



Comprehensive Performance Report

June 30, 2020



Description of SBI Investment Programs

The Minnesota State Board of Investment is responsible for the investment management of various retirement funds, trust funds and cash accounts.

Combined Funds

The Combined Funds represent the assets for both the active and retired public employees in the statewide retirement systems, the biggest of which are the Public Employees Retirement Association (PERA), the Teachers Retirement Association (TRA), and the Minnesota State Retirement System (MSRS). The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

Fire Plans + Other Retirement Plans

Fire Plans and Other Retirement Plans include assets from volunteer fire relief plans and other public retirement plans with authority to invest with the SBI, if they so choose. Fire Plans that are not eligible to be consolidated with Public Employees Retirement Association (PERA) or elect not to be administered by PERA may invest their assets with the SBI using the same asset pools as the Combined Funds. The Statewide Volunteer Firefighter Retirement Plan is administered by PERA and has its own investment vehicle called the Volunteer Firefighter Account.

Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. Investment goals among the PDIP's many participants are varied. In order to meet the variety of goals, participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations.

Non-Retirement

The Non-Retirement Funds are funds established by the State of Minnesota and other government entities for various purposes which include the benefit of public schools, the environment, other post-employment benefits, workers compensation insurance, and other purposes.

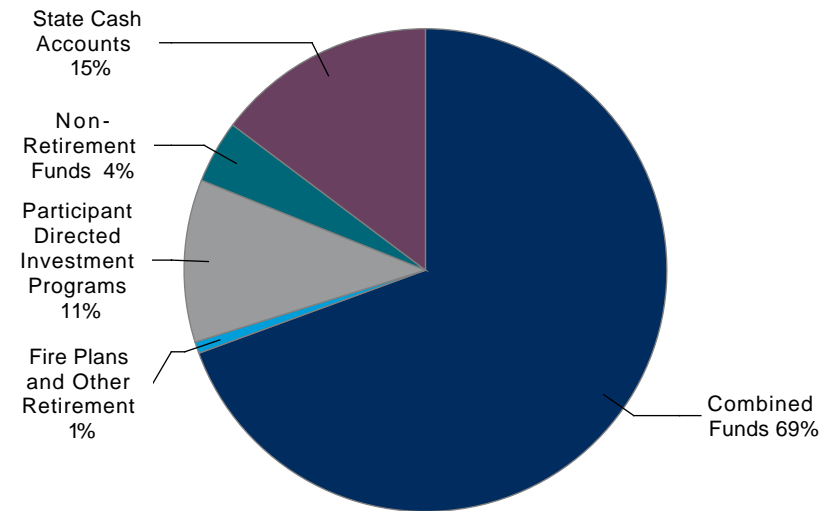
State Cash

The State Cash accounts are cash balances of state government funds including the State General Fund. Most accounts are invested by SBI staff through a short-term pooled fund referred to as the Treasurer's Cash Pool. It contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury. Because of special legal restrictions, a small number of cash accounts cannot be commingled.



Funds Under Management

	<u>\$ Millions</u>
COMBINED FUNDS	\$71,053
FIRE PLANS + OTHER RETIREMENT	792
PARTICIPANT DIRECTED INVESTMENT PROGRAMS	11,154
State Deferred Compensation Plan	7,717
Health Care Savings Plan	1,299
Unclassified Employees Retirement Plan	331
Hennepin County Supplemental Retirement Plan	160
PERA Defined Contribution Plan	78
Minnesota College Savings Plan	1,557
Minnesota Achieve a Better Life Experience	12
NON-RETIREMENT FUNDS	4,298
Assigned Risk Plan	308
Permanent School Fund	1,621
Environmental Trust Fund	1,289
Closed Landfill Investment Fund	103
Miscellaneous Trust Funds	279
Other Postemployment Benefits Accounts	699
STATE CASH ACCOUNTS	15,074
Invested Treasurer's Cash	14,982
Other State Cash Accounts	92
TOTAL SBI AUM	102,372



Note: Differentials within column amounts may occur due to rounding



Quarterly Report

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Performance Reporting Legend

Manager Level Data

Aggregate Level Data

Sub-Asset Class Level Data

Asset Class Level Data

Note:

Throughout this report performance is calculated net of investment management fees, aggregates include terminated managers, and returns for all periods greater than one year are annualized. Inception Date and Since Inception Returns refer to the date of retention by the SBI. FYTD refers to the return generated by an account since July 1 of the most recent year. For historical benchmark details, please refer to the addendum of this report. Inception to date return information is included for manager accounts and total asset class but not other aggregates because of portfolio management decisions to group managers in different aggregates over time.



Combined Funds

June 30, 2020



Combined Funds Summary

Combined Funds Change in Market Value (\$Millions)

	<u>One Quarter</u>
COMBINED FUNDS	
Beginning Market Value	\$64,559
Net Contributions	-620
Investment Return	7,114
Ending Market Value	71,053

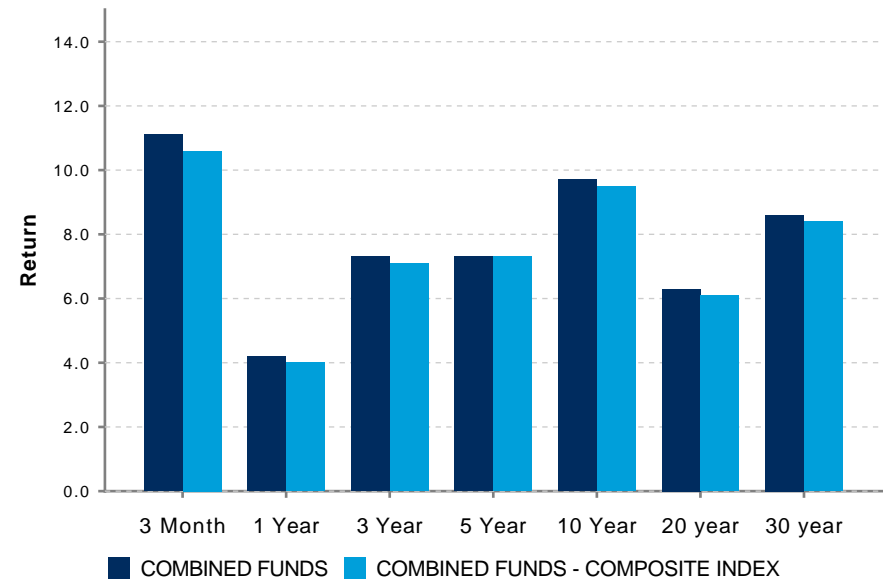
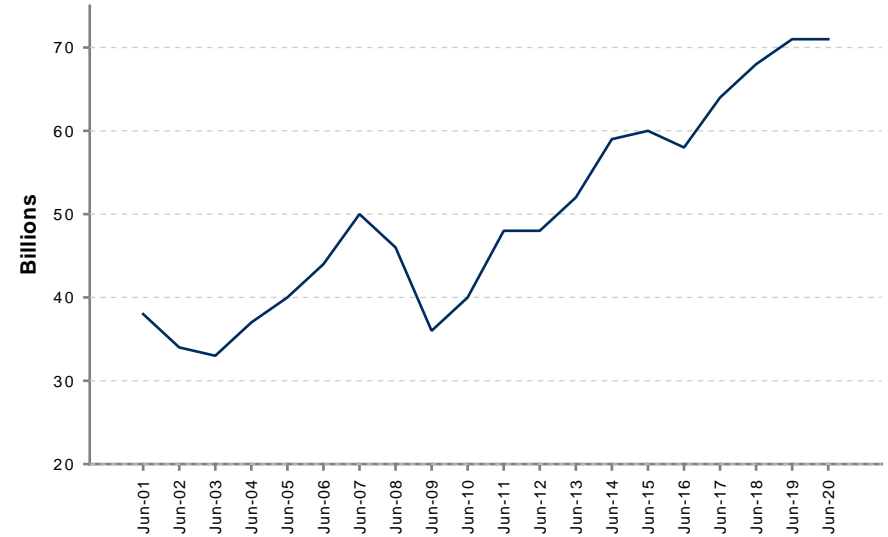
The change in market value of the Combined Funds since the end of last quarter is due to net contributions and investment returns.

Performance (Net of Fees)

The Combined Funds' performance is evaluated relative to a composite of public market index and private market investment returns. The Composite performance is calculated by multiplying the beginning of month Composite weights and the monthly returns of the asset class benchmarks.

	<u>Qtr</u>	<u>FYTD</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>20 Yr</u>	<u>30 Yr</u>
COMBINED FUNDS	11.1%	4.2%	4.2%	7.3%	7.3%	9.7%	6.3%	8.6%
COMBINED FUNDS - COMPOSITE INDEX	10.6	4.0	4.0	7.1	7.3	9.5	6.1	8.4
Excess	0.5	0.2	0.2	0.2	-0.0	0.2	0.2	0.2

Asset Growth



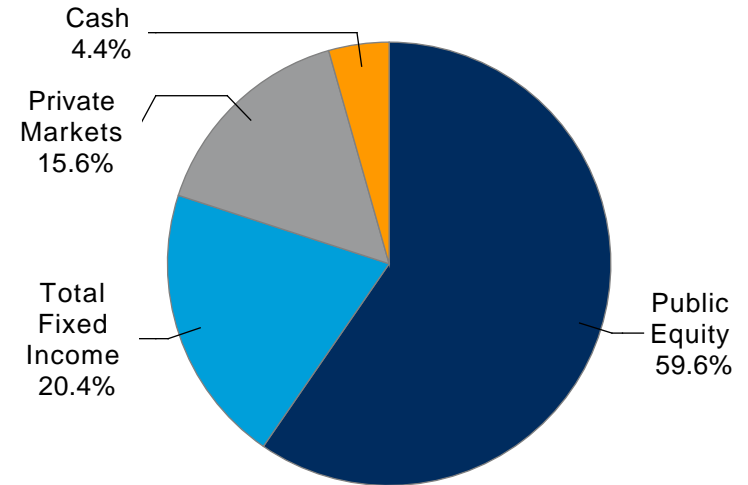


Combined Funds Summary

Asset Mix

The Combined Funds actual asset mix relative to the Strategic Asset Allocation Policy Target is shown below. Any uninvested portion of the Private Markets allocation is held in Public Equity.

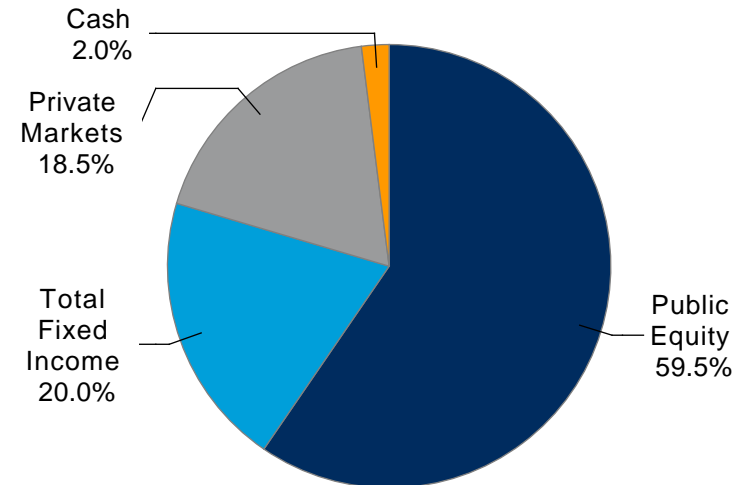
	<u>(Millions)</u>	<u>Actual Mix</u>	<u>Policy Target</u>
Public Equity	\$42,351	59.6%	53.0%
Total Fixed Income	14,463	20.4	20.0
Private Markets	11,104	15.6	25.0
Cash	3,135	4.4	2.0
TOTAL	71,053	100.0	



Composite Index Comparison

The Combined Funds Composite is set as the Strategic Asset Allocation Policy Target with the uninvested portion of Private Markets allocated to Public Equity. Asset class weights for Public Equity and Private Markets are reset at the start of each month. The Combined Funds Composite weighting shown below is as of the first day of the quarter.

	<u>Policy Weight</u>	<u>Benchmark</u>
Public Equity	59.5%	Public Equity Benchmark
Total Fixed Income	20.0	Total Fixed Income Benchmark
Private Markets	18.5	Private Markets
Cash	2.0	3 Month T-Bills





Combined Funds Asset Class Performance Summary

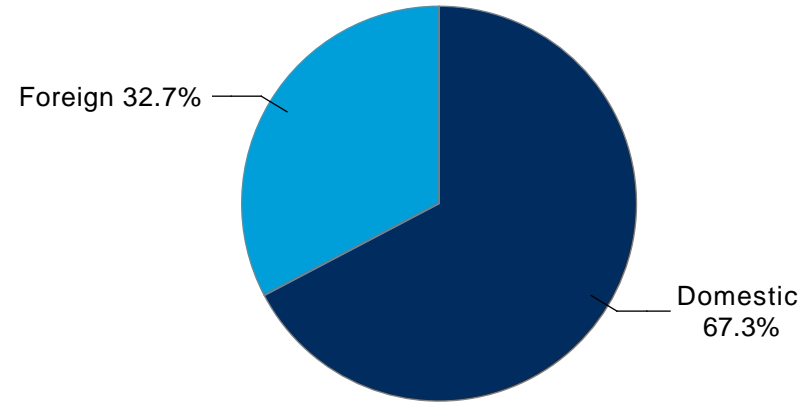
Public Equity

The Combined Funds Public Equity includes Domestic Equity and International Equity.

The Public Equity benchmark is 60.3% Russell 1000, 6.7% Russell 2000, 24.75% MSCI World ex US (net), and 8.25% MSCI EM (net).

The Russell 1000 and Russell 2000 measure the performance of the 1000 largest and 2000 next largest U.S. companies based on total market capitalization.

The MSCI World ex US index is composed of large and mid cap companies that capture approximately 85% of the total market capitalization in 22 of the 23 developed markets. The MSCI Emerging Markets index is composed of large and mid cap companies that capture approximately 85% of the total market capitalization across 24 Emerging Markets countries.



	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 year</u>
Public Equity	20.8%	2.7%	2.7%	7.1%	7.5%	11.4%	5.3%	8.8%
Public Equity Benchmark	20.2	2.4	2.4	7.0				
Excess	0.7	0.3	0.3	0.1				
Domestic Equity	22.8	6.2	6.2	9.9	9.7	13.7	5.9	9.4
Domestic Equity Benchmark	22.2	6.0	6.0	9.9	9.9	13.7	6.0	9.6
Excess	0.6	0.1	0.1	0.1	-0.3	-0.0	-0.1	-0.2
International Equity	16.7	-4.2	-4.2	1.3	2.5	5.4	3.8	
International Equity Benchmark	16.1	-4.8	-4.8	1.1	2.3	5.0	3.4	
Excess	0.7	0.6	0.6	0.2	0.2	0.4	0.4	

Note:

Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity return. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



Combined Funds Asset Class Performance Summary

Fixed Income

The Combined Funds Fixed Income program includes Core Bonds and Treasuries. The Combined Funds performance for these asset classes is shown here.

The Core Bonds benchmark is the Bloomberg Barclays U.S. Aggregate Index. This index reflects the performance of the broad bond market for investment grade (Baa or higher) bonds, U.S. Treasury and agency securities, and mortgage obligations with maturities greater than one year.

The Treasuries benchmark is the Bloomberg Barclays Treasury 5+ Years Index.

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 year</u>
Total Fixed Income	2.9%	13.0%	13.0%	7.4%	5.7%	5.0%	5.8%	6.6%
Total Fixed Income Benchmark	1.7	13.0	13.0					
Excess	1.2	0.1	0.1					
Core Bonds	5.5	9.2	9.2	5.8	4.8	4.5	5.5	6.4
Core Bonds Benchmark	2.9	8.7	8.7	5.3	4.3	3.8	5.1	6.0
Excess	2.6	0.5	0.5	0.4	0.5	0.7	0.4	0.4
Treasuries	0.3	16.7	16.7					
BBG BARC 5Y + Us Tsy Idx	0.6	17.2	17.2					
Excess	-0.3	-0.5	-0.5					

Cash

The Combined Funds Cash performance is shown here. Cash is held by the Combined Funds to meet the liquidity needs of the retirement systems to pay benefits.

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>30 year</u>
Cash	0.1%	1.5%	1.5%	1.8%	1.3%	0.8%	2.0%	3.5%
US 3-Month Treasury Bill	0.0	1.6	1.6	1.8	1.2	0.6	1.7	2.8

Note:

Prior to 3/31/2020 the returns of Core Bonds and Treasuries were not reported as a total Fixed Income return. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



Combined Funds Asset Class Performance Summary

Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>25 year</u>	<u>30 year</u>
Private Markets	-9.0%	-2.6%	-2.6%	7.3%	8.2%	10.6%	11.1%	13.2%	11.9%
Private Equity	-7.3%	3.6%	3.6%	12.3%	12.6%	13.5%	11.7%	15.3%	
Private Credit	-6.9	0.4	0.4	7.6	10.6	11.9	11.4		
Resources	-19.6	-25.4	-25.4	-7.8	-5.7	1.4	12.6	12.6	
Real Estate	-3.9	3.5	3.5	8.2	8.1	11.4	8.5	9.4	

Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

Private Equity Investments

The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

Private Credit Investments

The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

Resource Investments

The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

Real Estate Investments

The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.



Quarterly Report

Asset Class & Manager Performance

June 30, 2020

The assets of the Combined Funds are allocated to public equity, fixed income, private markets, and cash. Each asset class may be further differentiated by geography, management style, and/or strategy. Managers are hired to manage the assets accordingly. This diversification is intended to reduce wide fluctuations in investment returns on a year-to-year basis and enhances the Funds' ability to meet or exceed the actuarial return target over the long-term.

The Combined Funds consist of the assets of active employees and retired members of the statewide retirement plans. The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. This sharing is accomplished by grouping managers by asset class, geography, and management style, into several Investment Pools. The individual funds participate in the Investment Pools by purchasing units which function much like the shares of a mutual fund.

While the vast majority of the units of these pools are owned by the Combined Funds, the Supplemental Investment Fund also owns units of these pools. The Supplemental Investment Funds are mutual fund-like investment vehicles which are used by investors in the Participant Directed Investment Program. Please refer to the Participant Directed Investment Program report for more information.

The performance information presented on the following pages for Public Equity and Fixed Income includes both the Combined Funds and Supplemental Investment Fund. The Private Markets is Combined Funds only. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

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Domestic Equity

June 30, 2020



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Domestic Equity										
ACTIVE DOMESTIC EQUITY AGGREGATE (1)	\$4,134,059,513	14.2%	28.4%	0.5%	0.5%	7.3%	7.6%	12.6%		
Active Domestic Equity Benchmark			23.0	-0.7	-0.7	5.8	7.4	12.3		
Excess			5.4	1.3	1.3	1.5	0.2	0.3		
SEMI PASSIVE DOMESTIC EQUITY AGGREGATE (2)	2,531,367,763	8.7	22.2	7.8	7.8	11.0	10.4	14.2		
Semi Passive Domestic Equity Benchmark			21.8	7.5	7.5	10.6	10.5	14.0		
Excess			0.4	0.3	0.3	0.3	-0.1	0.2		
PASSIVE DOMESTIC EQUITY AGGREGATE (3)	22,348,974,994	77.0	21.9	7.1	7.1	10.4	10.2	13.8		
Passive Domestic Equity Benchmark			21.9	7.1	7.1	10.4	10.2	13.8		
Excess			-0.0	0.0	0.0	-0.0	-0.0	-0.0		
TRANSITION AGGREGATE DOMESTIC EQUITY (4)	15,470	0.0								
TOTAL DOMESTIC EQUITY (5)	29,014,417,740	100.0	22.8	6.2	6.2	10.0	9.7	13.7	10.3	01/1984
Domestic Equity Benchmark			22.2	6.0	6.0	9.9	9.9	13.7	10.5	01/1984
Excess			0.6	0.1	0.1	0.1	-0.3	-0.0	-0.2	

(1) The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmarks.

(2) The current Semi-Passive Domestic Equity Benchmark is the Russell 1000 index.

(3) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.

(4) The Transition Domestic Equity Aggregate contains Domestic Equity securities that are being transitioned to a different manager.

(5) The current Domestic Equity Benchmark is 90% Russell 1000 and 10% Russell 2000.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Total Domestic Equity					
ACTIVE DOMESTIC EQUITY AGGREGATE (1)	27.6%	-6.5%	20.6%	10.9%	-0.4%
Active Domestic Equity Benchmark	28.2	-8.0	18.3	15.7	-0.6
Excess	-0.6	1.4	2.3	-4.8	0.3
SEMI PASSIVE DOMESTIC EQUITY AGGREGATE (2)	30.9	-4.9	22.5	11.1	0.5
Semi Passive Domestic Equity Benchmark	31.4	-4.8	21.7	12.1	0.9
Excess	-0.5	-0.1	0.8	-1.0	-0.4
PASSIVE DOMESTIC EQUITY AGGREGATE (3)	31.3	-5.0	21.3	12.6	0.5
Passive Domestic Equity Benchmark	31.3	-5.0	21.5	12.5	0.5
Excess	0.0	-0.0	-0.2	0.1	0.0
TRANSITION AGGREGATE DOMESTIC EQUITY (4)					
TOTAL DOMESTIC EQUITY (5)	30.7%	-5.3%	21.4%	11.5	0.3
Domestic Equity Benchmark	30.8%	-5.2%	21.1%	12.7	0.5
Excess	-0.1%	-0.0%	0.2%	-1.3	-0.2

(1) The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmarks.

(2) The current Semi-Passive Domestic Equity Benchmark is the Russell 1000 index.

(3) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.

(4) The Transition Domestic Equity Aggregate contains Domestic Equity securities that are being transitioned to a different manager.

(5) The current Domestic Equity Benchmark is 90% Russell 1000 and 10% Russell 2000.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Large Cap Growth										
SANDS	\$367,539,175	1.3%	37.9%	31.6%	31.6%	25.8%	18.2%	20.1%	12.8%	01/2005
Russell 1000 Growth			27.8	23.3	23.3	19.0	15.9	17.2	10.8	01/2005
Excess			10.1	8.3	8.3	6.8	2.3	2.8	2.0	
WINSLOW	272,900,791	0.9	27.8	22.1	22.1	20.7	15.9	17.3	11.6	01/2005
Russell 1000 Growth			27.8	23.3	23.3	19.0	15.9	17.2	10.8	01/2005
Excess			-0.0	-1.2	-1.2	1.7	0.0	0.0	0.8	
ZEVENBERGEN	466,721,447	1.6	53.9	55.2	55.2	33.8	23.1	20.9	12.8	04/1994
Russell 1000 Growth			27.8	23.3	23.3	19.0	15.9	17.2	10.3	04/1994
Excess			26.1	31.9	31.9	14.8	7.2	3.6	2.5	
RUSSELL 1000 GROWTH AGGREGATE	1,107,161,413	3.8	41.4	37.3	37.3	27.5	20.5	19.9		
Russell 1000 Growth			27.8	23.3	23.3	19.0	15.9	17.2		
Excess			13.5	14.0	14.0	8.5	4.7	2.7		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Large Cap Growth					
SANDS	33.5%	7.0%	35.3%	-6.9%	2.9%
Russell 1000 Growth	36.4	-1.5	30.2	7.1	5.7
Excess	-2.8	8.6	5.1	-13.9	-2.8
WINSLOW	34.2	4.2	33.2	-1.9	6.7
Russell 1000 Growth	36.4	-1.5	30.2	7.1	5.7
Excess	-2.2	5.7	3.0	-9.0	1.0
ZEVENBERGEN	43.0	2.3	35.1	-2.8	6.4
Russell 1000 Growth	36.4	-1.5	30.2	7.1	5.7
Excess	6.7	3.8	4.9	-9.9	0.7
RUSSELL 1000 GROWTH AGGREGATE	37.3%	4.7%	33.4%	1.0	4.6
Russell 1000 Growth	36.4%	-1.5%	30.2%	7.1	5.7
Excess	0.9%	6.2%	3.2%	-6.1	-1.1



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Large Cap Value										
BARROW HANLEY	\$289,477,296	1.0%	19.3%	-9.7%	-9.7%	2.1%	4.2%	10.6%	6.9%	04/2004
Russell 1000 Value			14.3	-8.8	-8.8	1.8	4.6	10.4	6.7	04/2004
Excess			5.0	-0.8	-0.8	0.3	-0.4	0.2	0.2	
EARNEST PARTNERS	255,379,624	0.9	18.9	-6.9	-6.9	4.6	6.1	10.6	6.4	07/2000
Russell 1000 Value			14.3	-8.8	-8.8	1.8	4.6	10.4	6.3	07/2000
Excess			4.6	1.9	1.9	2.7	1.5	0.2	0.0	
LSV	337,877,715	1.2	16.8	-12.6	-12.6	0.0	3.2	10.7	7.3	04/2004
Russell 1000 Value			14.3	-8.8	-8.8	1.8	4.6	10.4	6.7	04/2004
Excess			2.5	-3.7	-3.7	-1.8	-1.4	0.3	0.6	
RUSSELL 1000 VALUE AGGREGATE	882,734,635	3.0	18.2	-9.9	-9.9	2.0	4.2	10.5		
Russell 1000 Value			14.3	-8.8	-8.8	1.8	4.6	10.4		
Excess			3.9	-1.1	-1.1	0.2	-0.4	0.1		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Large Cap Value					
BARROW HANLEY	26.9%	-5.9%	14.6%	12.8%	-2.1%
Russell 1000 Value	26.5	-8.3	13.7	17.3	-3.8
Excess	0.4	2.4	0.9	-4.5	1.7
EARNEST PARTNERS					
EARNEST PARTNERS	28.1	-7.7	19.9	16.2	-2.7
Russell 1000 Value	26.5	-8.3	13.7	17.3	-3.8
Excess	1.5	0.6	6.2	-1.1	1.1
LSV					
LSV	26.9	-11.8	18.6	17.0	-2.2
Russell 1000 Value	26.5	-8.3	13.7	17.3	-3.8
Excess	0.4	-3.6	4.9	-0.4	1.6
RUSSELL 1000 VALUE AGGREGATE					
RUSSELL 1000 VALUE AGGREGATE	27.4%	-8.7%	17.3%	15.3	-3.2
Russell 1000 Value	26.5%	-8.3%	13.7%	17.3	-3.8
Excess	0.9%	-0.4%	3.7%	-2.1	0.6



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Semi-Passive Large Cap										
BLACKROCK	\$1,240,592,519	4.3%	22.2%	7.3%	7.3%	11.6%	11.2%	14.7%	9.9%	01/1995
Semi Passive Domestic Equity Benchmark			21.8	7.5	7.5	10.6	10.5	14.0	9.5	01/1995
Excess			0.4	-0.2	-0.2	0.9	0.7	0.8	0.4	
J.P. MORGAN										
	1,290,775,244	4.4	22.2	8.2	8.2	10.6	10.5	14.3	9.8	01/1995
Semi Passive Domestic Equity Benchmark			21.8	7.5	7.5	10.6	10.5	14.0	9.5	01/1995
Excess			0.4	0.7	0.7	-0.0	0.0	0.3	0.3	
SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE										
	2,531,367,763	8.7	22.2	7.8	7.8	11.0	10.4	14.2		
Semi Passive Domestic Equity Benchmark			21.8	7.5	7.5	10.6	10.5	14.0		
Excess			0.4	0.3	0.3	0.3	-0.1	0.2		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Semi-Passive Large Cap					
BLACKROCK	30.4%	-4.1%	24.6%	12.5%	0.8%
Semi Passive Domestic Equity Benchmark	31.4	-4.8	21.7	12.1	0.9
Excess	-1.0	0.7	2.9	0.5	-0.1
J.P. MORGAN					
J.P. MORGAN	31.3	-5.4	21.8	12.3	0.8
Semi Passive Domestic Equity Benchmark	31.4	-4.8	21.7	12.1	0.9
Excess	-0.1	-0.6	0.1	0.2	-0.1
SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE					
SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE	30.9%	-4.9%	22.5%	11.1	0.5
Semi Passive Domestic Equity Benchmark	31.4%	-4.8%	21.7%	12.1	0.9
Excess	-0.5%	-0.1%	0.8%	-1.0	-0.4



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Small Cap Growth										
ARROWMARK	\$222,419,865	0.8%	30.4%	-4.4%	-4.4%	6.3%			11.2%	11/2016
Russell 2000 Growth			30.6	3.5	3.5	7.9			12.2	11/2016
Excess			-0.2	-7.9	-7.9	-1.6			-0.9	
HOOD RIVER	287,287,486	1.0	39.1	8.1	8.1	9.7			14.4	11/2016
Russell 2000 Growth			30.6	3.5	3.5	7.9			12.2	11/2016
Excess			8.6	4.6	4.6	1.8			2.2	
RICE HALL JAMES	230,302,908	0.8	37.2	1.5	1.5	6.3			12.3	11/2016
Russell 2000 Growth			30.6	3.5	3.5	7.9			12.2	11/2016
Excess			6.7	-2.0	-2.0	-1.6			0.1	
WELLINGTON	311,476,637	1.1	29.5	4.7	4.7	7.7			12.7	11/2016
Russell 2000 Growth			30.6	3.5	3.5	7.9			12.2	11/2016
Excess			-1.0	1.2	1.2	-0.1			0.5	
RUSSELL 2000 GROWTH AGGREGATE	1,051,486,896	3.6	33.9	2.6	2.6	7.5	5.4	11.4		
Russell 2000 Growth			30.6	3.5	3.5	7.9	6.9	12.9		
Excess			3.3	-0.9	-0.9	-0.4	-1.5	-1.6		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Small Cap Growth					
ARROWMARK	20.1%	0.9%	26.2%		
Russell 2000 Growth	28.5	-9.3	22.2		
Excess	-8.4	10.3	4.1		
HOOD RIVER	24.3	-7.0	21.3		
Russell 2000 Growth	28.5	-9.3	22.2		
Excess	-4.2	2.3	-0.9		
RICE HALL JAMES	18.0	-6.9	27.9		
Russell 2000 Growth	28.5	-9.3	22.2		
Excess	-10.5	2.4	5.8		
WELLINGTON	35.6	-11.6	22.6		
Russell 2000 Growth	28.5	-9.3	22.2		
Excess	7.1	-2.3	0.4		
RUSSELL 2000 GROWTH AGGREGATE	24.6%	-6.2%	22.0%	4.7	1.0
Russell 2000 Growth	28.5%	-9.3%	22.2%	11.3	-1.4
Excess	-3.9%	3.2%	-0.1%	-6.6	2.4



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Small Cap Value										
GOLDMAN SACHS	\$322,855,957	1.1%	17.7%	-19.7%	-19.7%	-3.8%	0.9%	9.2%	7.2%	01/2004
Russell 2000 Value			18.9	-17.5	-17.5	-4.3	1.3	7.8	5.8	01/2004
Excess			-1.3	-2.2	-2.2	0.5	-0.4	1.4	1.4	
HOTCHKIS AND WILEY	238,351,958	0.8	22.1	-24.2	-24.2	-7.8	-3.2	7.9	5.5	01/2004
Russell 2000 Value			18.9	-17.5	-17.5	-4.3	1.3	7.8	5.8	01/2004
Excess			3.2	-6.7	-6.7	-3.4	-4.5	0.0	-0.4	
MARTINGALE	239,524,191	0.8	21.1	-20.0	-20.0	-6.2	0.2	9.0	5.5	01/2004
Russell 2000 Value			18.9	-17.5	-17.5	-4.3	1.3	7.8	5.8	01/2004
Excess			2.2	-2.5	-2.5	-1.8	-1.0	1.1	-0.3	
PEREGRINE	291,944,464	1.0	23.6	-18.8	-18.8	-4.9	-0.0	7.9	8.1	07/2000
Russell 2000 Value			18.9	-17.5	-17.5	-4.3	1.3	7.8	7.7	07/2000
Excess			4.7	-1.3	-1.3	-0.6	-1.3	0.1	0.4	
RUSSELL 2000 VALUE AGGREGATE	1,092,676,569	3.8	20.9	-20.7	-20.7	-5.6	-0.5	8.4		
Russell 2000 Value			18.9	-17.5	-17.5	-4.3	1.3	7.8		
Excess			2.0	-3.2	-3.2	-1.2	-1.8	0.6		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Small Cap Value					
GOLDMAN SACHS	23.2%	-13.3%	12.6%	24.6%	-5.2%
Russell 2000 Value	22.4	-12.9	7.8	31.7	-7.5
Excess	0.8	-0.5	4.7	-7.1	2.3
HOTCHKIS AND WILEY	19.7	-14.4	7.9	19.9	-8.5
Russell 2000 Value	22.4	-12.9	7.8	31.7	-7.5
Excess	-2.7	-1.5	0.0	-11.8	-1.0
MARTINGALE	21.1	-15.0	6.9	34.3	-5.2
Russell 2000 Value	22.4	-12.9	7.8	31.7	-7.5
Excess	-1.3	-2.1	-0.9	2.5	2.3
PEREGRINE	21.1	-16.1	12.5	27.8	-6.7
Russell 2000 Value	22.4	-12.9	7.8	31.7	-7.5
Excess	-1.3	-3.3	4.7	-3.9	0.8
RUSSELL 2000 VALUE AGGREGATE	21.3%	-14.7%	10.2%	26.5	-6.5
Russell 2000 Value	22.4%	-12.9%	7.8%	31.7	-7.5
Excess	-1.1%	-1.8%	2.3%	-5.2	1.0



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Passive Domestic Equity										
BLACKROCK RUSSELL 1000	\$20,289,639,163	69.9%	21.8%	7.5%	7.5%	10.6%			13.0%	11/2016
RUSSELL 1000 (DAILY)			21.8	7.5	7.5	10.6			13.1	11/2016
Excess			-0.1	-0.0	-0.0	-0.0			-0.0	
BLACKROCK RUSSELL 2000	549,068,964	1.9	25.6	-5.8	-5.8				-0.8	11/2018
RUSSELL 2000 (DAILY)			25.4	-6.6	-6.6				-1.3	11/2018
Excess			0.2	0.8	0.8				0.5	
BLACKROCK RUSSELL 3000 (1)	1,510,266,867	5.2	22.1	6.7	6.7	10.1	10.1%	13.7%	9.2	07/1995
Passive Manager Benchmark			22.0	6.5	6.5	10.0	10.0	13.7	9.1	07/1995
Excess			0.1	0.2	0.2	0.1	0.1	0.0	0.1	
PASSIVE DOMESTIC EQUITY AGGREGATE (2)	22,348,974,994	77.0	21.9	7.1	7.1	10.4	10.2	13.8		
Passive Domestic Equity Benchmark			21.9	7.1	7.1	10.4	10.2	13.8		
Excess			-0.0	0.0	0.0	-0.0	-0.0	-0.0		

(1) The current Passive Manager Benchmark is the Russell 3000. For historical benchmark details please refer to the addendum of this report.

(2) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Total Passive Domestic Equity					
BLACKROCK RUSSELL 1000	31.4%	-4.8%	21.7%		
RUSSELL 1000 (DAILY)	31.4	-4.8	21.7		
Excess	0.0	-0.0	-0.0		
BLACKROCK RUSSELL 2000	25.2				
RUSSELL 2000 (DAILY)	25.5				
Excess	-0.3				
BLACKROCK RUSSELL 3000 (1)	31.1	-5.2	21.1	12.7%	0.5%
Passive Manager Benchmark	31.0	-5.2	21.1	12.7	0.5
Excess	0.0	-0.0	0.0	0.0	0.0
PASSIVE DOMESTIC EQUITY AGGREGATE (2)	31.3%	-5.0%	21.3%	12.6	0.5
Passive Domestic Equity Benchmark	31.3%	-5.0%	21.5%	12.5	0.5
Excess	0.0%	-0.0%	-0.2%	0.1	0.0

(1) The current Passive Manager Benchmark is the Russell 3000. For historical benchmark details please refer to the addendum of this report.

(2) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000, Russell 2000 and Russell 3000.

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International Equity

June 30, 2020



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total International Equity										
DEVELOPED MARKETS (1)	\$10,412,679,310	74.4%	16.0%	-4.6%	-4.6%	1.3%	2.4%	6.2%		
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4		
Excess			0.7	0.9	0.9	0.5	0.4	0.7		
EMERGING MARKETS (2)	3,579,443,535	25.6	19.0	-3.2	-3.2	1.5	2.6	2.8		
BENCHMARK EM			18.1	-3.4	-3.4	1.9	2.9	3.3		
Excess			0.9	0.2	0.2	-0.4	-0.3	-0.5		
TRANSITION AGGREGATE INTERNATIONAL EQUITY (3)	915,555	0.0								
TOTAL INTERNATIONAL EQUITY (4)	13,993,038,400	100.0	16.7	-4.2	-4.2	1.3	2.5	5.4	6.0	10/1992
International Equity Benchmark			16.1	-4.8	-4.8	1.1	2.3	5.0		10/1992
Excess			0.6	0.6	0.6	0.2	0.2	0.4		

(1) The current benchmark for Developed Markets, Benchmark DM, is the Standard (large + mid) MSCI World ex USA (net).

(2) The current benchmark for Emerging Markets, Benchmark EM, is the Standard (large + mid) MSCI Emerging Markets Free (net).

(3) The Transition Aggregate International Equity contains International Equity securities that are being transitioned to a different manager.

(4) The current International Equity Benchmark is 75% MSCI World ex USA (net) and 25% MSCI Emerging Markets Free (net). Does not includes impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Total International Equity					
DEVELOPED MARKETS (1)	23.3%	-14.2%	24.9%	1.3%	-0.3%
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	0.8	-0.1	0.7	-1.5	2.8
EMERGING MARKETS (2)	20.3	-15.4	37.7	7.5	-13.1
BENCHMARK EM	18.4	-14.6	37.3	11.2	-14.9
Excess	1.9	-0.8	0.4	-3.7	1.9
TRANSITION AGGREGATE INTERNATIONAL EQUITY (3)					
TOTAL INTERNATIONAL EQUITY (4)	22.4%	-14.5%	27.6%	2.6	-2.9
International Equity Benchmark	21.5%	-14.2%	27.2%	4.5	-5.7
Excess	0.9%	-0.3%	0.4%	-1.8	2.8

(1) The current benchmark for Developed Markets, Benchmark DM, is the Standard (large + mid) MSCI World ex USA (net).

(2) The current benchmark for Emerging Markets, Benchmark EM, is the Standard (large + mid) MSCI Emerging Markets Free (net).

(3) The Transition Aggregate International Equity contains International Equity securities that are being transitioned to a different manager.

(4) The current International Equity Benchmark is 75% MSCI World ex USA (net) and 25% MSCI Emerging Markets Free (net). Does not include impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Developed Markets										
ACADIAN	\$374,683,641	2.7%	17.7%	-3.2%	-3.2%	2.1%	6.4%	8.5%	5.8%	07/2005
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	4.1	07/2005
Excess			2.4	2.2	2.2	1.3	4.4	3.1	1.6	
COLUMBIA	401,057,838	2.9	15.8	-1.3	-1.3	4.7	4.0	7.8	2.8	03/2000
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	2.9	03/2000
Excess			0.4	4.1	4.1	3.9	2.0	2.4	-0.1	
FIDELITY	385,469,976	2.8	19.0	-0.3	-0.3	3.7	4.0	7.4	5.9	07/2005
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	4.1	07/2005
Excess			3.7	5.1	5.1	2.9	1.9	2.0	1.8	
JP MORGAN	312,007,656	2.2	17.7	-1.7	-1.7	3.3	3.5	6.5	4.7	07/2005
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	4.1	07/2005
Excess			2.4	3.8	3.8	2.4	1.5	1.0	0.6	
MARATHON	334,587,985	2.4	14.4	-7.1	-7.1	-0.3	1.7	6.7	7.3	11/1993
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	4.6	11/1993
Excess			-0.9	-1.6	-1.6	-1.1	-0.3	1.3	2.7	
MCKINLEY	265,250,231	1.9	22.0	0.0	0.0	3.9	2.7	6.7	4.4	07/2005
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	4.1	07/2005
Excess			6.7	5.4	5.4	3.1	0.7	1.2	0.2	
ACTIVE DEVELOPED MARKETS AGGREGATE	2,073,057,327	14.8	17.6	-2.4	-2.4	2.7	3.7	7.2		
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4		
Excess			2.2	3.0	3.0	1.9	1.7	1.8		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Developed Markets					
ACADIAN	19.1%	-13.5%	37.0%	8.1%	2.4%
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	-3.4	0.6	12.8	5.4	5.4
COLUMBIA	28.9	-14.9	32.7	-5.6	6.4
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	6.4	-0.8	8.5	-8.3	9.4
FIDELITY	27.1	-14.6	25.9	1.2	0.1
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	4.6	-0.5	1.7	-1.5	3.2
JP MORGAN	28.5	-17.3	28.3	4.0	-4.7
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	6.0	-3.3	4.1	1.2	-1.6
MARATHON	23.5	-13.4	23.1	-1.1	6.7
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	1.0	0.7	-1.1	-3.8	9.7
MCKINLEY	25.6	-15.9	28.5	-7.5	3.1
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	3.1	-1.9	4.3	-10.2	6.2
ACTIVE DEVELOPED MARKETS AGGREGATE	25.0%	-14.5%	28.4%	-0.2	3.2
BENCHMARK DM	22.5%	-14.1%	24.2%	2.7	-3.0
Excess	2.5%	-0.4%	4.2%	-3.0	6.2



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Semi-Passive Developed Markets										
AQR	\$316,947,399	2.3%	17.2%	-7.9%	-7.9%	-1.9%	0.8%	5.5%	4.1%	07/2005
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	4.1	07/2005
Excess			1.8	-2.5	-2.5	-2.8	-1.2	0.1	-0.0	
SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE	316,947,399	2.3	17.2	-7.9	-7.9	-2.5	-0.2	4.8		
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4		
Excess			1.8	-2.5	-2.5	-3.3	-2.2	-0.6		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Semi-Passive Developed Markets					
AQR	20.8%	-18.2%	25.1%	0.8%	0.9%
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	-1.7	-4.1	0.9	-2.0	3.9
SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE	20.8%	-18.7%	23.3%	-0.4	-0.3
BENCHMARK DM	22.5%	-14.1%	24.2%	2.7	-3.0
Excess	-1.7%	-4.6%	-0.9%	-3.1	2.7



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Developed Markets										
ACTIVE DEVELOPED MARKETS AGGREGATE	\$2,073,057,327	14.8%	17.6%	-2.4%	-2.4%	2.7%	3.7%	7.2%		
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4		
Excess			2.2	3.0	3.0	1.9	1.7	1.8		
SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE	316,947,399	2.3	17.2	-7.9	-7.9	-2.5	-0.2	4.8		
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4		
Excess			1.8	-2.5	-2.5	-3.3	-2.2	-0.6		
SSgA DEVELOPED MARKETS PASSIVE	8,022,674,583	57.3	15.6	-5.0	-5.0	1.2	2.4	5.8	5.7	10/1992
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4	5.4	10/1992
Excess			0.2	0.5	0.5	0.3	0.4	0.4	0.3	
DEVELOPED MARKETS TOTAL	10,412,679,310	74.4	16.0	-4.6	-4.6	1.3	2.4	6.2		
BENCHMARK DM			15.3	-5.4	-5.4	0.8	2.0	5.4		
Excess			0.7	0.9	0.9	0.5	0.4	0.7		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Total Developed Markets					
ACTIVE DEVELOPED MARKETS AGGREGATE	25.0%	-14.5%	28.4%	-0.2%	3.2%
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	2.5	-0.4	4.2	-3.0	6.2
SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE	20.8	-18.7	23.3	-0.4	-0.3
BENCHMARK DM	22.5	-14.1	24.2	2.7	-3.0
Excess	-1.7	-4.6	-0.9	-3.1	2.7
SSgA DEVELOPED MARKETS PASSIVE	23.0%	-13.9%	24.7%	3.2	-2.6
BENCHMARK DM	22.5%	-14.1%	24.2%	2.7	-3.0
Excess	0.5%	0.2%	0.5%	0.4	0.5
DEVELOPED MARKETS TOTAL	23.3%	-14.2%	24.9%	1.3	-0.3
BENCHMARK DM	22.5%	-14.1%	24.2%	2.7	-3.0
Excess	0.8%	-0.1%	0.7%	-1.5	2.8



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Emerging Markets										
EARNEST PARTNERS	\$275,824,720	2.0%	15.5%	-11.3%	-11.3%	-1.1%			1.4%	04/2017
MSCI EMERGING MARKETS			18.1	-3.4	-3.4	1.9			3.7	04/2017
Excess			-2.6	-8.0	-8.0	-2.9			-2.3	
MARTIN CURRIE	378,406,198	2.7	18.6	3.0	3.0	5.6			7.9	04/2017
BENCHMARK EM			18.1	-3.4	-3.4	1.9			3.7	04/2017
Excess			0.5	6.4	6.4	3.7			4.3	
MACQUARIE	381,130,190	2.7	25.5	6.0	6.0	5.0			6.8	04/2017
BENCHMARK EM			18.1	-3.4	-3.4	1.9			3.7	04/2017
Excess			7.5	9.4	9.4	3.1			3.2	
MORGAN STANLEY	488,420,271	3.5	19.1	-4.1	-4.1	0.2	2.3%	3.8%	8.5	01/2001
BENCHMARK EM			18.1	-3.4	-3.4	1.9	2.9	3.3	8.4	01/2001
Excess			1.0	-0.7	-0.7	-1.7	-0.6	0.5	0.2	
NEUBERGER BERMAN	337,466,419	2.4	17.2	-3.7	-3.7	1.9			3.8	04/2017
BENCHMARK EM			18.1	-3.4	-3.4	1.9			3.7	04/2017
Excess			-0.8	-0.3	-0.3	0.0			0.2	
PZENA	251,561,161	1.8	16.8	-15.1	-15.1	-3.9			-2.0	04/2017
BENCHMARK EM			18.1	-3.4	-3.4	1.9			3.7	04/2017
Excess			-1.2	-11.8	-11.8	-5.8			-5.6	
ROCK CREEK	358,043,158	2.6	21.0	0.9	0.9	1.7			3.2	04/2017
BENCHMARK EM			18.1	-3.4	-3.4	1.9			3.7	04/2017
Excess			2.9	4.3	4.3	-0.2			-0.5	



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Emerging Markets					
EARNEST PARTNERS	24.7%	-15.4%			
MSCI EMERGING MARKETS	18.4	-14.6			
Excess	6.3	-0.8			
MARTIN CURRIE					
MARTIN CURRIE	27.3	-16.6			
BENCHMARK EM	18.4	-14.6			
Excess	8.8	-2.0			
MACQUARIE					
MACQUARIE	23.2	-13.3			
BENCHMARK EM	18.4	-14.6			
Excess	4.7	1.3			
MORGAN STANLEY					
MORGAN STANLEY	20.4	-16.7	37.9%	6.1%	-9.4%
BENCHMARK EM	18.4	-14.6	37.3	11.2	-14.9
Excess	1.9	-2.2	0.6	-5.1	5.5
NEUBERGER BERMAN					
NEUBERGER BERMAN	19.7	-17.1			
BENCHMARK EM	18.4	-14.6			
Excess	1.3	-2.6			
PZENA					
PZENA	13.4	-10.8			
BENCHMARK EM	18.4	-14.6			
Excess	-5.1	3.8			
ROCK CREEK					
ROCK CREEK	22.3	-17.6			
BENCHMARK EM	18.4	-14.6			
Excess	3.9	-3.1			



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Emerging Markets										
ACTIVE EMERGING MARKETS AGGREGATE	\$2,470,852,118	17.7%	19.3%	-3.4%	-3.4%	1.3%	2.1%	2.5%		
BENCHMARK EM			18.1	-3.4	-3.4	1.9	2.9	3.3		
Excess			1.3	0.0	0.0	-0.6	-0.7	-0.7		
SSGA EMERGING MARKETS PASSIVE	1,108,591,417	7.9	18.3	-3.1	-3.1	2.0	3.0		3.6	01/2012
BENCHMARK EM			18.1	-3.4	-3.4	1.9	2.9		3.5	01/2012
Excess			0.2	0.3	0.3	0.1	0.1		0.1	
EMERGING MARKETS TOTAL	3,579,443,535	25.6	19.0	-3.2	-3.2	1.5	2.6	2.8		
BENCHMARK EM			18.1	-3.4	-3.4	1.9	2.9	3.3		
Excess			0.9	0.2	0.2	-0.4	-0.3	-0.5		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Total Emerging Markets					
ACTIVE EMERGING MARKETS AGGREGATE	21.4%	-15.6%	37.2%	5.3%	-12.7%
BENCHMARK EM	18.4	-14.6	37.3	11.2	-14.9
Excess	3.0	-1.0	-0.1	-5.9	2.2
SSGA EMERGING MARKETS PASSIVE					
SSGA EMERGING MARKETS PASSIVE	18.1%	-14.7%	37.4%	11.1	-14.6
BENCHMARK EM	18.4%	-14.6%	37.3%	11.2	-14.9
Excess	-0.3%	-0.1%	0.1%	-0.1	0.3
EMERGING MARKETS TOTAL					
EMERGING MARKETS TOTAL	20.3%	-15.4%	37.7%	7.5	-13.1
BENCHMARK EM	18.4%	-14.6%	37.3%	11.2	-14.9
Excess	1.9%	-0.8%	0.4%	-3.7	1.9

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Core Bonds

June 30, 2020



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Core Bonds										
ACTIVE CORE BONDS AGGREGATE	\$4,199,253,367	56.2%	6.4%	9.1%	9.1%	5.9%	5.0%	4.8%		
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8		
Excess			3.5	0.4	0.4	0.6	0.7	1.0		
SEMI PASSIVE CORE BONDS AGGREGATE	3,266,736,856	43.8	4.3	9.5	9.5	5.7	4.6	4.2		
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8		
Excess			1.4	0.7	0.7	0.3	0.3	0.4		
TRANSITION AGGREGATE CORE BONDS (1)	18,715	0.0								
TOTAL CORE BONDS (2)	7,466,008,938	100.0	5.5	9.2	9.2	5.8	4.8	4.5	7.6	07/1984
Core Bonds Benchmark			2.9	8.7	8.7	5.3	4.3	3.8	7.2	07/1984
Excess			2.6	0.5	0.5	0.4	0.5	0.7	0.4	

(1) The Transition Aggregate Core Bonds includes core bonds securities that are being transition to a different manager.

(2) The current Core Bonds Benchmark is the Bloomberg Barclays U.S. Aggregate calculated daily: BBG BARC Agg (Dly). For historical benchmark details please refer to the addendum of this report.

Note: All aggregates include the performance of terminated managers. Inception refers to the date of retention by the SBI.



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Core Bonds					
ACTIVE CORE BONDS AGGREGATE	10.0%	0.0%	4.7%	4.4%	0.6%
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	1.3	-0.0	1.2	1.7	0.0
SEMI PASSIVE CORE BONDS AGGREGATE	9.3	-0.1	3.7	2.8	0.8
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	0.6	-0.1	0.2	0.2	0.2
TRANSITION AGGREGATE CORE BONDS (1)					
TOTAL CORE BONDS (2)	9.7%	-0.0%	4.2%	3.6	0.7
Core Bonds Benchmark	8.7%	0.0%	3.5%	2.6	0.5
Excess	1.0%	-0.1%	0.7%	0.9	0.1

(1) The Transition Aggregate Core Bonds includes core bonds securities that are being transition to a different manager.

(2) The current Core Bonds Benchmark is the Bloomberg Barclays U.S. Aggregate calculated daily: BBG BARC Agg (Dly). For historical benchmark details please refer to the addendum of this report.

Note: All aggregates include the performance of terminated managers. Inception refers to the date of retention by the SBI.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Active Core Bonds Managers										
COLUMBIA	\$1,045,440,564	14.0%	8.1%	9.4%	9.4%	6.3%	5.3%	4.9%	5.6%	07/1993
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	5.4	07/1993
Excess			5.2	0.7	0.7	0.9	1.0	1.1	0.2	
DODGE & COX	1,033,443,375	13.8	5.6	8.5	8.5	5.5	4.8	4.7	6.1	02/2000
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	5.3	02/2000
Excess			2.7	-0.2	-0.2	0.2	0.5	0.9	0.9	
PIMCO	1,026,428,114	13.7	4.3	8.5	8.5	5.5	4.5	4.5	5.8	10/2008
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	4.6	10/2008
Excess			1.4	-0.2	-0.2	0.2	0.2	0.7	1.2	
WESTERN	1,093,941,313	14.7	7.4	9.8	9.8	6.2	5.5	5.2	8.4	07/1984
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	7.3	07/1984
Excess			4.5	1.1	1.1	0.9	1.2	1.4	1.1	
ACTIVE CORE BONDS AGGREGATE	4,199,253,367	56.2	6.4	9.1	9.1	5.9	5.0	4.8		
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8		
Excess			3.5	0.4	0.4	0.6	0.7	1.0		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Active Core Bonds Managers					
COLUMBIA	10.7%	0.2%	4.8%	5.2%	0.2%
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	1.9	0.2	1.2	2.6	-0.4
DODGE & COX	9.6	-0.0	4.2	4.8	0.3
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	0.9	-0.1	0.7	2.2	-0.3
PIMCO	8.4	0.4	4.4	2.8	1.0
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	-0.3	0.4	0.8	0.2	0.4
WESTERN	11.1	-0.2	5.6	4.9	0.7
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	2.4	-0.3	2.1	2.2	0.1
ACTIVE CORE BONDS AGGREGATE	10.0%	0.0%	4.7%	4.4	0.6
BBG BARC Agg (Dly)	8.7%	0.0%	3.5%	2.6	0.5
Excess	1.3%	-0.0%	1.2%	1.7	0.0



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Semi Passive Core Bonds Managers										
BLACKROCK	\$1,138,717,736	15.3%	4.1%	9.2%	9.2%	5.6%	4.5%	4.1%	5.4%	04/1996
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	5.3	04/1996
Excess			1.2	0.5	0.5	0.2	0.2	0.2	0.1	
GOLDMAN SACHS	997,909,450	13.4	4.9	9.6	9.6	5.8	4.7	4.3	5.7	07/1993
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	5.4	07/1993
Excess			2.0	0.9	0.9	0.5	0.4	0.5	0.3	
NEUBERGER	1,130,109,671	15.1	3.9	9.6	9.6	5.7	4.5	4.2	6.5	07/1988
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8	6.3	07/1988
Excess			1.0	0.9	0.9	0.3	0.2	0.4	0.2	
SEMI PASSIVE CORE BONDS AGGREGATE	3,266,736,856	43.8	4.3	9.5	9.5	5.7	4.6	4.2		
BBG BARC Agg (Dly)			2.9	8.7	8.7	5.3	4.3	3.8		
Excess			1.4	0.7	0.7	0.3	0.3	0.4		



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Semi Passive Core Bonds Managers					
BLACKROCK	9.3%	-0.1%	3.7%	2.8%	0.9%
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	0.6	-0.2	0.1	0.1	0.3
GOLDMAN SACHS	9.6	-0.0	3.9	3.0	0.8
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	0.9	-0.0	0.4	0.3	0.2
NEUBERGER	9.0	-0.1	3.6	2.7	0.7
BBG BARC Agg (Dly)	8.7	0.0	3.5	2.6	0.5
Excess	0.3	-0.1	0.0	0.1	0.2
SEMI PASSIVE CORE BONDS AGGREGATE	9.3%	-0.1%	3.7%	2.8	0.8
BBG BARC Agg (Dly)	8.7%	0.0%	3.5%	2.6	0.5
Excess	0.6%	-0.1%	0.2%	0.2	0.2

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Treasuries

June 30, 2020



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
Treasuries Managers										
BLACKROCK	\$2,461,036,907	34.2%	0.2%	16.8%	16.8%				11.2%	02/2018
BBG BARC 5Y + Us Tsy Idx			0.6	17.2	17.2				11.4	02/2018
Excess			-0.4	-0.4	-0.4				-0.3	
GOLDMAN SACHS	2,307,928,584	32.1	0.3	16.7	16.7				11.2	02/2018
BBG BARC 5Y + Us Tsy Idx			0.6	17.2	17.2				11.4	02/2018
Excess			-0.3	-0.5	-0.5				-0.2	
NEUBERGER	2,420,428,091	33.7	0.3	16.6	16.6				11.1	02/2018
BBG BARC 5Y + Us Tsy Idx			0.6	17.2	17.2				11.4	02/2018
Excess			-0.2	-0.6	-0.6				-0.3	
TREASURIES TRANSITION ACCOUNT	0	0.0								
TOTAL TREASURIES	7,189,393,582	100.0	0.3	16.7	16.7				11.1%	02/2018
BBG BARC 5Y + Us Tsy Idx			0.6	17.2	17.2				11.4%	02/2018
Excess			-0.3	-0.5	-0.5				-0.3%	



	<u>2019 Calendar Return</u>	<u>2018 Calendar Return</u>	<u>2017 Calendar Return</u>	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>
Treasuries Managers					
BLACKROCK	10.4%				
BBG BARC 5Y + Us Tsy Idx	10.4				
Excess	-0.1				
GOLDMAN SACHS					
	10.6				
BBG BARC 5Y + Us Tsy Idx	10.4				
Excess	0.1				
NEUBERGER					
	10.4				
BBG BARC 5Y + Us Tsy Idx	10.4				
Excess	-0.0				
TOTAL TREASURIES					
	10.4%				
BBG BARC 5Y + Us Tsy Idx	10.4%				
Excess	0.0%				

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Private Markets

June 30, 2020



Combined Funds Asset Class Performance Summary

Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>	<u>25 year</u>	<u>30 year</u>
Private Markets	-9.0%	-2.6%	-2.6%	7.3%	8.2%	10.6%	11.1%	13.2%	11.9%
Private Equity	-7.3%	3.6%	3.6%	12.3%	12.6%	13.5%	11.7%	15.3%	
Private Credit	-6.9	0.4	0.4	7.6	10.6	11.9	11.4		
Resources	-19.6	-25.4	-25.4	-7.8	-5.7	1.4	12.6	12.6	
Real Estate	-3.9	3.5	3.5	8.2	8.1	11.4	8.5	9.4	

Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

Private Equity Investments

The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

Private Credit Investments

The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

Resource Investments

The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

Real Estate Investments

The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.

Minnesota State Board of Investment
- Alternative Investments -

As of June 30, 2020

Investment	Total Commitment	Total Contribution	Market Value	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
I. PRIVATE EQUITY								
Adams Street Partners								
<i>Adams Street Global Secondary Fund 5</i>	100,000,000	77,114,692	42,824,511	44,968,248	22,885,308	3.65	1.14	8.04
<i>Adams Street Global Secondary Fund 6</i>	100,000,000	33,700,000	32,902,356	1,214,007	66,300,000	1.66	1.01	3.25
Advent International								
<i>Advent International GPE VI</i>	50,000,000	52,993,313	5,925,500	100,573,095	0	16.52	2.01	12.25
<i>Advent International GPE VII</i>	90,000,000	84,690,641	51,159,605	87,618,069	5,400,000	12.71	1.64	7.79
<i>Advent International GPE VIII</i>	100,000,000	93,700,002	98,485,542	0	6,299,998	2.29	1.05	4.40
<i>Advent International GPE IX</i>	115,000,000	28,175,001	25,523,311	0	86,824,999	-13.12	0.91	1.40
Affinity Ventures								
<i>Affinity Ventures IV</i>	4,000,000	4,000,000	83,585	1,541,970	0	-23.88	0.41	16.01
<i>Affinity Ventures V</i>	5,000,000	5,000,000	1,510,838	1,706,245	0	-7.54	0.64	12.00
APAX Partners								
<i>Apax VIII - USD</i>	200,000,000	229,550,511	116,090,147	235,740,031	15,627,330	12.86	1.53	7.32
<i>Apax IX - USD</i>	150,000,000	138,697,018	167,287,206	3,944,404	15,247,386	12.90	1.23	4.12
<i>Apax X - USD</i>	150,000,000	0	0	0	150,000,000	0.00	0.00	1.23
Arsenal Capital Partners								
<i>Arsenal Fund V</i>	75,000,000	34,591,003	31,741,760	51,772	40,419,115	-10.49	0.92	1.49
Asia Alternatives								
<i>Asia Alternatives Capital Partners V</i>	99,000,000	41,611,306	37,163,382	1,154,949	58,080,727	-9.27	0.92	3.00
Banc Fund								
<i>Banc Fund VIII</i>	98,250,000	98,250,000	25,293,030	174,293,973	0	12.16	2.03	12.19
<i>Banc Fund IX</i>	107,205,932	107,205,932	87,411,643	19,549,737	0	-0.06	1.00	6.06
<i>Banc Fund X</i>	71,345,455	49,757,818	38,234,256	0	21,587,636	-25.36	0.77	2.16
BlackRock								
<i>BlackRock Long Term Capital</i>	250,000,000	127,530,934	128,373,276	1,492,700	122,469,066	2.07	1.02	1.51
Blackstone Capital Partners								
<i>Blackstone Capital Partners IV</i>	70,000,000	84,459,884	1,721,388	200,025,998	1,832,302	37.02	2.39	17.98
<i>Blackstone Capital Partners V</i>	140,000,000	152,334,232	3,960,822	238,282,782	7,027,560	7.86	1.59	14.42

Investment	Total Commitment	Total Contribution	Market Value	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>Blackstone Capital Partners VI</i>	100,000,000	105,990,221	49,100,047	100,361,596	11,175,309	9.04	1.41	11.94
<i>Blackstone Capital Partners VII</i>	130,000,000	121,041,462	122,253,556	11,819,671	23,388,945	7.11	1.11	5.00
<i>Blackstone Capital Partners VIII LP</i>	150,000,000	0	0	0	150,000,000	0.00	0.00	1.76
Blackstone Strategic Partners (CSFB/ DLJ)								
<i>Strategic Partners III VC</i>	25,000,000	25,039,648	487,713	33,676,348	1,028,056	6.00	1.36	15.09
<i>Strategic Partners III-B</i>	100,000,000	79,581,948	419,981	118,286,611	14,851,676	6.35	1.49	15.09
<i>Strategic Partners IV VC</i>	40,500,000	42,083,951	3,963,302	59,792,682	2,338,555	9.14	1.51	12.27
<i>Strategic Partners IV-B</i>	100,000,000	99,238,544	8,911,599	146,516,648	17,581,785	12.27	1.57	12.04
<i>Strategic Partners V</i>	100,000,000	85,901,206	17,215,925	122,214,974	36,190,793	18.90	1.62	8.87
<i>Strategic Partners VI</i>	150,000,000	100,514,557	45,404,098	100,033,772	55,824,023	15.17	1.45	6.21
<i>Strategic Partners VII</i>	150,000,000	97,039,790	105,058,415	35,311,333	67,371,716	20.13	1.45	3.52
<i>Strategic Partners VIII</i>	150,000,000	33,195,737	43,375,078	2,625,000	119,377,709	58.82	1.39	1.75
Bridgepoint								
<i>Bridgepoint Europe VI</i>	167,979,608	55,807,120	52,839,589	0	112,172,488	-10.66	0.95	2.28
Brookfield Asset Management								
<i>Brookfield Capital Partners Fund IV</i>	100,000,000	96,443,104	81,602,941	124,645,731	23,980,870	49.68	2.14	4.80
<i>Brookfield Capital Partners V</i>	250,000,000	76,879,595	68,586,978	0	173,120,405	-15.16	0.89	1.93
Cardinal Partners								
<i>DSV Partners IV</i>	10,000,000	10,000,000	30,735	39,196,082	0	10.61	3.92	35.52
Carlyle Group								
<i>Carlyle Partners VII</i>	150,000,000	59,333,669	50,737,009	317,553	90,983,884	-18.40	0.86	2.54
Chicago Growth Partners (William Blair)								
<i>William Blair Capital Partners VII</i>	50,000,000	48,150,000	753,957	69,698,512	1,650,000	8.61	1.46	19.32
<i>Chicago Growth Partners I</i>	50,000,000	52,441,998	1,801,646	54,532,745	300,000	1.66	1.07	14.94
<i>Chicago Growth Partners II</i>	60,000,000	58,347,626	1,984,538	121,871,703	1,652,374	19.56	2.12	12.31
Court Square Capital Partners								
<i>Court Square Capital Partners II</i>	175,000,000	170,186,067	12,402,860	295,201,185	16,455,909	12.68	1.81	13.82
<i>Court Square Capital Partners III</i>	175,000,000	182,333,473	173,842,425	115,512,736	11,739,519	17.52	1.59	8.08
<i>Court Square Capital Partners IV</i>	150,000,000	37,431,304	39,060,012	0	112,510,570	6.03	1.04	2.15
Crescendo								
<i>Crescendo IV</i>	101,500,000	103,101,226	526,369	57,625,039	0	-4.63	0.56	20.32
CVC Capital Partners								
<i>CVC European Equity Partners V</i>	133,920,388	153,813,045	11,941,627	279,808,725	1,604,127	16.51	1.90	12.27
<i>CVC Capital Partners VI</i>	257,546,087	263,643,548	268,465,716	130,560,514	42,717,080	15.03	1.51	6.98
Elevation Partners								
<i>Elevation Partners</i>	75,000,000	73,237,580	136,977	113,492,106	799,634	11.81	1.55	15.13
Glouston Capital Partners**								

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>Glouston Private Equity Opportunities Fund IV</i>	5,337,098	4,386,760	1,009,827	3,696,251	1,090,000	2.86	1.07	5.50
Goldner Hawn Johnson & Morrison								
<i>Goldner Hawn Fund VII, L.P.</i>	57,755,138	11,972,863	12,413,651	0	45,947,625	6.44	1.04	2.19
<i>TrailHead Fund</i>	20,000,000	16,070,803	28,539,675	12,806,955	3,935,813	17.37	2.57	8.35
GS Capital Partners								
<i>GS Capital Partners V</i>	100,000,000	74,319,006	1,103,390	191,435,136	1,041,099	18.25	2.59	15.25
<i>GS Capital Partners VI</i>	100,000,000	110,196,079	11,629,632	132,005,252	2,551,356	7.10	1.30	13.42
<i>GS Vintage VII</i>	100,000,000	79,493,216	75,654,507	24,463,676	45,090,599	15.33	1.26	4.01
<i>West Street Capital Partners VII</i>	150,000,000	88,397,501	62,354,402	15,552,958	74,258,025	-8.15	0.88	3.53
<i>GS China-US Cooperation Fund</i>	99,800,000	13,647,445	6,445,874	0	86,327,000	-50.36	0.47	2.13
GTCR								
<i>GTCR X</i>	100,000,000	104,934,096	3,273,939	202,619,633	6,751,396	20.92	1.96	9.56
<i>GTCR XI</i>	110,000,000	99,095,726	88,172,520	93,035,406	12,066,556	22.95	1.83	6.62
HarbourVest**								
<i>Dover Street VII Cayman Fund</i>	2,198,112	2,073,906	234,114	1,639,420	132,416	-4.66	0.90	5.50
<i>HarbourVest Intl PE Partners V-Cayman US</i>	3,520,309	3,345,452	559,566	3,943,142	179,704	13.99	1.35	5.50
<i>Harbourvest Intl PE Partners VI-Cayman</i>	4,233,685	4,038,952	3,330,478	2,940,367	196,551	13.42	1.55	5.50
<i>HarbourVest Partners VIII Cayman Buyout</i>	4,506,711	4,387,189	1,086,955	4,639,746	156,000	11.78	1.31	5.50
<i>HarbourVest Partners VIII-Cayman Venture</i>	7,190,898	7,085,519	2,826,175	6,377,548	140,000	8.26	1.30	5.50
Hellman & Friedman								
<i>Hellman & Friedman Capital Partners VI</i>	175,000,000	171,037,755	6,705,385	309,639,874	5,084,864	12.86	1.85	13.26
<i>Hellman & Friedman Capital Partners VII</i>	50,000,000	49,838,762	57,238,293	75,275,383	2,263,593	22.83	2.66	11.20
<i>Hellman & Friedman Investors IX</i>	175,000,000	38,901,558	33,400,994	0	133,356,750	-48.44	0.86	2.01
IK Investment Partners								
<i>IK Fund VII</i>	180,226,770	178,082,353	78,876,377	215,835,488	8,518,275	12.79	1.65	6.80
<i>IK Fund VIII</i>	170,790,642	172,066,602	170,267,242	31,294,092	165,516	9.11	1.17	3.95
<i>IK Fund IX</i>	151,600,917	2,009,192	991,125	0	149,591,725	-60.08	0.49	1.22
Kohlberg Kravis Roberts								
<i>KKR Millennium Fund</i>	200,000,000	205,167,570	161,924	424,946,028	0	16.37	2.07	17.57
<i>KKR 2006 Fund</i>	200,000,000	219,082,928	51,585,564	326,553,330	3,300,979	8.87	1.73	13.76
<i>KKR Americas Fund XII</i>	150,000,000	78,613,842	80,544,369	988,851	73,267,327	2.33	1.04	4.33
<i>KKR Asian Fund III</i>	100,000,000	60,201,509	59,741,446	12,838,876	46,769,649	18.06	1.21	3.25
<i>KKR Asian Fund IV</i>	150,000,000	0	0	0	150,000,000	0.00	0.00	0.12
<i>KKR Europe V</i>	100,000,000	22,697,167	18,149,994	0	77,302,833	-31.25	0.80	1.90
Leonard Green & Partners								
<i>Green Equity Investors VI</i>	200,000,000	219,721,361	200,903,249	156,469,267	16,790,263	13.26	1.63	8.30
<i>Green Equity Investors VIII</i>	125,000,000	0	0	0	125,000,000	0.00	0.00	

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
Lexington Capital Partners								
<i>Lexington Capital Partners VI</i>	100,000,000	98,374,022	7,148,296	139,280,691	1,634,703	7.96	1.49	14.52
<i>Lexington Capital Partners VII</i>	200,000,000	172,466,709	44,180,742	231,718,226	38,059,995	14.46	1.60	11.47
<i>Lexington Capital Partners VIII</i>	150,000,000	134,716,285	102,437,919	78,667,570	33,715,785	15.83	1.34	6.33
<i>Lexington Co-Investment Partners IV</i>	200,000,000	184,108,627	189,204,927	12,618,581	27,562,725	6.74	1.10	3.91
<i>Lexington Co-Investment Partners V, L.P.</i>	300,000,000	0	0	0	300,000,000	0.00	0.00	0.75
<i>Lexington Middle Market Investors IV</i>	100,000,000	23,262,562	25,548,971	1,458,011	76,737,438	23.21	1.16	3.52
<i>Lexington Capital Partners IX</i>	150,000,000	10,623,000	17,033,597	2,837,523	140,340,799	94.05	1.87	1.99
Madison Dearborn Capital Partners								
<i>Madison Dearborn Capital Partners VII</i>	100,000,000	90,673,280	94,635,986	9,298,015	18,589,340	7.15	1.15	4.53
<i>Madison Dearborn Capital Partners VIII-A, L.P.</i>	100,000,000	0	0	0	100,000,000	0.00	0.00	1.04
Neuberger Berman								
<i>Dyal Capital Partners III</i>	175,000,000	176,947,208	122,589,220	135,891,321	110,484,158	29.67	1.46	5.20
<i>Dyal Capital Partners IV</i>	250,000,000	30,937,639	24,110,844	10,164,281	228,862,052	12.64	1.11	2.23
Nordic Capital								
<i>Nordic Capital Fund VIII</i>	176,829,302	196,739,045	125,959,246	143,324,844	21,808,975	10.43	1.37	6.80
<i>Nordic Capital Fund IX Beta</i>	167,924,851	101,017,549	111,064,342	4,774,012	66,907,301	26.31	1.15	3.20
North Sky Capital**								
<i>North Sky Capital LBO Fund III</i>	1,070,259	720,259	179,097	841,678	350,000	13.23	1.42	5.50
<i>North Sky Capital Venture Fund III</i>	1,384,080	1,277,830	227,849	1,369,463	106,250	9.76	1.25	5.50
Oak Hill Capital Management, Inc.								
<i>Oak Hill Capital Partners IV</i>	150,000,000	119,353,934	111,122,592	28,267,962	52,442,502	13.04	1.17	3.56
<i>Oak Hill Capital Partners V</i>	100,000,000	0	0	0	100,000,000	0.00	0.00	1.82
Paine Schwartz								
<i>Paine Schwartz IV</i>	75,000,000	62,851,819	65,130,361	14,823,737	13,221,335	8.82	1.27	5.55
<i>Paine Schwartz V</i>	150,000,000	16,532,480	12,532,661	0	133,467,520	-34.12	0.76	2.16
Permira								
<i>Permira V</i>	177,185,743	173,983,591	185,299,389	215,682,471	25,035,907	21.09	2.30	6.50
<i>Permira VI</i>	136,834,757	122,910,381	126,299,282	18,619,429	30,224,372	9.80	1.18	3.93
<i>Permira VII</i>	139,815,723	26,714,519	25,328,410	0	113,101,204	-6.73	0.95	1.33
Public Pension Capital Management								
<i>Public Pension Capital</i>	150,000,000	81,796,093	93,479,801	48,204,147	80,046,009	22.99	1.73	6.13
RWI Ventures								
<i>RWI Ventures I</i>	7,603,265	7,603,265	0	6,440,987	0	-4.84	0.85	14.01
Silver Lake Partners								
<i>Silver Lake Partners II</i>	100,000,000	90,200,747	86,657	171,694,975	11,771,953	11.02	1.90	16.01
<i>Silver Lake Partners III</i>	100,000,000	93,670,226	21,652,028	182,877,943	8,874,018	18.22	2.18	13.26

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>Silver Lake Partners IV</i>	100,000,000	112,636,118	119,030,287	86,580,842	4,168,036	22.05	1.83	7.76
<i>Silver Lake Partners V</i>	135,000,000	91,227,603	96,139,846	992,615	30,732,431	5.42	1.06	3.25
Split Rock Partners								
<i>Split Rock Partners</i>	50,000,000	47,890,906	4,132,208	58,794,192	2,109,094	3.34	1.31	15.17
<i>Split Rock Partners II</i>	60,000,000	59,165,000	24,767,080	49,975,369	835,000	4.75	1.26	12.18
Summit Partners								
<i>Summit Partners Growth Equity Fund VIII</i>	100,000,000	116,057,192	46,298,131	193,525,542	23,106,551	25.19	2.07	9.16
<i>Summit Partners Growth Equity Fund IX</i>	100,000,000	114,634,107	114,494,560	37,059,941	22,425,834	23.78	1.32	4.84
<i>Summit Partners Growth Equity Fund X</i>	150,000,000	11,670,000	13,239,475	0	138,330,000	16.92	1.13	1.58
Thoma Bravo								
<i>Thoma Bravo Fund XII</i>	75,000,000	75,960,561	97,234,950	5,117,450	4,228,124	12.30	1.35	3.81
<i>Thoma Bravo Fund XIII</i>	150,000,000	108,511,069	114,287,113	606	41,488,931	6.68	1.05	2.25
Thoma Cressey								
<i>Thoma Cressey Fund VII</i>	50,000,000	50,000,000	462,527	107,057,940	0	23.59	2.15	19.86
Thomas H. Lee Partners								
<i>Thomas H. Lee Equity Fund VII</i>	100,000,000	98,576,770	96,866,519	45,725,599	10,189,592	17.98	1.45	4.81
<i>Thomas H. Lee Equity Fund VIII</i>	150,000,000	65,640,135	60,946,200	11,089,430	93,707,986	25.52	1.10	2.25
Thomas, McNERNEY & Partners								
<i>Thomas, McNERNEY & Partners I</i>	30,000,000	30,000,000	3,434,118	15,087,143	0	-7.23	0.62	17.66
<i>Thomas, McNERNEY & Partners II</i>	50,000,000	48,125,000	4,628,157	107,648,037	1,875,000	16.64	2.33	14.01
TPG Capital								
<i>TPG Partners VII</i>	100,000,000	97,222,158	92,803,356	22,059,928	10,369,360	7.57	1.18	4.81
<i>TPG Partners VIII</i>	150,000,000	14,789,674	10,167,325	0	135,210,326	-54.33	0.69	2.26
Vestar Capital Partners								
<i>Vestar Capital Partners IV</i>	55,000,000	55,652,024	341,894	102,293,320	57,313	14.63	1.84	20.55
<i>Vestar Capital Partners V</i>	75,000,000	76,712,048	7,954,605	91,821,429	0	3.76	1.30	14.54
<i>Vestar Capital Partners VI</i>	100,000,000	106,195,246	62,496,976	123,127,619	357,259	23.89	1.75	8.77
<i>Vestar Capital Partners VII</i>	150,000,000	36,416,947	31,296,555	120,808	113,583,053	-10.60	0.86	2.54
Vista Equity Partners								
<i>Vista Equity Partners Perennial, L.P.</i>	200,000,000	68,988,098	67,013,334	0	132,224,805	-2.86	0.97	0.35
Warburg Pincus								
<i>Warburg Pincus Equity Partners, L.P.</i>	100,000,000	100,000,000	393,972	163,542,253	0	10.03	1.64	22.27
<i>Warburg Pincus Private Equity VIII</i>	100,000,000	100,373,266	370,506	228,717,051	0	14.74	2.28	18.22
<i>Warburg Pincus Private Equity IX</i>	100,000,000	100,000,000	3,835,817	169,104,301	0	9.67	1.73	14.94
<i>Warburg Pincus Private Equity X</i>	150,000,000	150,000,000	20,115,679	231,683,952	0	8.77	1.68	12.69
<i>Warburg Pincus Private Equity XI</i>	200,000,000	200,299,952	101,876,177	206,939,948	0	11.32	1.54	7.53
<i>Warburg Pincus Private Equity XII</i>	131,000,000	125,825,500	137,687,786	15,330,013	5,174,500	8.95	1.22	4.61

Investment	Total Commitment	Total Contribution	Market Value	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>Warburg Pincus China</i>	45,000,000	42,615,000	48,039,387	7,760,025	4,320,000	14.54	1.31	3.55
<i>Warburg Pincus Financial Sector, L.P.</i>	90,000,000	55,930,808	53,523,463	4,590,000	38,430,000	3.26	1.04	2.79
<i>Warburg Pincus Global Growth</i>	250,000,000	56,897,089	53,407,094	0	192,750,000	-10.51	0.94	1.86
<i>Warburg Pincus China-Southeast Asia II</i>	50,000,000	1,750,000	1,533,607	0	48,250,000	-12.24	0.88	1.32
Wellspring Capital Partners								
<i>Wellspring Capital Partners VI</i>	125,000,000	42,773,393	36,027,302	0	82,226,607	-13.64	0.84	3.80
Welsh, Carson, Anderson & Stowe								
<i>Welsh, Carson, Anderson & Stowe XI</i>	100,000,000	100,000,000	28,933,415	130,320,188	0	11.36	1.59	11.95
<i>Welsh, Carson, Anderson & Stowe XII</i>	150,000,000	134,579,934	129,525,484	77,974,598	15,420,066	19.41	1.54	5.53
<i>Welsh, Carson, Anderson & Stowe XIII</i>	250,000,000	15,635,083	7,830,222	0	234,364,917	-88.75	0.50	2.27
Whitehorse Capital								
<i>Whitehorse Liquidity Partners III, LP</i>	100,000,000	70,128,933	65,081,006	10,945,804	40,840,380	14.28	1.08	1.50
Wind Point Partners								
<i>Wind Point Partners IX</i>	100,000,000	17,474,236	15,859,614	0	82,530,367	-21.09	0.91	1.26
Windjammer Capital Investors								
<i>Windjammer Mezzanine & Equity Fund II</i>	66,708,861	55,215,684	62,554	84,876,800	1,013,936	8.94	1.54	20.26
<i>Windjammer Senior Equity Fund IV</i>	100,000,000	94,740,728	117,845,897	41,101,357	13,181,155	13.01	1.68	8.35
<i>Windjammer Senior Equity Fund V</i>	100,000,000	33,313,693	29,423,695	1,206,897	67,893,204	-14.13	0.92	2.62
<i>Private Equity Total</i>	15,964,764,590	10,716,108,844	6,538,456,020	9,385,282,788	6,104,830,936	11.68	1.49	

II. PRIVATE CREDIT

Audax Group

<i>Audax Mezzanine Fund III</i>	100,000,000	98,308,857	16,706,661	112,148,579	3,329,266	9.61	1.31	10.24
<i>Audax Mezzanine Fund IV</i>	100,000,000	59,314,713	34,065,870	31,794,821	51,438,433	8.45	1.11	5.23
<i>Audax Mezzanine Fund V</i>	100,000,000	0	0	0	100,000,000	0.00	0.00	

BlackRock

<i>BlackRock Middle Market Senior Fund</i>	97,500,000	69,802,405	64,758,204	1,247,100	27,697,595	-6.08	0.95	2.21
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Energy Capital Partners

<i>Energy Capital Credit Solutions II</i>	100,000,000	6,262,940	5,672,202	124,550	93,861,610	-7.59	0.93	1.75
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GS Mezzanine Partners

<i>GS Mezzanine Partners 2006</i>	100,000,000	113,454,150	771,246	134,861,849	9,858,563	5.00	1.20	14.24
<i>GS Mezzanine Partners V</i>	150,000,000	147,710,122	1,023,875	180,259,366	37,564,028	9.07	1.23	12.69

Gold Hill Venture Lending

<i>Gold Hill Venture Lending</i>	40,000,000	40,000,000	378,579	65,077,862	0	10.69	1.64	15.76
<i>Gold Hill 2008</i>	25,852,584	25,852,584	5,692,965	44,745,145	0	14.58	1.95	12.00

HPS Investment Partners

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>HPS Mezzanine Partners 2019, L.P.</i>	100,000,000	32,385,029	28,064,867	5,571,203	73,053,494	6.19	1.04	1.47
Kohlberg Kravis Roberts								
<i>KKR Lending Partners II</i>	75,000,000	86,380,377	14,488,674	79,747,153	8,802,924	4.68	1.09	5.33
<i>KKR Lending Partners III</i>	199,000,000	100,847,925	91,801,026	24,175,539	105,064,958	10.95	1.15	3.23
LBC Credit Partners								
<i>LBC Credit Partners IV</i>	100,000,000	89,731,768	64,593,545	36,654,383	32,291,029	7.76	1.13	4.17
<i>LBC Credit Partners V</i>	100,000,000	-15,023	0	0	100,000,000	0.00	0.00	1.25
Marathon								
<i>Marathon Secured Private Strategies Fund II, L.P.</i>	100,000,000	41,129,132	46,779,867	160,057	59,892,876	15.02	1.14	1.01
Merit Capital Partners								
<i>Merit Mezzanine Fund IV</i>	75,000,000	70,178,571	545,539	139,120,463	4,821,429	11.57	1.99	15.55
<i>Merit Mezzanine Fund V</i>	75,000,000	71,044,898	32,719,244	75,273,236	3,955,102	9.58	1.52	10.54
<i>Merit Mezzanine Fund VI</i>	100,000,000	65,231,708	58,506,171	22,854,478	34,701,493	11.65	1.25	4.27
Oaktree Capital Management								
<i>Oaktree Real Estate Debt Fund, III L.P.</i>	17,500,000	10,950,000	10,950,000	0	6,550,000	0.00	1.00	0.27
Portfolio Advisors								
<i>DLJ Investment Partners III</i>	100,000,000	82,719,050	416,047	96,478,980	509,988	6.77	1.17	14.03
Prudential Capital Partners								
<i>Prudential Capital Partners II</i>	100,000,000	97,418,748	2,581,349	136,427,860	11,049,052	8.52	1.43	15.01
<i>Prudential Capital Partners III</i>	100,000,000	101,899,412	3,719,217	172,533,033	14,064,511	14.18	1.73	11.21
<i>Prudential Capital Partners IV</i>	100,000,000	109,489,572	55,189,070	84,670,654	3,088,035	8.55	1.28	8.45
<i>Prudential Capital Partners V</i>	150,000,000	111,156,307	112,718,340	19,975,206	42,608,517	11.18	1.19	3.87
<i>PGIM Capital Partners VI</i>	100,000,000	0	0	0	100,000,000	0.00	0.00	
Summit Partners								
<i>Summit Subordinated Debt Fund III</i>	45,000,000	44,088,494	3,869,957	60,443,093	2,250,000	8.91	1.46	16.38
<i>Summit Subordinated Debt Fund IV</i>	50,000,000	55,914,003	4,255,674	72,207,729	19,850,132	10.15	1.37	12.26
TCW Asset Management								
<i>TCW Direct Lending VI</i>	100,000,000	83,599,652	35,627,083	63,307,087	25,329,409	7.00	1.18	5.78
<i>TCW Direct Lending VII</i>	100,000,000	63,032,508	57,320,137	8,762,521	39,930,144	4.95	1.05	2.47
<i>TCW TALF Opportunities Fund</i>	60,000,000	6,000,000	6,000,000		54,000,000		1.00	
<i>Private Credit Total</i>	2,759,852,584	1,883,887,903	759,215,408	1,668,621,946	1,065,562,587	9.43	1.29	
III. REAL ASSETS								
BlackRock								
<i>BlackRock Global Renewable Power Fund II</i>	98,500,000	86,408,825	71,908,912	17,734,445	19,018,389	1.99	1.04	4.60
<i>BlackRock Global Renewable Power Infrastructure III</i>	100,000,000	0	0	0	100,000,000	0.00	0.00	1.00

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
EIG Global Energy Partners								
<i>EIG Energy Fund XIV</i>	100,000,000	113,459,470	4,732,180	95,309,310	2,761,129	-4.74	0.88	13.21
<i>EIG Energy Fund XV</i>	150,000,000	159,823,964	41,394,643	131,650,694	22,871,323	2.07	1.08	10.07
<i>EIG Energy Fund XVI</i>	200,000,000	186,918,939	126,056,070	86,016,925	56,458,417	4.38	1.13	6.80
EnCap Energy								
<i>EnCap Energy Capital Fund VII</i>	100,000,000	105,379,160	2,439,063	135,157,214	0	14.11	1.31	13.01
<i>EnCap Energy Capital Fund VIII</i>	100,000,000	99,762,883	13,545,744	54,781,243	4,042,927	-11.68	0.68	9.75
<i>Encap Energy Capital Fund IX</i>	100,000,000	111,977,305	24,891,526	85,276,789	5,626,291	-0.73	0.98	7.56
<i>EnCap Energy Capital Fund X</i>	100,000,000	93,305,185	57,927,230	21,277,953	14,848,153	-6.84	0.85	5.32
EnerVest Energy								
<i>EnerVest Energy Institutional Fund XIV</i>	100,000,000	94,867,108	47,970,068	41,175,285	13,226,590	-2.06	0.94	5.06
Energy Capital Partners								
<i>Energy Capital Partners II</i>	100,000,000	85,722,480	3,959,106	112,434,332	29,749,110	8.85	1.36	9.95
<i>Energy Capital Partners III</i>	200,000,000	221,489,260	171,186,502	83,824,545	16,145,076	5.48	1.15	6.53
<i>Energy Capital Partners IV</i>	150,000,000	53,885,389	51,613,595	10,887,130	105,754,151	10.30	1.16	2.50
Energy & Minerals Group								
<i>NGP Midstream & Resources</i>	100,000,000	103,527,211	6,042,645	178,140,260	17,857	13.33	1.78	13.26
<i>The Energy & Minerals Group Fund II</i>	100,000,000	106,674,084	86,761,298	104,295,500	170,365	13.06	1.79	8.77
<i>The Energy & Minerals Group Fund III</i>	200,000,000	201,327,783	96,222,714	22,410,545	1,284,543	-11.04	0.59	6.32
<i>The Energy & Minerals Group Fund IV</i>	150,000,000	150,988,007	133,963,359	48,704,539	21,139,998	7.51	1.21	4.67
<i>The Energy & Minerals Group Fund V</i>	112,500,000	75,226,151	82,970,193	287,001	38,071,852	11.88	1.11	1.46
<i>The Energy & Minerals Group Fund V Accordion</i>	17,500,000	14,108,142	15,979,947	0	3,474,727	15.80	1.13	1.46
First Reserve								
<i>First Reserve Fund XI</i>	150,000,000	150,292,121	117,631	98,378,656	0	-9.47	0.66	13.53
<i>First Reserve Fund XII</i>	150,000,000	165,617,044	16,324,411	82,471,718	0	-11.78	0.60	11.67
<i>First Reserve Fund XIII</i>	200,000,000	209,630,039	128,279,095	66,890,196	15,533,312	-4.30	0.93	6.66
Kohlberg, Kravis, Roberts & Co.								
<i>KKR Global Infrastructure Investors III</i>	149,850,000	55,239,723	50,700,454	3,441,605	98,051,882	-2.37	0.98	2.26
Merit Energy Partners								
<i>Merit Energy Partners B</i>	24,000,000	24,000,000	1,554,840	189,858,902	0	24.27	7.98	23.45
<i>Merit Energy Partners C</i>	50,000,000	50,000,000	4,970,844	514,177,741	0	30.10	10.38	21.68
<i>Merit Energy Partners D</i>	88,000,000	70,938,303	11,709,964	333,800,338	0	22.67	4.87	19.11
<i>Merit Energy Partners E</i>	100,000,000	39,983,197	1,942,294	82,850,913	0	11.38	2.12	15.75
<i>Merit Energy Partners F</i>	100,000,000	59,522,861	7,385,286	30,129,452	0	-7.58	0.63	14.28
<i>Merit Energy Partners H</i>	100,000,000	100,000,000	41,656,973	29,668,582	0	-6.47	0.71	9.41
<i>Merit Energy Partners I</i>	169,721,518	169,721,518	143,962,956	43,839,059	0	3.20	1.11	5.70
<i>Merit Energy Partners K</i>	150,000,000	39,706,295	41,851,680	188,422	110,293,705	10.49	1.06	1.51

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
NGP								
<i>Natural Gas Partners IX</i>	150,000,000	173,921,032	2,649,187	245,366,339	605,481	11.98	1.43	12.69
<i>NGP Natural Resources X</i>	150,000,000	146,856,370	25,271,583	116,514,590	3,143,630	-1.09	0.97	8.73
<i>Natural Gas Capital Resources XI</i>	150,000,000	148,267,241	98,546,971	44,498,161	8,336,018	-1.42	0.96	5.56
<i>NGP Natural Resources XII</i>	149,500,000	77,140,377	61,047,783	0	72,019,148	-15.34	0.79	2.92
Sheridan								
<i>Sheridan Production Partners III</i>	100,000,000	34,353,005	23,998,993	19,675,000	13,500,000	8.78	1.27	5.56
<i>Real Assets Total</i>	4,409,571,518	3,780,040,473	1,701,535,740	3,131,113,383	776,144,074	11.82	1.28	
IV. REAL ESTATE								
Angelo, Gordon & Co.								
<i>AG Realty Fund IX</i>	100,000,000	92,141,126	94,626,646	23,500,000	11,650,000	9.32	1.28	5.56
<i>AG Asia Realty Fund III</i>	50,000,000	47,587,261	31,337,778	32,500,000	6,196,250	14.43	1.34	3.75
<i>AG Europe Realty Fund II</i>	75,000,000	59,350,822	68,555,580	28,384	15,000,000	10.60	1.16	3.03
<i>AG Europe Realty Fund III, L.P.</i>	75,000,000	10,500,000	10,500,000	0	64,500,000	0.00	1.00	0.75
<i>AG Realty Fund X</i>	150,000,000	42,743,800	42,616,072	12,431	105,375,000	-0.44	1.00	2.16
<i>AG Asia Realty Fund IV</i>	100,000,000	34,049,050	35,992,506	0	64,750,000	8.03	1.06	2.06
Blackstone Real Estate Partners								
<i>Blackstone Real Estate Partners V</i>	100,000,000	104,213,007	2,691,999	202,609,987	4,174,052	10.70	1.97	14.18
<i>Blackstone Real Estate Partners VI</i>	100,000,000	109,477,567	5,020,403	214,728,977	4,907,906	13.09	2.01	13.26
<i>Blackstone Real Estate Partners VII</i>	100,000,000	109,614,544	42,886,383	143,449,143	12,575,003	15.27	1.70	8.59
<i>Blackstone Real Estate Partners VIII</i>	150,000,000	164,162,591	143,995,392	62,300,925	25,507,103	11.13	1.26	5.26
<i>Blackstone Real Estate Partners Asia II</i>	74,500,000	31,471,946	28,437,617	2,122,235	46,616,128	-3.04	0.97	2.77
<i>Blackstone Real Estate Partners IX</i>	300,000,000	94,506,812	78,292,737	13,380,599	217,027,533	-5.50	0.97	1.78
Blackstone Strategic Partners (CSFB)								
<i>Strategic Partners III RE</i>	25,000,000	25,987,864	101,616	15,252,523	9,006	-6.46	0.59	15.01
<i>Strategic Partners IV RE</i>	50,000,000	51,496,145	2,603,554	49,563,304	1,061,572	0.21	1.01	12.04
Carlyle Group								
<i>Carlyle Realty Partners VIII</i>	150,000,000	43,420,598	41,941,082	3,427,277	110,015,546	4.67	1.04	3.15
Colony Capital								
<i>Colony Investors III</i>	100,000,000	99,660,860	2,309,700	173,802,105	0	14.49	1.77	22.51
Landmark Partners								
<i>Landmark Real Estate Partners VIII</i>	149,500,000	62,662,496	50,099,214	23,213,855	92,663,765	16.06	1.17	3.54
Lubert Adler								
<i>Lubert-Adler Real Estate Fund VII-B</i>	74,147,868	58,316,730	64,108,942	3,943,034	16,683,270	9.42	1.17	3.73
Oaktree Capital Management								

Investment	Total Commitment	Total Contribution	Market Value	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>Oaktree Real Estate Opportunities Fund VIII</i>	100,000,000	9,500,000	9,500,000	0	90,500,000	0.00	1.00	
Rockpoint								
<i>Rockpoint Real Estate Fund V</i>	100,000,000	93,489,853	74,630,984	27,330,781	21,119,727	4.19	1.09	5.47
<i>Rockpoint Real Estate Fund VI</i>	100,000,000	16,292,723	16,245,327	0	83,707,277	-0.29	1.00	1.53
Rockwood								
<i>Rockwood Capital RE Partners X</i>	100,000,000	83,845,591	70,001,212	12,500,001	17,838,938	-0.80	0.98	4.96
<i>Rockwood Capital Partners (XI), LLC</i>	100,000,000	664,712	0	0	99,338,405	-99.98	0.00	1.26
Silverpeak Real Estate Partners								
<i>Silverpeak Legacy Pension Partners II</i>	75,000,000	73,020,516	610,030	91,672,685	7,544,554	4.16	1.26	14.92
<i>Silverpeak Legacy Pension Partners III</i>	150,000,000	70,647,525	8,352,699	14,125,306	0	-12.11	0.32	12.17
T.A. Associates Realty								
<i>The Realty Associates Fund X, L.P.</i>	100,000,000	100,000,000	11,318,286	149,874,563	0	12.78	1.61	8.58
<i>The Realty Associates Fund XI, L.P.</i>	100,000,000	100,000,000	100,454,789	23,861,052	0	8.05	1.24	5.25
<i>The Realty Associates Fund XII, L.P.</i>	100,000,000	10,000,000	8,094,460	0	90,000,000	-19.06	0.81	2.50
Real Estate Total	2,948,147,868	1,798,824,138	1,045,325,008	1,283,199,165	1,208,761,034	8.61	1.30	
V. DISTRESSED/ OPPORTUNISTIC								
Avenue Capital Partners								
<i>Avenue Energy Opportunities Fund</i>	100,000,000	100,977,328	72,011,874	24,472,941	0	-1.04	0.96	6.00
<i>Avenue Energy Opportunities Fund II</i>	100,000,000	100,000,000	90,646,100	417,420	0	-4.40	0.91	3.16
BlackRock**								
<i>BlackRock Tempus Fund</i>	1,774,870	1,774,870	249,321	1,717,220	0	5.93	1.11	5.05
Carlyle Group								
<i>Carlyle Strategic Partners IV</i>	100,000,000	53,119,880	26,502,383	21,499,086	68,331,442	-9.09	0.90	4.25
Carval Investors								
<i>CVI Global Value Fund</i>	200,000,000	190,000,000	3,856,174	316,834,320	10,000,000	9.53	1.69	13.47
<i>CVI Credit Value Fund I</i>	100,000,000	95,000,000	3,846,379	209,934,827	5,000,000	18.73	2.25	9.75
<i>CVI Credit Value Fund A II</i>	150,000,000	142,500,000	5,773,126	194,560,061	7,500,000	8.07	1.41	7.67
<i>CVI Credit Value Fund A III</i>	150,000,000	142,500,000	66,788,806	110,492,431	7,500,000	7.52	1.24	5.08
<i>CVI Credit Value Fund IV</i>	150,000,000	135,203,333	124,045,290	60	15,000,000	-6.99	0.92	2.74
<i>CVI Credit Value Fund V</i>	150,000,000	7,500,000	7,500,000	0	142,500,000	0.00	1.00	
Marathon								
<i>Marathon Distressed Credit Fund GP, LLC</i>	200,000,000	10,000,000	10,103,420	0	190,000,000	1.03	1.01	0.82
Merced Capital								
<i>Merced Partners III</i>	100,000,000	100,000,000	7,347,737	128,176,445	0	6.13	1.36	10.15
<i>Merced Partners IV</i>	125,000,000	124,968,390	46,312,292	93,097,539	0	2.62	1.12	6.97

Investment	Total Commitment	Total Contribution	Market Value	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
<i>Merced Partners V</i>	53,737,500	53,915,358	41,039,597	0	0	-9.02	0.76	3.00
MHR Institutional Partners								
<i>MHR Institutional Partners IV</i>	75,000,000	47,059,392	46,346,245	6,556,698	34,438,726	4.69	1.12	6.03
Oaktree Capital Management								
<i>Oaktree Principal Fund VI</i>	100,000,000	94,105,499	87,412,689	17,636,178	18,241,294	5.15	1.12	5.50
<i>Oaktree Opportunities Fund X</i>	50,000,000	46,500,021	43,190,460	11,119,660	8,500,000	6.36	1.17	5.38
<i>Oaktree Opportunities Fund Xb</i>	100,000,000	40,000,000	32,332,840	0	60,000,000	-24.70	0.81	5.38
<i>Oaktree Special Situations Fund II</i>	100,000,000	9,213,559	8,891,250	0	90,748,304	-8.48	0.97	2.18
Pimco Bravo**								
<i>Pimco Bravo Fund OnShore Feeder I</i>	3,958,027	3,958,027	40,381	3,978,735	2,348,173	1.52	1.02	5.50
<i>Pimco Bravo Fund OnShore Feeder II</i>	5,243,670	4,685,039	1,768,765	3,910,408	4,463,852	4.44	1.21	5.50
TSSP								
<i>TSSP Adjacent Opportunities Partner</i>	50,000,000	34,984,418	35,355,928	2,186,115	17,201,697	6.83	1.07	2.24
<i>TSSP Adjacent Opportunities Contingent</i>	100,000,000	13,051,899	13,051,899	204	86,948,101	0.01	1.00	2.32
<i>TSSP Opportunities Partners IV</i>	50,000,000	17,263,175	17,185,014	9,829	32,736,825	-0.58	1.00	2.14
Varde Fund								
<i>Varde Fund IX</i>	100,000,000	100,000,000	468,995	215,525,625	0	15.00	2.16	12.02
<i>Varde Fund X</i>	150,000,000	150,000,000	22,807,050	249,265,784	0	10.74	1.81	10.20
<i>Varde Fund XI</i>	200,000,000	200,000,000	130,330,413	155,022,046	0	6.53	1.43	6.98
<i>Varde Fund XIII</i>	150,000,000	75,000,000	72,164,775	20,038	75,000,000	-9.55	0.96	1.98
Wayzata								
<i>Wayzata Opportunities Fund II</i>	150,000,000	174,750,000	2,030,370	327,229,040	750,000	16.46	1.88	12.69
<i>Wayzata Opportunities Fund III</i>	150,000,000	68,415,000	22,591,815	39,068,770	15,000,000	-2.96	0.90	8.04
<i>Distressed/Opportunistic Total</i>	3,214,714,067	2,336,445,188	1,041,991,388	2,132,731,480	892,208,413	9.21	1.36	
<i>Private Markets Total</i>	29,297,050,627	20,515,306,545	11,086,523,564	17,600,948,762	10,047,507,045	11.00	1.40	
<i>Difference***</i>			17,935,353					
<i>Private Markets Total with Difference</i>			11,104,458,917					

Private Markets Portfolio Status	Investment Manag	Investments Count
PRIVATE EQUITY	54	140
PRIVATE CREDIT	15	31
REAL ASSETS	11	42
REAL ESTATE	11	27
DISTRESSED/ OPPORTUNISTIC	12	30
Total	103	270

Investment	Total Commitment	Total Contribution	MarketValue	Distributions	Unfunded Commitment	IRR %	NET MOIC*	Period Years
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Notes

None of the data presented herein has been reviewed or approved by either the general partner or investment manager. The performance and valuation data presented herein is not a guarantee or prediction of future results. Ultimately, the actual performance and value of any investment is not known until final liquidation. Because there is no industry-standardized method for valuation or reporting comparisons of performance and valuation data among different investments is difficult.

Data presented in this report is made public pursuant to Minn. Stat. Chs. 13 and 13D, and Minn. Stat. § 11A.24, subd. 6(c). Additional information on private markets investments may be classified as non-public and not subject to disclosure.

* MOIC: Multiple of Invested Capital

**Partnership interests transferred to the MSBI during 1Q2015. All data presented as of the transfer date.

*** Difference is from the T. Rowe Price portfolio, which is an in-kind stock distribution liquidating account, and cash transactions posted to next day



Participant Directed Investment Program

June 30, 2020

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Quarterly Report

Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. The objective of the Plan is to be competitive in the marketplace by providing quality investment options with low fees to its participants. Investment goals among the PDIP's many participants are varied.

- The Supplemental Investment Fund (SIF) is an investment platform that provides participants with the option to invest in many of the same pools as the Combined Fund in addition to a Stable Value Fund and a Money Market Fund. The Volunteer Firefighter Account is an option in the SIF for local firefighter entities that join the Statewide Voluntary Firefighter Plan administered by PERA. The investment vehicles are structured much like a family of mutual funds where participating entities buy or sell units in each fund. Participants may allocate their investments among one or more funds that are appropriate for their needs and are within statutory requirements and rules established by the participating organizations.
- The Mutual Fund Line-up is an investment platform that offers participants three sets of investment options. The first is a set of actively and passively managed mutual funds, a Stable Value Fund and a Money Market Fund. The second is a set of target date funds called Minnesota Target Retirement Funds. The third is a self-directed brokerage account window which offers thousands of mutual funds. The SBI has no direct management responsibilities for funds within the self-directed brokerage account window. Participants may allocate their investments among one or more accounts that are appropriate for their needs within the statutory requirements and rules established by the participating organizations.
- The SBI is responsible for the investment options provided in the two State Sponsored Savings Plans established under provisions of the Internal Revenue Code 529, the Minnesota College Savings Plan and Minnesota Achieving a Better Life Experience Plan (ABLE). The Minnesota College Savings Plan is an educational savings plan designed to help families save for qualified nationwide college costs. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan. The SBI and OHE have contracted jointly with TIAA-CREF Tuition Financing, Inc. to provide administrative, marketing, communication, recordkeeping and investment management services. The ABLE Plan is a savings plan designed to help individuals save for qualified disability expenses without losing eligibility for certain assistance programs. The plan is administered by the Department of Human Services (DHS). The SBI and DHS have jointly contracted with Ascensus to provide recordkeeping, administrative, and investment management services for the plan.

The investment returns shown in this report are calculated using a time-weighted rate of return formula. These returns are net of investment management fees and transaction costs. They do not, however, reflect administrative expenses that may be deducted by the retirement systems or other agencies to defray administrative costs.



Supplemental Investment Fund Summary

The Minnesota Supplemental Investment Fund (SIF) is a multi-purpose investment platform that offers a range of investment options to state and local public employees. This investment platform provides some or all of the investment options to the Public Employees Retirement Association (PERA) Defined Contribution Plan, local pension plans and the Statewide Volunteer Firefighter plan.

A wide diversity of investment goals exists among the Fund's participants. In order to meet those needs, the Fund has been structured much like a "family of mutual funds." Participants may allocate their investments among one or more accounts that are appropriate for their needs, within the statutory requirements and rules established by the participating organizations. Participation in the Fund is accomplished through the purchase or sale of shares in each account. All returns are net of investment management fees.

Investment Option Descriptions

- Balanced Fund - a balanced portfolio utilizing both common stocks and bonds
- U.S. Stock Actively Managed Fund - an actively managed, U.S. common stock portfolio.
- U.S. Stock Index Fund - a passively managed, common stock portfolio designed to broadly track the performance of the U.S. stock market.
- Broad International Stock Fund - a portfolio of non-U.S. stocks that incorporates both active and passive management.
- Bond Fund - an actively managed, bond portfolio.
- Money Market Fund - a portfolio utilizing short-term, liquid debt securities.
- Stable Value Fund - a portfolio of stable value instruments, including security backed contracts and insurance company and bank investment contracts.
- Volunteer Firefighter Account - a balanced portfolio only used by the Statewide Volunteer Firefighter Plan.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Option Since</u>
BALANCED FUND	\$91,776,782	15.1%	8.2%	8.6%	8.1%	10.1%	01/1980
U.S. ACTIVELY MANAGED FUND	64,096,867	25.7	8.5	11.8	10.7	14.3	07/1986
U.S. STOCK INDEX FUND	367,179,396	22.1	6.7	10.1	10.1	13.7	07/1986
BROAD INTERNATIONAL STOCK FUND	110,506,111	16.7	-4.2	1.3	2.5	5.4	09/1994
BOND FUND	107,941,432	5.5	9.2	5.8	4.8	4.5	07/1986
MONEY MARKET FUND	557,011,017	0.1	1.7	1.9	1.4	0.8	07/1986
STABLE VALUE FUND	1,659,785,904	0.6	2.7	2.5	2.3	2.5	11/1994
VOLUNTEER FIREFIGHTER ACCOUNT	118,023,919	12.6	7.1	6.9	6.5	7.9	01/2010

Note:

The Market Values for the Money Market Fund, the Stable Value Fund, and the Total Supplemental Investment Fund also include assets held through other plans.



Supplemental Investment Fund Performance

Balanced Fund

The primary investment objective of the Balanced Fund is to gain exposure to publicly traded U.S. equities, bond and cash in a diversified investment portfolio. The Fund seeks to maximize long-term real rates of return, while limiting short-run portfolio return volatility. The Balanced Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification. The benchmark is a blend of 60% Russell 3000/35% Barclays Aggregate Bond Index/5% T-Bills Composite.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
BALANCED FUND	\$91,776,782	15.1%	8.2%	8.6%	8.1%	10.1%
SIF BALANCED FUND BENCHMARK		14.0	7.7	8.4	7.9	9.8
Excess		1.1	0.5	0.3	0.2	0.3

U.S. Actively Managed Fund

The U.S. Stock Actively Managed Fund's investment objective is to generate above-average returns from capital appreciation on common stocks. The U.S. Stock Actively Managed Fund is invested primarily in the common stocks of U.S. companies. The managers in the account also hold varying levels of cash.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
U.S. ACTIVELY MANAGED FUND	64,096,867	25.7	8.5	11.8	10.7	14.3
Russell 3000		22.0	6.5	10.0	10.0	13.7
Excess		3.7	2.0	1.7	0.7	0.6



Supplemental Investment Fund Performance

U.S. Stock Index Fund

The investment objective of the U.S. Stock Index Fund is to generate returns that track those of the U.S. stock market as a whole. The Fund is designed to track the performance of the Russell 3000 Index, a broad-based equity market indicator. The Fund is invested 100% in common stock.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
U.S. STOCK INDEX FUND	\$367,179,396	22.1%	6.7%	10.1%	10.1%	13.7%
Russell 3000		22.0	6.5	10.0	10.0	13.7
Excess		0.1	0.2	0.1	0.1	-0.0

Broad International Stock Fund

The investment objective of the Broad International Stock Fund is to earn a high rate of return by investing in the stock of companies outside the U.S. Portions of the Fund are passively managed and semi-passively managed. These portions of the Fund are designed to track and modestly outperform, respectively, the return of developed markets included in the MSCI World ex USA Index. A portion of the Fund is "actively managed" by several international managers and emerging markets specialists who buy and sell stocks in an attempt to maximize market value. The International Equity Benchmark is currently the MSCI ACWI ex USA (net).

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
BROAD INTERNATIONAL STOCK FUND	110,506,111	16.7	-4.2	1.3	2.5	5.4
International Equity Benchmark		16.1	-4.8	1.1	2.3	5.0
Excess		0.7	0.6	0.2	0.2	0.4



Supplemental Investment Fund Performance

Bond Fund

The investment objective of the Bond Fund is to exceed the return of the broad domestic bond market by investing in fixed income securities. The Bond Fund invests primarily in high-quality, government and corporate bonds that have intermediate to long-term maturities, usually 3 to 20 years. The Bond Fund benchmark is the Bloomberg Barclays U.S. Aggregate.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
BOND FUND	\$107,941,432	5.5%	9.2%	5.8%	4.8%	4.5%
BBG BARC US Agg		2.9	8.7	5.3	4.3	3.8
Excess		2.6	0.5	0.4	0.5	0.7

Money Market Fund

The investment objective of the Money Market Fund is to protect principal by investing in short-term, liquid U.S. Government securities. The Fund is invested entirely in high-quality, short-term U.S. Treasury and Agency securities. The average maturity of the portfolios is less than 90 days. Please note that the Market Value for the Money Market Fund reflects assets held through the Deferred Compensation Plan as well.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
MONEY MARKET FUND	557,011,017	0.1	1.7	1.9	1.4	0.8
ICE BofA US 3-Month Treasury Bill		0.0	1.6	1.8	1.2	0.6
Excess		0.1	0.0	0.1	0.2	0.1



Supplemental Investment Fund Performance

Stable Value Fund

The investment objectives of the Stable Value Fund are to protect investors from loss of their original investment and to provide competitive interest rates using somewhat longer-term investments than typically found in a money market fund. The Fund is invested in a well-diversified portfolio of high-quality fixed income securities with strong credit ratings. The Fund also invests in contracts issued by highly rated insurance companies and banks which are structured to provide principal protection for the Fund's diversified bond portfolios, regardless of daily market changes. The Stable Value Fund Benchmark is the 3-year Constant Maturity Treasury Bill +45 basis points. Please note that the Market Value for the Stable Value Fund reflects assets held through the Deferred Compensation Plan as well.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
STABLE VALUE FUND	\$1,659,785,904	0.6%	2.7%	2.5%	2.3%	2.5%
Fixed Interest Blended Benchmark		0.2	1.6	2.3	2.0	1.6
Excess		0.5	1.1	0.2	0.3	0.9

Volunteer Firefighter Account

The Volunteer Firefighter Account is different than other SIF program options. It is available only to the local entities that participate in the Statewide Volunteer Firefighter Plan (administered by PERA) and have all of their assets invested in the Volunteer Firefighter Account. There are other volunteer firefighter plans that are not eligible to be consolidated that may invest their assets through other SIF program options. The investment objective of the Volunteer Firefighter Account is to maximize long-term returns while limiting short-term portfolio return volatility. The account is invested in a balanced portfolio of domestic equity, international equity, fixed income and cash. The benchmark for this account is 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Bloomberg Barclays U.S. Aggregate, 5% 3 Month T-Bills.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
VOLUNTEER FIREFIGHTER ACCOUNT	118,023,919	12.6	7.1	6.9	6.5	7.9
SIF Volunteer Firefighter Account BM		11.2	6.1	6.5	6.1	7.5
Excess		1.3	0.9	0.3	0.4	0.4



Mutual Funds

The mutual fund investment line-up provides investment options to the Minnesota Deferred Compensation Plan (MNDCP), Unclassified Retirement Plan, Health Care Savings Plan, and the Hennepin Country Retirement Plan. The MNDCP is a tax-sheltered retirement savings plan that is supplemental to public employees primary retirement plan. (In most cases, the primary plan is a defined benefit plan administered by TRA, PERA, or MSRS.) Participants can choose from active and passively managed stock and bond funds, a Stable Value Fund, a Money Market Fund, a set of 10 target date retirement fund options, and a brokerage window where participants can choose from hundreds of mutual funds.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Option Since</u>
VANGUARD TOTAL STOCK MARKET INSTITUTIONAL INDEX PLUS	\$493,798,746	22.1%	6.5%				07/2019
VANGUARD INSTITUTIONAL INDEX PLUS	1,335,839,857	20.5	7.5	10.7%	10.7%	14.0%	07/1999
VANGUARD DIVIDEND GROWTH	709,554,754	13.1	1.3	10.1			10/2016
VANGUARD MID CAP INDEX	542,524,842	25.0	-0.2	6.5	7.0	12.5	01/2004
T. ROWE PRICE SMALL-CAP STOCK	734,924,504	25.4	-0.4	9.3	9.1	14.3	04/2000
FIDELITY DIVERSIFIED INTERNATIONAL	310,651,010	21.7	8.5	5.7	4.8	8.0	07/1999
VANGUARD TOTAL INTERNATIONAL STOCK INDEX	274,779,157	18.1	-4.0	1.1	2.5		07/2011
VANGUARD BALANCED INDEX	1,241,210,878	14.2	8.2	8.6	8.0	9.9	12/2003
DODGE & COX INCOME	302,153,430	6.0	8.3	5.4	4.7	4.5	07/1999
VANGUARD TOTAL BOND MARKET INDEX	383,413,748	3.0	9.0	5.3	4.3	3.8	12/2003
2025 FUND	178,297,848	10.8	4.0	5.5	5.3		07/2011
2030 FUND	131,549,038	13.6	5.9	6.6	6.4		07/2011
2035 FUND	102,083,247	15.4	6.8	7.2	6.9		07/2011
2040 FUND	81,609,025	16.6	6.5	7.3	7.0		07/2011
2045 FUND	70,405,872	17.7	5.9	7.2	7.0		07/2011
2050 FUND	53,500,838	18.8	5.2	7.1	7.1		07/2011
2055 FUND	33,230,579	19.3	5.0	7.0	7.0		07/2011
2060 FUND	28,409,466	19.3	4.9	7.0	7.0		07/2011
2065 FUND	873,271	19.3					04/2020
INCOME FUND	223,298,443	8.4	4.2	4.7	4.3		07/2011
TD Ameritrade SDB	76,041,207						
TD Ameritrade SDB Roth	1,500,533						



Mutual Funds

LARGE CAP EQUITY

Vanguard Total Stock Market Institutional Index Plus (passive)

A passive domestic stock portfolio of large and small companies that tracks the CRSP US Total Market Index.

Vanguard Index Institutional Plus (passive)

A passive domestic stock portfolio that tracks the S&P 500.

Vanguard Dividend Growth (active) (1)

A fund of large cap stocks which is expected to outperform the Nasdaq US Dividend Achievers Select Index, over time.

MID CAP EQUITY

Vanguard Mid Cap Index (passive) (2)

A fund that passively invests in companies with medium market capitalizations that tracks the CRSP US Mid-Cap Index.

SMALL CAP EQUITY

T Rowe Price Small Cap (active)

A fund that invests primarily in companies with small market capitalizations and is expected to outperform the Russell 2000 Index.

INTERNATIONAL EQUITY

Fidelity Diversified International (active)

A fund that invests primarily in stocks of companies located outside of the United States and is expected to outperform the MSCI index of Europe, Australasia and the Far East (EAFE), over time.

Vanguard Total International Stock Index (passive) (3)

A fund that seeks to track the investment performance of the FTSE Global All Cap ex US Index, an index designed to measure equity market performance in developed and emerging markets, excluding the United States.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>Option Since</u>
Large Cap US Equity						
VANGUARD TOTAL STOCK MARKET INSTITUTIONAL INDEX PLUS	\$493,798,746	22.1%	6.5%			07/2019
CRSP US Total Market Index		22.1	6.5			07/2019
Excess		0.0	0.0			
VANGUARD INSTITUTIONAL INDEX PLUS	1,335,839,857	20.5	7.5	10.7%	10.7%	07/1999
S&P 500		20.5	7.5	10.7	10.7	07/1999
Excess		0.0	0.0	-0.0	-0.0	
VANGUARD DIVIDEND GROWTH	709,554,754	13.1	1.3	10.1		10/2016
NASDAQ US Dividend Achievers Select		14.0	3.7	10.3		10/2016
Excess		-0.9	-2.4	-0.3		
Mid Cap US Equity						
VANGUARD MID CAP INDEX	542,524,842	25.0	-0.2	6.5	7.0	01/2004
CRSP US Mid Cap Index		25.0	-0.2	6.5	7.0	01/2004
Excess		-0.0	0.0	0.0	0.0	
Small Cap US Equity						
T. ROWE PRICE SMALL-CAP STOCK	734,924,504	25.4	-0.4	9.3	9.1	04/2000
Russell 2000		25.4	-6.6	2.0	4.3	04/2000
Excess		-0.0	6.2	7.3	4.9	
International Equity						
FIDELITY DIVERSIFIED INTERNATIONAL	310,651,010	21.7	8.5	5.7	4.8	07/1999
MSCI EAFE FREE (NET)		14.9	-5.1	0.8	2.1	07/1999
Excess		6.9	13.6	4.9	2.7	
VANGUARD TOTAL INTERNATIONAL STOCK INDEX	274,779,157	18.1	-4.0	1.1	2.5	07/2011
FTSE Global All Cap ex US Index Net		17.0	-4.6	0.9	2.2	07/2011
Excess		1.1	0.5	0.2	0.2	



Mutual Funds

BALANCED

Vanguard Balanced Index (passive) (4)

A fund that passively invests in a mix of domestic stocks and bonds. The fund is expected to track a weighted benchmark of 60% CRSP US Total Market Index/40% BB Barclays U.S. Aggregate.

FIXED INCOME

Dodge & Cox Income Fund (active)

A fund that invests primarily in investment grade securities in the U.S. bond market which is expected to outperform the BB Barclays U.S. Aggregate, over time.

Vanguard Total Bond Market Index (passive)

A fund that passively invests in a broad, market weighted bond index that is expected to track the BB Barclays U.S. Aggregate.

Money Market Fund (5)

A fund that invests in short-term debt instruments which is expected to outperform the return on 90-Day U.S. Treasury Bills.

STABLE VALUE

Stable Value Fund (5)

A portfolio composed of stable value instruments which are primarily investment contracts and security backed contracts. The fund is expected to outperform the return of the 3 year Constant Maturity Treasury +45 basis points, over time.

Ending Market Value **Last Qtr** **1 Year** **3 Year** **5 Year** **Option Since**

Balanced Funds

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
VANGUARD BALANCED INDEX	\$1,241,210,878	14.2%	8.2%	8.6%	8.0%	12/2003
Vanguard Balanced Fund Benchmark		14.2	8.0	8.6	8.0	12/2003
Excess		0.0	0.2	0.0	0.0	

Fixed Income

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
DODGE & COX INCOME	302,153,430	6.0	8.3	5.4	4.7	07/1999
BBG BARC Agg Bd		2.9	8.7	5.3	4.3	07/1999
Excess		3.1	-0.4	0.0	0.4	

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
VANGUARD TOTAL BOND MARKET INDEX	383,413,748	3.0	9.0	5.3	4.3	12/2003
BBG BARC Agg Bd		2.9	8.7	5.3	4.3	12/2003
Excess		0.1	0.2	0.0	0.0	

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
MONEY MARKET FUND	557,011,017	0.1	1.7	1.9	1.4	07/1986
US 3-Month Treasury Bill		0.0	1.6	1.8	1.2	07/1986
Excess		0.1	0.0	0.1	0.2	

Stable Value

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
STABLE VALUE FUND	1,659,785,904	0.6	2.7	2.5	2.3	11/1994
Fixed Interest Blended Benchmark		0.2	1.6	2.3	2.0	11/1994
Excess		0.5	1.1	0.2	0.3	

- (1) Vanguard Dividend Growth replaced the Janus Twenty Fund in the third quarter of 2016.
- (2) Prior to 02/01/2013 the benchmark was the MSCI US Mid-Cap 450 Index
- (3) Prior to 06/01/2013 the benchmark was MSCI ACWI ex USA IMI.
- (4) Prior to 01/01/2013 the benchmark was 60% MSCI US Broad Market Index and 40% Bloomberg Barclays U.S. Aggregate.
- (5) Money Market and Stable Value are Supplemental Investment Fund options which are also offered to eligible plans that invest through other plans.



Mutual Funds

MN TARGET RETIREMENT ACCOUNTS

Target retirement funds offer a mix of investments that are adjusted over time to reduce risk and become more conservative as the target retirement date approaches. A participant only needs to make one investment decision by investing their assets in the fund that is closest to their anticipated retirement date.

Target Date Retirement Funds

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>Option Since</u>		<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>Option Since</u>
SSgA													
2025 FUND	\$178,297,848	10.8%	4.0%	5.5%	5.3%	07/2011	2050 FUND	\$53,500,838	18.8%	5.2%	7.1%	7.1%	07/2011
2025 FUND BENCHMARK		10.5	3.9	5.4	5.3	07/2011	2050 FUND BENCHMARK		18.3	5.1	7.0	7.0	07/2011
Excess		0.2	0.1	0.0	0.0		Excess		0.5	0.2	0.1	0.0	
2030 FUND	131,549,038	13.6	5.9	6.6	6.4	07/2011	2055 FUND	33,230,579	19.3	5.0	7.0	7.0	07/2011
2030 FUND BENCHMARK		13.3	5.7	6.6	6.4	07/2011	2055 FUND BENCHMARK		18.8	4.9	6.9	7.0	07/2011
Excess		0.3	0.2	0.1	0.0		Excess		0.5	0.1	0.0	0.0	
2035 FUND	102,083,247	15.4	6.8	7.2	6.9	07/2011	2060 FUND	28,409,466	19.3	4.9	7.0	7.0	07/2011
2035 FUND BENCHMARK		15.0	6.7	7.2	6.8	07/2011	2060 FUND BENCHMARK		18.8	4.9	6.9	7.0	07/2011
Excess		0.4	0.2	0.0	0.0		Excess		0.5	0.1	0.0	0.0	
2040 FUND	81,609,025	16.6	6.5	7.3	7.0	07/2011	2065 FUND	873,271	19.3				04/2020
2040 FUND BENCHMARK		16.2	6.3	7.2	7.0	07/2011	2065 FUND BENCHMARK		18.8				04/2020
Excess		0.4	0.2	0.1	0.0		Excess		0.5				
2045 FUND	70,405,872	17.7	5.9	7.2	7.0	07/2011	INCOME FUND	223,298,443	8.4	4.2	4.7	4.3	07/2011
2045 FUND BENCHMARK		17.3	5.7	7.1	7.0	07/2011	INCOME FUND BENCHMARK		8.2	4.0	4.6	4.2	07/2011
Excess		0.4	0.2	0.1	0.0		Excess		0.2	0.2	0.0	0.0	

Note: Each SSgA Fund benchmark is the aggregate of the returns of the Fund's underlying index funds weighted by the Fund's asset allocation



MN College Savings Plan Options

The Minnesota College Savings Plan is an education savings plan designed to help families set aside funds for future college costs. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan.

The SBI and OHE contract jointly with TIAA to provide administrative, marketing, communication, recordkeeping and investment management services. Please see the next page for the performance as reported by TIAA.

ENROLLMENT-BASED MANAGED ALLOCATIONS

The Enrollment Year Investment Option is a set of single fund options representing the date your future student needs their college savings. The asset allocation adjusts automatically to a more conservative investment objective and level of risk as the enrollment year approaches. The managed allocation changed from Age-Based to Enrollment-Based on October 28, 2019.

RISK BASED ALLOCATIONS

The Risk Based Allocation Option offers three separate allocation investment options - Aggressive, Moderate and Conservative, each of which has a fixed risk level that does not change as the Beneficiary ages.

ASSET CLASS BASED ALLOCATIONS

U.S. LARGE CAP EQUITY INDEX - A passive domestic stock portfolio that tracks the S&P 500.

INTERNATIONAL EQUITY INDEX - A fund that passively invests in a mix of developed and emerging market equities. The fund is expected to track a weighted benchmark of 80% MSCI ACWI World ex USA and 20% MSCI Emerging Markets Free Index.

U.S. AND INTERNATIONAL EQUITY INDEX - A fund that invests in a mix of equities, both U.S. and international, across all capitalization ranges and real estate-related securities. The fund is expected to track a weighted benchmark of 60% Russell 3000, 24% International, 6% Emerging Markets, and 10% Real Estate Securities Fund.

PRINCIPAL PLUS INTEREST OPTION - A passive fund where contributions are invested in a Funding Agreement issued by TIAA-CREF Life. The funding agreement provides for a return of principal plus a guaranteed rate of interest which is made by the insurance company to the policyholder, not the account owners. The account is expected to outperform the return of the 3-month T-Bill.

EQUITY AND INTEREST ACCUMULATION - A fund that passively invests half of the portfolio in U.S. equities across all capitalization ranges and the other half in the same Funding Agreement issued by TIAA-CREF Life as described above. The fund is expected to track a weighted benchmark of 50% Russell 3000 and 50% 3-month T-Bill.

100% FIXED INCOME - A fund that passively invests in fixed income holdings that tracks the Bloomberg Barclays U.S. Aggregate and two active funds that invest in inflation-linked bonds and high yield securities. The fund is expected to track a weighted benchmark of 70% BB Barclays Aggregate, 20% inflation-linked bond, and 10% high yield.

MONEY MARKET - An active fund that invests in high-quality, short-term money market instruments of both domestic and foreign issuers that tracks the iMoneyNet Average All Taxable benchmark.



MINNESOTA COLLEGE SAVINGS PLAN
Performance Statistics for the Period Ending: June 30 2020

Total = \$1,557 Million

Fund Name	Ending Market	3 Months	1 Year	Annualized				Inception Date
				3 Years	5 Years	10 Years	Since Inception	
2036/2037 Enrollment Option	\$16,707,944	16.07%					1.10%	10/28/2019
2036-2037 Custom Benchmark		16.50%					2.08%	
2034/2035 Enrollment Option	\$24,539,783	15.68%					1.10%	10/28/2019
2034-2035 Custom Benchmark		16.05%					2.29%	
2032/2033 Enrollment Option	\$30,589,898	15.08%					1.50%	10/28/2019
2032-2033 Custom Benchmark		15.38%					2.51%	
2030/2031 Enrollment Option	\$40,919,752	14.41%					1.60%	10/28/2019
2030-2031 Custom Benchmark		14.53%					2.87%	
2028/2029 Enrollment Option	\$57,042,073	12.99%					1.80%	10/28/2019
2028-2029 Custom Benchmark		13.06%					3.38%	
2026/2027 Enrollment Option	\$82,926,550	11.17%					2.50%	10/28/2019
2026-2027 Custom Benchmark		11.13%					3.64%	
2024/2025 Enrollment Option	\$123,593,507	9.47%					2.90%	10/28/2019
2024-2025 Custom Benchmark		9.26%					3.82%	
2022/2023 Enrollment Option	\$157,351,042	7.23%					2.40%	10/28/2019
2022-2023 Custom Benchmark		6.96%					3.74%	
2020/2021 Enrollment Option	\$191,315,343	5.11%					2.80%	10/28/2019
2020-2021 Custom Benchmark		4.77%					2.92%	
In School Option	\$208,455,204	4.34%					3.40%	10/28/2019
In School Custom Benchmark		4.05%					2.47%	



MINNESOTA COLLEGE SAVINGS PLAN
Performance Statistics for the Period Ending: June 30 2020

Fund Name	Ending Market	3 Months	1 Year	Annualized				Inception Date
				3 Years	5 Years	10 Years	Since Inception	
U.S. and International Equity Option BB: U.S. and International Equity Option	\$263,551,556	19.58%	1.97%	6.79%	7.40%	10.95%	6.77%	10/ 1/2001
		20.00%	3.73%	7.31%	7.74%	11.26%	7.65%	
Moderate Allocation Option BB: Moderate Allocation Option	\$75,986,862	12.90%	4.78%	6.28%	6.23%	8.03%	5.32%	8/ 2/2007
		13.30%	5.55%	6.62%	6.49%	8.42%	5.98%	
100% Fixed-Income Option BB: 100% Fixed-Income Option	\$20,921,833	3.35%	6.72%	4.49%	3.73%	3.25%	3.90%	8/16/2007
		3.65%	7.03%	4.80%	4.03%	3.71%	4.51%	
International Equity Index Option BB: International Equity Index Option	\$5,122,791	16.78%	-4.37%	1.04%	2.23%		3.18%	6/18/2013
		15.54%	-4.72%	1.08%	2.28%		3.29%	
Money Market Option BB: Money Market Option	\$17,002,909	0.00%	1.23%	1.44%	0.92%	0.43%	0.57%	11/ 1/2007
		0.02%	1.06%	1.26%	0.80%	0.41%	0.51%	
Principal Plus Interest Option Citigroup 3-Month U.S. Treasury Bill	\$135,687,651	0.51%	2.07%	1.88%	1.69%	1.70%	2.47%	10/10/2001
		0.14%	1.56%	1.72%	1.15%	0.61%	1.34%	
Aggressive Allocation Option BB: Aggressive Allocation Option	\$38,036,729	16.04%	3.41%	6.61%	6.83%		6.57%	8/12/2014
		16.62%	4.72%	7.02%	7.15%		6.75%	
Conservative Allocation Option BB: Conservative Allocation Option	\$13,087,577	7.22%	4.64%	4.81%	4.49%		4.06%	8/18/2014
		7.51%	5.12%	5.05%	4.62%		4.23%	
Equity and Interest Accumulation Option BB: Equity and Interest Accumulation Option	\$5,052,570	10.67%	4.70%	6.02%	5.86%		5.64%	8/18/2014
		10.80%	4.68%	6.22%	5.82%		5.66%	
U.S. Large Cap Equity Option BB: U.S. Large Cap Equity Option	\$46,979,572	20.49%	7.39%	10.53%	10.51%		10.38%	8/12/2014
		20.54%	7.51%	10.73%	10.73%		10.47%	
Matching Grant Citigroup 3-Month U.S. Treasury Bill	\$2,204,022	0.51%	2.07%	1.88%	1.69%	1.70%	2.47%	3/22/2002
		0.14%	1.56%	1.72%	1.15%	0.61%	1.34%	

MINNESOTABLE *plan*

A member of The National ABLE Alliance

Performance as of
06/30/20

Total Market Value: \$ **11,996,675**

<u>Fund Name</u>	<u>Market Value</u>	<u>% of Plan</u>	<u>1 Month</u>	<u>3 Months</u>	<u>YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Inception</u>	<u>Inception Date</u>
Aggressive Option	\$ 934,990	7.79%	2.76	19.06	(6.42)	0.71	5.53			6.93	12/15/16
ABLE Aggressive Custom Benchmark			2.95	19.64	(6.09)	1.23	5.98			7.52	
Variance			(0.19)	(0.58)	(0.33)	(0.52)	(0.45)			(0.59)	
Moderately Aggressive Option	\$ 1,093,833	9.12%	2.45	16.13	(4.28)	2.04	5.44			6.57	12/15/16
ABLE Moderately Aggressive Custom Benchmark			2.61	16.80	(3.88)	2.66	5.97			7.19	
Variance			(0.16)	(0.67)	(0.40)	(0.62)	(0.53)			(0.62)	
Growth Option	\$ 1,495,075	12.46%	2.07	13.13	(2.53)	2.92	5.24			6.07	12/15/16
ABLE Growth Custom Benchmark			2.25	13.96	(1.89)	3.81	5.82			6.75	
Variance			(0.18)	(0.83)	(0.64)	(0.89)	(0.58)			(0.68)	
Moderate Option	\$ 1,342,568	11.19%	1.76	10.48	(0.66)	3.95	4.97			5.58	12/15/16
ABLE Moderate Custom Benchmark			1.87	11.12	(0.11)	4.70	5.54			6.20	
Variance			(0.11)	(0.64)	(0.55)	(0.75)	(0.57)			(0.62)	
Moderately Conservative Option	\$ 1,366,788	11.39%	1.22	7.28	0.09	3.56	4.03			4.38	12/15/16
ABLE Moderately Conservative Custom Benchmark			1.33	7.64	0.63	4.25	4.56			4.93	
Variance			(0.11)	(0.36)	(0.54)	(0.69)	(0.53)			(0.55)	
Conservative Option	\$ 2,108,792	17.58%	0.55	2.90	1.01	2.90	2.68			2.73	12/15/16
ABLE Conservative Custom Benchmark			0.56	2.95	1.16	3.16	3.04			3.06	
Variance			(0.01)	(0.05)	(0.15)	(0.26)	(0.36)			(0.33)	
Checking Option	\$ 3,654,628	30.46%									03/30/17

The Minnesota Achieve a Better Life Experience Plan (ABLE) is a savings plan designed to help individuals save for qualified disability expenses without losing eligibility for certain assistance programs. The plan is administered by the Department of Human Services (DHS).

The SBI and DHS have jointly contracted with Ascensus to provide recordkeeping, administrative, and investment management services for the plan.

RISK BASED ALLOCATIONS

The plan offers seven different allocation investment options: Aggressive, Moderately Aggressive, Growth, Moderate, Moderately Conservative, Conservative, and Checking. Each allocation is based on a fixed risk level.



Quarterly Report

Non-Retirement

June 30, 2020



Quarterly Report

Non-Retirement Funds

The SBI manages funds for trusts and programs created by the Minnesota State Constitution and Legislature.

- The Permanent School Fund is a trust established for the benefit of Minnesota public schools.
- The Environmental Trust Fund is a trust established for the protection and enhancement of Minnesota's environment. It is funded with a portion of the proceeds from the state's lottery.
- The Minnesota Workers Compensation Assigned Risk Plan provides worker compensation insurance for companies unable to obtain coverage through private carriers.
- The Closed Landfill Investment Fund is a trust created by the Legislature to invest money to pay for the long-term costs of maintaining the integrity of landfills in Minnesota once they are closed.
- Other Post-Employment Benefits Accounts (OPEB) are the assets set aside by local units of government for the payment of retiree benefits trusted by the Public Employees Retirement Association.
- Miscellaneous Trust Accounts are other small funds managed by the SBI for a variety of purposes.

All equity, fixed income, and cash assets for these accounts are managed externally by investment management firms retained by the SBI.

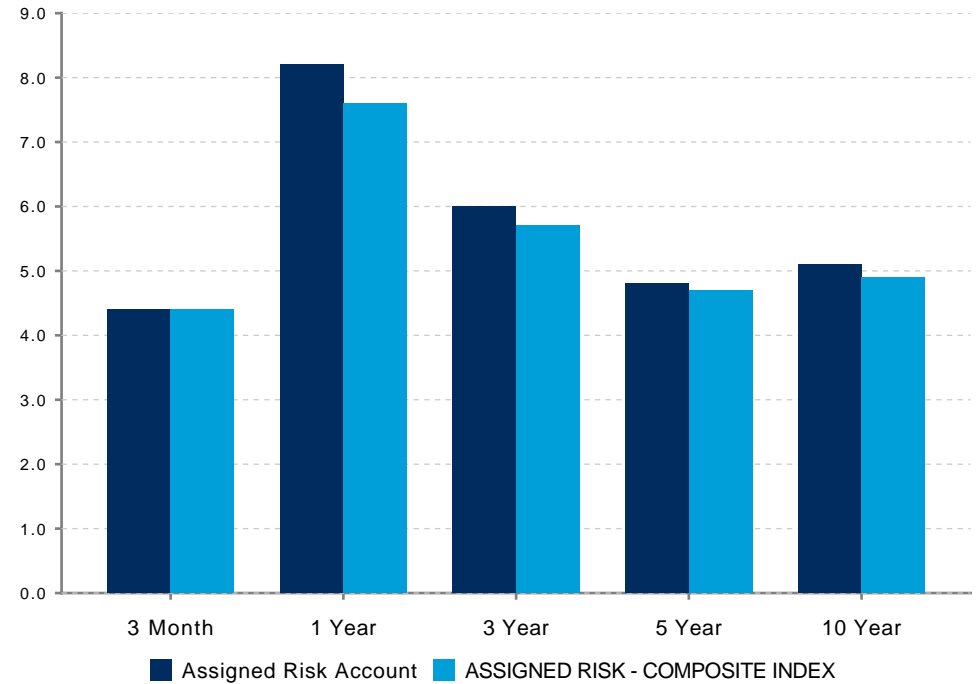


Non-Retirement

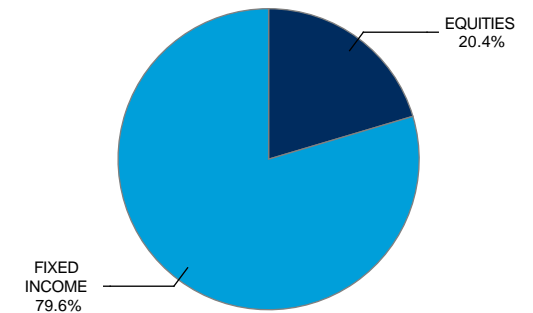
Assigned Risk Plan

The Assigned Risk plan has two investment objectives: to minimize the mismatch between assets and liabilities and to provide sufficient liquidity for the payment of ongoing claims and operating expenses.

The Assigned Risk Plan is invested in a portfolio of common stocks and bonds. The equity segment is passively managed to track the performance of the S&P 500. The fixed income benchmark is the Bloomberg Barclays Intermediate Government Index. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 80% equities and 20% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Assigned Risk Account	\$307,549,947	4.4%	8.2%	6.0%	4.8%	5.1%
EQUITIES	62,790,297	20.5	7.5	10.7	9.9	13.2
FIXED INCOME	244,759,650	0.7	7.2	4.2	3.0	2.8
ASSIGNED RISK - COMPOSITE INDEX		4.4	7.6	5.7	4.7	4.9
Excess		0.0	0.6	0.3	0.1	0.2
S&P 500		20.5	7.5	10.7	10.7	14.0
BBG BARC US Gov: Int		0.5	7.0	4.1	3.0	2.5



Note: Since 12/1/2017 the Assigned Risk equity segment has been managed by Mellon. From 1/17/2017-11/30/2017 it was managed internally by SBI staff. Prior to 1/17/2017 the equity segment was managed by SSgA (formerly GE Investment Mgmt.). RBC manages the fixed income segment of the Fund.



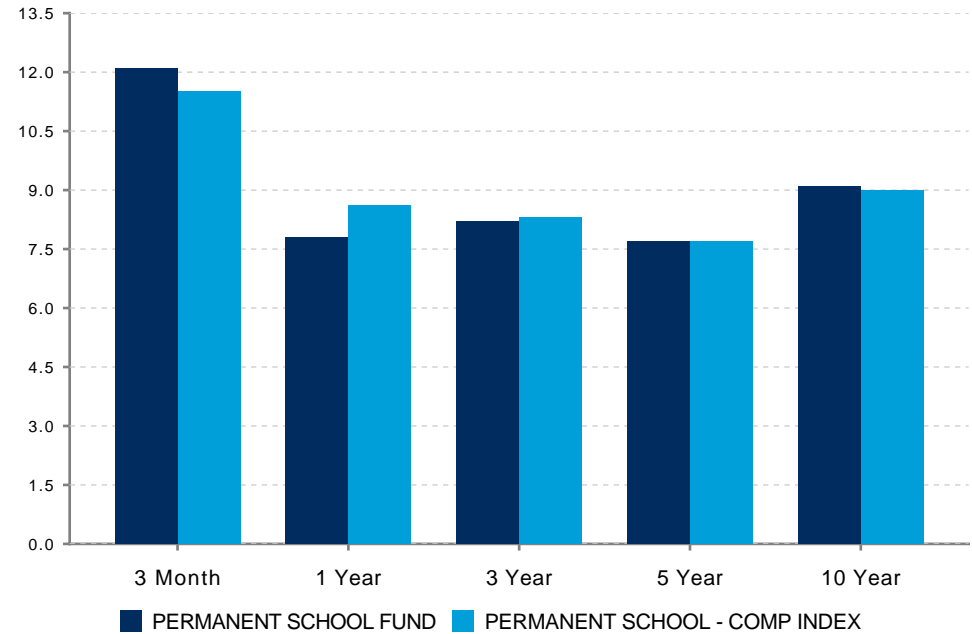
Non-Retirement

Permanent School Fund

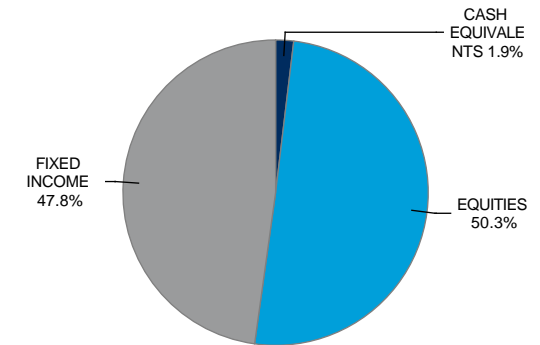
The investment objective of the Permanent School Fund is to produce a growing level of spendable income, within the constraints of maintaining adequate portfolio quality and liquidity. The income from the portfolio is transferred to the school endowment fund and distributed to Minnesota's public schools.

The Permanent School Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds provide portfolio diversification and a more stable stream of current income.

The stock segment is passively managed to track the performance of the S&P 500. The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The fixed income benchmark is the Bloomberg Barclays U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 2% cash, 50% equity, and 48% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
PERMANENT SCHOOL FUND	\$1,621,486,420	12.1%	7.8%	8.2%	7.7%	9.1%
CASH EQUIVALENTS	31,327,419	0.1	1.5	1.8	1.2	0.7
EQUITIES	815,702,441	20.5	7.5	10.7	10.7	14.0
FIXED INCOME	774,456,561	4.9	8.2	5.3	4.5	4.2
PERMANENT SCHOOL - COMP INDEX		11.5	8.6	8.3	7.7	9.0
Excess		0.6	-0.8	-0.1	-0.0	0.2
S&P 500		20.5	7.5	10.7	10.7	14.0
BBG BARC US Agg		2.9	8.7	5.3	4.3	3.8



Note: Since 12/1/2017 the equity segment has been managed by Mellon and the fixed income segment by Prudential. Prior to 12/1/2017 both segments were managed internally by SBI staff. Prior to 7/1/97 the Fund allocation was 100% fixed income.



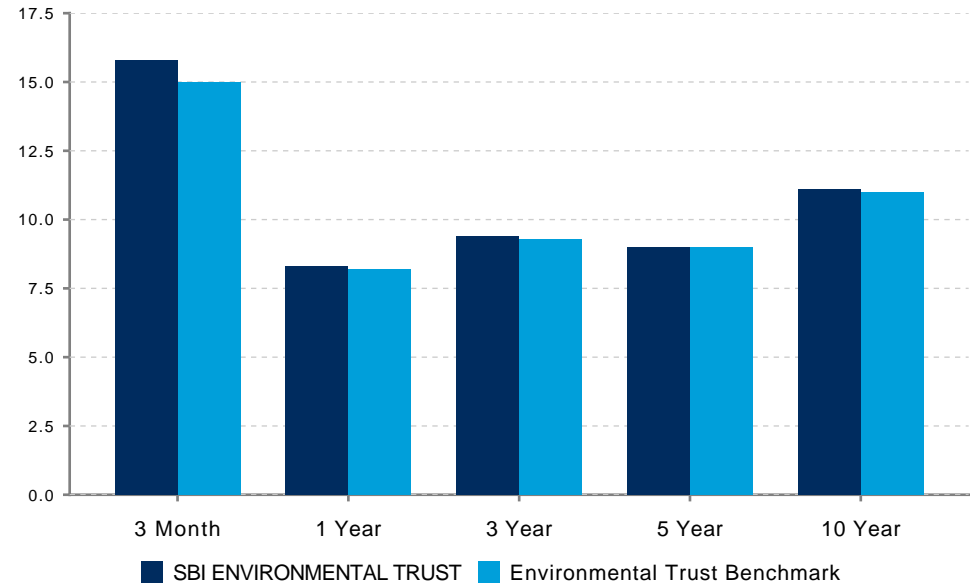
Non-Retirement

Environmental Trust Fund

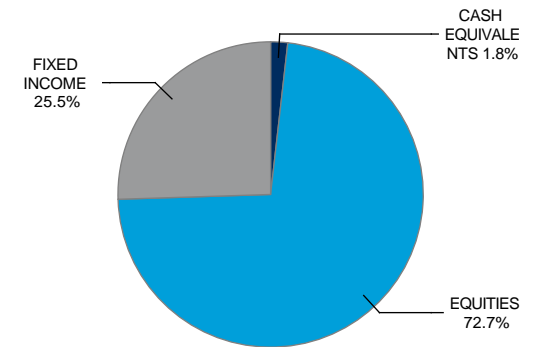
The objective of the Environmental Trust Fund is to increase the market value of the Fund over time in order to increase the annual amount made available for spending within the constraints of maintaining adequate portfolio quality and liquidity.

The Environmental Trust Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The stock segment is passively managed to track the performance of the S&P 500. The fixed income benchmark is the Bloomberg Barclays U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 2% cash, 70% equities, and 28% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
SBI ENVIRONMENTAL TRUST	\$1,288,713,393	15.8%	8.3%	9.4%	9.0%	11.1%
CASH EQUIVALENTS	23,485,556	0.1	1.5	1.8	1.2	0.7
EQUITIES	936,962,507	20.5	7.5	10.7	10.7	14.0
FIXED INCOME	328,265,330	4.9	8.2	5.3	4.5	4.2
Environmental Trust Benchmark		15.0	8.2	9.3	9.0	11.0
Excess		0.7	0.1	0.1	0.1	0.1
S&P 500		20.5	7.5	10.7	10.7	14.0
BBG BARC US Agg		2.9	8.7	5.3	4.3	3.8



Note: Since 12/1/2017 the equity segment has been managed by Mellon and the fixed income segment by Prudential. Prior to 12/1/2017 both segments were managed internally by SBI staff. From 7/1/94 to 7/1/99, the Fund's target allocation and benchmark was 50% fixed income and 50% stock. Prior to 7/1/94 the Fund was invested entirely in short-term instruments as part of the Invested Treasurer's Cash pool.

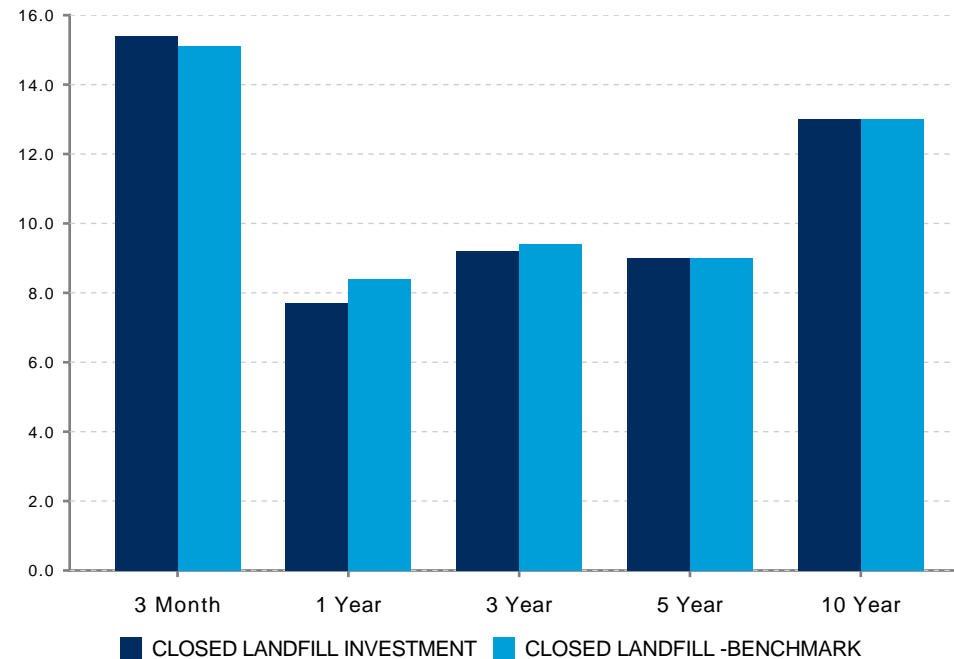


Non-Retirement

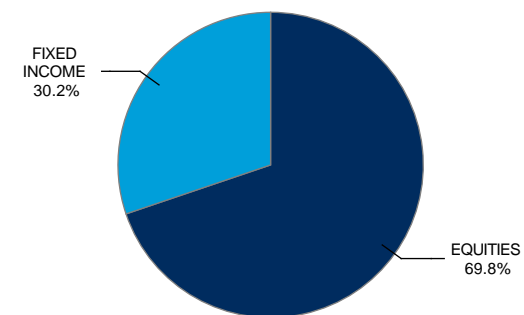
Closed Landfill Investment Fund

The investment objective of the Closed Landfill Investment Fund is to increase the market value of the Fund and to reduce volatility to meet future expenditures. By statute, the assets of the Fund are unavailable for expenditure until after the fiscal year 2020 to pay for long-term costs of maintaining the integrity of landfills in Minnesota once they are closed. In FY 2011, \$48 million was transferred out of the general fund leaving a balance of \$1 million in the account. Legislation was enacted in 2013 to replenish the principal and earnings back into the fund and in FY 2014 a repayment was made in the amount of \$64.2 million. In 2015, legislation was passed which repealed any further repayments.

The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The stock segment is managed to passively track the performance of the S&P 500. The fixed income benchmark is the Bloomberg Barclays U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets of 70% equities and 30% fixed income. The actual asset mix will fluctuate and is shown in the graph below.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
CLOSED LANDFILL INVESTMENT	\$102,593,645	15.4%	7.7%	9.2%	9.0%	13.0%
EQUITIES	71,656,095	20.5	7.5	10.7	10.7	14.0
FIXED INCOME	30,937,550	4.9	8.2	5.3	4.5	
CLOSED LANDFILL -BENCHMARK		15.1	8.4	9.4	9.0	13.0
Excess		0.3	-0.6	-0.2	-0.1	-0.0
S&P 500		20.5	7.5	10.7	10.7	14.0
BBG BARC US Agg		2.9	8.7	5.3	4.3	3.8



Note: Since 12/1/2017 the equity segment has been managed by Mellon and the fixed income segment by Prudential. Prior to 12/1/2017 both segments were managed internally by SBI staff. Prior to 9/10/14 the Fund's target allocation and benchmark was 100% domestic equity.

Minnesota State Board of Investment
Quarter Ending June 30, 2020
Non-Retirement Managers



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
NON RETIREMENT EQUITY INDEX - MELLON	2,570,065,466	20.5	7.5	7.5	10.7	10.7	14.0	9.6	07/1993
S&P 500 INDEX (DAILY)		20.5	7.5	7.5	10.7	10.7	14.0	9.5	07/1993
Excess		-0.0	0.0	0.0	-0.0	0.0	0.0	0.1	
NON RETIREMENT FIXED INCOME - PRUDENTIAL	1,320,511,484	4.9	8.2	8.2	5.3	4.5	4.2	6.1	07/1994
BBG BARC Agg (Dly)		2.9	8.7	8.7	5.3	4.3	3.8	5.6	07/1994
Excess		2.0	-0.6	-0.6	0.0	0.2	0.4	0.5	
RBC	244,759,583	0.7	7.2	7.2	4.2	3.0	2.8	5.0	07/1991
RBC Custom Benchmark		0.5	7.0	7.0	4.1	3.0	2.5	5.0	07/1991
Excess		0.2	0.2	0.2	0.1	0.1	0.2	-0.1	
MET COUNCIL OPEB BOND POOL	68,669,031	0.3	4.1	4.1					
NON RETIREMENT CASH	146,844,817	0.1	1.5	1.5	1.8	1.2	0.7	2.6	
iMoneyNet Money Fund Average- All Taxable		0.1	1.1	1.1	1.3	0.9	0.4		
Excess		0.0	0.4	0.4	0.4	0.4	0.3		

Note:

RBC is the manager for the fixed income portion of the assigned risk account. RBC changed its name from Voyager Asset Management on 1/1/2010. The current benchmark is the Bloomberg Barclays Intermediate Government Index. Prior to 7/1/11 the Voyager Custom Index was 10% 90 day T-Bill, 25% Merrill 1-3 Government, 15% Merrill 3-5 Government, 25% Merrill 5-10 Government, 25% Merrill Mortgage Master.

Prior to 12/1/17 the Non Retirement Equity Index and Non Retirement Fixed Income accounts were managed internally by SBI staff.

In addition to the Non-Retirement Funds listed on the previous pages, the Non Retirement Equity Index and the Non Retirement Fixed Income accounts also include the assets of various smaller Miscellaneous Trust Accounts and Other Post Employment Benefits.

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State Cash

June 30, 2020



State Cash Accounts

Invested Treasurer's Cash

The Invested Treasurer's Cash Pool (ITC) represents the balances in more than 400 separate accounts that flow through the Minnesota State Treasury. These accounts vary greatly in size. The ITC contains the cash balances of certain State agencies and non-dedicated cash in the State Treasury.

The investment objectives of the ITC, in order of priority, are as follows:

- Safety of Principal. To preserve capital.
- Liquidity. To meet cash needs without the forced sale of securities at a loss.
- Competitive Rate of Return. To provide a level of current income consistent with the goal of preserving capital.

The SBI seeks to provide safety of principal by investing all cash accounts in high quality, liquid, short term investments. These include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, and certificates of deposit.

Beginning in January 2003, the Treasurer's Cash Pool is measured against the iMoneyNet, All Taxable Money Fund Report Average.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Treasurer's Cash	14,982,196,056	0.4	1.9	2.0	1.5	1.0
iMoneyNet Money Fund Average-All Taxable		0.1	1.1	1.3	0.9	0.4

Other State Cash Accounts

Due to differing investment objectives, strategies, and time horizons, some State agencies' accounts are invested separately. These agencies direct the investments or provide the SBI with investment guidelines and the SBI executes on their behalf. Consequently, returns are shown for informational purposes only and there are no benchmarks for these accounts.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Debt Service	83,331,133	2.3	4.9	3.6	3.2	
Housing Finance	0	0.5	1.3	1.7	1.5	
Public Facilities Authority	9,064,561	0.7	1.2	1.8	2.0	



Addendum

Benchmark Definitions

Active Domestic Equity Benchmark:

A weighted composite each of the individual active domestic equity managers' benchmarks. Effective 3/1/2017 the calculation uses the average weight of the manager relative to the total group of active managers during the month. Prior to 3/1/2017 the beginning of the month weight relative to the total group was used.

Benchmark DM:

Since 6/1/08 the developed markets managers' benchmark, "Benchmark DM," is the Standard (large + mid) MSCI World ex USA (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI World ex USA (net). From 10/1/03 to 9/30/07 the benchmark was the MSCI World ex USA (net). Prior to that date, it was the MSCI EAFE Free (net), including from 10/1/01 to 5/31/02 when it was the Provisional MSCI EAFE Free (net).

Benchmark EM:

Since 6/1/08 the emerging markets managers' benchmark, "Benchmark EM," is the Standard (large + mid) MSCI Emerging Markets Free (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI Emerging Markets Free (net). From 1/1/01 to 9/30/07 the benchmark was the MSCI Emerging Markets Free (net), including from 10/1/01 to 5/31/02 when it was the Provisional MSCI Emerging Markets Free (net). Prior to 1/1/01, it was the MSCI Emerging Markets Free (gross).

Combined Funds Composite Index:

The Composite Index performance is calculated by multiplying the beginning of month Composite weights by the monthly returns of the asset class benchmarks. The Combined Funds Composite weight is set as the Strategic Asset Allocation Policy Target with the uninvested portion of Private Markets allocated to Public Equity. Asset class weights for Public Equity and Private Markets are reset at the start of each month. From 1/1/2018-2/28/2019 the Transitional Policy Target was used to reflect the addition of Treasuries to the Fixed Income portfolio. From 7/1/2016-12/31/2016 the composite weights were set to match actual allocation as the portfolio was brought into line with the new Strategic Asset Allocation Policy Target. Prior to 7/1/2016 the uninvested portion of the Private Markets was invested in Fixed Income and the Composite Index was adjusted accordingly. When the Strategic Asset Allocation Policy Target changes, so does the Composite Index.

Core Bonds Benchmark:

In 2016, the Barclays Agg was rebranded Bloomberg Barclays Agg to reflect an ownership change. Prior to 9/18/2008 this index was called the Lehman Brothers Aggregate Bond Index. From 7/1/84-6/30/94 the asset class benchmark was the Salomon Brothers Broad Investment Grade Index. The SBI name for this benchmark changed from Fixed Income to Core Bonds on March 31, 2020.

Domestic Equity Benchmark:

Since 1/1/2019 the benchmark is 90% Russell 1000 and 10% Russell 2000. From 10/1/2003 to 12/31/2018 it was the Russell 3000. From 7/1/1999 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/1999, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.



Addendum

Fixed Interest Blended Benchmark:

Since 6/1/2002, equals 3 Year Constant Maturity Treasury Yield + 45 bps. Prior to this change it was the 3 Year Constant Maturity Treasury Yield + 30 bps.

International Equity Benchmark:

Since 1/1/2019 equals 75% MSCI World ex USA Index (net) and 25% MSCI Emerging Markets Index (net). From 6/1/08 to 12/31/2018 the International Equity asset class target was the Standard (large + mid) MSCI ACWI ex U.S. (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI ACWI ex U.S. (net). From 10/1/03 to 9/30/07 the target was MSCI ACWI ex U.S. (net). From 1/1/01 to 9/30/03, the target was MSCI EAFE Free (net) plus Emerging Markets Free (net), and from 7/1/99 to 12/31/00 the target was MSCI EAFE Free (net) plus Emerging Markets Free (gross). From 7/1/99 to 9/30/03, the weighting of each index fluctuated with market capitalization. From 10/1/01 to 5/31/02 all international benchmarks being reported were the MSCI Provisional indices. From 12/31/96 to 6/30/99 the benchmark was fixed at 87% EAFE Free (net)/13% Emerging Markets Free (gross). On 5/1/96, the portfolio began transitioning from 100% EAFE Free (net) to the 12/31/96 fixed weights. Prior to 5/1/96 it was 100% the EAFE Free (net).

Passive Domestic Equity Benchmark:

A weighted average of the Russell 1000 and Russell 3000 effective 10/1/2016. From 10/1/2003 to 10/1/2016 it was equal to the Russell 3000. From 7/1/2000 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/2000, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

Passive Manager Benchmark:

Russell 3000 effective 10/1/2003. From 7/1/2000 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/2000, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

Public Equity Benchmark:

60.3% Russell 1000, 6.7% Russell 2000, 24.75% MSCI World Ex US (net), and 8.25% MSCI EM (net) effective 1/1/2019. From 7/1/2017 thru 12/31/2018 it was 67% Russell 3000 and 33% MSCI ACWI ex USA. Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity return. From 6/30/16-6/30/17 the Public Equity benchmark adjusted by 2% each quarter from 75% Russell 3000 and 25% MSCI ACWI ex USA until it reached 67% and 33%.

Semi-Passive Domestic Equity Benchmark:

Russell 1000 index effective 1/1/2004. Prior to 1/1/2004 it was the Completeness Fund benchmark.

Total Fixed Income Benchmark:

Since 4/1/2019 equals 50% Bloomberg Barclays Agg and 50% Bloomberg Barclays Treasury 5+ Years Index. From 2/1/2018-3/31/19 the weighting of this benchmark reflected the relative weights of the Core Bonds and Treasuries allocations in the Combined Funds Composite.