Gov/Credit 5-10 Yrs A Rated and Above, as of 4/1/2018. Prior to this, the index comprised 75% ICE BofAML 1-5 Yrs AAA-A US Corp & Govt TR / 25% ICE BofAML 6 Months US T-Bills TR.

Endowment Custom Index consists of 60% MSCI World Index/40% Bloomberg US Aggregate.

BlackRock Custom Index consists of 100% ICE BofAML 1-5 Yrs AAA-A US Corp & Govt TR.

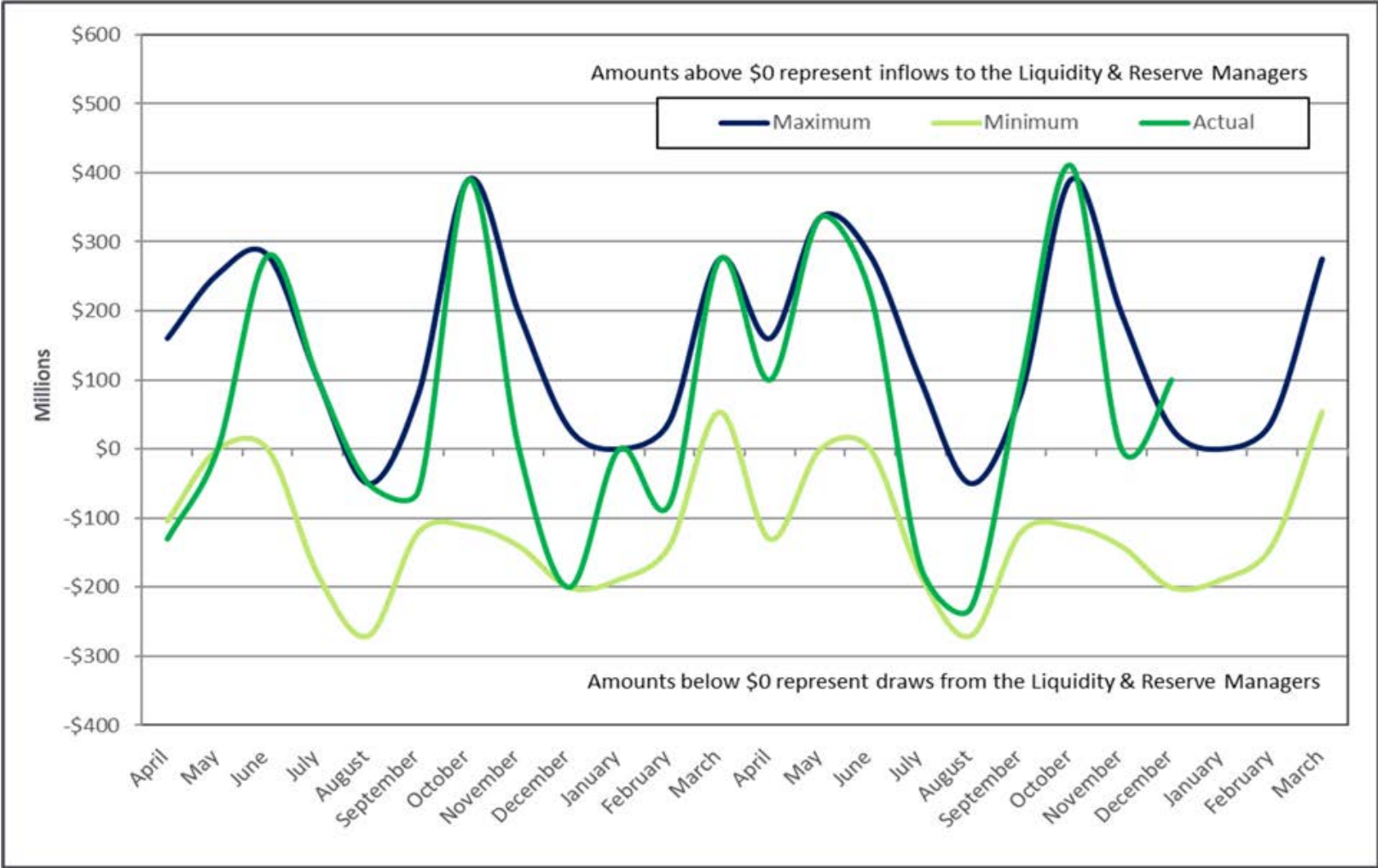
J.P. Morgan Custom Index consists of 100% ICE BofAML 1-3 Yrs AAA-A US Corp & Govt.

Chandler/Lazard Custom Index consists of ICE BofAML US Gov/Credit 5-10 Yrs A Rated and Above.

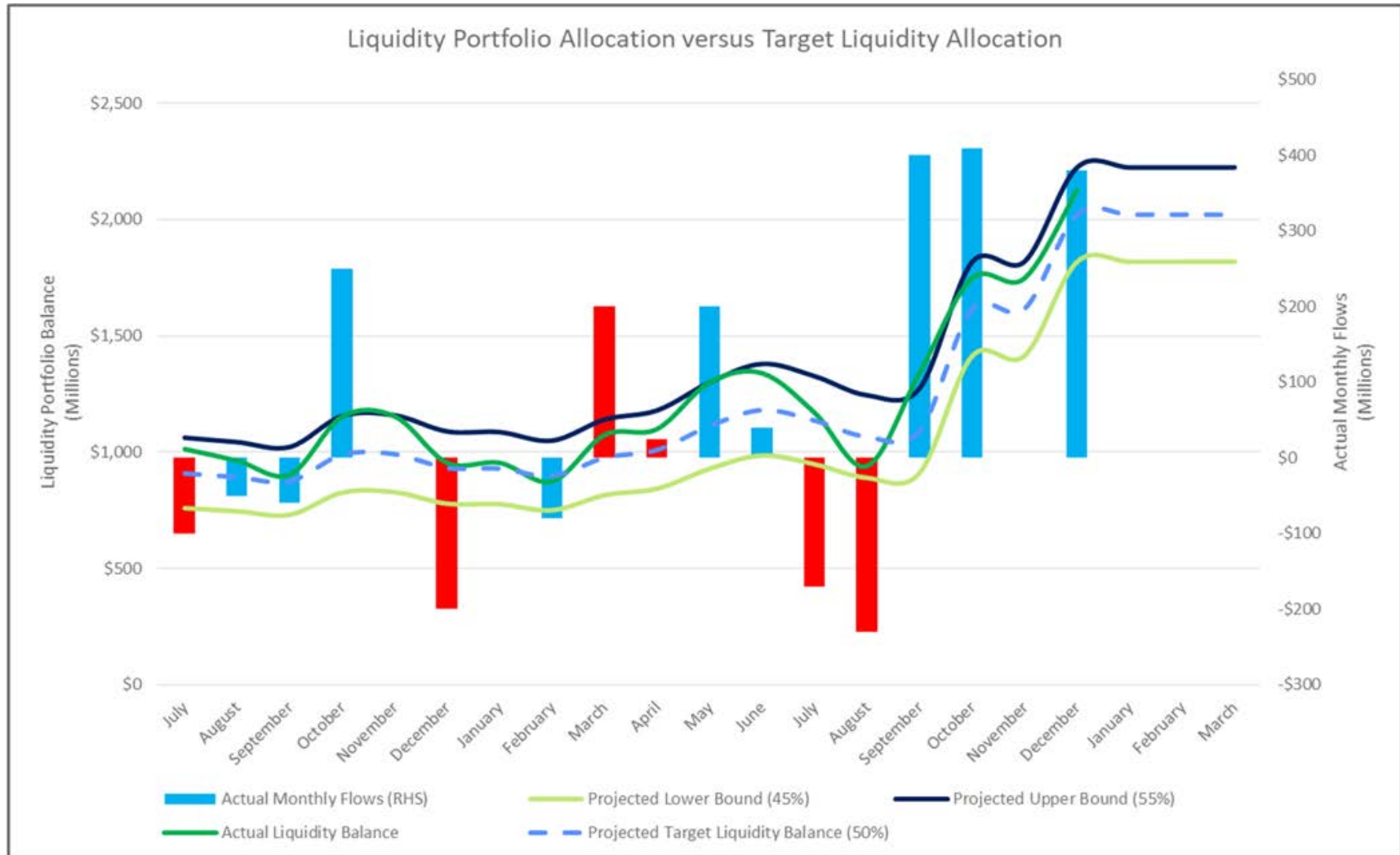
Notes for CARES: Net of Fees. Results for periods longer than one year are annualized.

Performance history through 12/2015 is from BNY Mellon. NEPC Performance start date is January 2016. Fiscal Year end is June 30.

# LIQUIDITY & RESERVE CASH FLOWS



# LIQUIDITY BALANCE



As of December 1, 2021, the target allocation between Liquidity and Reserve Portfolios was adjusted to 50%/50%. The previous target allocation was 40%/60%.



# FISCAL YEAR TO DATE

	Change in Market Value Fiscal Year-to-Date Through December 31, 2021								
	Beginning Market Value	Contributions	Withdrawals	Fees	Income	Unrealized Gain (Loss)	Realized Gain (Loss)	Amortization / Accretion	Ending Market Value
<b>Liquidity Managers</b>									
PFM Asset Management	\$ 670,165,384	\$ 620,000,000	\$ (225,000,000)	\$ (207,366)	\$ 2,898,147	\$ (1,573,396)	\$ 100,696	\$ (2,093,906)	\$ 1,064,289,558
Wilmington Liquidity	\$ 667,899,950	\$ 620,000,000	\$ (225,000,000)	\$ (195,769)	\$ 2,471,243	\$ (3,140,205)	\$ 54,980	\$ (1,272,988)	\$ 1,060,817,212
<b>Total Liquidity Managers</b>	<b>\$ 1,338,065,334</b>	<b>\$ 1,240,000,000</b>	<b>\$ (450,000,000)</b>	<b>\$ (403,135)</b>	<b>\$ 5,369,390</b>	<b>\$ (4,713,600)</b>	<b>\$ 155,676</b>	<b>\$ (3,366,895)</b>	<b>\$ 2,125,106,770</b>
<b>Reserve Managers</b>									
BlackRock Financial Management	\$ 522,812,835	\$ -	\$ -	\$ (178,831)	\$ 2,640,325	\$ (6,700,569)	\$ 1,216,653	\$ (462,649)	\$ 519,327,762
Chandler Asset Management	\$ 553,398,402	\$ -	\$ (140,000,000)	\$ (178,450)	\$ 5,482,703	\$ (16,576,926)	\$ 8,877,221	\$ 38,186	\$ 411,041,135
JPM Intermediate	\$ 983,835,579	\$ -	\$ (300,000,000)	\$ (293,024)	\$ 2,806,336	\$ (4,917,092)	\$ 794,964	\$ (682,630)	\$ 681,544,131
Lazard Asset Management	\$ 542,685,942	\$ -	\$ (140,000,000)	\$ (302,740)	\$ 6,103,631	\$ (12,282,967)	\$ 7,001,918	\$ (2,135,774)	\$ 401,070,009
<b>Total Reserve Managers</b>	<b>\$ 2,602,732,758</b>	<b>\$ -</b>	<b>\$ (580,000,000)</b>	<b>\$ (953,045)</b>	<b>\$ 17,032,995</b>	<b>\$ (40,477,554)</b>	<b>\$ 17,890,756</b>	<b>\$ (3,242,867)</b>	<b>\$ 2,012,983,037</b>
<b>Total Liquidity &amp; Reserve Managers</b>	<b>\$ 3,940,798,092</b>	<b>\$ 1,240,000,000</b>	<b>\$ (1,030,000,000)</b>	<b>\$ (1,356,180)</b>	<b>\$ 22,402,385</b>	<b>\$ (45,191,154)</b>	<b>\$ 18,046,432</b>	<b>\$ (6,609,762)</b>	<b>\$ 4,138,089,807</b>
<b>Land &amp; Water Endowment</b>									
SEI Funds	\$ 44,700,020	\$ 7,988,469	\$ -	\$ (83,785)	\$ 941,066	\$ (2,661,643)	\$ 3,694,474	\$ -	\$ 54,578,600
Vanguard	\$ 41,525,917	\$ 7,988,307	\$ (17,000)	\$ (39,344)	\$ 506,501	\$ 856,030	\$ 483,245	\$ -	\$ 51,303,657
<b>Total Land &amp; Water Endowment</b>	<b>\$ 86,226,021</b>	<b>\$ 15,976,776</b>	<b>\$ (17,000)</b>	<b>\$ (123,129)</b>	<b>\$ 1,447,567</b>	<b>\$ (1,805,613)</b>	<b>\$ 4,177,719</b>	<b>\$ -</b>	<b>\$ 105,882,341</b>
<b>CARES</b>									
PFM CARES	\$ 76,743,189	\$ -	\$ (30,407,291)	\$ (31,245)	\$ 437,704	\$ (7,112)	\$ (517)	\$ (383,121)	\$ 46,351,608
PFM NCC CARES	\$ 5,471,494	\$ -	\$ (3,964,934)	\$ -	\$ 736	\$ -	\$ -	\$ -	\$ 1,507,296
Wilmington CARES	\$ 76,693,740	\$ -	\$ (30,407,291)	\$ (15,808)	\$ 23,967	\$ 31	\$ -	\$ 2,238	\$ 46,296,877
Wilmington NCC CARES	\$ 5,475,625	\$ -	\$ (3,964,934)	\$ (1,034)	\$ 892	\$ (82)	\$ 718	\$ (256)	\$ 1,510,929
<b>Total CARES</b>	<b>\$ 164,384,048</b>	<b>\$ -</b>	<b>\$ (68,744,450)</b>	<b>\$ (48,087)</b>	<b>\$ 463,299</b>	<b>\$ (7,163)</b>	<b>\$ 202</b>	<b>\$ (381,139)</b>	<b>\$ 95,666,710</b>
<b>ARPA</b>									
PFM ARPA	\$ 462,847,299	\$ -	\$ (639,040)	\$ (98,067)	\$ 1,801,353	\$ (431,585)	\$ 1,866	\$ (1,621,106)	\$ 461,860,721
Wilmington ARPA	\$ 462,114,400	\$ -	\$ (225,966)	\$ (100,685)	\$ 1,407,238	\$ (925,085)	\$ 17,599	\$ (1,193,428)	\$ 461,094,076
<b>Total ARPA</b>	<b>\$ 924,961,699</b>	<b>\$ -</b>	<b>\$ (865,006)</b>	<b>\$ (198,752)</b>	<b>\$ 3,208,591</b>	<b>\$ (1,356,670)</b>	<b>\$ 19,464</b>	<b>\$ (2,814,534)</b>	<b>\$ 922,954,797</b>
<b>Total</b>	<b>\$ 5,116,369,860</b>	<b>\$ 1,255,976,776</b>	<b>\$ (1,099,626,456)</b>	<b>\$ (1,726,148)</b>	<b>\$ 27,521,842</b>	<b>\$ (48,360,600)</b>	<b>\$ 22,243,817</b>	<b>\$ (9,805,435)</b>	<b>\$ 5,262,593,654</b>

## Footnotes:

As of December 1, 2021, the target allocation between Liquidity and Reserve Portfolios was adjusted to 50%/50%. The previous target allocation was 40%/60%.

Values provided by Northern Trust and are reconciled to the audited custodian reports.

Income is a product of income received during the month plus accrued income.

Numbers may not add due to rounding.



# YIELD AND DURATION POSITIONING

Liquidity Portfolio Yield and Duration Analysis							
Portfolio					Benchmark		
	Portfolio Value	% of Assets	Yield	Duration		Yield	Duration
PFM \$	1,064,289,558	25.7%	0.45%	0.65	6-Month Treasury Bill	0.19%	0.49
Wilmington Trust \$	1,060,817,212	25.6%	0.58%	1.23	6-Month Treasury Bill	0.19%	0.49
<b>Total Liquidity \$</b>	<b>2,125,106,770</b>	<b>51.4%</b>	<b>0.51%</b>	<b>0.94</b>	<b>6-Month Treasury Bill</b>	<b>0.19%</b>	<b>0.49</b>

Reserve Portfolio Yield and Duration Analysis							
Portfolio					Benchmark		
	Portfolio Value	% of Assets	Yield	Duration		Yield	Duration
JP Morgan \$	681,544,131	16.5%	0.78%	1.75	BAML 1-3 Yr Govt/Credit A+	0.75%	1.87
BlackRock \$	519,327,762	12.5%	0.99%	2.61	BAML 1-5 Yr Govt/Credit A+	0.95%	2.66
Chandler \$	411,041,135	9.9%	1.62%	6.46	BAML 5-10 Yr Govt/Credit A+	1.57%	6.65
Lazard \$	401,070,009	9.7%	1.47%	6.32	BAML 5-10 Yr Govt/Credit A+	1.57%	6.65
<b>Total Reserve \$</b>	<b>2,012,983,037</b>	<b>48.6%</b>	<b>1.14%</b>	<b>3.84</b>	<b>Custom Reserve Benchmark</b>	<b>1.21%</b>	<b>4.46</b>

Total Liquidity & Reserve Portfolio Yield and Duration Analysis							
Portfolio					Benchmark		
	Portfolio Value	% of Assets	Yield	Duration		Yield	Duration
<b>Total Liquidity &amp; Reserve \$</b>	<b>4,138,089,807</b>	<b>100.0%</b>	<b>0.82%</b>	<b>2.35</b>	<b>Weighted Average</b>	<b>0.90%</b>	<b>3.27</b>

As of December 1, 2021, the target allocation between Liquidity and Reserve Portfolios was adjusted to 50%/50%. The previous target allocation was 40%/60%.





# LEVEL 144A SECURITIES

	MV - 12/31/21 (\$)	144A Securities MV (\$)	144A Securities Percent of Total Portfolio (%)	144A Securities Percent of Manager Portfolio (%)
<b>Delaware Total Consolidation</b>	<b>\$5,262,593,654</b>	<b>\$388,539,977</b>	<b>7.4%</b>	
<b>Total Liquidity &amp; Reserve</b>	<b>\$4,138,089,807</b>	<b>\$388,539,977</b>	<b>7.4%</b>	
<b>Total Liquidity</b>	<b>\$2,125,106,770</b>	<b>\$278,165,918</b>	<b>5.3%</b>	
PFM Asset Management	\$1,064,289,558	\$118,754,403	2.3%	11.2%
Wilmington Liquidity	\$1,060,817,212	\$159,411,515	3.0%	15.0%
<b>Total Reserve</b>	<b>\$2,012,983,037</b>	<b>\$110,374,059</b>	<b>2.1%</b>	
JPM Intermediate	\$681,544,131	\$76,206,000	1.4%	11.2%
Blackrock Financial Mangement	\$519,327,762	\$29,153,357	0.6%	5.6%
Chandler Asset Management	\$411,041,135	\$5,014,702	0.1%	1.2%
Lazard Financial Management	\$401,070,009	\$0	0.0%	0.0%
<b>Total Endowment</b>	<b>\$105,882,341</b>	<b>\$0</b>	<b>0.0%</b>	
SEI Funds	\$54,578,600	\$0	0.0%	
Vanguard Funds	\$51,303,657	\$0	0.0%	
<b>CARES</b>	<b>\$95,666,710</b>	<b>\$0</b>	<b>0.0%</b>	
PFM CARES	\$46,351,608	\$0	0.0%	
PFM NCC CARES	\$1,507,296	\$0	0.0%	
Wilmington CARES	\$46,296,877	\$0	0.0%	
Wilmington NCC CARES	\$1,510,929	\$0	0.0%	
<b>ARPA</b>	<b>\$922,954,797</b>	<b>\$0</b>	<b>0.0%</b>	
PFM ARPA	\$461,860,721	\$0	0.0%	
Wilmington ARPA	\$461,094,076	\$0	0.0%	



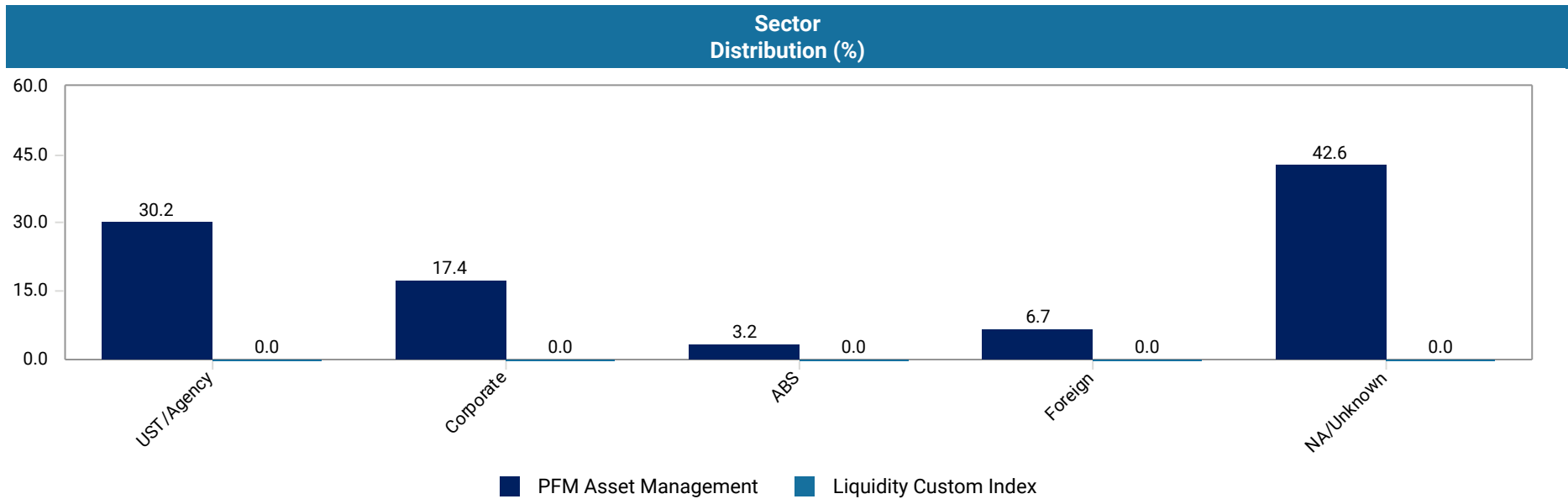
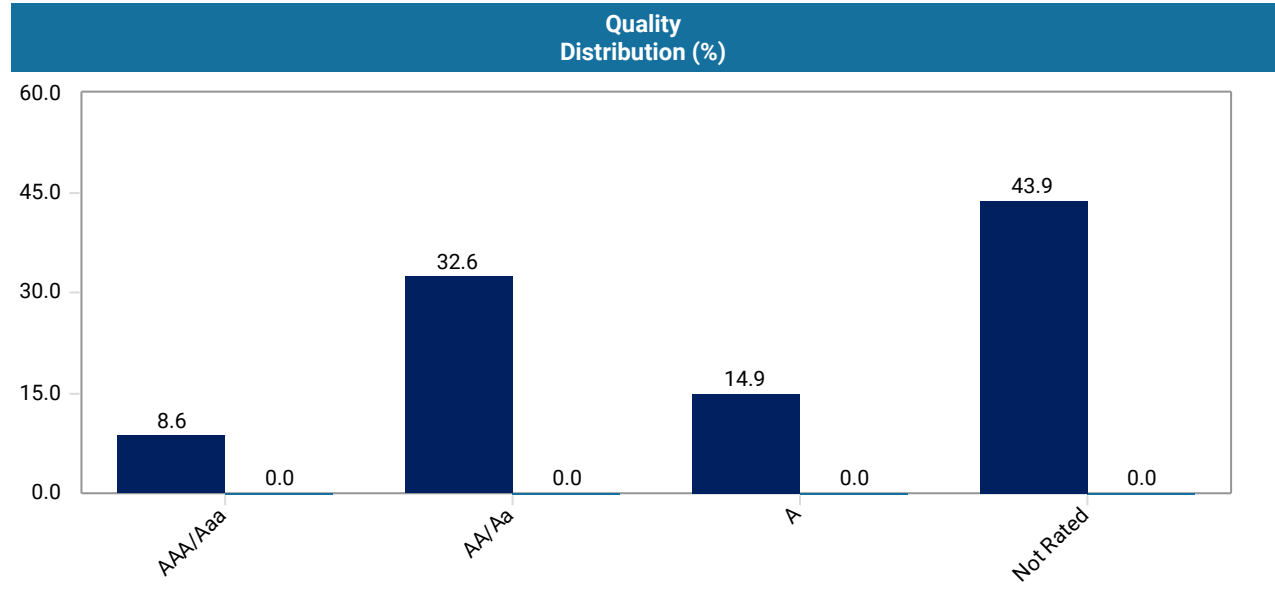
# LIQUIDITY MANAGER REVIEW



PROPRIETARY & CONFIDENTIAL

# PFM ASSET MANAGEMENT

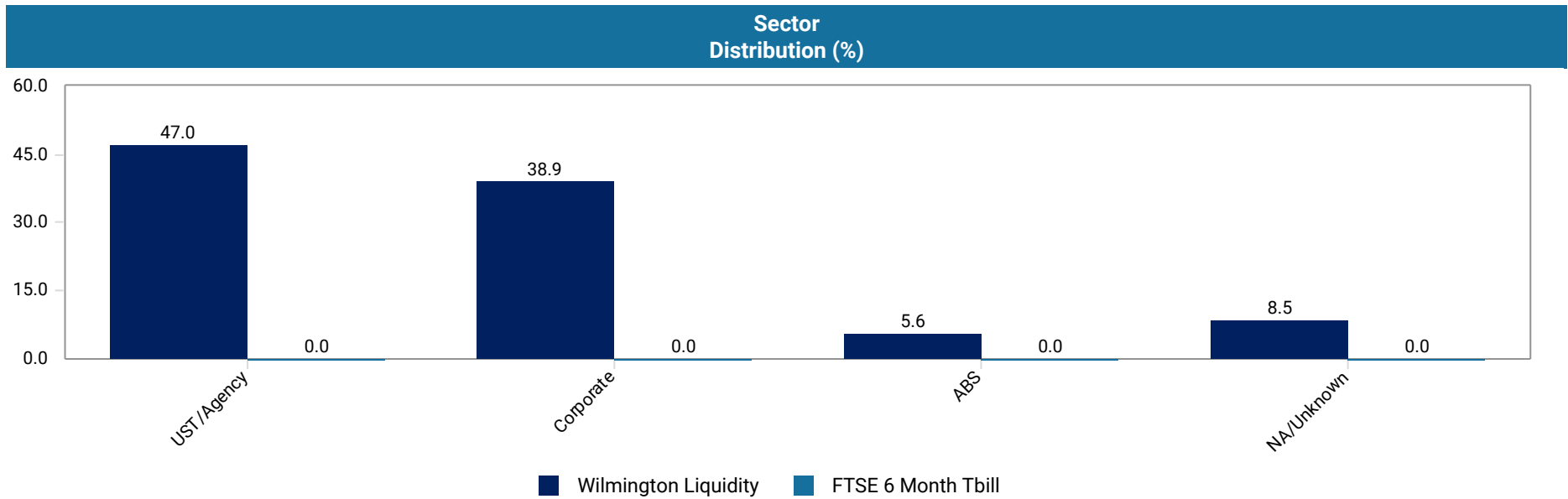
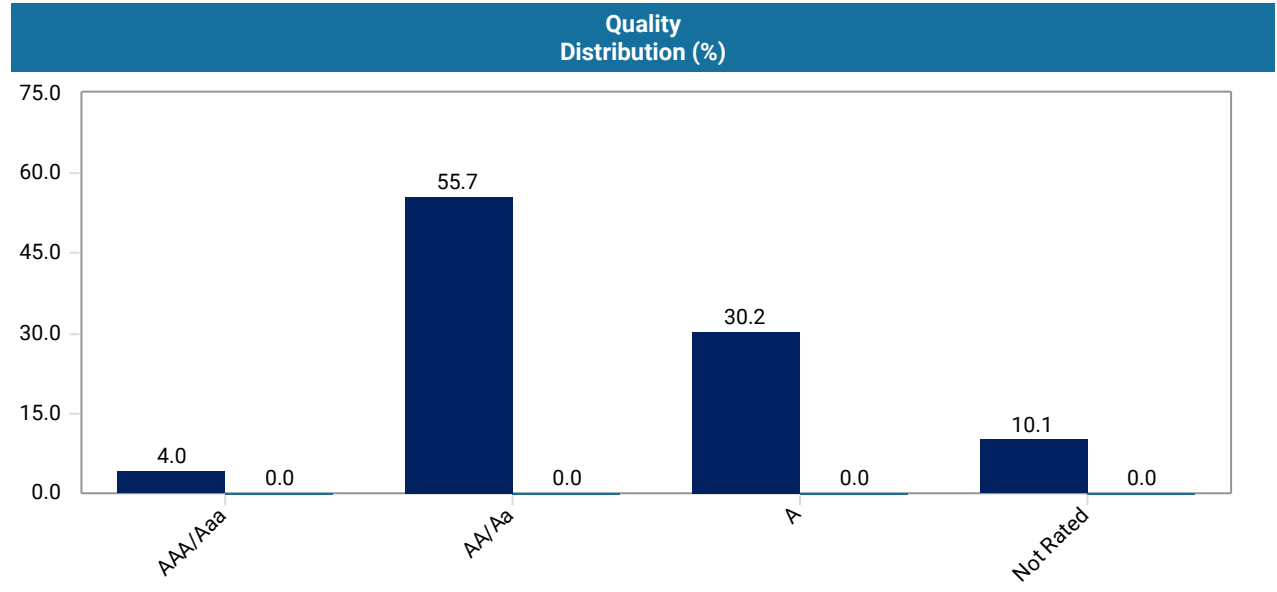
Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	0.5	
Avg. Maturity	0.8	
Average Duration	0.8	
Avg. Quality	AA	



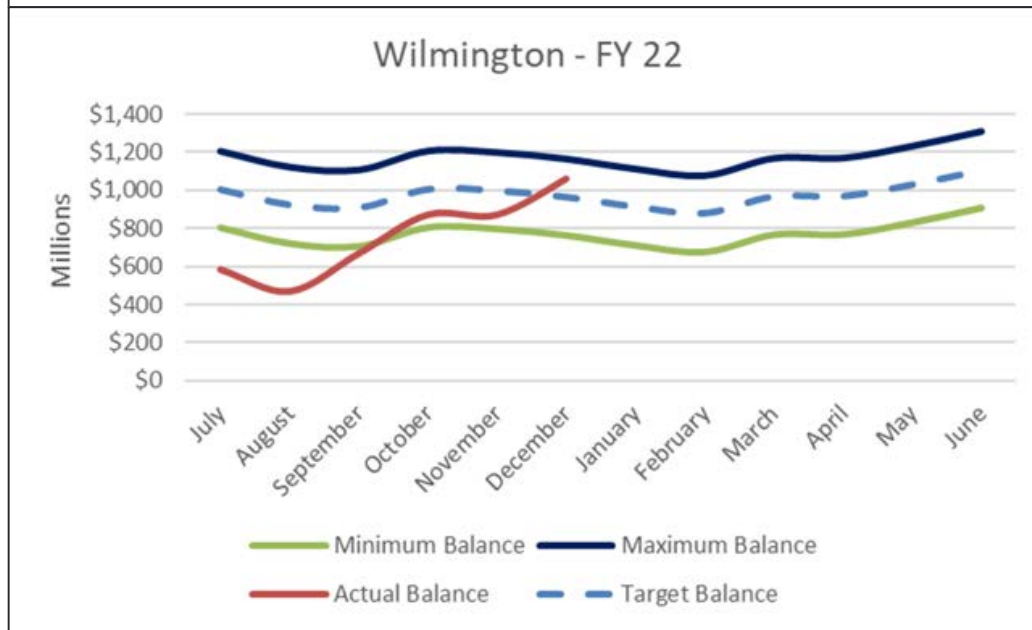
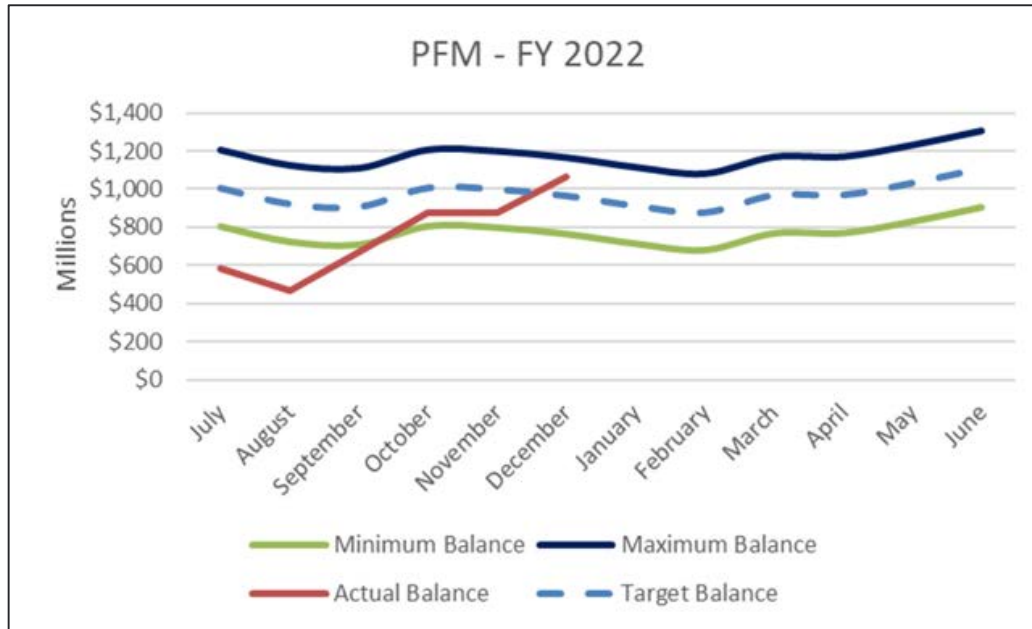
# Delaware State Treasury

## WILMINGTON LIQUIDITY

Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	0.6	
Avg. Maturity	1.3	
Average Duration	1.3	
Avg. Quality	AA	



# LIQUIDITY MANAGERS – TARGET BALANCES



# RESERVE MANAGER REVIEW

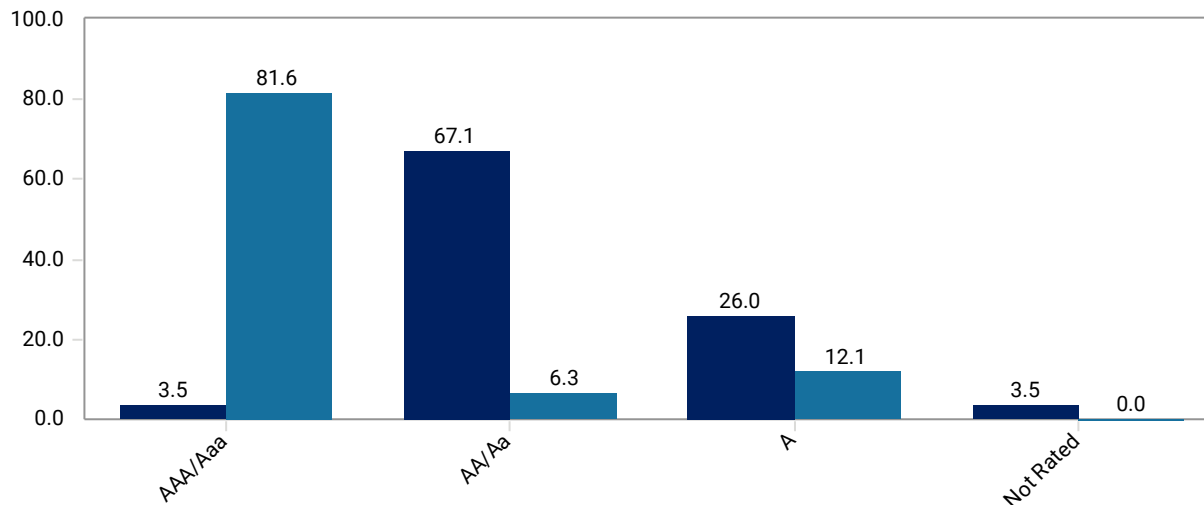


PROPRIETARY & CONFIDENTIAL

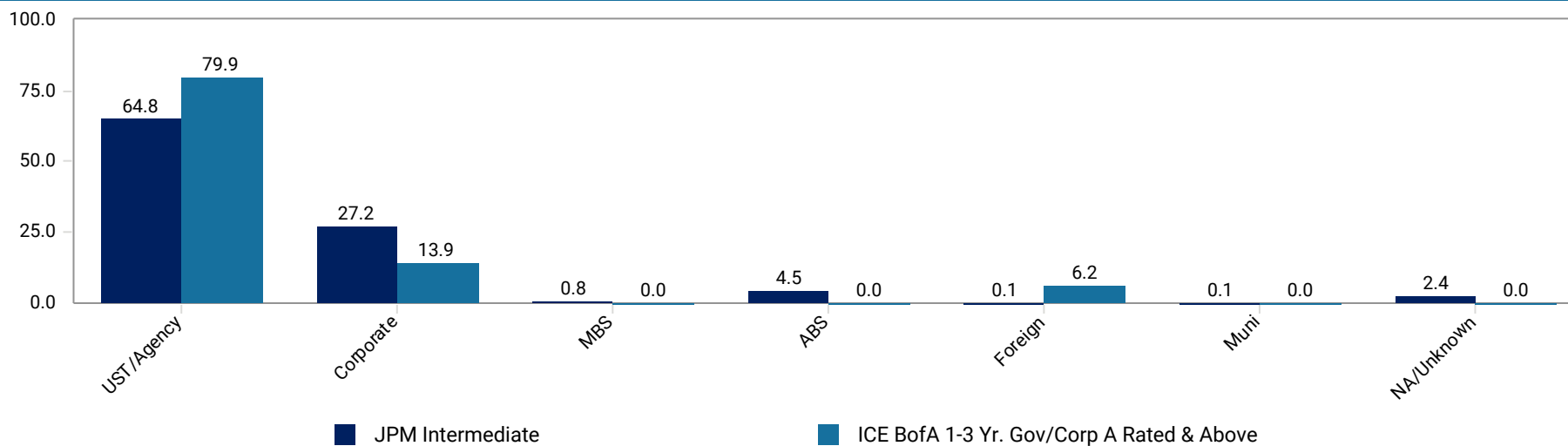
# JPM INTERMEDIATE

Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	0.8	0.7
Avg. Maturity	1.8	1.9
Average Duration	1.8	1.9
Avg. Quality	AA	AAA

## Quality Distribution (%)

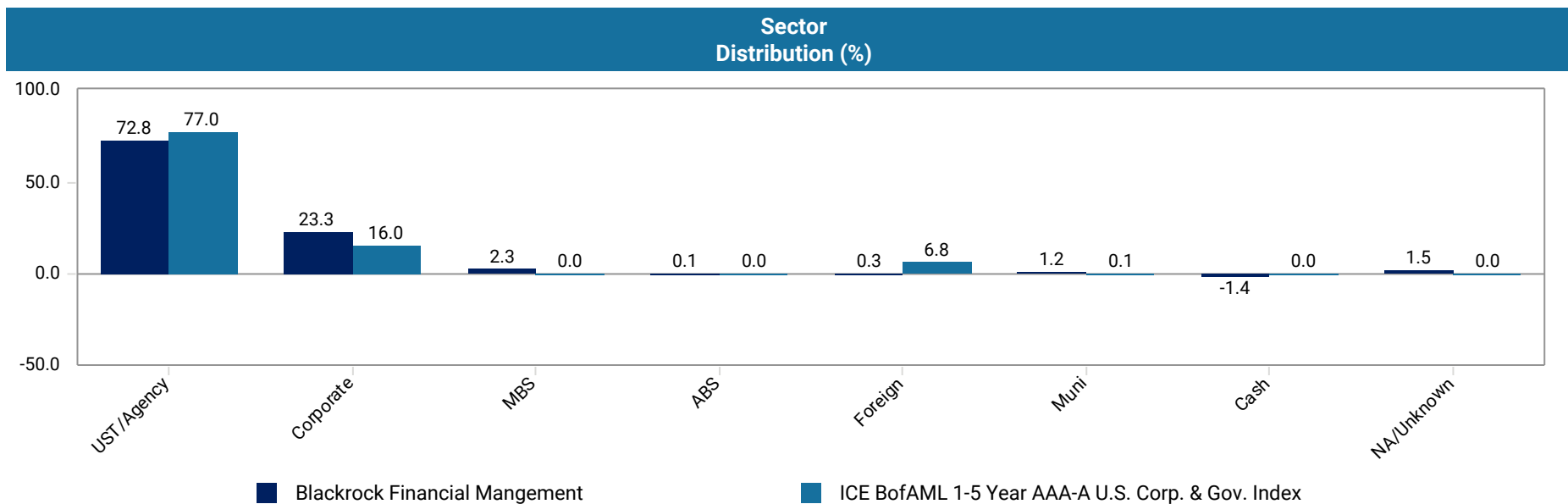
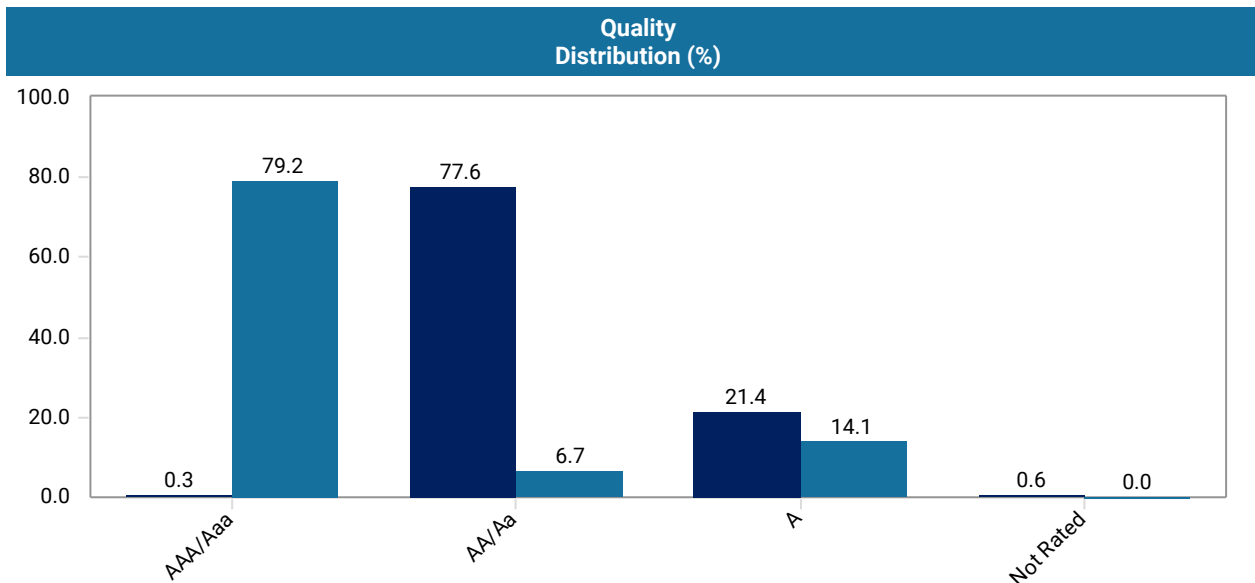


## Sector Distribution (%)



# BLACKROCK FINANCIAL MANAGEMENT

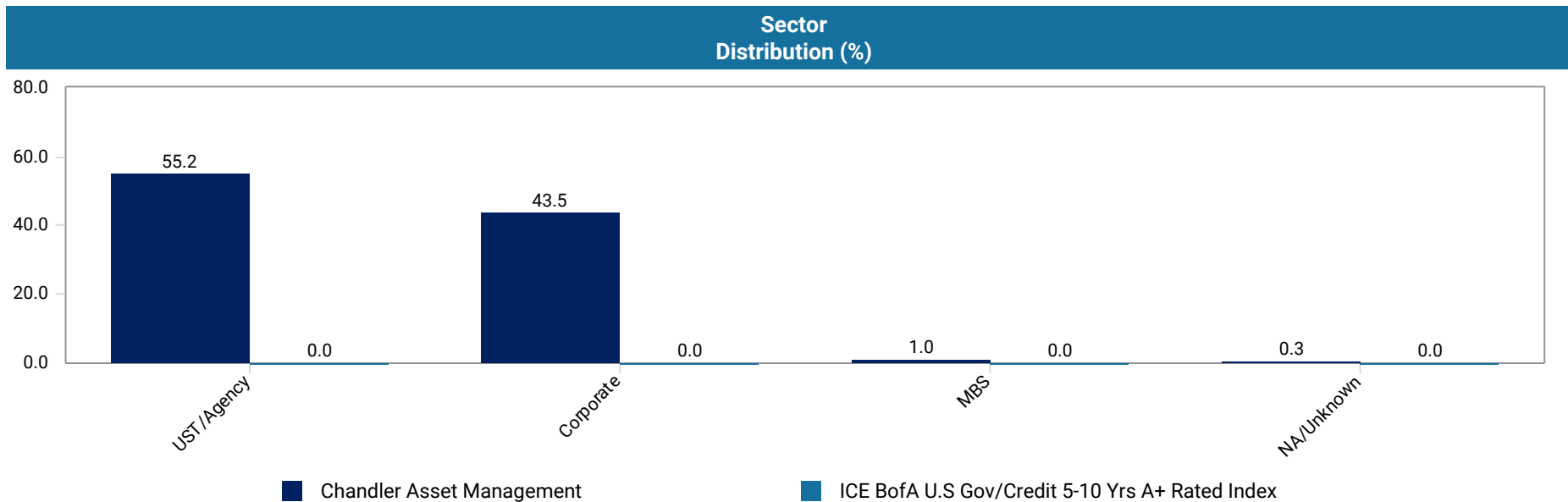
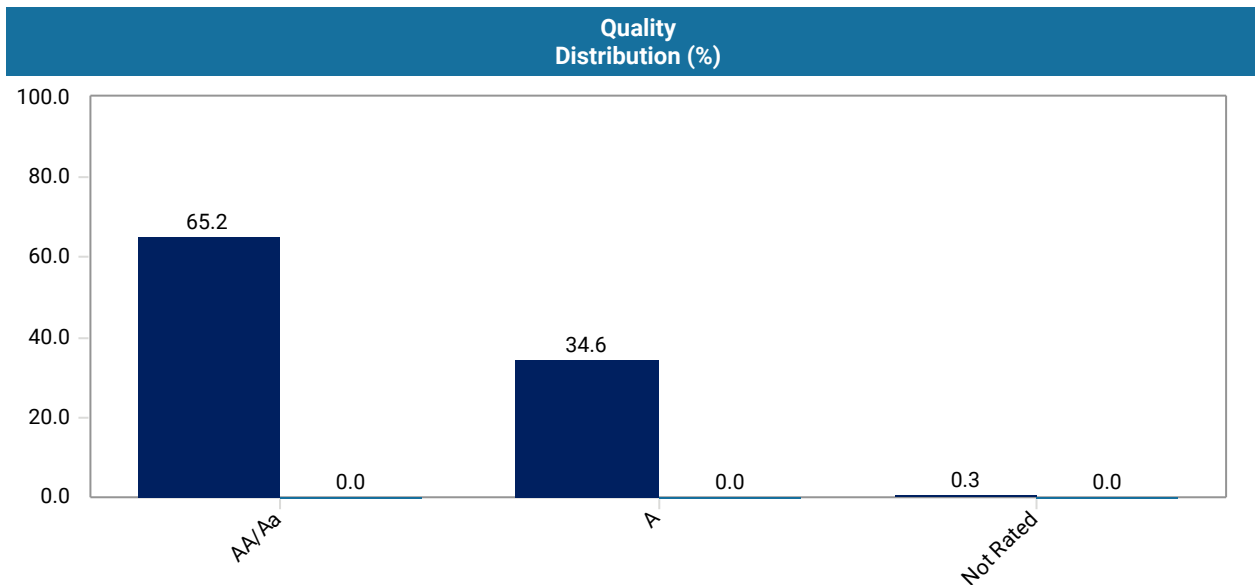
Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	1.0	0.9
Avg. Maturity	2.8	2.7
Average Duration	2.7	2.7
Avg. Quality	AA	AAA





# CHANDLER ASSET MANAGEMENT

Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	1.6	
Avg. Maturity	7.0	
Average Duration	6.5	
Avg. Quality	AA	

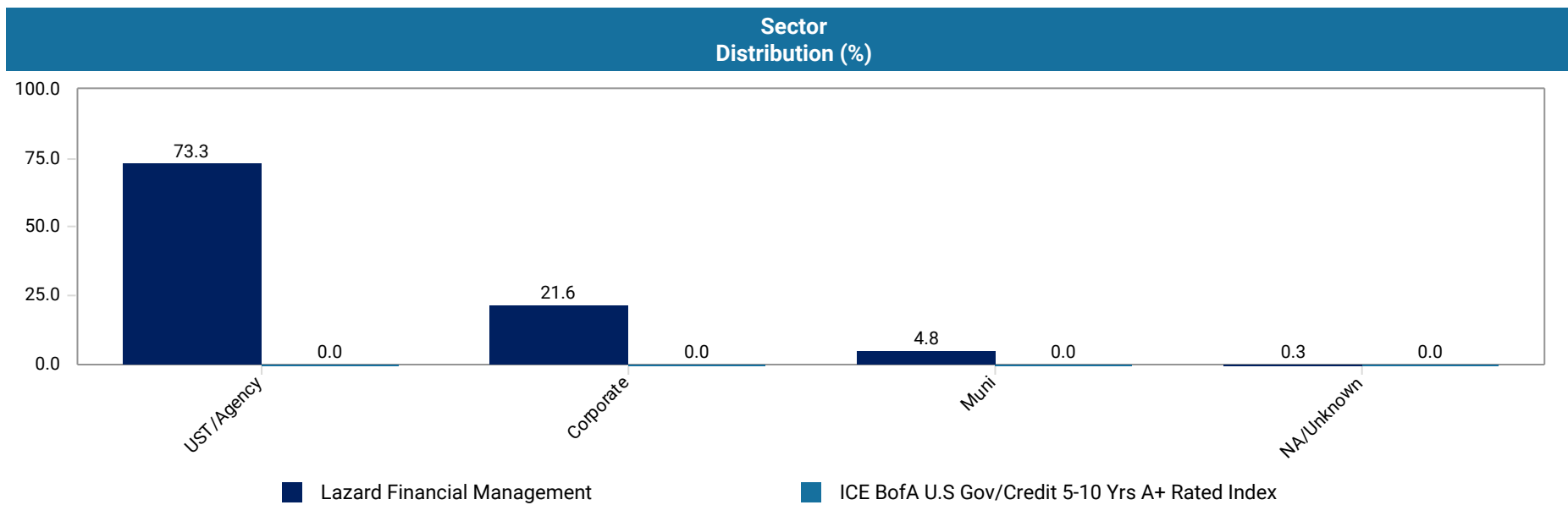
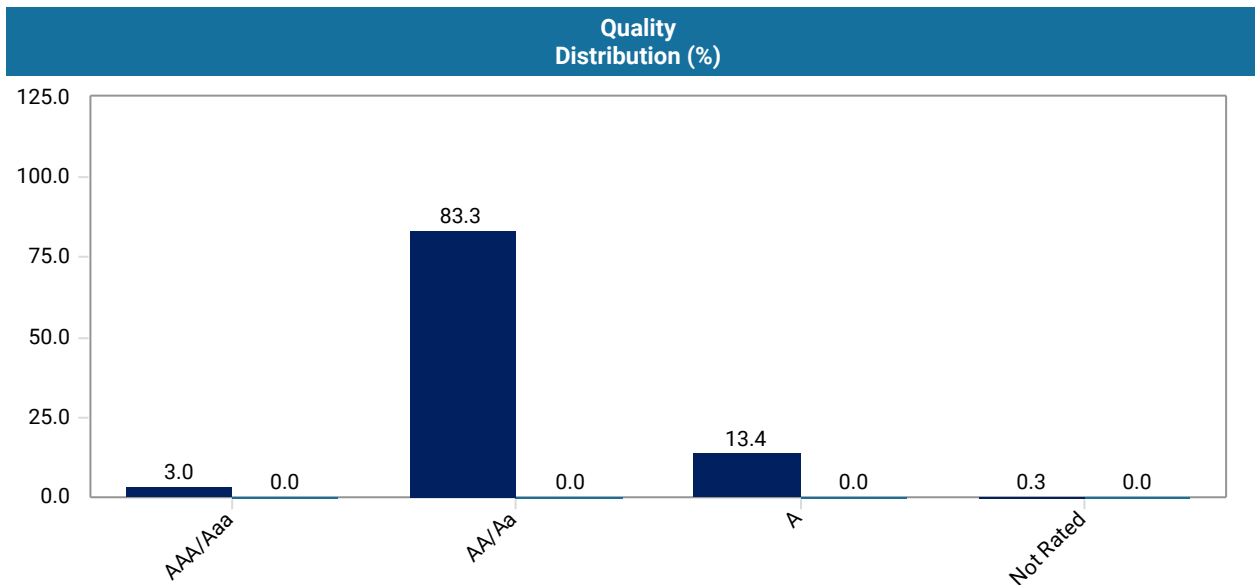


■ Chandler Asset Management

■ ICE BofA U.S. Gov/Credit 5-10 Yrs A+ Rated Index

# LAZARD FINANCIAL MANAGEMENT

Characteristics		
	Portfolio	Benchmark
Yield To Maturity (%)	1.5	
Avg. Maturity	6.9	
Average Duration	6.4	
Avg. Quality	AA	



# ENDOWMENT MANAGER REVIEW

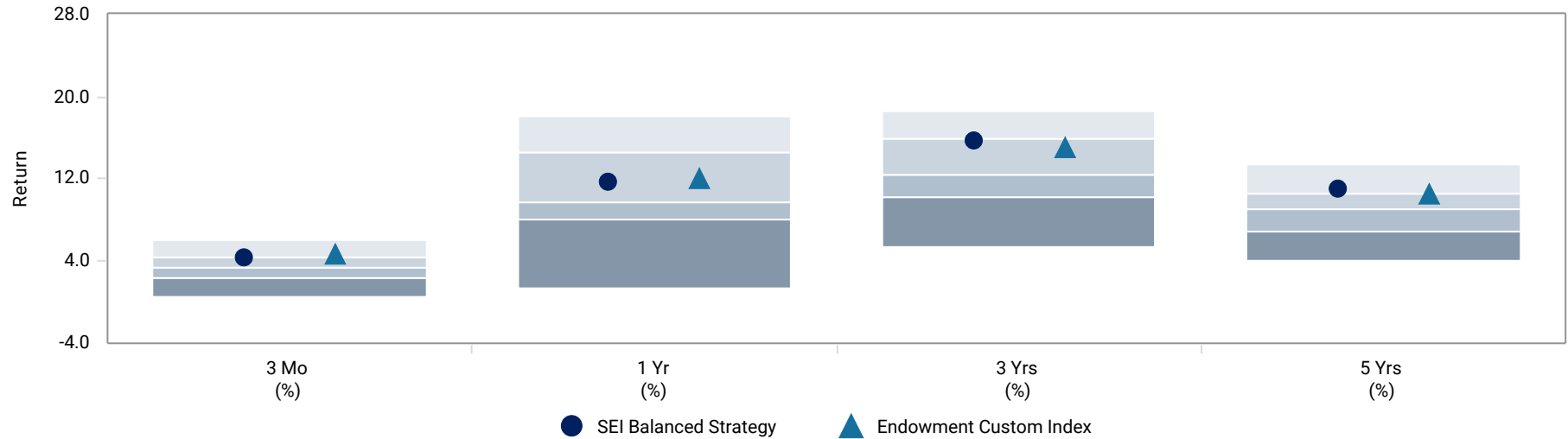


PROPRIETARY & CONFIDENTIAL

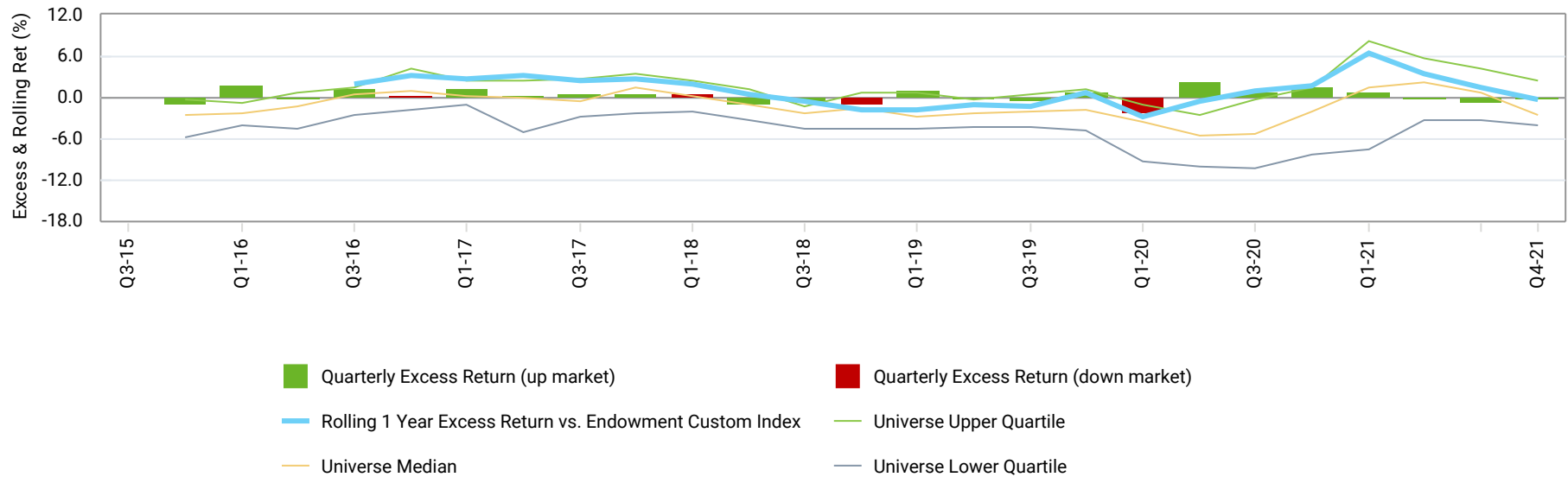
# Delaware State Treasury

## SEI BALANCED STRATEGY

eV Global Balanced (net of fees)

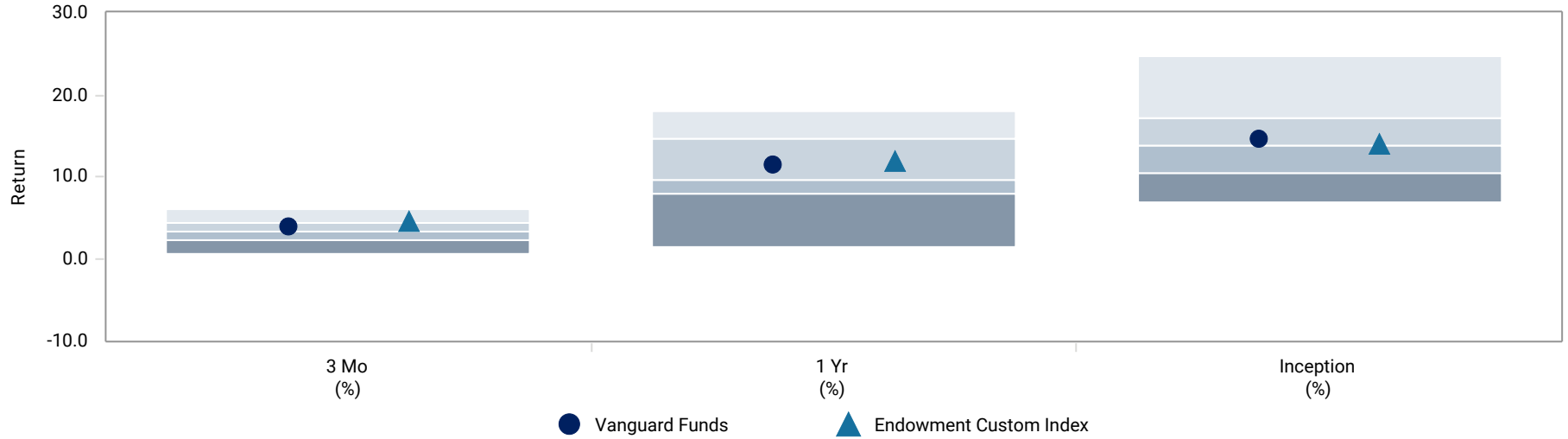


Quarter Excess Return with a Rolling 1 Year Excess Return over Since Inception Ending December 31, 2021

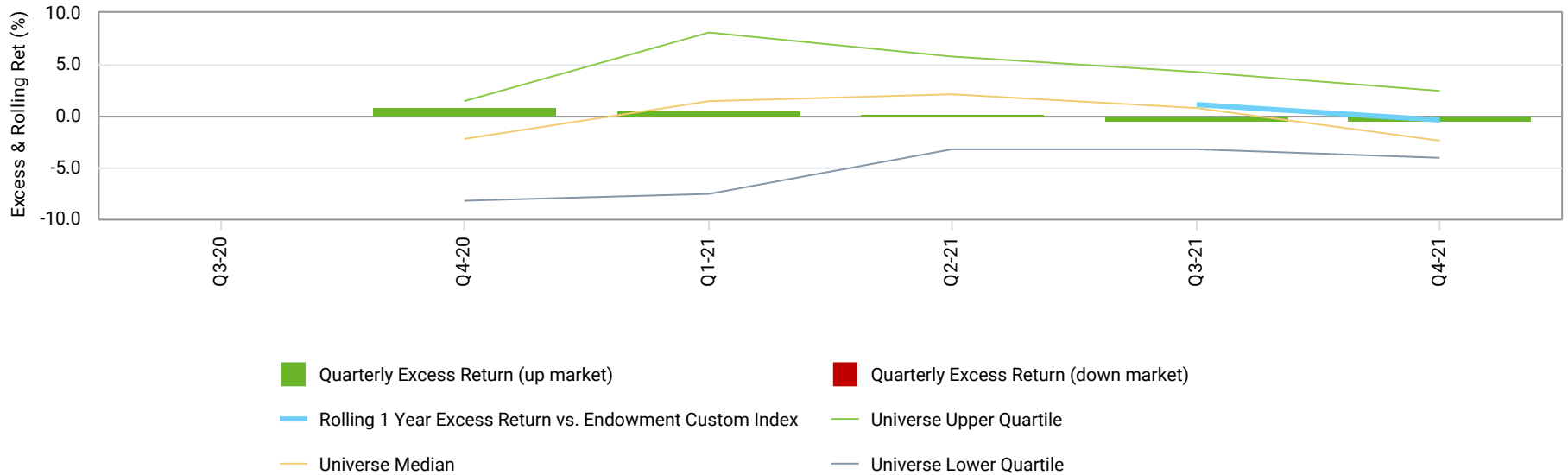


Delaware State Treasury  
**VANGUARD FUNDS**

**eV Global Balanced (net of fees)**



**Quarter Excess Return with a Rolling 1 Year Excess Return over Since Inception Ending December 31, 2021**



# CARES MANAGER REVIEW

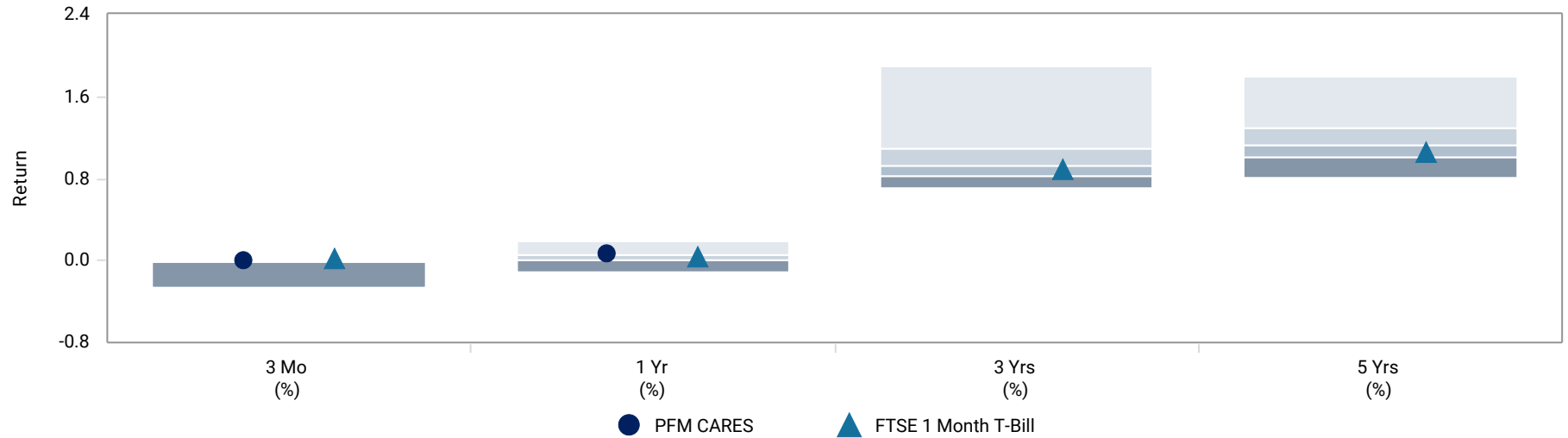


PROPRIETARY & CONFIDENTIAL

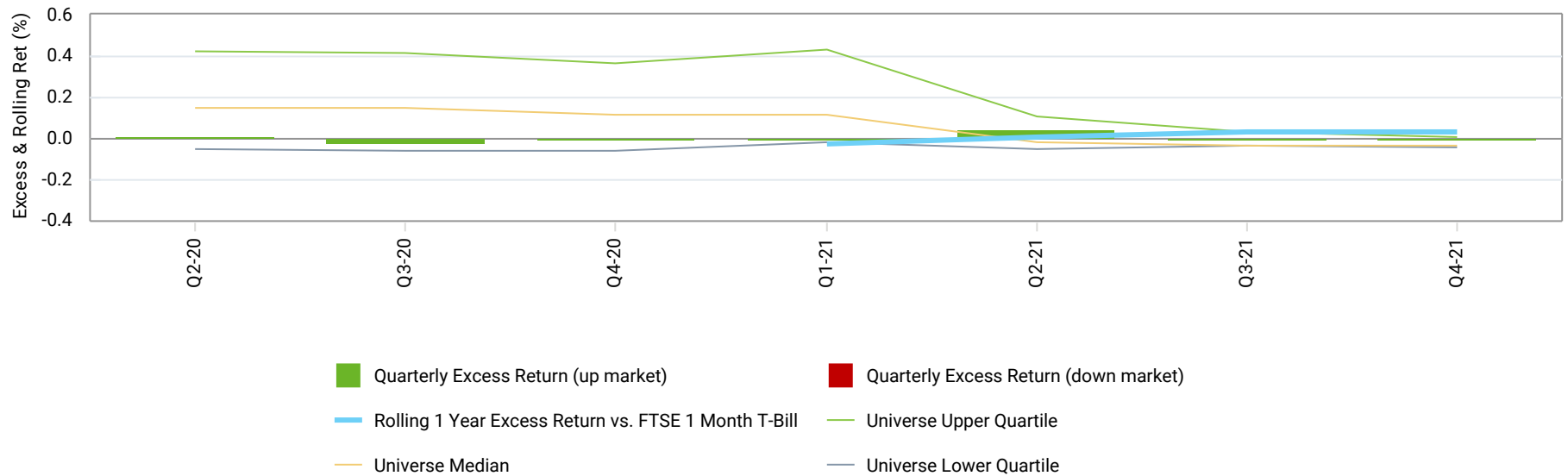
# Delaware State Treasury

## PFM CARES

### eV US Cash Management (net of fees)



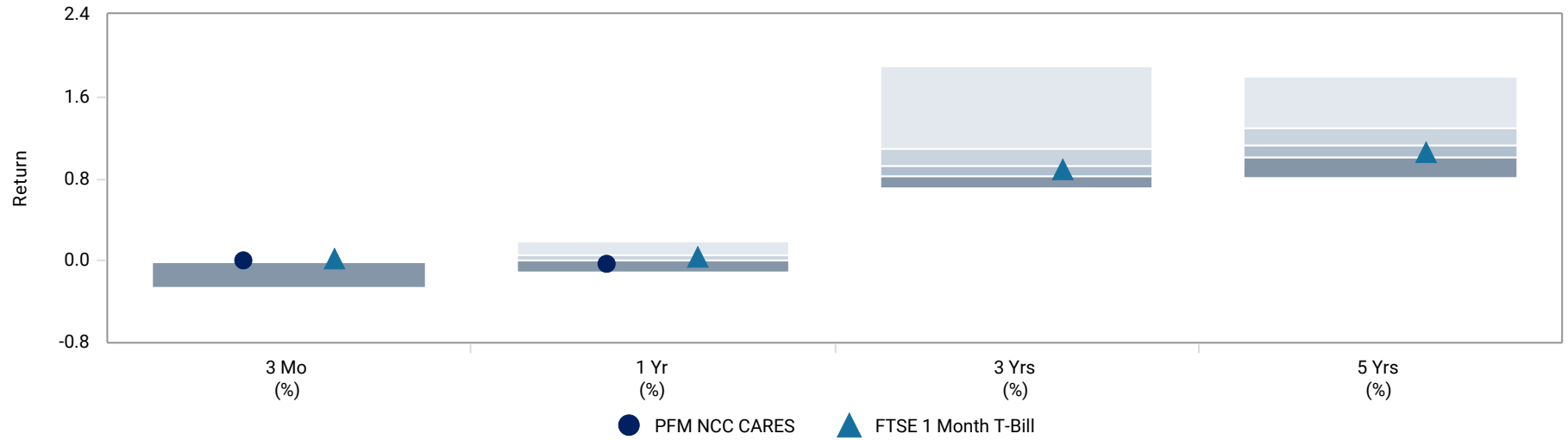
### Quarter Excess Return with a Rolling 1 Year Excess Return over Since Inception Ending December 31, 2021



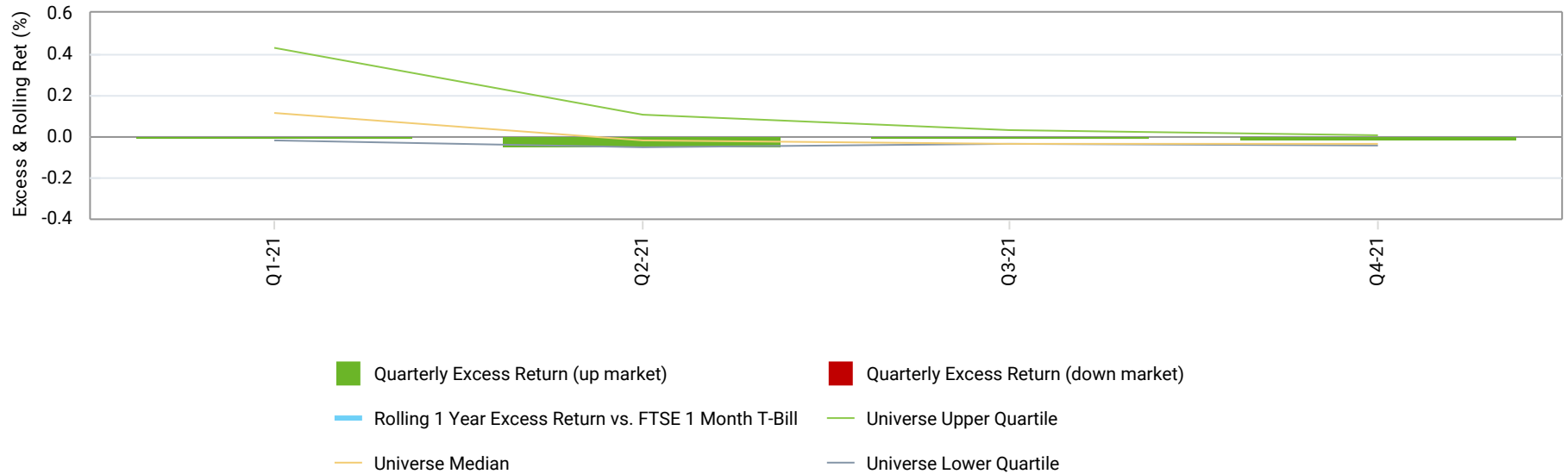
# Delaware State Treasury

## PFM NCC CARES

### eV US Cash Management (net of fees)



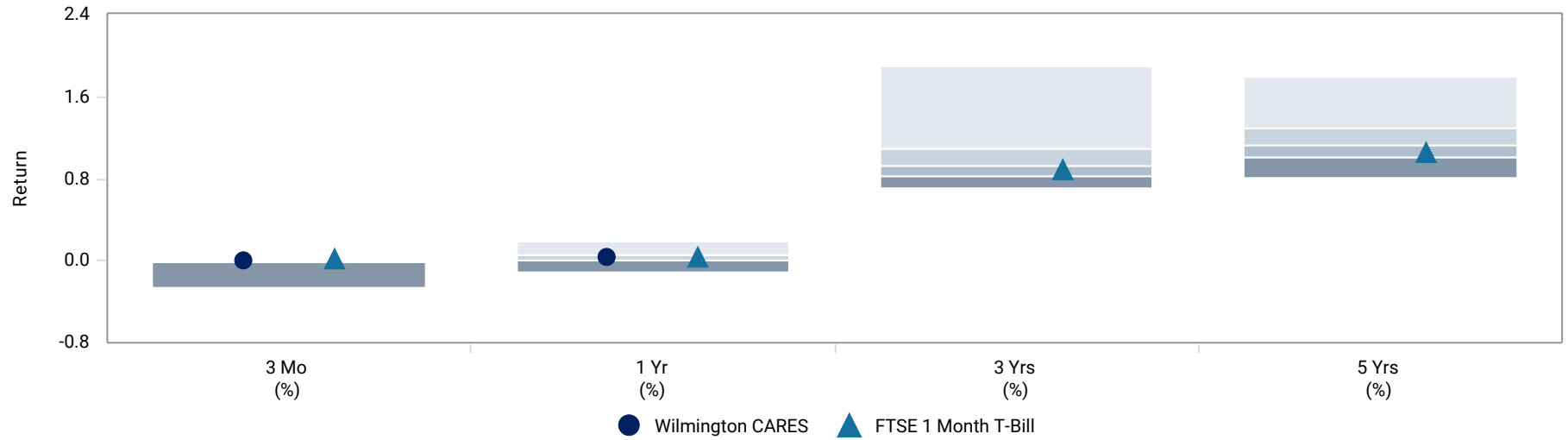
### Quarter Excess Return with a Rolling 1 Year Excess Return over Since Inception Ending December 31, 2021



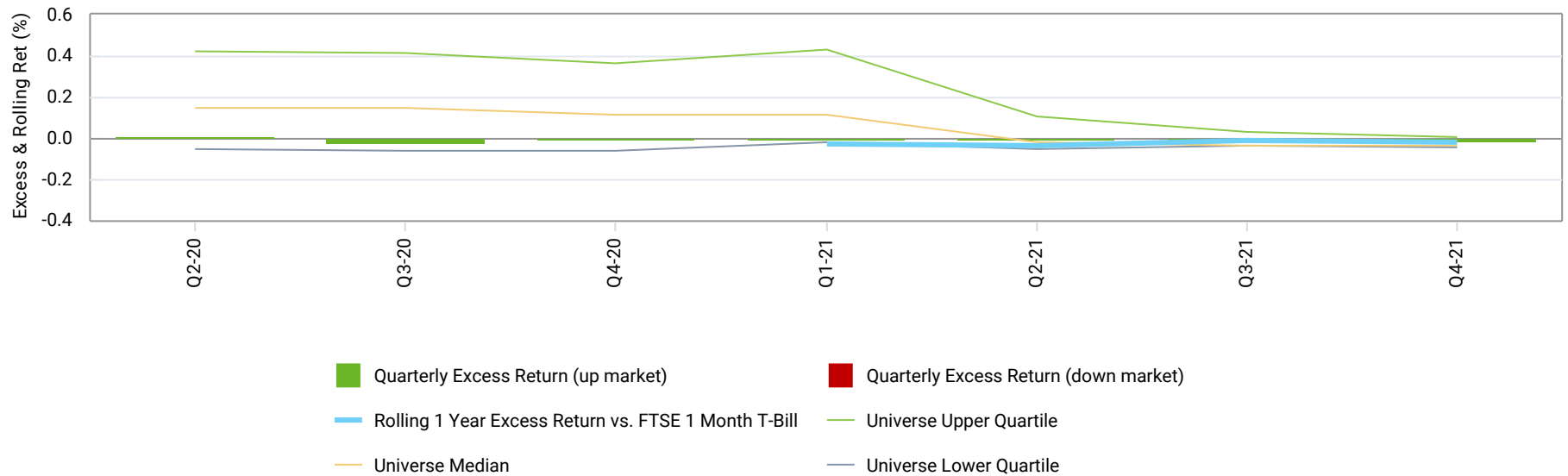


Delaware State Treasury  
**WILMINGTON CARES**

eV US Cash Management (net of fees)

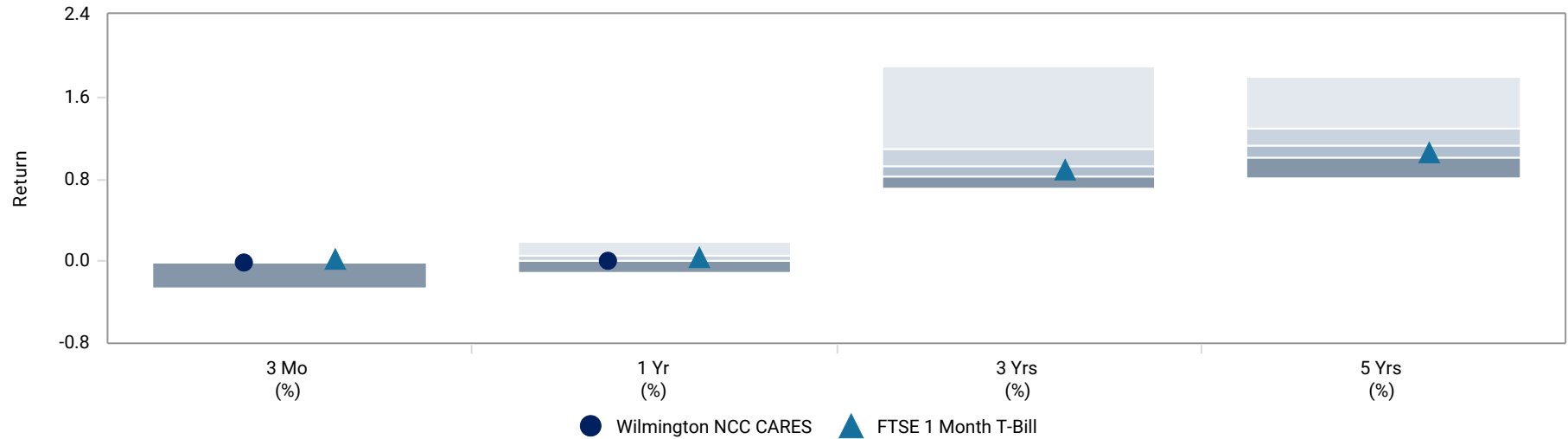


Quarter Excess Return with a Rolling 1 Year Excess Return over Since Inception Ending December 31, 2021

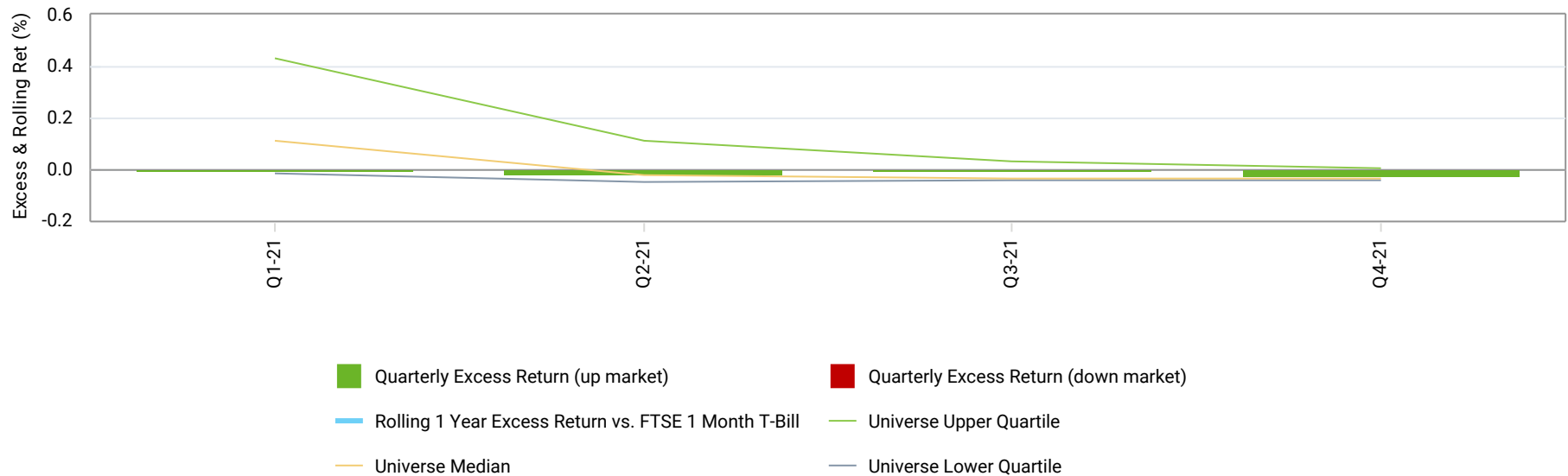


# WILMINGTON NCC CARES

## eV US Cash Management (net of fees)



## Quarter Excess Return with a Rolling 1 Year Excess Return over Since Inception Ending December 31, 2021



# ARPA MANAGER REVIEW

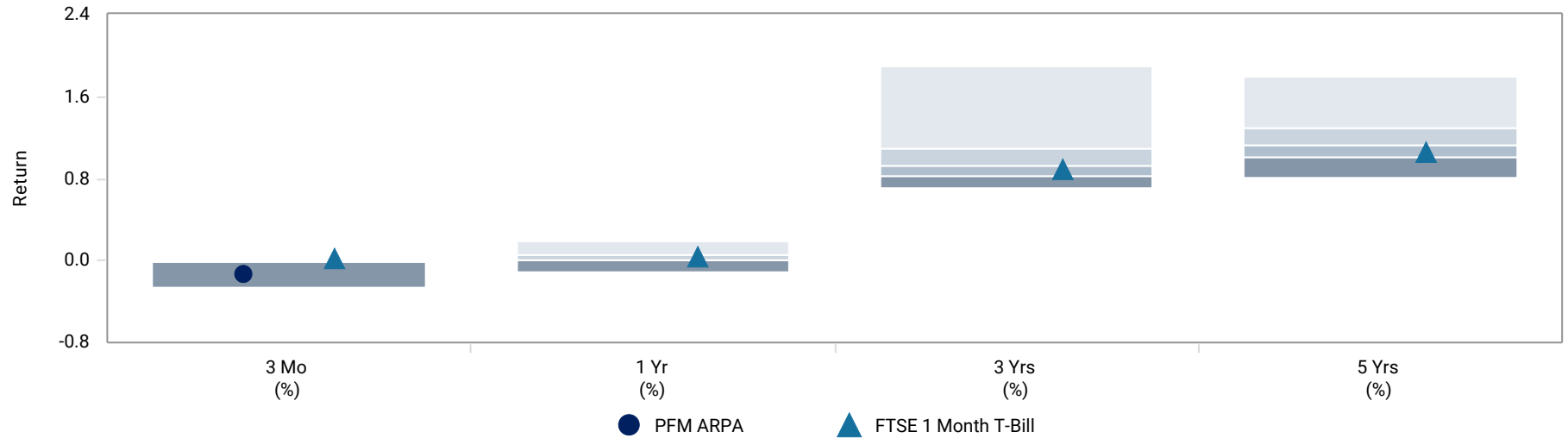


PROPRIETARY & CONFIDENTIAL

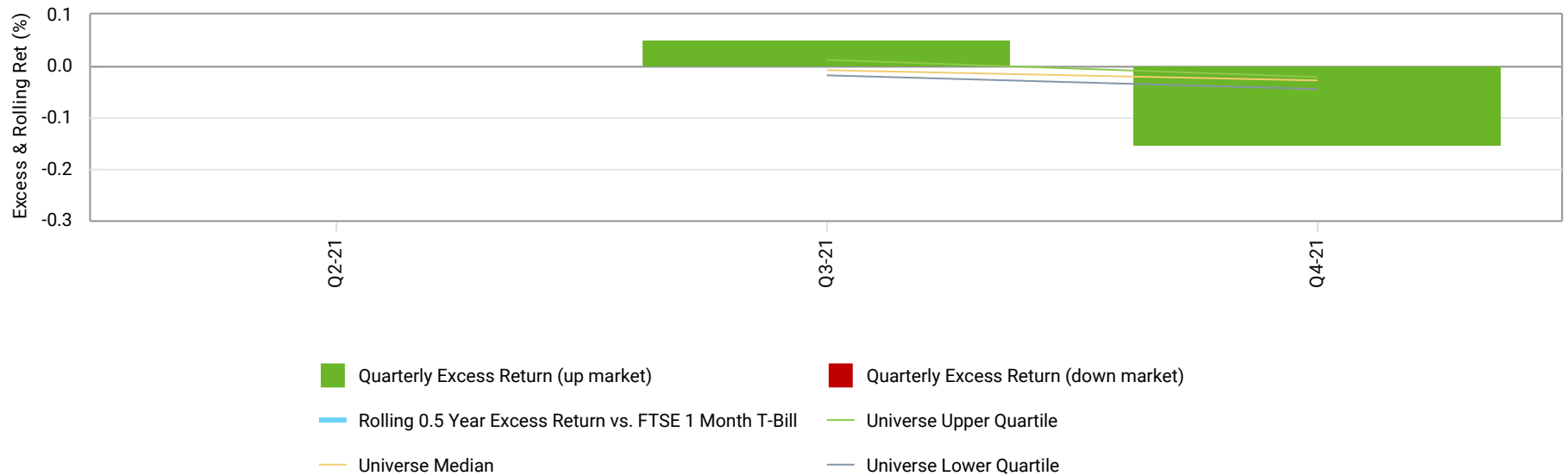
# Delaware State Treasury

## PFM ARPA

### eV US Cash Management (net of fees)

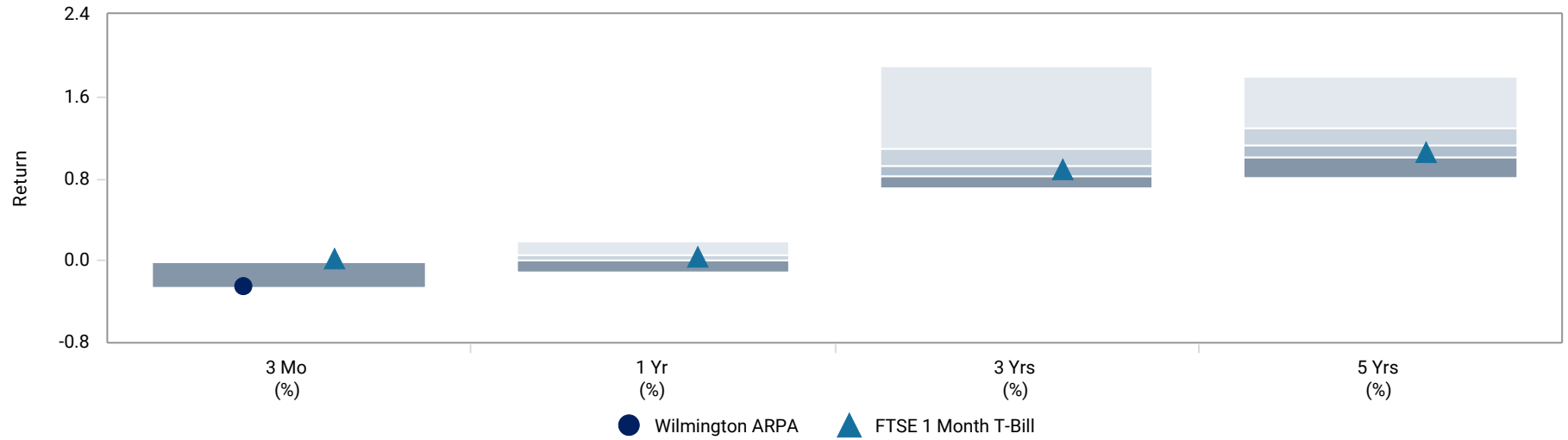


### Quarter Excess Return with a Rolling 0.5 Year Excess Return over Since Inception Ending December 31, 2021

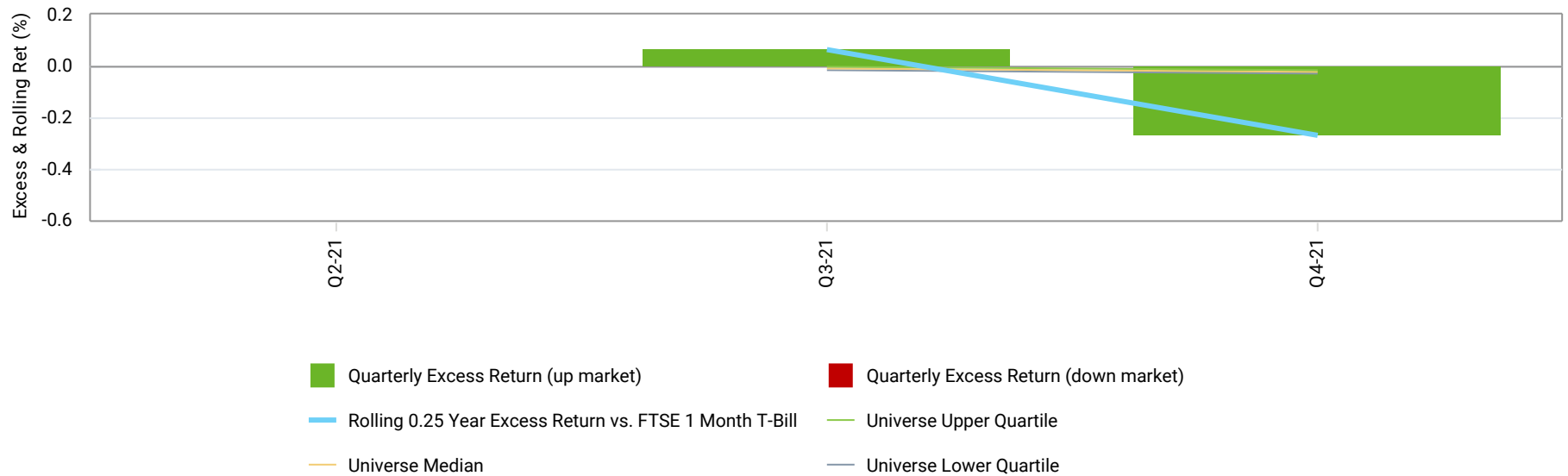


Delaware State Treasury  
**WILMINGTON ARPA**

**eV US Cash Management (net of fees)**



**Quarter Excess Return with a Rolling 0.25 Year Excess Return over Since Inception Ending December 31, 2021**





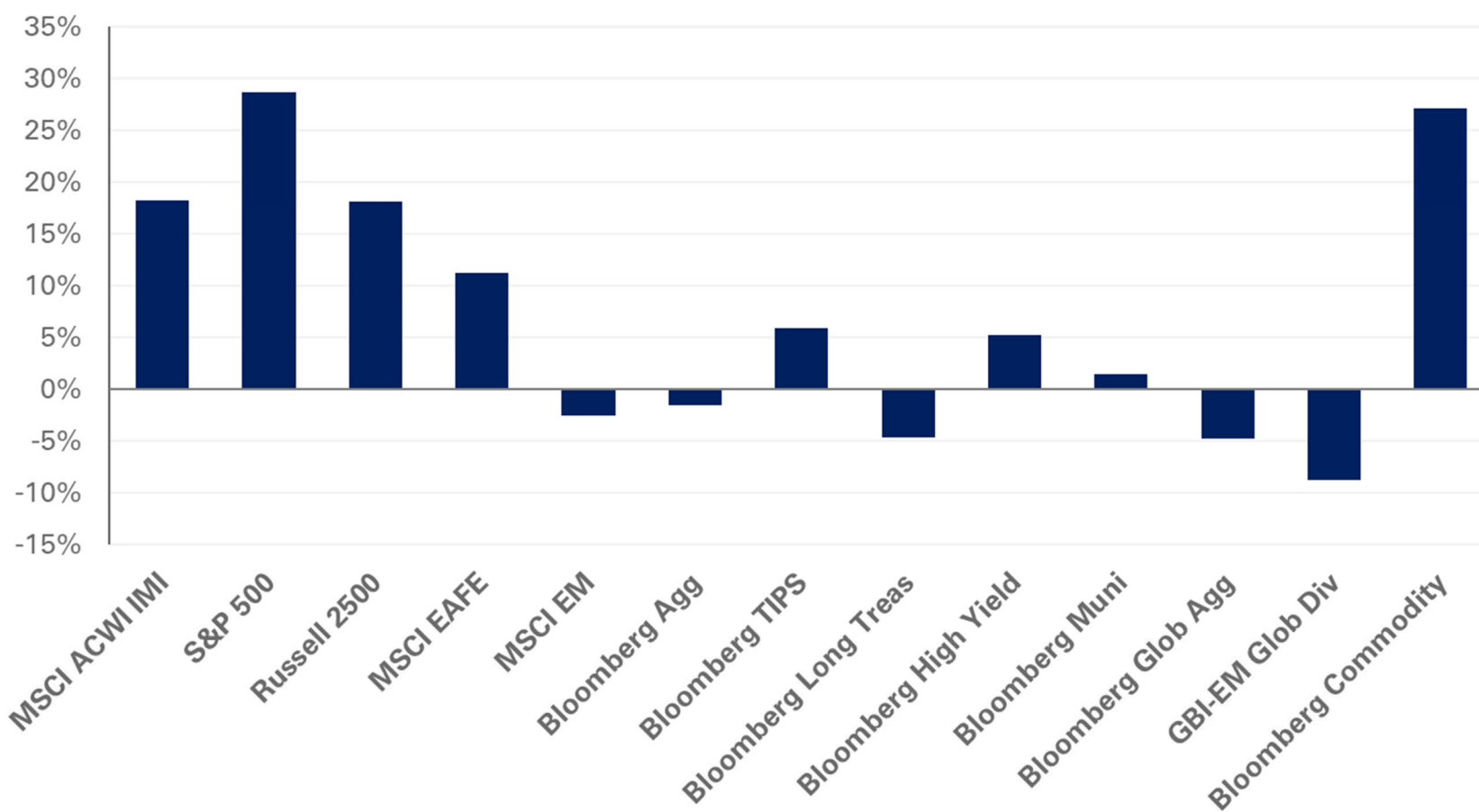
# REPORT APPENDIX



PROPRIETARY & CONFIDENTIAL

# RISK ASSETS OUTPERFORMED

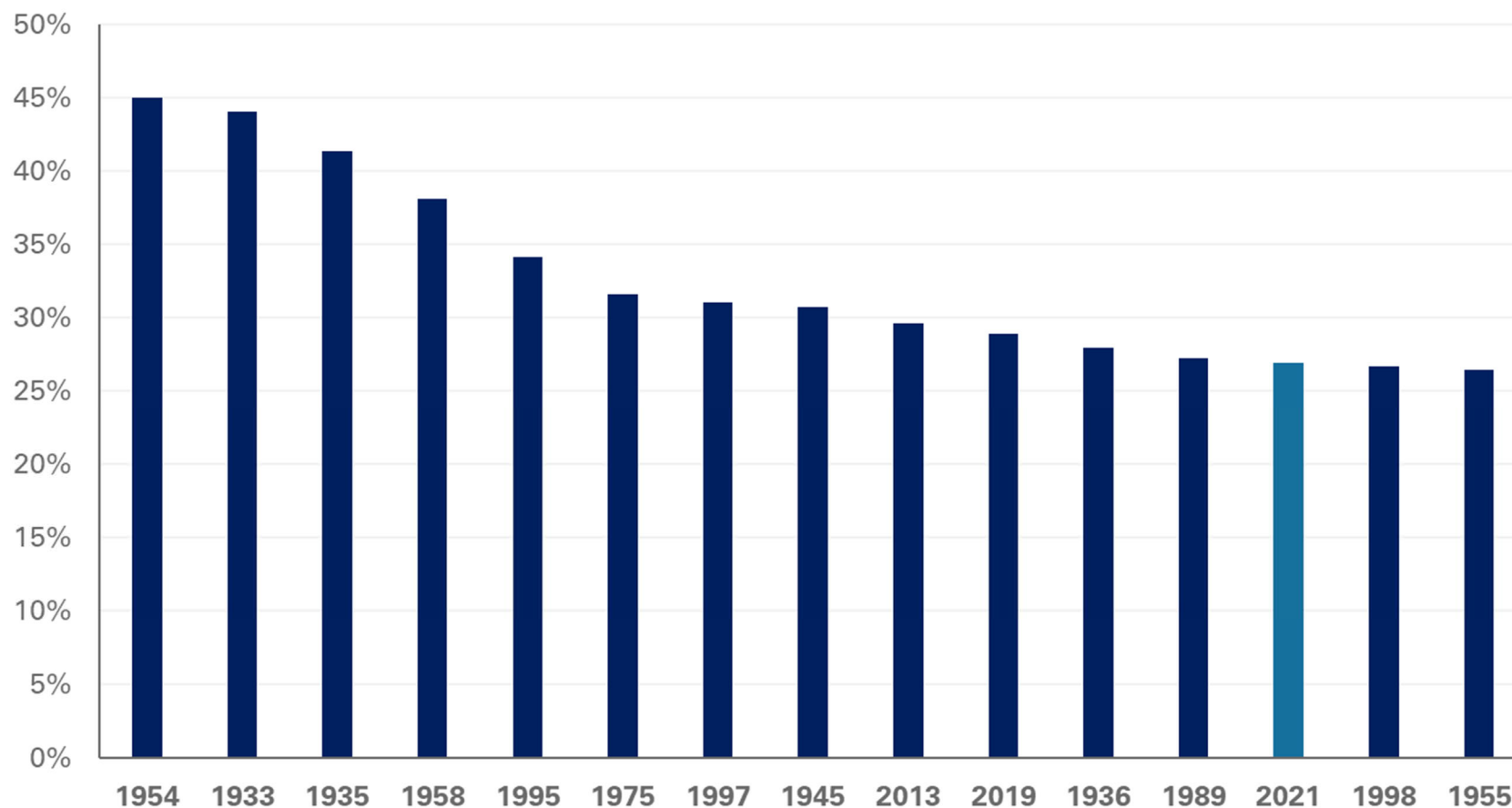
## ANNUAL TOTAL RETURNS



Source: MSCI, S&P, Russell, MSCI, Bloomberg, JPM, FactSet

# 2021 EQUITY RETURNS WERE HISTORICALLY HIGH

## TOP 15 S&P 500 ANNUAL RETURNS

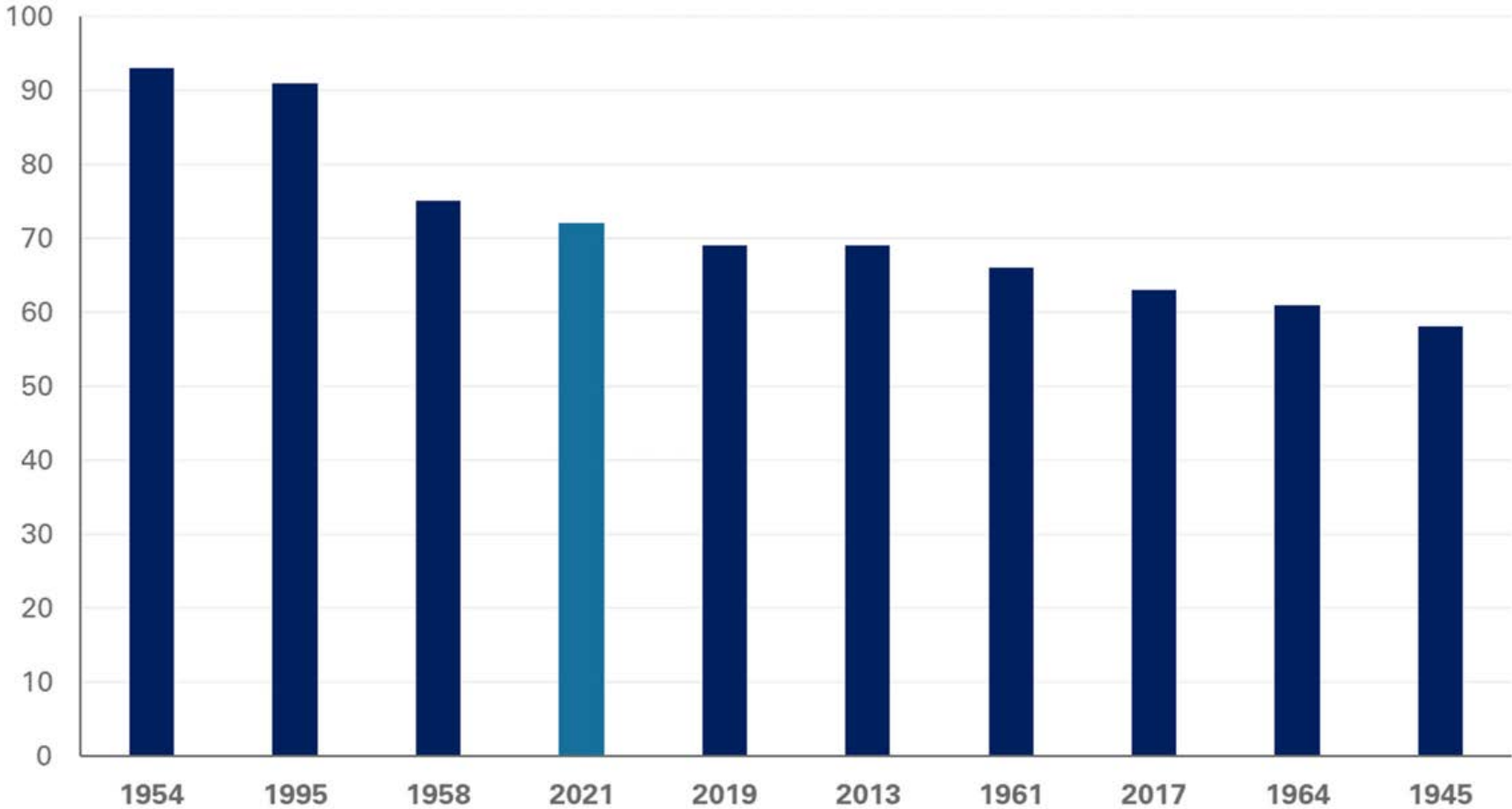


Source: S&P, FactSet



# U.S. EQUITIES TRENDED HIGHER

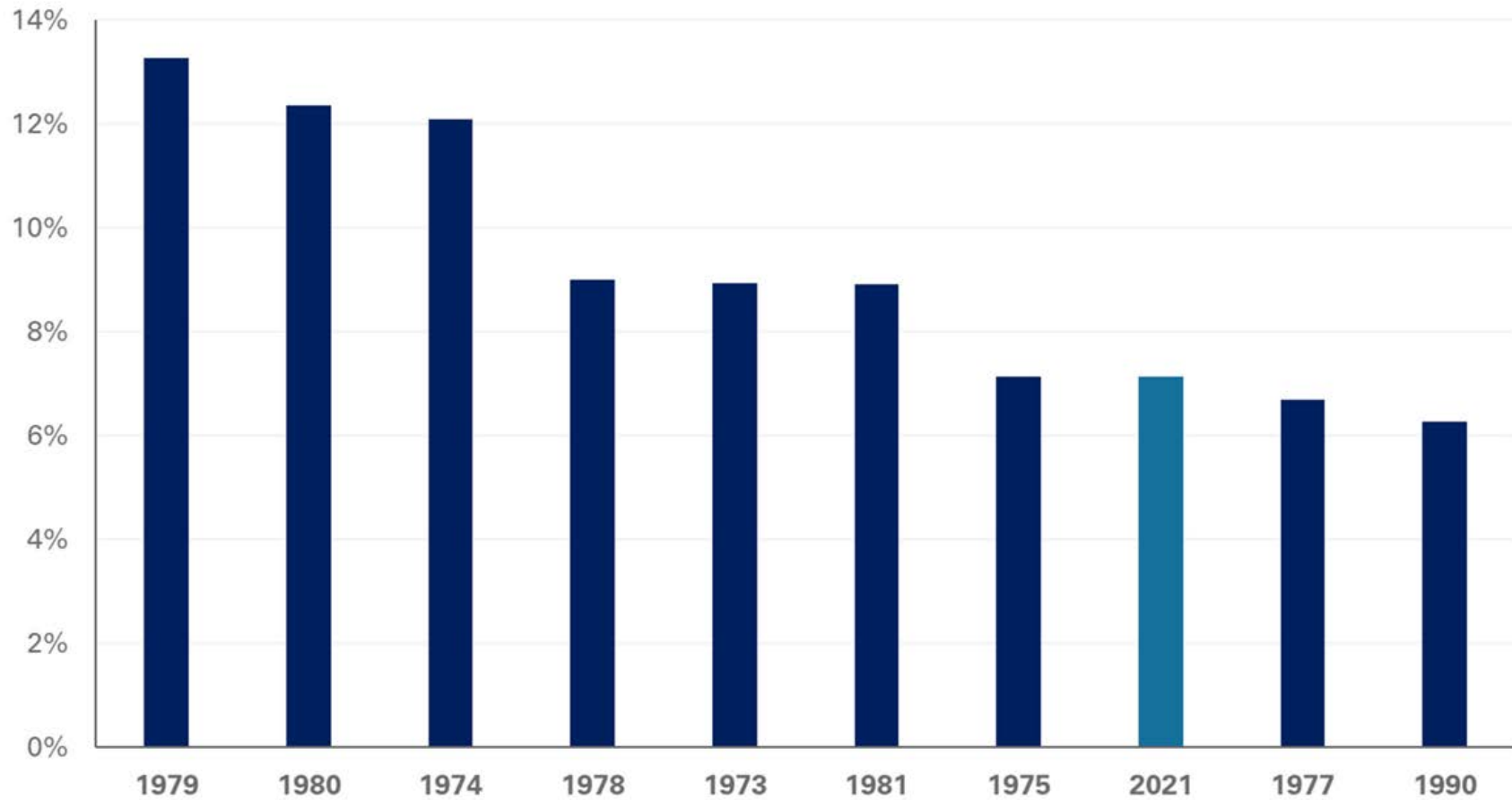
NUMBER OF DAILY NEW RECORD HIGHS FOR THE S&P 500



Source: S&P, FactSet

# INFLATION ROSE AT HIGHEST LEVEL SINCE 1981

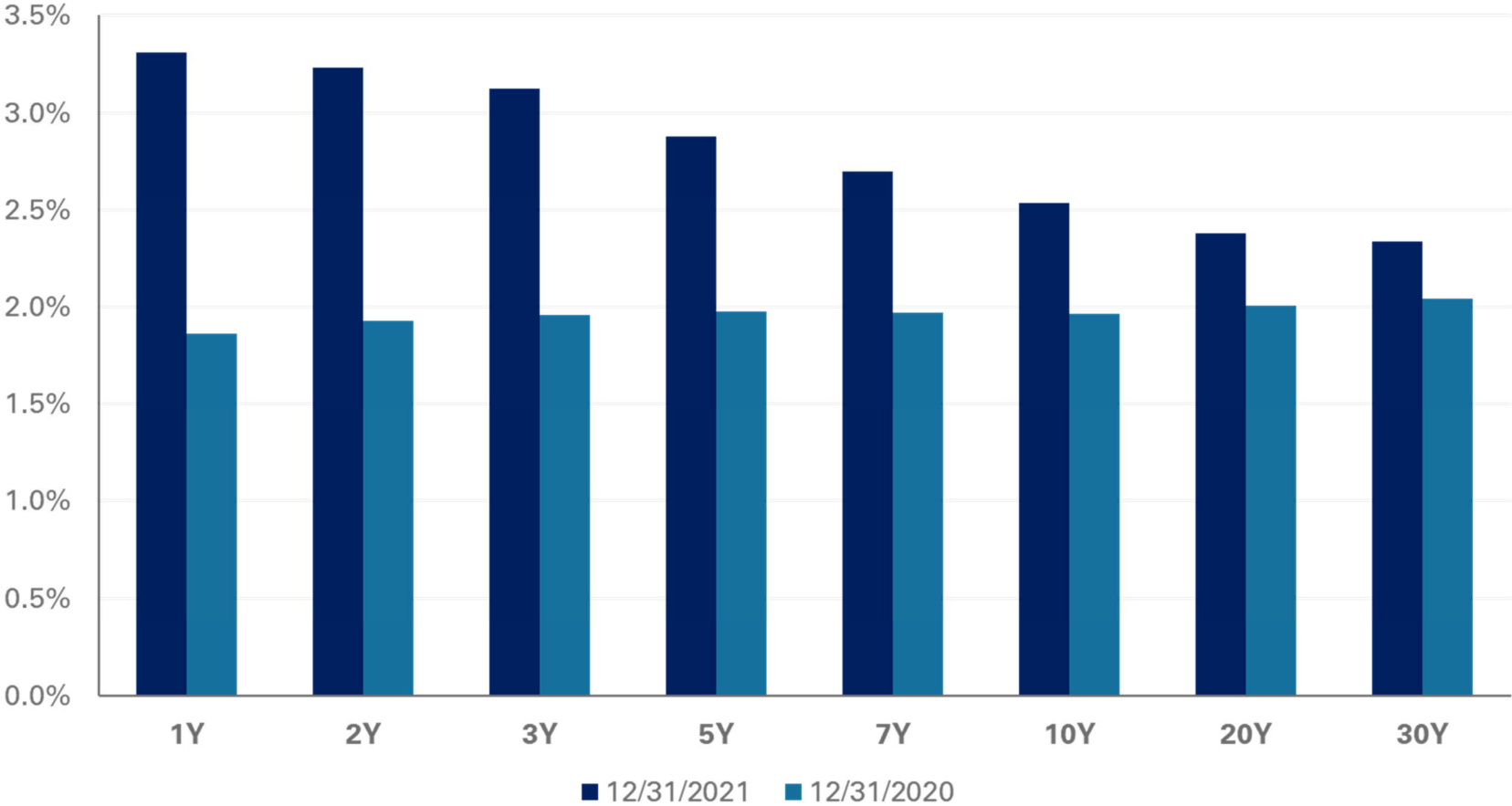
## TOP 10 ANNUAL U.S. CPI-U CHANGES



Source: Bureau of Labor Statistics, FactSet

# NEAR-TERM INFLATION EXPECTATIONS ROSE

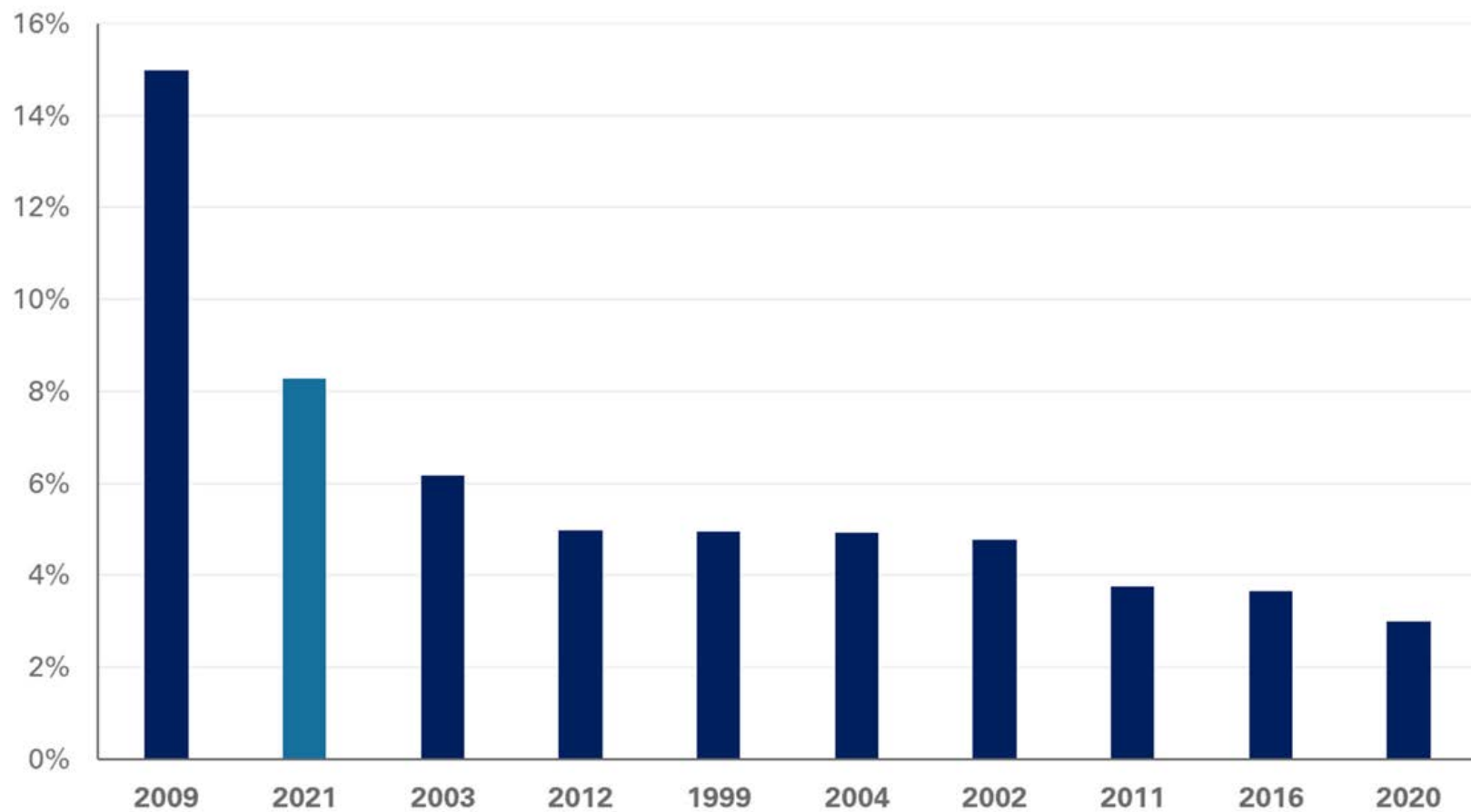
## U.S. BREAKEVEN INFLATION CURVE



Source: FactSet

# U.S. TIPS OUTPERFORMED

## TIPS – TREASURY TOTAL RETURNS

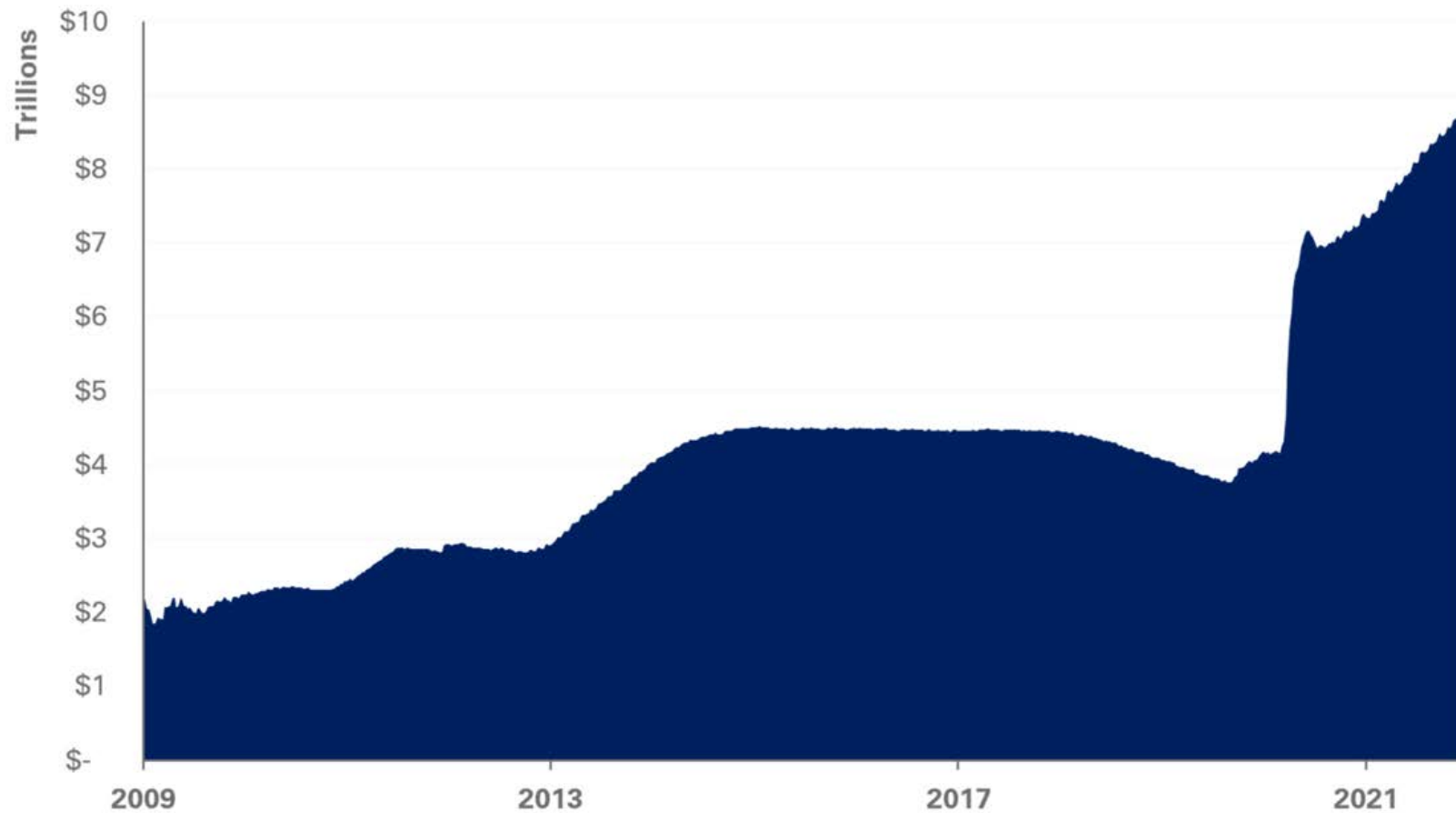


Data is calculated since the inception of the Bloomberg TIPS Index in 1997  
Source: Bloomberg, FactSet



# TAPERING WILL SLOW BALANCE SHEET GROWTH

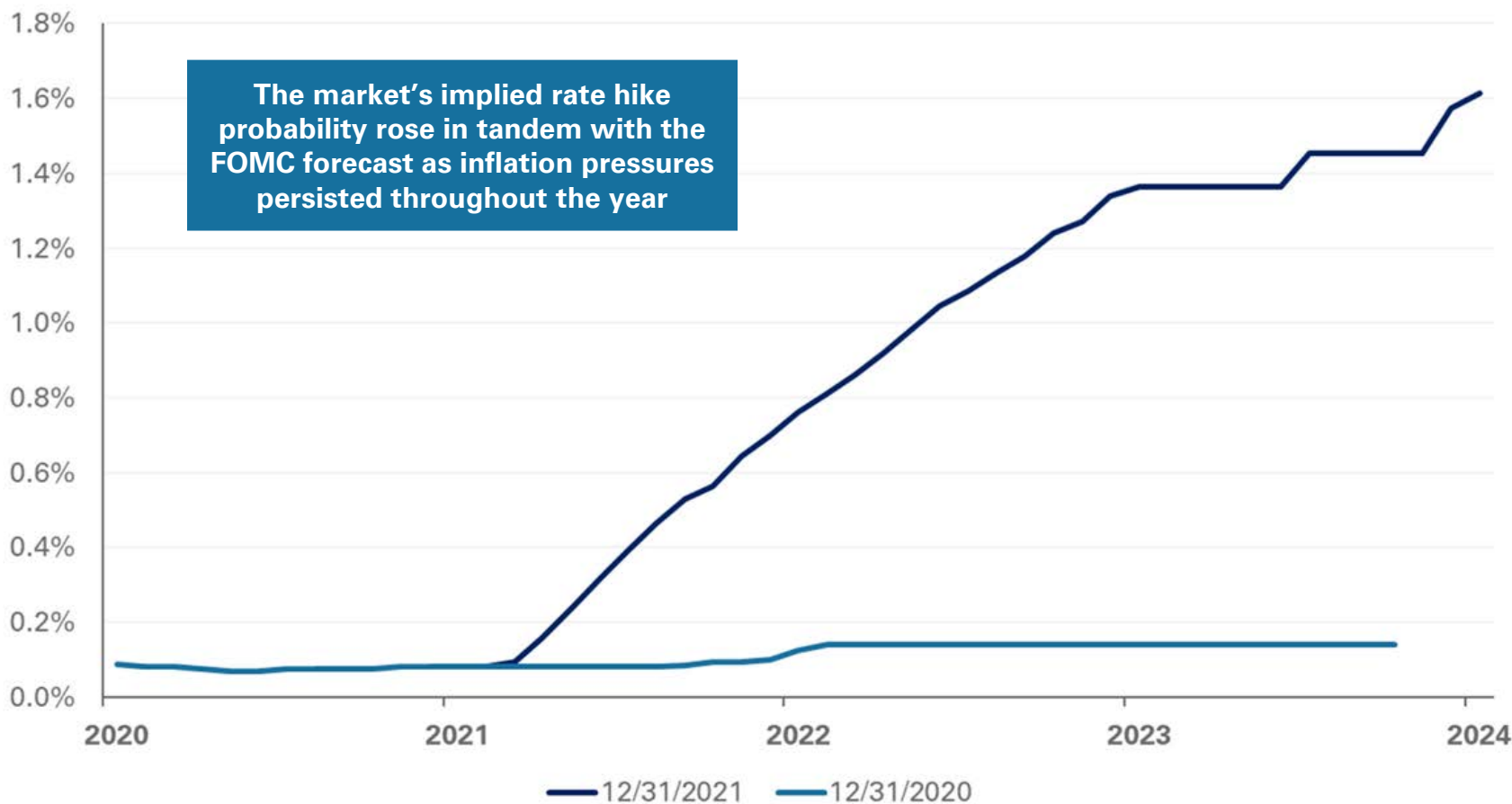
## FEDERAL RESERVE TOTAL ASSETS



Source: Federal Reserve System, FactSet

# AT LEAST TWO RATE HIKES PRICED IN FOR 2022

## FEDERAL FUNDS FUTURES



Source: FactSet

# TREASURY YIELDS WERE VOLATILE

## 10- AND 2-YEAR U.S. TREASURY SPREADS



Source: FactSet

# THE U.S. DOLLAR WEIGHED ON NON-U.S. EQUITIES

## ANNUAL RETURNS

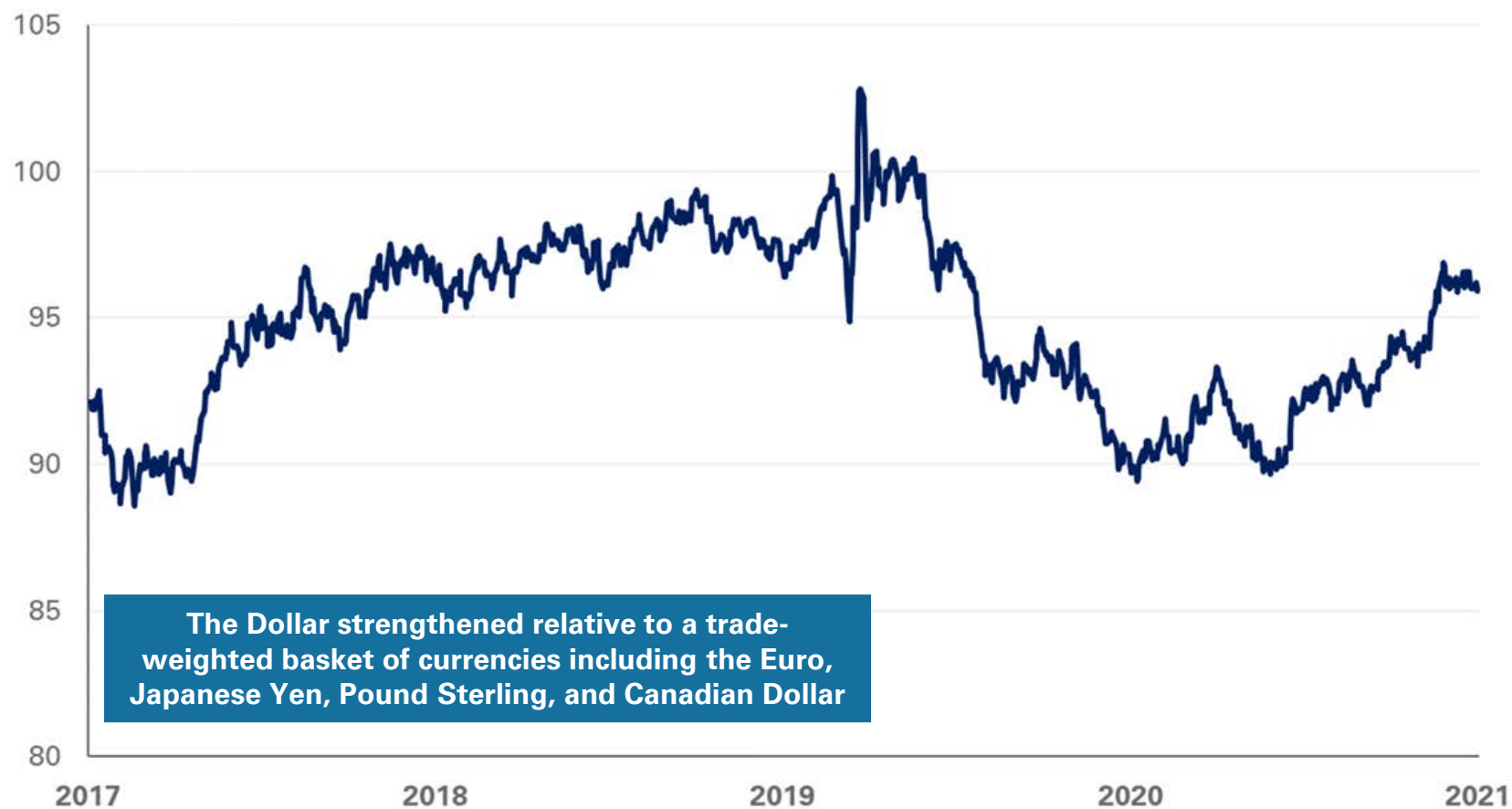


Source: MSCI, FactSet



# THE U.S. DOLLAR STRENGTHENED IN 2021

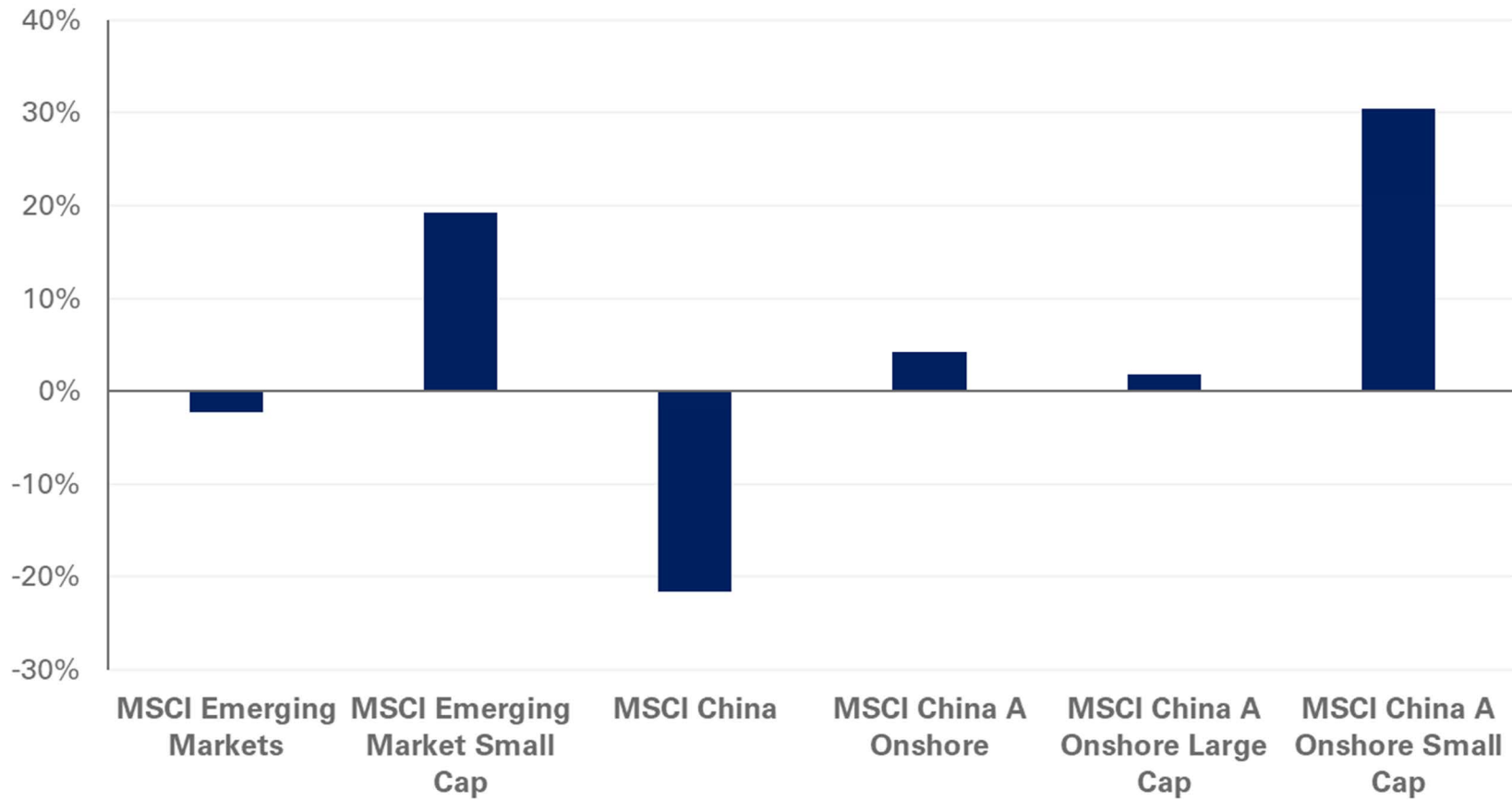
## U.S. DOLLAR INDEX



Source: ICE, FactSet

# CHINA ONSHORE SMALL CAP OUTPERFORMED

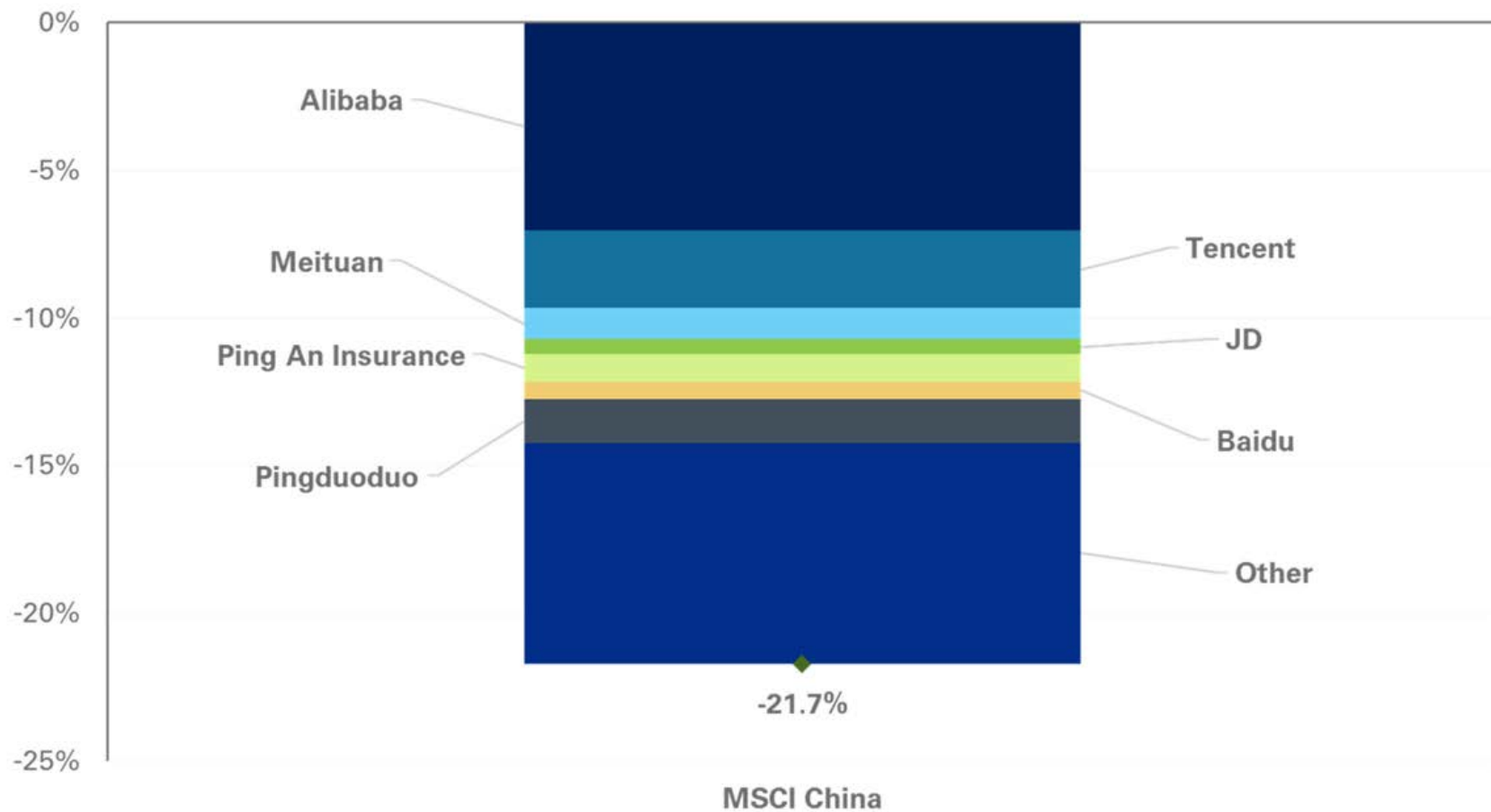
## ANNUAL TOTAL RETURNS



Source: MSCI, FactSet

# MEGA-CAP COMPANIES WEIGHED ON RETURNS

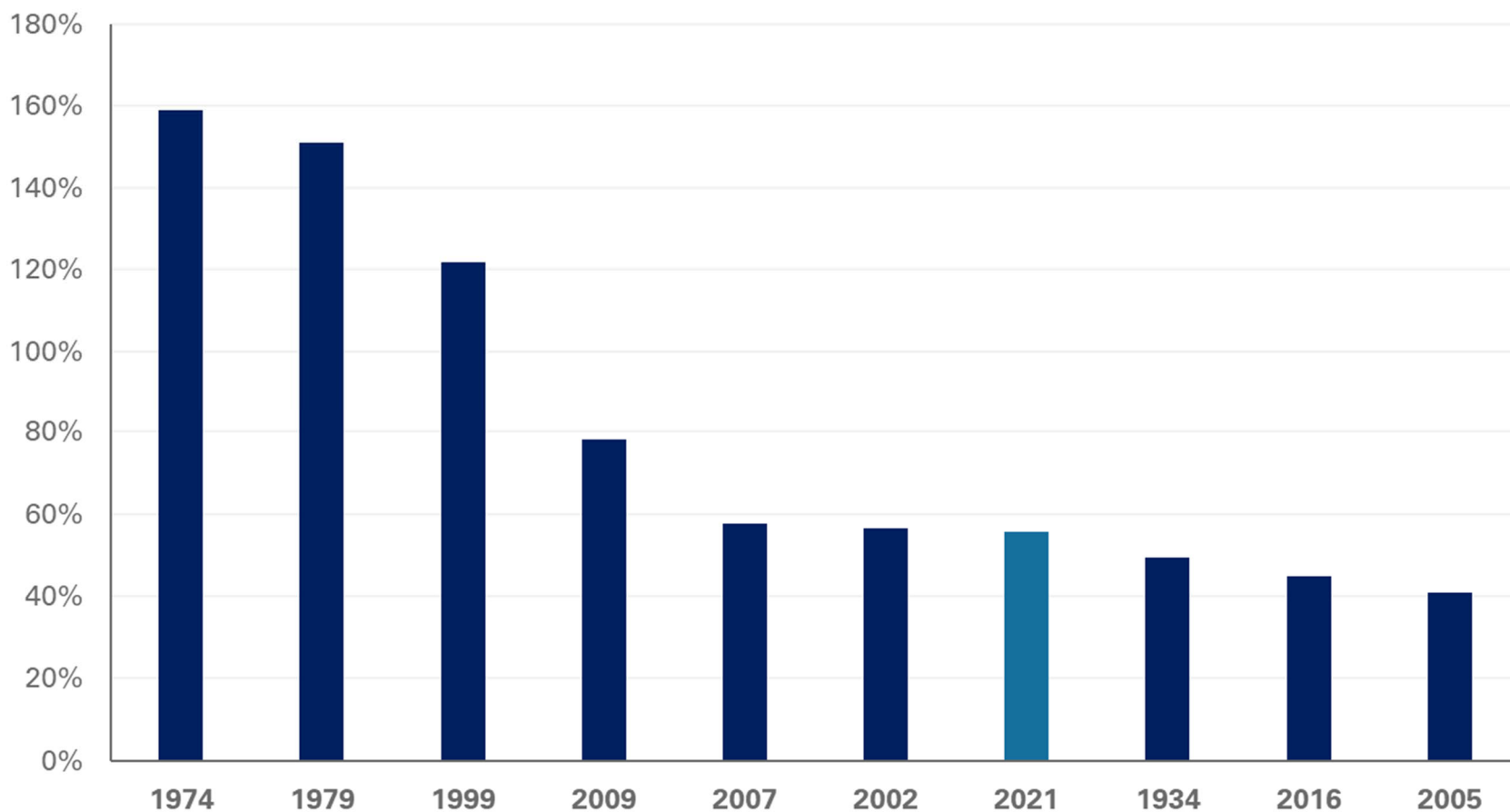
## CONTRIBUTIONS TO MSCI CHINA ANNUAL RETURNS



Source: MSCI, FactSet

# STRONG OIL PRICE GAINS IN 2021

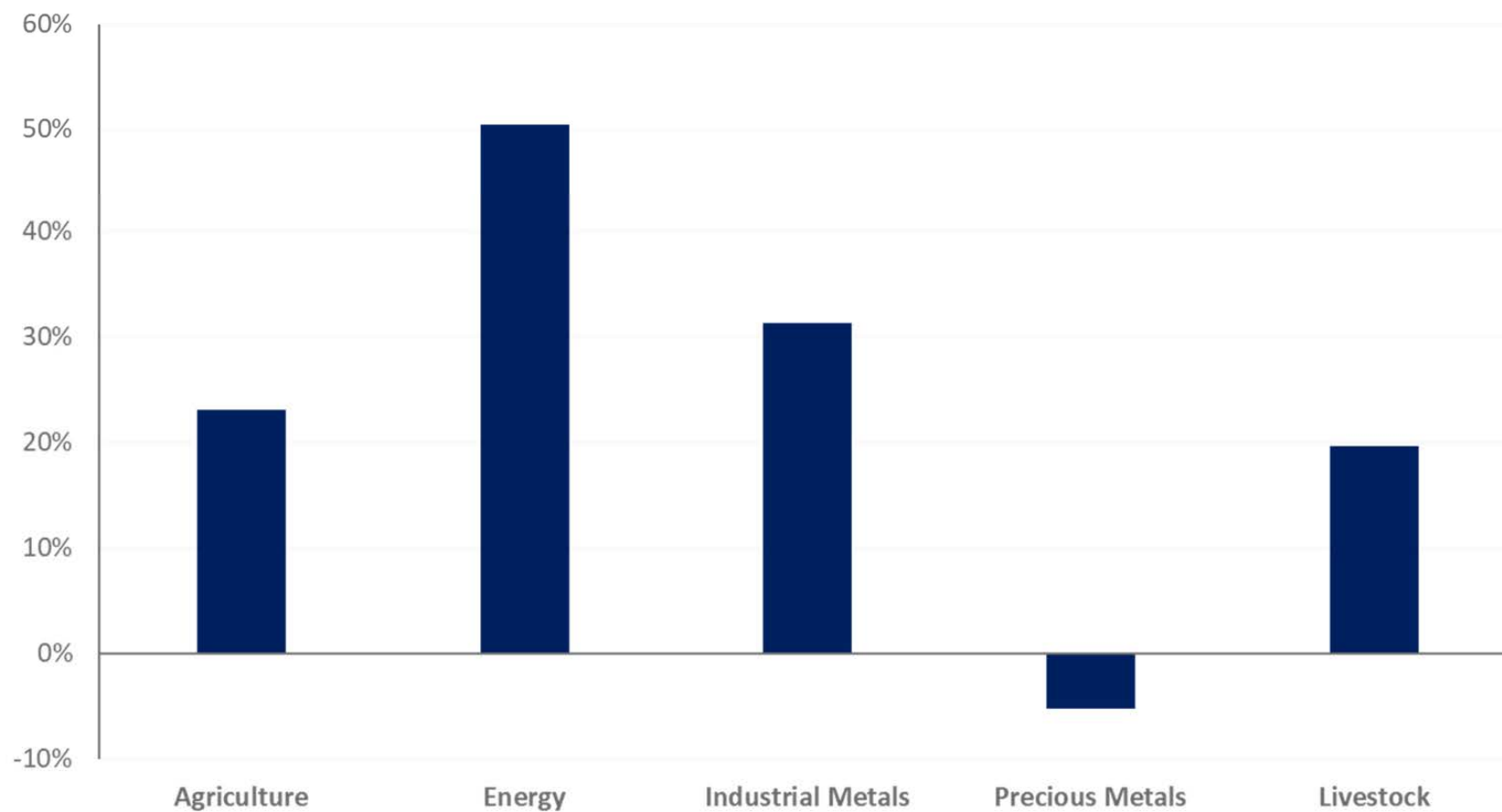
## ANNUAL CHANGE IN WTI CRUDE OIL SPOT PRICES



Source: FactSet

# COMMODITY PRICES RALLIED DURING 2021

## TRAILING 1 YEAR SPOT RETURNS



Source: Bloomberg, FactSet

# GLOSSARY OF INVESTMENT TERMINOLOGY

- **# Of Portfolios/Observations<sup>1</sup>**
  - The total number of data points that make up a universe or sample.
- **Allocation Index<sup>3</sup>**
  - The Allocation Index measures the value added to (or subtracted from) each portfolio by active management. It is calculated monthly: The portfolio weight allocated to each category from the prior month-end is multiplied by a specified market index return.
- **Asset Allocation Effect<sup>2</sup>**
  - Measures an investment manager's ability to effectively allocate their portfolio's assets to various sectors. The allocation effect determines whether the overweighting or underweighting of sectors relative to a benchmark contributes positively or negatively to the overall portfolio return. Positive allocation occurs when the portfolio is over weighted in a sector that outperforms the benchmark and underweighted in a sector that underperforms the benchmark. Negative allocation occurs when the portfolio is over weighted in a sector that underperforms the benchmark and under weighted in a sector that outperforms the benchmark.
- **Agency Bonds (Agencies)<sup>3</sup>**
  - The full faith and credit of the United States government is normally not pledged to payment of principal and interest on the majority of government agencies issuing these bonds, with maturities of up to ten years. Their yields, therefore, are normally higher than government and their marketability is good, thereby qualifying them as a low risk-high liquidity type of investment. They are eligible as security for advances to the member banks by the Federal Reserve, which attests to their standing.
- **Asset Backed Securities (ABS)<sup>3</sup>**
  - Bonds which are similar to mortgage-backed securities but are collateralized by assets other than mortgages; commonly backed by credit card receivables, auto loans, or other types of consumer financing.
- **Attribution<sup>3</sup>**
  - Attribution is an analytical technique used to evaluate the performance of a portfolio relative to a benchmark. A proper attribution highlights where value was added or subtracted as a result of the manager's decisions.
- **Average Effective Maturity<sup>4</sup>**
  - For a single bond, it is a measure of maturity that takes into account the possibility that a bond might be called back to the issuer.  
  
For a portfolio of bonds, average effective maturity is the weighted average of the maturities of the underlying bonds. The measure is computed by weighing each bond's maturity by its market value with respect to the portfolio and the likelihood of any of the bonds being called. In a pool of mortgages, this would also account for the likelihood of prepayments on the mortgages.
- **Batting Average<sup>1</sup>**
  - A measurement representing an investment manager's history in surpassing an index.  
*Formula: Divide the number of days (or months, quarters, etc.) in which the manager beat or matched the index by the total number of days (or months, quarters, etc.) in the time period, and multiply that factor by 100.*
- **Brinson Fachler (BF) Attribution<sup>1</sup>**
  - The BF methodology is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance. The main advantage of the BF methodology is that rather than using the overall return of the benchmark, it goes a level deeper than BHB and measures whether the benchmark sector, country, etc. outperformed/or underperformed the overall benchmark.

Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



# GLOSSARY OF INVESTMENT TERMINOLOGY

- **Brinson Hood Beebower (BHB) Attribution<sup>1</sup>**
  - The BHB methodology shows that excess return must be equal to the sum of all other factors (i.e., allocation effect, selection effect, interaction effect, etc.). The advantage to using the BHB methodology is that it is a highly accepted industry standard for calculating the allocation, selection, and interaction effects within a portfolio that collectively explains a portfolio's underlying performance.
- **Corporate Bond (Corp)<sup>4</sup>**
  - A debt security issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds.
- **Correlation<sup>1</sup>**
  - A range of statistical relationships between two or more random variables or observed data values. A correlation is a single number that describes the degree of relationship between variables.
- **Coupon<sup>4</sup>**
  - The interest rate stated on a bond when it is issued. The coupon is typically paid semiannually. This is also referred to as the "coupon rate" or "coupon percent rate."
- **Currency Effect<sup>1</sup>**
  - The effect that changes in currency exchange rates over time affect excess performance.
- **Derivative Instrument<sup>3</sup>**
  - A financial obligation that derives its precise value from the value of one or more other instruments (or assets) at the same point of time. For example, the relationship between the value of an S&P 500 futures contract (the derivative instrument in this case) is determined by the value of the S&P 500 Index and the value of a U.S. Treasury bill that matures at the expiration of the futures contract.
- **Downside Deviation<sup>1</sup>**
  - The standard deviation of negative return or the measure of downside risk focusing on the standard deviation of negative returns.  
*Formula: Annualized Standard Deviation (Fund Return - Average Fund Return) where average fund return is greater than individual fund returns, monthly or quarterly.*
- **Duration<sup>3</sup>**
  - Duration is a measure of interest rate risk. The greater the duration of a bond, or a portfolio of bonds, the greater its price volatility will be in response to a change in interest rates. A bond's duration is inversely related to interest rates and directly related to time to maturity.
- **Equity/Debt/Cash Ratio<sup>1</sup>**
  - The percentage of an investment or portfolio that is in Equity, Debt, and/or Cash (i.e. a 7/89/4 ratio represents an investment that is made up of 7% Equity, 89% Debt, and 4% Cash).
- **Foreign Bond<sup>3</sup>**
  - A bond that is issued in a domestic market by a foreign entity, in the domestic market's currency. A foreign bond is most often issued by a foreign firm to raise capital in a domestic market that would be most interested in purchasing the firm's debt. For foreign firms doing a large amount of business in the domestic market, issuing foreign bonds is a common practice.
- **Hard Hurdle<sup>5</sup>**
  - A rate of return that, once beaten, allows a fund manager to charge a performance fee on returns above the specified hurdle rate.
- **High-Water Mark<sup>4</sup>**
  - The highest value that an investment fund/account has reached. This term is often used in the context of fund manager compensation, which is performance-based. Some performance-based fees only get paid when fund performance exceeds the high-water mark. The high-water mark ensures that the manager does not get paid large sums for poor performance.

Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net



# GLOSSARY OF INVESTMENT TERMINOLOGY

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- **Hurdle Rate<sup>4</sup>**
  - The minimum rate of return on an investment required for a manager to collect incentive fees from the investor, which is usually tied to a benchmark.
- **Interaction Effect<sup>2</sup>**
  - The Interaction Effect measures the combined impact of an investment manager's selection and allocation decisions within a sector. For example, if an investment manager had superior selection and overweighted that particular sector, the interaction effect is positive. If an investment manager had superior selection, but underweighted that sector, the interaction effect is negative. In this case, the investment manager did not take advantage of the superior selection by allocating more assets to that sector. Since many investment managers consider the interaction effect to be part of the selection or the allocation, it is often combined with either effect.
- **Median<sup>3</sup>**
  - The value that exceeds one-half of the values in a population and that is exceeded by one-half of the values. The median has a percentile rank of 50.
- **Modified Duration<sup>3</sup>**
  - The percentage change in the price of a fixed income security that results from a change in yield.
- **Mortgage Backed Securities (MBS)<sup>3</sup>**
  - Bonds which are a general obligation of the issuing institution but are also collateralized by a pool of mortgages.
- **Municipal Bond (Muni)<sup>4</sup>**
  - A debt security issued by a state, municipality or county to finance its capital expenditures.
- **Net Investment Change<sup>1</sup>**
  - The change in an investment after accounting for all Net Cash Flows.
- **Performance Fee<sup>4</sup>**
  - A payment made to a fund manager for generating positive returns. The performance fee is generally calculated as a percentage of investment profits, often both realized and unrealized.
- **Policy Index<sup>3</sup>**
  - A custom benchmark designed to indicate the returns that a passive investor would earn by consistently following the asset allocation targets set forth in the investment policy statement.
- **Price to Book (P/B)<sup>4</sup>**
  - A ratio used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share, also known as the "price-equity ratio".
- **Price to Earnings (P/E)<sup>3</sup>**
  - The weighted equity P/E is based on current price and trailing 12 months earnings per share (EPS).
- **Price to Sales (P/S)<sup>4</sup>**
  - A ratio for valuing a stock relative to its own past performance, other companies, or the market itself. Price to sales is calculated by dividing a stock's current price by its revenue per share for the trailing 12 months.
- **Quartile<sup>3</sup>**
  - One of four segments of a distribution. The top quartile consists of observations that rank from 1 to 25, the second quartile consists of observations that rank between 25 and 50, etc.

Source: <sup>1</sup>InvestorForce, <sup>2</sup>Interaction Effect Performance Attribution, <sup>3</sup>NEPC, LLC, <sup>4</sup>Investopedia, <sup>5</sup>Hedgeco.net





# GLOSSARY OF INVESTMENT TERMINOLOGY

- **Rank<sup>3</sup>**
  - The relative position of a single observation in a larger population. Universe rankings range from 1 to 100, with 1 being the best and 100 the worst.
- **Return on Equity (ROE)<sup>4</sup>**
  - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.
- **Selection (or Manager) Effect<sup>2</sup>**
  - Measures the investment manager's ability to select securities within a given sector relative to a benchmark. The over or underperformance of the portfolio is weighted by the benchmark weight, therefore, selection is not affected by the manager's allocation to the sector. The weight of the sector in the portfolio determines the size of the effect: The larger the sector, the larger the effect, positive or negative.
- **Soft Hurdle<sup>5</sup>**
  - A rate of return that, once beaten, allows a fund manager to charge a performance fee based on the entire annualized return.
- **Tiered Fee<sup>1</sup>**
  - A fee structure that is paid to fund managers based on the size of the investment (i.e. 1.00% fee on the first \$10M invested, 0.90% on the next \$10M, and 0.80% on the remaining balance).
- **Total Effect<sup>2</sup>**
  - The active management (total) effect is the sum of the selection, allocation, and interaction effects. It is also the difference between the total portfolio return and the total benchmark return. You can use the active management effect to determine the amount the investment manager has added to a portfolio's return.
- **Total Return<sup>1</sup>**
  - The actual rate of return of an investment over a specified time period. Total return includes interest, capital gains, dividends, and distributions realized over the time period.
- **Universe<sup>3</sup>**
  - The list of all assets eligible for inclusion in a portfolio, or group of portfolios eligible for inclusion in a distribution.
- **Upside Deviation<sup>1</sup>**
  - Standard Deviation of Positive Returns
- **Weighted Average Market Cap.<sup>4</sup>**
  - A stock market index weighted by the market capitalization of each stock in the index. In such a weighting scheme, larger companies account for a greater portion of the index. Most indexes are constructed in this manner, with the best example being the S&P 500.
- **Yield (%)<sup>3</sup>**
  - The current yield of a security is the current indicated annual dividend rate divided by current price.
- **Yield to Maturity<sup>3</sup>**
  - The discount rate that equates the present value of cash flows, both principal and interest, to market price.

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