



# Investment Performance FY 2020

**South Dakota Retirement System**

August 27, 2020

# 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 2020</u>
<b>Capital Markets Benchmark</b>		1.5%	5.3%	-16.0%	14.2%	2.5%
<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)		0.1%	9.0%	-22.1%	20.4%	2.4%
<b><u>Real Estate</u></b>	<b>10%</b>					
MSCI REITS		7.7%	-0.8%	-27.0%	11.7%	-12.9%
<b><u>High Yield Debt</u></b>	<b>7%</b>					
FTSE High Yield		1.0%	2.8%	-13.1%	9.6%	-1.1%
<b><u>Investment Grade Fixed Income</u></b>	<b>23%</b>					
FTSE US Broad Investment Grade		2.4%	0.2%	3.2%	3.0%	9.0%
<b><u>Cash</u></b>	<b>2%</b>					
FTSE 3 mo Treasury bills		0.6%	0.5%	0.4%	0.1%	1.6%

Time weighted rate-of-return

# Actual to Benchmark Allocation Comparison – June 30, 2020

	<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	25%	58%	-33%	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 Fixed Income	13%	23%	-10%	60% to 13%
Cash	33%	2%	31%	50% to 0%
Private Equity	8%	0%	8%	12% to 0%
Opportunistic Real Estate	10%	0%	10%	15% to 0%
High Yield Real Estate Debt	7%	0%	7%	10% to 0%
High Yield Corp Debt Aggressive	4%	0%	4%	15% to 0%
Aggressive Absolute Return	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	50.0%	70%	-20.0%	85% to 40%

# Total Fund Performance Attribution

## SDRS to Capital Markets Benchmark FY 2020

<b>SDRS Total Fund Return</b>	<b>1.59%</b>
Capital Markets Benchmark Return	2.52%
Difference	<u><b>-0.93%</b></u>

<b>Primary Asset Allocation</b>	
Equity-Like Risk	2.38%
Bond-Like Risk	-0.75%
Cash-Like Risk	0.37%
<b>Total Primary Asset Allocation</b>	<u>2.00%</u>

<b>Secondary Asset Allocation</b>	
Public Equity	N/A
Investment Grade Debt	N/A
Cash	N/A
REITS / Core	1.54%
High Yield Corporate Debt	0.43%
High Yield Distressed internal	-0.28%
High Yield Real Estate Debt	-0.24%
High Yield RE Debt aggressive	-0.04%
Real Estate Opportunistic	-1.91%
Private Equity	N/A
Hedge Fund	N/A
Short S&P 500 Futures	N/A
<b>Total Secondary Asset Allocation</b>	<u>-0.49%</u>

<b>Total Asset Allocation</b>	<b>1.51%</b>
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<b>Portfolio Added Value (Alpha)</b>	
Public Equity	-2.22%
Investment Grade Debt	0.06%
Cash	-0.06%
REITS / Core	N/A
High Yield Corporate Debt	N/A
High Yield Distressed internal	-0.87%
High Yield Real Estate Debt	0.06%
High Yield RE Debt aggressive	-0.09%
Real Estate Opportunistic	1.25%
Private Equity	-0.92%
Hedge Fund	-0.14%
Short S&P 500 Futures	-0.60%
<b>Total Portfolio Added Value (Alpha)</b>	<u><b>-3.53%</b></u>

<b>Total Explained Difference</b>	<b>-2.02%</b>
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Other - interperiod trading/asset allocation	<u>1.09%</u>
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<b>Total Difference</b>	<u><b>-0.93%</b></u>
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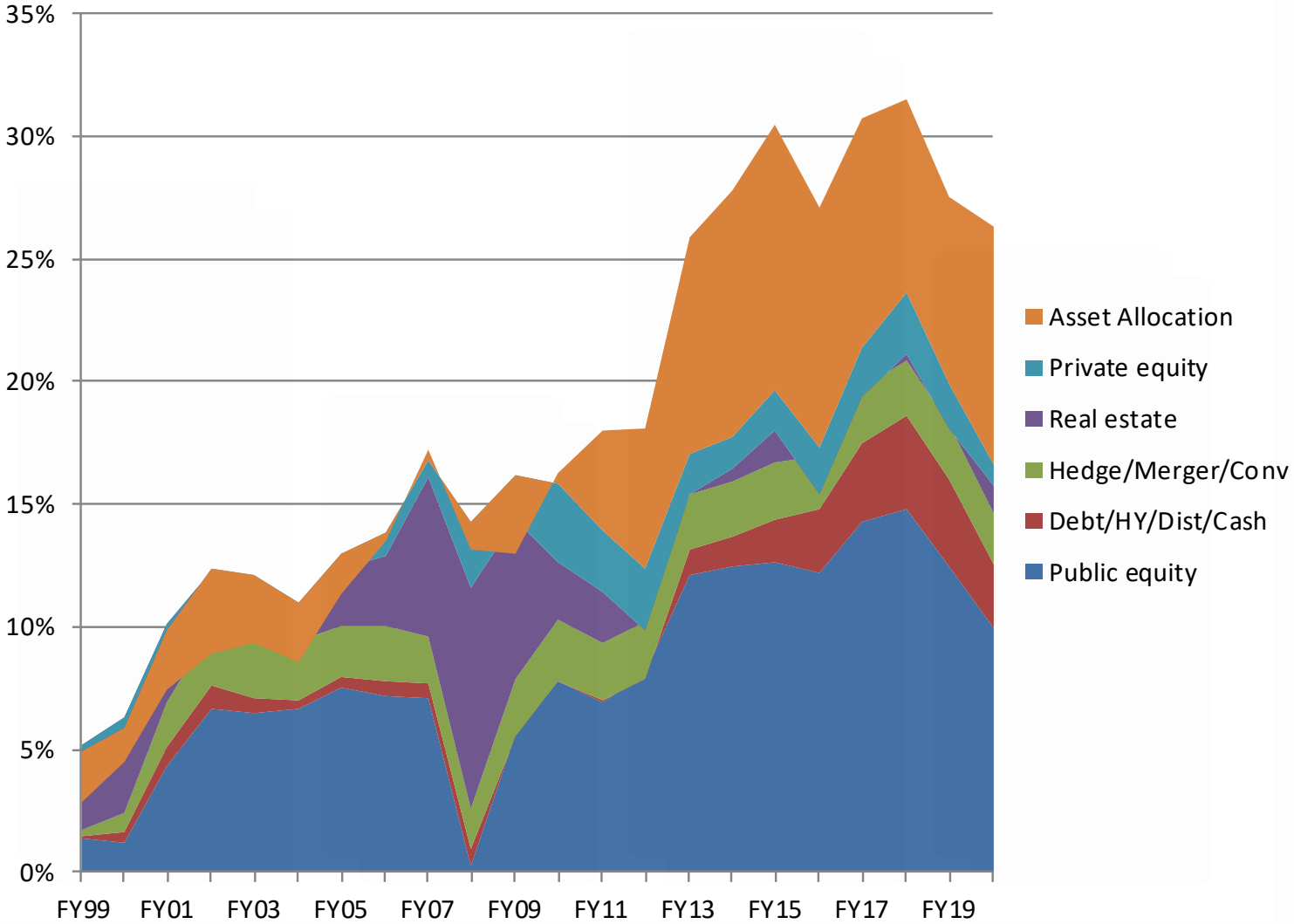
# Total Fund Performance Attribution

## SDRS to Capital Markets Benchmark History

	<u>FY 2020</u>	<u>FY 2019</u>	<u>FY 2018</u>	<u>FY 2017</u>	<u>FY 2016</u>	<u>FY 2015</u>	<u>New 5 yr Ann</u>	<u>New 10 yr Ann</u>	<u>New 20 yr Ann</u>	<u>New 22 yr Ann</u>
<b>SDRS Total Return*</b>	1.6%	4.9%	7.9%	13.8%	0.3%	4.2%	5.6%	9.6%	6.9%	7.4%
Capital Markets Return	<u>2.5%</u>	<u>7.9%</u>	<u>7.3%</u>	<u>11.0%</u>	<u>2.9%</u>	<u>2.1%</u>	<u>6.3%</u>	<u>8.6%</u>	<u>5.8%</u>	<u>6.3%</u>
Difference	<b>-0.9%</b>	<b>-3.0%</b>	<b>0.6%</b>	<b>2.9%</b>	<b>-2.6%</b>	<b>2.1%</b>	<b>-0.7%</b>	<b>1.0%</b>	<b>1.1%</b>	<b>1.1%</b>
<b>SDRS Total Return (Net)</b>	1.6%	4.9%	7.9%	13.8%	0.3%	4.2%	5.6%	9.4%	6.6%	7.1%
Capital Markets Return	<u>2.5%</u>	<u>7.9%</u>	<u>7.3%</u>	<u>11.0%</u>	<u>2.9%</u>	<u>2.1%</u>	<u>6.3%</u>	<u>8.6%</u>	<u>5.8%</u>	<u>6.2%</u>
	<b>-0.9%</b>	<b>-3.0%</b>	<b>0.6%</b>	<b>2.9%</b>	<b>-2.6%</b>	<b>2.1%</b>	<b>-0.7%</b>	<b>0.8%</b>	<b>0.9%</b>	<b>1.0%</b>
<b>Primary Asset Allocation</b>										
Equity Like Risk	2.4%	0.3%	-1.6%	-1.6%	-0.1%	0.0%	-0.1%	0.5%	0.2%	0.3%
Bond Like Risk	-0.8%	-0.6%	0.0%	0.0%	-0.5%	-0.1%	-0.4%	-0.3%	-0.3%	-0.2%
Cash Like Risk	<u>0.4%</u>	<u>0.5%</u>	<u>0.3%</u>	<u>0.1%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.3%</u>	<u>0.1%</u>	<u>0.1%</u>	<u>0.0%</u>
Total Primary Asset Alloc	2.0%	0.2%	-1.2%	-1.5%	-0.5%	-0.1%	-0.2%	0.4%	0.0%	0.1%
<b>Secondary Asset Allocation</b>										
REITS/Core	1.5%	-0.4%	0.6%	1.6%	-2.3%	-0.2%	0.2%	0.0%	-0.4%	-0.3%
High Yield Corporate Debt	0.4%	0.0%	0.2%	-0.2%	0.1%	0.2%	0.1%	0.0%	-0.1%	-0.1%
High Yield Distressed (Agg)	-0.3%	0.0%	-0.2%	0.3%	0.4%	0.0%	0.0%	0.0%	0.2%	0.1%
High Yield Corp Debt-CVI GV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
High Yield RE Debt	-0.2%	-0.1%	-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%	-0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Real Estate Opportunistic	-1.9%	0.4%	-0.5%	-1.7%	2.9%	0.7%	-0.2%	0.2%	0.4%	0.2%
TIPS						0.0%	0.0%	0.0%	0.0%	0.0%
Commodities						<u>0.4%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>	<u>0.0%</u>
Total Secondary Asset Allo	-0.5%	0.0%	-0.1%	0.2%	1.0%	0.9%	0.1%	0.3%	0.2%	0.0%
<b>Total Asset Allocation</b>	<b>1.5%</b>	<b>0.2%</b>	<b>-1.3%</b>	<b>-1.3%</b>	<b>0.5%</b>	<b>0.8%</b>	<b>-0.1%</b>	<b>0.7%</b>	<b>0.2%</b>	<b>0.1%</b>
<b>Portfolio Added Value</b>										
Public Equity	-2.2%	-2.0%	0.5%	1.8%	-0.4%	0.1%	-0.5%	0.2%	0.4%	0.4%
Investment Grade Debt	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.1%
Cash	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
High Yield Distress (Internal)	-0.9%	-0.4%	0.3%	0.5%	0.6%	-0.1%	0.0%	0.0%	-0.1%	-0.1%
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	0.1%	0.0%	0.3%	0.0%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%
High Yield RE Debt (Agg)	-0.1%	0.0%	0.1%	0.2%	0.1%	0.3%	0.1%	0.1%	0.1%	0.1%
Real Estate Opportunistic	1.3%	-0.5%	0.5%	1.4%	-2.9%	0.8%	0.0%	-0.1%	-0.1%	0.0%
Private Equity	-0.9%	-0.6%	0.5%	0.0%	0.3%	0.3%	-0.2%	-0.2%	0.1%	0.0%
Hedge Fund	-0.1%	0.0%	0.0%	0.1%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Short S & P 500 Futures	-0.6%	-0.5%	-0.4%	0.1%	-0.8%	-0.6%	-0.4%	-0.3%	-0.2%	-0.2%
Total Portfolio Alpha difference	<b>-3.5%</b>	<b>-3.9%</b>	<b>1.8%</b>	<b>3.9%</b>	<b>-3.1%</b>	<b>1.2%</b>	<b>-1.0%</b>	<b>-0.2%</b>	<b>0.3%</b>	<b>0.6%</b>
Other	1.1%	0.7%	0.1%	0.2%	0.0%	0.1%	0.4%	0.4%	0.3%	0.4%
<b>Total Difference</b>	<b>-0.9%</b>	<b>-3.0%</b>	<b>0.6%</b>	<b>2.9%</b>	<b>-2.6%</b>	<b>2.1%</b>	<b>-0.7%</b>	<b>0.8%</b>	<b>0.9%</b>	<b>1.0%</b>

\* Net FY 2014-19, Gross pre-FY 2014

# Cumulative added value by source FY 1999 to FY 2020



# Comparison to Peer Universes

## Annualized Returns

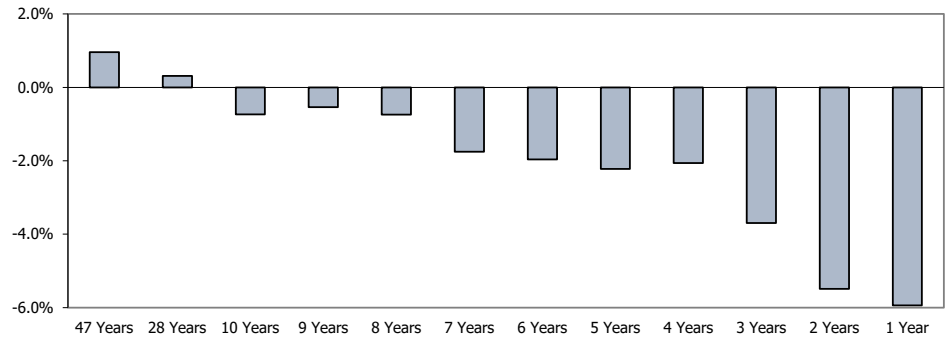
	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>30 Year</u>
<b>SDRS (net)</b>	<b>1.6%</b>	<b>4.8%</b>	<b>5.6%</b>	<b>9.4%</b>	<b>8.9%</b>
SDRS (gross)	2.0%	5.2%	6.0%	9.8%	9.3%
=====					
State Fund (net) - PRELIMINARY	2.2%	5.7%	5.8%	8.5%	7.9%
Northern Trust (gross)	1.9%	5.4%	5.9%	n/a	n/a
Wilshire TUCS (gross)	3.2%	6.2%	6.3%	8.0%	n/a

# Internal Global Equity Return Comparison

Annualized

	<u>SDRS Internal Gbl Eq</u>	<u>Internal Gbl Eq Benchmark</u>	<u>Over/Under Performance</u>
47 Years	11.08%	10.12%	0.96%
28 Years	9.13%	8.81%	0.31%
10 Years	10.73%	11.47%	-0.73%
9 Years	8.96%	9.50%	-0.54%
8 Years	10.19%	10.93%	-0.74%
7 Years	8.03%	9.78%	-1.75%
6 Years	5.56%	7.52%	-1.96%
5 Years	6.10%	8.33%	-2.22%
4 Years	8.48%	10.54%	-2.06%
3 Years	4.17%	7.86%	-3.69%
2 Years	0.13%	5.62%	-5.49%
1 Year	-2.76%	3.18%	-5.94%

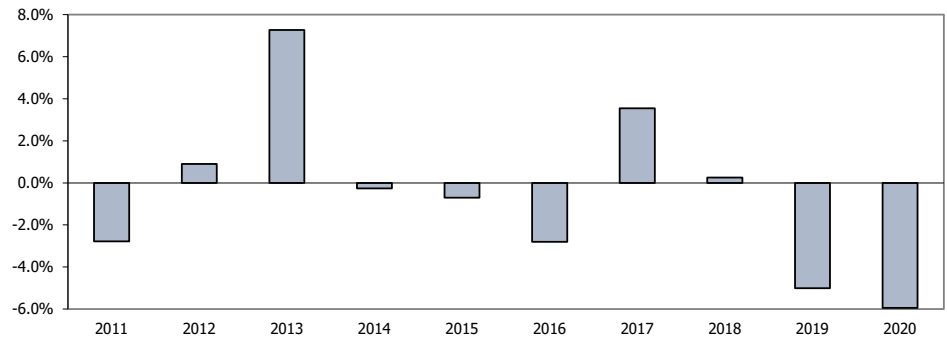
**SDRS Internal Global Equity Over/Under Performance Chart**



Annual Returns

	<u>SDRS Internal Gbl Eq</u>	<u>Internal Gbl Eq Benchmark</u>	<u>Over/Under Performance</u>
2011	28.06%	30.84%	-2.78%
2012	-0.40%	-1.31%	0.90%
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%

**SDRS Internal 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 - 2020 is global equity (small/mid, gem and high quality not included)

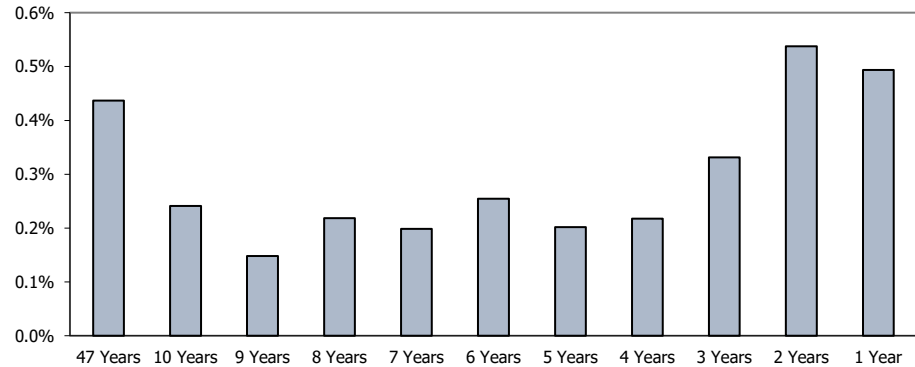


# Investment Grade Fixed Income Return Comparison

## Annualized

	<u>SDRS Fixed Income</u>	<u>Fixed Income Benchmark</u>	<u>Over/Under Performance</u>
47 Years	7.89%	7.45%	0.44%
10 Years	4.07%	3.83%	0.24%
9 Years	3.99%	3.85%	0.15%
8 Years	3.62%	3.40%	0.22%
7 Years	4.19%	3.99%	0.20%
6 Years	4.19%	3.93%	0.25%
5 Years	4.55%	4.35%	0.20%
4 Years	4.16%	3.94%	0.22%
3 Years	5.72%	5.39%	0.33%
2 Years	8.97%	8.44%	0.54%
1 Year	9.46%	8.96%	0.49%

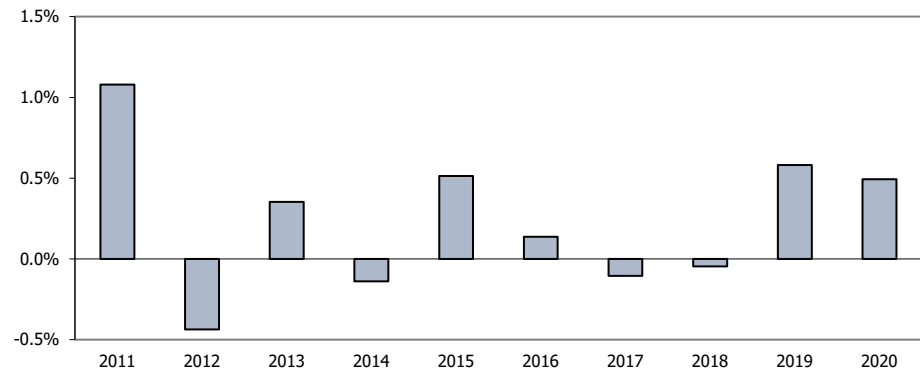
### SDRS Fixed Income Over/Under Performance Chart



## Annual Returns

	<u>SDRS Fixed Income</u>	<u>Fixed Income Benchmark</u>	<u>Over/Under Performance</u>
2011	4.74%	3.66%	1.08%
2012	7.07%	7.51%	-0.44%
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%

### SDRS Fixed Income 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

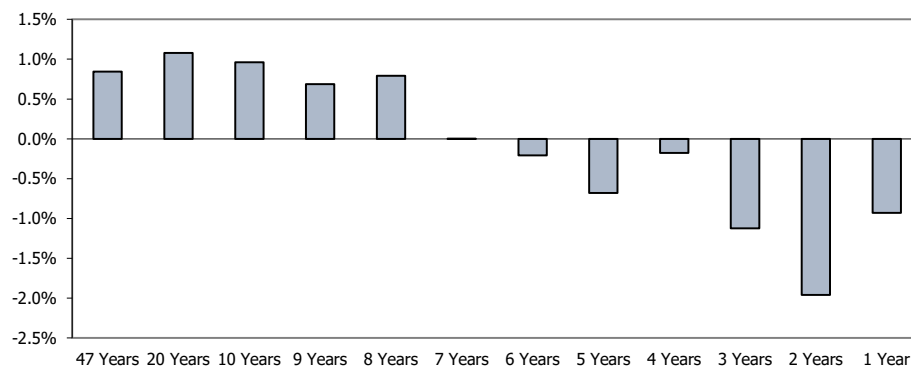
2011 - 2020 is investment grade portfolio only

# Total Fund Return Comparison

## Annualized

	<u>SDRS Total Fund</u>	<u>SDRS Capital Markets Benchmark</u>	<u>Over/Under Performance</u>
47 Years	10.05%	9.20%	0.84%
20 Years	6.89%	5.81%	1.08%
10 Years	9.56%	8.60%	0.96%
9 Years	7.89%	7.20%	0.69%
8 Years	8.66%	7.87%	0.79%
7 Years	7.19%	7.19%	0.00%
6 Years	5.36%	5.56%	-0.21%
5 Years	5.59%	6.27%	-0.68%
4 Years	6.96%	7.14%	-0.18%
3 Years	4.77%	5.89%	-1.12%
2 Years	3.22%	5.18%	-1.96%
1 Year	1.59%	2.52%	-0.93%

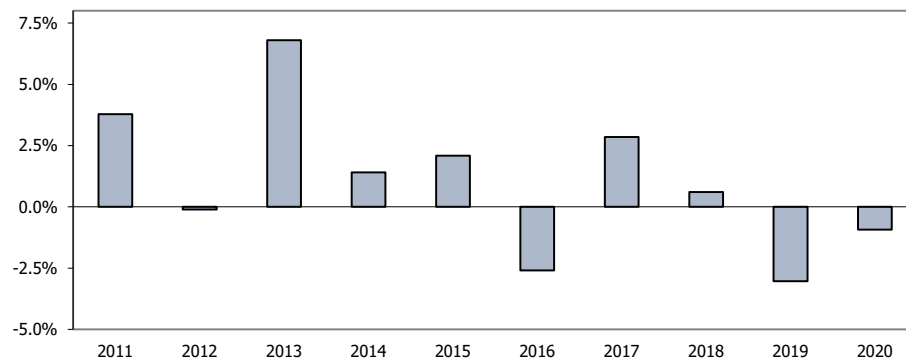
### SDRS Total Fund Over/Under Performance Chart



## Annual Returns

	<u>SDRS Total Fund</u>	<u>SDRS Capital Markets Benchmark</u>	<u>Over/Under Performance</u>
2011	25.84%	22.06%	3.78%
2012	1.91%	2.02%	-0.10%
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%

### SDRS Total Fund Over/Under Performance Chart



\* Total Fund Return History  
1973 - 2013 is gross-of-fee  
2014 - 2020 is net-of-fee