

NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



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INVESTMENT MANAGEMENT DIVISION

Performance Review

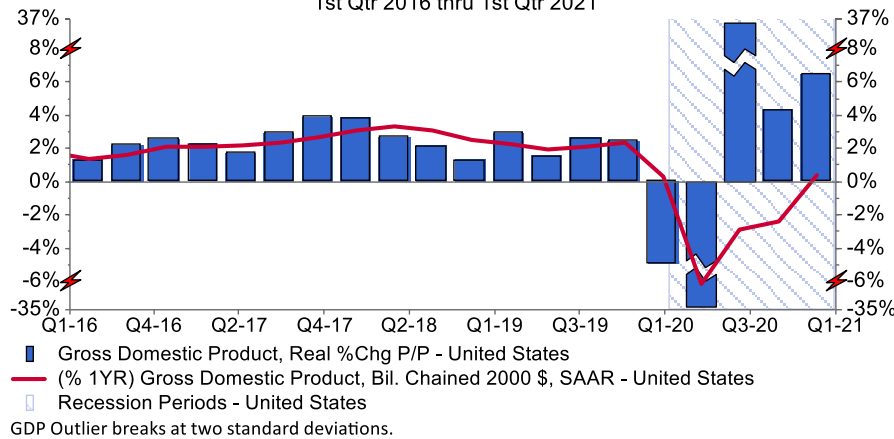
May 26, 2021



US Economic Environment

US Real GDP Growth

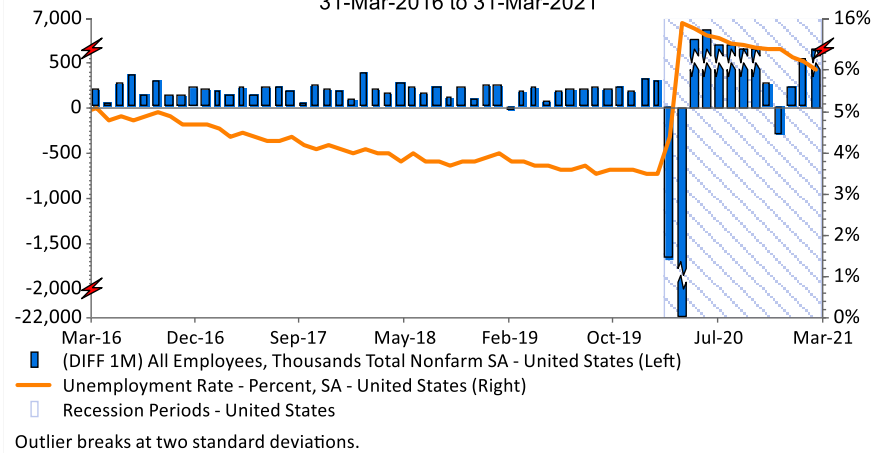
1st Qtr 2016 thru 1st Qtr 2021



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US Change in NonFarm Employment & Unemployment Rate

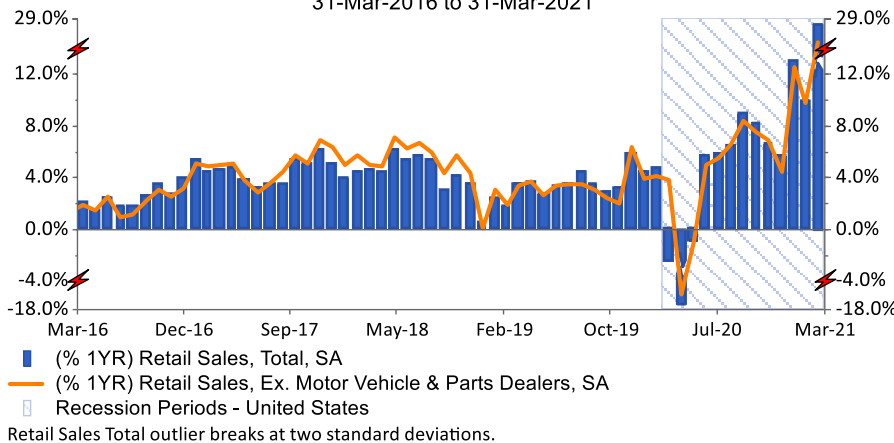
31-Mar-2016 to 31-Mar-2021



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US Retail Sales

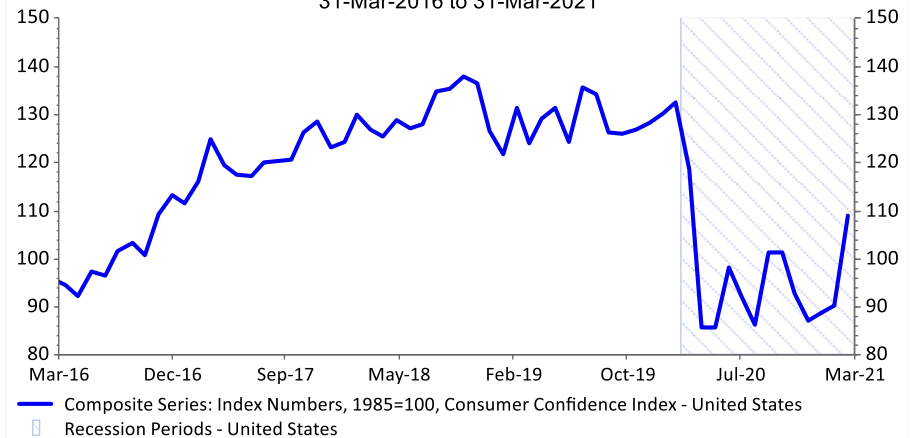
31-Mar-2016 to 31-Mar-2021



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US Consumer Confidence

31-Mar-2016 to 31-Mar-2021

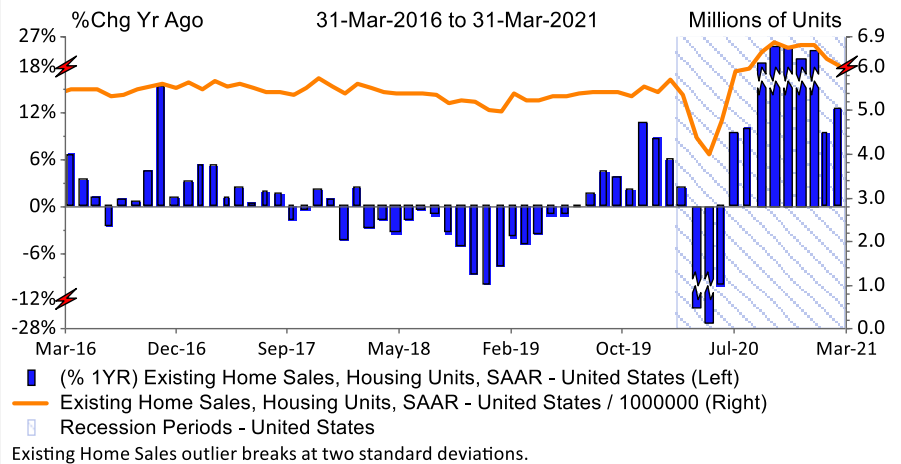


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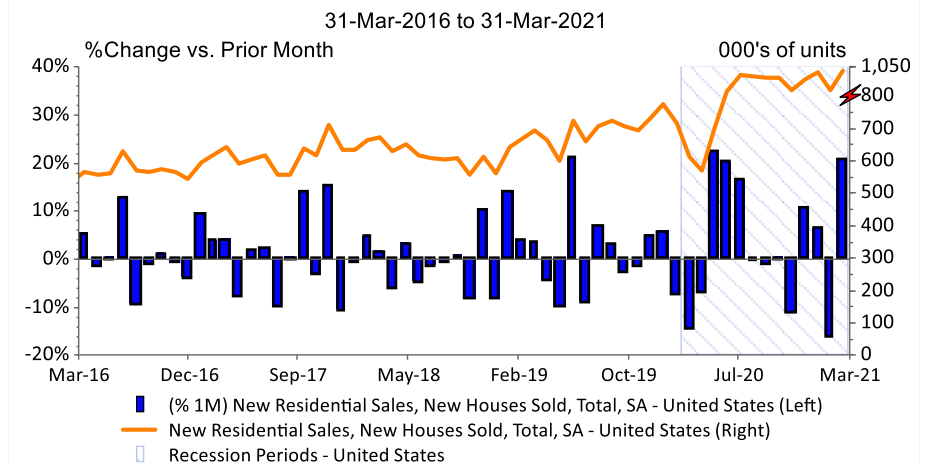
US Economic Environment

US Existing Home Sales



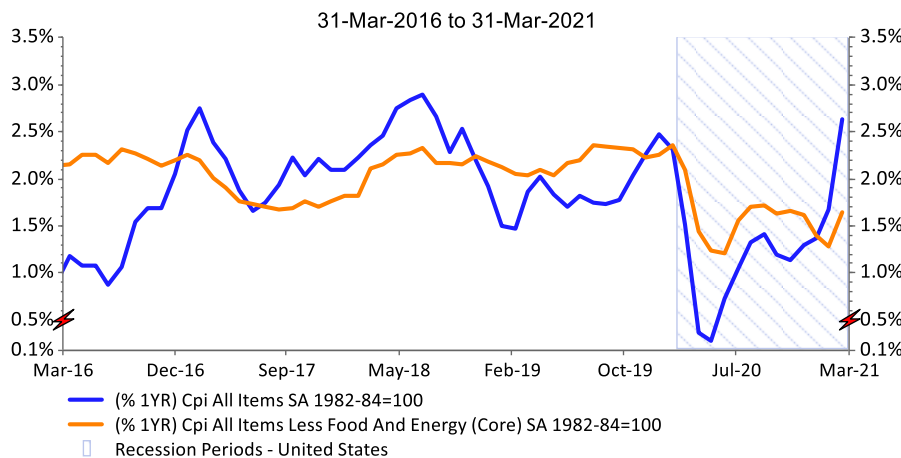
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US New Home Sales



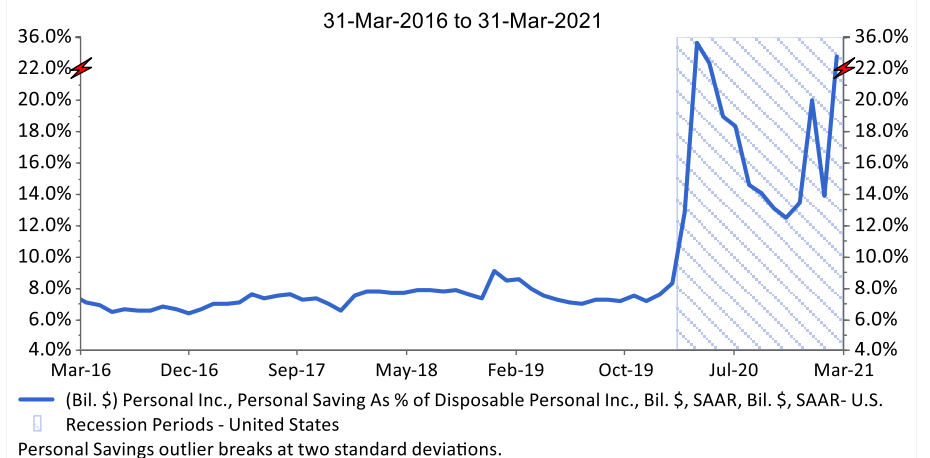
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US Consumer Price Inflation



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US Personal Savings Rate



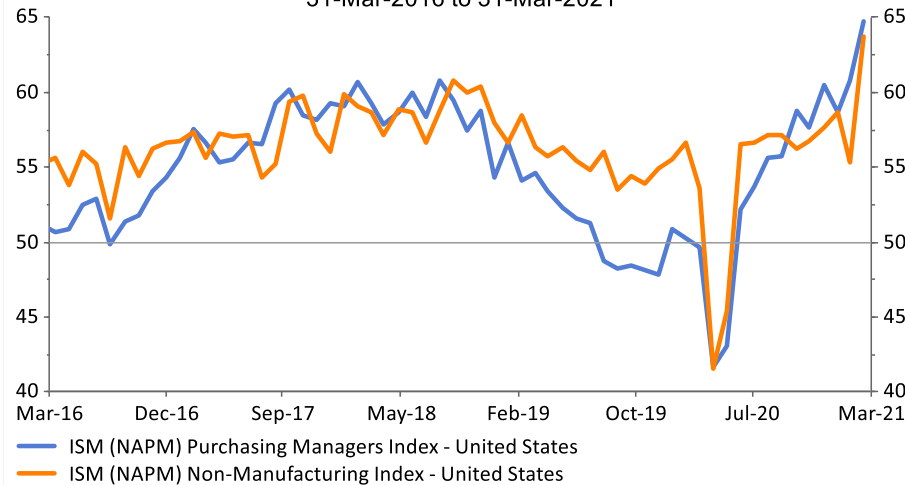
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US and Global Economic Environment

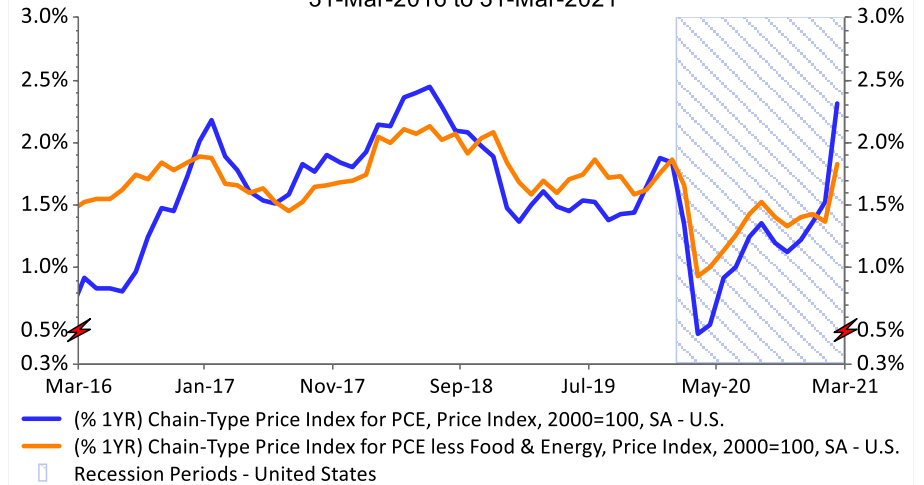
ISM Report on Business

31-Mar-2016 to 31-Mar-2021



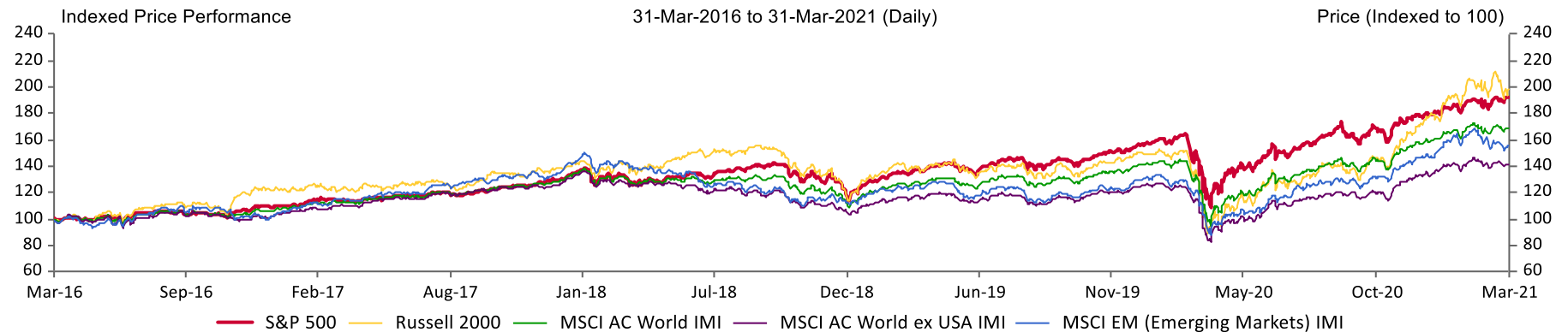
US PCE Inflation

31-Mar-2016 to 31-Mar-2021



S&P 500 vs. Peers

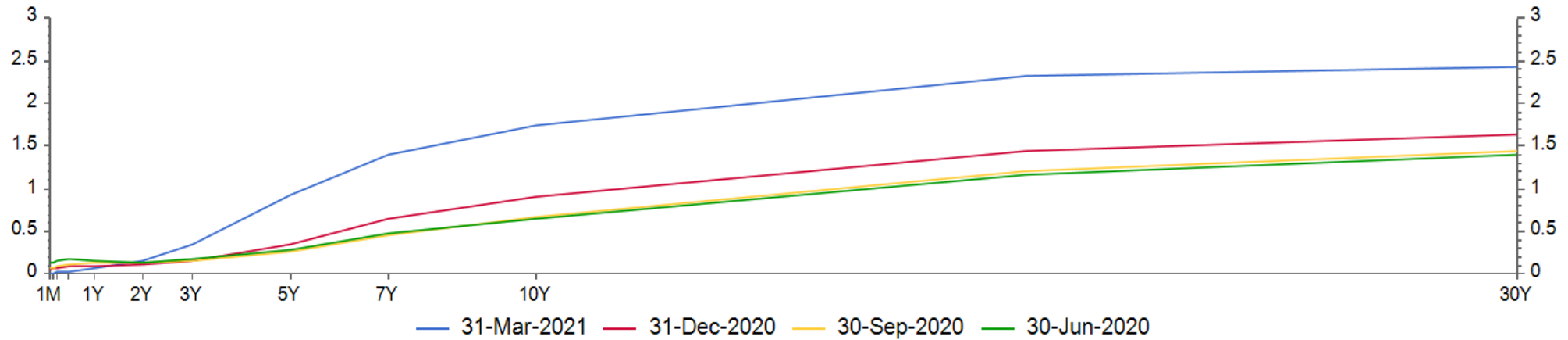
31-Mar-2016 to 31-Mar-2021 (Daily)





Market Environment

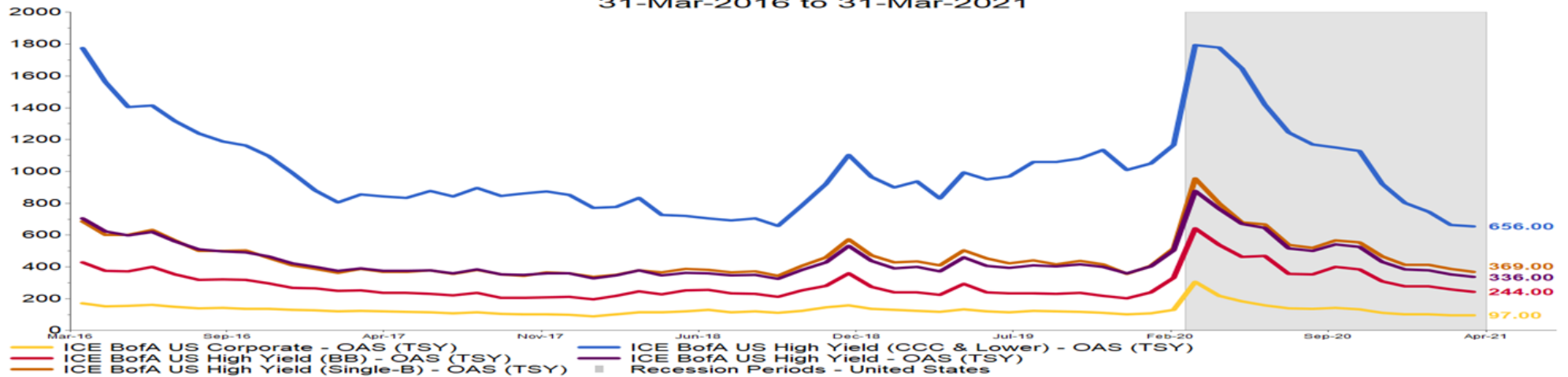
United States Treasury Yield Curve



Source: FactSet Interest Rate Database

Corporate Credit OAS (BofAML Indices)

31-Mar-2016 to 31-Mar-2021

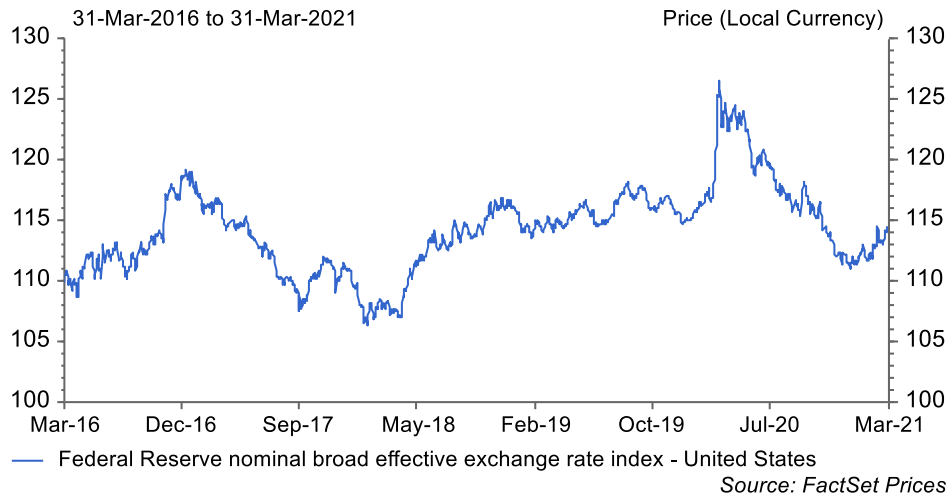


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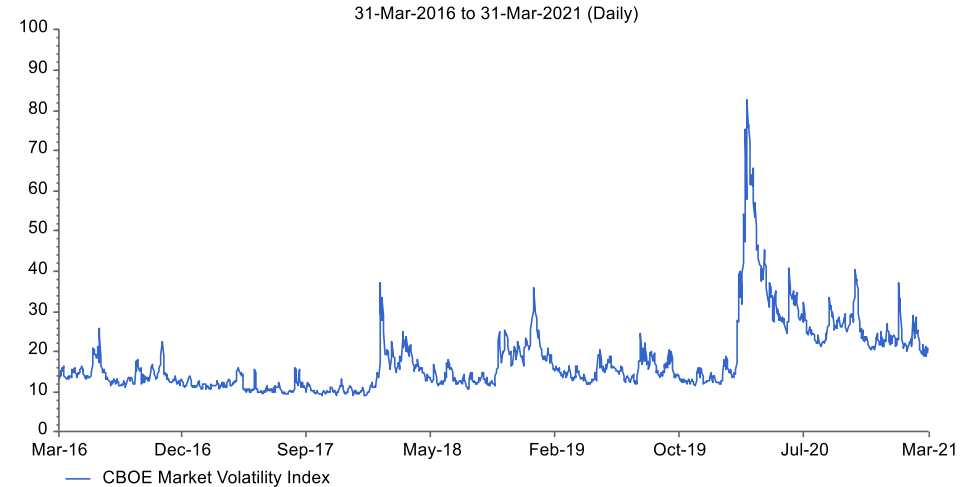


Market Environment

Closing Price Fed Nominal Broad Dollar Index



Closing Price CBOE VIX Index

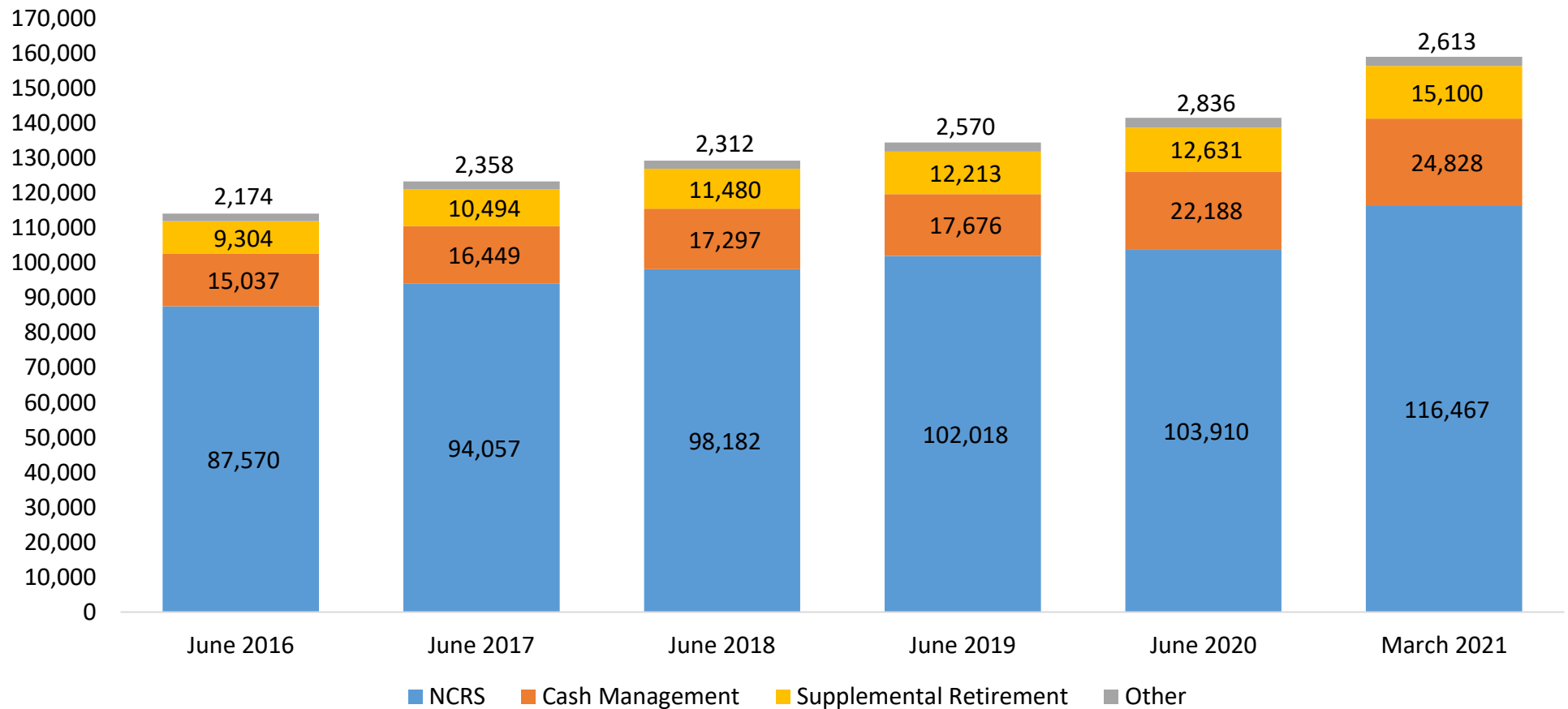


Countries	Real GDP YoY		Unemployment		CPI YoY		Countries	Real GDP YoY		Unemployment		CPI YoY	
	Date	Value	Date	Value	Date	Value		Date	Value	Date	Value	Date	Value
U.S.	03/21	0.4	03/21	6.0	03/21	2.6	Asia/Pacific/Latam						
Europe							China	03/21	18.3			03/21	0.4
Germany	03/21	-3.0	03/21	6.0	03/21	1.7	India	12/20	0.4			#N/A	0.0
France	03/21	1.5	03/21	7.9	03/21	1.1	Japan	12/20	-1.4	03/21	2.6	03/21	-0.2
U.K.	12/20	-7.3	02/21	4.9	03/21	0.7	Indonesia	03/21	-0.7			03/21	1.4
Italy	03/21	-1.4	03/21	10.1	03/21	0.8	Brazil	12/20	-1.1			03/21	6.1
Spain	03/21	-4.3	03/21	15.3	03/21	1.3	Australia	12/20	-1.1	03/21	5.6	03/21	1.1



Assets Under Management (\$MM)

\$159.0 billion as of March 31, 2021



Note: The Cash Management Program does not include Assets with Fiscal Agent, which are reflected in the Bond Proceeds Fund. These funds, which may have been reported in the Cash Management Program previously, have now been removed for all years shown in this report to more accurately reflect the Cash Management Program balance.



NCRS Asset Allocation

As of March 31, 2021

	Market Value (\$MM)	%	Target	Range		Relative %	Relative \$ (\$MM)
				Minimum	Maximum		
Growth	57,740	49.58%	58.0%	37.0%	71.0%	-8.42%	(9,811)
Public Equity	41,128	35.31%	42.0%	37.0%	47.0%	-6.69%	(7,788)
Private Equity	6,714	5.76%	6.0%	0.0%	8.75%	-0.24%	(274)
Non Core Real Estate	3,020	2.59%	3.0%	0.0%	8.0%	-0.41%	(474)
Opportunistic Fixed Income	6,878	5.91%	7.0%	0.0%	7.5%	-1.09%	(1,275)
Rates & Liquidity	45,197	38.81%	29.0%	24.0%	42.0%	9.81%	11,422
IG Fixed Income & Cash	32,571	27.97%	28.0%	24.0%	32.0%	-0.03%	(40)
Pension Cash	12,627	10.84%	1.0%	0.0%	10.0%	9.84%	11,462
Inflation Sensitive & Diversifiers	11,296	9.70%	11.0%	4.0%	16.0%	-1.30%	(1,515)
Inflation Sensitive	5,609	4.82%	6.0%	2.0%	7.5%	-1.18%	(1,379)
Core Real Estate	5,688	4.88%	5.0%	2.0%	10.0%	-0.12%	(136)
Multi-Strategy	2,234	1.92%	2.0%	0.0%	4.0%	-0.08%	(96)
Grand Total	116,467	100.00%					

NCRS Asset Allocation (Unaudited)

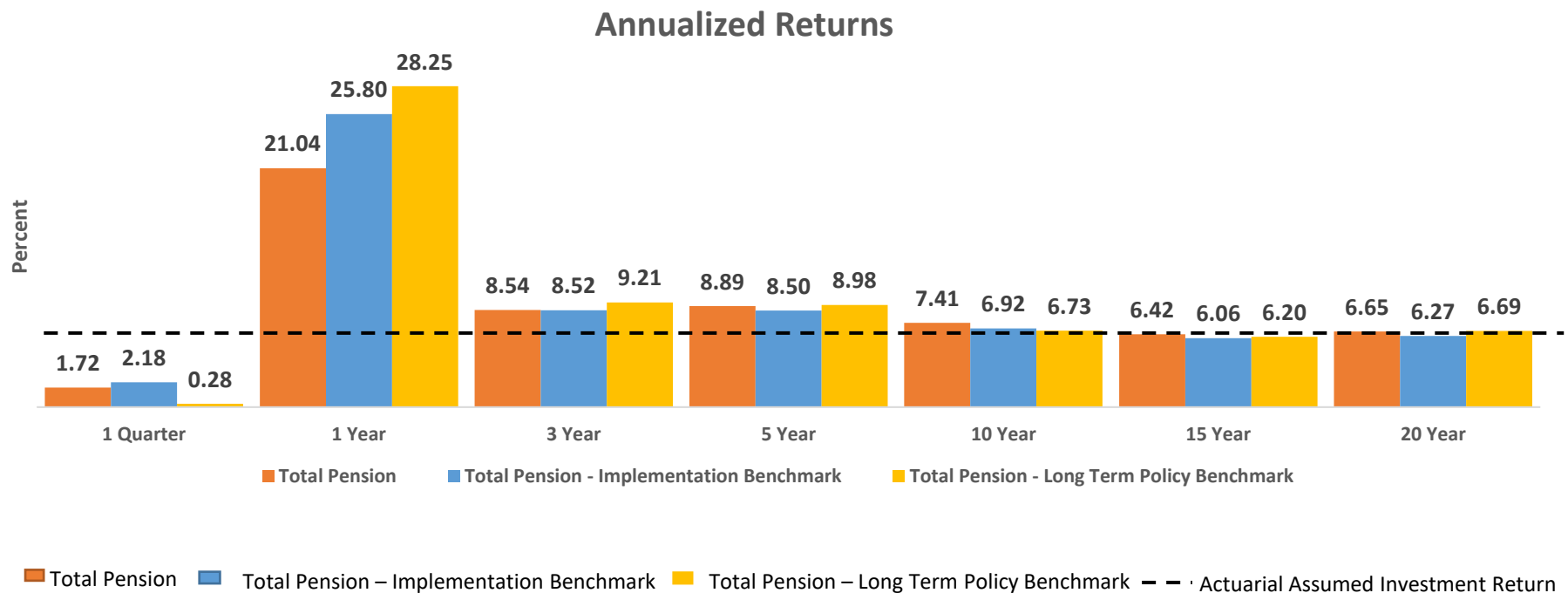
As of May 17, 2021

	Market Value (\$MM)	%	Target	Range		Relative %	Relative \$ (\$MM)
				Minimum	Maximum		
Growth	\$58,987	49.87%	58.00%	37.00%	71.00%	-8.13%	(\$9,615)
Public Equity	42,212	35.69%	42.00%	37.00%	47.00%	-6.31%	(\$7,464)
Private Equity	6,940	5.87%	6.00%	0.00%	8.75%	-0.13%	(\$157)
Non Core Real Estate	3,006	2.54%	3.00%	0.00%	8.00%	-0.46%	(\$543)
Opportunistic Fixed Income	6,829	5.77%	7.00%	0.00%	7.50%	-1.23%	(\$1,451)
Rates & Liquidity	45,831	38.75%	29.00%	24.00%	42.00%	9.75%	\$11,531
IG Fixed Income & Cash	32,798	27.73%	28.00%	24.00%	32.00%	-0.27%	(\$320)
Pension Cash	13,034	11.02%	1.00%	0.00%	10.00%	10.02%	\$11,851
Inflation Sensitive & Diversifiers	11,192	9.46%	11.00%	4.00%	16.00%	-1.54%	(\$1,819)
Inflation Sensitive	5,557	4.70%	6.00%	2.00%	7.50%	-1.30%	(\$1,539)
Core Real Estate	5,634	4.76%	5.00%	2.00%	10.00%	-0.24%	(\$280)
Multi-Strategy	2,268	1.92%	2.00%	0.00%	4.00%	-0.08%	(\$97)
Grand Total	\$118,278	100.00%					



NCRS Total Net Portfolio Return vs. Benchmarks

As of March 31, 2021



Notes:

Actuarial Assumed Investment Return was lowered from 7.0% to 6.5% as of December 31, 2020

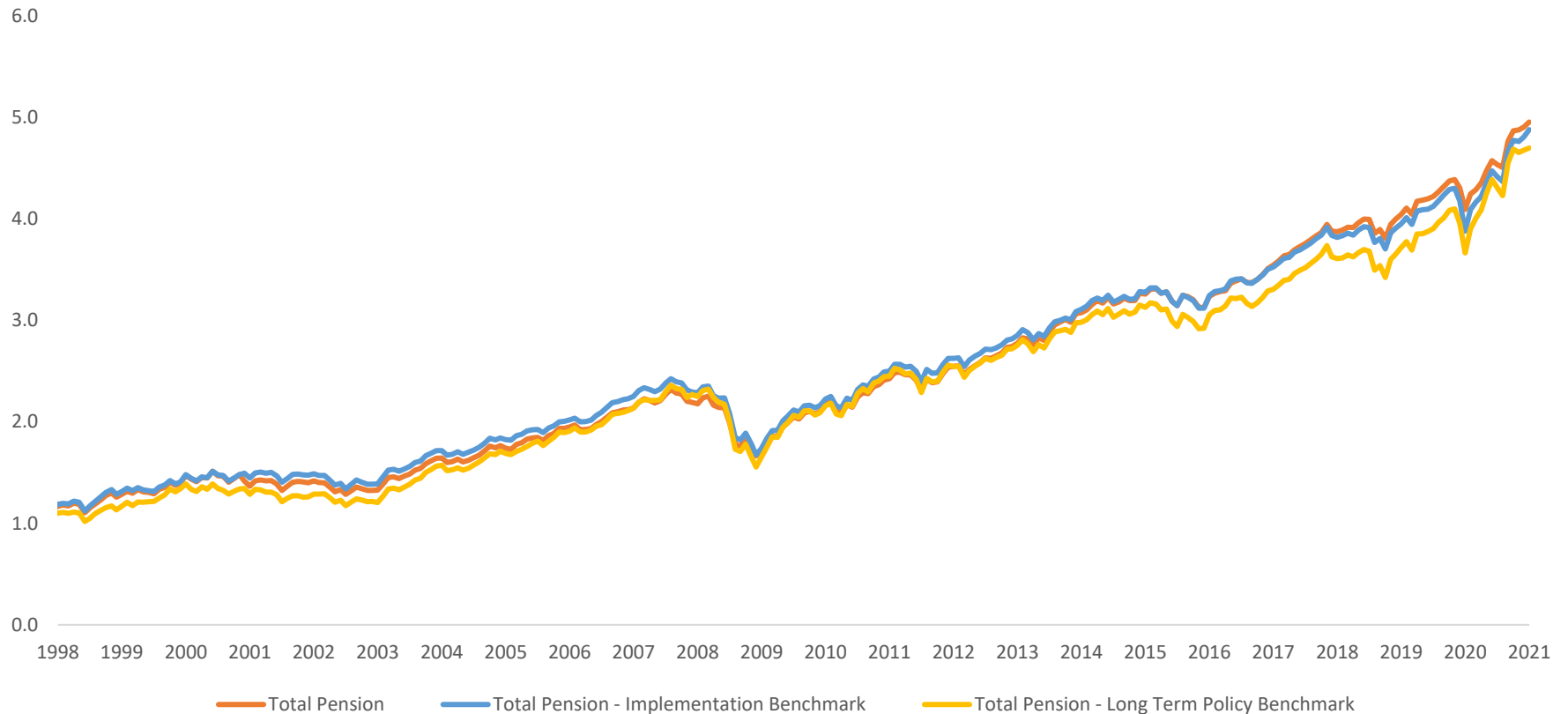
Returns for periods greater than one year are annualized.

Implementation Benchmark is a blend of the Asset Class Benchmarks at policy weights. It is currently weighted as follows: 58% Growth Benchmark; 29% Rates & Liquidity Benchmark; 11% Inflation Sensitive & Diversifiers Benchmark; and 2% Multi-Strategy Benchmark.

Long-Term Policy Benchmark is comprised of 57% MSCI ACWI IMI Net; 33% BOAML 5+ Years U.S. Treasury Index; 6% Bloomberg Commodity Index; and 4% BOAML 1-3 Years U.S. Inflation-Linked Treasury Index.



Growth of a Dollar Through March 31, 2021



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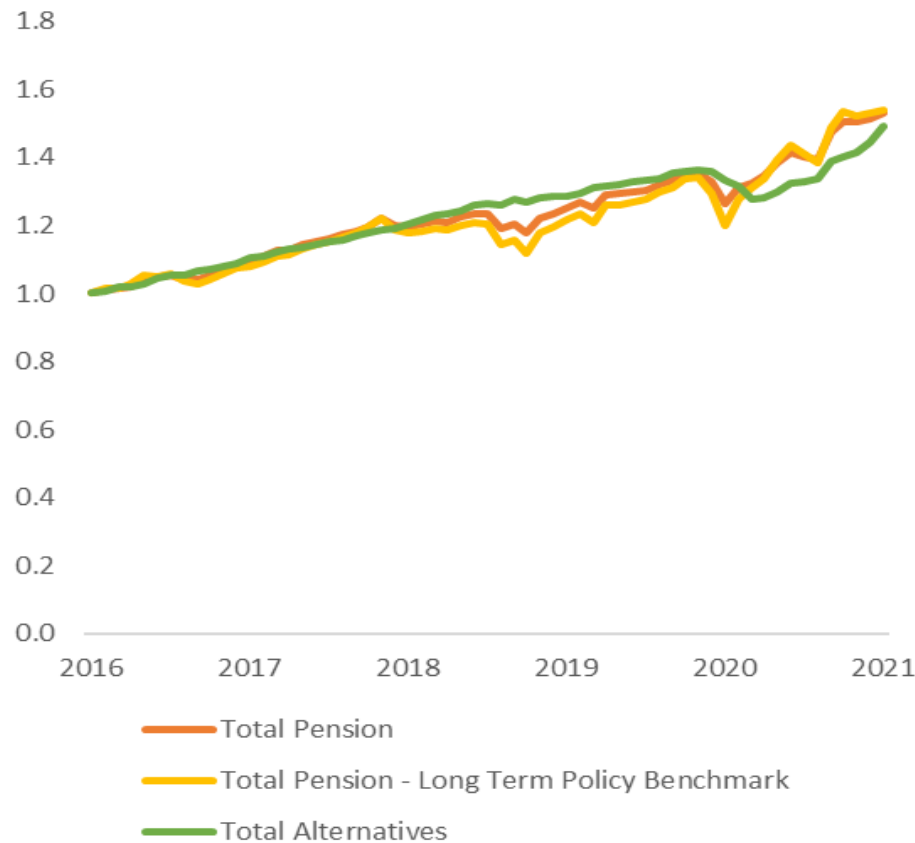
Notes:

Long-Term Policy Benchmark is comprised of 57% MSCI ACWI IMI Net; 33% BOAML 5+ Years U.S. Treasury Index; 6% Bloomberg Commodity Index; and 4% BOAML 1-3 Years U.S. Inflation-Linked Treasury Index.



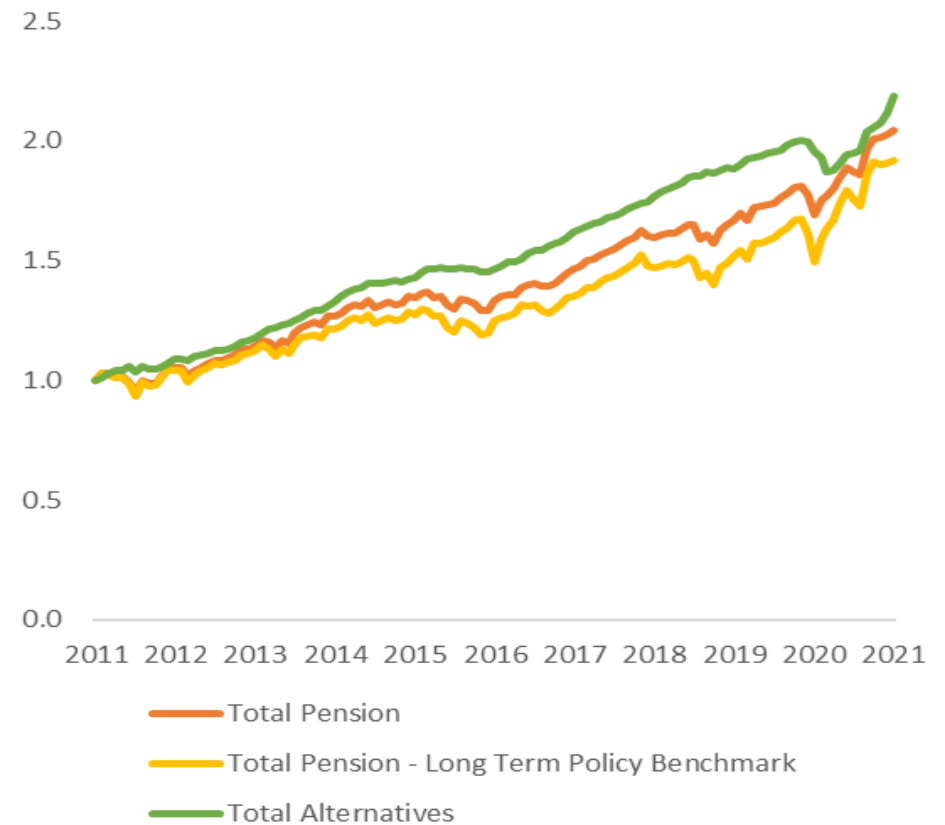
Growth of a Dollar

5 Years Ending March 31, 2021



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10 Years Ending March 31, 2021



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Note: NCRS Alternatives includes the following: Core Real Estate; Inflation Sensitive – Private Natural Resources; Inflation Sensitive – Real Assets and Other Diversifiers; Multi-Strategy Investments; Non-Core Real Estate; Opportunistic Fixed Income; Private Equity; Equity Hedge Strategies; and closed-end Public Natural Resource funds.

Estimated Contribution to Total Plan Return – 1 Year

As of March 31, 2021

Contribution to Total Plan \$ Earnings*

Total Pension	22,595
IG Fixed Income	287
Cash	64
Public Equity	18,970
Total Alternatives	3,273
Private Equity	1,645
Non Core Real Estate (7)	
Opportunistic Fixed Income	970
Inflation Sensitive	153
Core Real Estate	270
Multi-Strategy	243

*Millions

Contribution to Total Plan % Returns

Total Pension	21.04%
IG Fixed Income	0.27%
Cash	0.06%
Public Equity	17.67%
Total Alternatives	3.05%
Private Equity	1.53%
Non Core Real Estate (0.01%)	
Opportunistic Fixed Income	0.90%
Inflation Sensitive	0.14%
Core Real Estate	0.25%
Multi-Strategy	0.23%

Notes:

1.) Estimated Contributions are based on average market value and the total return for the period.

Contribution to Total Plan \$ Earnings = Average \$ Market Value * % Total Return for each asset class

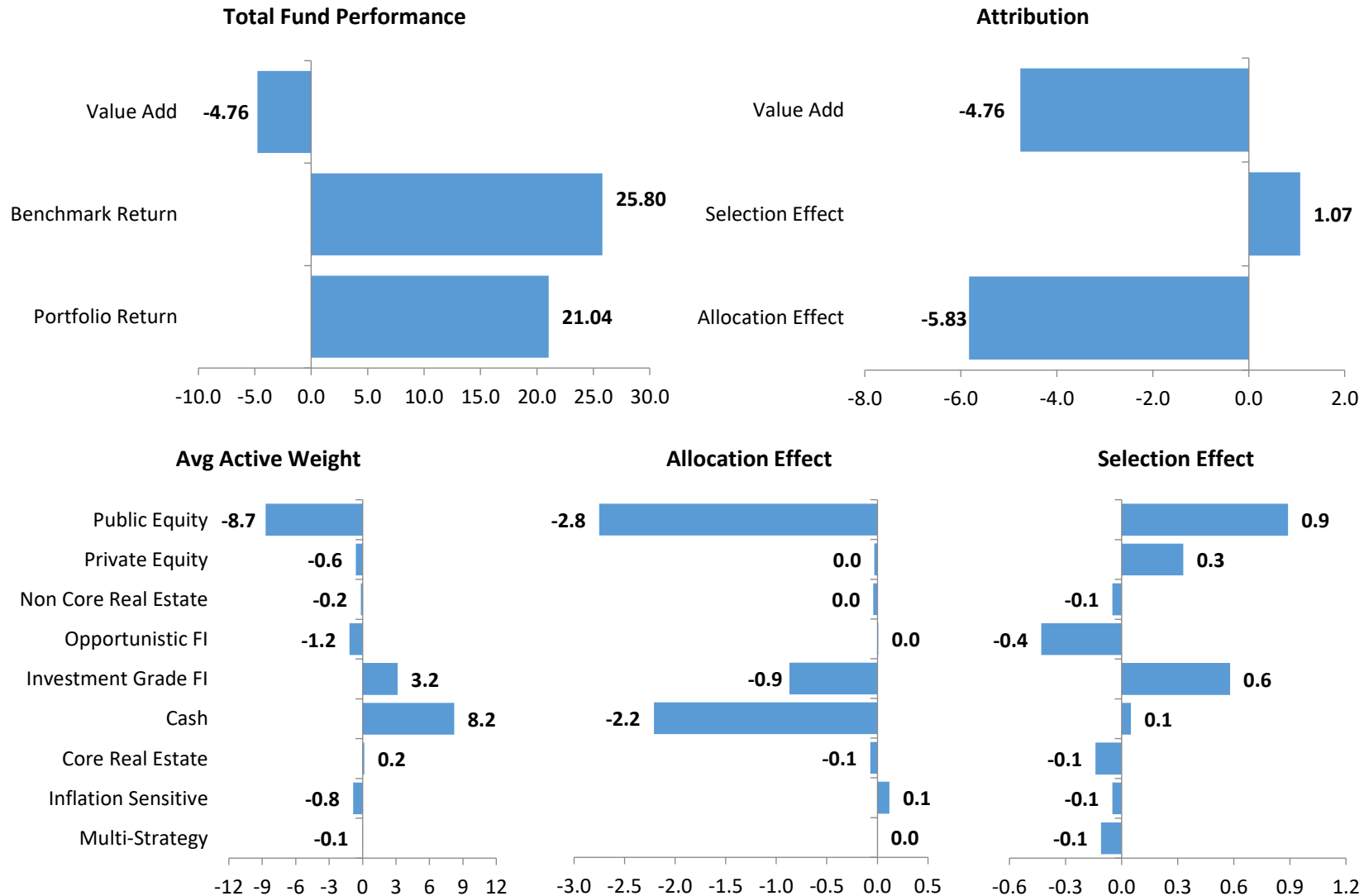
Contribution to Total Plan % Returns = Average Market Value % weight * % Total Return for each asset class

2.) Alternatives for this analysis include the following: Private Equity, Non-Core Real Estate, Opportunistic Fixed Income, Inflation Sensitive, Core Real Estate, and Multi-Strategy investments.



NCRS Net of Fees Return Attribution

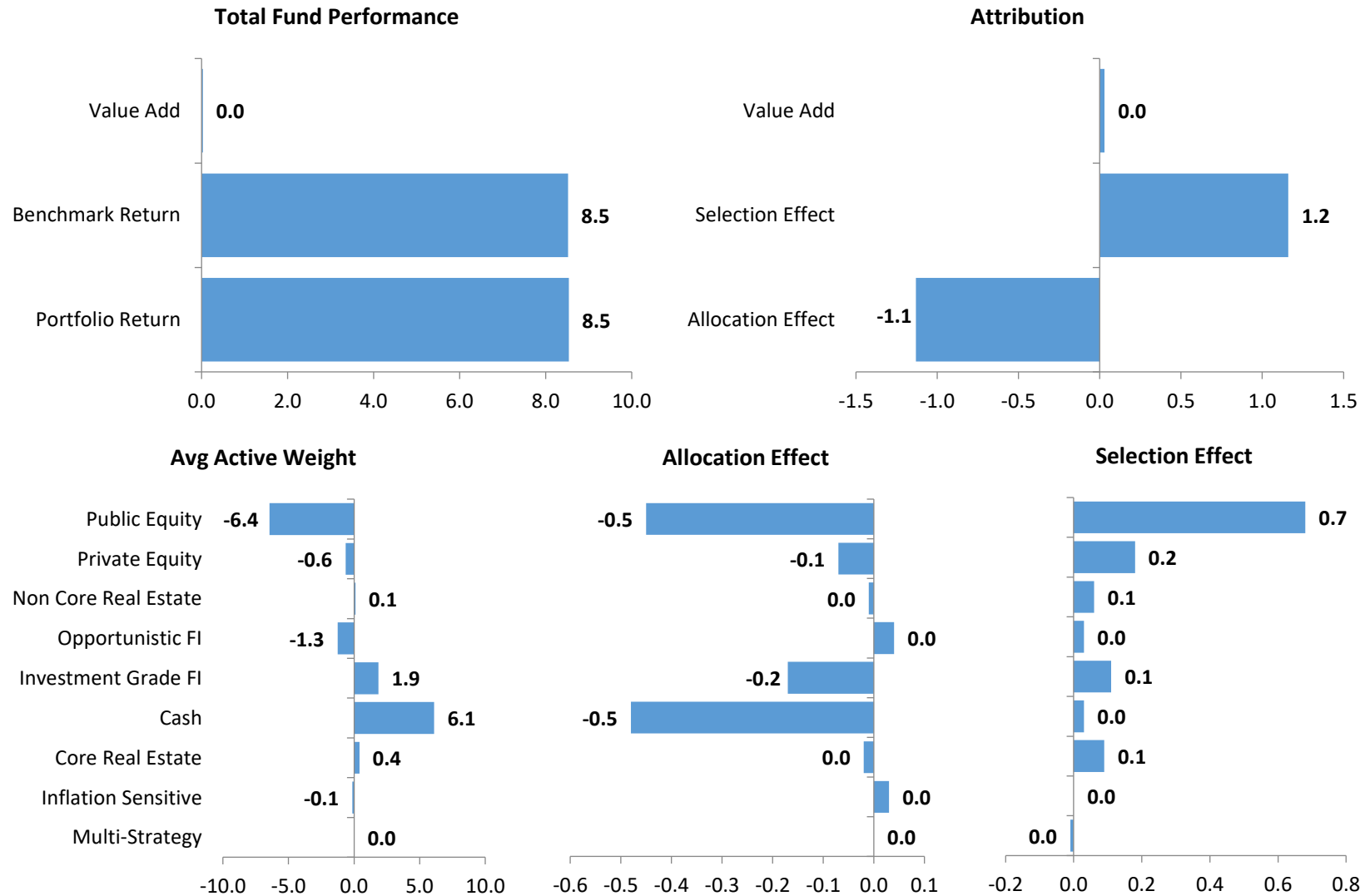
Total Fund vs. Implementation Benchmark: 1 Year Ending March 31, 2021





NCRS Net of Fees Return Attribution

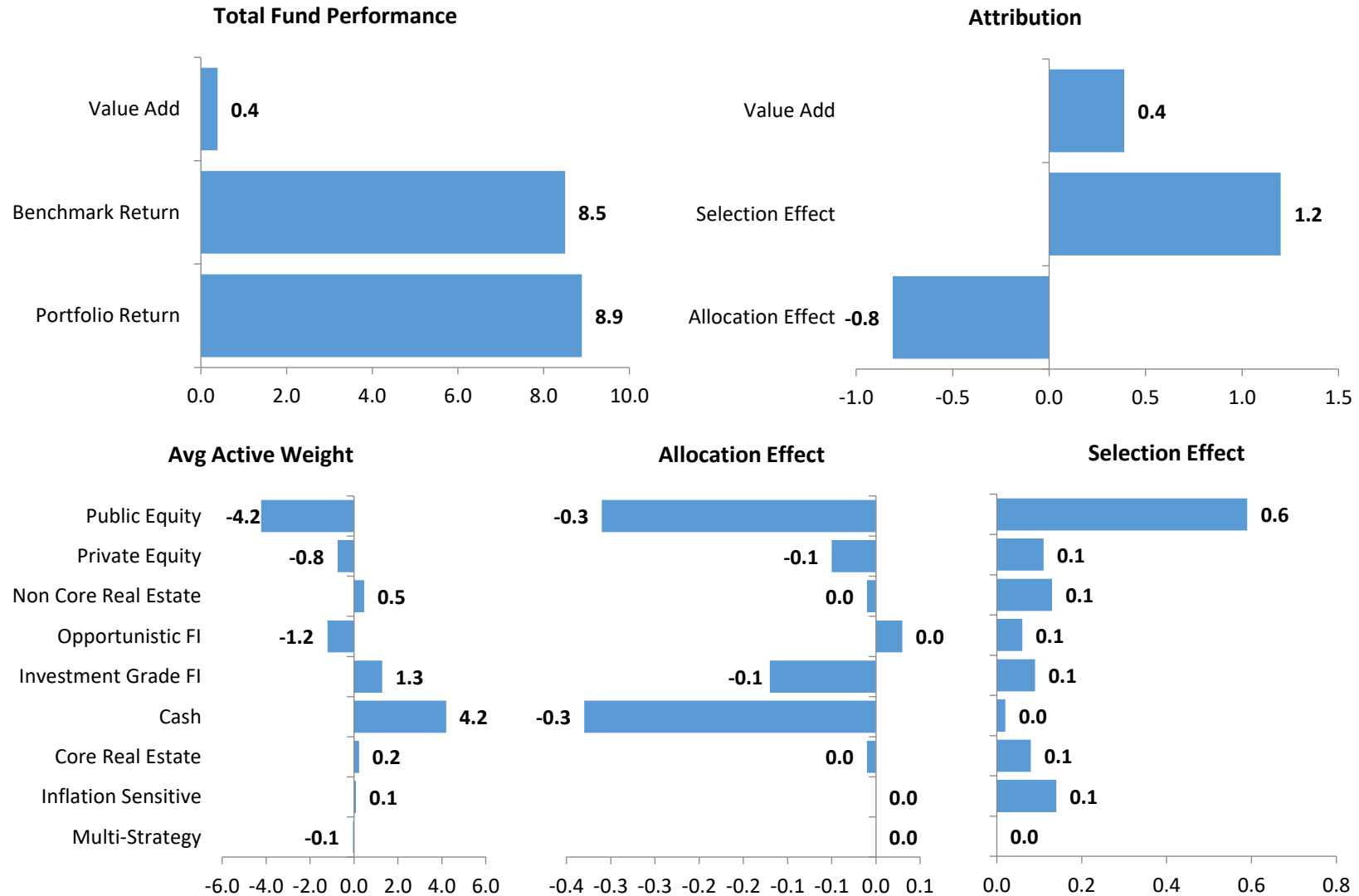
Total Fund vs. Implementation Benchmark: 3 Years Ending March 31, 2021





NCRS Net of Fees Return Attribution

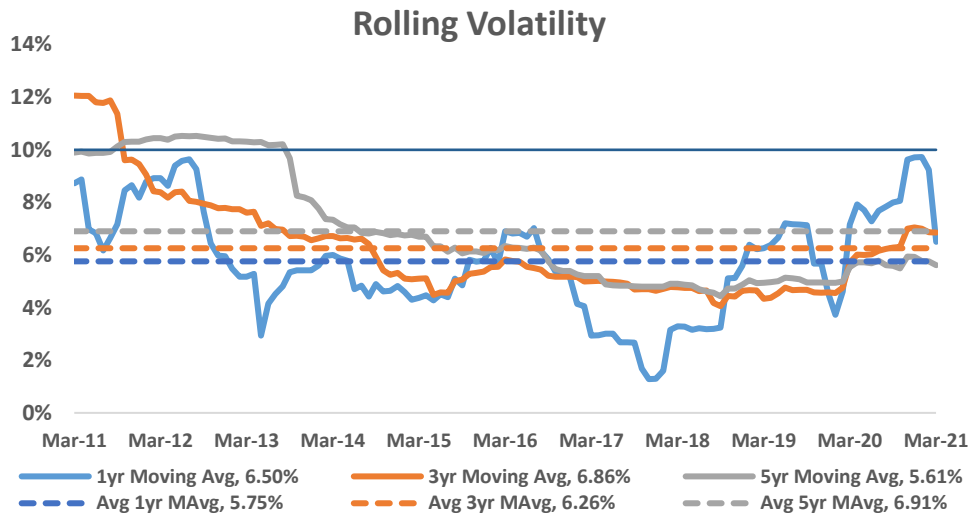
Total Fund vs. Implementation Benchmark: 5 Years Ending March 31, 2021



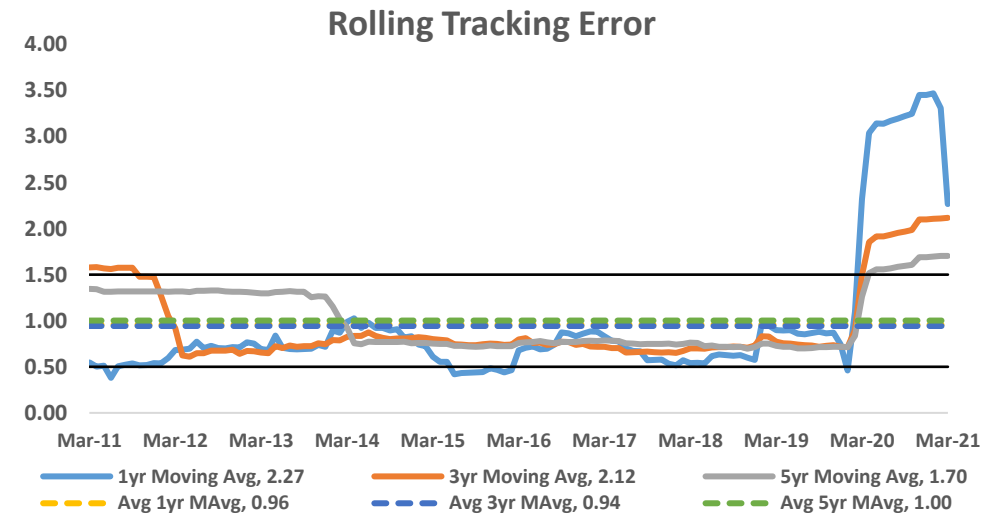


NCRS Net of Fees Risk Metrics

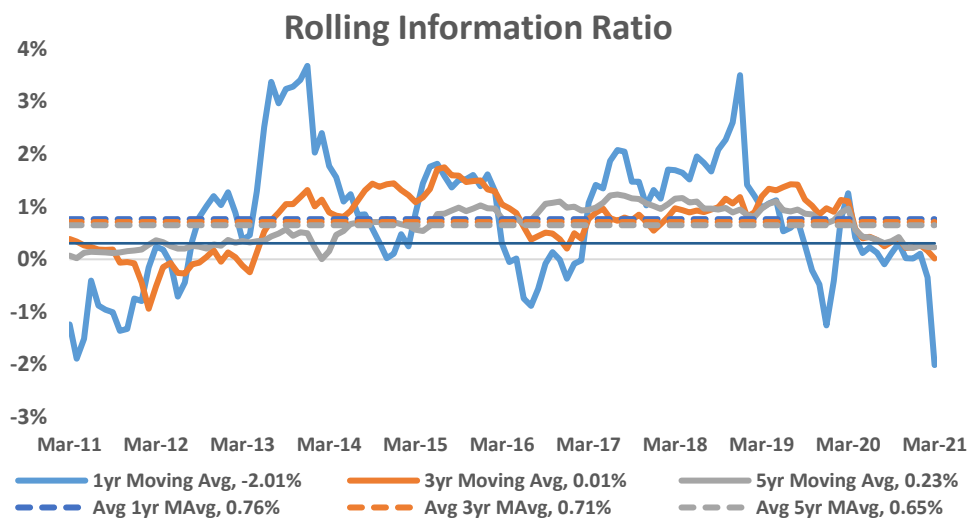
As of March 31, 2021



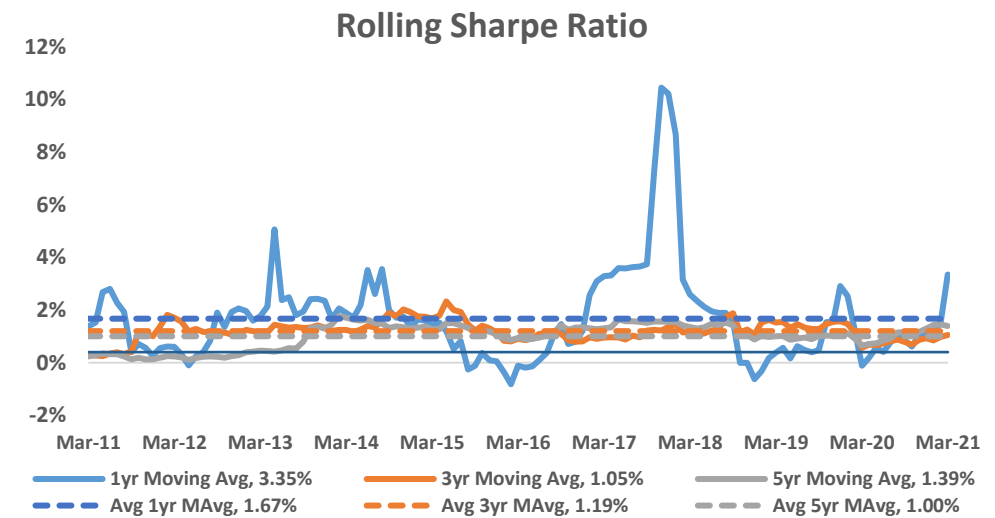
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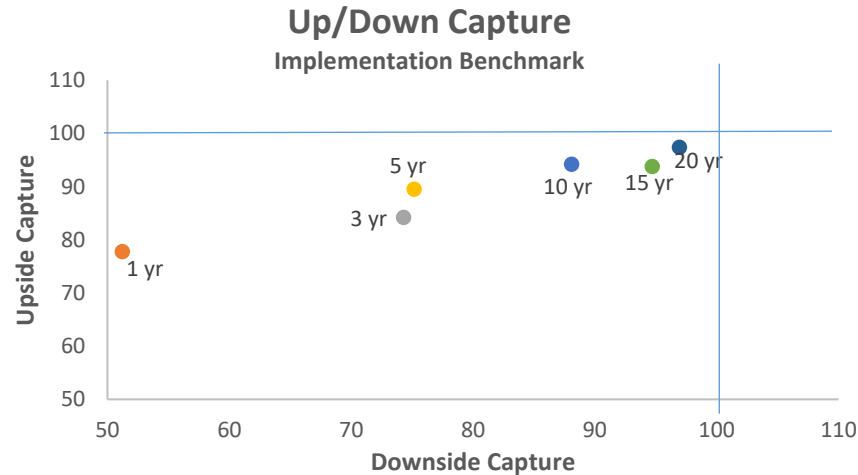
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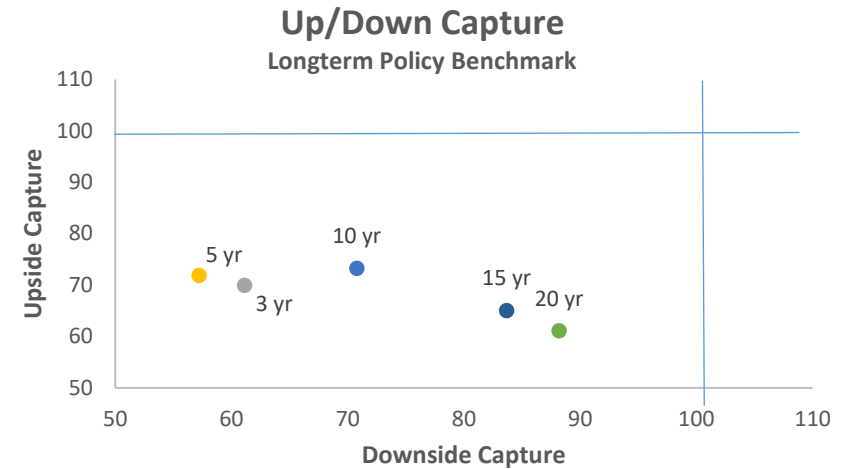
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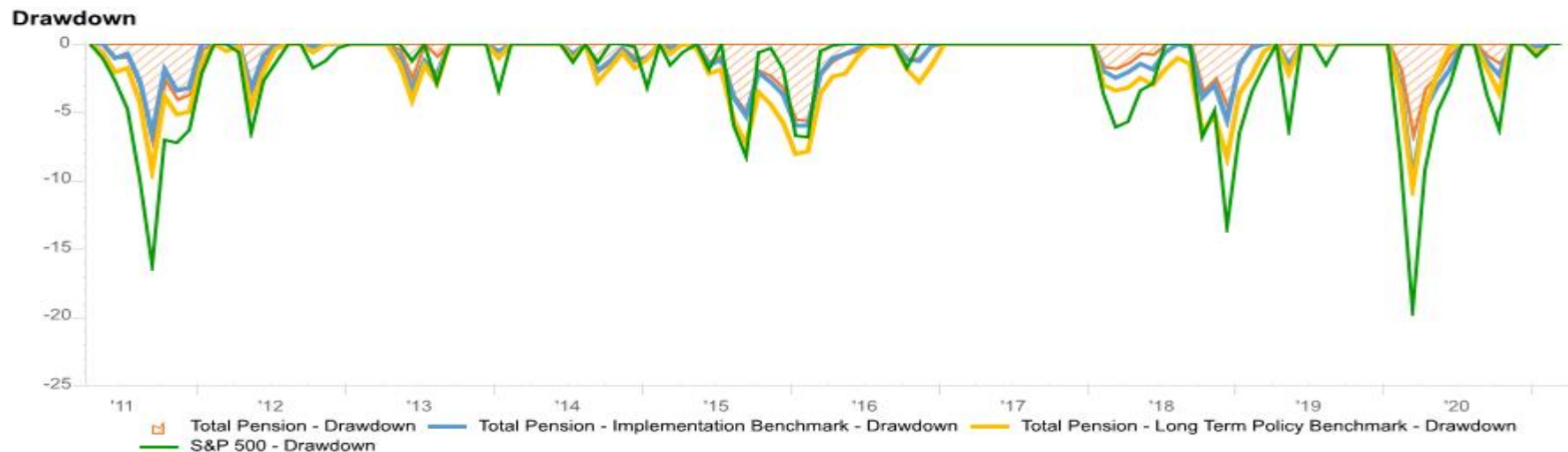
NCRS Net of Fees Risk Metrics As of March 31, 2021



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NCRS Gross of Fees Return and Risk

BNY Mellon Universe: US Public Funds > \$20B; Data as of March 31, 2021

Returns	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years
25th Percentile	33.11	10.59	11.14	8.91	7.39	7.57
Median Percentile	30.92	9.76	10.27	8.51	7.07	7.42
75th Percentile	24.41	8.95	9.77	7.94	6.83	7.01
NCRS	21.35	8.94	9.36	7.92	6.88	7.01
Percentile Rank (1 = highest performance)	89	77	89	77	71	75

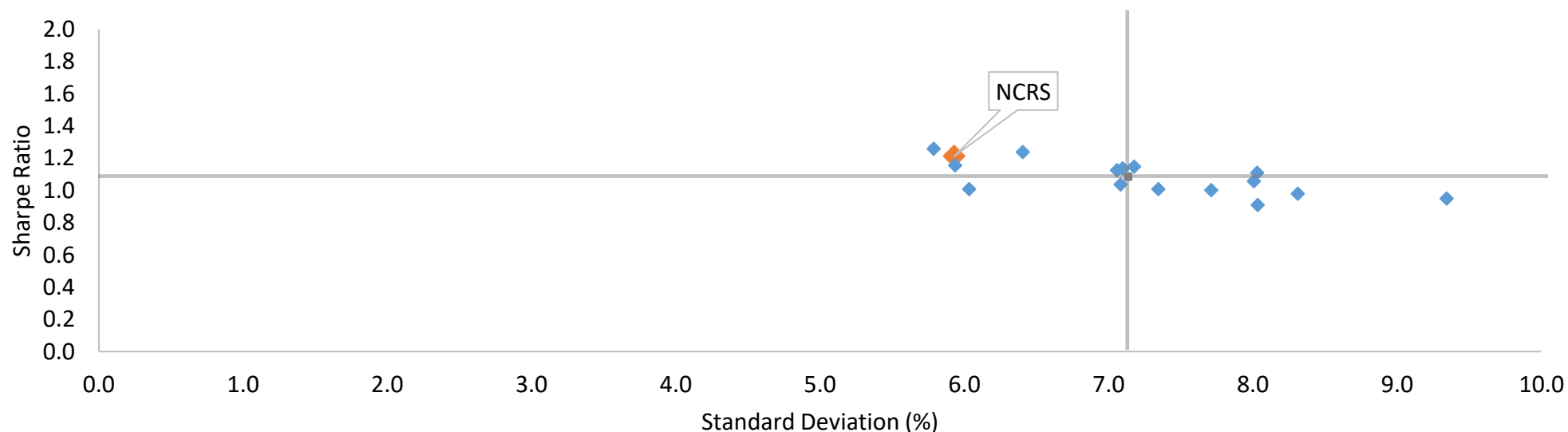
Risk	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years
25th Percentile	8.23	10.26	8.29	8.02	9.45	9.41
Median Percentile	7.29	9.16	7.46	7.14	9.05	8.68
75th Percentile	6.96	7.78	6.47	6.13	8.18	8.23
NCRS	6.23	6.74	5.55	5.93	7.46	7.33
Percentile Rank (1 = highest risk)	95	95	95	89	89	94

NCRS Gross of Fees Sharpe Ratio

BNY Mellon Universe: US Public Funds > \$20B; Data as of March 31, 2021

Sharpe	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years
25th Percentile	3.74	1.01	1.34	1.15	0.74	0.75
Median Percentile	3.33	0.93	1.21	1.08	0.70	0.73
75th Percentile	3.02	0.87	1.12	1.00	0.64	0.64
NCRS	3.14	1.09	1.43	1.21	0.78	0.77
Percentile Rank (1 = highest performance)	65	6	6	18	12	7

10 Year Plot: Sharpe Ratio vs. Volatility



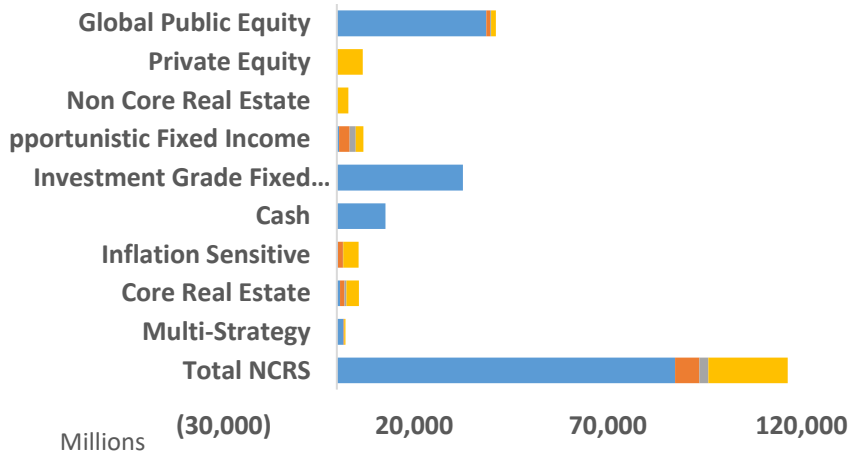
Note: Data shown is gross of fees with the exception of incentive payments, which have been deducted from NAV when applicable.



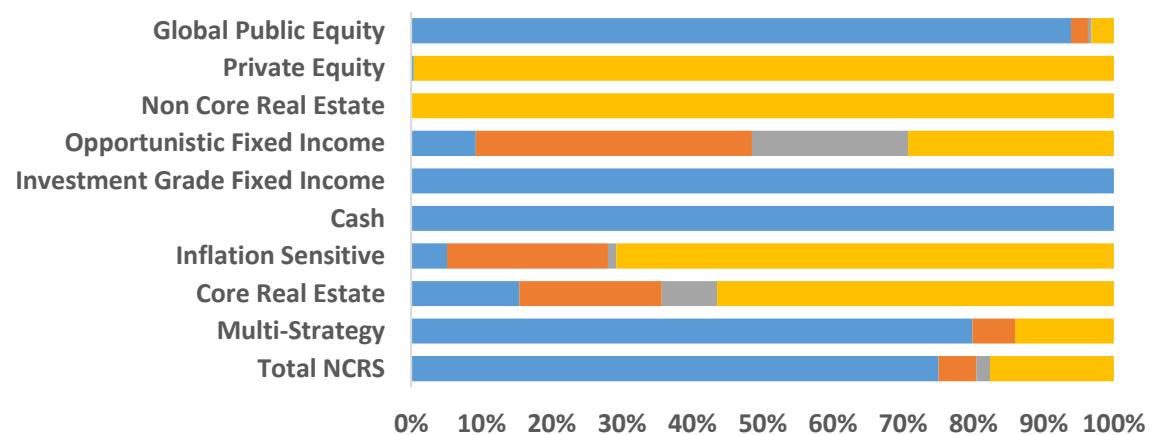
NCRS Liquidity Profile

As of March 31, 2021

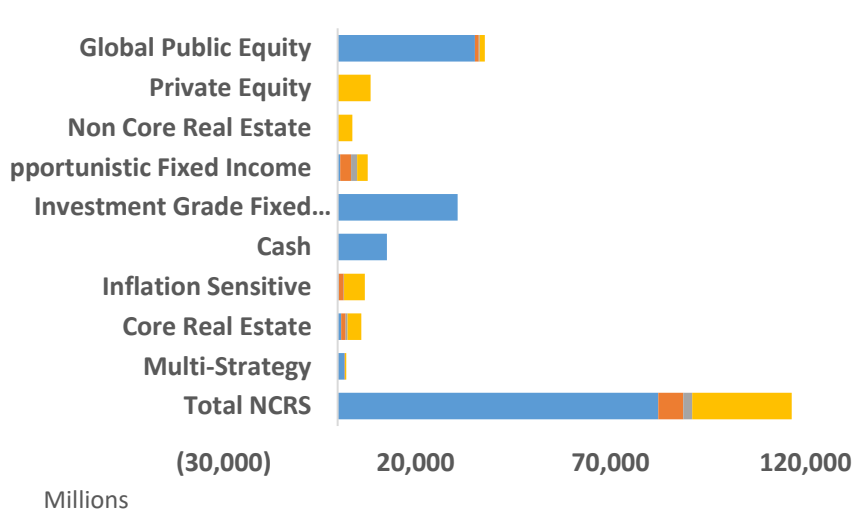
Liquidity Allocation (\$ Market Value)



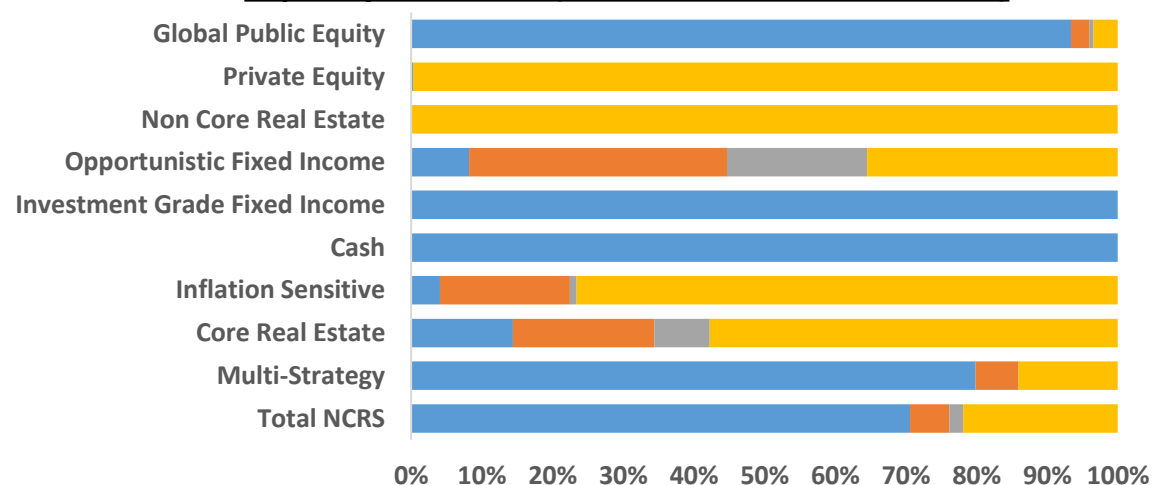
Liquidity Allocation (% Market Value)



Liquidity Allocation (\$ Market Value + Unfunded)



Liquidity Allocation (% Market Value + Unfunded)

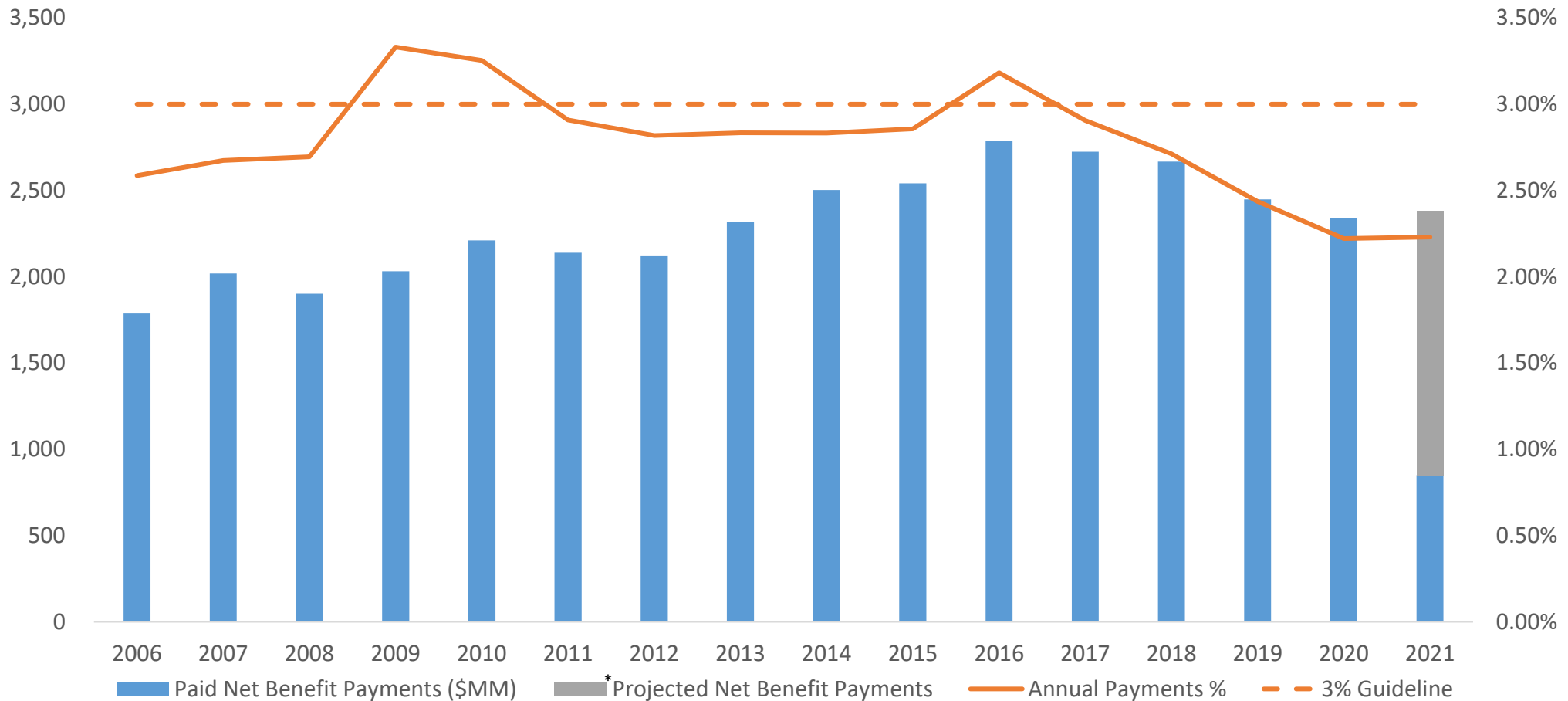


Note: ■ Level 1 Liquidity = T+3; ■ Level 2 = T+3 to 12 Months; ■ Level 3 = 12 to 24 Months; ■ Level 4 = Greater than 24 Months



NCRS Liquidity Profile

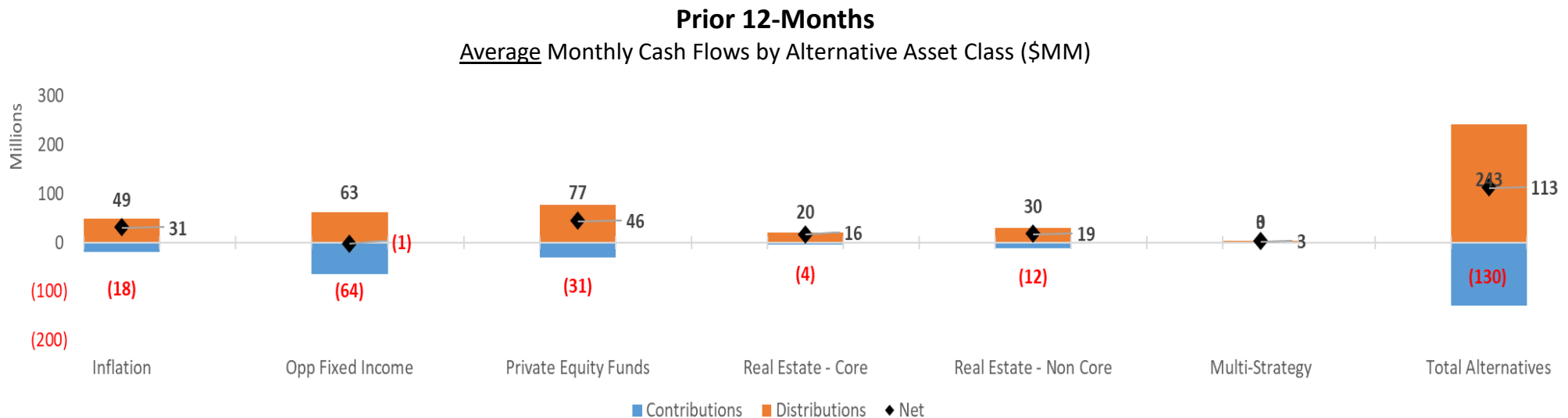
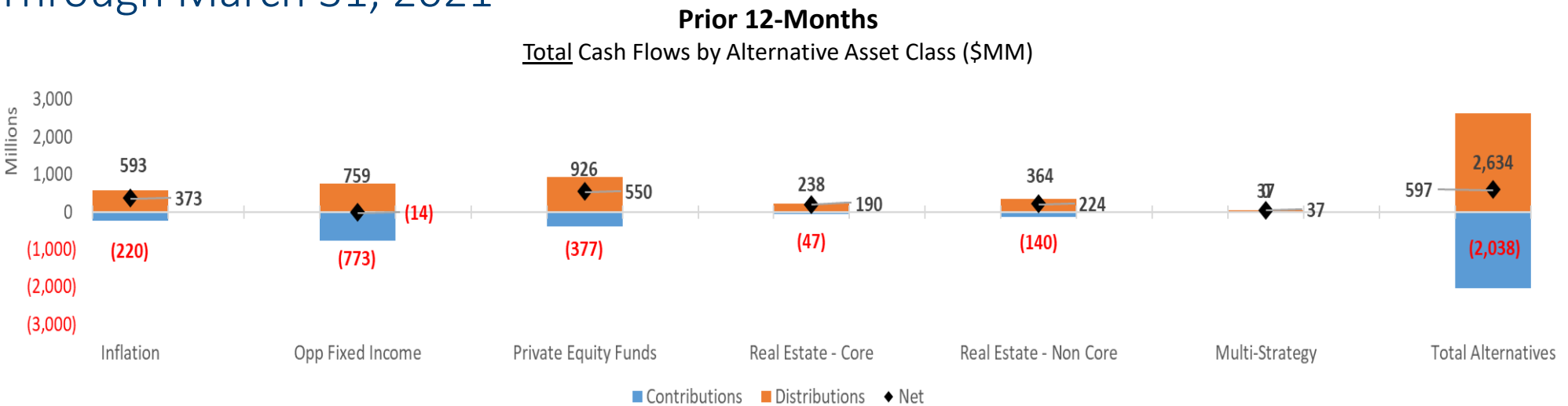
Net benefit payments by calendar year



*Net benefit payments through April 30, 2021



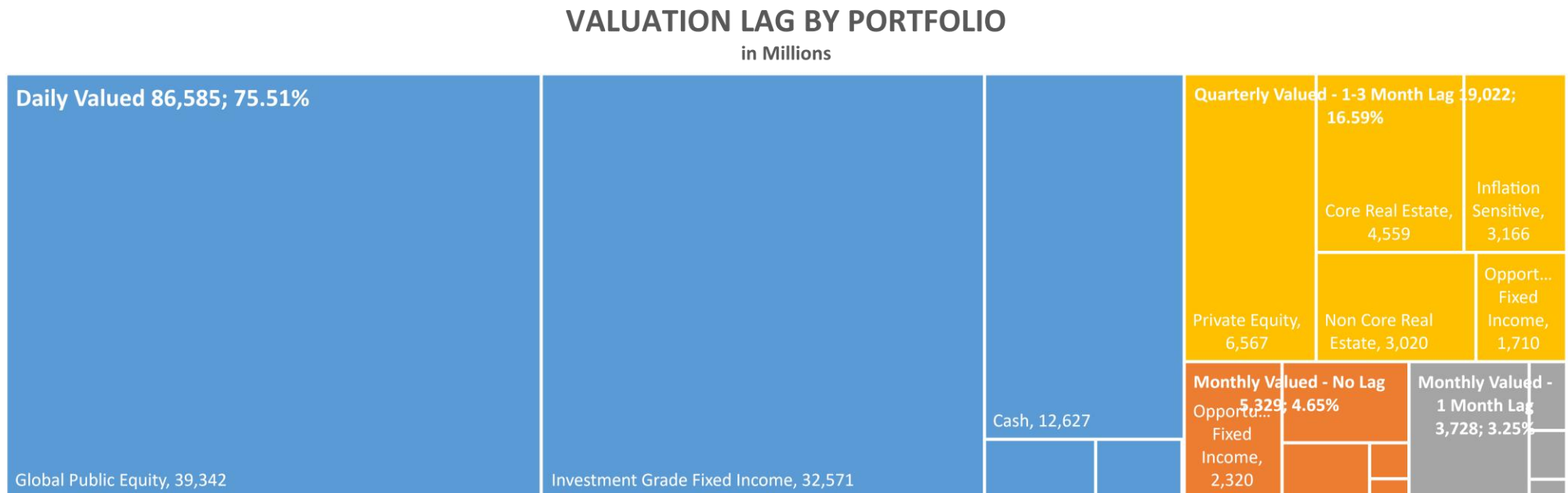
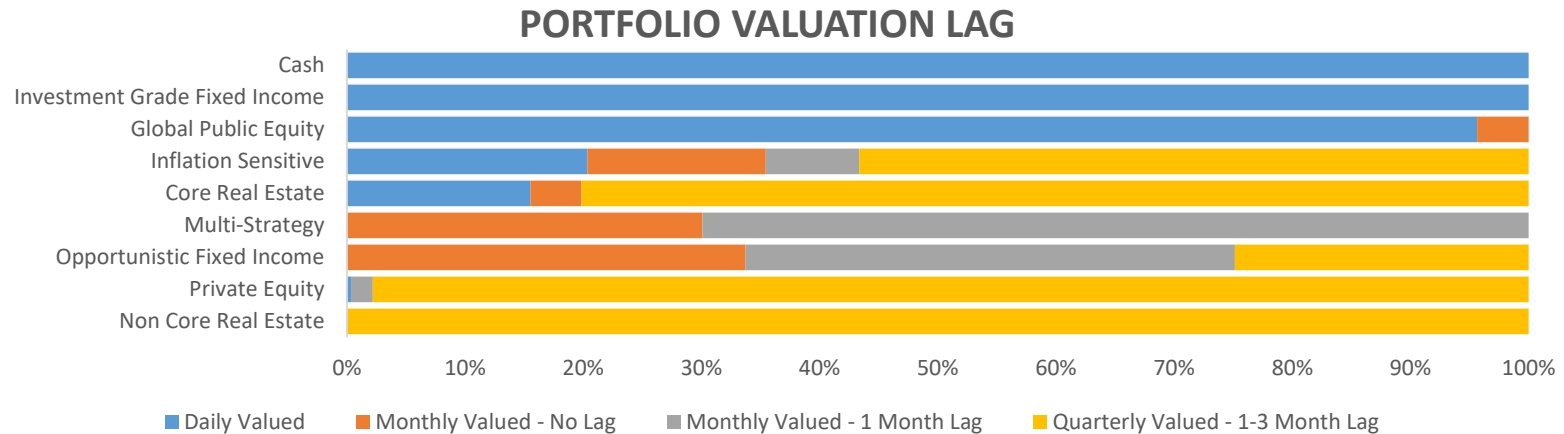
NCRS Alternatives Liquidity Profile Through March 31, 2021





NCRS Valuation Lag Profile

As of March 31, 2021





NCRS Asset Class Net of Fees Performance

As of March 31, 2021

	Market Value (\$MM)	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years
Growth	\$57,740	45.88	12.86	13.43	10.03	7.28	7.32
Benchmark ¹		45.99	11.19	11.87	8.67	6.53	6.50
Public Equity	\$41,128	60.49	13.87	14.55	10.25	7.59	7.58
Benchmark ²		57.10	11.78	12.83	8.97	6.76	6.57
Private Equity	\$6,714	29.77	18.15	14.96	12.40	10.02	7.20
Benchmark ³		23.09	14.44	12.72	11.57	10.75	9.81
Non-Core Real Estate	\$3,020	-0.26	6.78	9.34	11.51	6.06	6.08
Benchmark ⁴		1.12	5.03	6.08	8.04	4.10	6.60
Opportunistic Fixed Income	\$6,878	17.24	5.57	7.24	5.98	6	-
Benchmark ⁵		24.19	5.00	6.16	2.63	2	-
Rates & Liquidity	\$45,197	1.15	4.78	3.34	4.18	5.27	5.53
Benchmark ⁶		-0.56	4.88	3.33	4.34	5.11	5.35
IG Fixed Income	\$32,571	0.99	5.37	3.71	4.40	5.42	5.64
Benchmark ⁷		-0.60	5.01	3.40	4.40	5.15	5.39
Cash	\$12,627	0.66	1.62	1.40	-	-	-
Benchmark ⁸		0.21	1.36	1.11	0.58	-	-
Inflation Sensitive & Diversifiers	\$11,296	4.14	3.83	5.85	3.46	2.61	3.96
Benchmark ⁹		5.33	3.03	4.00	3.43	1.87	3.79
Inflation Sensitive	\$5,609	2.99	2.09	5.03	0.11	1.20	3.00
Benchmark ¹⁰		3.44	2.02	2.92	-0.67	2.33	3.39
Core Real Estate	\$5,688	5.35	5.71	6.72	8.38	5.47	6.12
Benchmark ¹¹		7.53	4.18	5.26	8.50	5.44	6.51
Multi-Strategy	\$2,234	12.79	2.73	5.50	6.99	5.21	-
Benchmark ¹²		18.07	3.36	5.57	6.05	5.68	-
Total Pension Plan	\$116,467	21.04	8.54	8.89	7.41	6.42	6.65
Implementation Benchmark ¹³		25.80	8.52	8.50	6.92	6.06	6.27
Long-Term Policy Benchmark ¹⁴		28.25	9.21	8.98	6.73	6.20	6.69



NCRS Calendar Year Asset Class Return Diversification

As of March 31, 2021

2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Public Equity 17.59%	Public Equity 26.27%	Non-Core Real Estate 19.45%	Non-Core Real Estate 14.84%	Non-Core Real Estate 11.73%	Public Equity 24.44%	Private Equity 18.32%	Public Equity 27.91%	Public Equity 22.23%	Private Equity 13.16%
Multi-Strategy 14.70%	Multi-Strategy 22.61%	Private Equity 14.02%	Private Equity 9.20%	Public Equity 7.33%	Multi-Strategy 13.58%	Non-Core Real Estate 13.32%	Total Pension 14.88%	Private Equity 18.86%	Opportunistic Fixed Income 7.00%
Opportunistic Fixed Income 13.95%	Opportunistic Fixed Income 16.56%	Core Real Estate 10.41%	Core Real Estate 8.28%	Inflation Sensitive 7.19%	Total Pension 13.53%	Inflation Sensitive 6.88%	Multi-Strategy 14.82%	Total Pension 11.30%	Public Equity 4.12%
Core Real Estate 13.67%	Non-Core Real Estate 12.88%	IG Fixed Income & Cash 8.51%	Multi-Strategy 0.85%	Opportunistic Fixed Income 7.09%	Non-Core Real Estate 12.40%	Opportunistic Fixed Income 5.69%	Core Real Estate 10.71%	IG Fixed Income & Cash 9.34%	Inflation Sensitive 3.16%
Total Pension 11.84%	Total Pension 12.28%	Total Pension 6.19%	Pension Cash 0.58%	Core Real Estate 6.68%	Private Equity 11.95%	Core Real Estate 5.67%	IG Fixed Income & Cash 10.33%	Opportunistic Fixed Income 2.85%	Non-Core Real Estate 2.78%
Non-Core Real Estate 7.78%	Private Equity 11.72%	Public Equity 3.68%	Total Pension 0.29%	Total Pension 6.26%	Core Real Estate 10.12%	Pension Cash 1.88%	Non-Core Real Estate 9.93%	Pension Cash 1.06%	Multi-Strategy 2.72%
IG Fixed Income & Cash 7.29%	Core Real Estate 11.28%	Opportunistic Fixed Income 3.40%	IG Fixed Income & Cash 0.28%	Private Equity 6.05%	Inflation Sensitive 7.53%	IG Fixed Income & Cash -0.57%	Private Equity 8.15%	Non-Core Real Estate 0.45%	Core Real Estate 2.69%
Private Equity 5.74%	Inflation Sensitive -1.32%	Multi-Strategy 2.69%	Public Equity -1.26%	Multi-Strategy 6.00%	Opportunistic Fixed Income 7.05%	Total Pension -1.47%	Opportunistic Fixed Income 3.61%	Core Real Estate -0.13%	Total Pension 1.72%
Inflation Sensitive 1.06%	IG Fixed Income & Cash -3.49%	Pension Cash 0.45%	Opportunistic Fixed Income -2.61%	IG Fixed Income & Cash 3.24%	IG Fixed Income & Cash 4.42%	Multi-Strategy -4.79%	Pension Cash 2.20%	Inflation Sensitive -3.50%	Pension Cash 0.06%
		Inflation Sensitive -0.65%	Inflation Sensitive -9.05%	Pension Cash 0.98%	Pension Cash 1.12%	Public Equity -9.32%	Inflation Sensitive 2.09%	Multi-Strategy -4.13%	IG Fixed Income & Cash -4.17%



New, Incremental, & Unfunded Investment Commitments

Since February 24th IAC Meeting

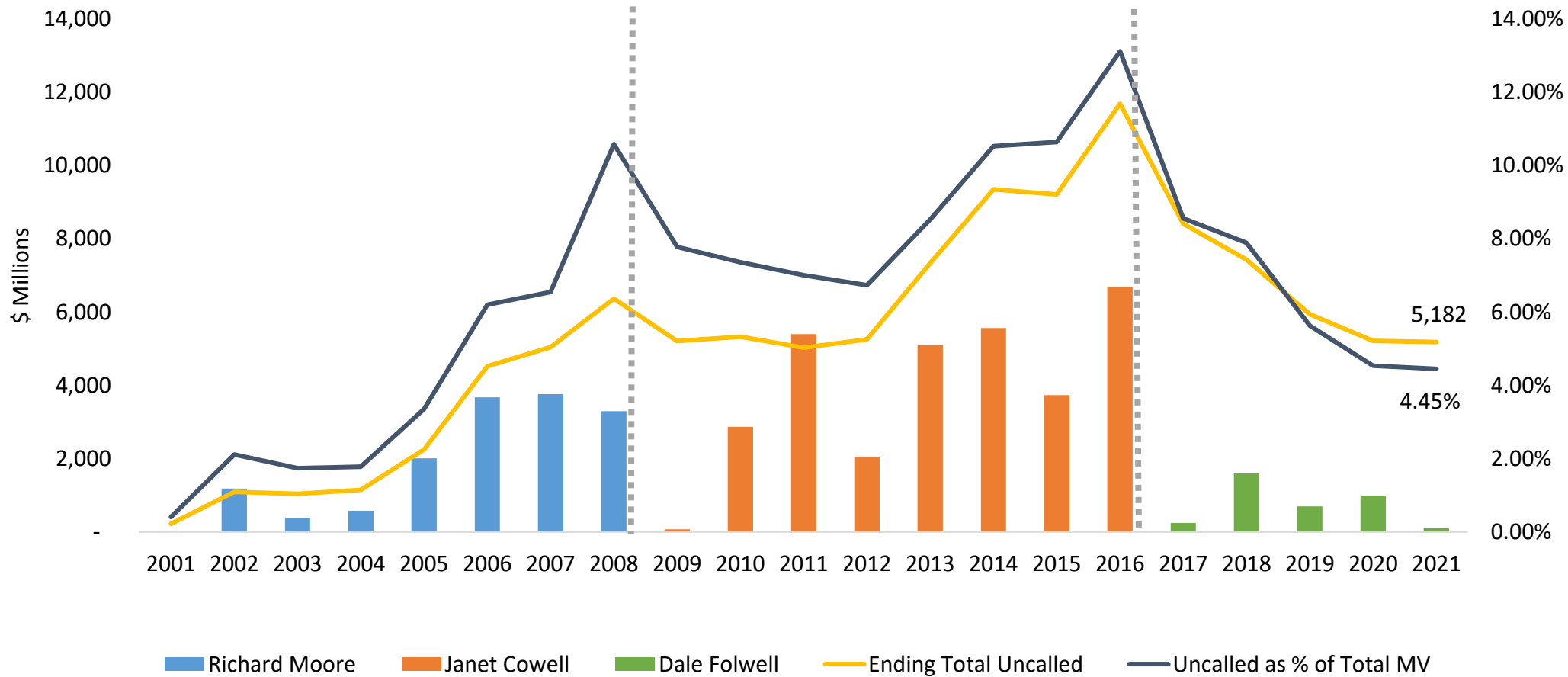
As of March 31, 2021

<u>Fund Name</u>	<u>Firm Name</u>	<u>New or Incremental Commitment (\$MM)</u>	<u>Closing Date</u>
Public Equity			
None			
Private Equity			
None			
Non-Core Real Estate			
None			
Opportunistic Fixed Income			
HPS Kitty Hawk	Highbridge Principle Strategies	100	2/24/2021
Inflation Sensitive			
None			
Core Real Estate			
None			
Multi-Strategy			
None			

<u>Asset Class</u>	<u>Unfunded Commitments (\$MM)</u>
Public Equity	0
Private Equity	1,736
Non-Core Real Estate	806
Opportunistic Fixed Income	852
Inflation Sensitive	1,393
Core Real Estate	396
Multi Strategy	0
Total	5,182

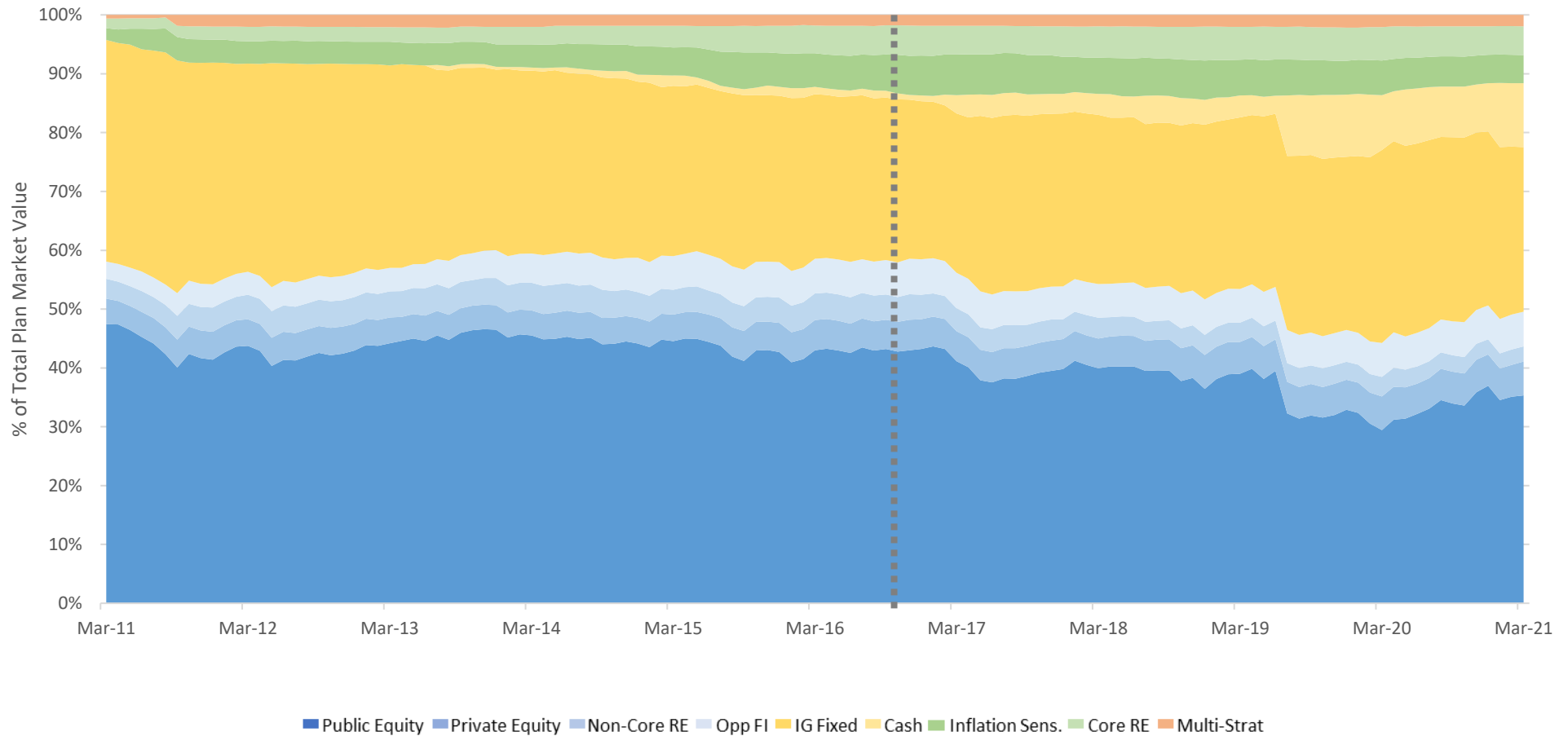


New and Total Unfunded Private Asset Class Commitments By Calendar Year of Closing





Asset Allocation History as of March 31, 2021





Exited Investments

Since February 24th IAC Meeting

<u>Fund Name</u>	<u>Redemption Amount (\$MM)</u>	<u>Redemption Effective</u>
Public Equity		
ONSHE Marshall Wace	264	3/31/2021
Private Equity		
None		
Non-Core Real Estate		
None		
Opportunistic Fixed Income		
Anchorage Capital Management	128	3/31/2021
Inflation Sensitive		
None		
Core Real Estate		
None		
Multi Strategy		
None		



Top 20 Investment Managers

As of March 31, 2021

	Manager	Market Value (\$)	Uncalled (\$)	% MV	% MV Cum.
1	Internal Fixed Income	45,197,259,966	-	38.8%	38.8%
2	Internal Equity	15,891,610,747	-	13.6%	52.5%
3	BlackRock, Inc.	9,428,186,431	-	8.1%	60.5%
4	Baillie Gifford	4,732,941,025	-	4.1%	64.6%
5	Wellington Management	3,278,939,347	-	2.8%	67.4%
6	Mondrian Investment Partners Limited	2,895,548,988	-	2.5%	69.9%
7	Rockwood Capital	2,691,334,215	167,152,133	2.3%	72.2%
8	Blackstone Group	2,548,260,001	1,120,782,651	2.2%	74.4%
9	Walter Scott & Partners	2,521,189,637	-	2.2%	76.6%
10	Gladius Capital Management LP	1,919,564,791	-	1.6%	78.2%
11	Angelo, Gordon & Co.	1,807,226,245	49,036,361	1.6%	79.8%
12	ValueAct Capital	1,308,555,601	-	1.1%	80.9%
13	Landmark Partners, Inc.	1,098,903,502	1,134,984,965	0.9%	81.8%
14	HPS Investment Partners, LLC	942,201,246	220,305,191	0.8%	82.7%
15	DoubleLine Capital LP	851,844,313	-	0.7%	83.4%
16	Earnest Partners	829,357,329	-	0.7%	84.1%
17	Franklin Templeton Investments	770,607,725	-	0.7%	84.8%
18	LBA Realty	735,319,063	9,900,990	0.6%	85.4%
19	Campbell Group LLC, The	706,665,638	-	0.6%	86.0%
20	Brigade Capital Management	703,688,158	-	0.6%	86.6%
	92 Remaining Managers*	15,608,253,535	2,480,096,924	13.4%	100.0%
	Total	116,467,457,501	5,182,259,215	100.0%	100.0%

*Manager count consists of all manager accounts with a market value greater than \$5.1 million and new, not yet funded, accounts.



Appendix



NCRS Public Equity Net of Fees Performance

As of March 31, 2021

	Market Value (\$MM)	3 Month	1 Year	3 Years	5 Years	10 Years
Public Equity	\$41,128	4.12	60.49	13.87	14.55	10.25
Benchmark ²		5.10	57.10	11.78	12.83	8.97
Domestic Portfolio	\$20,172	6.12	62.40	17.99	17.23	13.96
Russell 3000		6.35	62.53	17.12	16.64	13.79
Non-US Portfolio	\$20,478	1.98	58.73	9.81	12.66	6.81
Custom Benchmark		3.77	51.94	6.51	9.84	5.11
Equity Hedge	\$477	13.74	32.95	4.50	5.27	-
MSCI ACWI (Beta Adjusted)		2.04	20.52	5.03	5.38	-

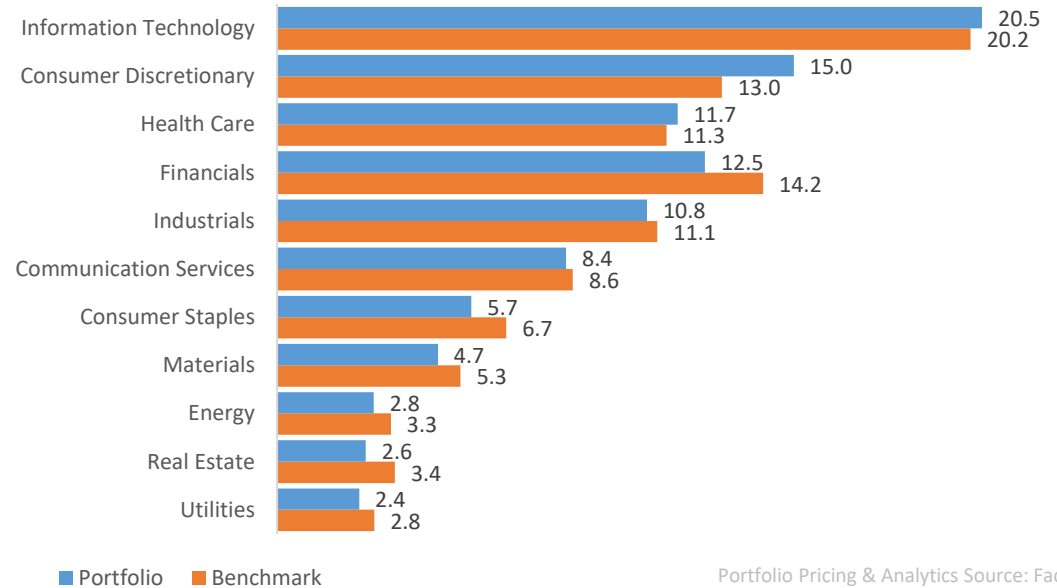


NCRS Public Equity Portfolio Characteristics

As of March 31, 2021

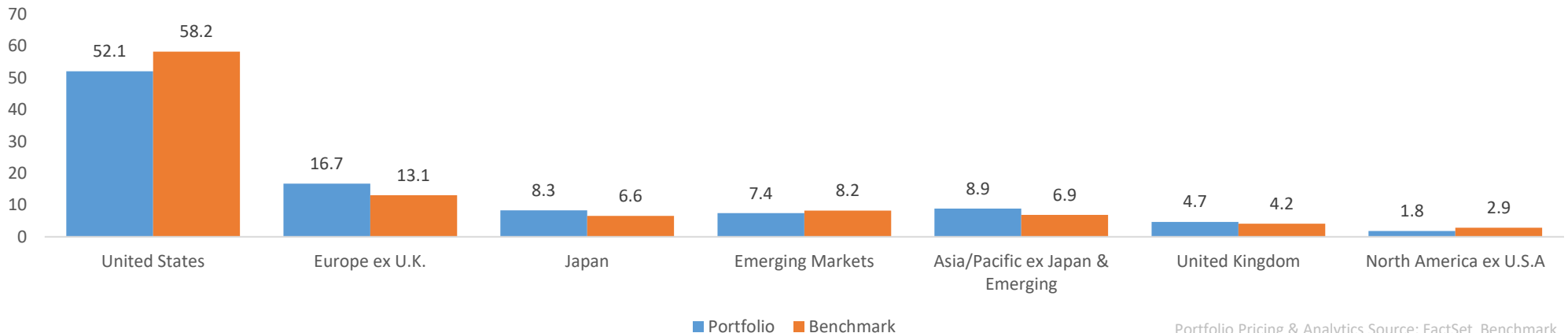
Portfolio Characteristics		
	Portfolio	MSCI ACWI IMI
Price/Earnings	23.5	22.2
Dividend Yield	1.5	1.7
Price/Book	2.8	2.7
Market Capitalization	243,768	262,808
Return On Equity	14.7	15.8

@FactSet Research Systems



Portfolio Pricing & Analytics Source: FactSet
Benchmark Pricing & Analytics Source: FactSet

Total Equity Regional Allocation



Portfolio Pricing & Analytics Source: FactSet
Benchmark Pricing & Analytics Source: FactSet



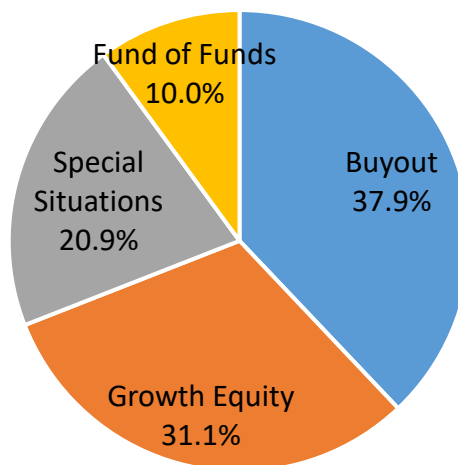
NCRS Private Equity Portfolio

As of March 31, 2021

Net of Fees Performance (%)						
	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Private Equity	\$6,714	13.16	29.77	18.15	14.96	12.40
Benchmark ³		14.56	23.09	14.44	12.72	11.57
Buyout	\$2,538	10.16	21.80	15.51	14.16	10.81
Growth	\$2,082	24.05	58.66	31.01	21.81	18.23
Special Situations	\$1,398	10.29	18.79	10.85	9.75	7.49
Fund of Funds	\$672	2.44	15.82	12.59	11.54	12.31

IRR by Vintage Year																				
	Pre-2004	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
NCRS	12.03	6.83	5.20	3.41	9.94	9.51	7.80	19.93	9.37	15.61	12.70	21.06	20.34	28.37	15.53	15.37	N/A	N/A	N/A	9.84
# of Funds	28	3	11	21	15	17	3	1	6	6	9	4	9	6	7	3	N/A	N/A	N/A	149

Strategy Allocation (Based on Valuation)



*Private Equity returns include a stock distribution account, in the amount of roughly \$18.6 million, which does not fall under any specific sub-section. 35



NCRS Non-Core Real Estate Portfolio

As of March 31, 2021

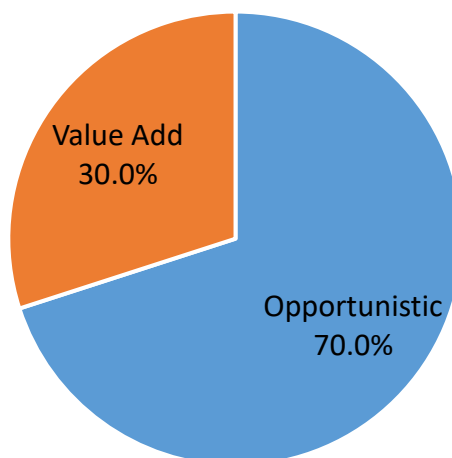
Net of Fees Performance (%)

	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Non-Core Real Estate	\$3,020	2.78	(0.26)	6.78	9.34	11.51
Benchmark ⁴		4.20	1.12	5.03	6.08	8.04
Opportunistic	\$2,115	3.89	0.28	7.23	9.54	10.98
Value Add	\$905	0.28	(1.46)	5.76	8.62	12.22

IRR by Vintage Year

	<u>Pre-2004</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Total</u>
NCRS	9.12	15.69	-1.43	2.85	2.20	15.60	N/A	15.98	17.55	16.70	13.56	5.21	7.25	12.06	N/A	14.11	20.16	N/A	N/A	6.62
# of Funds	16	3	15	13	8	6	N/A	6	7	5	7	7	6	7	N/A	1	1	N/A	N/A	108

Strategy Allocation (Based on Valuation)





NCRS Opportunistic Fixed Income Portfolio

As of March 31, 2021

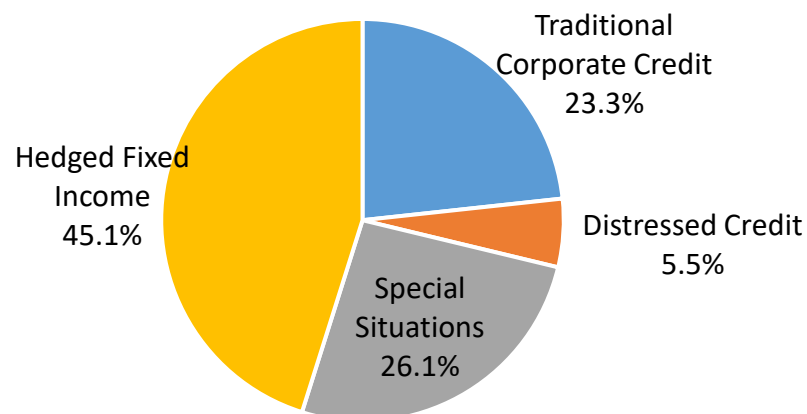
Net of Fees Performance (%)

	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Opportunistic Fixed Income	\$6,878	7.00	17.24	5.57	7.24	5.98
Benchmark ⁵		3.39	24.19	5.00	6.16	2.63
Traditional Corporate Credit	\$1,601	5.27	13.02	6.99	9.29	7.29
Distressed Credit	\$377	8.74	25.34	7.47	9.95	9.25
Special Situations	\$1,795	5.99	14.24	5.28	7.42	11.35
Hedged Fixed Income	\$3,104	8.34	20.26	5.18	6.28	4.14

IRR by Vintage Year

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Total</u>
NCRS	2.87	N/A	16.92	7.99	22.42	5.58	4.63	4.35	4.74	3.70	8.18	7.68	14.76	N/A	10.52	33.17	N/A	6.17
# of Funds	1	N/A	1	3	1	4	9	2	7	3	1	8	2	N/A	1	2	N/A	45

Strategy Allocation (Based on Valuation)





NCRS Rates & Liquidity Portfolio

As of March 31, 2021

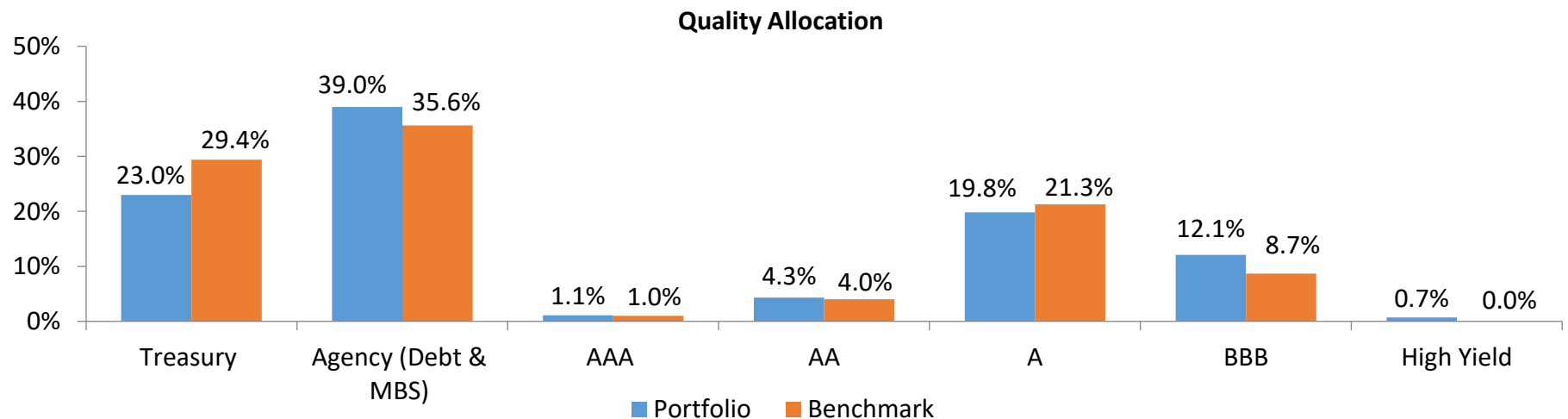
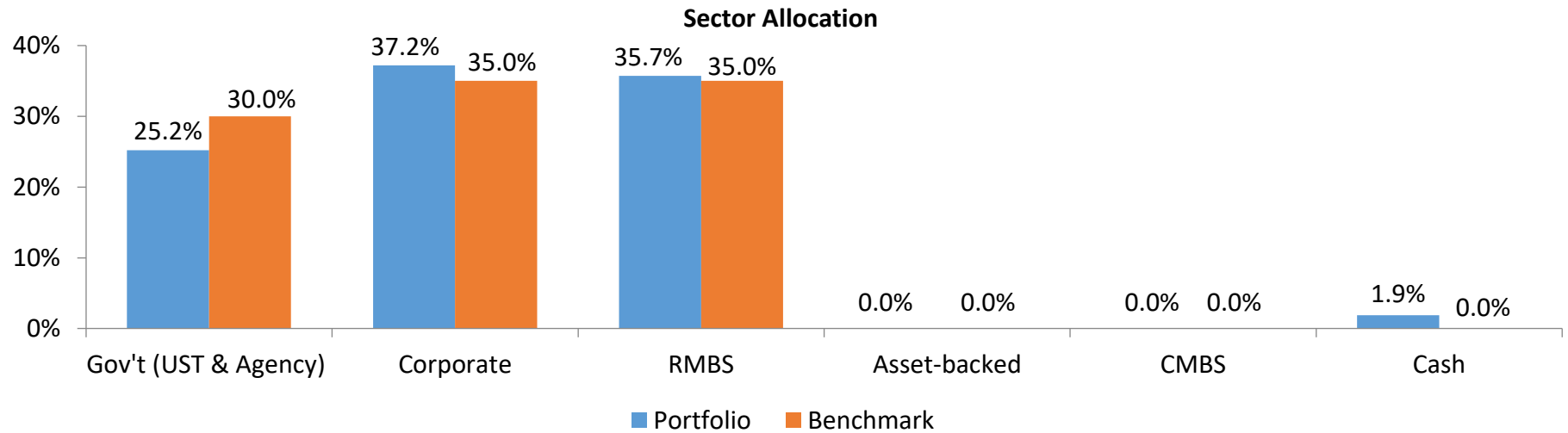
Net of Fees Performance (%)						
	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Rates & Liquidity	\$45,197	(3.06)	1.15	4.78	3.34	4.18
Benchmark ⁶		(4.88)	(0.56)	4.88	3.33	4.34
IG Fixed Income	\$32,571	(4.17)	0.99	5.37	3.71	4.40
Core Fixed Income	\$29,227	(4.62)	0.85	5.76	3.95	4.62
IG Fixed Income Cash	\$3,344	0.07	0.77	1.53	1.35	-
Pension Cash	\$12,627	0.06	0.66	1.62	1.40	-

Core Fixed Income Portfolio Characteristics			
	<u>Avg. Coupon</u>	<u>Yield to Worst</u>	<u>Effective Duration</u>
Government (Treasury & Agency)	3.8%	1.7%	10.1
Corporate	4.2%	2.7%	9.9
Mortgage	3.1%	1.4%	3.3
Total	3.7%	2.1%	7.5



NCRS Core Fixed Income Portfolio Characteristics

As of March 31, 2021



NCRS Inflation Sensitive Portfolio

As of March 31, 2021

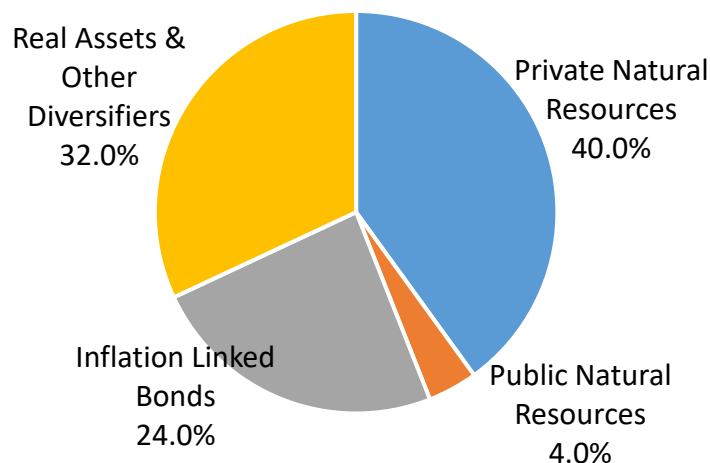
Net of Fees Performance (%)

	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Inflation Sensitive	\$5,609	3.16	2.99	2.09	5.03	0.11
Benchmark ¹⁰		1.88	3.44	2.02	2.92	(0.67)
Private Natural Resources	\$2,245	3.20	(2.72)	(2.03)	3.16	1.36
Public Natural Resources	\$224	7.69	39.76	(0.23)	1.12	(5.84)
Inflation Linked Bonds	\$62	1.39	6.57	3.26	2.37	-
Real Assets & Other Diversifiers	\$1,792	3.94	(1.18)	5.93	8.05	-

IRR by Vintage Year

	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Total</u>
NCRS	0.38	-8.19	-6.32	N/A	-8.50	-6.45	5.89	6.13	6.95	5.50	4.18	4.99	16.60	35.12	N/A	N/A	1.05
# of Funds	3	2	2	N/A	3	9	7	11	12	4	4	1	3	2	N/A	N/A	63

Strategy Allocation (Based on Valuation)





NCRS Core Real Estate Portfolio

As of March 31, 2021

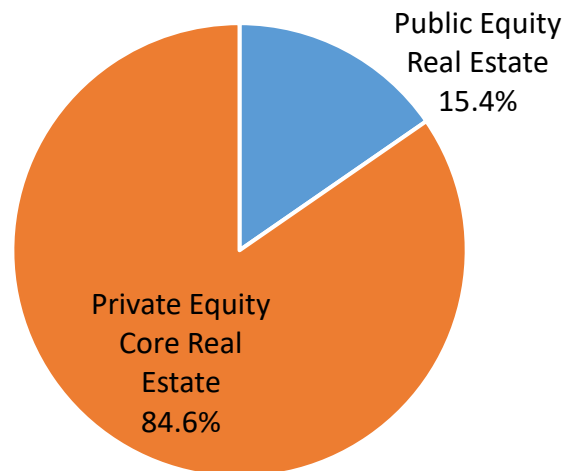
Net of Fees Performance (%)

	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Core Real Estate	\$5,688	2.69	5.35	5.71	6.72	8.38
Benchmark ¹¹		2.70	7.53	4.18	5.26	8.50
Public Equity Real Estate	\$875	6.81	37.72	8.09	6.95	7.85
Private Equity Core Real Estate	\$4,813	1.98	1.15	5.32	6.70	8.84

IRR by Vintage Year

	<u>Pre-2004</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>Total</u>
NCRS	7.57	9.76	-8.33	4.59	1.39	9.04	N/A	23.62	N/A	N/A	3.89	6.00	7.35	8.68	N/A	9.17	N/A	N/A	N/A	7.01
# of Funds	5	1	1	2	3	1	N/A	1	N/A	N/A	2	6	2	9	N/A	1	N/A	N/A	N/A	34

Strategy Allocation (Based on Valuation)



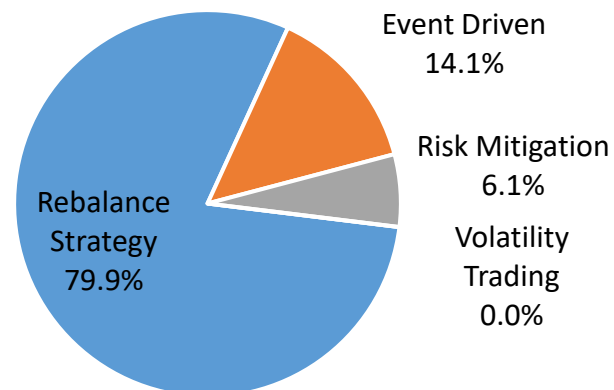


NCRS Multi-Strategy Portfolio

As of March 31, 2021

Net of Fees Performance (%)						
	Market Value	3 Month	1 Year	3 Years	5 Years	10 Years
Multi-Strategy	\$2,234	2.72	12.79	2.73	5.50	6.99
Benchmark ¹²		2.20	18.07	3.36	5.57	6.05
Rebalance Strategy	\$1,784	2.04	24.24	5.11	7.39	-
Event Driven	\$314	7.95	11.05	4.42	7.32	-
Risk Mitigation	\$135	(0.32)	(14.36)	(1.99)	-	-
Volatility Trading	\$0	(1.59)	(74.07)	(42.33)	-	-

Strategy Allocation (Based on Valuation)



Notes:

All data presented are based on currently available information at time of publication and may be revised subsequently.

1. The Growth Benchmark is a blend of the Public Equity Benchmark, Private Equity Benchmark, Non-Core Real Estate Benchmark, & Opportunistic FI Benchmark at policy weights.
2. The Public Equity Benchmark is a dynamically weighted combination of the MSCI ACWI IMI Net (Long-Only) and a beta adjusted MSCI ACWI IMI Net (Hedged Equity).
3. The Private Equity Benchmark is comprised of the following Burgiss Group Private iQ indices: 50% Buyout, 20% Venture Capital, and 30% Distressed.
4. The Non-Core Real Estate Benchmark is comprised of the following Burgiss Group Private iQ indices: 80% U.S. Non-Core Real Estate (Opportunistic and Value-Added) and 20% Non-U.S. Non-Core Real Estate (Opportunistic and Value-Added).
5. The Opportunistic Fixed Income Benchmark is comprised of 50% HFRX Distressed Securities Index, 20% HFRX Relative Value Index, 15% Credit Suisse Leveraged Loan Index, and 15% BOAML High Yield Index.
6. The Rates & Liquidity Benchmark is a blend of the IG Fixed Income & Cash Benchmark and the Pension Cash Benchmark at policy weights.
7. The IG Fixed Income & Cash Benchmark is comprised 10% iMoneyNet First Tier Institutional Money Market Funds Net Index and 90% custom BOAML Core Investment Grade Index. The custom BOAML core index comprised of the following weightings: 30% BOAML 5+ Years Governments, 35% BOAML 5+ Years Investment Grade Corporates, and 35% BOAML Mortgage Master.
8. The Pension Cash Benchmark is the iMoneyNet First Tier Institutional Money Market Funds Net Index.
9. The Inflation Sensitive & Diversifiers Benchmark is a blend of the Inflation Sensitive Benchmark and the Core Real Estate Benchmark at policy weights.
10. The Inflation Sensitive Benchmark is the dynamically weighted combination of the Bank of America Merrill Lynch 1-3 Years U.S. Inflation-Linked Treasury Index (TIPS), the Bloomberg Commodities Index (Commodities), and a combination of the benchmarks of investments classified within Private Natural Resources or Other Real Assets and Diversifiers.
11. The Core Real Estate Benchmark is comprised of 80% NCREIF ODCE Net and 20% FTSE EPRA NAREIT Global Index.
12. The Multi-Strategy Benchmark is comprised of a dynamically weighted combination of the HFRX ED: Multi-Strategy Index, net of fees, and the market value weighted benchmarks for any other total fund strategies within the Portfolio.
13. The Implementation Benchmark is a blend of the Asset Class Benchmarks at policy weights. It is currently weighted as follows: 58% Growth Benchmark, 29% Rates & Liquidity Benchmark, 11% Inflation Sensitive & Diversifiers Benchmark, and 2% Multi-Strategy Benchmark.
14. The Long-Term Policy Benchmark is comprised of 57% MSCI ACWI IMI Net, 33% BOAML 5+ Years U.S. Treasury Index, 6% Bloomberg Commodity Index, and 4% BOAML 1-3 Years U.S. Inflation-Linked Treasury Index.

*Source: BofA Merrill Lynch, used with permission. See disclaimer on next page.



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NORTH CAROLINA
DEPARTMENT OF STATE TREASURER



Dale R. Folwell, CPA
STATE TREASURER OF NORTH CAROLINA
DALE R. FOLWELL, CPA

INVESTMENT MANAGEMENT DIVISION