



FY23 Investment Performance

SOUTH DAKOTA RETIREMENT SYSTEM

SOUTH DAKOTA INVESTMENT COUNCIL

AUGUST 22, 2023

Capital Markets Benchmark Return and Market Index Components

		<u>1st qtr</u>	<u>2nd qtr</u>	<u>3rd qtr</u>	<u>4th qtr</u>	<u>FY 2023</u>
Capital Markets Benchmark		-5.5%	6.7%	5.5%	4.1%	10.7%
<u>Benchmark Components</u>	<u>Weights</u>					
<u>Public Equity</u>	56%					
Public Equity Benchmark (MSCI AC IMI 3/4 + MSCI IMI US 1/4)		-5.8%	9.4%	7.4%	6.8%	18.2%
<u>Real Estate</u>	12%					
MSCI REITS		-10.0%	5.2%	2.7%	2.7%	-0.1%
<u>High Yield Debt</u>	7%					
FTSE High Yield		-0.7%	4.0%	3.6%	1.8%	9.0%
<u>Investment Grade Debt</u>	23%					
FTSE US Broad Investment Grade		-4.8%	1.9%	3.1%	-0.9%	-1.0%
<u>Cash</u>	2%					
FTSE 3 mo Treasury bills		0.5%	0.9%	1.1%	1.3%	3.7%

Time weighted rate-of-return

Actual to Benchmark Allocation Comparison

As of June 30, 2023

	<u>Actual Asset Allocation</u>	<u>Benchmark Asset Allocation</u>	<u>Difference</u>	<u>Policy Range</u>
Public Equity	23%	56%	-34%	20% to 75%
Real Estate - Core/REITS	1%	12%	-11%	0% to 20%
High Yield Corporate Debt	4%	7%	-3%	0% to 15%
Investment Grade Debt	12%	23%	-10%	13% to 50%
Cash	35%	2%	33%	0% to 50%
Private Equity	11%	0%	11%	0% to 12%
Opportunistic Real Estate	12%	0%	12%	0% to 15%
High Yield Real Estate Debt	0%	0%	0%	0% to 10%
Hedge Fund	1%	0%	1%	0% to 5%
Other Categories	0%	0%	0%	0% to 5%
Equity Like Risk	53.3%	70%	-16.7%	40% to 85%

Total Fund Performance Attribution

SDRS to Capital Markets Benchmark

FY 2023

SDRS Total Fund Return	5.84%
Capital Markets Benchmark Return	10.65%
Difference	<u>-4.82%</u>

Primary Asset Allocation

Equity-Like Risk	-3.35%
Bond-Like Risk	0.04%
Cash-Like Risk	1.04%
Total Primary Asset Allocation	<u>-2.27%</u>

Secondary Asset Allocation

High Yield Debt	-0.01%
REITS / Core	1.45%
Real Estate Opportunistic	-2.07%
Total Secondary Asset Allocation	<u>-0.63%</u>

Total Asset Allocation	<u>-2.90%</u>
-------------------------------	----------------------

Portfolio Added Value (Alpha)

Public Equity	-0.13%
Investment Grade Debt	-0.08%
Cash	0.10%
High Yield Corporate Debt	0.00%
REITS / Core	-0.01%
Real Estate Opportunistic	-0.68%
Private Equity	-1.28%
Hedge Fund	-0.27%
Short S&P 500 Futures	-0.15%

Total Portfolio Added Value (Alpha)	<u>-2.49%</u>
--	----------------------

Total Explained Difference	<u>-5.39%</u>
-----------------------------------	----------------------

Other - interperiod trading/rounding	<u>0.57%</u>
--------------------------------------	--------------

Total Difference	<u>-4.82%</u>
-------------------------	----------------------

Total Fund Performance Attribution

SDRS to Capital Markets Benchmark History

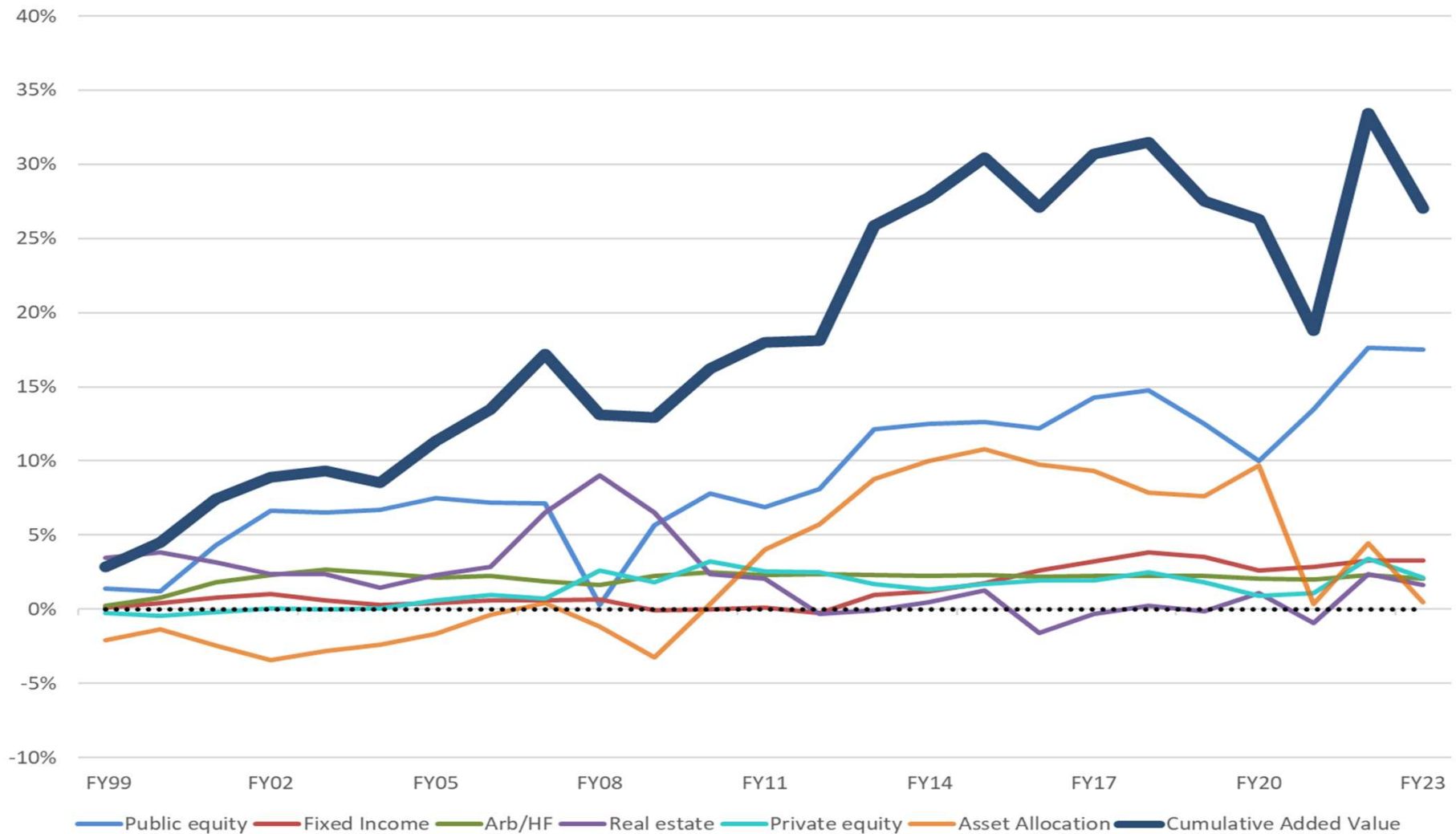
Fiscal Year 2023

	<u>FY 2023</u>	<u>FY 2022</u>	<u>FY 2021</u>	<u>FY 2020</u>	<u>FY 2019</u>	<u>FY 2018</u>	<u>5 yr Ann</u>	<u>10 yr Ann</u>	<u>20 yr Ann</u>	<u>25 yr Ann</u>
SDRS Total Return*	5.8%	-0.7%	22.0%	1.6%	4.9%	7.9%	6.4%	7.6%	8.4%	7.5%
Capital Markets Return	10.7%	-13.0%	28.0%	2.5%	7.9%	7.3%	6.4%	7.2%	7.2%	6.4%
Difference	-4.8%	12.3%	-5.9%	-0.9%	-3.0%	0.6%	0.1%	0.4%	1.2%	1.1%
SDRS Total Return (Net)	5.8%	-0.7%	22.0%	1.6%	4.9%	7.9%	6.4%	7.6%	8.2%	7.3%
Capital Markets Return**	10.7%	-13.0%	28.0%	2.5%	7.9%	7.3%	6.4%	7.2%	7.3%	6.3%
	-4.8%	12.3%	-5.9%	-0.9%	-3.0%	0.6%	0.1%	0.4%	0.9%	1.1%
Primary Asset Allocation										
Equity Like Risk	-3.4%	2.5%	-6.9%	2.4%	0.3%	-1.6%	-1.1%	-0.7%	-0.1%	-0.1%
Bond Like Risk	0.0%	1.2%	0.0%	-0.8%	-0.6%	0.0%	0.0%	-0.1%	-0.2%	-0.2%
Cash Like Risk	1.0%	0.1%	0.0%	0.4%	0.5%	0.3%	0.4%	0.2%	0.1%	0.1%
Total Primary Asset Alloc	-2.3%	3.8%	-6.9%	2.0%	0.2%	-1.2%	-0.7%	-0.6%	-0.1%	-0.2%
Secondary Asset Allocation										
REITS/Core	1.4%	-1.0%	-0.3%	1.5%	-0.4%	0.6%	0.3%	0.1%	-0.2%	-0.3%
High Yield Corporate Debt	0.0%	0.0%	0.2%	0.4%	0.0%	0.2%	0.1%	0.1%	0.0%	-0.1%
High Yield Distressed (Int)	0.0%	0.0%	-0.1%	-0.3%	0.0%	-0.2%	-0.1%	0.0%	0.1%	0.1%
High Yield Corp Debt-CVI GVF	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
High Yield RE Debt	0.0%	0.0%	-0.1%	-0.2%	-0.1%	-0.1%	-0.1%	-0.1%	0.0%	0.0%
High Yield RE Debt (Agg)	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%
Real Estate Opportunistic	-2.1%	1.3%	0.3%	-1.9%	0.4%	-0.5%	-0.4%	-0.2%	0.1%	0.2%
TIPS							0.0%	0.0%	0.0%	0.0%
Commodities							0.0%	0.0%	0.0%	0.0%
Total Secondary Asset Alloc	-0.6%	0.3%	0.0%	-0.5%	0.0%	-0.1%	-0.2%	0.1%	0.1%	0.0%
Total Asset Allocation	-2.9%	4.0%	-6.9%	1.5%	0.2%	-1.3%	-0.8%	-0.5%	0.0%	-0.1%
Portfolio Added Value										
Public Equity	-0.1%	3.7%	3.2%	-2.2%	-2.0%	0.5%	0.5%	0.5%	0.5%	0.6%
Investment Grade Debt	-0.1%	0.1%	-0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%
Cash	0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Yield Distress (Internal)	0.1%	0.2%	0.5%	-0.9%	-0.4%	0.3%	-0.1%	0.1%	0.0%	0.0%
High Yield Corp Debt	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Yield Real Estate Debt	0.0%	0.0%	-0.1%	0.1%	0.0%	0.3%	0.0%	0.1%	0.1%	0.1%
High Yield RE Debt (Agg)	-0.1%	0.1%	0.0%	-0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	0.0%
Real Estate Opportunistic/ REITs	-0.7%	3.4%	-2.0%	1.3%	-0.5%	0.5%	0.3%	0.2%	0.0%	0.1%
Private Equity	-1.3%	2.3%	0.2%	-0.9%	-0.6%	0.5%	-0.1%	0.0%	0.1%	0.1%
Hedge Fund	-0.3%	0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Short S & P 500 Futures	-0.1%	-1.5%	0.2%	-0.6%	-0.5%	-0.4%	-0.5%	-0.4%	-0.3%	-0.2%
Total Portfolio Alpha difference	-2.5%	8.6%	1.7%	-3.5%	-3.9%	1.8%	0.1%	0.4%	0.4%	0.8%
Other	0.6%	-0.3%	-0.7%	1.1%	0.7%	0.1%	0.3%	0.2%	0.3%	0.3%
Total Difference	-4.8%	12.3%	-5.9%	-0.9%	-3.0%	0.6%	-0.5%	0.2%	0.7%	0.9%

* Net FY 2014-21, Gross pre-FY 2014

** Net applies current bm methodology to pre FY 14

Many pistons contribute Cumulative Added Value by Source



Comparison to Peer Universes

Annualized Returns

Fiscal Year 2023

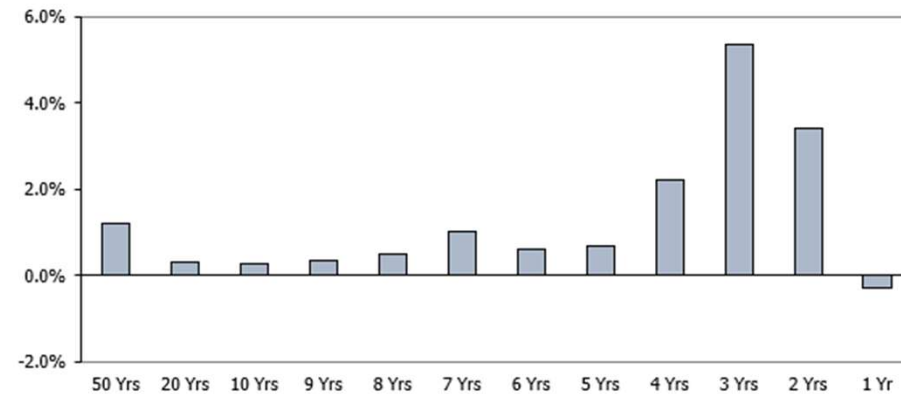
	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>30 Year</u>
SDRS (net)	5.84%	8.65%	6.44%	7.63%	8.55%
SDRS (gross)	6.31%	9.08%	6.87%	8.01%	8.90%
=====					
State Fund (net) - PRELIMINARY	7.46%	10.28%	7.64%	8.06%	7.86%
Wilshire TUCS (gross)	8.00%	8.12%	6.85%	8.87%	n/a

Internal Public Global Equity Return Comparison

Annualized

	SDRS Internal Public Gbl Eq	Benchmark	Over/Under Performance
50 Yrs	11.53%	10.32%	1.21%
20 Yrs	9.65%	9.33%	0.32%
10 Yrs	11.14%	10.86%	0.28%
9 Yrs	9.79%	9.46%	0.33%
8 Yrs	10.68%	10.21%	0.47%
7 Yrs	12.77%	11.77%	1.00%
6 Yrs	11.23%	10.61%	0.62%
5 Yrs	10.92%	10.24%	0.69%
4 Yrs	12.97%	10.77%	2.20%
3 Yrs	18.76%	13.43%	5.33%
2 Yrs	5.79%	2.39%	3.41%
1 Yr	19.70%	19.98%	-0.28%

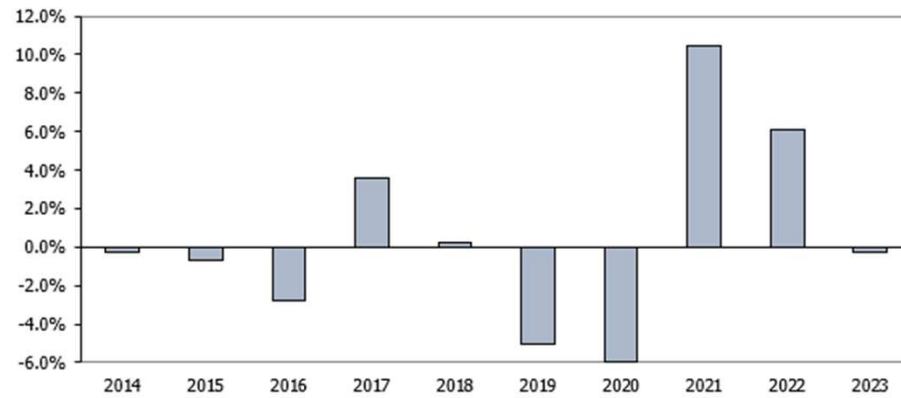
SDRS Internal Public Global Equity Over/Under Performance- Rolling Year Periods



Annual Returns

	SDRS Internal Public Gbl Eq	Benchmark	Over/Under Performance
2014	24.10%	24.36%	-0.27%
2015	2.89%	3.60%	-0.71%
2016	-2.89%	-0.08%	-2.81%
2017	22.50%	18.96%	3.54%
2018	12.75%	12.50%	0.25%
2019	3.10%	8.11%	-5.01%
2020	-2.76%	3.18%	-5.94%
2021	49.66%	39.21%	10.45%
2022	-6.50%	-12.63%	6.13%
2023	19.70%	19.98%	-0.28%

SDRS Internal Public Global Equity Over/Under Performance - By Fiscal Yr



* Equity - Composite History

1973 - 1991 is domestic equity only

1992 - 2004 is a combined domestic and international composite

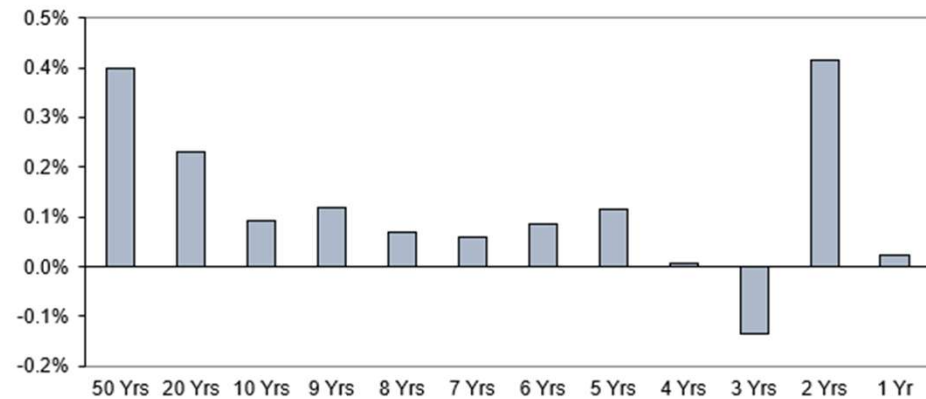
2005 - 2023 internal public global equity (small/mid, gem and high quality not included)

Investment Grade Debt Return Comparison

Annualized

	<u>SDRS IG Debt</u>	<u>Benchmark</u>	<u>Over/Under Performance</u>
50 Yrs	7.12%	6.72%	0.40%
20 Yrs	3.47%	3.24%	0.23%
10 Yrs	1.61%	1.52%	0.09%
9 Yrs	1.32%	1.21%	0.12%
8 Yrs	1.19%	1.12%	0.07%
7 Yrs	0.51%	0.45%	0.06%
6 Yrs	0.66%	0.57%	0.09%
5 Yrs	0.89%	0.78%	0.11%
4 Yrs	-0.93%	-0.93%	0.01%
3 Yrs	-4.16%	-4.03%	-0.13%
2 Yrs	-5.47%	-5.88%	0.41%
1 Yr	-0.95%	-0.97%	0.02%

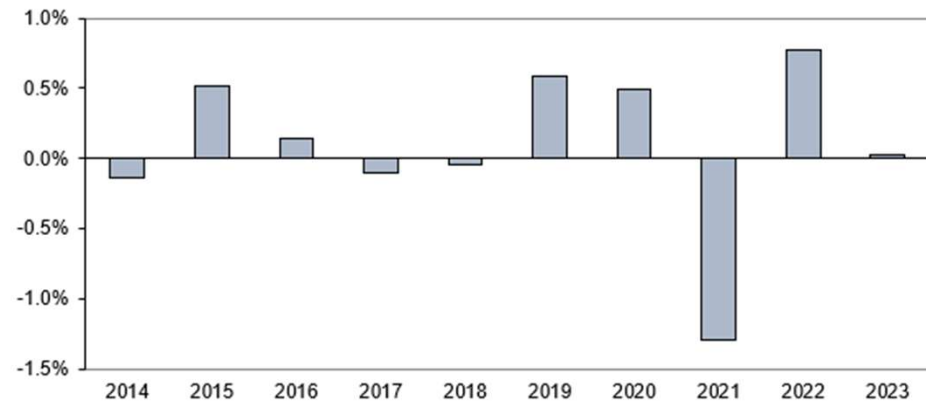
SDRS Investment Grade Over/Under Performance - Rolling Year Periods



Annual Returns

	<u>SDRS IG Debt</u>	<u>Benchmark</u>	<u>Over/Under Performance</u>
2014	4.20%	4.34%	-0.14%
2015	2.38%	1.87%	0.51%
2016	6.12%	5.98%	0.14%
2017	-0.39%	-0.28%	-0.11%
2018	-0.49%	-0.45%	-0.05%
2019	8.49%	7.91%	0.58%
2020	9.46%	8.96%	0.49%
2021	-1.50%	-0.21%	-1.29%
2022	-9.78%	-10.55%	0.77%
2023	-0.95%	-0.97%	0.02%

SDRS Investment Grade Over/Under Performance by Year



* Fixed Income - History

1973 - 2006 is investment grade & high yield managed together

2007 - 2010 is 80% investment grade portfolio + 20% high yield portfolio

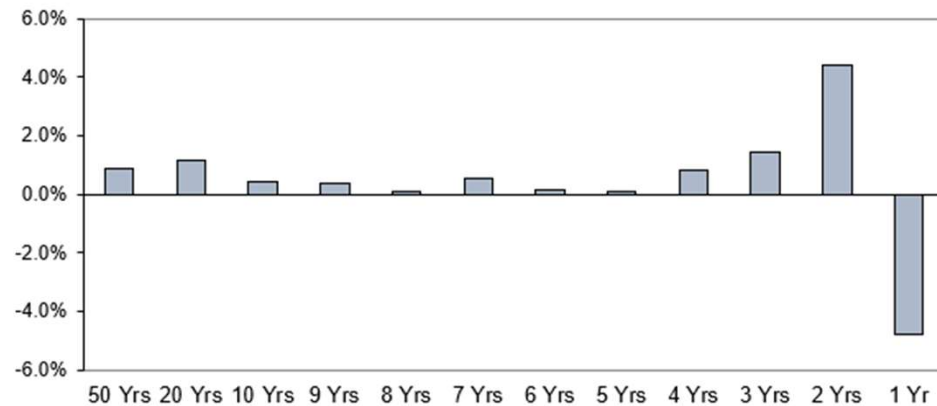
2011 - 2023 is investment grade portfolio only

Total Fund Return Comparison Fiscal Year 2023

Annualized

	<u>SDRS Total Fund</u>	<u>SDRS Capital Markets Benchmark</u>	<u>Over/Under Performance</u>
50 Yrs	9.96%	9.08%	0.88%
20 Yrs	8.39%	7.24%	1.15%
10 Yrs	7.63%	7.19%	0.44%
9 Yrs	6.44%	6.10%	0.34%
8 Yrs	6.73%	6.62%	0.11%
7 Yrs	7.68%	7.16%	0.52%
6 Yrs	6.69%	6.54%	0.15%
5 Yrs	6.44%	6.38%	0.06%
4 Yrs	6.84%	6.00%	0.84%
3 Yrs	8.65%	7.19%	1.46%
2 Yrs	2.52%	-1.89%	4.41%
1 Yr	5.84%	10.65%	-4.82%

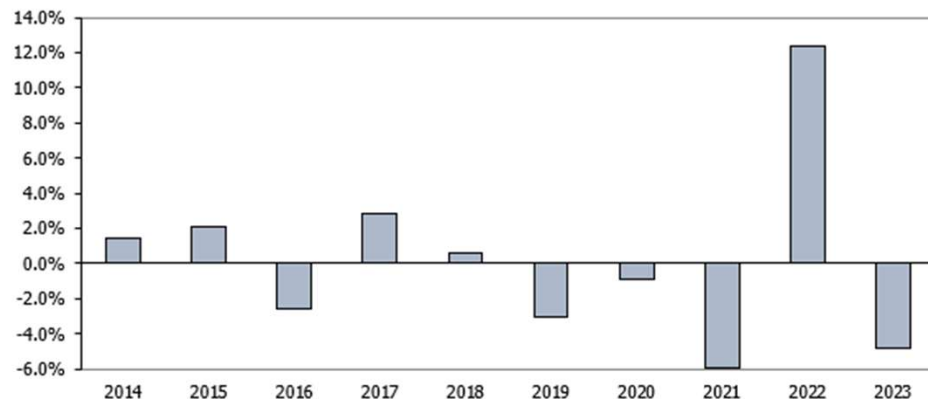
SDRS Total Fund Over/Under Performance - Rolling Year Periods



Annual Returns

	<u>SDRS Total Fund</u>	<u>SDRS Capital Markets Benchmark</u>	<u>Over/Under Performance</u>
2014	18.90%	17.49%	1.41%
2015	4.18%	2.09%	2.09%
2016	0.30%	2.88%	-2.59%
2017	13.81%	10.96%	2.85%
2018	7.94%	7.33%	0.61%
2019	4.88%	7.91%	-3.03%
2020	1.59%	2.52%	-0.93%
2021	22.03%	27.97%	-5.94%
2022	-0.69%	-13.02%	12.33%
2023	5.84%	10.65%	-4.82%

SDRS Total Fund Over/Under Performance by Year



* Total Fund Return History
1973 - 2013 is gross-of-fee
2014 - 2023 is net-of-fee.