



# Investment Performance FY 2022

**South Dakota Retirement System**

**South Dakota Investment Council**

August 23, 2022

# 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 2022</u>
<b>Capital Markets Benchmark</b>		-0.3%	5.6%	-5.2%	-12.9%	-13.0%
<b><u>Benchmark Components</u></b>	<b><u>Weights</u></b>					
<b><u>Public Equity</u></b>	<b>58%</b>					
Public Equity Benchmark (MSCI AC IMI 3/4 + MSCI IMI US 1/4)		-0.8%	6.9%	-5.4%	-16.1%	-15.9%
<b><u>Real Estate</u></b>	<b>10%</b>					
MSCI REITS		1.0%	16.3%	-4.1%	-16.9%	-6.4%
<b><u>High Yield Debt</u></b>	<b>7%</b>					
FTSE High Yield		0.9%	0.7%	-4.4%	-9.9%	-12.4%
<b><u>Investment Grade Debt</u></b>	<b>23%</b>					
FTSE US Broad Investment Grade		0.0%	0.0%	-6.0%	-4.8%	-10.6%
<b><u>Cash</u></b>	<b>2%</b>					
FTSE 3 mo Treasury bills		0.0%	0.0%	0.0%	0.1%	0.2%

Time weighted rate-of-return

# Actual to Benchmark Allocation Comparison – June 30, 2022

	<b><u>Actual Asset Allocation</u></b>	<b><u>Benchmark Asset Allocation</u></b>	<b><u>Difference</u></b>	<b><u>Permissible Range</u></b>
Public Equity	23%	58%	-36%	75% to 20%
Real Estate - Core/REITS	0%	10%	-10%	20% to 2%
High Yield Corporate Debt	0%	7%	-7%	15% to 0%
Investment Grade Debt	13%	23%	-10%	50% to 13%
Cash	36%	2%	34%	50% to 0%
Private Equity	11%	0%	11%	12% to 0%
Opportunistic Real Estate	11%	0%	11%	15% to 0%
High Yield Real Estate Debt	1%	0%	1%	10% to 0%
High Yield Corp Debt internal	4%	0%	4%	15% to 0%
Hedge Fund	1%	0%	1%	5% to 0%
US Treasury TIPS	0%	0%	0%	5% to 0%
Commodity	0%	0%	0%	5% to 0%
Merger Arbitrage	0%	0%	0%	10% to 0%
Convertible Arbitrage	0%	0%	0%	5% to 0%
Equity Like Risk	50.1%	70%	-19.9%	85% to 40%

# Total Fund Performance Attribution SDRS to Capital Markets Benchmark FY 2022

<b>SDRS Total Fund Return</b>	<b>-0.69%</b>
Capital Markets Benchmark Return	-13.02%
Difference	<u><b>12.33%</b></u>

<b>Primary Asset Allocation</b>	
Equity-Like Risk	2.52%
Bond-Like Risk	1.19%
Cash-Like Risk	0.05%
<b>Total Primary Asset Allocation</b>	<u>3.77%</u>

<b>Secondary Asset Allocation</b>	
Public Equity	N/A
Investment Grade Debt	N/A
Cash	N/A
REITS / Core	-1.03%
High Yield Corporate Debt	0.03%
High Yield Distressed internal	-0.02%
High Yield Real Estate Debt	0.01%
High Yield RE Debt aggressive	-0.01%
Real Estate Opportunistic	1.27%
Private Equity	N/A
Hedge Fund	N/A
Short S&P 500 Futures	N/A
<b>Total Secondary Asset Allocation</b>	<u>0.25%</u>

<b>Total Asset Allocation</b>	<b>4.02%</b>
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<b>Portfolio Added Value (Alpha)</b>	
Public Equity	3.68%
Investment Grade Debt	0.08%
Cash	0.02%
REITS / Core	N/A
High Yield Corporate Debt	N/A
High Yield Distressed internal	0.23%
High Yield Real Estate Debt	0.03%
High Yield RE Debt aggressive	0.06%
Real Estate Opportunistic	3.35%
Private Equity	2.32%
Hedge Fund	0.29%
Short S&P 500 Futures	-1.50%
<b>Total Portfolio Added Value (Alpha)</b>	<b>8.56%</b>

<b>Total Explained Difference</b>	<b>12.58%</b>
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Other - interperiod trading/rounding	<u>-0.25%</u>
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<b>Total Difference</b>	<b><u>12.33%</u></b>
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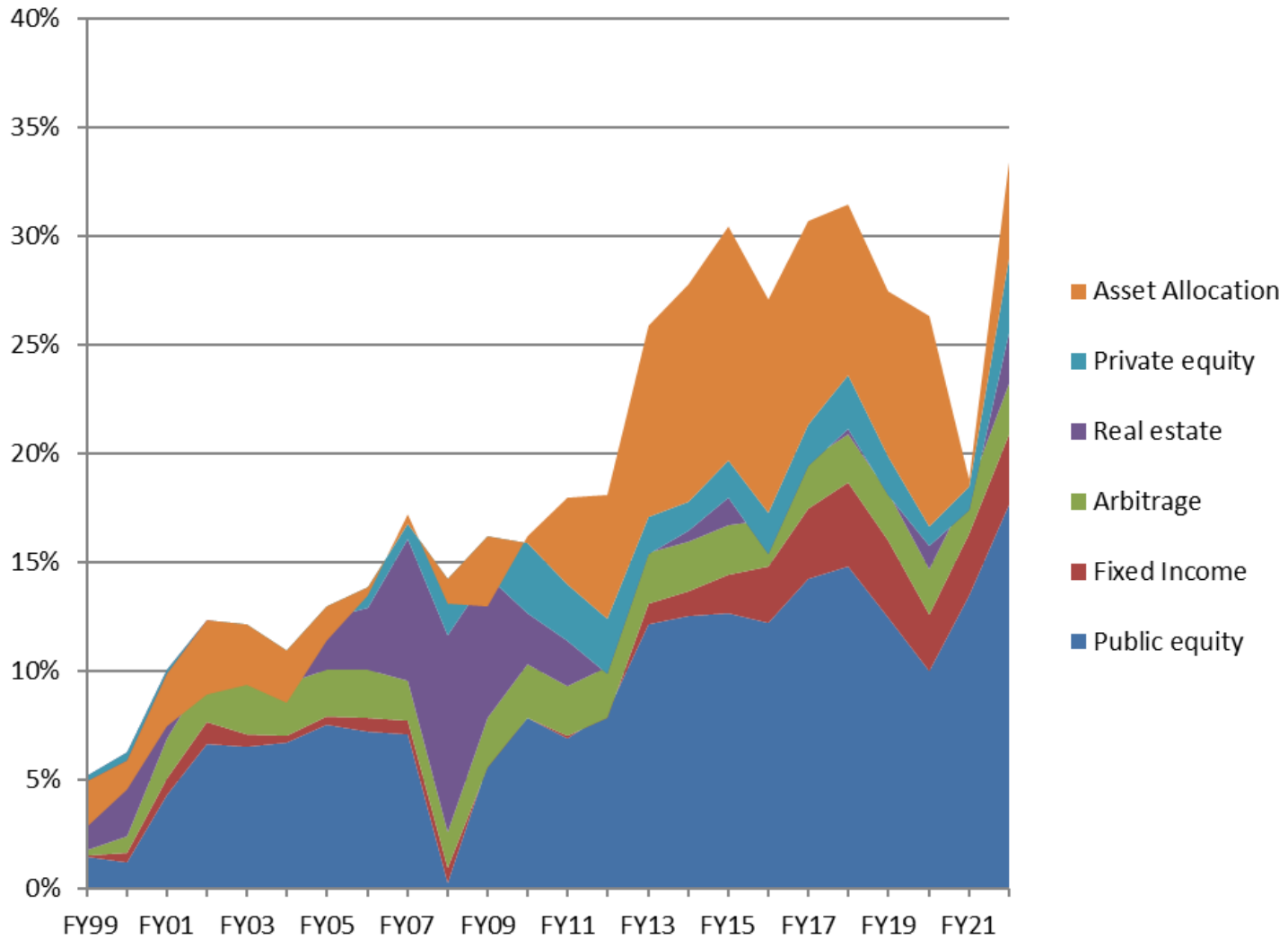
# Total Fund Performance Attribution

## SDRS to Capital Markets Benchmark History

	<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>24 yr Ann</u>
<b>SDRS Total Return*</b>	-0.7%	22.0%	1.6%	4.9%	7.9%	6.9%	8.9%	8.3%	7.6%
Capital Markets Return	<u>-13.0%</u>	<u>28.0%</u>	<u>2.5%</u>	<u>7.9%</u>	<u>7.3%</u>	<u>5.7%</u>	<u>7.4%</u>	<u>7.0%</u>	<u>6.2%</u>
Difference	<b>12.3%</b>	<b>-5.9%</b>	<b>-0.9%</b>	<b>-3.0%</b>	<b>0.6%</b>	<b>1.1%</b>	<b>1.6%</b>	<b>1.4%</b>	<b>1.4%</b>
<b>SDRS Total Return (Net)</b>	-0.7%	22.0%	1.6%	4.9%	7.9%	6.9%	8.9%	8.1%	7.4%
Capital Markets Return	<u>-13.0%</u>	<u>28.0%</u>	<u>2.5%</u>	<u>7.9%</u>	<u>7.3%</u>	<u>5.7%</u>	<u>7.4%</u>	<u>7.0%</u>	<u>6.1%</u>
	<b>12.3%</b>	<b>-5.9%</b>	<b>-0.9%</b>	<b>-3.0%</b>	<b>0.6%</b>	<b>1.1%</b>	<b>1.5%</b>	<b>1.1%</b>	<b>1.3%</b>
<b>Primary Asset Allocation</b>									
Equity Like Risk	2.5%	-6.9%	2.4%	0.3%	-1.6%	-0.7%	-0.2%	0.1%	0.0%
Bond Like Risk	1.2%	0.0%	-0.8%	-0.6%	0.0%	0.0%	-0.1%	-0.2%	-0.2%
Cash Like Risk	0.1%	0.0%	0.4%	0.5%	0.3%	0.3%	0.1%	0.1%	0.0%
Total Primary Asset Alloc	3.8%	-6.9%	2.0%	0.2%	-1.2%	-0.5%	-0.2%	0.0%	-0.1%
<b>Secondary Asset Allocation</b>									
REITS/Core	-1.0%	-0.3%	1.5%	-0.4%	0.6%	0.1%	0.0%	-0.2%	-0.3%
High Yield Corporate Debt	0.0%	0.2%	0.4%	0.0%	0.2%	0.2%	0.1%	-0.1%	-0.1%
High Yield Distressed (Int)	0.0%	-0.1%	-0.3%	0.0%	-0.2%	-0.1%	0.0%	0.2%	0.1%
High Yield Corp Debt-CVI GVI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
High Yield RE Debt	0.0%	-0.1%	-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%	-0.1%	0.0%	0.0%	0.0%	0.0%
Real Estate Opportunistic	1.3%	0.3%	-1.9%	0.4%	-0.5%	-0.1%	0.0%	0.2%	0.3%
TIPS						0.0%	0.0%	0.0%	0.0%
Commodities						<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>
Total Secondary Asset Allo	0.3%	0.0%	-0.5%	0.0%	-0.1%	-0.1%	0.1%	0.2%	0.0%
<b>Total Asset Allocation</b>	<b>4.0%</b>	<b>-6.9%</b>	<b>1.5%</b>	<b>0.2%</b>	<b>-1.3%</b>	<b>-0.5%</b>	<b>-0.1%</b>	<b>0.2%</b>	<b>-0.1%</b>
<b>Portfolio Added Value</b>									
Public Equity	3.7%	3.2%	-2.2%	-2.0%	0.5%	0.6%	0.8%	0.5%	0.7%
Investment Grade Debt	0.1%	-0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%
Cash	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Yield Distress (Internal)	0.2%	0.5%	-0.9%	-0.4%	0.3%	-0.1%	0.1%	-0.1%	0.0%
High Yield Corp Debt	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%	-0.1%	0.1%	0.0%	0.3%	0.1%	0.1%	0.1%	0.1%
High Yield RE Debt (Agg)	0.1%	0.0%	-0.1%	0.0%	0.1%	0.0%	0.1%	0.1%	0.1%
Real Estate Opportunistic	3.4%	-2.0%	1.3%	-0.5%	0.5%	0.5%	0.3%	0.0%	0.1%
Private Equity	2.3%	0.2%	-0.9%	-0.6%	0.5%	0.3%	0.1%	0.2%	0.1%
Hedge Fund	0.3%	-0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Short S & P 500 Futures	-1.5%	0.2%	-0.6%	-0.5%	-0.4%	-0.6%	-0.4%	-0.2%	-0.2%
Total Portfolio Alpha difference	<b>8.6%</b>	<b>1.7%</b>	<b>-3.5%</b>	<b>-3.9%</b>	<b>1.8%</b>	<b>0.9%</b>	<b>1.1%</b>	<b>0.5%</b>	<b>0.9%</b>
Other	-0.3%	-0.7%	1.1%	0.7%	0.1%	0.5%	0.2%	0.3%	0.3%
<b>Total Difference</b>	<b>12.3%</b>	<b>-5.9%</b>	<b>-0.9%</b>	<b>-3.0%</b>	<b>0.6%</b>	<b>0.9%</b>	<b>1.3%</b>	<b>1.0%</b>	<b>1.2%</b>

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

# Cumulative added value by source FY 1999 to FY 2022



# Comparison to Peer Universes

## Annualized Returns

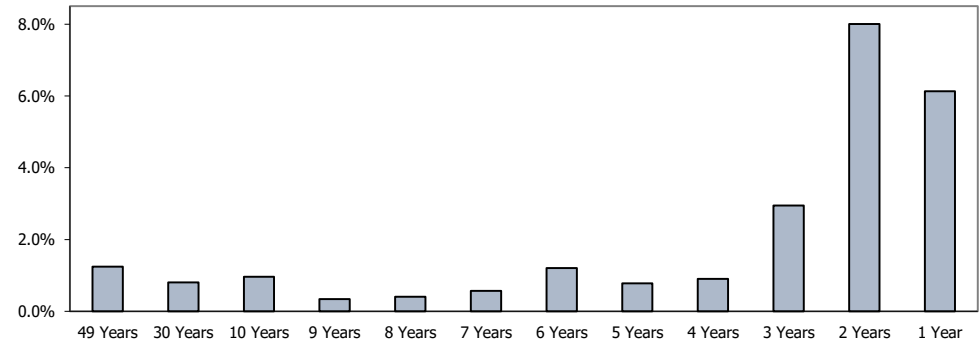
	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>30 Year</u>
<b>SDRS (net)</b>	<b>-0.7%</b>	<b>7.2%</b>	<b>6.9%</b>	<b>8.9%</b>	<b>8.9%</b>
SDRS (gross)	-0.3%	7.6%	7.3%	9.3%	9.2%
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State Fund (net) - PRELIMINARY	-3.0%	7.8%	7.6%	8.4%	8.0%
Wilshire TUCS (gross)	-7.9%	6.5%	6.9%	8.0%	n/a

# Internal Public Global Equity Return Comparison

Annualized

	<u>SDRS Internal Public Gbl Eq</u>	<u>Benchmark</u>	<u>Over/Under Performance</u>
49 Years	11.37%	10.13%	1.24%
30 Years	9.72%	8.91%	0.81%
10 Years	11.76%	10.80%	0.96%
9 Years	10.23%	9.89%	0.34%
8 Years	8.61%	8.21%	0.40%
7 Years	9.45%	8.88%	0.57%
6 Years	11.66%	10.45%	1.20%
5 Years	9.61%	8.83%	0.78%
4 Years	8.83%	7.93%	0.91%
3 Years	10.81%	7.87%	2.95%
2 Years	18.30%	10.29%	8.01%
1 Year	-6.50%	-12.63%	6.13%

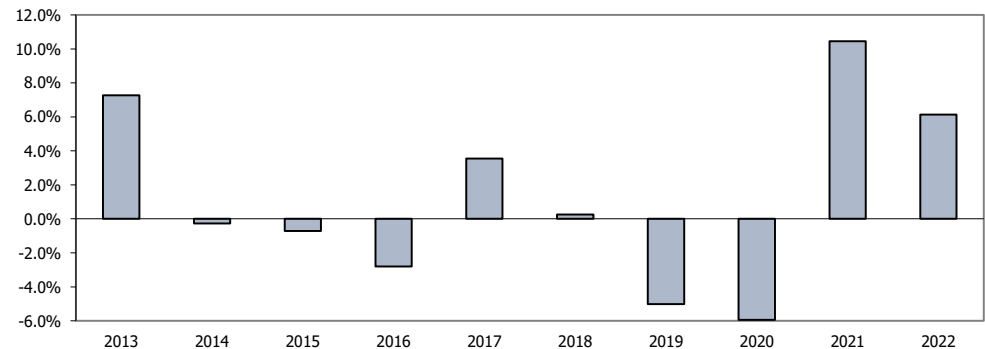
**SDRS Internal Public Global Equity Over/Under Performance Chart**



Annual Returns

	<u>SDRS Internal Public Gbl Eq</u>	<u>Benchmark</u>	<u>Over/Under Performance</u>
2013	26.57%	19.31%	7.26%
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%

**SDRS Internal Public Global Equity Over/Under Performance Chart**



\* Equity - Composite History

1973 - 1991 is domestic equity only

1992 - 2004 is a combined domestic and international composite

2005 - 2022 internal public global equity (small/mid, gem and high quality not included)

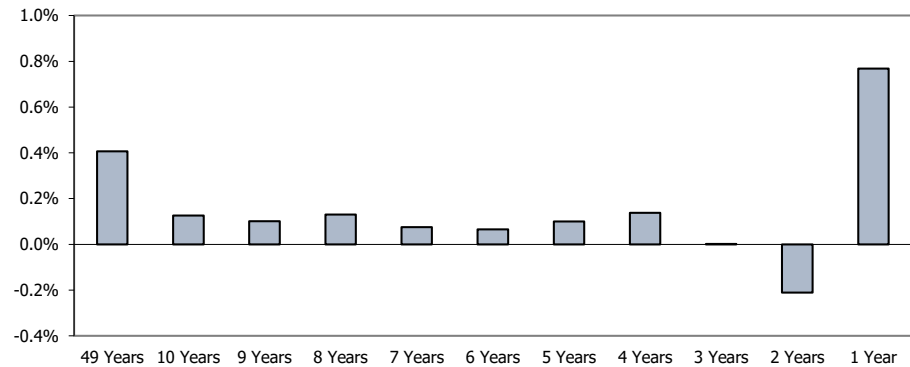


# Investment Grade Debt Return Comparison

Annualized

	<u>SDRS IG Debt</u>	<u>Benchmark</u>	<u>Over/Under Performance</u>
49 Years	7.29%	6.89%	0.41%
10 Years	1.67%	1.55%	0.13%
9 Years	1.90%	1.80%	0.10%
8 Years	1.61%	1.48%	0.13%
7 Years	1.50%	1.43%	0.08%
6 Years	0.75%	0.69%	0.07%
5 Years	0.98%	0.88%	0.10%
4 Years	1.35%	1.22%	0.14%
3 Years	-0.92%	-0.92%	0.00%
2 Years	-5.73%	-5.52%	-0.21%
1 Year	-9.78%	-10.55%	0.77%

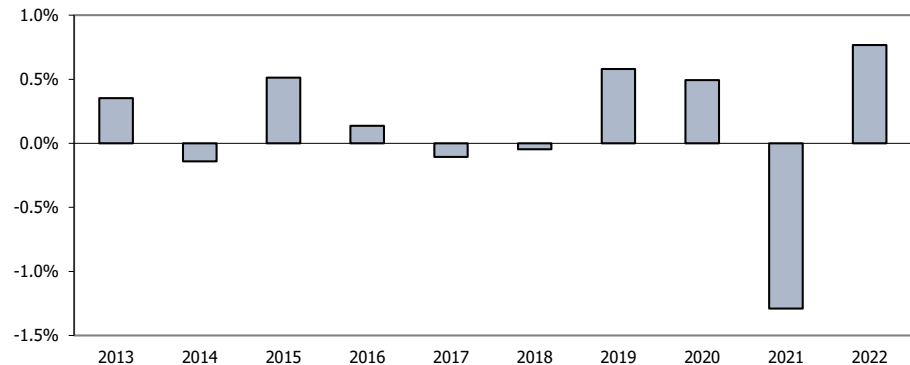
**SDRS Investment Grade Debt Over/Under Performance Chart**



Annual Returns

	<u>SDRS IG Debt</u>	<u>Benchmark</u>	<u>Over/Under Performance</u>
2013	-0.30%	-0.65%	0.35%
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%

**SDRS Investment Grade Debt Over/Under Performance Chart**



\* Fixed Income - History

1973 - 2006 is investment grade & high yield managed together

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

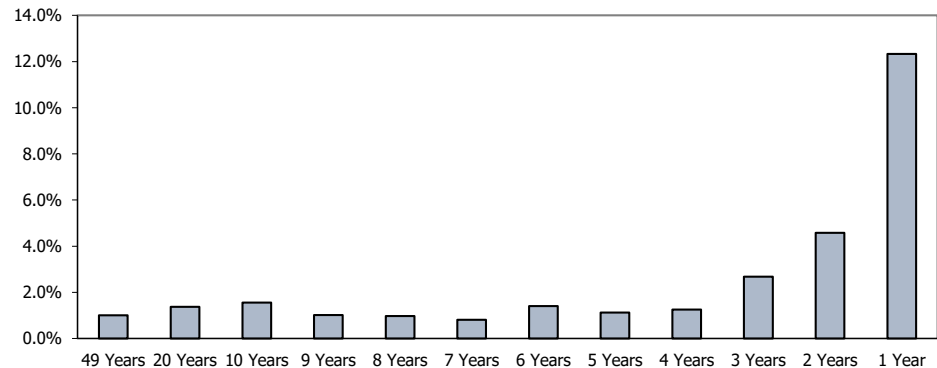
2011 - 2022 is investment grade portfolio only

# Total Fund Return Comparison

Annualized

	<u>SDRS Total Fund</u>	<u>SDRS Capital Markets Benchmark</u>	<u>Over/Under Performance</u>
49 Years	10.05%	9.05%	1.00%
20 Years	8.35%	6.98%	1.37%
10 Years	8.95%	7.39%	1.55%
9 Years	7.83%	6.81%	1.01%
8 Years	6.52%	5.55%	0.97%
7 Years	6.86%	6.05%	0.80%
6 Years	7.99%	6.59%	1.40%
5 Years	6.86%	5.74%	1.13%
4 Years	6.60%	5.34%	1.26%
3 Years	7.18%	4.50%	2.68%
2 Years	10.09%	5.50%	4.58%
1 Year	-0.69%	-13.02%	12.33%

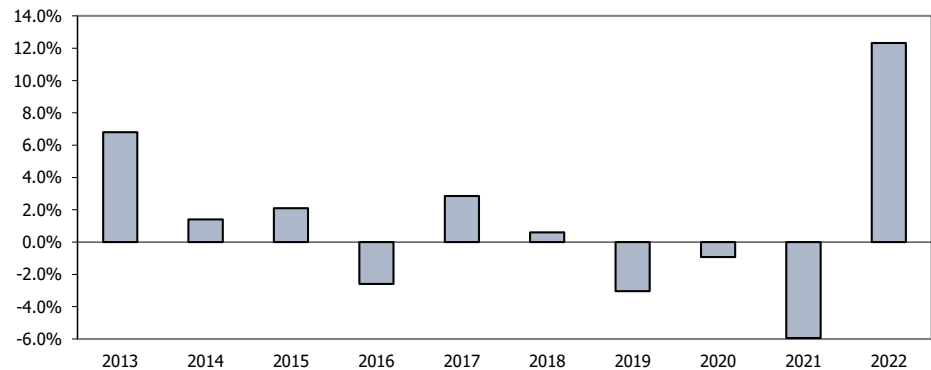
**SDRS Total Fund Over/Under Performance Chart**



Annual Returns

	<u>SDRS Total Fund</u>	<u>SDRS Capital Markets Benchmark</u>	<u>Over/Under Performance</u>
2013	19.53%	12.73%	6.80%
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%

**SDRS Total Fund Over/Under Performance Chart**



\* Total Fund Return History  
 1973 - 2013 is gross-of-fee  
 2014 - 2022 is net-of-fee