

Asset Allocation

South Dakota Trust Funds

Dakota Cement Trust

Education Enhancement Trust

Health Care Trust

School & Public Lands

South Dakota Investment Council

June 13-14, 2018

Dakota Cement Trust Fund Established

- Proceeds from the sale of the South Dakota Cement Plant in Rapid City in March of 2001
- Constitutional Amendment enacted April 2001 allows “stocks, bonds, mutual funds and other financial instruments as provided by law”
- Constitutional Amendment enacted November 2012 changed distribution calculation from \$12 million to 4% of average fair value
- Accompanying statute (SDCL 4-5-47) applies the prudent man standard
- Beginning principal value as of April 18, 2001 was \$238 million, current principal is the same

Education Enhancement Trust Fund Established

- Proceeds from South Dakota's share of the 1998 national tobacco lawsuit settlement and state youth-at-risk funds
- Constitutional Amendment enacted April 2001 allows "stocks, bonds, mutual funds and other financial instruments as provided by law"
- Accompanying statute (SDCL 10-50B-11.1) applies the prudent man standard effective July of 2001
- Separate investment fund established on July 1, 2002 (after distribution law effective) with \$81.8 million; current principal of \$389 million includes securitization of tobacco settlement payments refinancing in March of 2013 & tobacco arbitration settlement (the principal will continue to grow)
- Contains \$6.5 million principal for the South Dakota postsecondary scholarship grant fund

Health Care Trust Fund Established

- Proceeds from federal money for Medicare and Medicaid repayments to nursing home patients
- Constitutional Amendment enacted April 2001 allows “stocks, bonds, mutual funds and other financial instruments as provided by law”
- Accompanying statute (SDCL 28-6-33) applies the prudent man standard in July of 2001
- Separate investment fund established on July 1, 2002 (after distribution law established) with \$62.5 million; current principal of \$85.6 million includes additional federal and tobacco tax payments (no future principal increases expected)

School & Public Land Fund Established

- Proceeds from school land provided at statehood and other designated amounts
- Limited to government fixed income investments, including SBA & other non-marketable securities, until November 2000
- Constitutional Amendment enacted November 2000 allows “stocks, bonds, mutual funds and other financial instruments as provided by law”
- Accompanying statute (SDCL 5-10-18) applies the prudent man standard
- Governor may disapprove any investment per Constitution. Notified prior to committing to illiquid investments

Annual Distribution

Dakota Cement Trust Fund:

- Article XIII Sec. 21 of the Constitution requires annual distribution of 4% of the lesser of the 16 quarter average market value or the calendar year end market value
- Not limited by principal balance

Education Enhancement and Health Care Trust Funds:

- By codified law, annual distribution is 4% of the 4 year average fair value of the fund, as of December 31, distributed on July 1 of the following year as appropriated by the Legislature
- By Constitution, 4% distribution conditioned upon the Dec. 31 fair value of the fund being above the principal of the fund

School and Public Lands Fund:

- Art. VIII Sec. 3 of the Constitution requires all interest and income to be faithfully used and applied each year for the benefit of the public schools of the state after the principal is increased by an amount equal to the rate of inflation from realized gains or investment income. Land rent and mineral income is distributed without regard to inflation adjustment
- SDCL 5-10-18.3(4) allows the inflation offset to be satisfied by realized net capital gains if available, otherwise income

DCT HCT SPL Capital Market Benchmark

allocations, indexes, min max ranges, and equity-like risk

	<u>Global Equity</u>	<u>Real Estate</u>	<u>High Yield Corp Debt</u>	<u>Inv. Grade Fixed Income</u>	<u>Cash</u>	<u>Private Equity</u>	<u>High Yield Real Estate Debt</u>	<u>TIPS</u>	<u>Commodity</u>	<u>Equity Like Risk</u>
Maximum	75%	20% ¹	15%	50%	50%	10%	10%	10%	5%	77%
2019 Benchmark (proposed)	51%	10%	7%	30%	2% ³	0% ⁴	0% ⁴	0% ⁴	0% ⁴	63%
Minimum	25%	2%	0%	13% ²	0%	0%	0%	0%	0%	45%
Index	S&P 1200 (2/3) S&P 500(1/3)	MSCI REIT	FTSE* High Yield	FTSE* BIG	FTSE* 3 mo. Tsy bill					

Benchmark History

2018 Benchmark	51%	10%	7%	30%	2%	3	0%	4	0%	4	0%	4	0%	4	63%
2017 Benchmark	51%	10%	7%	30%	2%	3	0%	4	0%	4	0%	4	0%	4	63%
2016 Benchmark	51%	10%	7%	30%	2%		0%		0%		0%		0%		63%
2015 Benchmark	53%	10%	7%	26%	2%		0%		2%		0%		0%		63%
2014 Benchmark	52%	6%	5%	28%	2%		2%		5%		0%		0%		
2013 Benchmark	52%	6%	5%	28%	2%		2%		5%		0%		0%		
2012 Benchmark	52%	6%	5%	28%	2%		2%		5%		0%		0%		
2011 Benchmark	48%	5%	5%	33%	2%		2%		5%		0%		0%		
2010 Benchmark	48%	5%	5%	33%	2%		2%		5%		0%		0%		

1. Real Estate maximum applies to REITS/Core RE and Opportunistic combined. Opportunistic RE counts 1.3x against RE max. Base case allocation used for partnerships

2. Buffer for market drift of 1/2% (example: Inv. Grade Fixed Income minimum of 13% can drift to 12.5%)

3. Cash to provide liquidity for distributions and rebalancing

4. Skill and niche categories are not included in benchmark but do have a permitted range to invest in opportunistically

* FTSE purchased the Citi Indices and changed the name

DCT HCT SPL expected return and standard deviation

using SDIC expected returns and fat-tail adjusted risk measures

	Expected Standard		Correlation Matrix								
	Return	Deviation	US Eq	Intl Eq	Bonds	Cash	High Yield	REITs	Private Equity	RE Opport	Tips
Domestic (US) Equity	7.1%	22%	100%								
International Equity	7.1%	22%	100%	100%							
US Bonds - Investment Gr	4.1%	7%	0%	0%	100%						
Cash	3.5%	1%	0%	0%	0%	100%					
High Yield Bonds	5.5%	12%	75%	75%	23%	0%	100%				
REITs	6.9%	24%	75%	75%	0%	0%	50%	100%			
Private Equity	7.8%	30%	88%	88%	0%	0%	55%	70%	100%		
RE Opportunistic	7.5%	32%	75%	75%	2%	0%	60%	90%	60%	100%	
TIPS	4.1%	7%	0%	0%	100%	0%	24%	0%	0%	0%	100%

* Standard deviation is a measure of volatility. There is a 66% chance of being within plus or minus 1 standard deviation, a 95% chance of being within 2 standard deviations.

	US Equity	Intl Equity	Bonds	Cash	High Yield	REITs	Private Equity	RE Opport	Tips	Mean	1 year	20 year
										Expected Return	Standard Deviation	Standard Deviation
70:30 Equity/Bond	70%	0%	30%	0%	0%	0%	0%	0%	0%	6.18%	15.5%	3.5%
2003-2005 allocation	20%	0%	55%	0%	10%	15%	0%	0%	0%	5.24%	9.3%	2.1%
2006 allocation	27%	13%	40%	0%	10%	10%	0%	0%	0%	5.70%	12.0%	2.7%
2007-2011 allocation	32%	16%	33%	2%	5%	5%	2%	0%	5%	5.79%	12.8%	2.9%
2012-2014 allocation	35%	17%	28%	2%	5%	6%	2%	0%	5%	5.94%	13.8%	3.1%
2015 allocation	37%	16%	26%	2%	7%	10%	0%	0%	2%	6.04%	14.3%	3.2%
2016-2018 allocation	34%	17%	30%	2%	7%	10%	0%	0%	0%	5.98%	13.9%	3.1%
Benchmark FY19 (proposed)	34%	17%	30%	2%	7%	10%	0%	0%	0%	5.98%	13.9%	3.1%

Return Ranges	Mean	1 Year Horizon			20 Year Horizon		
	Exp Ret	up 1 sd	dn 1 sd	dn 2 sd	up 1sd	dn 1 sd	dn 2 sd
Benchmark FY19 (proposed)	5.98%	19.9%	-8.0%	-21.9%	9.1%	2.9%	-0.3%

EET Capital Market Benchmark

allocations, indexes, min max ranges, and equity-like risk

	<u>Global Equity</u>	<u>Real Estate</u>	<u>High Yield Corp Debt</u>	<u>Inv. Grade Fixed Income</u> ⁵	<u>Tax-exempt Fixed Income</u> ⁵	<u>Cash</u>	<u>Private Equity</u>	<u>High Yield Real Estate Debt</u>	<u>TIPS</u>	<u>Commodity</u>	<u>Equity Like Risk</u>
Maximum	75%	20% ¹	15%	50%		50%	10%	10%	10%	5%	77%
2019 Benchmark (proposed)	51%	10%	7%	22%	8%	2% ³	0% ⁴	0% ⁴	0% ⁴	0% ⁴	63%
Minimum	25%	2%	0%	13% ²		0%	0%	0%	0%	0%	45%
Index	<i>S&P 1200 (2/3) S&P 500(1/3)</i>	<i>MSCI REIT</i>	<i>FTSE* High Yield</i>	<i>FTSE* BIG</i>	<i>Bloomberg Barclays Muni 7 yr. (PIMCO managed)</i>	<i>FTSE* 3 mo. Tsy bill</i>					

Benchmark History

2018 Benchmark	51%	10%	7%	20%	10%	2% ³	0% ⁴	0% ⁴	0% ⁴	0% ⁴	63%
2017 Benchmark	51%	10%	7%	20%	10%	2% ³	0% ⁴	0% ⁴	0% ⁴	0% ⁴	63%
2016 Benchmark	51%	10%	7%	20%	10%	2%	0%	0%	0%	0%	63%
2015 Benchmark	53%	10%	7%	16%	10%	2%	0%	2%	0%	0%	63%
2014 Benchmark	52%	6%	5%	17%	11%	2%	2%	5%	0%	0%	
2013 Benchmark	52%	6%	5%	0%	30%	2%	2%	3%	0%	0%	
2012 Benchmark	52%	6%	5%	0%	30%	2%	2%	3%	0%	0%	
2011 Benchmark	48%	5%	5%	0%	35%	2%	2%	3%	0%	0%	
2010 Benchmark	48%	5%	5%	0%	37%	2%	2%	1%	0%	0%	

1. Real Estate maximum applies to REITS/Core RE and Opportunistic combined. Opportunistic RE counts 1.3x against RE max. Base case allocation used for partnerships

2. Buffer for market drift of 1/2% (example: Inv. Grade Fixed Income minimum of 13% can drift to 12.5%)

3. Cash to provide liquidity for distributions and rebalancing

4. Skill and niche categories are not included in benchmark but do have a permitted range to invest in opportunistically

5. Tax-exempt will combine with Investment Grade Fixed Income for purpose of minimums/maximums

* FTSE purchased the Citi Indices and changed the name

EET expected return and standard deviation

using SDIC expected returns and fat-tail adjusted risk measures

Correlation Matrix

	Expected Standard		Correlation Matrix									
	Return	Deviation	US Eq	Intl Eq	Bonds	Cash	Tax Exempt	High Yield	REITs	Private Equity	RE Opport	Tips
Domestic (US) Equity	7.1%	22%	100%									
International Equity	7.1%	22%	100%	100%								
US Bonds - Investment Gr	4.1%	7%	0%	0%	100%							
Cash	3.5%	1%	0%	0%	0%	100%						
Tax exempt Fixed Income	3.3%	8%	0%	0%	100%	0%	100%					
High Yield Bonds	5.5%	12%	75%	75%	23%	0%	23%	100%				
REITs	6.9%	24%	75%	75%	0%	0%	0%	50%	100%			
Private Equity	7.8%	30%	88%	88%	0%	0%	0%	55%	70%	100%		
RE Opportunistic	7.5%	32%	75%	75%	2%	0%	2%	60%	90%	60%	100%	
TIPS	4.1%	7%	0%	0%	100%	0%	100%	24%	0%	0%	0%	100%

* Standard deviation is a measure of volatility. There is a 66% chance of being within plus or minus 1 standard deviation, a 95% chance of being within 2 standard deviations.

	US Equity	Intl Equity	Bonds	Cash	Tax Exempt	High Yield	REITs	Private Equity	RE Opport	Tips	Mean	1 year	20 year
											Expected Return	Standard Deviation	Standard Deviation
70:30 Equity/Bond	70%	0%	30%	0%	0%	0%	0%	0%	0%	0%	6.18%	15.5%	3.5%
2003-2005 allocation	25%	0%	10%	0%	35%	10%	10%	0%	0%	10%	4.99%	9.5%	2.1%
2006 allocation	27%	13%	3%	0%	32%	10%	10%	0%	0%	5%	5.46%	12.1%	2.7%
2007-2011 allocation	32%	16%	0%	2%	35%	5%	5%	2%	0%	3%	5.53%	12.9%	2.9%
2012-2013 allocation	35%	17%	0%	2%	30%	5%	6%	2%	0%	3%	5.71%	13.8%	3.1%
2014 allocation	35%	17%	17%	2%	11%	5%	6%	2%	0%	5%	5.86%	13.8%	3.1%
2015 allocation	37%	16%	16%	2%	10%	7%	10%	0%	0%	2%	5.96%	14.4%	3.2%
2016-2018 allocation	34%	17%	20%	2%	10%	7%	10%	0%	0%	0%	5.90%	14.0%	3.1%
Benchmark FY19 (proposed)	34%	17%	22%	2%	8%	7%	10%	0%	0%	0%	5.92%	13.9%	3.1%

Return Ranges	Mean	1 Year Horizon			20 Year Horizon		
	Exp Ret	up 1 sd	dn 1 sd	dn 2 sd	up 1sd	dn 1 sd	dn 2 sd
Benchmark FY19 (proposed)	5.92%	19.9%	-8.0%	-22.0%	9.0%	2.8%	-0.3%