



Virginia
Retirement
System

Investments Report

FOR THE QUARTER ENDING

MARCH 31, 2022





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At the end of the March quarter, we find ourselves in a world where there is a disconnect between bullish analyst expectations for corporate revenues and earnings as well as positive economic statistics, and bearish concerns of a looming recession because of inflation and rising interest rates. The stock and bond markets have both experienced a repricing and posted negative returns of nearly 6% for the quarter. Largely offsetting these declines has been solid performance from VRS' private markets assets and the multi-asset portfolios.

The fiscal year-to-date return for the total fund is 6.1%, nicely ahead of the 2.7% benchmark. Elevated uncertainty has translated into elevated volatility as the stock market has shown a sawtooth pattern so far in 2022. To illustrate the benefits of diversification, let's graph the VRS benchmark risk and return as well as the actual portfolio. In addition, we'll plot stock, bond and property index returns to further demonstrate VRS' diversification strategy.

The following graph is divided into four quadrants:

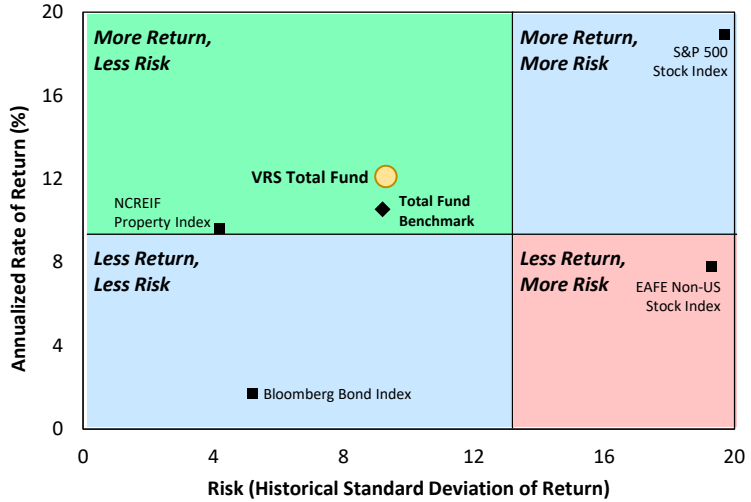
- The bottom left quadrant is low risk/low return; you see the bond index there.
- The top right quadrant is high(er) risk/high(er) return; "growth" assets like the S&P 500 are in this quadrant.
- The bottom left to top right risk/reward tradeoff is called the capital market line. It balances risk and reward – note the neutral color blue.
- Moving to the bottom right, we have high risk/low reward. This is the quadrant you want to avoid as it is an inefficient reward for risk taken – note the color red.
- The top left quadrant is the brass ring— low risk, high reward. Efficiently constructed portfolios fall in this quadrant – note the color green. You can see the VRS Benchmark and Total Fund in this quadrant. The Total Fund has higher returns and less risk than the benchmark. This means that the Board has selected an efficient risk posture and that staff has added value to a passive alternative implementation of the Board's policy.

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Risk vs. Total Return 3 years ending March 31, 2022



Source: Wilshire

Assets like real estate (the property index shown in the graph) are efficient because they add return while reducing overall portfolio risk. Even high-risk assets, such as energy, timber, private equity and private credit, reduce overall portfolio risk because they have a differentiated return pattern from stocks and bonds. In times of high inflation and economic uncertainty, asset allocations away from traditional stocks and bonds help VRS provide steady returns that help fund retirement benefit payments.

TOTAL FUND PERFORMANCE

(Expressed in Percentages, Net of Fees)

	10 Yr.	5 Yr.	3 Yr.	1 Yr.	Qtr.	Month	Fiscal YTD	Cal YTD
Total Public Equity Strategies	10.0	10.3	12.2	4.9	-5.7	1.0	-1.5	-5.7
<i>Benchmark ¹</i>	10.2	11.4	13.7	6.7	-5.4	2.1	-0.6	-5.4
Total Fixed Income	3.0	3.3	3.3	-3.4	-5.8	-2.3	-5.6	-5.8
<i>Benchmark ²</i>	2.3	2.2	1.7	-4.1	-6.1	-2.6	-6.0	-6.1
Total Credit Strategies	6.8	7.2	8.5	8.3	-0.1	1.0	4.1	-0.1
<i>Benchmark ³</i>	5.4	5.0	4.9	1.3	-2.1	-0.6	-0.5	-2.1
Total Real Assets	10.9	9.9	10.4	22.4	6.9	7.8	17.7	6.9
<i>Benchmark ⁴</i>	9.0	7.8	8.1	17.4	4.9	2.1	14.1	4.9
Total Private Equity	18.1	22.9	27.4	43.6	4.9	5.0	27.1	4.9
<i>Benchmark ⁵</i>	15.8	17.2	22.5	19.0	6.2	4.0	12.7	6.2
Total Private Investment Partnerships	n/a	11.2	12.9	25.2	3.1	3.1	15.1	3.1
<i>Benchmark ⁶</i>	n/a	10.1	12.8	12.8	3.3	1.8	9.2	3.3
Total Multi-Asset Public Strategies	n/a	n/a	6.5	5.8	-0.7	1.3	2.1	-0.7
<i>Benchmark ⁷</i>	n/a	n/a	7.7	3.4	-3.3	0.4	-0.5	-3.3
Total Fund	9.2	10.2	12.1	12.3	-0.9	2.1	6.1	-0.9
<i>VRS Custom Benchmark ⁸</i>	8.4	9.0	10.5	7.4	-1.7	1.2	2.7	-1.7

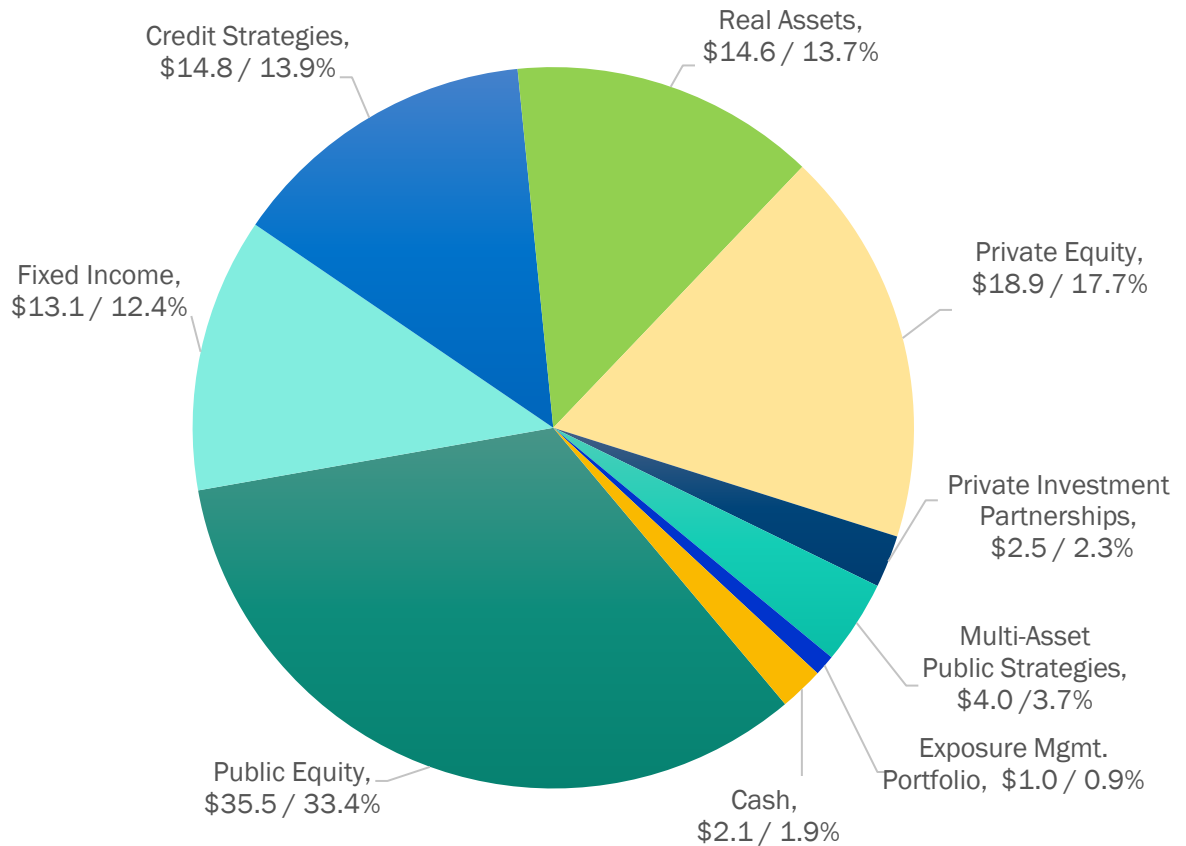
Notes:

- Effective February 2020, the Public Equity Custom Benchmark is the MSCI ACWI IMI (net VRS tax rates) Index.
- Effective July 2020, the Fixed Income Custom Benchmark is a blend of the Bloomberg Barclays Aggregate Bond Index (90%), Bloomberg Barclays US High Yield Ba/B 2% Issuer Cap Index (5%), and J.P. Morgan EMBI Global Core Index (5%).
- Effective January 2020, the Credit Strategies Custom Benchmark is a blend of the S&P Performing Loan Index (60%), Bloomberg Barclays US High Yield Ba/B 2% Issuer Cap Index (30%), and Bloomberg Barclays US Aggregate Bond Index (10%).
- Effective July 2014, the Real Assets Custom Benchmark is the market value weighted blend of the Total Real Estate Benchmark, of which 85% is the NCREIF Private Real Estate Benchmark (ODCE Index (net) lagged by three months) and 15% is the Total REIT Benchmark (FTSE/EPRA/NAREIT Developed REIT Index) and the Other Real Assets Custom Benchmark (the CPI-U Index plus 400 basis points per annum lagged by three months).
- Effective July 2020, the Private Equity Custom Benchmark is the MSCI ACWI IMI Index (net VRS tax rates) lagged by three months.
- Effective January 2020, the Private Investment Partnerships Custom Benchmark is the weighted average of the custom Private Equity Benchmark (MSCI ACWI IMI Index (net VRS tax rates) lagged by three months) (40%), the NCREIF Private Real Estate Benchmark (ODCE Index (net) lagged by three months) (30%), the Other Real Assets Custom Benchmark (the CPI-U Index plus 400 basis points per annum lagged by three months) (10%), the Bloomberg Barclays US High Yield Ba/B 2% Issuer Cap Index (10%), and the S&P Performing Loan Index (10%).
- Effective July 2018, the Multi-Asset Public Strategies Custom Benchmark is the market value weighted average of the benchmarks of the mandates (Dynamic Strategies and Risk-Based Investments) within the program.
- The VRS Custom Benchmark is a blend of the Asset Class Benchmarks at policy weights.

Source: Bank of New York Mellon



Total Fund Market Value = \$106.3 billion



Dollar Amounts in Billions / Percent of Total Fund

Source: Bank of New York Mellon



	VRS Return (as of March 31, 2022)
1-year	12.3%
3-year	12.1%
5-year	10.2%
10-year	9.2%
15-year	6.7%
20-year	7.7%
25-year	8.0%

Source: Bank of New York Mellon