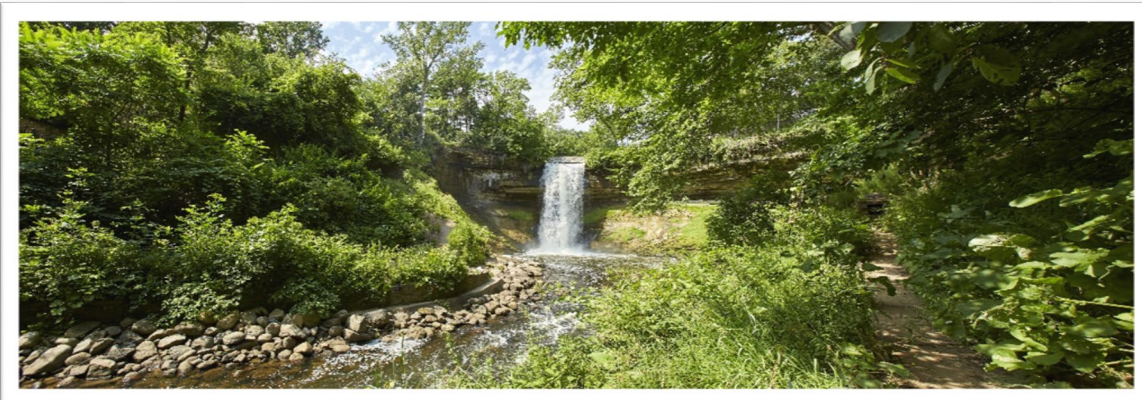
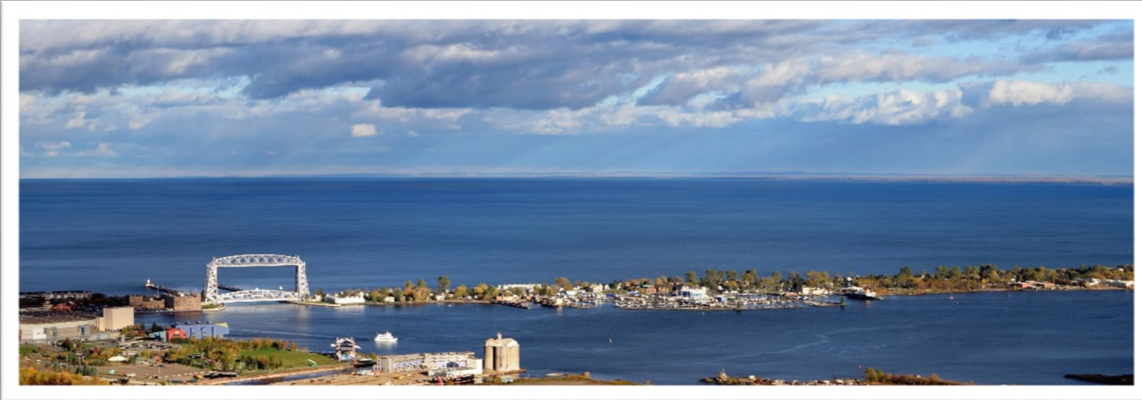


MINNESOTA STATE BOARD OF INVESTMENT

2020 Annual Report





2020 MSBI Annual Report

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Important Notes

Readers should note that the SBI's returns in this report are shown *after* transaction costs and fees are deducted. Performance is computed and reported after all applicable charges to assure that the Board's focus is on true net returns.

Due to the large number of individual securities owned by the funds managed by the SBI, this report does not include asset listings. **A complete list of securities is available on the SBI's website at <http://mn.gov/sbi>.** Asset listings are updated semi-annually as the new data becomes available.

INTRODUCTION

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INTRODUCTION

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The Minnesota State Board of Investment (SBI) is pleased to present its report for the fiscal year ending June 30, 2020.

Combined Funds Results for Fiscal Year 2020

In a volatile economic environment, the Combined Funds returned 4.2% during the fiscal year 2020. Over the recent fiscal 10-year and 20-year time periods, the Combined Funds generated annualized returns of 9.7% and 6.3%, respectively. The Combined Funds investment results are provided in the Investment Programs Section of this report on page B8.

Fiscal Year 2020 Market Review

The global economic fallout caused by the COVID-19 pandemic drove significant volatility within the investment portfolio during the fiscal year. In March of 2020, as governments worldwide aimed at containing the coronavirus outbreak, global economic activity fell sharply. In the U.S., Gross Domestic Product (GDP) declined by -31.7% on an annualized basis during the second quarter of calendar 2020 and the unemployment rate spiked to 14.7% in April.

Global equity markets experienced their steepest drop in decades, marking the end of a decade-long bull market in the U.S. Interest rates declined globally and the dollar rose sharply as investors sought the relative safety of U.S. dollars and government bonds. Despite worsening economic data, financial markets rebounded sharply in second quarter 2020. Markets were buoyed by the significant monetary and fiscal stimulus offered by policymakers across the globe and the prospect of a vaccine or treatment breakthrough leading to a quick rebound in economic activity. U.S. stocks ended the quarter near record levels, led by technology shares whose businesses proved especially resilient to the COVID-19 lockdown. Bonds held their gains from the decline in interest rates to finish the fiscal year strongly in positive territory.

Environmental, Social, and Governance (ESG) Initiatives

Over the course of Fiscal 2020 (and beyond), ESG issues such as climate change, social justice/diversity, and corporate governance have garnered heightened awareness across society at-large as well as within the investment community within which the SBI operates. Reflecting this trend, the SBI is becoming more proactive in addressing several of these issues within its investment policies and operations. During the fiscal year, the Board adopted two separate resolutions that recognize the importance of ESG issues with investment managers and companies in the SBI's investment portfolios. As of December 31, 2020 all publicly traded companies in the portfolio that derive more than 25% of their revenue from thermal coal production (exploration and mining) will be removed. For additional information on the SBI's approach(es) to ESG issues, please refer to the Legislative, Compliance, and Stewardship Initiatives Section of this report on page C3.

On June 30, 2020, assets under management totaled \$102.4 billion.

The total of \$102.4 billion in assets under the SBI's responsibility is the aggregate of various retirement funds, non-retirement funds, cash accounts, and state sponsored savings plans, each with different investment objectives. In establishing a comprehensive management program, the Board has developed an investment strategy for each fund, which reflects its unique requirements.

The primary purpose of this annual report is to communicate the investment goals, policies and performance of each fund managed by the Board.

Through the investment programs presented in this report, the Minnesota State Board of Investment seeks to enhance the management and performance of the assets under its control.

State Board of Investment – Governance of Agency

Board Members

The Minnesota State Board of Investment serves the state of Minnesota by investing the assets of state and local employee benefit plans along with other tax advantaged savings plans as mandated in statutes. The primary responsibility of the Board is to monitor and evaluate the investment programs as a fiduciary with the goal of making sound investment decisions. The Board delegates responsibility through the retention of the Executive Director, staff, consultants, investment professionals, and with the advisory of various committees.



Governor
Tim Walz, Chair



State Auditor
Julie Blaha



Secretary of State
Steve Simon



State Attorney General
Keith Ellison

Executive Director

The Executive Director for the Minnesota State Board of Investment is retained by the Board and is responsible for the implementation, administration and review of the investment policies established by the Board. The Executive Director employs investment and administrative staff to assist in meeting the objectives of the Board.

A listing of the SBI Staff is provided on page A4.

Investment Advisory Council

The Minnesota Legislature has established a seventeen member Investment Advisory Council (IAC) to advise the Board and its staff on investment-related matters. All proposed investment policies are reviewed by the IAC before they are presented to the Board for action. A listing of the IAC members is on page A3.

Consultants

The SBI retains a general consultant and a special projects consultant, to assist the Board in the on-going development and evaluation of its investment programs.

General Consultant,
Aon Investments USA Inc.
Chicago, Illinois

Special Projects Consultant
Meketa Investment Group, LLC.
Portland, OR

External Investment Managers

The majority of the assets are managed externally by professional investment managers. Information is provided in the respective areas of the annual report for each of the investment managers retained by the SBI.

Custodial Banks

The Board retains two custodian banks, one for retirement and trust funds and the other for state cash accounts.

Retirement and Trust Funds
State Street Corporation
Boston, Massachusetts

State Cash Accounts
Wells Fargo Bank, National Association
St. Paul, Minnesota

State Board of Investment – Governance of Agency

Investment Advisory Council

The IAC fulfills its statutory duty to the Minnesota State Board of Investment (SBI) by providing advice and independent due diligence review of the investment policy and implementation recommendations that guide the SBI's investment of assets.

Public Members

The Board appoints ten members from the public experienced in finance and investment. These members traditionally have come from the Minneapolis and St. Paul investment community.

Gary Martin, Chair
Chief Investment Officer
Macalester College

Kim Faust, Vice Chair
Vice President and Treasurer
Fairview Health Services

Ellen Brownell
Director of Investments
Saint Paul & Minnesota
Foundation

Dennis Duerst
President, 3M Investment
Management Corporation
3M Company

Susanna Gibbons
Managing Director
Carlson Funds Enterprise
Carlson School of Management

Morris Goodwin, Jr.
Sr. Vice President and CFO
American Public Media
Group

Dan McConnell
Business Manager
Building & Construction
Trades Council of
Minneapolis

Nancy Orr
Chief Investment Officer
Fiduciary Counselling, Inc.

Carol Peterfeso
Chief Treasury and
Investment Officer
University of St. Thomas

Shawn Wischmeier
Chief Investment Officer
Margaret A. Cargill
Philanthropies

Permanent Members

The Commissioner of Minnesota Management and Budget and the Executive Directors of the three statewide retirement systems are permanent members of the IAC.

Jim Schowalter
Commissioner
Minnesota Management
and Budget

Erin Leonard
Executive Director
Minnesota State
Retirement System

Doug Anderson
Executive Director
Public Employees Retirement
Association

Jay Stoffel
Executive Director
Teachers Retirement
Association

Employee and Retirement Representatives

The Governor appoints two active employee representatives and one retiree representative to the IAC.

Denise Anderson
Governor's Appointee
Active Employee Representative

Martha Severson Rush
Governor's Appointee
Active Employee Representative

Peggy Ingison
Governor's Appointee
Retiree Member Representative

Public Member Emeritus

Malcolm W. McDonald
Director & Corporate Secretary
(Retired)
Space Center, Inc.

As of December 31, 2020

State Board of Investment – Governance of Agency

SBI Staff

SBI staff provide recommendations to the Board and the Investment Advisory Council (IAC) on strategic planning alternatives and executes the Board's asset allocation decisions. A list of the SBI staff is provided below.

Executive Director and Chief Investment Officer

Mansco Perry III

Executive Assistant and Head of Office Services

Charlene Olson

Assistant Executive Directors

Andy Christensen

Assistant Executive Director,
Investment Strategy and Administration

Erol Sonderegger

Assistant Executive Director,
Portfolio Management and Risk Analysis

Directors

Patricia Ammann
Director,
Investment Services
and Operations

Paul T. Anderson
Director,
Financial Services
and Operations

Andrew Krech
Director,
Private Markets and
Asset Allocation

John Mulé
Director,
Legal, Legislative Policy
and Shareholder Services

Investment Staff

Nathan Blumenshine
Investment Officer
Private Markets

Cassandra Boll
Investment Officer
Private Markets

Tammy Brusehaver
Investment Officer
Public Equities

Stephanie Gleeson
Investment Officer
Public Equities

Aaron D. Griga
Investment Officer
Fixed Income

Steven P. Kuettel
Investment Officer
Cash Management

Jonathan Stacy
Investment Officer
Private Markets

Jeffrey Weber
Investment Officer
Legal Affairs and
Legislative Policy

Financial Services Staff

Kailee Anderson
Accounting Officer

Shirley Baribeau
Controller

William J. Nicol
Investment Accounting
Specialist

Narmada Ramaswami
Accounting Officer,
Senior

Iryna Shafir
Compliance Analyst

Office Services Staff

Melissa Mader
Office Administrative
Specialist, Senior

Kelly Nordstrom
Office Administrative
Specialist, Intermediate

Information Technology Services Staff

Todd Lauf
Information Technology
Manager

As of December 31, 2020

The Minnesota State Board of Investment (SBI) was established in 1885 by Article XI of the Minnesota Constitution to invest all state funds. Its membership, as specified in the Constitution, is comprised of the Governor, State Auditor, Secretary of State and Attorney General.

Statutory Authority

All investments undertaken by the SBI are governed by the prudent person rule and other standards codified in *Minnesota Statutes*, Chapter 11A and Chapter 356A.

Prudent Person Rule

The prudent person rule, as codified in *Minnesota Statutes*, Section 11A.09, requires all members of the Board, Investment Advisory Council, and SBI staff to “...act in good faith and ...exercise that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived therefrom.” *Minnesota Statutes*, § Section 356A.04 contains similar codification of the prudent person rule applicable to the investment of pension fund assets.

Authorized Investments

In addition to the prudent person rule, *Minnesota Statutes*, § 11A.24 contains a specific list of asset classes available for investment including common stocks, bonds, short-term securities, real estate, private equity, and resource funds. The section prescribes the maximum percentage of fund assets that may be invested in various asset classes and contains specific restrictions to ensure the quality of the investments.

Investment Policies

Within the requirements defined by state law, the State Board of Investment, in conjunction with SBI staff and the Investment Advisory Council, establishes investment policies for all funds under its control. These investment policies are tailored to the particular needs of each fund and specify investment objectives, risk tolerance, asset allocation, investment management structure and specific performance standards.

The Board, its staff, and the Investment Advisory Council have conducted detailed analyses that address investment objectives, asset allocation policy and management structure of each of the funds under

the SBI’s control. The policies guide the on-going management of these funds and are updated periodically.

Investment Beliefs

The SBI adopted a set of Investment Beliefs, in 2018, for managing the assets of the Combined Funds (those funds utilized to support the defined benefit plans of the State’s employees). The primary purpose of these Beliefs is to guide the SBI toward sound investing principles related to investing on behalf of the Combined Funds. In this respect, the Investment Beliefs help provide context for SBI’s actions, reflect SBI’s investment values, and acknowledge SBI’s role in supporting the State’s broader retirement systems. When relevant, the SBI also uses these Beliefs as a guide when investing the assets of the other investment programs that it manages, as deemed appropriate.

The SBI Investment Beliefs are provided on page A7 of this report.

Board Activity

During the course of a year, members of the Board undertake numerous activities in their oversight of the State Board of Investment. Examples of Board activities during fiscal year 2020 include:

- Adopting a Resolution Concerning Environmental, Social, and Governance (ESG) initiatives that recognizes the importance of addressing ESG risk in its investments and directs the Executive Director to evaluate options for reducing the SBI’s investments to long-term carbon risk exposure. A summary is included in this report on page C5;
- Adopting a Resolution Concerning Reduction of Investments Associated with Thermal Coal Production, which authorizes the Executive Director to remove publicly traded companies that derive 25% or more of their revenue from the extraction and/or production of thermal coal as authorized investments in the SBI’s Combined Funds investment portfolio. A summary is included in this report on page C5;

- Adopting a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity. The resolution gave the Executive Director authority to make a number of strategic asset allocation changes, which are summarized on page B12 of this report;
- Completing an educational session on Fiduciary Responsibility and Governance Principles, which reviewed the Board’s primary responsibility to monitor and evaluate the investment programs as a fiduciary with the goal of making sound investment decisions using a well-documented process to serve the members and their beneficiaries; and
- Authorizing the Executive Director to negotiate 21 private market investment deals, totaling up to \$3.0 billion.

ESG Initiatives

The Board maintains the following investment belief in ESG initiatives:

“Utilizing engagement initiatives to address environmental, social, and governance-related (ESG) issues can lead to positive portfolio and governance outcomes.”

Staff continues to implement this investment belief through investment manager due diligence and proxy voting.

The SBI continues to maintain membership in ESG advocacy organizations including the Council of Institutional Investors, Ceres, Midwest Investors Diversity Initiative, the United Nations Principles of Responsible Investment, Thirty Percent Coalition, Climate Action 100+, Institutional Limited Partners Association, and RFK Compass Initiative. These organizations provide engagement opportunities and other resources to more effectively address ESG issues.

More information on the SBI’s ESG Initiatives can be found in the Legislative, Compliance and Stewardship Section on page C4 of this report.

SBI Investment Beliefs

The State Board of Investment (SBI) adopted a set of Investment Beliefs for managing the assets of the Combined Funds (those funds utilized to support the defined benefit plans of the State's employees). The primary purpose of these Beliefs is to guide the SBI toward sound investing principles related to investing on behalf of the Combined Funds. In this respect, the Beliefs help provide context for SBI's actions, reflect SBI's investment values, and acknowledge SBI's role in supporting the State's broader retirement systems. When relevant, the SBI also uses these Beliefs as a guide when investing the assets of the other investment programs that it manages, as deemed appropriate.

The SBI is a long-term investor whose primary mission is to maintain the viability of the retirement systems it supports.

When determining an appropriate level of risk that the systems' assets should bear the SBI must reflect the nature of those systems' liabilities and funding policy.

The SBI's strategic allocation policy is the primary determinant of (i) the asset portfolio's long-term investment return and (ii) asset portfolio's risk.

While the SBI can sacrifice some short-term liquidity to pursue a greater long-term return, the investment portfolio's net cash flows and ability to pay benefits on a year-by-year basis are key risk considerations.

Diversification improves the risk-adjusted return profile of the SBI investment portfolio.

Diversification of the SBI investment portfolio takes place across several critical dimensions, such as allocation across global regions and country markets (e.g., U.S. versus Europe, Asia, emerging markets, etc.), allocation among different types of assets (equities, bonds, real estate, etc.), spreading assets across various sectors and industries (e.g., technology, financials, consumer-oriented, etc.), and weighting of different risk factor premiums (e.g., value vs. growth, small companies vs. big companies, carry, illiquidity, etc.). If the correlation (i.e., relationship) among the returns generated by these factors is less than perfect (i.e., less than 1.0), then diversification is beneficial.

There are long-term benefits to SBI managing investment costs.

The equity risk premium is significantly positive over a long-term investment horizon although it can vary over time.

The equity risk premium is also pervasive across several asset classes and its overall exposure should be managed accordingly.

Private market investments have an illiquidity premium that the SBI can capture.

This risk premium can increase the portfolio's long-term compound return and help diversify the portfolio's risk.

SBI Investment Beliefs

It is extremely challenging for a large institutional investor to add significant value over market-representative benchmarks, particularly in the highly-competitive public global equity markets.

Passive management should be utilized when there is low confidence that active management can add value. Active management can have potential to add value where information processing is difficult and challenging, allowing for market inefficiencies that are potentially exploitable.

The SBI benefits significantly when roles and levels of authority are clearly defined and followed.

The role of the members of the State Board of Investment (Board) is to establish investment policies that are in compliance with state statute and guide the ongoing management of the funds. The Board delegates implementation of that policy to the Executive Director/CIO, and exercises oversight with respect to the Executive Director/CIO's implementation activities and the portfolio's active risk level in the context of the portfolio's strategic allocation policy. The Board also ensures adequate resources are available to the SBI staff to perform their work;

The Investment Advisory Council (IAC) key role is advising the Board and Executive Director/CIO on general policy matters and methods to enhance the management of the investment portfolio;

The Executive Director's/CIO's key role is implementing SBI investment policies and setting the portfolio's active risk level in a prudent manner to achieve value-added over policy benchmarks.

Utilizing engagement initiatives to address environmental, social, and governance-related (ESG) issues can lead to positive portfolio and governance outcomes.

In addition to specific engagement strategies the SBI might apply, proxy rights attached to shareholder interests in public companies are also "plan assets" of the SBI and represent a key mechanism for expressing SBI's positions relating to specific ESG issues. By taking a leadership role in promoting responsible corporate governance through the proxy voting process, SBI can contribute significantly to implementing ESG best practices which should, in turn, add long-term value to SBI's investments.

Approved by State Board of Investment

INVESTMENT PROGRAMS

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SBI INVESTMENT PROGRAMS

Overview of Investment Programs..... B1

Funds Under Management..... B3

Capital Markets B4

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State Board of Investment Investment Programs

The Minnesota State Board of Investment is responsible for the management of various investment programs: Combined Funds, Fire Relief Plans and Other Public Retirement Plans, Participant Directed Investment Program, Non-Retirement Funds, and State Cash Accounts. On June 30, 2020, the market value of all assets under management was \$102.4 billion.

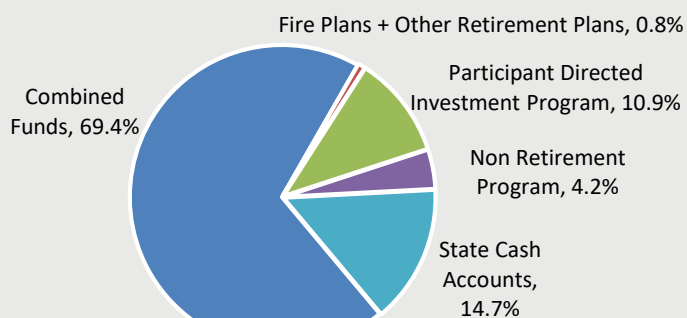
Investment Programs

The SBI is responsible for the assets of five investment programs.

- Combined Funds
- Fire Relief Plans + Other Public Retirement Plans
- Participant Directed Investment Program
- Non-Retirement Program
- State Cash Accounts

Allocation of the SBI assets by investment program as of June 30, 2020, is shown in Figure 1.

Figure 1. Composition of Investment Programs as of June 30, 2020



Combined Funds

The SBI manages the assets of the three Statewide Retirement Systems in the **Combined Funds**.

Figure 2 represents the retirement systems allocation within the Combined Funds as of June 30, 2020. Information on the Combined Funds is listed in pages B5-B76 of this annual report.

Figure 2. Composition of Combined Funds as of June 30, 2020

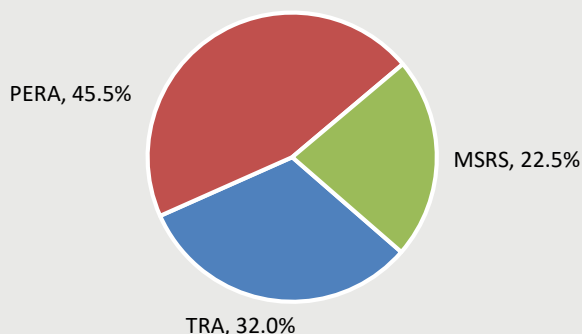
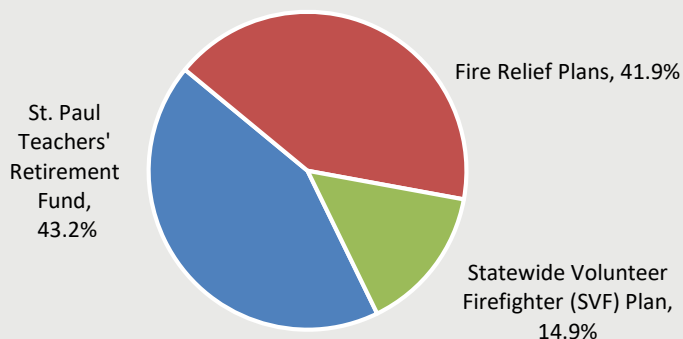


Figure 3. Composition of Fire Relief + Other Retirement Plans as of June 30, 2020



Fire Relief Plans + Other Public Retirement Plans

The SBI is responsible for providing options to participating **Fire Relief Plans + Other Public Retirement Plans**. Fire Relief plans and SPTRFA are responsible for directing the allocation of their own assets.

Figure 3 represents the allocation among the Fire Relief Plans + Other Public Retirement Plans as of June 30, 2020. Information on the investment vehicles available to these plans is listed on pages B77-B88 of this annual report.

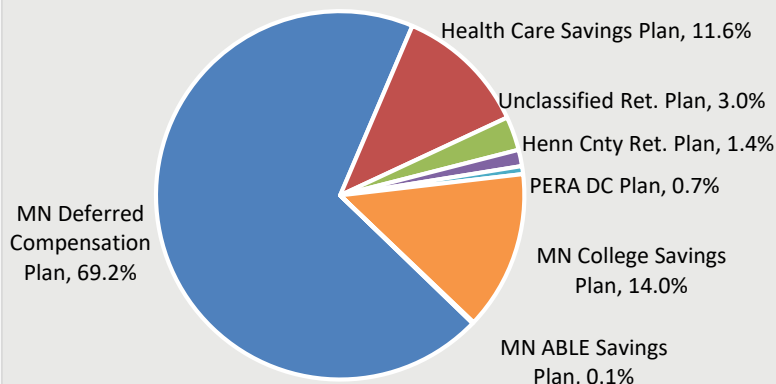
State Board of Investment Investment Programs

Participant Directed Investment Program

Participants in the **Participant Directed Investment Program (PDIP)** can allocate their assets among one or more of the investment options offered that meet the requirements of their plan.

Figure 4 provides the composition of PDIP as of June 30, 2020. Information on the investment vehicles available to these plans is provided on pages B89-B102 of this annual report.

Figure 4. Composition of Participant Directed Investment Program as of June 30, 2020

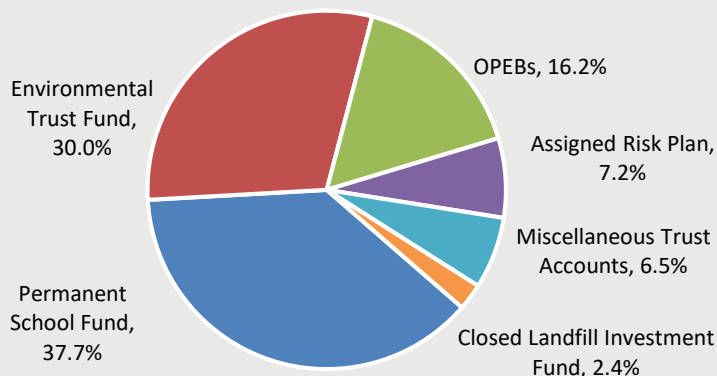


Non-Retirement Program

The **Non-Retirement Program** provides broad asset class options to state and public sector entities authorized to invest with the SBI.

Figure 5 provides the composition of the largest Non-Retirement Trusts and other eligible entities as of June 30, 2020. In aggregate, Trust accounts represent over 83% of the program. Information on the Non-Retirement Program is listed on pages B103-B117 of this annual report.

Figure 5. Composition of Non-Retirement Program as of June 30, 2020



State Cash Accounts

State Cash Account assets are invested in the Invested Treasurer's Cash (ITC) Pool, which represent over 99% of the assets, or in Other State Cash Accounts. SBI Staff internally manage these assets.

Information on **State Cash Accounts** is listed on pages B119-B120 of this annual report.

Funds Under Management

A listing of the assets as of June 30, 2020 for each of the SBI's five investment programs is listed on the next page. The majority of the assets are externally managed by institutional investment managers in a separate account and are required to adhere to the investment guidelines for the portfolio.

Capital Markets

Investment risk and return profiles vary across entities that invest with the SBI. Benchmark returns as of June 30, 2020 for many of the major asset class groups is provided on page B4 in Figure 6. The chart provides the cumulative return of investing in various broad asset classes over the last twenty years.

State Board of Investment Funds Under Management

**Market Value
June 30, 2020¹**

Combined Funds **\$ 71.1 billion**

Teachers Retirement Fund (TRA)	\$ 22,705.6 million
Public Employees Retirement Association (PERA)	
General Employees Retirement Fund	22,593.4 million
Police and Fire Fund	8,964.0 million
Correctional Fund	786.7 million
Minnesota State Retirement System (MSRS) ²	
State Employees Retirement Fund	13,810.2 million
Correctional Employees Fund	1,220.9 million
Highway Patrol Retirement Fund	755.8 million
Judges Retirement Fund	216.3 million

Fire Plans and Other Retirement Plans **\$ 792.4 million**

St. Paul Teachers' Retirement Fund Association	342.3 million
Local Fire Relief Plans	332.0 million
Statewide Volunteer Firefighter Retirement Plan	118.0 million

Participant Directed Investment Program **\$ 11.2 billion**

Minnesota Deferred Compensation Plan	7,717.3 million
Health Care Savings Plan	1,299.7 million
Unclassified State Employees Retirement Plan	330.6 million
Hennepin County Supplemental Retirement Plan	159.8 million
Public Employees Retirement Association Defined Contribution Plan	78.0 million
Minnesota College Savings Plan	1,557.1 million
Minnesota Achieving a Better Life Experience (ABLE) Plan	12.0 million

Subtotal of Retirement Funds and Other Tax-Sheltered Qualified Savings Plans **\$83.0 billion**

Non-Retirement Funds **\$ 4.3 billion**

Permanent School Fund	1,621.5 million
Environmental Trust Fund	1,288.8 million
Other Postemployment Benefits Accounts (OPEBs)	699.0 million
Assigned Risk Plan	308.0 million
Miscellaneous Trust Accounts ³	275.5 million
Closed Landfill Investment Fund	102.6 million

State Cash Accounts **\$ 15.1 billion**

State Cash Accounts	14,982.2 million
Miscellaneous State Accounts ⁴	92.4 million

Total Assets Invested by SBI **\$ 102.4 billion**

¹Totals may not add due to rounding.

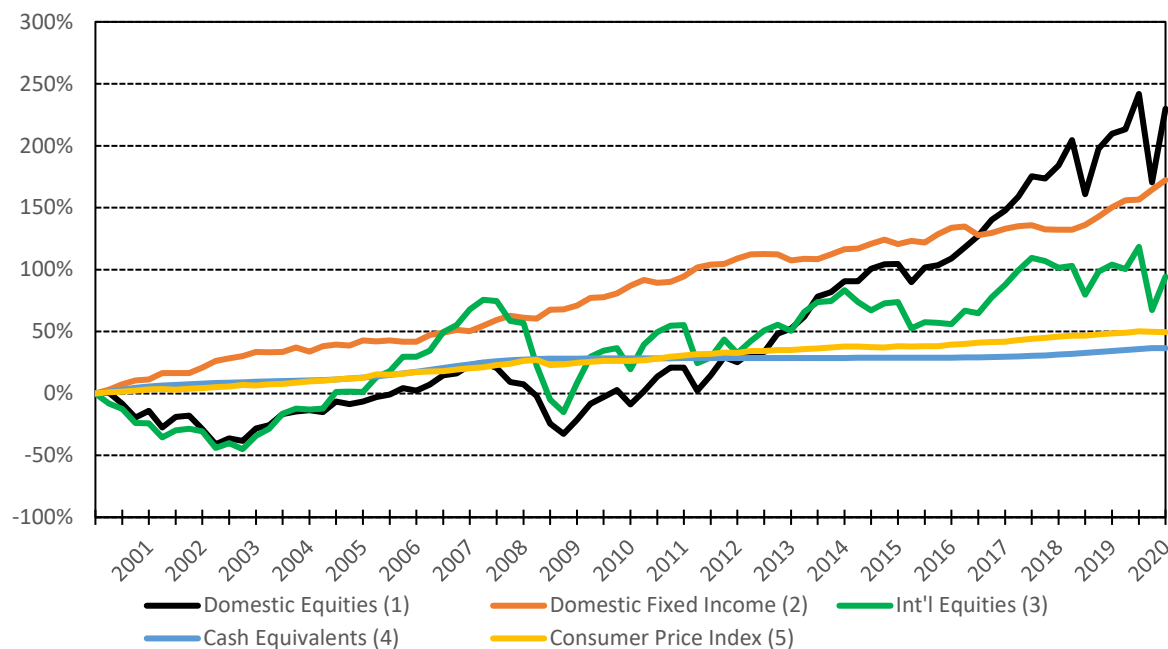
²The MSRS Legislative Plan is a closed plan that is funded by the General Fund on a "pay-as-you-go" basis.

³Includes Qualifying Governmental Entities.

⁴Includes Debt Service and Public Facilities Authority (PFA) assets.

Figure 6.

PERFORMANCE OF CAPITAL MARKETS
Cumulative Returns



Benchmark Returns for Time-Periods Ending June 30, 2020

	Annualized Returns (%)					
	1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs	30 Yrs
Domestic Equity						
(1) Russell 3000-- <i>Large and Small Cap Stocks</i>	6.5	10.0	10.0	13.7	6.2	9.8
Russell 1000	7.5	10.6	10.5	14.0	6.1	9.9
Russell 2000	-6.6	2.0	4.3	10.5	6.7	8.9
Domestic Fixed Income						
(2) Bloomberg Barclays U.S. Aggregate	8.7	5.3	4.3	3.8	5.1	6.0
Bloomberg Barclays 5 Yr. + U.S.Treasury	17.2	8.6	NA	NA	NA	NA
International Equity						
(3) MSCI ACWI ex USA (net)-- <i>Developed & Emerging</i>	-4.8	1.1	2.3	5.0	3.4	NA
MSCI World ex USA (net)-- <i>Developed</i>	-5.4	0.8	2.0	5.4	3.0	4.7
MSCI Emerging Market Index	-3.4	1.9	2.9	3.3	NA	NA
Cash						
(4) ICE BofA 3 Month U.S. Treasury Bill	1.6	1.8	1.2	0.6	1.7	2.8
Inflation Measure						
(5) Consumer Price Index CPI-U	0.7	1.8	1.6	1.7	2.0	2.3

COMBINED FUNDS

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COMBINED FUNDS

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Combined Funds

Investment Program Overview

The Combined Funds represent the assets of both active and retired public employees who participate in the defined benefit plans of three statewide retirement systems: Teachers Retirement Association (TRA), Public Employees Retirement Association (PERA) and the Minnesota State Retirement System (MSRS). On June 30, 2020, the Combined Funds had a market value of \$71.1 billion.

Overview

The Combined Funds consist of the assets of active employees and retired members of the three statewide retirement systems that sponsor eight different funds. The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies.

Participating Plans

The composition of public retirement plans in the Combined Funds is provided in Figure 7.

Investment Objectives

One overriding responsibility of the SBI with respect to the management of the Combined Funds is to ensure that sufficient funds are available to finance promised benefits.

Actuarial Assumed Return

Employee and employer contribution rates are specified in state law as a percentage of an employee's salary. The rates are set so that contributions plus expected investment earnings will cover the projected cost of promised pension benefits. The investment returns needed to meet these projected pension costs are set by statute. The 2018 Legislature lowered the actuarial interest rate assumption to 7.5% on an annual basis for the three statewide retirement systems composing the Combined Funds.

Time Horizon

In general, pension assets will accumulate in the Combined Funds for 30 to 40 years during an employee's years of active service. A typical retiree can be expected to draw benefits for an additional 15 to 20 years. This provides the Combined Funds with a long investment time horizon and permits the Board to take advantage of the long-run return opportunities offered by common stocks and other equity investments in order to meet the actuarial return target.

Asset Allocation

The allocation of assets among stocks, bonds, private markets (private market investments include private equity, private credit, real estate, real assets and distressed/opportunistic) and cash has a dramatic impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio.

Historical evidence indicates that U.S. Stocks have provided the greatest opportunity to maximize investment returns over the long-term. As a result,

Figure 7. Composition of Combined Funds as of June 30, 2020

	% of Combined Funds
Teachers Retirement Association (TRA)	32.0%
Public Employees Retirement Association (PERA)	
General Plan	31.8%
Police and Fire Fund	12.6%
Correctional	1.1%
Total PERA	45.5%
Minnesota State Retirement System (MSRS)¹	
State Employees Retirement Fund	19.4%
Correctional Employees Fund	1.7%
Highway Patrol Retirement Fund	1.1%
Judges Retirement Fund	0.3%
Total MSRS	22.5%
Combined Funds Total	100.0%

¹ Includes the MSRS Legislative Plan, which is a closed plan that is funded by the MSRS General Fund on a "pay-as-you-go" basis.

Combined Funds Investment Program Overview

the Board has chosen to incorporate a large commitment to Public Equity (common stocks) and Private Equity in the asset allocation policy for the retirement funds. In order to limit the short-run volatility of returns exhibited by common stocks, the Board includes other asset classes such as fixed income (bonds), as well as other private market investments such as real estate, real assets, distressed/opportunistic and private credit investments in the total portfolio. 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.

Long-Term Allocation Policy

The Combined Funds have a policy asset allocation that is based on the investment objectives of the Combined Funds and the expected long-run performance of the capital markets. The SBI periodically reviews this policy allocation. In May of 2020, the Board passed a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity, which approved increasing the Fixed Income allocation from 20% to 25% using a 3% reduction in Public Equity and transitioning the 2% Cash allocation to Fixed Income. The resolution is explained in more detail on page B12. This change will not be implemented until fiscal year 2021.

As of June 30, 2020, the Combined Funds long-term strategic asset allocation is:

Public Equity	53%
Fixed Income/Treasuries	20
Private Markets	25
Cash	<u>2</u>
Total	100%

The uninvested allocation to private markets investments is held in public equities until it is needed for investment. As a result, the actual amount invested in stocks at any time can be above the target allocation.

Asset Mix Compared to Other Pension Funds

The Board finds it instructive to review asset mix and performance of the Combined Funds relative to other pension fund investors. The comparison universe used by the SBI is the Master Trust portion of the Trust Universe Comparison Service (TUCS). This universe contains information on public and corporate pension and trust

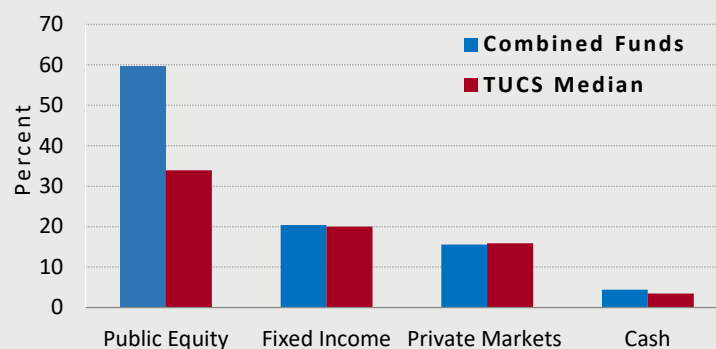
funds with diversified asset mixes and more than \$1 billion in assets.

Comparisons of the Combined Funds' actual asset mix to the median allocation to stocks, bonds and other assets of the funds in TUCS on June 30, 2020, is displayed in Figure 8. The Combined Funds allocation relative to the TUCS median allocation had a larger weight to public equity and cash and similar weight to fixed income and private markets. Historical asset mix data is displayed on the following page in Figure 9.

Total Return Vehicles

The SBI invests the majority of the Combined Funds' assets in **Public Equity** (both domestic and international). A large allocation is consistent with the investment time horizon of the Combined Funds

Figure 8. Combined Funds Asset Mix Comparison



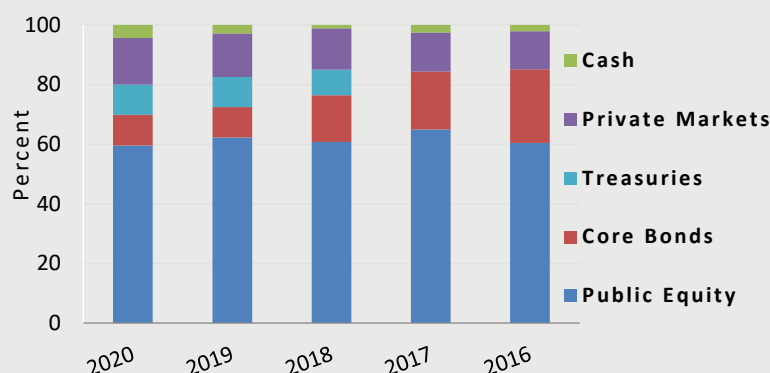
Asset Group	Combined Funds		
	Market Value (\$ Millions)	Actual Allocation	TUCS Median Allocation ¹
Public Equity	\$42,351	59.6%	33.9%
Fixed Income	\$14,463	20.4%	20.0%
Private Markets ²	\$11,104	15.6%	15.9%
Cash	\$3,135	4.4%	3.5%
Total	\$71,053	100.0%	

¹ Represents the median allocation by asset class, which will not add to 100%.

² TUCS may include assets that are not reflective of the SBI's Private Markets investments.

Combined Funds Investment Program Overview

**Figure 9. Combined Funds Historical Asset Mix
Fiscal Year 2016-2020**



and the advantageous long-term risk-return characteristics of common equities. Including international equities in the asset mix allows the SBI to diversify holdings across world markets and offers the opportunity to enhance returns and reduce the volatility of the total portfolio. The rationale underlying the inclusion of **Private Equity** is similar.

The Board recognizes that this sizable policy allocation to public and private equities likely will produce more volatile portfolio returns than a more conservative policy focused on fixed income securities. It is understood that this policy may result in quarters or even years of relative underperformance. Nevertheless, the long-run return benefits of this policy have in the past and are expected in the future to compensate for the additional volatility.

Diversification Vehicles

The Board includes other asset classes in the Combined Funds to provide some protection against highly inflationary or deflationary environments and to diversify the portfolio

sufficiently to avoid excessive return volatility.

The allocation to **Fixed Income** (both Core Bonds and the Treasury Portfolio) is to act as a hedge against a deflationary economic environment. In the event of substantial deflation, high quality fixed income assets are expected to protect principal and generate significant capital gains. Fixed income, like real estate and real assets, under normal financial conditions, help to diversify the Combined Funds, thereby controlling return volatility. The Treasury portfolio also provides strong downside protection during a market crisis.

Real Estate and **Real Assets** investments provide an inflation hedge that other financial assets cannot offer. Under normal financial conditions, such as low to moderate inflation, the returns on these assets are not highly correlated with common stocks. As a result, inclusion of these assets in the Combined Funds serves to dampen return volatility.

Private Credit investments provide the opportunity for higher long-term returns than

those typically available from bonds, yet still generate sufficient current income. Typically, these investments (e.g., subordinated debt, mezzanine debt, or resource income investments such as producing properties) are structured more like fixed income securities with the opportunity to participate in the appreciation of the underlying assets. While these investments may have an equity component, they display a return pattern more like a bond. Therefore, they will help reduce the volatility of the total portfolio, but should also generate higher returns relative to more traditional bond investments.

Investment Management

All assets in the Combined Funds are managed externally by investment management firms retained by contract. More information on the structure, management and performance of the various investment managers is included in the respective areas of the **Investment Program** sections.

Return Objectives

The Board measures the performance of the Combined Funds relative to the following total rate of return objectives:

- **Provide Real Returns.** Over a twenty year period, the Combined Funds are expected to produce returns that exceed inflation by three to five percentage points on an annualized basis.

Combined Funds Investment Program Overview

- **Match or Exceed Market Returns.** Over a ten year period, the Combined Funds are expected to match or exceed a composite of market indices weighted using the asset allocation of the Combined Funds.

Performance is reported net of all fees and costs to assure that the Board's focus is on true net return.

Investment Results

Comparison to Inflation

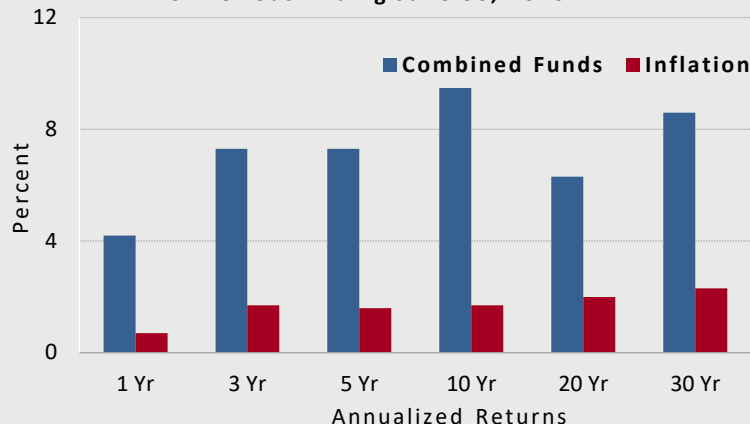
Over the last twenty years, the Combined Funds exceeded inflation by 4.3 percentage points. Historical results compared to inflation are shown in Figure 10.

Comparison to Market Returns

The Combined Funds' performance is also evaluated relative to a composite of market indices which is weighted in a manner that reflects the asset allocation of the Combined Funds. Performance relative to this standard will measure two effects:

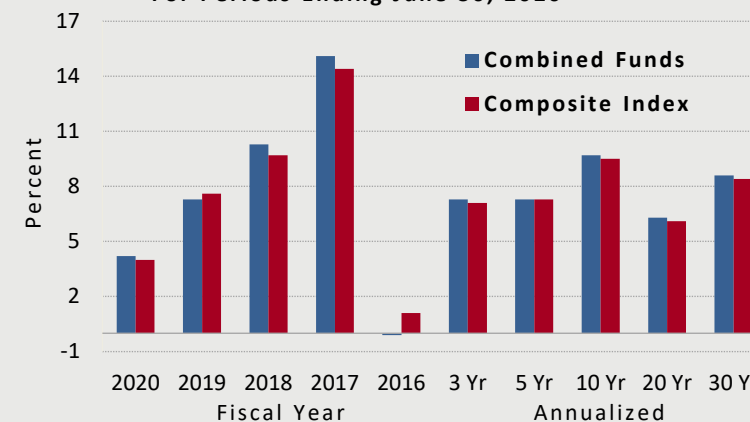
- The ability of the managers selected by the SBI, in aggregate, to add value to the returns available from the broad capital markets.
- The impact of the SBI's rebalancing activity. The SBI rebalances the total Fund when market movements take the stock (domestic and international), bond, or cash segments above or below long-term asset allocation targets. This policy imposes a low risk discipline of "buy low-sell high" among asset classes on a total fund basis.

Figure 10. Combined Funds Returns vs. Inflation For Periods Ending June 30, 2020



Annualized Returns (%) Ending June 30, 2020						
	1 Yr.	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	4.2	7.3	7.3	9.7	6.3	8.6
Inflation	0.7	1.7	1.6	1.7	2.0	2.3

Figure 11. Combined Funds Returns For Periods Ending June 30, 2020



Fiscal Year Returns (%)					
	2020	2019	2018	2017	2016
Combined Funds	4.2	7.3	10.3	15.1	-0.1
Composite Index ¹	4.0	7.6	9.7	14.4	1.1

Annualized Returns (%) Ending June 30, 2020					
	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	7.3	7.3	9.7	6.3	8.6
Composite Index ¹	7.1	7.3	9.5	6.1	8.4

¹ The Combined Funds Composite Index is the aggregate return of the market indices for the respective Combined Funds asset class weighted to the policy allocation.

Combined Funds Investment Program Overview

Historical performance results for the Combined Funds relative to its composite index are shown on page B8 in Figure 11. The Combined Funds exceeded the composite index over the last ten years by 0.2 percentage point and, therefore, met the stated performance goal. The Funds met or exceeded the composite index over all time periods shown except for fiscal years 2019 and 2016. These results are largely a measure of value added or lost from active management after all fees and expenses have been taken into consideration. The breakdown of the composite index is provided in Figure 12.

Comparison to Other Funds

While the SBI is concerned with how its returns compare to other pension investors, universe comparison data should be used with great care. There are two primary reasons why such comparisons will provide an “apples-to-oranges” look at performance:

— Differing Allocations.

Asset allocation has a dominant effect on returns. The allocation to stocks among the funds in TUCS typically ranges from 20% to 90%, too wide a range for meaningful comparison. In addition, it appears that many funds do not include private market holdings in their reports to TUCS. This further distorts comparisons among funds.

— Differing Goals/Liabilities.

Each pension fund structures its portfolio to meet its own liabilities and risk tolerance, leading to different choices on asset mix. Since asset mix will largely determine investment results, a universe ranking may not be relevant to a discussion of how well a plan sponsor is meeting its long-term liabilities.

With these considerations in mind, the performance of the Combined Funds compared to other public and corporate pension funds with over \$1 billion in assets in the Master Trust portion of TUCS is displayed in Figure 13. It shows that the Combined Funds have ranked in the top quartile for all time periods listed, except for the one and twenty year time period where the returns were ranked in the top half.

Figure 12. Composite Index For Period Ending June 30, 2020

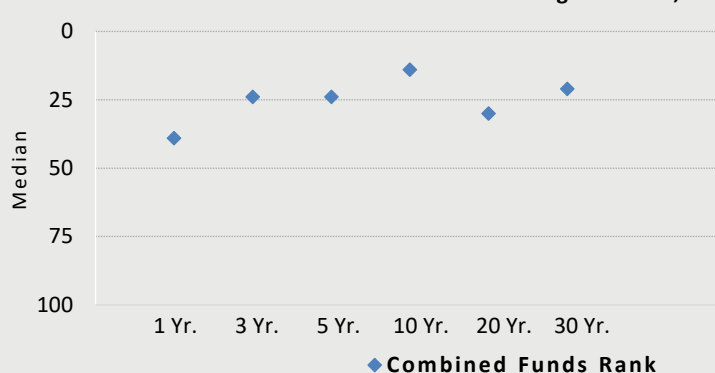
Asset Class	Market Index	Composite Index Weights % ¹
Public Equity	Public Equity Aggregate Benchmark ²	59.5
Fixed Income	Fixed Income Aggregate Benchmark ³	20.0
Private Markets	Private Markets	18.5
Cash	3 Month T-Bills	2.0
Total		100.0

¹ Weights are reset in the composite index at the start of each month to reflect the combined allocation policies of the Combined Funds.

² Since 1/1/2019 benchmark represents 60.3% Russell 1000, 6.7% Russell 2000, 24.75% MSCI World Ex US (net), and 8.25% MSCI EM (net). From 7/1/2017 - 12/31/2018 was 67.0% Russell 3000 and 33.0% MSCI ACWI ex USA (net).

³ Since 6/30/2019 benchmark represents 50% Bloomberg Barclays U.S. Aggregate and 50% Bloomberg Barclays Treasury 5+ Years. During FY2019 was a transitional rebalance of the actual allocation. Prior to that was Bloomberg Barclays U.S. Aggregate.

Figure 13. Combined Funds Returns Compared to Other Pension Funds For Periods Ending June 30, 2020



	1 Yr.	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	39th	24th	24th	14th	30th	21st
Percentile Rank in TUCS ¹						

¹ Compared to public and corporate plans greater than \$1 billion, gross in fees.

Combined Funds

Strategic Allocation Category Framework

The SBI adopted a **Strategic Allocation Category Framework** and a **Volatility Equivalent Benchmark** in September 2017 for the purpose of increasing the focus on the investment risk within the Combined Funds portfolio.

Strategic Allocation Category Framework

The objective of the Strategic Allocation Category Framework is to provide better guidance in determining the risk profile during the portfolio construction process. This approach will allow for greater awareness of the portfolio's expected volatility while managing for the variance in projected portfolio returns.

The Board approved the adoption of the Strategic Allocation Category Framework to better define the different roles that asset classes play in the portfolio. This approach focuses less in terms of “what we invest in” and rather on “why we invest.” Such approaches were developed as a response to the “Great Recession” when it was observed that supposedly diversifying asset classes could still be highly correlated to public equities during periods of market stress.

Many institutional investors have advocated approaches similar to the Strategic Allocation Category Framework to recognize that while certain asset classes may be different (e.g., public equities versus private equity), some asset classes respond to the same underlying fundamental factors and economic drivers, are highly correlated, and have limited ability to counter the investment risk of one another. The perspective that the inclusion of a number of different asset classes in a portfolio provides adequate risk reduction has now evolved to an understanding that risk reducing diversification comes from having assets which behave differently during various economic regimes. Some investors refer to this approach as a risk-based allocation approach.

Key factors in the development of a Strategic Allocation Category Framework for the SBI are 1) defining the role of the strategic allocation categories and 2) grouping asset classes that respond to similar economic drivers into the same strategic allocation category.

Following are the strategic allocation categories within the Framework and their intended roles within the portfolio. Please note that while considerable thought has gone into the approach, there is not a unique set of strategic allocation categories. As a result, the framework is based on judgement and some conclusions are arbitrary and subject to change as we move forward.

- **Growth-Appreciation:** represents the primary reason one invests, which is to achieve attractive returns. Growth is the primary return-seeking strategic allocation category with the objective of generating long-term capital appreciation by participating in global economic growth driven primarily by exposure to the equity risk premium.
- **Growth-Income-oriented:** attributes of this category include generation of stable levels of current income and capital appreciation at lower levels of risk than Growth-Appreciation assets, preservation of the principal value of assets, and diversification to the primary drivers of assets in the Growth category. (Please note for some asset classes there may be a “fine line” between whether it should be in the Growth or Income category. Out of necessity, at the end of the day, final judgements may be arbitrary.)
- **Real Assets:** to provide diversification through investments in “hard” assets which have inflation-sensitive characteristics or the ability to provide a hedge against inflation.
- **Inflation Protection:** to provide diversification through investments in “soft” assets (e.g., Inflation-linked securities, commodities) which have a direct link to inflation. These assets provide a hedge against inflation.
- **Protection:** provides stability, protection during crisis, and can act as a hedge against deflation.
- **Liquidity:** provides liquidity to meet daily obligations, primarily benefit payments and capital calls. Consists of cash and cash equivalents.
- **Opportunity:** the purpose of this bucket is to allow for investments in interesting opportunities or new strategies that do not fit within clearly-defined asset class lines. Asset allocation constraints should not preclude investors from accessing interesting and attractive opportunities.

Combined Funds

Strategic Allocation Category Framework

The **Strategic Allocation Category Framework** is an integral part of developing and managing the asset allocation of the Combined Funds. Figure 14 shows the breakdown of assets within each strategic allocation category by their intended roles within the Combined Funds to help provide better guidance in determining the risk profile during the portfolio construction process.

Figure 14. Status of the Strategic Allocation Category Framework as of June 30, 2020

	6/30/2020 (\$ millions)	6/30/2020 Weights	Category Ranges	
<u>Growth - Appreciation</u>				
Public Equity	\$ 42,350.6	59.6%		
Private Equity	\$ 6,538.5	9.2%		
Non-Core Real Assets	\$ 2,347.9	3.3%		
Distressed/Opportunistic	\$ 1,042.0	1.5%		
	\$ 52,279.0	73.6%	50%	75%
<u>Growth - Income-oriented</u>				
Core Fixed Income	\$ 7,273.4	10.2%		
Private Credit	\$ 759.2	1.1%		
Return-Seeking Fixed Income	\$ -	0.0%		
	\$ 8,032.6	11.3%	15%	30%
<u>Real Assets</u>				
Core Real Estate		0.0%		
Real Assets	\$ 398.9	0.6%		
	\$ 398.9	0.6%	0%	10%
<u>Inflation Protection</u>				
TIPS	\$ -	0.0%		
Commodities	\$ -	0.0%		
	\$ -	0.0%	0%	10%
<u>Protection</u>				
U.S. Treasuries	\$ 7,189.4	10.1%		
	\$ 7,189.4	10.1%	5%	20%
<u>Liquidity</u>				
Cash	\$ 3,135.1	4.4%		
	\$ 3,135.1	4.4%	0%	5%
<u>Opportunity</u>				
Opportunity		0.0%	0%	10%
Total	\$ 71,052.9	100.0%		
Illiquid Asset Exposure	\$ 11,086.5	15.6%	0%	30%

Combined Funds Strategic Allocation Category Framework

Volatility Equivalent Benchmark

The **Volatility Equivalent Benchmark** was introduced as a metric to compare the longer-term (5 years or greater) investment performance of the Combined Funds' portfolio relative to a passively managed equity and bond portfolio which had a similar level of risk (as measured by its standard deviation) over the same time period. The comparison is an evaluation of how well our decisions made for the portfolio match up against a passively managed index strategy (which we would be unable to define on a prospective basis). When the comparison of the Combined Funds portfolio exceeds the Volatility Equivalent Benchmark, the positive value added is a validation of how well our investment process performs. Figure 15 shows a comparison of the Combined Funds portfolio versus the Volatility Equivalent Benchmark indicates the value added the SBI's approach to managing the investment program versus a simple buy and hold passive strategy. As can be seen in the comparison, the SBI's management results have yielded positive long-term results.

Figure 15. Volatility Equivalent Benchmark Comparison Periods Ending June 30, 2020

As of (Date):	June 30, 2020							
	1-year	3-year	5-year	10-year	15-year	20-year	25-year	30-year
SBI Combined Funds Return	4.2%	7.3%	7.3%	9.7%	7.6%	6.3%	8.2%	8.6%
Volatility Equivalent Benchmark Return			5.9%	7.2%	5.9%	5.0%	6.5%	7.2%
Value Added			1.4%	2.5%	1.7%	1.3%	1.7%	1.4%

Standard Deviation: Benchmark = Combined Funds		8.8%	8.3%	9.4%	9.5%	9.6%	9.4%
Benchmark Stock Weight		61%	60%	58%	60%	62%	62%
Benchmark Bond Weight		39%	40%	42%	40%	38%	38%

The Volatility Equivalent Benchmark stock and bond weights are adjusted to equal the standard deviation of the SBI Combined Funds portfolio. Then a return is calculated.

Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity

In May of 2020, the Board adopted a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity. As part of this resolution, the Executive Director received approval to make the following strategic changes:

- Restructure the Total Fixed Income Program into three segments:
 - 20% allocation to a Cash plus Short Duration Treasury Ladder mandate;
 - 40% allocation to Core/Core-plus and Return Seeking Bonds; and
 - 40% allocation to the current Treasury protection portfolio.
- Increase the Total Fixed Income allocation to 25%, which will consist of the current 20% Total Fixed Income allocation, the 2% Cash allocation, and a transfer of 3% from the Public Equities allocation.
- Reduce the allocation in Public Equities from 53% to 50%.
- Implement a currency overlay strategy to more effectively manage the portfolio's non-dollar exposure.
- Hold private market investments up to the statutory maximum of market value level of 35%, despite retaining a target allocation of a market value level of 25%. In addition, the Board set a temporary policy for Market Value plus Unfunded Commitments to increase to a maximum of 45% from the current limit of 35%. Staff will present a recommendation for a permanent policy level by the end of the fiscal year 2021.
- Implement the use of a cash overlay strategy to manage the private market cash flows, facilitate rebalancing, and to enhance portfolio liquidity.

Staff will be developing and executing a plan to implement these changes during the 2021 fiscal year.

Combined Funds

Public Equity / Domestic Equity Program

Public Equity Allocation

The Public Equity Program, which consists of the Domestic Equity Program and the International Equity Program, has a 53% target allocation in the Combined Funds portfolio. Performance for the Public Equity Program is measured against a custom benchmark that represent 67% of the Domestic Equity composite benchmark return, and 33% of the International Equity composite benchmark return. The Domestic Equity and International Equity Programs are described separately in their respective sections of this annual report.

Domestic Equity Program

The Domestic Equity Program is made up of active large-cap and small-cap managers; semi-passive managers; and a passive all-cap, large-cap, and small-cap manager.

The active and semi-passive managers in the Combined Funds also manage the Supplemental Investment Fund (SIF) U.S. Actively Managed Fund option. The Russell 3000 Index portfolio manager, one of the passive mandates in the Combined Funds, also manages the U.S. Stock Index Fund option in the SIF.

At the end of the fiscal year 2020, the Combined Funds Domestic Equity portfolio had a market value of \$28.5 billion. Including SIF assets, there was a total of \$29.0 billion invested in the Domestic Equity Program.

Management Structure

The SBI uses three styles of management to invest the assets of the Domestic Equity Program:

- **Active Management**

At the end of fiscal year 2020, approximately 14% of the Domestic Equity Program was actively managed by a group of 14 external investment managers. The assets allocated to each of the managers ranged in size from approximately \$222 million to \$466 million.

- **Semi-Passive Management**

At the end of fiscal year 2020, approximately 8% of the Domestic Equity Program was managed by two semi-passive external investment managers with portfolios ranging from \$1.2 to \$1.3 billion.

- **Passive Management**

At the end of fiscal year 2020, approximately 77% of the Domestic Equity Program was passively managed by one external manager with three external investment mandates, Russell 3000 Index, Russell 2000 Index and Russell 1000 Index, with portfolio values ranging from \$549 million to \$20.3 billion.

The goal of the Domestic Equity Program is to outperform the asset class target, which consists of the Russell 1000 Index and Russell 2000 Index. The program targets fixed policy weights of 90% large-cap and 10% small-cap managers. The Russell 3000 Index can be segmented into sub-indexes or Russell style indexes. Assets of

the Program are allocated based on the Russell style indexes. Assets within each style are then allocated to managers within the designated style. This allocation is done to minimize the style bias within the Program.

Each **active manager** is expected to add value over the long-run relative to the Russell style index which reflects its investment approach or style.

The **semi-passive managers** are expected to add incremental value relative to the Russell 1000 Index. However, they employ a strategy that more closely tracks the benchmark than active management and are generally more consistent at generating modest excess returns.

The **passive managers** in the Domestic Equity Program manage their portfolios to consistently and inexpensively track their respective Russell indices.

Portfolio sector characteristics for each of the respective Russell benchmarks are shown in Figure 16 on the following page.

A description of each domestic equity manager's investment approach is included in the **Investment Manager Summaries** section beginning on page B17.

FY 2020 Changes

In May of 2020, the Board adopted a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity. As part of this resolution, staff received approval to reduce the allocation in Public Equities from 53% to 50%.

Combined Funds

Public Equity / Domestic Equity Program

Staff will be developing and executing a plan to implement this change during the 2021 fiscal year.

During fiscal year 2020, there were no changes to the investment manager line-up in the Domestic Equity Program.

Investment Performance

A comprehensive monitoring system has been established to ensure that the many elements of the Domestic Equity Program conform to the SBI's investment policies. Published performance benchmarks are used for each domestic stock manager. These benchmarks enable the SBI to evaluate the managers' results, both individually and in aggregate, with respect to risk incurred and returns achieved.

Two primary long-term **risk objectives** have been established for the domestic stock managers:

— Investment Approach

Each manager (active, semi-passive, or passive) is expected to hold a portfolio that is consistent, in terms of risk characteristics, with the manager's stated investment approach. In the short-run, market fluctuations may result in a departure from the active managers' risk targets as part of their specific investment strategies.

— Diversification

The passive and semi-passive managers are expected to hold highly diversified portfolios, while each active domestic stock manager may hold a more concentrated portfolio, appropriate for the particular investment strategy and style.

The domestic equity managers successfully fulfilled their long-

term risk objectives during fiscal year 2020. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained levels of diversification that were appropriate for their respective active, semi-passive and passive approaches.

The Board's **return objectives** for active and semi-passive stock managers are measured against the published Russell style and market capitalization indices that represent the managers' specific investment approaches. These indices take into account the equity market forces that affect certain investment styles. Thus, a Russell style index or benchmark is a more appropriate return target against which to judge these managers' returns than the Russell 3000 broad market index.

Figure 16. Domestic Equity Program Allocation to Russell Global (U.S.) Sector Weights as of June 30, 2020

Russell Global U.S. Sector Classification	SBI Portfolio Aggregates				Benchmarks		
	Active Mgmt	Semi-Passive Mgmt	Passive Mgmt	Domestic Equity Portfolio	Russell 1000	Russell 2000	Russell 3000
Consumer Discretionary	17.5	15.6	15.3	15.5	15.4	13.3	15.2
Consumer Staples	2.8	6.0	5.9	5.5	6.0	3.1	5.9
Energy	2.8	2.7	2.8	2.7	2.8	2.5	2.8
Financial Services	25.1	17.9	18.3	18.3	18.1	23.7	18.4
Health Care	11.1	14.4	14.8	14.6	14.5	20.2	14.9
Materials & Processing	3.3	2.9	3.1	3.1	3.0	3.2	3.2
Producer Durables	8.9	8.8	8.5	8.7	8.5	8.7	8.7
Technology	18.9	26.1	26.2	21.1	26.6	25.9	25.9
Utilities	3.5	4.9	5.1	4.7	5.1	5.0	5.0
Cash	1.7	0.3	0.0	1.0	N/A	N/A	N/A
Unassigned ¹	4.4	0.4	0.0	0.7	N/A	N/A	N/A
Assigned Benchmark:	Custom ²	Russell 1000	Custom ³	Custom ⁴			

¹ Holdings not included in benchmark.

² The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmark.

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

⁴ The current Domestic Equity Benchmark is 90% Russell 1000 and 10% Russell 2000.

Combined Funds

Public Equity / Domestic Equity Program

Active managers are expected to exceed their benchmark by an amount appropriate for their active risk level. This active risk level varies by manager and is influenced by the manager's stated strategy and style.

In aggregate, the Domestic Equity Program outperformed its asset class target by 0.2 percentage point for the fiscal year. The active and semi-passive manager groups outperformed their respective asset class targets by 1.2 percentage points and by 0.3 percentage point, respectively.

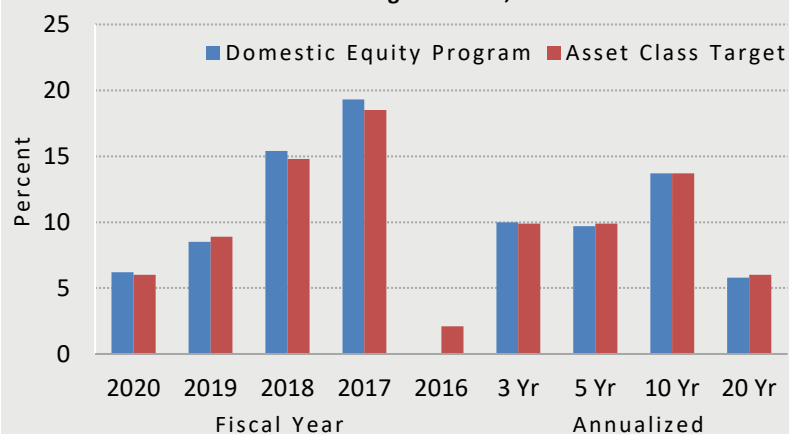
Relative to the aggregate benchmark, the outperformance of the active manager group was due to overall stock selection, especially in the Consumer Discretionary and Financial Services sectors. The semi-passive manager's performance benefited from stock selection overall, but was offset by sector allocation.

Figure 17 provides the historical performance results of the Domestic Equity Program.

Manager performance relative to the respective benchmarks for the fiscal year end was mixed. Five of the 14 active managers outperformed their assigned benchmarks, while nine managers underperformed. One semi-passive manager outperformed and the other semi-passive manager underperformed the Russell 1000 Index. BlackRock Institutional is the portfolio manager for the passive index portfolios. For the fiscal year, the Russell 1000 Index portfolio matched its benchmark return and the Russell 3000 and Russell 2000 Index portfolios

outperformed their respective benchmarks. Individual manager performance for fiscal year 2020 is shown in Figure 18 on page B16.

Figure 17. Domestic Equity Program Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Domestic Equity Program	6.2	8.5	15.4	19.4	0.0
Asset Class Target¹	6.0	8.9	14.8	18.5	2.1

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Domestic Equity Program	10.0	9.7	13.7	5.8
Asset Class Target¹	9.9	9.9	13.7	6.0

¹ As of 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.

Combined Funds

Public Equity / Domestic Equity Program

Figure 18. Domestic Equity Program Manager Performance for Periods Ending June 30, 2020

Manager Strategy (Benchmark)	Annualized Returns ¹						Market Value ² (\$ millions)
	1 Year		3 Years		5 Years		
	Actual	Bmk	Actual	Bmk	Actual	Bmk	
	%	%	%	%	%	%	
Active Managers							
Large Cap Growth (Russell 1000 Growth)							
Sands Capital Management	31.6	23.3	25.8	19.0	18.2	15.9	367.5
Winslow Capital Management	22.1	23.3	20.7	19.0	15.9	15.9	272.9
Zevenbergen Capital	55.2	23.3	33.8	19.0	23.1	15.9	466.7
Large Cap Value (Russell 1000 Value)							
Barrow, Hanley	-9.7	-8.8	2.1	1.8	4.2	4.6	289.5
Earnest Partners	-6.9	-8.8	4.6	1.8	6.1	4.6	255.4
LSV Asset Management	-12.6	-8.8	0.0	1.8	3.2	4.6	337.9
Small Cap Growth (Russell 2000 Growth)							
ArrowMark	-4.4	3.5	6.3	7.9			222.4
Hood River	8.1	3.5	9.7	7.9			287.3
Rice Hall James	1.5	3.5	6.3	7.9			230.3
Wellington	4.7	3.5	7.7	7.9			311.5
Small Cap Value (Russell 2000 Value)							
Goldman Sachs	-19.7	-17.5	-3.8	-4.3	0.9	1.3	322.9
Hotchkis & Wiley	-24.2	-17.5	-7.8	-4.3	-3.2	1.3	238.4
Martingale Asset Management	-20.0	-17.5	-6.2	-4.3	0.2	1.3	239.5
Peregrine Capital Management	-18.8	-17.5	-4.9	-4.3	0.0	1.3	291.9
Semi-Passive Managers (Russell 1000)							
BlackRock Institutional	7.3	7.5	11.6	10.6	11.2	10.5	1,240.6
J.P. Morgan Investment Management	8.2	7.5	10.6	10.6	10.5	10.5	1,290.8
Passive Managers							
Large Cap (Russell 1000)							
BlackRock Institutional	7.5	7.5	10.6	10.6			20,289.6
Small Cap (Russell 2000)							
BlackRock Institutional	-5.8	-6.6					549.1
All Cap (Russell 3000)							
BlackRock Institutional	6.7	6.5	10.1	10.0	10.1	10.0	1,510.3
Aggregate Domestic Equity Program	6.2	6.0	10.0	9.9	9.7	9.9	29,014.4

¹ The Domestic Equity Program benchmark as of 1/1/2019 is 90% Russell 1000 and 10% Russell 2000. From 10/1/2003 to 12/31/2018 the target was the Russell 3000. The SBI Domestic Equity Program return includes the performance of terminated managers.

² Market values include Supplemental Investment Fund (SIF) assets.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Active Managers

Large-Cap Growth (Russell 1000 Growth)

Sands Capital Management, LLC

Mandate:	Large-Cap Growth	Benchmark:	Russell 1000 Growth
Product assets/Firm Assets (as of 6/30):	\$21.7 billion / \$51.4 billion	# of Holdings:	30
		Expected Turnover:	20-30%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Arlington, VA	Date Funded:	January 2005

Sands invests in concentrated portfolios of high-quality, seasoned, growing businesses. Bottom-up, company-focused and long-term oriented research is the cornerstone of the investment process. To be considered as a potential holding, companies must demonstrate superior historical and projected sales and earnings growth; have the potential for wealth creation; and reside in growing sectors. The strategy focuses on six key investment criteria: 1) sustainable above average earnings growth; 2) leadership position in a promising business space; 3) significant competitive advantages or unique business franchise; 4) management with a clear mission and value added focus; 5) financial strength; and 6) rational valuation relative to the overall market and the company's business prospects.

Winslow Capital Management, LLC

Mandate:	U.S. Large-Cap Growth	Benchmark:	Russell 1000 Growth
Product assets/Firm Assets (as of 6/30):	\$22.4 billion / \$23.8 billion	# of Holdings:	44
		Expected Turnover:	50-60%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Minneapolis, MN	Date Funded:	January 2005

Winslow believes that investing in quality large-cap companies with above-average growth provides the best opportunity for achieving superior portfolio returns over the long-term. The investment philosophy is founded on bottom up, fundamental research. The strategy identifies companies that can grow earnings above consensus expectations to build portfolios with forward weighted earnings growth in the range of 15-20% annually. Final portfolio construction includes diversification by economic sectors, earnings growth rates, price/earnings ratios and market capitalizations.

Zevenbergen Capital Investments LLC

Mandate:	Large-Cap Growth	Benchmark:	Russell 1000 Growth
Product assets/Firm Assets (as of 6/30):	\$3.6 billion / \$4.3 billion	# of Holdings:	36
		Expected Turnover:	20-40%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Seattle, WA	Date Funded:	April 1994

Zevenbergen's investment philosophy is founded on the principles that superior fundamentals drive stock price appreciation and exceptional management combined with balance sheet strength provides capital protection. The firm employs a forward looking, bottom-up investment process designed for long-term results. Portfolios are constructed with companies presenting established and prospective revenue, cash flow and earnings growth, while diversification and risk control are accomplished through a blend of company size, expected growth rates, and appropriate portfolio weightings.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Active Managers

Large-Cap Value (Russell 1000 Value)

Barrow, Hanley, Mewhinney & Strauss, LLC

Mandate:	Large-Cap Value	Benchmark:	Russell 1000 Value
Product assets/Firm Assets (as of 6/30):	\$13.3 billion / \$44.1 billion	# of Holdings:	45
		Expected Turnover:	15-35%
Style:	Value	Fund/Quant:	Fundamental
Product Location:	Dallas, TX	Date Funded:	April 2004

Barrow, Hanley, Mewhinney & Strauss believes that markets are inefficient and can best be exploited through adherence to a value-oriented investment process dedicated to the selection of securities on a bottom-up basis. The overall portfolio will always reflect all three value characteristics: price/earnings and price/book ratios below the market and dividend yields above the market. The stocks must also be attractive according to the firm's dividend discount and relative return models. Analysts provide fundamental analysis in the final step of their investment process.

Earnest Partners, LLC

Mandate:	Large-Cap Value	Benchmark:	Russell 1000 Value
Product assets/Firm Assets (as of 6/30):	\$311.0 million / \$22.9 billion	# of Holdings:	52
		Expected Turnover:	0-20%
Style:	Value	Fund/Quant:	Fundamental Bottom-Up
Product Location:	Atlanta, GA	Date Funded:	July 2000

Earnest Partners is a fundamental, bottom-up investment manager comprised of a team of practitioners with deep understanding of the industries they cover. The firm utilizes a proprietary screen that focusses on identifying fundamental characteristics that predispose a company to outperformance based on the industry in which it operates. The fundamental characteristics fall into the following six categories – valuation measures, operating trends, market trends, growth measures, profitability measures and macroeconomic measures – and have done research to determine which combination of performance drivers, or return patterns, precede outperformance for stocks in each industry. The portfolio is diversified across industry groups.

LSV Asset Management

Mandate:	Large-Cap Value	Benchmark:	Russell 1000 Value
Product assets/Firm Assets (as of 6/30):	\$24.3 billion / \$90.6 billion	# of Holdings:	170
		Expected Turnover:	10-25%
Style:	Value	Fund/Quant:	Quantitative
Product Location:	Chicago, IL	Date Funded:	April 2004

LSV's philosophy is that superior long-term results can be achieved by systematically exploiting the judgmental biases and behavioral weaknesses that influence the decisions of many investors. They use quantitative techniques to rank securities based on fundamental measures of value, past performance, and indicators of near-term appreciation potential. Their risk control discipline limits the portfolio's industry and sector concentrations.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Active Managers

Small-Cap Growth (Russell 2000 Growth)

ArrowMark Colorado Holdings, LLC

Mandate:	Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product assets/Firm Assets (as of 6/30):	\$2.7 billion / \$19.1 billion	# of Holdings:	105
		Expected Turnover:	30-50%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Denver, CO	Date Funded:	November 2016

ArrowMark manages a fundamentally driven small-cap growth portfolio and prioritizes downside risk while maintaining a long-term investment horizon. They believe companies with sustainable competitive advantages, growing from a low share of a large market at returns on capital that exceed cost of capital, can compound for longer and create more value than is often priced into small-cap stocks. The team undertakes both quantitative analysis and qualitative assessments including interviews with management. The core of the fundamental research process is extensive financial modeling to forecast cash flow generation and value creation potential. Scenario analysis is utilized to project a range of outcomes (best/base/stressed).

Hood River Capital Management, LLC

Mandate:	Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product assets/Firm Assets (as of 6/30):	\$2.19 billion / \$2.25 billion	# of Holdings:	90
		Expected Turnover:	100-160%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Portland, OR	Date Funded:	10/31/2016

Hood River believes the small-cap market is relatively inefficient and that Small-cap stocks are scrutinized less closely than larger-cap ones, which creates an opportunity for research to add value. In-depth, original research can uncover companies whose future fundamentals, such as sales or earnings, are likely to exceed the market's expectations. The investment team calls this difference between reality and the market's perception the "information gap." Hood River is intently focused on identifying and capturing the information gap in the small-cap market. Hood River aggressively pursues a research advantage by speaking to management teams, customers, competitors, suppliers and other primary sources. By generating insight on high quality stocks, Hood River has historically generated outperformance versus the benchmark for their clients while taking less risk than the benchmark.

Rice Hall James & Associates, LLC

Mandate:	Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product assets/Firm Assets (as of 6/30):	\$1.3 billion / \$2.8 billion	# of Holdings:	65
		Expected Turnover:	20-40%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Los Angeles, CA	Date Funded:	November 2016

Rice Hall James Small-Cap Opportunities strategy employs a fundamental, bottom-up analytical process to identify companies that meet three primary criteria; high earnings growth, high or improving returns-on-invested capital (ROIC), and sustainable competitive advantages. The team's investment philosophy is rooted in historical analysis indicating the high relative return potential of these factors in combination. The team believes that superior results can be achieved by owning companies that exhibit not only high earnings growth, but also the ability to sustainably generate high ROIC over long periods of time.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Active Managers

Small-Cap Growth (Russell 2000 Growth)

Wellington Management Company LLP

Mandate:	Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product assets/Firm Assets (as of 6/30):	\$4.4 billion / \$1.1 trillion	# of Holdings:	169
		Expected Turnover:	30-40%
Style:	Growth	Fund/Quant:	Fundamental
Product Location:	Boston, MA	Date Funded:	November 2016

Wellington Management Company's Disciplined U.S. Small-Cap Growth's investment philosophy is based on three core beliefs: 1) changes in the quality of a company's fundamentals are often not reflected in its stock price; 2) the persistence of a company's fundamentals is frequently underestimated by the market; and 3) active managers frequently underestimate the range of possible outcomes. Central to the investment process is fundamental research focused on uncovering companies with improving quality metrics, business momentum and attractive relative valuations. This process is aided by a proprietary screening process that narrows the investment universe to companies consistent with the investment philosophy. The investment team spends most of its time conducting fundamental research on companies elevated by this screening process. This research relies on extensive management meetings and a high level of collaboration with Wellington Management's Global Industry Analysts.

Small-Cap Value (Russell 2000 Value)

Goldman Sachs Asset Management, L.P.

Mandate:	Small-Cap Value	Benchmark:	Russell 2000 Value
Product assets/Firm Assets (as of 6/30):	\$7.1 billion / \$1.9 trillion	# of Holdings:	240
		Expected Turnover:	30-60%
Style:	Value	Fund/Quant:	Fundamental
Product Location:	New York, NY	Date Funded:	January 2004

Goldman Sachs manages a small-cap value portfolio using a strong valuation discipline to purchase well-positioned, cash generating businesses run by shareholder-oriented management teams. Portfolio managers are organized by industry, and use industry-specific valuation measures to evaluate companies within their area. They decompose the historical financial reports, meet with management to evaluate their competitive position within the industry, and evaluate each company's valuation attractiveness relative to other comparable companies within the sector.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Active Managers

Small-Cap Value (Russell 2000 Value)

Hotchkis and Wiley Capital Management, LLC

Mandate:	Small-Cap Value	Benchmark:	Russell 2000 Value
Product assets/Firm Assets (as of 6/30):	\$1.3 billion / \$24.6 billion	# of Holdings:	62
		Expected Turnover:	30-50%
Style:	Value	Fund/Quant:	Fundamental
Product Location:	Los Angeles, CA	Date Funded:	January 2004

Hotchkis and Wiley seeks to exploit mispriced securities in the small-cap market by investing in “undiscovered” and “out of favor” companies. They invest in stocks of which the present value of the company’s future cash flows exceeds the current market price. Industry analysts determine a company’s normal earnings power, or sustainable earnings level under equilibrium economic and competitive market conditions, which becomes the basis for security valuation.

Martingale Asset Management, L.P.

Mandate:	Small-Cap Value	Benchmark:	Russell 2000 Value
Product assets/Firm Assets (as of 6/30):	\$260 million / \$8.8 billion	# of Holdings:	333
		Expected Turnover:	90-110%
Style:	Value	Fund/Quant:	Quantitative
Product Location:	Boston, MA	Date Funded:	January 2004

Martingale employs a systematic, quantitatively-driven investment approach that seeks to exploit behavioral biases of investors. Martingale’s investment opinion for a stock—the stock’s alpha forecast—is derived from the weighted average score of investment characteristics organized into three broad themes: value, quality and momentum. The weighting scheme varies dynamically according to a proprietary composite risk score for each company. The resulting contextual scoring system emphasizes different investment characteristics depending on the underlying riskiness of the company. Martingale also generates an industry alpha to identify industries experiencing favorable or unfavorable economic and market conditions. The industry and stock alphas are combined to create the composite alpha score used in portfolio construction. Positions are bought and sold to improve the composite alpha score while maintaining beta, industry, sector and size exposures similar to the benchmark. The resulting portfolio emphasizes higher quality companies with positive momentum and more favorable valuations than the index.

Peregrine Capital Management

Mandate:	Small-Cap Value	Benchmark:	Russell 2000 Value
Product assets/Firm Assets (as of 6/30):	\$567 million / \$4.3 billion	# of Holdings:	103
		Expected Turnover:	60-80%
Style:	Value	Fund/Quant:	Fundamental
Product Location:	Minneapolis, MN	Date Funded:	July 2000

Peregrine’s small-cap value investment process begins with their proprietary valuation analysis, which is designed to identify the small-cap value stocks most likely to outperform. The valuation analysis identifies the most underpriced securities on a sector-by-sector basis. The firm analyzes sixty fundamental factors to identify the most relevant factors in each sector. The focus of the team’s fundamental research is to determine if one or more of the style’s “Value Buy Criteria” are present. These include resolvable short-term problems, unrecognized assets, take-over potential, fundamental undervaluation and catalysts for change. The portfolio is diversified and sector weights are aligned closely to the benchmark allowing stock selection to drive performance.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Semi-Passive Managers

Semi-Passive Managers (Russell 1000)

BlackRock Institutional Trust Company, N.A.

Mandate:	Semi-Passive U.S. Equity	Benchmark:	Russell 1000 Index
Product assets/Firm Assets (as of 6/30):	\$6.2 billion / \$7.3 trillion	# of Holdings:	263
		Expected Turnover:	124%
Style:	Core	Fund/Quant:	Quantitative
Product Location:	San Francisco, CA	Date Funded:	January 1995

BlackRock has a disciplined, rigorous and repeatable investment process incorporating a unique blend of bottom-up stock selection insights across relative value, earnings quality and sentiment while combining broader top-down thematic insights to generate risk controlled and consistent active returns. The relative value criteria assesses intrinsic value relative to market price. Earnings quality criteria help identify companies likely to sustain earnings growth and avoid negative surprises. Sentiment criteria help identify market participants' beliefs regarding valuation. The thematic criteria seeks to exploit opportunities from a collection of stocks that move together because they share a common exposure which is currently less obvious to the market. Research is incorporated through top-down thematic insights to capture macro views as well as through a program which utilizes big data techniques to capture alpha from the large volumes of unstructured data (text, internet search and social media). Implementation costs are also considered when balancing return potential with risk profile of trades.

J.P. Morgan Investment Management Inc.

Mandate:	Semi-Passive U.S. Equity	Benchmark:	Russell 1000 Index
Product assets/Firm Assets (as of 6/30):	\$7.7 billion / \$2.1 trillion	# of Holdings:	388
		Expected Turnover:	37%
Style:	Core	Fund/Quant:	Fundamental
Product Location:	New York, NY	Date Funded:	January 1995

J.P. Morgan believes that superior stock selection is necessary to achieve excellent investment results. To accomplish this objective, the firm uses fundamental research and a systematic valuation model. Analysts forecast earnings and dividends for the stock universe and enter these into a stock valuation model that calculates a dividend discount rate for each security. The stocks are ranked according to this valuation measure within their economic sectors. Stocks most undervalued are placed in the first quintile. The portfolio takes overweight positions in stocks in the first and second quintiles, while underweighting stocks in the fourth and fifth quintiles. In addition, the portfolio will closely approximate the sectors and style of the benchmark. The portfolio remains fully invested at all times.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

Passive Managers

Passive Manager (R3000)

BlackRock Institutional Trust Company, N.A.

Mandate:	Passive U.S. Equity	Benchmark:	Russell 3000 Index
Product assets/Firm Assets (as of 6/30):	\$57.8 billion / \$7.3 trillion	# of Holdings:	2,706
		Expected Turnover:	2.44%
Style:	Core	Fund/Quant:	N.A.
Product Location:	San Francisco, CA	Date Funded:	July 1995

For the passive account, BlackRock seeks to match the total rate of return of the Russell 3000 Index. BlackRock uses their proprietary risk management and optimization tools to identify a portfolio with characteristics that closely match those of the benchmark with less exposure to some of the less liquid stocks in the index.

Passive Manager (R1000)

BlackRock Institutional Trust Company, N.A.

Mandate:	Passive U.S. Equity	Benchmark:	Russell 1000 Index
Product assets/Firm Assets (as of 6/30):	\$147.6 billion / \$7.3 trillion	# of Holdings:	1,001
		Expected Turnover:	7.52%
Style:	Core	Fund/Quant:	N.A.
Product Location:	San Francisco, CA	Date Funded:	October 2016

For this passive account, BlackRock seeks to match the total rate of return of the Russell 1000 Index. BlackRock aims to fully replicate the benchmark when managing against this index. BlackRock uses their proprietary risk management and optimization tools to help manage day-to-day activity in an attempt to keep transaction costs low.

Passive Manager (R2000)

BlackRock Institutional Trust Company, N.A.

Mandate:	Passive U.S. Equity	Benchmark:	Russell 2000 Index
Product assets/Firm Assets (as of 6/30):	\$53.8 billion / \$7.3 trillion	# of Holdings:	2,002
		Expected Turnover:	12.07%
Style:	Core	Fund/Quant:	N.A.
Product Location:	San Francisco, CA	Date Funded:	October 2018

For this passive account, BlackRock seeks to replicate the return of the Russell 2000 Index as closely as possible. Proprietary risk management and optimization tools are utilized to identify a portfolio with characteristics that closely match those of the Russell 2000 Index with less exposure to some of the less liquid stocks in the index.

Combined Funds

Public Equity / International Equity Program

International Equity Program

The International Equity Program is made up of active, semi-passive, and passive developed markets managers, and active and passive emerging markets managers.

Managers within the International Equity Program also make up the Broad International Equity Fund option that is available to eligible plan sponsors that use the Supplemental Investment Fund (SIF).

At the end of the fiscal year 2020, the Combined Funds International Equity portfolio had a market value of \$13.9 billion. Including SIF assets, there was a total of \$14.0 billion invested in the International Equity Program.

Management Structure

Currently, the SBI uses three styles of management to invest the assets of the International Equity Program:

- **Active Management**

At the end of fiscal year 2020, approximately 32% of the program was actively managed by a group of 13 external investment managers with portfolios ranging in size from \$251 million to over \$488 million. Six of these managers manage portfolios in the developed markets and seven manage portfolios in the emerging markets.

- **Semi-Passive Management**

At the end of fiscal year 2020, 2% of the program was semi-passively

managed by a single external investment manager, AQR Capital Management, LLC with a portfolio of \$317 million.

- **Passive Management**

At the end of fiscal year 2020, approximately 65% of the International Equity Program was passively managed by State Street Global Advisors in two separate portfolios; one a developed markets equity index account and the other an emerging markets equity index account, with \$8.0 billion and \$1.1 billion, respectively.

The goal of the International Equity Program is to outperform the asset class target, which is the MSCI World ex USA Index (net) and MSCI Emerging Markets Index (net). The program targets fixed policy weights of 75% developed markets and 25% emerging markets. At the end of fiscal year 2020, the actual breakout of the International Equity Program was 74% invested in developed markets and 26% was invested in emerging markets.

Six of the 13 *active* managers and the *semi-passive* manager invest entirely in developed markets and use a variety of investment approaches in an effort to maximize the value added to the MSCI World ex USA Index (net) over time. These managers address currency management as part of their investment process. Their views on currency may be factored into their country and security selection, they may explicitly hedge currency exposure on an opportunistic basis, or they may seek to add value by actively managing

currency positions. Managers are not required to hedge currency risk.

Seven of the 13 *active* managers invest entirely in emerging markets. They are expected to add incremental value, over time, relative to the MSCI Emerging Markets Index (net) which is made up of markets in developing countries throughout the world.

The *passive* manager in the International Equity Program designs one of its portfolios to consistently and inexpensively track the developed markets MSCI World ex USA Index (net) and designs the other portfolio to track the MSCI Emerging Markets Index (net).

A description of each international equity manager's investment approach is included in the **Investment Manager Summaries** section beginning on page B28.

FY 2020 Changes

In May of 2020, the Board adopted a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity. As part of this resolution, staff received approval to implement a currency overlay strategy to more effectively manage the portfolio's non-dollar exposure.

Staff will be developing and executing a plan to implement this change during the 2021 fiscal year.

During fiscal year 2020, there were no changes to the investment manager line up in the International Equity Program.

Combined Funds

Public Equity / International Equity Program

Investment Performance

Similar to the Domestic Equity Program, two long-term **risk objectives** exist for the international equity managers:

- **Investment Approach.** Each manager (active, semi-passive or passive) is expected to hold a portfolio that is consistent with the manager's stated investment approach.
- **Diversification.** The index manager is expected to hold a well-diversified portfolio which closely tracks its target index. The semi-passive manager is expected to hold a risk-adjusted portfolio which modestly outperforms the index, and each active manager is expected to hold a portfolio which represents its best ideas for outperforming the index.

The international equity managers successfully fulfilled their long-term risk objectives during fiscal year 2020. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification.

The Board's **return objectives** for the International Equity Program are stated relative to the Morgan Stanley Capital International (MSCI) Standard indices which includes large and mid-capitalization stocks. The indices are capitalization weighted and measured in U.S. dollar terms, with currencies unhedged. Individual active managers are expected to exceed their benchmark by an amount appropriate for their level of active risk. The active risk level

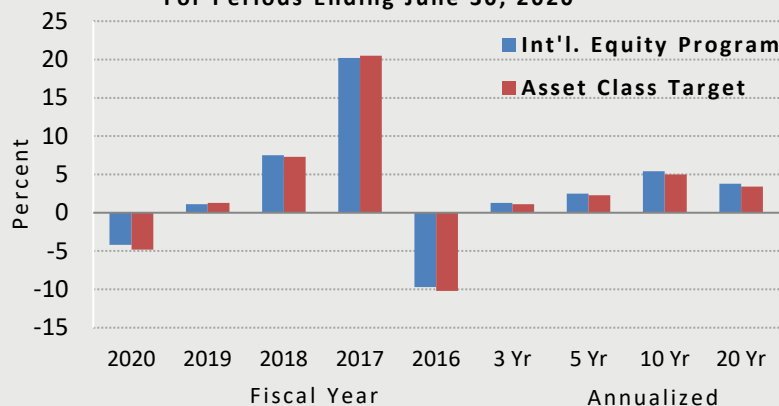
varies by manager and is influenced by the manager's stated strategy and style. Performance results for the International Equity Program are shown in Figure 19. In aggregate, performance over the last ten year period exceeded the benchmark by 0.4 percentage point and performance over the last five year period exceeded the benchmark by 0.2 percentage point. The program outperformed its target by 0.6 percentage point for the fiscal year.

Individual manager performance during fiscal year 2020 is shown in Figure 20 on page B26. Within developed markets, five of the six active managers outperformed the

benchmark, the semi-passive manager underperformed, and the passively managed portion of the developed markets program outperformed the return of the MSCI World ex USA Index (net) for the fiscal year. Within emerging markets, three of the seven active managers outperformed and the emerging markets passively managed portion of the program slightly outperformed the return of the MSCI Emerging Markets Index (net).

The International Equity Program's country weights are displayed in Figure 21 on page B27.

Figure 19. International Equity Program Performance For Periods Ending June 30, 2020



	Fiscal Year Returns (%)				
	2020	2019	2018	2017	2016
International Equity Program	-4.2	1.1	7.5	20.2	-9.7
Asset Class Target ¹	-4.8	1.3	7.3	20.5	-10.2

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
International Equity Program	1.3	2.5	5.4	3.8
Asset Class Target ¹	1.1	2.3	5.0	3.4

¹ Since 1/1/2019 the benchmark is 75% MSCI World ex USA Index (net) and 25% MSCI Emerging Markets Index (net). From 6/1/08 to 12/31/18 the target was the MSCI ACWI ex U.S. (net).

Combined Funds

Public Equity / International Equity Program

Figure 20. International Equity Program Manager Performance for Periods Ending June 30, 2020

Manager Approach (Benchmark)	Annualized Returns ¹						Market Value ² (\$ in millions)
	1 Year		3 Years		5 Years		
	Actual	Bmk	Actual	Bmk	Actual	Bmk	
Active Managers							
Developed Markets (MSCI World ex USA net)							
Acadian Asset Management	-3.2	-5.4	2.1	0.8	6.4	2.0	374.7
Columbia Mgmt. Investment Advisers	-1.3	-5.4	4.7	0.8	4.0	2.0	401.1
Fidelity Institutional Asset Management	-0.3	-5.4	3.7	0.8	4.0	2.0	385.5
J.P. Morgan Investment Management	-1.7	-5.4	3.3	0.8	3.5	2.0	312.0
Marathon Asset Management	-7.1	-5.4	-0.3	0.8	1.7	2.0	334.6
McKinley Capital Management	0.0	-5.4	3.9	0.8	2.7	2.0	265.3
Semi- Passive Managers							
Developed Markets (MSCI World ex USA net)							
AQR Capital Management	-7.9	-5.4	-1.9	0.8	0.8	2.0	316.9
Passive Manager							
Developed Markets (MSCI World ex USA net)							
State Street Global Advisers	-5.0	-5.4	1.2	0.8	2.4	2.0	8,022.7
Active Managers							
Emerging Markets (MSCI Emerging Markets net)							
Earnest Partners	-11.3	-3.4	-1.1	1.9			275.8
Macquarie Investment Management Advisers	6.0	-3.4	5.0	1.9			381.1
Martin Currie	3.0	-3.4	5.6	1.9			378.4
Morgan Stanley Investments Management	-4.1	-3.4	0.2	1.9	2.3	2.9	488.4
Neuberger Berman Investment Advisers	-3.7	-3.4	1.9	1.9			337.5
Pzena Investment Management	-15.1	-3.4	-3.9	1.9			251.6
Rock Creek	0.9	-3.4	1.7	1.9			358.0
Passive Manager							
Emerging Markets (MSCI World ex USA net)							
State Street Global Advisers	-3.1	-3.4	2.0	1.9	3.0	2.9	1,108.6
Aggregate International Equity Program	-4.2	-4.8	1.3	1.1	2.5	2.3	13,992.1

¹ The International Equity Program benchmark is the 75% MSCI World ex USA Index (net) and 25% MSCI Emerging Markets Index (net). From 6/1/08 to 12/31/18 the target was the MSCI ACWI ex U.S. (net). The SBI International Equity Aggregate includes the performance of terminated managers.

² Market Value includes assets of the SIF Broad International Equity Fund.

Combined Funds

Public Equity / International Equity Program

Figure 21. International Equity Program Aggregate Country Weights for Period Ending June 30, 2020

Country ¹	Program Weights %	Benchmark Weights % ²
Australia	4.3	4.4
Austria	0.1	0.1
Belgium	0.7	0.6
Brazil	1.3	1.5
Canada	6.4	6.5
Chile	0.1	0.2
China	8.0	11.7
Colombia	0.1	0.1
Czech Republic	0.1	0.0
Denmark	1.9	1.5
Finland	0.7	0.7
France	7.1	7.1
Germany	5.8	6.0
Hong Kong	2.7	2.2
Hungary	0.2	0.1
India	0.8	2.3
Indonesia	0.4	0.4
Ireland	0.5	0.4
Israel	0.5	0.4
Italy	1.4	1.5
Japan	16.9	16.5
Malaysia	0.2	0.5
Mexico	0.4	0.5
Netherlands	3.3	2.8
New Zealand	0.2	0.2
Norway	0.4	0.3
Peru	0.2	0.1
Philippines	0.1	0.2
Poland	0.2	0.2
Portugal	0.1	0.1
Qatar	0.1	0.2
Russia	0.7	0.9
Saudi Arabia	0.0	0.8
Singapore	0.8	0.7
South Africa	0.6	1.1
South Korea	2.8	3.4
Spain	1.5	1.6
Sweden	2.0	2.0
Switzerland	7.0	6.7
Taiwan	2.8	3.5
Thailand	0.4	0.6
Turkey	0.2	0.1
United Arab Emirates	0.1	0.1
United Kingdom	9.7	9.1
United States	0.8	0.0
Cash	1.0	0.0
Other	4.4	0.0
Total³	100.0	100.0

¹ Grouped by country of domicile. Source: Factset.

² Benchmark listed is the MSCI ACWI ex USA index (net).

³ Totals may not add due to rounding.

Combined Funds

International Equity Program - Investment Manager Summaries

Active Developed Markets Managers

Acadian Asset Management LLC

Mandate:	Non-U.S. Equity	Benchmark:	MSCI World ex. USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$6.8 billion / \$92.4 billion	# of Holdings:	388
		Fund/Quant:	Quantitative
Style:	Core	Expected Turnover:	40-60%
Product Location:	Boston, MA	Date Funded:	July 2005

Acadian first uses a quantitative process to rank their universe of 43,000 stocks by relative attractiveness. In its process, Acadian also applies separate models to forecast how well each stock's region/industry peer group will perform relative to world equities. At the individual stock level, Acadian uses a wide range of factors including valuation, earnings, quality, size and price movements in their quantitative process. Acadian's top down approach utilizes valuation, quality, risk, growth, technical, and economic indicators. Country and sector weights fall out of the bottom-up stock selection process, with overall portfolio risk control ensuring the desired level of diversification. The last step of the process is a review of optimized portfolios to ensure the portfolio meets the client's investment goals.

Columbia Threadneedle Investments

Mandate:	Threadneedle EAFE Equities Strategy	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$631.3 million / \$478.8 billion	# of Holdings:	67
		Fund/Quant:	Fundamental
Style:	Core Growth	Expected Turnover:	50-75%
Product Location:	London, England	Date Funded:	March 2000

Columbia Threadneedle Investments is a bottom-up, fundamental investor with a preference for companies with high and/or rising returns on capital and the ability to compound earnings at above market-average rates over the long-term. Its research applies a long-term perspective, with efforts directed to understanding how industries will develop and companies will perform over the next three to five years and longer. Research draws on the regional equity capability at the firm and is centered on understanding the source and the sustainability of a company's competitive advantage and its ability to maintain high returns. ESG considerations are additional element of the framework, as these can represent both a risk to a company's competitive position or indeed an opportunity to further enhance it.

Fidelity Institutional Asset Management LLC

Mandate:	Fidelity International Growth	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$5.0 billion / \$214.3 billion	# of Holdings:	160
		Fund/Quant:	Fundamental
Style:	Core with a growth bias	Expected Turnover:	50-75%
Product Location:	Smithfield, RI	Date Funded:	July 2005

The FIAM International Growth strategy is a core, growth-focused international equity strategy benchmarked to the MSCI World ex USA Index. The investment process combines active stock selection and regional asset allocation. Three portfolio managers in London, Smithfield, Rhode Island, and Toronto construct regional sub-portfolios, selecting stocks based on Fidelity analysts' fundamental research as well as their own judgment and expertise. The three regional portfolios are combined, with the regional asset allocation positions determined by the lead portfolio manager. Asset allocation decisions are based on a wide variety of inputs from across the Fidelity enterprise as well as external sources. Portfolio guidelines are designed to ensure risk is appropriate with the performance target and to ensure that active risk is focused on stock selection.

Combined Funds

International Equity Program - Investment Manager Summaries

Active Developed Markets Managers

J.P. Morgan Investment Management Inc.

Mandate:	EAFE Plus Strategy	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$10 billion / \$2.1 trillion	# of Holdings:	76
		Fund/Quant:	Fundamental
Style:	Quality/Large-Cap Growth	Expected Turnover:	20-40%
Product Location:	New York, NY	Date Funded:	July 2005

J.P. Morgan's international equity process focuses on stock selection as the primary source of added value and seeks to build a portfolio diversified by both sector and region. Regional teams generate local market insights and conduct research on companies in an effort to identify the highest conviction stocks within their region. The highest conviction regional stocks are further analyzed by a team of London-based Global Sector Specialists looking to identify global "industry winners". Their goal is to find well-managed, profitable companies that possess solid financial positions as well as companies whose earnings are growing faster than their competitors. The final stage is with senior portfolio managers who construct risk-controlled portfolios that capture the best thinking of both the local and global teams.

Marathon Asset Management LLP

Mandate:	World ex U.S. Strategy	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$2.0 billion / \$49.6 billion	# of Holdings:	346
		Fund/Quant:	Fundamental
Style:	Core	Expected Turnover:	10-20%
Product Location:	London, England	Date Funded:	November 1993

At the heart of Marathon's investment philosophy is the "capital cycle" approach to investment. This approach is based on the idea that the prospect of high returns will attract excessive capital and vice versa. In addition, Marathon believes that an assessment of how management responds to the forces of the capital cycle, (i.e. particularly whether they curtail investment when returns have been poor) and how they are incentivized, are critical to the investment outcome. Given the contrarian and long-term nature of the capital cycle, the approach results in strong views versus the market and long holding periods of more than five years. The investment philosophy guides a focused team of investment generalists who seek investment opportunities in the growth and value universes and across the capitalization spectrum.

McKinley Capital Management, LLC

Mandate:	MSCI EAFE Growth	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$748.8 million / \$3.8 billion	# of Holdings:	70
		Fund/Quant:	Quantitative
Style:	Growth	Expected Turnover:	60-80%
Product Location:	Anchorage, AK	Date Funded:	July 2005

Using proprietary quantitative models, McKinley's investment process identifies companies that have signs of accelerating growth. The initial universe consists of all publicly traded non-U.S. stocks from all capitalization categories in more than 60 countries. Their primary model includes a risk-adjusted relative return measurement that is designed to identify inefficiently priced common stocks relative to the market. After the risk-adjusted relative return process has been applied the remaining candidates must then pass through liquidity and earnings acceleration tests. For final portfolio construction, McKinley examines a variety of qualitative factors which could ultimately impact earnings including a qualitative data check and street research analysis of economic factors, specific industry themes and company fundamentals.

Combined Funds

International Equity Program - Investment Manager Summaries

Semi-Passive Developed Markets Managers

AQR Capital Management, LLC

Mandate:	Semi-Passive Developed Markets Equity	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$7.6 billion / \$141.3 billion	# of Holdings:	296
		Fund/Quant:	Quantitative
Style:	Value	Expected Turnover:	Annualized Net Turnover: 90% 12 Months Trailing Net Turnover: 87%
Product Location:	Greenwich, CT	Date Funded:	July 2005

AQR employs a disciplined quantitative approach emphasizing both top-down country/currency allocation and bottom-up security selection decisions to generate excess returns. AQR's investment philosophy is based on the fundamental concepts of value and momentum. AQR's international equity product incorporates stock selection, country selection, and currency selection models as the primary alpha sources. Dynamic strategy allocation (between the three primary alpha sources) and style weighting are employed as secondary alpha sources.

Passive Developed Markets Managers

State Street Global Advisors

Mandate:	Passive Developed Markets Equity	Benchmark:	MSCI World ex USA Index (net)
Product Assets/Firm Assets (as of 6/30):	\$50.2 billion / \$3.1 trillion	# of Holdings:	994
		Fund/Quant:	N.A.
Style:	Core	Expected Turnover:	4%
Product Location:	Boston, MA	Date Funded:	October 1992

State Street Global Advisors uses a replication strategy to construct the portfolio. Exchange-traded stock index futures, approved by the Commodity Futures Trading Commission, are also used to minimize tracking error and trade cash flows in order to minimize transactions costs.

Combined Funds

International Equity Program - Investment Manager Summaries

Active Emerging Markets Managers

Earnest Partners LLC

Mandate:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Assets/Firm Assets (as of 6/30):	\$1.1 billion / \$22.9 billion	# of Holdings:	44 (incl China A Fund as 1)
		Fund/Quant:	Fundamental Bottom Up
Style:	Core	Expected Turnover:	10-20%
Product Location:	Atlanta, GA	Date Funded:	April 2017

Earnest Partners is a fundamental, bottom-up investment manager that utilizes a proprietary screen to identify fundamental characteristics that predispose a company to outperformance based on the industry in which it operates. The fundamental characteristics fall into the following six categories – valuation measures, operating trends, market trends, growth measures, profitability measures and macroeconomic measures. Fundamental review generally includes conversations with the company's mgmt. team and industry specialists, a rigorous review of the company's financial reports, deep analysis of industry and company-specific studies, as well as independent field research. They control risk using a statistical approach designed to measure and minimize the prospects of substantially underperforming the benchmark. The portfolio is diversified across industry groups and geographic regions.

Macquarie Investment Management Advisers

Mandate:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Assets/Firm Assets (as of 6/30):	\$7.0 billion / \$241.2 billion	# of Holdings:	74
		Fund/Quant:	Fundamental Bottom Up
Style:	Growth	Expected Turnover:	10-40%
Product Location:	Philadelphia, PA	Date Funded:	April 2017

Macquarie invests in companies with sustainable franchises that trade sufficiently below the team's intrinsic value estimate. The team's approach is grounded in bottom-up, fundamental analysis of individual companies, placed in the context of evolving secular trends in the global economy. The team defines a sustainable franchise as a business that is well-placed to capture secular growth opportunities, resistant to competitive pressures, and that demonstrates rising earnings power over the long-term. Macquarie tends to focus on mid/large-cap companies due to their competitive advantages and dominant market share, combined with greater market liquidity. Regarding valuation, the team takes a long-term perspective of what they feel the company will be worth based on a shared vision of its future. From there, they apply an appropriate valuation model to determine intrinsic value.

Martin Currie Inc.

Mandate:	Active Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Assets/Firm Assets (as of 6/30):	\$3.1 billion / \$13.8 billion	# of Holdings:	43
		Fund/Quant:	Fundamental Bottom-Up
Style:	Growth	Expected Turnover:	< 30%
Product Location:	Edinburgh, United Kingdom	Date Funded:	April 2017

The Martin Currie Global Emerging Market's (GEMs) team builds long-term, high conviction stock portfolios, driven by fundamental bottom up research. They seek to identify those emerging market companies that can sustain cash flow growth and generate returns in excess of their cost of capital. The Martin Currie GEMs team believes that an assessment of a company's environmental, social and governance (ESG) performance, or sustainability, can help identify those business models that are most likely to sustain high returns and resist competitive pressures. All GEMs portfolio mgrs are responsible for internal research, idea generation, and analysis. Management of portfolios top-down factors are viewed as a source of risk and are largely captured within a country-specific cost of equity used in valuation.

Combined Funds

International Equity Program - Investment Manager Summaries

Active Emerging Markets Managers

Morgan Stanley Investment Management Inc.

Mandate:	Active Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Assets/Firm Assets (as of 6/30):	\$7.0 billion / \$665.4 billion	# of Holdings:	95
		Fund/Quant:	Fundamental Bottom-Up / Top Down
Style:	Quality Growth	Expected Turnover:	30-50%
Product Location:	New York, NY	Date Funded:	January 2001

The Morgan Stanley Investment Management (MSIM) Emerging Markets Equity team believes that future economic growth and currency movements are critical drivers of stock returns. MSIM conducts original macro-thematic research and integrates it with fundamental bottom-up company analysis to amplify returns in a growth-oriented portfolio. Using a proprietary “Rules of the Road” framework that includes rigorous credit and currency analysis, MSIM over weights those Emerging Markets countries where growth is likely to accelerate and underweights those countries with macro risks, which may not be fully appreciated by consensus. MSIM analyzes these securities looking for companies with secular growth, quality management aligned with shareholders, strong balance sheets and attractive valuations within the context of our fundamentally researched macro and thematic views.

Neuberger Berman Investment Advisers LLC

Mandate:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index (net)
Product Assets/Firm Assets (as of 6/30):	\$5.9 billion/\$356.8 billion	# of Holdings:	85 stocks
		Fund/Quant:	Fundamental and Quant
Style:	Growth at Reasonable Price	Expected Turnover:	30-50%
Product Location:	New York, NY	Date Funded:	April 2017

Neuberger Berman seeks to maximize performance by constructing its portfolios with high quality, growing companies trading at attractive valuations, which have the potential to outperform the benchmark at comparable levels of risk. It is their belief that emerging markets are less efficient than developed ones and, because of this lack of market transparency, mispricing opportunities should exist. The team’s main emphasis is on bottom-up stock picking and fundamental analysis, which includes qualitative and quantitative processes, but also has an element of top-down macro analysis at times during portfolio construction.

Pzena Investment Management, LLC

Mandate:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Assets/Firm Assets (as of 6/30):	\$3.7 billion / \$31.5 billion	# of Holdings:	58
		Fund/Quant:	Fundamental Bottom-Up
Style:	Value	Expected Turnover:	20-40%
Product Location:	New York, NY	Date Funded:	April 2017

Pzena is the SBI’s deepest value-style Emerging Markets Equity manager. As such, they focus on companies that are underperforming their historically demonstrated earnings power. They apply fundamental research to these companies to determine whether the problems that caused the earnings shortfall are temporary or permanent. Beginning with a proprietary screening tool called StockAnalyzer, Pzena focuses research on the cheapest 20% of its universe. The subsequent decision to dedicate research resources to a security is made by the four co-portfolio managers who make an initial judgement as to whether the causes of the under-valuation are likely temporary or permanent, and whether the research process is likely to reasonably forecast the company’s normalized earnings power.

Combined Funds

International Equity Program - Investment Manager Summaries

Active Emerging Markets Manager

The Rock Creek Group, LLC

Mandate:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Assets/Firm Assets (as of 6/30):	\$2.5 billion / \$14.2 billion	# of Holdings:	15-17 Locally Based Managers
		Fund/Quant:	Fundamental Bottom-Up
Style:	Growth	Expected Turnover:	40-60%
Product Location:	Washington, DC	Date Funded:	April 2017

Rock Creek Emerging Markets Equity, utilizes an actively managed all-cap approach in which their top-down views drive country and sector selection, while their 15-17 local investment teams provide on-the-ground stock picking talent that drives security selection. The emerging markets investment team then adjusts the bottom-up derived portfolio using an overlay strategy to reflect top-down views on country exposures and betas. RockCreek's local investment teams are located in the markets in which they invest, which tends to result in small/mid-cap size companies. RockCreek's domicile of Washington, DC supports its ability to interact with policy makers, economists and strategists that help define their top-down views and themes.

Passive Emerging Markets Manager

State Street Global Advisors

Mandate:	Passive Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index (net)
Product assets/Firm Assets (as of 6/30):	\$62.9 billion / \$3.1 trillion	# of Holdings:	1,164
		Fund/Quant:	N.A.
Style:	Core	Expected Turnover:	9%
Product Location:	Boston, MA	Date Funded:	December 2011

State Street Global Advisors (SSGA) manages an emerging markets equity index portfolio designed to track the Morgan Stanley Capital International MSCI Emerging Markets Index. SSGA uses an optimized strategy to construct the portfolio. Exchange traded stock index futures, approved by the Commodity Futures Trading Commission, are also used to minimize tracking error, obtain exposure where local access is inaccessible, and to trade cash flows in order to minimize transactions costs.

Combined Funds

Fixed Income / Core Bond Program

Fixed Income Allocation

The Fixed Income allocation, which consist of the Core Bonds Program and the Treasuries Portfolio, has a 20% allocation in the Combined Funds portfolio. The Fixed Income Program is measured against a custom benchmark that is comprised of the Core Bond Program benchmark return and the Treasury Portfolio benchmark return, weighted equally. The Core Bond Program and the Treasury Portfolio are described separately in their respective sections of the annual report.

Core Bond Program

Managers within the Core Bond Program also manage the Supplemental Investment Fund (SIF) Bond Fund option.

The Core Bond segment includes both active and semi-passive fixed income managers. At the end of fiscal year 2020, the Combined Funds Core Bond portfolio had a market value of \$7.3 billion. Including SIF assets, there was a total of \$7.5 billion invested in the Core Bond Program.

Investment Management

The SBI uses a two part approach for the management of the Core Bond Program:

— Active

At the end of fiscal year 2020, approximately 56% of the core bond segment was actively managed by four external investment managers with portfolios of \$1.0 billion to \$1.1 billion each.

— Semi-Passive Management

At the end of fiscal year 2020, approximately 44% of the core bond segment was invested by three semi-passive investment managers with portfolios of \$1.0 to \$1.1 billion each.

The group of **active** bond managers is retained for its blend of investment styles. Each active manager has the goal of outperforming the Bloomberg Barclays U.S. Aggregate Bond Index by focusing on high quality fixed income securities across all sectors of the market. The managers vary, however, in the emphasis they place on interest rate anticipation (duration) and in the manner in which they approach security selection and sector weighting decisions.

In keeping with the objective of utilizing the Core Bond Program as a deflation hedge, the active managers are restricted regarding the duration of their portfolios. This requirement is designed to prevent the dilution of the deflation hedge of the total program due to an excessively short duration position. In addition, the duration restriction helps to avoid extreme variability in total returns relative to the benchmark. The SBI constrains the duration range of the active managers' portfolios to a band of plus or minus two years around the duration of the Bloomberg Barclays U.S. Aggregate.

The active bond managers focus on high quality (BBB or better) rated bonds. All four managers have been granted authority to invest a limited portion of their portfolios in BB and B rated dollar denominated debt and

three have been given authority to invest in investment grade non-dollar denominated issues. The managers use this additional authority on a tactical basis.

The goal of the **semi-passive** managers is to add incremental value relative to the Bloomberg Barclays U.S. Aggregate Bond Index through superior bond selection and sector allocation rather than through interest rate exposure. Semi-passive managers' portfolios are constrained to plus or minus 0.5 years around the duration of the Bloomberg Barclays U.S. Aggregate.

All three managers have been granted authority to invest a limited portion of their portfolios in BB and B rated dollar denominated debt and in investment grade non-dollar denominated issues to use tactically if and when market conditions permit.

A description of each bond manager's investment approach is included in the **Investment Manager Summaries** section beginning on page B38.

FY 2020 Changes

In May of 2020, the Board adopted a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity. As part of this resolution, staff received approval to restructure the Fixed Income Program into three segments: a 20% allocation to a Cash plus Short Duration Treasury Ladder mandate; a 40% allocation to Core/Core-plus and Return Seeking Bond; and a 40% allocation to the current Treasury protection portfolio.

Combined Funds

Fixed Income / Core Bond Program

The resolution approved by the Board also authorized SBI Staff to increase the Fixed Income allocation to 25%, which will consist of the current allocation of 20%, the Cash allocation of 2%, and a transfer of 3% from the Public Equities allocation.

Staff will be developing and executing a plan to implement these changes during the 2021 fiscal year.

During fiscal year 2020, there were no changes to the investment manager line-up in the Core Bond Program.

Investment Performance

The SBI constrains the *risk* of the active bond managers' portfolios to ensure that they fulfill their deflation hedge and total fund diversification roles. As noted earlier, the managers are restricted in terms of the duration of their portfolios and the quality of their fixed income investments. The active and semi-passive bond managers successfully fulfilled their long-term risk objectives during fiscal year 2020.

The managers constructed portfolios consistent with stated investment approaches and maintained appropriate levels of quality and duration.

The *returns* of each of the bond managers are compared to the Bloomberg Barclays U.S. Aggregate Bond Index. Individual managers are expected to exceed the target, net of fees, on an annualized basis. In total, the program outperformed the Bloomberg Barclays U.S. Aggregate Bond Index by 0.5 percentage point for the recent fiscal year.

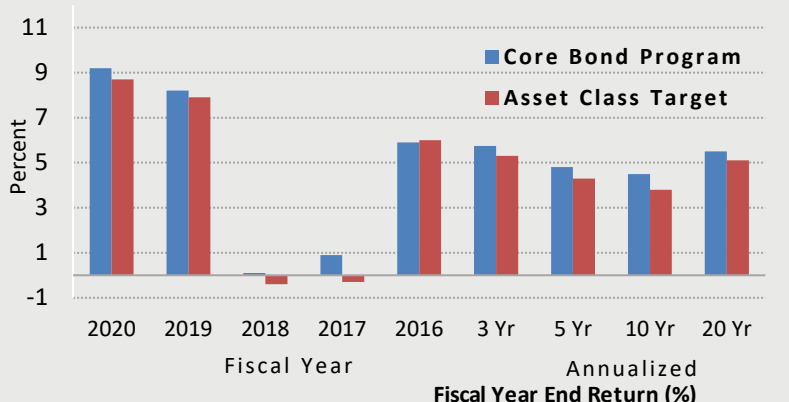
Relative to the benchmark, the program benefited from overweight positions in credit related sectors, particularly during the 2020 calendar year second quarter rebound. During the full fiscal year, duration exposure proved most beneficial overall, as evidenced by the duration heavy semi-passive composite outperforming the active composite by 0.4 percentage point.

Over the last fiscal year, two of four active managers outperformed their benchmark and all three of the semi-passive managers outperformed their benchmark. The program outperformed the asset class target by 0.7 percentage point over the ten-year period ending June 30, 2020.

Figure 22 provides the historical performance results for the Core Bond Program. Individual manager performance is shown in Figure 23 on page B36.

The aggregate portfolio sector weights and portfolio characteristics for the Core Bond Program as of June 30, 2020, is provided on page B36 in Figure 24 and Figure 25, respectively.

Figure 22. Core Bond Program Return For Periods Ending June 30, 2020



	2020	2019	2018	2017	2016
Core Bond Program	9.2	8.2	0.1	0.9	5.9
Asset Class Target ¹	8.7	7.9	-0.4	-0.3	6.0

Annualized Return (%) as of June 30, 2020				
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Core Bond Program	5.8	4.8	4.5	5.5
Asset Class Target ¹	5.3	4.3	3.8	5.1

¹ The Core Bond Program asset class target has been the Bloomberg Barclay U.S. Aggregate Bond Index since July 1994.

Combined Funds

Fixed Income / Core Bond Program

Figure 23. Core Bond Manager Performance for Periods Ending June 30, 2020

	Annualized Returns ¹						Market Value ² (\$ millions)
	1 Year		3 Years		5 Years		
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	
Active Managers							
Columbia Management	9.4	8.7	6.3	5.3	5.3	4.3	1,045.4
Dodge & Cox	8.5	8.7	5.5	5.3	4.8	4.3	1,033.4
PIMCO	8.5	8.7	5.5	5.3	4.5	4.3	1,026.4
Western Asset Management	9.8	8.7	6.2	5.3	5.5	4.3	1,093.9
Semi-Passive Managers							
BlackRock Financial Management	9.2	8.7	5.6	5.3	4.5	4.3	1,138.7
Goldman Sachs Asset Management	9.6	8.7	5.8	5.3	4.7	4.3	997.9
Neuberger Investment Management	9.6	8.7	5.7	5.3	4.5	4.3	1,130.1
Total Core Bond Program	9.2	8.7	5.8	5.3	4.8	4.3	7,466.0
¹ Returns are net of investment management fees. The Fixed Income Program asset class target has been the Bloomberg Barclays U.S. Aggregate Bond Index since July 1994.							
² Market value includes assets of SIF Funds.							

Figure 24. Fixed Income Program Sector Weights and Portfolio Characteristics for Period Ending June 30, 2020

	Active Managers %	Semi-Passive Managers %	Aggregate Fixed Income Program %	BB Barclays Benchmark %
Treasury	20.5	23.7	21.4	39.3
Government-Related	2.5	2.4	2.5	3.4
Corporate	34.0	38.5	35.9	27.3
U.S. Mortgage	27.7	29.8	28.1	26.9
Commercial Mortgage	3.8	2.8	3.3	2.2
Asset Backed	10.3	1.6	6.4	0.4
Municipal	1.2	0.9	1.0	0.7
Other	1.0	0.3	0.9	0.0
Note: May not equal 100% due to rounding.				

Figure 25. Core Bond Program Portfolio Characteristics for Period Ending June 30, 2020

	Active Managers %	Semi-Passive Managers %	Core Bond Program %	BB Barclays Benchmark %
Average Quality	A	A+	A	A+
Average Yield to Maturity (%)	2.6	1.6	2.1	1.3
Effective Duration ¹ (yrs)	6.0	5.7	5.9	5.8
Weighted Average Life ² (yrs)	8.2	8.0	8.1	8.2
¹ Measures the interest rate sensitivity of a bond. It is the approximation of the percentage price change of the bond per 100 bp increase or decrease in prevailing market interest rates. Effective duration takes into consideration how the cashflows of the bonds change when interest rates change. This measure is most appropriate for bonds (and portfolios) with optionality, such as callable bonds and mortgage bonds.				
² The Weighted Average Life (WAL) of a bond is the average number of years for which each dollar of unpaid principal of a bond remains outstanding. Once calculated, WAL tells how many years it will take to pay half of the outstanding principal.				

Combined Funds

Fixed Income / Treasury Portfolio

Treasury Portfolio

The Treasury Portfolio, launched in early 2018, represents 10% of the Fixed Income allocation. This segment of the fixed income portfolio is used exclusively by the Combined Funds.

As of June 30, 2020, the program had a market value of \$7.2 billion.

The SBI's objectives included offsetting credit risk inherent in the bond program, and providing downside protection for the overall retirement program during periods of significant equity drawdowns.

Investment Management

A group of three bond managers were retained for their blend of investment styles. Each manager has been given a modest risk budget with the goal of outperforming the Bloomberg Barclays Treasury 5+ Years Index total return over time, while largely retaining the primary characteristics of the benchmark.

The managers are required to remain within +/- 0.5 years of the overall benchmark duration (currently 11 years), but may employ interest rates strategies that result in overweight or underweight positions in certain maturities along the curve. In addition, managers finding relative value in the short-end may choose to hold out-of-benchmark Treasury securities of less than five years duration, either through direct purchases or through those becoming shorter than five years due to the passage of time/roll down the curve.

The managers are also permitted to purchase limited amounts of out-of-benchmark U.S. Agencies, U.S. Supranationals, and Treasury Inflation Protected Securities (TIPS).

A description of each bond manager's investment approach is included in the **Investment Manager Summaries** section on page B41.

Investment Performance

The SBI constrains the risk of the Treasury portfolio managers to ensure that their accounts continue to be comparable to the benchmark and fulfill their total fund diversification roles.

Since inception in February 2018, the Treasury portfolio returned 11.1% through June 30, 2020 slightly underperforming its benchmark performance of 11.4% for the same time-period.

During the fiscal year, the Treasury portfolio returned 16.7%, which underperformed its benchmark return of 17.2% by 0.5 percentage point.

Individual manager performance is shown below in Figure 26 and portfolio characteristics as of June 30, 2020, is shown in Figure 27.

Figure 26. Treasury Portfolio Manager Performance and Market Value as of June 30, 2020

	1 Year Return (%)		Market Value
	Actual	Bmk ¹	(\$ in millions)
Treasury Managers			
BlackRock Financial Mgmt.	16.8	17.2	2,461.0
Goldman Sachs Asset Mgmt.	16.7	17.2	2,307.9
Neuberger Investment Mgmt.	16.6	17.2	2,420.4
Total Treasury Portfolio	16.7	17.2	7,189.4

¹ The Treasury benchmark is the Bloomberg Barclay 5 Year U.S. Treasury Index.

Figure 27. Treasury Portfolio Characteristics as of June 30, 2020

	Total Portfolio	Benchmark ¹
Effective Duration (yrs)	12.1	12.1
Convexity	2.5	2.3
Coupon Rate (%)	2.5	2.7
Yield to Maturity (%)	0.9	0.9
Option Adjusted Spread (bps)	7.0	3.0

¹ The Treasury benchmark is the Bloomberg Barclay 5 Year U.S. Treasury Index.

Combined Funds

Core Bond Program - Investment Manager Summaries

Active Managers

Columbia Threadneedle Investments

Mandate:	Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$31.5 billion / \$478.8 billion	# of Holdings:	686
		Fund/Quant:	Fundamental
Style:	Active Core Plus	Tracking Error Target:	70bps (per SBI's investment guidelines)
Product Location:	Minneapolis, MN	Date Funded:	July 1993

Columbia Threadneedle Investments manages portfolios using a bottom-up, relative value approach in combination with a top-down, macro outlook that guides the firm's relative value decisions. Columbia uses security selection and sector allocation as the primary drivers of relative return, while duration and yield curve positioning provide less frequent opportunities. The fixed income team is divided into sector specialists such as Global Rates and Currency, Investment Grade Credit and Structured Assets, who provide input to the portfolio managers in determining an overall investment strategy. The overall investment objective is to deliver positive relative returns within a risk-managed approach, striving for competitive risk-adjusted performance over time.

Dodge & Cox

Mandate:	Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$94.3 billion / \$292.9 billion	# of Holdings:	270
		Fund/Quant:	Fundamental
Style:	Active Core	Tracking Error Target:	186 bps over 5 yrs.
Product Location:	San Francisco, CA	Date Funded:	February 2000

Dodge & Cox manages a diversified portfolio of securities that are selected through bottom-up, fundamental analysis. The firm believes that by combining fundamental research with a long-term investment horizon it is possible to uncover and act upon inefficiencies in the valuation of market sectors and individual securities. The investment process begins with idea generation by the fixed income team (analysts and traders) and the global industry analysts (a critical shared resource). Ideas are presented to sector committees for review, discussion, and approval before review and approval by the U.S. Fixed Income Investment Committee. Dodge & Cox core bond portfolios tend to overweight corporate bond sectors while maintaining a relatively concentrated issuer profile.

Combined Funds

Core Bond Program - Investment Manager Summaries

Active Managers

Pacific Investment Management Company LLC (PIMCO)

Mandate:	Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$151.6 billion / \$1.92 trillion	# of Holdings:	566
		Fund/Quant:	Fundamental
Style:	Core Plus Total Return	Tracking Error Target:	150-250 bps
Product Location:	Newport Beach, CA	Date Funded:	September 2008

PIMCO's investment process starts with an annual Secular Forum. The goal of the Secular Forum is to look beyond the current business cycle and determine how secular forces will play out over the next three to five years. Quarterly, PIMCO holds Economic Forums to evaluate global growth and inflation over the next six to twelve months. The PIMCO Investment Committee (IC) then works, on a consensus basis, to develop major strategies that serve as a model for all portfolios. The IC makes use of the top-down outlook provided by the Forum, PIMCO's Global Advisory Board and strategists and generalist portfolio managers as well as bottom-up input from the Chief Investment Officers and specialists of the asset classes. The IC defines a set of target risk exposures for portfolios. Generalist portfolio managers collaborate with sector specialists, who perform in-depth research and recommend individual securities, for portfolio implementation.

Western Asset Management Company, LLC

Mandate:	Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$107.0 billion / \$468.5 billion	# of Holdings:	1,388
		Fund/Quant:	Fundamental
Style:	U.S. Core Plus	Tracking Error Target	200-300 bps
Product Location:	Pasadena, CA	Date Funded:	July 1984

Western uses multiple strategies in different environments, so no single strategy dominates performance. Western believes that this approach adds consistent value over time and can reduce volatility. In making their sector decision, the firm seeks the greatest long-term value by analyzing all fixed income market sectors and their economic expectations. Individual issues are identified based on relative credit strength, liquidity, issue structure, event risk, covenant protection, and market valuation. Western will tactically trade the portfolio's overall duration within a stated band around the benchmark, and duration and curve strategies will often comprise a meaningful portion of Western's total risk profile.

Combined Funds

Core Bond Program - Investment Manager Summaries

Semi-Passive Managers

BlackRock Financial Management, Inc

Mandate:	Semi-Passive Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$11.9 billion / \$7.3 trillion	# of Holdings:	1,197
		Fund/Quant:	Blend
Style:	U.S. Core Enhanced Index	Tracking Error Target:	30-100 bps
Product Location:	New York, NY	Date Funded:	April 1996

BlackRock manages a semi-passive portfolio that closely tracks the Bloomberg Barclays U.S. Aggregate Index. BlackRock employs a controlled-duration, relative value sector rotation and security selection approach, which can be described as active management with tighter duration, sector, and quality constraints. BlackRock seeks to add value through managing portfolio duration within a narrow band relative to the benchmark, relative value sector/sub-sector rotation and security selection, rigorous quantitative analysis of the valuation of each security and of the portfolio as a whole, intense credit analysis and review, and the judgment of experienced portfolio managers. As with other semi-passive managers with limited risk budgets, BlackRock attempts to add value largely through security selection and sector rotation, which comprises the more efficient, repeatable forms of alpha. To a lesser extent BlackRock seeks to add value through duration and curve strategies.

Goldman Sachs Asset Management

Mandate:	Semi-Passive Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$83.0 billion / \$1.9 trillion	# of Holdings:	757
		Fund/Quant:	Fundamental
Style:	U.S. Core High Quality Fixed Income	Target Tracking Error:	35 bps
Product Location:	New York, NY	Date Funded:	July 1993

Goldman manages a semi-passive portfolio within a risk-controlled framework to closely track the Bloomberg Barclays U.S. Aggregate Index. The firm relies primarily on sector allocation and security selection strategies to generate incremental return relative to the benchmark. To a lesser degree, term structure and highly controlled interest rate anticipation strategies are also implemented. Portfolios are diversified among various sectors and individual securities. Strategic investments are based on fundamental and quantitative sector research that seeks to optimize the long-term risk/return profile of portfolios.

Neuberger Berman Investment Advisers LLC

Mandate:	Semi-Passive Public Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate
Product Assets/Firm Assets (as of 6/30):	\$10.0 billion / \$333.0 billion	# of Holdings:	845
		Fund/Quant:	Blend
Style:	Enhanced Bond Index	Target Tracking Error:	10-30 bps
Product Location:	Chicago, IL	Date Funded:	July 1988

Neuberger manages a semi-passive portfolio that closely tracks the Bloomberg Barclays U.S. Aggregate Index. Neuberger's process relies on a combination of quantitative tools and active management judgment. Explicit quantification and management of risks are at the heart of their investment process. Neuberger's proprietary risk exposure analysis includes all relevant factors. Neuberger then calculates a bond's expected return with respect to changes in interest rates and spreads. As with other semi-passive managers with limited risk budgets, Neuberger Berman attempts to add value largely through security selection and sector rotation, and to a lesser extent through duration and curve strategies.

Combined Funds

Treasury Portfolio - Investment Manager Summaries

Active Managers

BlackRock Financial Management, Inc.

Mandate:	U.S. Treasury Portfolio	Benchmark:	Bloomberg Barclays Treasury 5+ Yr. Index
Product Assets/Firm Assets (as of 6/30):	\$4.6 billion / \$7.3 trillion	# of Holdings:	97
		Fund/Quant:	Fundamental
Style:	Long Duration Treasury	Target Tracking Error:	50-75 bps
Product Location:	New York, NY	Date Funded:	December 2017

BlackRock manages a fixed income protection portfolio that closely tracks the Bloomberg Barclays Treasury 5+ Year Index. BlackRock employs a controlled-duration, relative value sector rotation and security selection approach (sectors include Treasuries, TIPS, Agencies and Supranational securities), which is considered as active management within the guideline constraints and the nature of the mandate. BlackRock seeks to add value through managing portfolio duration, relative value sector rotation and security selection, rigorous quantitative analysis of the valuation of each security and of the portfolio as a whole, and the judgment of experienced portfolio managers.

Goldman Sachs Asset Management

Mandate:	U.S. Treasury Portfolio	Benchmark:	Bloomberg Barclays Treasury 5+ Yr. Index
Product Assets/Firm Assets (as of 6/30):	\$2.9 billion / \$1.9 trillion	# of Holdings:	45
		Fund/Quant:	Fundamental
Style:	Long Duration Treasury	Target Tracking Error	50-75 bps
Product Location:	New York, NY	Date Funded:	December 2017

Goldman manages a fixed income protection portfolio that closely tracks the Bloomberg Barclays U.S. Treasury 5+ Year Index. Goldman manages the portfolio within a risk-controlled framework. The firm relies primarily on security selection strategies, term structure and highly controlled interest rate anticipation strategies to generate incremental return relative to the benchmark. Goldman combines long-term strategic investments with short-term tactical trading opportunities. Tactical trades between Treasuries, Agencies, Supranational and TIPS are implemented to take advantage of short-term market anomalies.

Neuberger Berman Investment Advisers LLC

Mandate:	U.S. Treasury Portfolio	Benchmark:	Bloomberg Barclays Treasury 5+ Yr. Index
Product assets/Firm Assets (as of 6/30):	\$7.0 billion / \$333.0 billion	# of Holdings:	59
		Fund/Quant:	Fundamental
Style:	Long Duration Treasury	Target Tracking Error:	50-75 bps
Product Location:	Chicago, IL	Date Funded:	December 2017

Neuberger manages a fixed income protection portfolio that seeks to replicate the interest rate risk characteristics of the Bloomberg Barclays Treasury 5+ Year Index. The manager has limited discretion to actively manage the underlying portfolio. The manager may purchase or sell fixed income instruments, and interest rate derivative instruments defined as interest rate futures on U.S. Treasury securities, Eurodollar futures, and interest rate options on U.S. Treasury futures and Eurodollar futures.

Combined Funds Private Markets Program

Private Markets Program

Like the equities and bond segments, the SBI's private markets assets are managed within a program. The Private Markets Program is used exclusively by the Combined Funds.

As of June 30, 2020, the market value of private markets investments was \$11.1 billion.

Statutory Constraints

The statutory constraints for any private markets asset investment for the Combined Funds are as follows:

- Each investment must involve at least four other investors.
- SBI's participation in an investment may not exceed 20% of the total investment.

Management Structure

Given their long investment time horizon, the Combined Funds are especially well suited for private markets investments. Up to 25% of the market value of the Combined Funds is targeted for private markets investments. Market value plus unfunded commitments may be up to 35% of the total market value of the Combined Funds. A breakdown of the program by segment is shown on page B43 in Figure 28. The SBI does not establish an allocation target for each segment.

2020 Changes

In May of 2020, the Board adopted a Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity. As part of this resolution, staff received approval for the Combined Funds portfolio to

hold private market investments up to the statutory maximum of market value level of 35%, despite retaining a target allocation of a market value level of 25%. In addition, the Board set a temporary policy for Market Value plus Unfunded Commitments to increase to a maximum of 45% from the current limit of 35%. Staff will present a recommendation for a permanent policy level by the end of the fiscal year 2021.

Private Equity

The private equity investment strategy is to establish and maintain a broadly diversified private equity portfolio comprised of investments that provide diversification by industry type, stage of corporate development and location. Prospective private equity managers are reviewed and selected based, primarily, on the manager's experience, investment strategy, diversification potential and performance history.

During fiscal year 2020, the SBI approved commitments with Leonard Green & Partners, Lexington Partners, Madison Dearborn Partners, KKR, Vista Equity Partners Management, Whitehorse Liquidity Partners, and Wind Point Partners. The SBI will continue to review and add new private equity investments as attractive opportunities are identified.

Private Credit

The strategy for private credit investments is to target funds that typically provide a current return and may have an equity component. Structures such as subordinated debt, mezzanine, and direct lending investments are typical private credit investments. Managers are

selected based on the manager's performance, experience and investment strategy.

During fiscal year 2020, the SBI approved commitments with Audax Management Company, HPS Investment Partners, Marathon Asset Management, Oaktree Capital Management, PGIM Capital Partners, and TCW Asset Management Company. The SBI will continue to review private credit investment opportunities for inclusion in the program.

Real Estate

The real estate investment strategy calls for the establishment and maintenance of a broadly diversified real estate portfolio comprised of investments that provide overall diversification by property type and location. The main components of this portfolio consist of investments in closed-end commingled funds. The remaining portion of the portfolio may include investments in less diversified, more focused (specialty) commingled funds and REITs. Prospective real estate managers are reviewed and selected based on the manager's experience, investment strategy and performance history.

During fiscal year 2020, the SBI approved commitments with Angelo Gordon & Co., Oaktree Capital Management, and Rockwood Capital. The SBI will continue to review real estate managers for possible inclusion in the program.

Real Assets

The strategy for real asset investments is to establish and maintain a diversified portfolio of investment vehicles comprised of tangible assets, which provide an inflation hedge and additional

Combined Funds Private Markets Program

diversification. Real asset investments may include natural resources, infrastructure, and agricultural and timber assets. The portfolio will be diversified by geographic area as well as by type. Real asset investments are selected based on the manager's experience, investment strategy and performance history.

During fiscal year 2020, the SBI approved a commitment with BlackRock Financial Management. The SBI will continue to review real asset investments for possible inclusion in the program.

Distressed and Opportunistic

The strategy for distressed and opportunistic investments is to seek funds that target equity and/or debt investments in companies in some form of distress, as well as unique or idiosyncratic investments that may share characteristics of other private asset classes. Managers are selected based on the manager's performance, experience and investment strategy.

During fiscal year 2020, the SBI approved a commitment with CarVal Investors, Marathon Asset Management, and Oaktree Capital Management. The SBI will continue to review distressed and opportunistic investment opportunities for inclusion in the program.

Investment Performance

The SBI reviews performance of its private markets investments relative to inflation, as measured by changes in the Consumer Price Index (CPI), and expects that private markets investments in the aggregate will be accretive to other investments in the Combined Funds. The Private Markets Program provided a

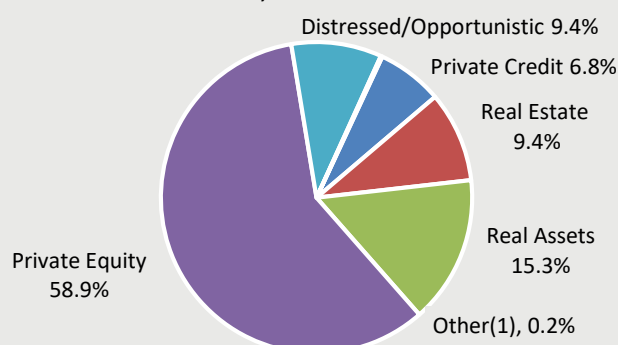
-2.6% return in fiscal year 2020 and a 10.6% annualized return over the past ten years, which provided a positive contribution to overall fund performance for the Combined Funds.

Historical performance results for the Private Markets Program is shown in Figure 29. At this time, benchmarks have not been established for the private markets fund managers. The

long-term nature of these investments and the lack of comprehensive data on the returns provided by the private markets investments preclude comprehensive performance evaluation.

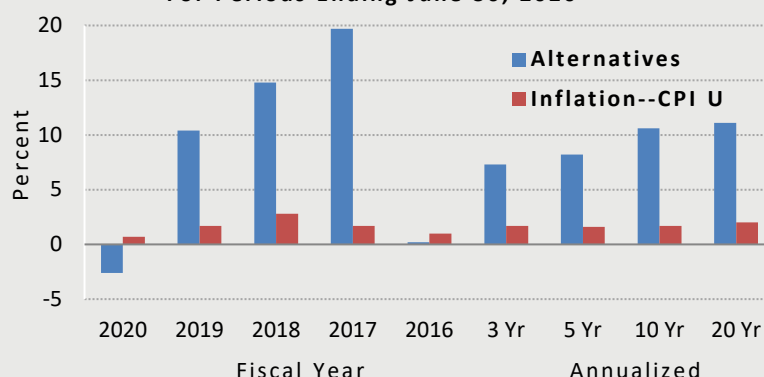
Descriptions of each of the private markets investments are included in the **Investment Manager Summaries** section beginning on page B44.

Figure 28. Private Markets Program Asset Mix as of June 30, 2020



(1) Other represents in-kind distributions and cash accruals

Figure 29. Private Markets Program Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Private Markets	-2.6	10.4	14.8	19.7	0.2
Inflation--CPI U	0.7	1.7	2.8	1.7	1.0

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Private Markets	7.3	8.2	10.6	11.1
Inflation--CPI U	1.7	1.6	1.7	2.0

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Adams Street Partners (AS)

Adams Street (formerly Brinson Partners) Global Secondary Funds invest in private equity limited partnership interests, which are sold by investors who, for a variety of reasons, have decided to sell some or all of their partnership interests.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
AS Global Secondary Fund 5	\$ 100,000,000	\$ 77,114,692	\$ 42,824,511	\$ 44,968,248	2012	3.65	1.14
AS Global Secondary Fund 6	100,000,000	33,700,000	32,902,356	1,214,007	2017	1.66	1.01

Advent International

Advent International Global Private Equity (“GPE”) program focuses on investing primarily in buyout and recapitalization opportunities in upper middle-market companies with a focus on value creation through business transformation and earnings growth. Advent’s geographic focus is Europe and North America and selectively in Asia. Advent has regional headquarters in Boston, MA and London.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Boston, MA and London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Advent International GPE VI	\$ 50,000,000	\$ 52,993,313	\$ 5,925,500	\$ 100,573,095	2008	16.52	2.01
Advent International GPE VII	90,000,000	84,690,641	51,159,605	87,618,069	2012	12.71	1.64
Advent International GPE VIII	100,000,000	93,700,002	98,485,542	-	2016	2.29	1.05
Advent International GPE IX	115,000,000	28,175,001	25,523,311	-	2019	-13.12	0.91

Affinity Ventures

Affinity Ventures makes venture capital investments exclusively in the health care industry, with a focus on companies in the medical device, health care service, health care information technology, and biotechnology sectors.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Venture Capital		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Affinity Ventures IV	\$ 4,000,000	\$ 4,000,000	\$ 83,585	\$ 1,541,970	2004	-23.88	0.41
Affinity Ventures V	5,000,000	5,000,000	1,510,838	1,706,245	2008	-7.54	0.64

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Apax Partners

Apax Partners flagship funds invest in buyouts globally across its four sectors, Tech & Telco, Services, Healthcare and Consumer, with its digital capability as a horizontal specialization spanning across sectors. Apax is headquartered in London and has additional offices in New York, Munich, Mumbai, Tel Aviv, Shanghai, and Hong Kong.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Apax VIII - USD	\$ 200,000,000	\$ 229,550,511	\$ 116,090,147	\$ 235,740,031	2013	12.86	1.53
Apax IX - USD	150,000,000	138,697,018	167,287,206	3,944,404	2016	12.90	1.23
Apax X - USD	150,000,000	-	-	-	2019	0.00	0.00

Arsenal Capital Partners

Arsenal Capital Partners focuses on making private equity investments in the Specialty Industrials and Healthcare sectors in the lower end of the U.S. middle market. Arsenal has completed more than 150 transactions since its founding in 2000.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Arsenal Fund V	\$ 75,000,000	\$ 34,591,003	\$ 31,741,760	\$ 51,772	2019	-10.49	0.92

Asia Alternatives

Asia Alternatives pursues investment opportunities with top-performing private equity managers and will hold a diversified portfolio of Asian private equity funds. The Fund intends to be diversified across buyout, growth and expansion, venture capital and special situations. Asia Alternatives is headquartered in San Francisco, CA, but has regional offices in Hong Kong, Beijing, and Shanghai.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Asia Alternatives Capital Partners V	\$ 99,000,000	\$ 41,611,306	\$ 37,163,382	\$ 1,154,949	2017	-9.27	0.92

Banc Fund

Banc Funds invest primarily in sub-regional banks, across the U.S., which have demonstrated above average growth and are likely acquisition targets. Banc Funds also provides value-added counsel to its portfolio companies to improve growth, profitability, and enhance franchise value.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Banc Fund VIII	\$ 98,250,000	\$ 98,250,000	\$ 25,293,030	\$ 174,293,973	2008	12.16	2.03
Banc Fund IX	107,205,932	107,205,932	87,411,643	19,549,737	2014	-0.06	1.00
Banc Fund X	71,345,455	49,757,818	38,234,256	-	2018	-25.36	0.77

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

BlackRock

BlackRock Long Term Private Capital makes equity investments in established businesses with strong, recurring revenues, prudent capital structures and stable growth potential over a long-term horizon. The Fund is focused on longer-term themes than traditional private equity investments. The Long Term Private Capital team is based in New York and London.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
BlackRock Long-Term Private Capital	\$ 250,000,000	\$ 127,530,934	\$ 128,373,276	\$ 1,492,700	2019	2.07	1.02

Blackstone Capital Partners

Blackstone Capital Partners funds make equity investments in the upper end of the middle market globally. Blackstone invests in the majority of sectors in the global economy. Typically, the firm will add value to underlying portfolio companies by using their functional experts and strategic support groups to improve operations.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Blackstone Capital Partners IV	\$ 70,000,000	\$ 84,459,884	\$ 1,721,388	\$ 200,025,998	2002	37.02	2.39
Blackstone Capital Partners V	140,000,000	152,334,232	3,960,822	238,282,782	2006	7.86	1.59
Blackstone Capital Partners VI	100,000,000	105,990,221	49,100,047	100,361,596	2008	9.04	1.41
Blackstone Capital Partners VII	130,000,000	121,041,462	122,253,556	11,819,671	2015	7.11	1.11
Blackstone Capital Partners VIII	150,000,000	-	-	-	2019	0.00	0.00

Blackstone Strategic Partners (BS)

Strategic Partners invests in secondary leveraged buyout, venture capital, and mezzanine debt limited partnership interests which are sold by investors who, for a variety of reasons have decided to liquidate all or a portion of their private equity holdings. In 2013, the Strategic Partners funds platform was sold to The Blackstone Group and is now wholly-owned by Blackstone.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
BS Strategic Partners III VC	\$ 25,000,000	\$ 25,039,648	\$ 487,713	\$ 33,676,348	2005	6.00	1.36
BS Strategic Partners III-B	100,000,000	79,581,948	419,981	118,286,611	2005	6.35	1.49
BS Strategic Partners IV VC	40,500,000	42,083,951	3,963,302	59,792,682	2008	9.14	1.51
BS Strategic Partners IV-B	100,000,000	99,238,544	8,911,599	146,516,648	2008	12.27	1.57
BS Strategic Partners V	100,000,000	85,901,206	17,215,925	122,214,974	2011	18.90	1.62
BS Strategic Partners VI	150,000,000	100,514,557	45,404,098	100,033,772	2014	15.17	1.45
BS Strategic Partners VII	150,000,000	97,039,790	105,058,415	35,311,333	2016	20.13	1.45
BS Strategic Partners VIII	150,000,000	33,195,737	43,375,078	2,625,000	2019	58.82	1.39

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Bridgepoint

Bridgepoint focuses on making equity investments in middle market companies headquartered or with significant operations in Europe. Bridgepoint focuses on companies with sustainable end market growth and high quality of earnings. The firm has offices globally with eight investment offices in Europe, portfolio offices in Shanghai and New York, and a funds management office in Luxembourg.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Bridgepoint Europe VI	\$ 167,979,608	\$ 55,807,120	\$ 52,839,589	\$ -	2018	-10.66	0.95

Brookfield Asset Management

Brookfield Asset Management is a global operator and asset manager of real assets related businesses. The Capital Partners strategy targets investments in complex situations, out of favor sectors and companies that require operational changes.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Toronto, Ontario					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Brookfield Capital Partners IV	\$ 100,000,000	\$ 96,443,104	\$ 81,602,941	\$ 124,645,731	2015	49.68	2.14
Brookfield Capital Partners V	250,000,000	76,879,595	68,586,978	-	2018	-15.16	0.89

Cardinal Partners (CP)

DSV focuses on start-up and early stage investments.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Growth		Strategy Location: Princeton, NJ					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
CP DSV Partners IV	\$ 10,000,000	\$ 10,000,000	\$ 30,735	\$ 39,196,082	1985	10.61	3.92

Carlyle Group

Carlyle Partners funds seek to make control-oriented and strategic minority equity investments, targeting market-leading businesses with solid cash flows and attractive fundamentals, where it looks to drive further growth and operational improvement.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Washington DC						
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²	
Carlyle Partners VII	\$ 150,000,000	\$ 59,333,669	\$ 50,737,009	\$ 317,553	2017	-18.40	0.86	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Chicago Growth Partners (William Blair)

Chicago Growth Partners (“CGP”) funds focus on buyouts of small growth companies across the Education, Tech-Enabled Services, Healthcare, and Industrial Growth sectors. CGP seeks to partner with entrepreneurs attempting to maintain or accelerate revenue and EBITDA growth in their businesses.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Growth		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
William Blair Capital Partners VII	\$ 50,000,000	\$ 48,150,000	\$ 753,957	\$ 69,698,512	2001	8.61	1.46
Chicago Growth Partners I	50,000,000	52,441,998	1,801,646	54,532,745	2005	1.66	1.07
Chicago Growth Partners II	60,000,000	58,347,626	1,984,538	121,871,703	2008	19.56	2.12

Court Square Capital Partners

Court Square Capital Partners invests in North American middle-market growth companies in the Business Services, Healthcare, Industrial, and Technology & Telecommunications sectors. Established in 2001, Court Square traces its roots back to 1979 where senior members of the team worked together at Citigroup Venture Capital.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Court Square Capital Partners II	\$ 175,000,000	\$ 170,186,067	\$ 12,402,860	\$ 295,201,185	2006	12.68	1.81
Court Square Capital Partners III	175,000,000	182,333,473	173,842,425	115,512,736	2012	17.52	1.59
Court Square Capital Partners IV	150,000,000	37,431,304	39,060,012	-	2018	6.03	1.04

Crescendo

Crescendo Ventures makes venture capital investments in companies throughout the U.S. The firm has offices in Minneapolis and Palo Alto, CA.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Venture		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Crescendo IV	\$ 101,500,000	\$ 103,101,226	\$ 526,369	\$ 57,625,039	2000	-4.63	0.56

CVC Capital Partners

CVC focuses on making control-oriented buyout investments in Western Europe and North America. CVC seeks to invest in high quality businesses with competitive leadership positions and to work with management to create sustainable long-term value. The firm was established in 1981 and currently has 15 offices across Europe and the Americas and 9 offices in the Asia Pacific region.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
CVC European Equity Partners V	\$ 4,000,000	\$ 4,000,000	\$ 83,585	\$ 1,541,970	2004	-23.88	0.41
CVC Capital Partners VI	5,000,000	5,000,000	1,510,838	1,706,245	2008	-7.54	0.64

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Elevation Partners

Elevation Partners was formed in 2005 for the purpose of making private equity investments targeting the Media and Entertainment sectors, with a focus on content and intellectual property. Elevation has offices in Menlo Park, CA and New York, NY.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Elevation Partners	\$ 75,000,000	\$ 73,237,580	\$ 136,977	\$ 113,492,106	2005	11.81	1.55

Glouston Capital Partners

Glouston Private Equity Opportunities Fund was inherited from the Duluth Teachers Retirement Fund Administration in 2015. Glouston is a small investment firm and was formed to purchase small portfolios of private equity investments on the secondary market.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Glouston PE Opportunities Fund IV	\$ 5,337,098	\$ 4,386,760	\$ 1,009,827	\$ 3,696,251	2015	2.86	1.07

Goldman Sachs Capital Partners (GS)

Goldman Sachs Capital Partners and West Street Capital Partners funds seek long-term capital gains through the creation of a diversified global portfolio of direct or indirect investments in equity, equity-related and similar securities. The Vintage Fund series focuses on acquiring and structuring portfolios of private equity partnerships and assets in the secondary market.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
GS Capital Partners V	\$ 100,000,000	\$ 74,319,006	\$ 1,103,390	\$ 191,435,136	2005	18.25	2.59
GS Capital Partners VI	100,000,000	110,196,079	11,629,632	132,005,252	2007	7.10	1.30
GS Vintage VII	100,000,000	79,493,216	75,654,507	24,463,676	2016	15.33	1.26
GS West Street Capital Partners VII	150,000,000	88,397,501	62,354,402	15,552,958	2016	-8.15	0.88
GS China-US Cooperation Fund	99,800,000	13,647,445	6,445,874	-	2018	-50.36	0.47

Goldner Hawn Johnson and Morrison

Goldner Hawn Johnson and Morrison (“GHJM”) invests primarily in middle market private equity investments located in the Midwest and other parts of the U.S. GHJM has a value-oriented approach to investing and looks to add value by executing add-on acquisitions, facilitating new strategic initiatives, and/or solving company issues that previously detracted from company value.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
GHJM TrailHead Fund	\$ 20,000,000	\$ 16,070,803	\$ 28,539,675	\$ 12,806,955	2012	17.37	2.57
Goldner Hawn Fund VII	57,755,138	11,972,863	12,413,651	-	2018	6.44	1.04

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

GTCR

GTCR focuses on building diversified private equity funds by partnering with exceptional management leaders, developing deep domain expertise in the sectors on which they focus, and executing transformational opportunities. The firm was founded in 1980.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
GTCR Fund X	\$ 100,000,000	\$ 104,934,096	\$ 3,273,939	\$ 202,619,633	2010	20.92	1.96
GTCR Fund XI	110,000,000	99,095,726	88,172,520	93,035,406	2013	22.95	1.83

HarbourVest

The HarbourVest funds were inherited from the Duluth Teachers Retirement Fund Administration in 2015. HarbourVest is a global investment firm with multiple investment products. The following funds were formed to make direct or secondary investments in established buyout and venture capital funds.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Dover Street VII Cayman Fund	\$ 2,198,112	\$ 2,073,906	\$ 234,114	\$ 1,639,420	2015	-4.66	0.90
HarbourVest Intl PE V-Cayman US	3,520,309	3,345,452	559,566	3,943,142	2015	13.99	1.35
HarbourVest Intl PE VI-Cayman	4,233,685	4,038,952	3,330,478	2,940,367	2015	13.42	1.55
HarbourVest VIII Cayman Buyout	4,506,711	4,387,189	1,086,955	4,639,746	2015	11.78	1.31
HarbourVest VIII-Cayman Venture	7,190,898	7,085,519	2,826,175	6,377,548	2015	8.26	1.30

Hellman and Friedman

Hellman and Friedman (“H&F”) seeks to build diversified private equity funds by making large-scale investment that are high quality, growing businesses in the developed markets. The firm operates in the Software, Financial Services, Internet and Media, Business and Information Services, Healthcare, Insurance, Retail and Consumer, and Energy and Industrials sectors. H&F has offices in San Francisco, New York, and London.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Hellman & Friedman Capital Partners VI	\$ 175,000,000	\$ 171,037,755	\$ 6,705,385	\$ 309,639,874	2007	12.86	1.85
Hellman & Friedman Capital Partners VII	50,000,000	49,838,762	57,238,293	75,275,383	2009	22.83	2.66
Hellman & Friedman Investors IX	175,000,000	38,901,558	33,400,994	-	2018	-48.44	0.86

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

IK Investment Partners

IK Investment Partners make equity investments in lower middle-market business in Europe's northern countries. IK's primary focus is businesses in the Consumer Industrial, Businesses Services and Healthcare Sectors. Once IK makes an investment in a business, it seeks to expand the business internationally through a combination of organic growth and via mergers and acquisitions.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
IK Fund VII	\$ 180,226,770	\$ 178,082,353	\$ 78,876,377	\$ 215,835,488	2013	12.79	1.65
IK Fund VIII	170,790,642	172,066,602	170,267,242	31,294,092	2016	9.11	1.17
IK Fund IX	151,600,917	2,009,192	991,125	-	2019	-60.08	0.49

Kohlberg, Kravis, Roberts (KKR)

KKR's private equity funds engage primarily in buyouts, build-ups, control, growth and other private equity investments globally. Private equity teams are supported by a global network of KKR consultants, operational professionals, and capital markets professionals. The Millennium, 2006, and Americas Funds invest across North America, and the Asia and Europe funds invest in their respective continents.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Respective Continents: New York, Hong Kong, London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
KKR Millennium Fund	\$ 200,000,000	\$ 205,167,570	\$ 161,924	\$ 424,946,028	2002	16.37	2.07
KKR 2006 Fund	200,000,000	219,082,928	1,585,564	326,553,330	2006	8.87	1.73
KKR Americas Fund XII	150,000,000	78,613,842	80,544,369	988,851	2016	2.33	1.04
KKR Asian Fund III	100,000,000	60,201,509	59,741,446	12,838,876	2017	18.06	1.21
KKR Europe V	100,000,000	22,697,167	18,149,994	-	2018	-31.25	0.80
KKR Asian Fund IV	150,000,000	-	-	-	2020	0.00	0.00

Leonard Green & Partners

Leonard Green & Partners ("LGP") focuses on investing in market-leading companies with attractive growth prospects across a broad range of industries with a preference for companies providing services, including Consumer, Business, and Healthcare Services, as well as Retail, Distribution, and Industrials.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Leonard Green Equity Investors VI	\$ 200,000,000	\$ 219,721,361	\$ 200,903,249	\$ 156,469,267	2012	13.26	1.63
Leonard Green Equity Investors VIII	125,000,000	-	-	-	2019	0.00	0.00

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Lexington Capital Partners

Lexington Capital Partners funds seek to make investments in established buyout, mezzanine, and venture capital funds, primarily through secondary transactions. Lexington Middle Market funds seek to acquire U.S. growth capital, small and middle market buyout interests through negotiated secondary market purchases. Lexington Co-Investment Partners funds focus on making equity co-investments in transactions alongside leading buyout sponsors in U.S., European, and Asian companies.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Lexington Capital Partners VI	\$ 100,000,000	\$ 98,374,022	\$ 7,148,296	\$ 139,280,691	2006	7.96	1.49
Lexington Capital Partners VII	200,000,000	172,466,709	44,180,742	231,718,226	2009	14.46	1.60
Lexington Capital Partners VIII	150,000,000	134,716,285	102,437,919	78,667,570	2014	15.83	1.34
Lexington Middle Market Investors IV	100,000,000	23,262,562	25,548,971	1,458,011	2016	23.21	1.16
Lexington Co-Investment Partners IV	200,000,000	184,108,627	189,204,927	12,618,581	2017	6.74	1.10
Lexington Capital Partners IX	150,000,000	10,623,000	17,033,597	2,837,523	2018	94.05	1.87
Lexington Co-Investment Partners V, L.P	300,000,000	-	-	-	2020	0.00	0.00

Madison Dearborn Capital Partners

Madison Dearborn Capital Partners is a medium-sized private equity investment firm. The firm makes buyout and growth equity investments in established middle and upper middle-market companies located primarily in the United States.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Madison Dearborn Capital Partners VII	\$ 100,000,000	\$ 90,673,280	\$ 94,635,986	\$ 9,298,015	2015	7.15	1.15
Madison Dearborn Capital Partners VIII	100,000,000	-	-	-	2019	0.00	0.00

Neuberger Berman (NB)

Neuberger Berman formed the Dyal Capital Partners strategy to make minority equity investments in established investment management companies. The firm seeks to build a portfolio that will be diversified by investment strategy, vintage year, and geography.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
NB Dyal Capital Partners III	\$ 175,000,000	\$ 1,769,472,208	\$ 122,589,220	\$ 135,891,321	2016	29.67	1.46
NB Dyal Capital Partners IV	250,000,000	30,937,639	24,110,844	10,164,281	2018	12.64	1.11

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Nordic Capital

Nordica Capital performs buyouts of middle-market businesses, primarily in the Nordic region of Europe. Nordic focuses on healthcare and information technology businesses where they can use their expertise in these sectors to create value.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Stockholm, Sweden					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Nordic Capital Fund VIII	\$ 176,829,302	\$ 196,739,045	\$ 125,959,246	\$ 143,324,844	2013	10.43	1.37
Nordic Capital Fund IX Beta	167,924,851	101,017,549	111,064,342	4,774,012	2017	26.31	1.15

North Sky Capital

North Sky Capital funds were inherited from the Duluth Teachers Retirement Fund Administration in 2015. North Sky manages several different investment strategies. The following funds were formed to make direct investments in established buyout and venture capital funds.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
North Sky Capital LBO Fund III	\$ 1,070,259	\$ 720,259	\$ 179,097	\$ 841,678	2015	13.23	1.42
North Sky Capital Venture Fund III	1,384,080	1,277,830	227,849	1,369,463	2015	9.76	1.25

Oak Hill Capital Management, Inc

Oak Hill Capital seeks to make middle-market buyout investments across the Consumer, Retail & Distribution, Industrials, Media & Communications, and Services sectors. The firm began its investment activities in 1986 as the family office of Robert M. Bass and raised its first outside capital and formed its first fund in 1999. The firm is based in New York, NY and has offices in Menlo Park, CA and Stamford, CT.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Oak Hill Capital Partners IV	\$ 150,000,000	\$ 119,353,934	\$ 111,122,592	\$ 28,267,962	2016	13.04	1.17
Oak Hill Capital Partners V	100,000,000	-	-	-	2018	0.00	0.00

Paine Schwartz

Paine Schwartz is a small private equity firm with offices in New York, Chicago and San Mateo, CA. Paine Schwartz seeks to make control investments in companies involved in the global food and agribusiness sectors. The firm has a focus on innovation and sustainability and carries it out with a proactive and thesis-driven approach.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Paine Schwartz IV	\$ 75,000,000	\$ 62,851,819	\$ 65,130,361	\$ 14,823,737	2014	8.82	1.27
Paine Schwartz V	150,000,000	16,532,480	12,532,480	-	2018	-34.12	0.76

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Permira

Permira performs buyouts of middle-market companies in Europe, North America, and Asia. Permira typically makes investments in the Retail, Consumer & Business Services, Healthcare and Telecom, and Media and Technology sectors. Headquartered in London, Permira has 13 additional offices across Europe, the U.S., and Asia.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: London					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Permira V	\$ 177,185,743	\$ 173,983,591	\$ 185,299,389	\$ 215,682,471	2013	21.09	2.30
Permira VI	136,834,757	122,910,381	126,299,282	18,619,429	2016	9.80	1.18
Permira VII	139,815,723	26,714,519	25,328,410	-	2019	-6.73	0.95

Public Pension Capital Management

Public Pension Capital developed an innovated approach to private equity investing, tailored to the needs and demands of modern public pensions in the United States. The fund's evergreen structure allows flexibility, increased transparency and alignment of interests of the GP and LPs. The fund invests in middle market businesses in the Technology, Financial and Industrial sectors.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Public Pension Capital Fund	\$ 150,000,000	\$ 81,796,093	\$ 93,479,801	\$ 48,204,147	2014	22.99	1.73

RWI Ventures

RWI Ventures was formed in 2000 to make venture capital investments. The RWI Funds were transferred to the SBI from the Minneapolis Teachers Retirement Fund Association (MTRFA) on June 30, 2006 pursuant to the merger of MTRFA into TRA.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Venture Capital		Strategy Location: Menlo Park, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
RWI Ventures I	\$ 7,603,265	\$ 7,603,265	\$ -	\$ 6,440,987	2006	4.84	0.85

Silver Lake Partners

Silver Lake Partners seeks to achieve superior risk-adjusted returns by pursuing large-scale growth and private equity investments in companies within the technology, technology-enabled and related growth industries. Silver Lake was founded in 1999 and has offices in Silicon Valley, New York, London, and Hong Kong.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Menlo Park, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Silver Lake Partners II	\$ 100,000,000	\$ 90,200,747	\$ 86,657	\$ 171,694,975	2004	11.02	1.90
Silver Lake Partners III	100,000,000	93,670,226	21,652,028	182,877,943	2007	18.22	2.18
Silver Lake Partners IV	100,000,000	112,636,118	119,030,287	86,580,842	2012	22.05	1.83
Silver Lake Partners V	135,000,000	91,227,603	96,139,846	992,615	2017	5.42	1.06

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Split Rock Partners

Split Rock Partners Management (formerly part of St. Paul Venture Capital) formed the Split Rock Partners funds to focus on private equity investments in seed and early-stage healthcare and software companies. The firm has offices in Minneapolis and Menlo Park.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Venture Capital		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Split Rock Partners I	\$ 50,000,000	\$ 47,890,906	\$ 4,132,208	\$ 58,794,192	2005	3.34	1.31
Split Rock Partners II	60,000,000	59,165,000	24,767,080	49,975,369	2008	4.75	1.26

Summit Partners (SP)

Summit Partners sources and partners with exceptional entrepreneurs to help them accelerate their growth. Summit Partners has a flexible investment approach and investments range from structured transactions to control buyouts. The firm was founded in 1984 and currently has more than 100 investment professionals across their Boston, Menlo Park, and London offices.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
SP Growth Equity Fund VIII	\$ 100,000,000	\$ 116,057,192	\$ 46,298,131	\$ 193,525,542	2011	25.19	2.07
SP Growth Equity Fund IX	100,000,000	114,634,107	114,494,560	37,059,941	2015	23.78	1.32
SP Growth Equity Fund X	150,000,000	11,670,000	13,239,475	-	2019	16.92	1.13

Thoma Bravo

Thoma Bravo is a successor firm to the private equity firm of Golder, Thoma, Cressey and Rauner (“GTCR”). Thoma Bravo pursues buy-and-build control buyouts of software and technology companies in North America. The firm has offices in San Francisco and Chicago.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Thoma Bravo Fund XII	\$ 75,000,000	\$ 75,960,561	\$ 97,234,950	\$ 5,117,450	2016	12.3	1.35
Thoma Bravo Fund XIII	150,000,000	108,511,069	114,287,113	606	2018	6.68	1.05

Thoma Cressey

Thoma Cressey Bravo is a successor firm to the private equity firm of Golder, Thoma, Cressey and Rauner (“GTCR”). The funds focus primarily on a wide variety of private equity investments in consolidating and fragmented industries.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Thoma Cressey Fund VII	\$ 50,000,000	\$ 50,000,000	\$ 462,527	\$ 107,057,940	2000	23.59	2.15

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Thomas H. Lee Partners

Thomas H. Lee invests in growth-oriented businesses, headquartered primarily in North America, through buyout transactions. The firm was founded in 1974 and has invested in more than 140 portfolio companies and completed over 350 add-on acquisitions since inception. The firm has more than 40 investment professionals.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Thomas H. Lee Equity Fund VII	\$ 100,000,000	\$ 98,576,770	\$ 96,866,519	\$ 45,725,599	2015	17.98	1.45
Thomas H. Lee Equity Fund VIII	150,000,000	65,640,135	60,946,200	11,089,430	2018	25.52	1.10

Thomas, McNerney & Partners

Thomas, McNerney & Partners is based in Connecticut with additional offices in Minneapolis and San Francisco. The Thomas, McNerney & Partners funds were formed to make venture capital investments in all stages of development and across all sectors of the health care industry.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Venture Capital		Strategy Location: Stamford, Connecticut					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Thomas, McNerney & Partners Fund I	\$ 30,000,000	\$ 30,000,000	\$ 3,434,118	\$ 15,087,143	2003	-7.23	0.62
Thomas, McNerney & Partners Fund II	50,000,000	48,125,000	4,628,157	107,648,037	2006	16.64	2.33

TPG Capital

TPG Partners seeks attractive risk-adjusted returns by investing in traditional buyouts, transformational transactions, and off-the-beaten-path transactions. Founded in 1993, TPG has over 90 investment professionals and can leverage the broader TPG platform, which has over 570 professionals located in 17 offices globally.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
TPG Partners VII	\$ 100,000,000	\$ 972,222,158	\$ 92,803,356	\$ 22,059,928	2015	7.57	1.18
TPG Partners VIII	150,000,000	14,789,674	10,167,325	-	2018	-54.33	0.69

Vestar Capital Partners

Vestar Capital Partners is a middle-market private equity firm specializing in management buyouts, recapitalizations, and growth equity investments. Vestar has completed over 80 platform investments and 200 add-on acquisitions since its inception in 1988. The firm is headquartered in New York and has offices in Denver and Boston.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Vestar Capital Partners IV	\$ 55,000,000	\$ 55,652,024	\$ 341,894	\$ 102,293,320	1999	14.63	1.84
Vestar Capital Partners V	75,000,000	76,712,048	7,954,605	91,821,429	2006	3.76	1.30
Vestar Capital Partners VI	100,000,000	106,195,246	62,496,976	123,127,619	2011	23.89	1.75
Vestar Capital Partners VII	150,000,000	36,416,947	31,296,555	120,808	2017	-10.60	0.86

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Vista Equity Partners

Vista Equity Partners was founded in 2000 to focus on buyout transactions of enterprise software businesses and technology-enabled solutions companies. Vista Perennial will pursue operationally mature enterprise software businesses on a global scale.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Vista Equity Partners Perennial, L.P.	\$ 200,000,000	\$ 68,988,098	\$ 67,013,334	\$ -	2019	-2.86	0.97

Warburg Pincus

Warburg Pincus has a global presence with seven additional offices around the world. These funds will invest private equity in a wide variety of businesses located domestically and abroad. The Warburg Pincus China and China-Southeast-Asia funds are companion funds and will invest alongside the current Warburg Pincus global fund. Similarly, the Warburg Pincus Financial Sector fund will invest alongside the current global and China funds.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Growth		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Warburg Pincus Equity Partners, L.P.	\$ 100,000,000	\$ 100,000,000	\$ 393,972	\$ 163,542,253	1998	10.03	1.64
Warburg Pincus Private Equity VIII	100,000,000	100,373,266	370,506	228,717,051	2002	14.74	2.28
Warburg Pincus Private Equity IX	100,000,000	100,000,000	3,835,817	169,104,301	2005	9.67	1.73
Warburg Pincus Private Equity X	150,000,000	150,000,000	20,115,679	231,683,952	2007	8.77	1.68
Warburg Pincus Private Equity XI	200,000,000	200,299,952	101,876,177	206,939,948	2012	11.32	1.54
Warburg Pincus Private Equity XII	131,000,000	125,825,500	137,687,786	15,330,013	2016	8.95	1.22
Warburg Pincus China	45,000,000	42,615,000	48,039,387	7,760,025	2017	14.54	1.31
Warburg Pincus Financial Sector, L.P.	90,000,000	55,930,808	53,523,463	4,590,000	2017	3.26	1.04
Warburg Pincus Global Growth	250,000,000	56,897,089	53,407,094	-	2018	-10.51	0.94
Warburg Pincus China-Southeast Asia II	50,000,000	1,750,000	1,533,607	-	2019	-12.24	0.88

Wellspring Capital Partners

Wellspring Capital Partners seeks to make value-oriented, control investments in undermanaged, but strong middle-market companies based principally in North America. Wellspring looks to employ executional expertise to transform businesses and create significant value.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Wellspring Capital Partners VI	\$ 125,000,000	\$ 42,773,393	\$ 36,027,302	\$ -	2016	-13.64	0.85

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Welsh, Carson, Anderson and Stowe (WCAS)

Founded in 1979, Welsh, Carson, Anderson and Stowe is a private equity investor focused on growth businesses in the healthcare and business/information services industries. They seek to partner with outstanding management teams and build value through a combination of operational improvements, growth initiatives, and strategic acquisitions.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
WCAS Fund XI	\$ 100,000,000	\$ 100,000,000	\$ 28,933,415	\$ 130,320,188	2008	11.36	1.59
WCAS Fund XII	150,000,000	134,579,934	129,525,484	77,974,598	2014	19.41	1.54
WCAS Fund XIII	250,000,000	15,635,083	7,830,222	-	2018	-88.75	0.50

Whitehorse Capital (WHC)

Founded in 2015, Whitehorse Liquidity Partners creates preferred equity securities underpinned by private equity portfolios. Whitehorse develops these structures as a liquidity solution for both general and limited partners.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: Toronto, ON					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
WHC Liquidity Partners III, LP	\$ 100,000,000	\$ 70,128,933	\$ 65,081,006	\$ 10,945,804	2019	14.28	1.08

Wind Point Partners

Founded in 1984, Wind Point makes private equity investments in North American middle-market companies. Wind Point focuses on companies in the Consumer Products, Industrial Products, and Business Services sectors.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Wind Point Partners IX	\$ 100,000,000	\$ 17,474,236	\$ 15,859,614	\$ -	2019	-21.09	0.91

Windjammer Capital Investors

Windjammer Capital Investors (“Windjammer”) invests equity, minority equity, and subordinated debt as a control investor in leading middle market businesses and in partnership with their management teams. Since its inception in 1990, the firm has completed over 50 platform investments and 100 add-on acquisitions.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Waltham, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Windjammer Mezzanine & Equity Fund II	\$ 66,708,861	\$ 55,215,684	\$ 62,554	\$ 84,876,800	2000	8.94	1.54
Windjammer Senior Equity Fund IV	100,000,000	94,740,728	117,845,897	41,101,357	2012	13.01	1.68
Windjammer Senior Equity Fund V	100,000,000	33,313,693	29,423,695	1,206,897	2017	-14.13	0.92

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

Audax Group

Audax invests in a diversified portfolio of mezzanine securities, with a specific focus on the middle market. Audax's deal flow is generated through a combination of direct marketing efforts to middle market private equity sponsors and long-standing relationships with numerous deal intermediaries.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Audax Mezzanine Fund III	\$ 100,000,000	\$ 98,308,857	\$ 16,706,661	\$ 112,148,579	2010	9.61	1.31
Audax Mezzanine Fund IV	100,000,000	59,314,713	34,065,870	31,794,821	2015	8.45	1.11
Audax Mezzanine Fund V	100,000,000	-	-	-	2020	NA	NA

BlackRock (BR)

BlackRock Middle Market Senior Fund was formed to invest primarily in a portfolio of senior secured income-generating debt and debt-related instruments. It is expected the investments will be in medium-sized companies domiciled in, or exercising the main part of their economic activity in, the United States.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Direct Lending		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
BR Middle Market Senior Fund	\$ 97,500,000	\$ 69,802,405	\$ 64,758,204	\$ 1,247,100	2018	-6.08	0.95

Energy Capital Partners

Energy Capital Partners Credit Solutions strategy is focused on primarily credit-oriented opportunities in high quality North American-based assets and business across the entire energy infrastructure value chain. Examples include traditional and renewable power, midstream pipeline, storage, transportation assets, environmental infrastructure, and energy-related assets and equipment. The firm is headquartered in Short Hills, New Jersey, and has offices in San Diego, Houston, and New York, NY.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Specialty Finance		Strategy Location: Short Hills, NJ					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Energy Capital Credit Solutions II	\$ 100,000,000	\$ 6,262,940	\$ 5,672,202	\$ 124,550	2019	-7.59	0.93

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

Goldman Sachs Mezzanine Partners (GS)

Based in New York, the Funds' investment objectives are to achieve long-term capital appreciation and current returns through investments in mezzanine securities. These securities will principally include fixed income securities such as debt and preferred stock, often with an equity component, such as warrants, options, a convertible feature, or common stock associated with the debt or preferred stock purchase.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
GS Mezzanine Partners 2006	\$ 100,000,000	\$ 113,454,150	\$ 771,246	\$ 134,861,849	2006	5.00	1.20
GS Mezzanine Partners V	150,000,000	147,710,122	1,023,875	189,259,366	2007	9.07	1.23

Gold Hill Venture Lending

Gold Hill Venture Lending Partners generate returns through secured loans, gains on the sales of securities acquired upon the exercise of warrants, and through the disposition of direct equity investments. Prior to forming Gold Hill, the partners executed a similar mandate for Silicon Valley Bank, and they expect to continue a close relationship for purposes of deal-sourcing. Gold Hill has offices in Santa Clara, CA and Boston, MA.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: Santa Clara, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Gold Hill Venture Lending	\$ 40,000,000	\$ 40,000,000	\$ 378,579	\$ 65,077,862	2004	10.69	1.64
Gold Hill 2008	25,852,584	25,852,584	5,692,965	44,745,145	2008	14.58	1.95

HPS Investment Partners

HPS Investment Partners is a global credit investment firm. Founded in 2007, HPS manages various strategies that invest across the capital structure, from syndicated loans and high yield bonds to privately negotiate senior secured debt and mezzanine investments, asset-based leasing and private equity.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
HPS Mezzanine Partners 2019	\$ 100,000,000	\$ 32,385,029	\$ 28,064,867	\$ 5,571,203	2019	6.19	1.04

Kohlberg, Kravis, Roberts (KKR)

Based in New York, KKR is a large global investment firm with a variety of private equity investment products. KKR Lending Partners will make investments primarily in the senior debt securities of middle-market U.S. companies. The funds will focus on originated transactions into both sponsored and non-sponsored companies.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Direct Lending		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
KKR Lending Partners II	\$ 75,000,000	\$ 86,380,377	\$ 14,488,674	\$ 79,747,153	2015	4.68	1.09
KKR Lending Partners III	199,000,000	100,847,925	91,801,026	24,175,539	2017	10.95	1.15

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

LBC Credit Partners

LBC Credit Partners originates and manages a diversified portfolio of high-yielding loans in the middle market. LBC will originate and manage investments with maturities ranging generally from three to seven years. LBC is headquartered in Philadelphia, PA with offices in Chicago, IL and Greenwich, CT.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Direct Lending		Strategy Location: Philadelphia, PA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
LBC Credit Partners IV	\$ 100,000,000	\$ 89,731,768	\$ 64,593,545	\$ 36,654,383	2016	7.76	1.13
LBC Credit Partners V	100,000,000	(15,023)	-	-	2020	0.00	0.00

Marathon

Founded in 1998, Marathon Asset Management is a global asset manager that focuses on investing in public and private credit markets. Marathon Secured Private Strategies seeks to provide capital solutions to creditworthy and underserved borrowers and to capitalize on complexity and illiquidity premiums found within non-traditional lending channels.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Speciality Finance		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Secured Private Strategies Fund II, L.P.	\$ 100,000,000	\$ 41,129,132	\$ 46,779,867	\$ 160,057	2019	15.02	1.14

Merit Capital Partners

Merit Capital Partners will invest primarily in fixed rate subordinated debt securities. These securities generally will be purchased with a significant equity component in the form of warrants, common stock or contingent interest.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Merit Mezzanine Fund IV	\$ 75,000,000	\$ 70,178,571	\$ 545,539	\$ 139,120,463	2004	11.57	1.99
Merit Mezzanine Fund V	75,000,000	71,044,898	32,719,244	75,273,236	2009	9.58	1.52
Merit Mezzanine Fund VI	100,000,000	65,231,708	58,506,171	22,854,478	2016	11.65	1.25

Oaktree Capital Management (OCM)

Oaktree Capital Management's real estate debt strategy seeks to achieve attractive risk-adjusted returns and generate current income through investments in real estate-related debt with an emphasis on the United States. The investment themes for the strategy are: private loan origination, regulatory-driven opportunities, real estate structured credit, and real estate-related corporate debt.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Direct Lending		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
OCM Real Estate Debt Fund, III L.P.	\$ 17,500,000	\$ 10,950,000	\$ 10,950,000	\$ -	2020	0	1.00

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

Portfolio Advisors (PA)

Portfolio Advisors will invest in a variety of securities, including subordinated debt with warrants, preferred stock with warrants, common stock or other securities, including interests in joint ventures. Credit Suisse sold the DLJ Investment Partners platform to Portfolio Advisors in 2013.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
PA DLJ Investment Partners III	\$ 100,000,000	\$ 82,719,050	\$ 416,047	\$ 96,478,980	2006	6.77	1.17

Prudential Capital Partners

Prudential makes mezzanine investments, typically including convertible debt, preferred stock and warrants, with a specific focus on middle market companies. Investments will generally be made to facilitate the financing of recapitalizations, acquisitions, internal growth opportunities and buyouts.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Prudential Capital Partners II	\$ 100,000,000	\$ 97,418,748	\$ 2,581,349	\$ 136,427,860	2005	8.52	1.43
Prudential Capital Partners III	100,000,000	101,899,412	3,719,217	172,533,033	2009	14.18	1.73
Prudential Capital Partners IV	100,000,000	109,489,572	55,189,070	84,670,654	2012	8.55	1.28
Prudential Capital Partners V	150,000,000	111,156,307	112,718,340	19,975,206	2016	11.18	1.19
Prudential Capital Partners VI	100,000,000	-	-	-	2020	0.00	0.00

Summit Partners

The funds invest in many of the same companies as the Summit Venture funds. Investments by those partnerships principally take the form of subordinated debt with equity features. These yield-oriented investments provide current income over the life of the investment with the potential for additional returns.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Mezzanine		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Summit Subordinated Debt Fund III	\$ 45,000,000	\$ 44,088,494	\$ 3,869,957	\$ 60,443,093	2004	8.91	1.46
Summit Subordinated Debt Fund IV	50,000,000	55,914,003	4,255,674	72,207,729	2009	10.15	1.37

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

TCW Asset Management

TCW is a large asset management firm that makes investments in public and private companies. TCW Direct Lending pursues a strategy of originating and investing in loans to middle-market companies primarily in the United States. The loans are generally structured as senior-secured, floating rate loans.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Direct Lending		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
TCW Direct Lending VI	\$ 100,000,000	\$ 83,599,652	\$ 35,627,083	\$ 63,307,087	2004	7.00	1.18
TCW Direct Lending VII	100,000,000	63,032,508	57,320,137	8,762,521	2009	4.95	1.05
TCW TALF Opportunities Fund	60,000,000	6,000,000	6,000,000	-	2020	0.00	1.00

Real Assets

BlackRock (BR)

BlackRock Global Renewable Power strategy seeks to invest in a diversified portfolio of renewable power generation projects in countries within the Organization for Economic Cooperation and Development (OECD). The Global Renewable Power strategy has offices in New York, Dublin, London, Seattle and Stockholm.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Infrastructure		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
BR Global Renewable Power Fund II	\$ 98,500,000	\$ 86,408,825	\$ 71,908,912	\$ 17,734,445	2016	1.99	1.04
BR Global Renewable Power Infrastructure III	100,000,000	-	-	-	2019	NA	NA

EIG Global Energy Partners

Energy Partners focuses on making mezzanine and equity investments in energy and energy-related infrastructure projects and companies on a global basis. The funds operate from offices in Washington D.C., Los Angeles, Houston, New York, and London. EIG was formally spun out of TCW in 2011.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
EIG Energy Fund XIV	\$ 100,000,000	\$ 113,459,470	\$ 4,731,180	\$ 95,309,310	2007	-4.74	0.88
EIG Energy Fund XV	150,000,000	159,823,964	41,394,643	131,650,694	2010	2.07	1.08
EIG Energy Fund XVI	200,000,000	186,918,939	126,056,070	86,016,925	2013	4.38	1.13

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Assets

EnCap Energy

EnCap Energy Capital Funds were formed for the purpose of making privately negotiated equity and equity-linked investments in the independent sector of the oil and gas industry. EnCap Investments is based in Houston, TX and has offices in Dallas, TX.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Houston, TX					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
EnCap Energy Capital Fund VII	\$ 100,000,000	\$ 105,379,160	\$ 2,439,063	\$ 135,157,214	2007	14.11	1.31
EnCap Energy Capital Fund VIII	100,000,000	99,762,883	13,545,744	54,781,243	2010	-11.68	0.68
EnCap Energy Capital Fund IX	100,000,000	111,977,305	24,891,526	85,276,789	2012	-0.73	0.98
EnCap Energy Capital Fund X	100,000,000	93,305,185	57,927,230	21,277,953	2015	-6.84	0.85

Energy Capital Partners

Energy Capital Partners seeks to make value-added, primarily control investments in existing and new-build energy infrastructure projects, primarily in North America. Their focus is on power and renewable generation, midstream, and environmental infrastructure assets.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Short Hills, NJ					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Energy Capital Partners II	\$ 100,000,000	\$ 85,722,480	\$ 3,959,106	\$ 112,434,332	2010	8.85	1.36
Energy Capital Partners III	200,000,000	221,489,260	171,186,502	83,824,545	2013	5.48	1.15
Energy Capital Partners IV	150,000,000	53,885,389	51,613,595	10,887,130	2018	10.30	1.16

Energy & Minerals Group (EMG)

Energy & Minerals Group seeks to make direct investments in selected areas of the Energy Infrastructure and Natural Resources sectors, primarily targeting the midstream energy sector and all facets of the mining, minerals and related power sectors.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Houston, TX					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
NGP Midstream & Resources	\$ 100,000,000	\$ 103,527,211	\$ 6,042,645	\$ 178,140,260	2007	13.33	1.78
The EMG Fund II	100,000,000	106,674,084	86,761,298	104,295,500	2011	13.06	1.79
The EMG Fund III	200,000,000	201,327,783	96,222,714	22,410,545	2014	-11.04	0.59
The EMG Fund IV	150,000,000	150,988,007	133,963,359	48,704,539	2015	7.51	1.21
The EMG Fund V	112,500,000	75,226,151	82,970,193	287,001	2019	11.88	1.11
The EMG Fund V Accordion	17,500,000	14,108,142	15,979,947	-	2019	15.80	1.13

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Assets

EnerVest Energy

EnerVest Energy focuses on acquiring and operating oil and gas properties, aggressively managing and developing the properties, reducing costs, and selling the assets. On occasion the firm may also invest in equity interests of companies in order to acquire their assets.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Houston, TX					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
EnerVest Energy Institutional Fund XIV	\$ 100,000,000	\$ 94,867,108	\$ 47,970,068	\$ 41,175,285	2015	-2.06	0.94

First Reserve

The First Reserve funds investment strategy is to create diversified portfolios of oil and gas and other energy-related investments. The firm focuses on the resources, equipment and services, midstream, and downstream areas of the energy industry. First Reserve is headquartered in Greenwich, CT with another office in Houston, TX.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Greenwich, CT					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
First Reserve Fund XI	\$ 150,000,000	\$ 150,292,121	\$ 117,631	\$ 98,378,656	2006	-9.47	0.66
First Reserve Fund XII	150,000,000	165,617,044	16,324,411	82,471,718	2008	-11.78	0.60
First Reserve Fund XIII	200,000,000	209,630,039	128,279,095	66,890,196	2013	-4.30	0.93

Kohlberg, Kravis, Roberts & Co. (KKR)

KKR Global Infrastructure Investors seeks to generate attractive risk-adjusted returns by focusing on critical infrastructure investments with low volatility and strong downside protection. KKR intends to make investments in existing assets and businesses located in OECD countries. KKR is headquartered in New York and has over twenty office locations around the world.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Infrastructure		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
KKR Global Infrastructure Investors III	\$ 149,850,000	\$ 55,239,723	\$ 50,700,454	\$ 3,441,605	2018	-2.37	0.98

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Assets

Merit Energy Partners

Merit Energy Partners funds invest in producing oil and gas properties operated by the company. Merit's goal is to provide low-risk energy exposure and attractive long-term returns by acquiring, developing, and operating high quality, mature producing oil and gas properties.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Dallas, TX					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Merit Energy Partners B	\$ 24,000,000	\$ 24,000,000	\$ 1,554,840	\$ 189,858,902	1996	24.27	7.98
Merit Energy Partners C	50,000,000	50,000,000	4,970,844	514,177,741	1998	30.10	10.38
Merit Energy Partners D	88,000,000	70,938,303	11,709,064	333,800,338	2000	22.67	4.87
Merit Energy Partners E	100,000,000	39,983,197	1,942,294	82,850,913	2003	11.38	2.12
Merit Energy Partners F	100,000,000	59,522,861	7,385,286	30,129,452	2005	-7.58	0.63
Merit Energy Partners H	100,000,000	100,000,000	41,656,973	29,688,582	2011	-6.47	0.71
Merit Energy Partners I	169,721,518	169,721,518	143,962,956	49,839,059	2014	3.20	1.11
Merit Energy Partners K	150,000,000	39,706,295	41,851,680	188,422	2019	10.49	1.06

Natural Gas Partners

Natural Gas Partners ("NGP") makes investments primarily in the sectors of the energy industry that are related to the production and development of crude oil and natural gas in North America. NGP focuses on companies that acquire and operate assets in "core" areas within oil and gas basins that NGP believes can generate attractive rates of return with a lower relative risk profile.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Irving, TX					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Natural Gas Partners IX	\$ 150,000,000	\$ 173,921,032	\$ 2,649,187	\$ 245,366,339	2007	11.98	1.43
NGP Natural Resources X	150,000,000	146,856,370	25,271,583	116,514,590	2011	-1.09	0.97
Natural Gas Capital Resources XI	150,000,000	148,267,241	98,546,971	44,498,161	2014	-1.42	0.96
NGP Natural Resources XII	149,500,000	77,353,005	61,047,783	-	2017	-15.34	0.79

Sheridan Production Partners

Sheridan Production Partners funds pursue a strategy of acquiring a portfolio of currently producing oil and gas properties and optimizing the operations of those properties through production acceleration and recovery enhancement, appropriate use of capital reinvestment and aggressive cost control.

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Energy		Strategy Location: Houston, TX					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Sheridan Production Partners III	\$ 100,000,000	\$ 34,353,005	\$ 23,998,993	\$ 19,675,000	2014	8.78	1.27

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Estate

Angelo, Gordon & Co.

Angelo Gordon & Co.'s real estate equity strategies focus on acquiring sub-performing commercial real estate across a range of geographies and product types. The flagship Realty funds invest in the U.S. and receive pro-rata shares of Asia and Europe transactions, subject to a cap. The Asia Realty and Europe Realty funds invest in their respective geographies. Angelo Gordon has over 500 employees working across their four disciplines – corporate credit, real estate, direct lending, and securitized products.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY, London, Seoul					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
AG Realty Fund IX	\$ 100,000,000	\$ 92,141,126	\$ 94,626,646	\$ 23,500,000	2015	9.32	1.28
AG Asia Realty Fund III	50,000,000	47,587,261	31,337,778	32,500,000	2016	14.43	1.34
AG Europe Realty Fund II	75,000,000	59,350,822	68,555,580	28,384	2017	10.60	1.16
AG Realty Fund X	150,000,000	42,743,800	42,616,072	12,431	2018	-0.44	1.00
AG Asia Realty Fund IV	100,000,000	34,049,050	35,992,506	-	2018	8.03	1.06
AG Europe Realty Fund III, L.P.	75,000,000	10,500,000	10,500,000	-	2020	0.00	1.00

Blackstone Real Estate Partners

Blackstone Real Estate Partners makes a broad range of opportunistic real estate and real estate-related investments globally. They have a “buy it, fix it, sell it” strategy of targeting complicated assets and situations, creating value through hands-on ownership, and selling assets once asset management objectives are achieved. The flagship funds focus primarily on the U.S. and Canada and will also participate in 20% of the amount of each real estate investment to be made by the BREP Europe and BREP Asia strategies. BREP Europe and BREP Asia funds invest in their respective continents.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY, Hong Kong					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Blackstone Real Estate Partners V	\$ 100,000,000	\$ 104,213,007	\$ 2,691,999	\$ 202,609,987	2006	10.70	1.97
Blackstone Real Estate Partners VI	100,000,000	109,477,567	5,020,403	214,728,977	2007	13.09	2.01
Blackstone Real Estate Partners VII	100,000,000	109,614,544	42,886,383	143,449,143	2011	15.27	1.70
Blackstone Real Estate Partners VIII	150,000,000	164,162,591	143,995,392	62,300,925	2015	11.13	1.26
Blackstone Real Estate Partners Asia II	74,500,000	31,471,946	28,437,617	2,122,235	2017	-3.04	0.97
Blackstone Real Estate Partners IX	300,000,000	94,506,812	78,292,737	13,380,599	2018	-5.50	0.97

Blackstone Strategic Partners

Blackstone Strategic Partners funds focus on purchasing secondary interests of real estate funds. The funds follow a strategy similar to that of the Strategic Partners private equity funds, in which the SBI is also an investor. Credit Suisse sold the Strategic Partners funds platform to The Blackstone Group in 2013.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Blackstone Strategic Partners III RE	\$ 25,000,000	\$ 25,987,864	\$ 101,616	\$ 15,252,523	2005	-6.46	0.59
Blackstone Strategic Partners IV RE	50,000,000	51,496,145	1,603,554	49,563,304	2008	0.21	1.01

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Estate

Carlyle Group

Carlyle Realty Partners focuses on making opportunistic real estate investments in the United States. The strategy predominantly focuses on demographic-driven sectors and property types that are less correlated with the economic cycle. Carlyle Realty Partners investment professionals are based in Washington, DC, New York, San Francisco, and Los Angeles.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Carlyle Realty Partners VIII	\$ 150,000,000	\$ 43,420,598	\$ 41,941,082	\$ 3,427,277	2017	4.67	1.04

Colony Capital

Colony Advisors focuses on investing in undervalued equity and debt real estate-related assets. Colony pursues traditional and non-traditional property types such as housing developments, hotels, malls, and real estate-related companies.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Colony Investors III	\$ 100,000,000	\$ 99,660,860	\$ 2,309,700	\$ 173,802,105	1997	14.49	1.77

Landmark Partners

Landmark Partners makes secondary investments in various types of real estate and real estate-related entities. The strategy intends to be diversified across global geography, fund vintage, property sector, and financial sponsor. Landmark is headquartered in Simsbury, CT; with offices in Boston, New York, and London.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Landmark Real Estate Partners VIII	\$ 149,500,000	\$ 62,662,496	\$ 50,099,214	\$ 23,213,855	2017	16.06	1.17

Lubert-Adler

Lubert-Adler seeks to invest in U.S. commercial real estate across the following property types: Multifamily, Retail, Hospitality, Office, and Industrial. Lubert-Adler's history of investing value-add real estate funds dates back to 1997. The firm has offices in Philadelphia and Atlanta.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Value-Add		Strategy Location: Philadelphia, PA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Lubert-Adler Real Estate Partners VIII	\$ 149,500,000	\$ 62,662,496	\$ 50,099,214	\$ 23,213,855	2017	16.06	1.17

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Estate

Oaktree Capital Management (OT)

Oaktree's opportunistic real estate strategy targets attractive risk-adjusted opportunities in value and growth investments across the team's five areas of investment focus: commercial, residential, opportunistic credit, corporate platforms and global ex-U.S. investments.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
OT Real Estate Opportunities Fund VIII	\$ 100,000,000	\$ 9,500,000	\$ 9,500,000	\$ -	2020	0.00	1.00

Rockpoint

Rockpoint seeks to invest in high-quality commercial real estate properties located in U.S. gateway coastal markets typically with the opportunity to increase value through asset management, revenue enhancement, and expense reduction. Rockpoint is headquartered in Boston and has offices in Dallas and San Francisco.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Rockpoint Real Estate Fund V	\$ 100,000,000	\$ 94,489,853	\$ 74,630,984	\$ 27,330,781	2014	4.19	1.09
Rockpoint Real Estate Fund VI	100,000,000	16,292,723	16,245,327	-	2019	-0.29	1.00

Rockwood

Rockwood focuses on making value-add investments in commercial real estate in the U.S. Rockwood targets Office and other workspace, Retail, Hotel, and Multifamily residential assets. The firm seeks to employ an active asset management strategy to reposition, re-lease, rehabilitate, and/or develop real estate assets. Rockwood has over 70 professionals located in Los Angeles, New York City, and San Francisco.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Value-Add		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Rockwood Capital RE Partners X	\$ 100,000,000	\$ 83,845,591	\$ 70,001,212	\$ 12,500,001	2016	-0.80	0.98
Rockwood Capital Partners (XI), LLC	100,000,000	664,712	-	-	2019	-99.98	0.00

Silverpeak Real Estate Partners

Silverpeak seeks to invest in properties, real estate companies, and service businesses ancillary to the real estate industry on a global basis. The funds' worldwide headquarters are in New York with regional headquarters in London and Tokyo. (In 2010, the funds were renamed Silverpeak Legacy Pension Partners II and III to reflect the General Partner ownership change after the Lehman Brothers bankruptcy in 2008.)

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Silverpeak Legacy Pension Partners II	\$ 75,000,000	\$ 73,020,516	\$ 610,030	\$ 91,672,685	2005	4.16	1.26
Silverpeak Legacy Pension Partners III	150,000,000	70,647,525	8,352,699	14,125,306	2007	-12.11	0.32

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Estate

TA Associates Realty

TA Realty funds invest in small to medium-sized properties in the U.S. diversified by property type, geography, industry exposure, and tenancy. TA Realty has been managing value-add real estate funds since its inception in 1982. The firm has offices in Boston, Newport Beach, Palm Beach Gardens, FL, and Dallas.

Asset Class: Real Asset		Strategic Allocation Category: Growth Appreciation					
Strategy: Value-Add		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
The Realty Associates Fund X, L.P.	\$ 100,000,000	\$ 100,000,000	\$ 11,318,286	\$ 149,874,563	2012	12.78	1.61
The Realty Associates Fund XI, L.P.	100,000,000	100,000,000	100,454,789	23,861,052	2015	8.05	1.24
The Realty Associates Fund XII, L.P.	100,000,000	10,000,000	8,094,460	-	2018	-19.06	0.81

Distressed/Opportunistic

Avenue Capital Partners

Avenue Capital is a mid-sized global investment firm that makes investments in debt, equity and other obligations of North American energy and utility companies experiencing financial distress.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Avenue Energy Opportunities Fund	\$ 100,000,000	\$ 100,977,328	\$ 72,011,874	\$ 24,472,941	2015	-1.04	0.96
Avenue Energy Opportunities Fund II	100,000,000	100,000,000	90,646,100	417,420	2017	-4.40	0.91

BlackRock

The BlackRock Tempus Fund was inherited from the Duluth Teachers Retirement Fund Administration in 2015. The Fund seeks to generate returns by making opportunistic investments in debt and equity.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
BlackRock Tempus Fund	\$ 1,774,870	\$ 1,774,870	\$ 249,321	\$ 1,717,220	2015	5.93	1.11

Combined Funds

Private Markets Program - Investment Manager Summaries

Distressed/Opportunistic

Carlyle Group

Carlyle Strategic Partners intends to invest in the debt and/or equity of proprietarily sourced companies affected by market- and company-specific dislocations. The firm expects the majority of companies will be based in the United States and Europe, with a small proportion of the fund invested in Asia. The strategy has employees in New York, London, and Hong Kong.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Distressed for Control		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Carlyle Strategic Partners IV	\$ 100,000,000	\$ 53,119,880	\$ 26,502,383	\$ 21,499,086	2016	-9.09	0.90

CarVal Investors (CVI)

CarVal is based in Minneapolis, MN with offices in Beijing, Buenos Aires, London, Copenhagen, Delhi, Luxembourg, Paris, Singapore, Shanghai and Tokyo. The Funds will make investments in loan portfolios, corporate securities, international real estate and real estate loans and special opportunities.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
CVI Global Value Fund	\$ 200,000,000	\$ 190,000,000	\$ 3,856,174	\$ 316,834,320	2007	9.53	1.69
CVI Global Value Fund I	100,000,000	95,000,000	3,846,379	209,934,827	2010	18.73	2.25
CVI Global Value Fund A II	150,000,000	142,500,000	5,773,126	194,560,061	2013	8.07	1.41
CVI Global Value Fund A III	150,000,000	142,500,000	66,788,806	110,492,431	2015	7.52	1.24
CVI Global Value Fund IV	150,000,000	135,203,333	124,045,290	60	2017	-6.99	0.92
CVI Global Value Fund V	150,000,000	7,500,000	7,500,000	-	2020	0.00	1.00

Marathon

Founded in 1998, Marathon Asset Management is a global asset manager that focuses on investing in public and private credit markets. Marathon's Distressed Credit strategy will seek to construct a portfolio of distressed, dislocated, and restructuring corporate credit opportunities in complex situations with attractive risk-adjusted return characteristics.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR¹	Net MOIC²
Distressed Credit Fund GP, LLC	\$ 200,000,000	\$ 10,000,000	\$ 10,103,420	\$ -	2020	1.03	1.01

Combined Funds

Private Markets Program - Investment Manager Summaries

Distressed/Opportunistic

Merced Capital

Merced Partners expects to invest in securities with strong downside protection from identifiable asset value and compelling return potential from some combination of current income, asset value appreciation, secondary market instrument appreciation, and enterprise value creation or appreciation.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Merced Partners III	\$ 100,000,000	\$ 100,000,000	\$ 7,347,737	\$ 128,176,445	2010	6.13	1.36
Merced Partners IV	125,000,000	124,968,390	46,312,292	93,097,539	2013	2.62	1.12
Merced Partners V	53,737,500	53,915,358	41,039,597	-	2017	-9.02	0.76

MHR Institutional Partners (MHR)

MHR is a medium-sized private equity investment firm. The firm invests in distressed companies with the goal of gaining influence or control of the company and creating value through the restructuring process and revenue growth.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Distressed for Control		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
MHR Institutional Partners IV	\$ 75,000,000	\$ 47,059,392	\$ 46,346,245	\$ 6,556,698	2015	4.69	1.12

Oaktree Capital Management

Oaktree Capital Management is a global private equity firm. The Oaktree Principal and Special Situations strategies seek to invest in the debt or equity of companies experiencing a significant element of distress or dislocation or that are otherwise out of favor. The Oaktree Opportunities Funds invest in the debt or equity of companies during periods of financial distress.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Oaktree Principal Fund VI	\$ 100,000,000	\$ 94,105,499	\$ 87,412,689	\$ 17,636,178	2015	5.15	1.12
Oaktree Opportunities Fund X	50,000,000	46,500,021	43,190,460	11,119,660	2015	6.36	1.17
Oaktree Opportunities Fund Xb	100,000,000	40,000,000	32,332,840	-	2015	-24.70	0.81
Oaktree Special Situations Fund II	100,000,000	9,213,559	8,891,250	-	2018	-8.48	0.97

Combined Funds

Private Markets Program - Investment Manager Summaries

Distressed/Opportunistic

Pimco Bravo

The Pimco Bravo funds were inherited from the Duluth Teachers Retirement Fund Administration in 2015. Pimco is a global investment management firm with a variety of public and private investment products. The Pimco Bravo Funds primarily invest in distressed commercial and residential mortgage credit.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: Newport Beach, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Pimco Bravo Fund OnShore Feeder I	\$ 3,958,027	\$ 3,958,027	\$ 40,381	\$ 3,978,735	2015	1.52	1.02
Pimco Bravo Fund OnShore Feeder II	5,243,670	4,685,039	1,768,765	3,910,408	2015	4.44	1.21

TSSP

TSSP Adjacent Opportunities Partners seeks to make global credit and credit-related investments, generally in opportunities with significant downside protection and cash yield. Headquartered in San Francisco, the team also has offices in New York, NY, London, Boston, MA, Houston, TX, Dallas, TX, Melbourne and Luxembourg.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
TSSP Adjacent Opportunities Partner	\$ 50,000,000	\$ 34,984,418	\$ 35,355,928	\$ 2,186,115	2018	6.83	1.07
TSSP Adjacent Opportunities Contingen	100,000,000	13,051,899	13,051,899	204	2018	0.01	1.00
TSSP Opportunities Partners IV	50,000,000	17,263,175	17,185,014	9,829	2018	-0.58	1.00

Värde Partners

Värde will invest in credit and value-oriented opportunities across a broad range of markets, including corporate and traded credit, specialty finance, real estate and real assets and infrastructure. Värde is headquartered in Minnesota with regional headquarters in London and Singapore. Värde also maintains offices in Asia Pacific, Europe and North America.

Asset Class: Distressed/Opportunistic		Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control		Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²
Värde Fund IX	\$ 100,000,000	\$ 100,000,000	\$ 468,995	\$ 215,525,625	2008	15.00	2.16
Värde Fund X	150,000,000	150,000,000	22,807,050	249,265,784	2010	10.74	1.81
Värde Fund XI	200,000,000	200,000,000	130,330,413	155,022,046	2013	6.53	1.43
Värde Fund XIII	150,000,000	75,000,000	72,164,775	20,038	2018	-9.55	0.96

Combined Funds

Private Markets Program - Investment Manager Summaries

Distressed/Opportunistic

Wayzata Investment Partners

Wayzata Investment Partners focuses on making investments in distressed securities where it can expect to exert significant influence on the restructuring process and potentially control the reorganized company.

Asset Class: Distressed/Opportunistic			Strategic Allocation Category: Growth Appreciation					
Strategy: Distressed for Control			Strategy Location: Wayzata, MN					
Fund	SBI Commitment	Total Contribution	Market Value	Distributions	Vintage Year	IRR ¹	Net MOIC ²	
Wayzata Opportunities Fund II	\$ 150,000,000	\$ 174,750,000	\$ 2,030,370	\$ 327,229,040	2007	16.46	1.88	
Wayzata Opportunities Fund III	150,000,000	68,415,000	22,591,815	39,068,770	2012	-2.96	0.90	

Stock Distributions Manager

T. Rowe Price

T. Rowe Price manages stock distributions from the SBI's private markets limited partnerships. T. Rowe Price has extensive research capabilities in the small capitalization company area. In addition, the firm has a large trading staff with particular expertise in the trading of small capitalization and illiquid stocks.

Asset Class: In-Kind Stock Distribution Manager						
Strategy Location: Baltimore, MD						
Fund	Beginning Balance	Receipts	Sales	Unrealized G/L	Ending Balance	
One Year Summary	\$ 18,331,019	\$ 24,221,717	\$ (29,105,906)	\$ 2,540,899	\$ 15,987,729	

¹IRR: The Internal Rate of Return is a discount rate calculated from making the net present value of all cash flows equal to zero over the life of the investment.

²MOIC: Multiple of Invested Capital is calculated by dividing the sum of the fund's realized and unrealized value by the total dollar amount invested.

Combined Funds Cash Pool and Cash Related Programs

Combined Funds Cash Pool

The Combined Funds Cash Pool consists of the cash allocation of the Combined Funds and any cash held by the Combined Funds equity and fixed income portfolios due to buying and selling of securities. The Cash Pool is used exclusively for the Combined Funds.

Management Structure

The Cash portfolio is actively managed in a separate account invested with State Street Global Advisors (SSGA).

As of June 30, 2020, there was over \$3.1 billion invested in the Combined Funds Cash portfolio.

Investment Objectives

The goal of the Cash portfolio is to meet the liquidity needs of the state retirement systems to pay benefits and to meet investment obligations.

Investment Management

This portfolio is invested in high quality, short-term securities generally less than 397 days. Principal protection and same-day liquidity are priorities. Holdings include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, short-term corporates, and certificates of deposit.

At the end of the fiscal year, the Cash portfolio had a current average yield of 0.19% and a weighted average maturity of 29.91 days.

Investment Performance

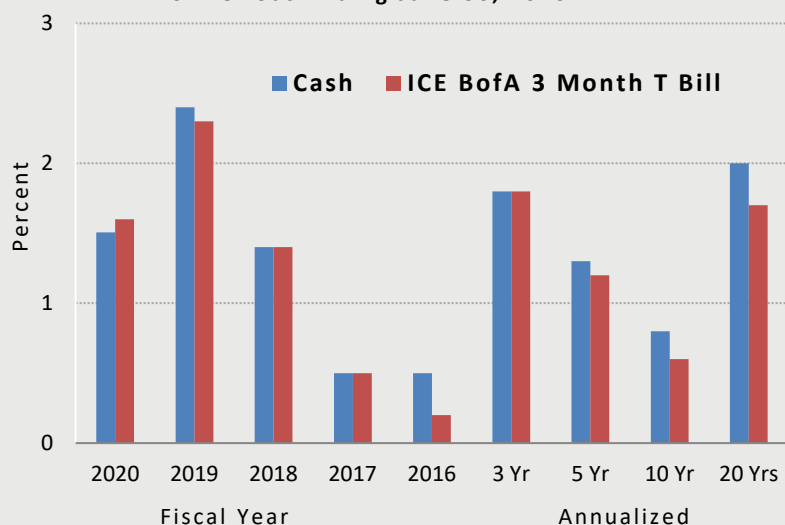
The SBI measures the performance of the Cash portfolio against the ICE BofA 3 month Treasury-Bill Index. As of June 30, 2020, the Cash portfolio slightly underperformed its benchmark for the one-year, matched the three and outperformed the benchmark return for the five, ten and twenty-year time periods.

Historical performance results for the Combined Funds Cash Pool is shown in Figure 30.

FY 2020 Transactions

In March of 2020, the SBI raised over \$2 billion in cash to infuse additional liquidity into the portfolio as the result of the global economic fallout caused by the COVID-19 pandemic. The cash allocation in the Combined Funds was 3.7% at the end of the fiscal year compared to the 2% policy weight.

Figure 30. Combined Funds Cash Portfolio Performance For Periods Ending June 30, 2020



	Fiscal Year Return (%)				
	2020	2019	2018	2017	2016
Cash	1.5	2.4	1.4	0.5	0.5
ICE BofA 3 Mo. T-Bill	1.6	2.3	1.4	0.5	0.2
	Annualized Return (%) as of June 30, 2020				
	3 Yr.	5 Yr.	10 Yr.	20 yrs	
Cash	1.8	1.3	0.8	2.0	
ICE BofA 3 Mo. T-Bill	1.8	1.2	0.6	1.7	

Combined Funds Cash Pool and Cash Related Cash Programs

Combined Funds Cash Related Programs

In addition to the Combined Funds Cash Pool that is externally managed, a small portion is internally managed by SBI Staff in the Certificate of Deposit Program and the Security Repurchase Program.

Certificate of Deposit Program

The SBI manages a Certificate of Deposit (CD) Program in which it purchases CDs from Minnesota financial institutions. The return the SBI receives is based on CD rates quoted in the national market. The SBI's CD program provides a reliable source of capital to Minnesota financial institutions, regardless of size, many of which do not have access to the national CD market. The Board designed the program so that no single institution is favored in the allocation of assets. The only assets used in the CD program are a portion of the cash of the Combined Funds.

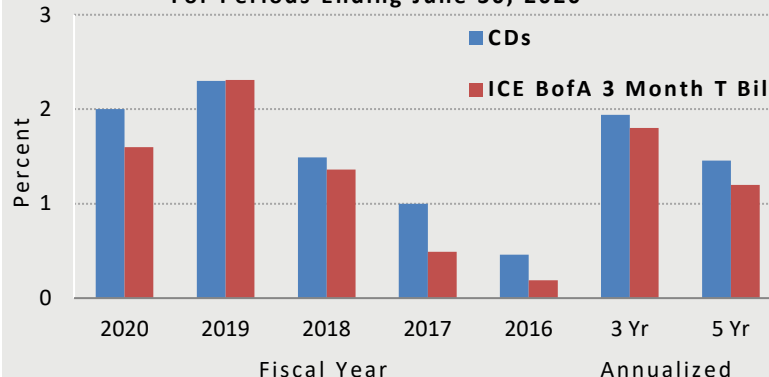
Investment Management

The CD Program is internally managed by SBI investment staff. During fiscal year 2020, the SBI purchased \$196.9 million of CDs from Minnesota financial institutions.

Investment Performance

The SBI measures the performance of the CD Program against the ICE BofA 3 Month Treasury Bill Index. Historical performance results is shown in Figure 31. The CD Program outperformed its benchmark for the one, three and five year time-period ending June 30, 2020.

**Figure 31. Certificate of Deposit Performance
For Periods Ending June 30, 2020**



	Fiscal Year Return (%)					Annualized (%) as of June 30, 2020	
	2020	2019	2018	2017	2016	3 Yr.	5 Yr.
CD Program	2.0	2.3	1.5	1.0	0.5	1.9	1.5
ICE BofA 3 Mo. T-Bill	1.6	2.3	1.4	0.5	0.2	1.8	1.2

Securities Repurchase Program

The SBI created the Securities Repurchase Program (Repo Program) to supplement the CD program in order to help meet the increased needs of some banks throughout the state.

Under the program, the SBI temporarily buys securities such as Treasuries and Agencies from banks under a Repurchase (repo) Agreement. At the end of the agreement period, the securities are returned to the selling banks ("repurchased") and the bank pays the SBI principal and interest.

The transactions are fully collateralized and range in size from \$100,000 to \$2 million per institution. For ease of administration, the program uses the same rates, offering dates, and maturity dates as the SBI's CD program. The only assets used in the Repo Program are a portion of the Combined Funds.

During fiscal year 2020, the SBI did not enter into any repo transactions with Minnesota financial institutions.

Securities Lending Program

The SBI participates in a Securities Lending Program in which securities held by the SBI on behalf of the Combined Funds are loaned to banks and security dealers for a daily fee. These loans are fully collateralized. Currently, the SBI's securities lending activity is undertaken by the SBI's master custodian bank, State Street Corporation. State Street generated additional income for the retirement systems of approximately \$24.0 million during fiscal year 2020.

FIRE RELIEF PLANS
+
OTHER PUBLIC
RETIREMENT PLANS

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FIRE RELIEF PLANS + OTHER PUBLIC RETIREMENT PLANS

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Fire Relief Plans + Other Public Retirement Plans Investment Program Overview

Volunteer Firefighter Associations, the Statewide Volunteer Firefighter (SVF) Plan, and Other Public Retirement Plans invested over \$792.4 million in assets with the SBI as of June 30, 2020.

Overview

As of June 30, 2020, the SBI invested over \$792 million in assets from Fire Relief Plans, Statewide Volunteer Firefighter (SVF) Plan, and a participating public retirement plan. Figure 32 provides the assets of each of these plans.

The SBI is responsible for determining and making investment vehicles available to fire relief plans, Statewide Volunteer Firefighter Plan, and other public retirement plans. These plans are responsible for their own investment and asset allocation decisions and can invest some or all of their assets in one or more of the investment options available. Whereas, fire relief plans invested in the SVF Plan are no longer responsible for the invest decisions of their plan as the assets are invested in the Volunteer Firefighter Account, which is managed to an asset allocation target.

Investment Vehicles

The Supplemental Investment Fund (SIF) platform offers a variety of investment vehicles for the Fire Relief Plans and Other Retirement Plans. These vehicles include:

- SIF Asset Class Pools
- Volunteer Firefighter Account
- Money Market Fund

**Figure 32. Fire Relief Plans and Other Public Retirement Plans
Investment Program as of June 30, 2020**

Plan Sponsor	Market Value (\$ in 000's)
Fire Relief Associations	332,042.8
Statewide Volunteer Firefighter (SVF) Plan	118,023.9
St. Paul Teachers' Retirement Fund Association	342,330.6
Total	792,397.3

Participating Plans

Fire Relief Plans

Fire relief plans that are not eligible to be consolidated by the Public Employees Retirement Association (PERA) or elect not to be administered by PERA in the SVF Plan may invest their assets with the SBI. There are approximately 664 volunteer firefighter plans with investment authority to invest with the SBI, if they so choose, in the following options:

- SIF Asset Class Pools
- Money Market Fund

Volunteer firefighter relief associations are governed under *Minnesota Statutes*, Chapter 424A. Per *Minnesota Statutes*, Chapter 356, the SBI provides the fire relief plan with reports showing annual returns and market value of all SIF investment options. The relief associations are responsible for providing their specific data to the Office of the State Auditor.

As of June 30, 2020, there were 167 volunteer relief associations invested with the SBI with approximately \$332 million in assets.

Other Public Retirement Plans or Funds

Per *Minnesota Statutes*, § 11A.17, any public retirement plan or fund is authorized to invest its assets in the Supplemental Investment Fund. Participating public funds can choose from the following options:

- SIF Asset Class Pools
- Money Market Fund

As of June 30, 2020, the St. Paul Teachers' Retirement Fund had over \$342 million invested with the SBI.

Statewide Volunteer Firefighter (SVF) Plan

The Statewide Volunteer Firefighter (SVF) Plan was established January 1, 2010 under *Minnesota Statutes*, Chapter 353G. Volunteer firefighters who provide service to a municipal fire department or an independent nonprofit firefighting corporation are eligible to join. Participating fire reliefs in the SVF Plan investment in the following:

- Volunteer Firefighter Account

Fire Relief Plans + Other Public Retirement Plans Investment Program Overview

The Volunteer Firefighter Account is an investment option available only for those local firefighter entities that participate in the SVF Plan. Participation in the Plan is effective on December 31 of a given year.

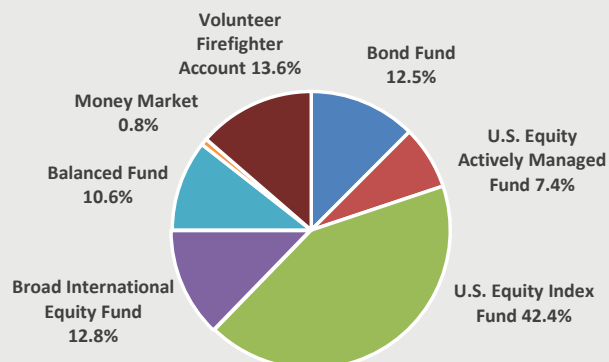
In fiscal year 2020, 14 local entities joined the plan transferring over \$4.4 million to the SBI for investment. At the close of fiscal year 2020, 187 local fire entities, representing over \$118 million in assets, were in the SVF Plan. Public Employees Retirement Association (PERA) is the Plan Administrator for the Statewide Volunteer Firefighter Plan.

Allocation to Investment Options

Figure 33 provides the distribution of assets among the investment options that are available to the Fire Relief Plans and Other Public Retirement Plans as of June 30, 2020.

Fund summaries for each of these investment options are provided on pages B81-B87. The Stable Value Fund on page B88 is not an eligible option for this investment program.

Figure 33. Composition of Investment Options used by Fire Relief Plans + Other Retirement Plans as of June 30, 2020



Investment Platform Supplemental Investment Fund (SIF)

The Supplemental Investment Fund (SIF) is a multi-purpose investment platform that offers broad asset class options to the Fire Relief Plans + Other Public Retirement Plans Investment Program, the PERA Defined Contribution Plan, and eligible participants in the Participant Directed Investment Program (PDIP).

Overview

The SIF platform provides investment options to a variety of plans. Investment options in the SIF platform are listed in Figure 34. As of June 30, 2020, it provided some or all of the investment options for the Local Fire Relief + Other Public Retirement Plans Investment Program and the Participant Directed Investment Program (PDIP). In aggregate, SIF investment options represent over \$3.1 billion in assets. Figure 35 provides the percentage that each participating plan represents in the SIF investment platform as of June 30, 2020.

The Supplemental Investment Fund (SIF), established in *Minnesota Statutes*, § 11A.17, allows the SBI to offer different investment options to a variety of plans.

SIF Share Values

A share value is established daily for each account and participants buy or sell shares based on the most recent share value. Shares in the asset class pools are priced based on the market value of the underlying manager portfolio. Performance of these Funds is a function of the income and capital appreciation (or depreciation) generated by the securities in the Funds.

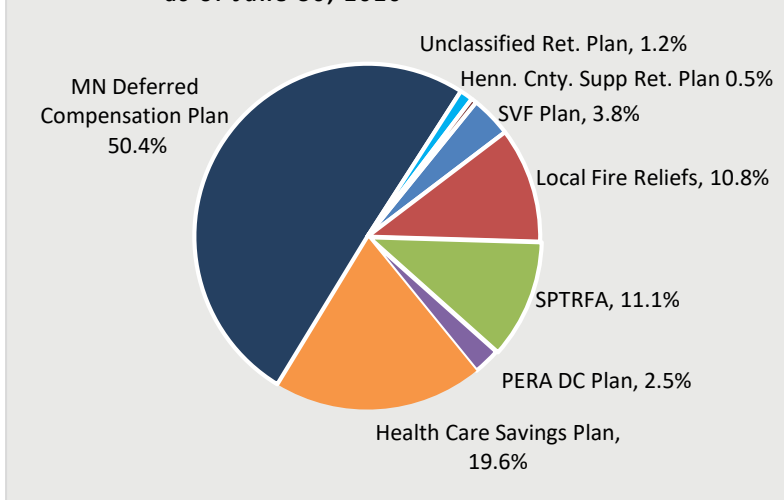
In the Stable Value Fund, shares are priced based on the blended crediting rates of the contracts and yields from the liquid investments. Performance is

Figure 34. Investment Options offered in the SIF Platform

Balanced Fund	a balanced portfolio of U.S. common equity, fixed income, and cash
U.S. Equity Actively Managed Fund	an actively and semi-passively managed portfolio of U.S. common equity
U.S. Equity Index Fund	a passively managed portfolio of U.S. common equity
Broad International Equity Fund	a portfolio of actively, semi-passively, and passively managed non-U.S. common equity
Bond Fund	a portfolio of both actively and semi-passively managed fixed income securities
Volunteer Firefighter Account¹	a balanced portfolio of U.S. and international equity, fixed income and cash
Stable Value Fund²	a high quality fixed income portfolio including a portfolio of stable value instruments, security backed contracts, insurance company investment contracts and bank investment contracts
Money Market Fund	a portfolio of short-term, liquid debt securities

¹ The Volunteer Firefighter Account is only available to local fire relief plans that join the SVF Plan.
² The Stable Value Fund is not available to the Fire Relief Plans + Other Public Retirement Plans Investment Program.

Figure 35. Participation in SIF Investment Options by Plan as of June 30, 2020



Investment Platform Supplemental Investment Fund (SIF)

calculated based on changes in these share values.

In the Money Market Fund, share values remain constant and the accrued interest income is credited to the Fund through the purchase of additional shares.

SIF Performance

Performance results as of June 30, 2020, for the participants in the SIF investment platform are provided in Figure 36. Two of the SIF investment options, the Stable Value and Money Market

Funds, are offered in both the SIF and Mutual Fund investment platforms; market values are reported in their respective platform to eliminate duplication.

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, but do not reflect administrative expenses that may be deducted by the retirement systems to defray administrative costs.

SIF Asset Class Pools

The Combined Funds and the SIF Asset Class Pools share many of the same equity and fixed income managers. This sharing is accomplished by grouping managers by asset class into several different Investment pools much like a family of mutual funds. These asset class pools provide participating entities with broad market exposure and the returns from these funds are based on the underlying investment manager portfolio from the respective Combined Fund pools. Fund summaries are provided on pages B81-B85.

Volunteer Firefighter Account

The Volunteer Firefighter Account is only available to participants in the Statewide Volunteer Firefighter Retirement (SVF) Plan. The fund summary is provided on pages B86.

Money Market Fund

All participating entities are eligible to invest in the Money Market Fund. The Fund summary is provided on pages B87.

Stable Value Fund

The Stable Value Fund is not available to Fire Relief Plan + Other Public Retirement Plans. A summary of the Stable Value Fund is provided on page B88.

Figure 36. Supplemental Investment Fund Platform as of June 30, 2020

Fund/Benchmark	Annualized Returns ¹						Market Value ² (\$ in 000's)	Option Since
	1 Year		3 Years		5 Years			
	Actual	Bmk	Actual	Bmk	Actual	Bmk		
	%	%	%	%	%	%		
SIF Asset Class Pools								
Balanced Fund	8.2	7.7	8.6	8.4	8.1	7.9	91,776.8	1/1980
Balanced Fund Composite Benchmark								
U.S. Equity Actively Managed Fund	8.5	6.5	11.8	10.0	10.7	10.0	64,096.9	7/1986
Russell 3000								
U.S. Equity Index Fund	6.7	6.5	10.1	10.0	10.1	10.0	367,179.4	7/1986
Russell 3000								
Broad International Equity Fund	-4.2	-4.8	1.3	1.1	2.5	2.3	110,506.1	7/1999
MSCI ACWI ex USA Index (net)								
Bond Fund	9.2	8.7	5.8	5.3	4.8	4.3	107,941.4	7/1986
Bloomberg Barclays U.S. Aggregate								
Volunteer Firefighter Account	7.1	6.1	6.9	6.5	6.5	6.1	118,023.9	1/2010
Volunteer Firefighter Composite Benchmark								
Money Market Fund								
Money Market Fund	1.7	1.6	1.9	1.8	1.4	1.2	6,753.5	7/1986
ICE BofA 3 Month Treasury Bill								
Stable Value Fund								
Stable Value Fund	2.7	1.6	2.5	2.3	2.3	2.0	4,083.8	11/1994
3 Year Constant Maturity Treasury + 0.45 bps								
SIF Investment Platform							870,361.8	

¹All returns are reported net of Investment Management fees.

²Represents the market value of the respective plans participation in the Funds. Money Market and Stable Value Funds are offered in two different investment platforms. The table above reflect the assets of the Fire Relief Plans + Other Public Retirement Plans, and the PERA DC Plan. In aggregate, total investment in the Money Market Fund and Stable Value Fund was \$557.0 million and \$1,659.8 million respectively, for a total of \$3,076.3 million invested in SIF investment vehicles as of June 30, 2020.

Investment Vehicle - SIF Asset Class Pool

Investment Option - Balanced Fund

Balanced Fund

Objective

The investment objective of the Balanced Fund is to earn a return both from capital appreciation (increases in market value) and current yield (dividends from stock and interest on bonds). The Balanced Fund pursues these objectives within the constraints of protecting against adverse financial environments and limiting short-run portfolio return volatility.

The SBI invests the Balanced Fund in a portfolio of domestic equities, fixed income (bonds) securities, and cash.

The long-term strategic asset allocation of the Balanced Fund is:

Domestic Equity	60%
Fixed Income	35%
Cash Equivalent	5%
Total	100%

Domestic equity provides the potential for significant long-term capital appreciation, while bonds provide both a hedge against deflation and the diversification needed to limit excessive portfolio return volatility.

At the close of fiscal year 2020, the value of the Balanced Fund was \$91.8 million.

Management

The Balanced Fund assets are invested by external institutional investment managers. The equity segment is passively managed by BlackRock Institutional Trust in the U.S. Equity Index Fund. This fund is managed to track the return of the Russell 3000 Index. The

fixed income assets are invested in the Bond Fund, which includes active and semi-passive external investment managers retained by the SBI. The cash portion of the Fund is actively managed by State Street Global Advisors.

Performance

As with the other SBI funds which use a multi-manager investment structure, the Board evaluates the performance of the Balanced Fund on two levels:

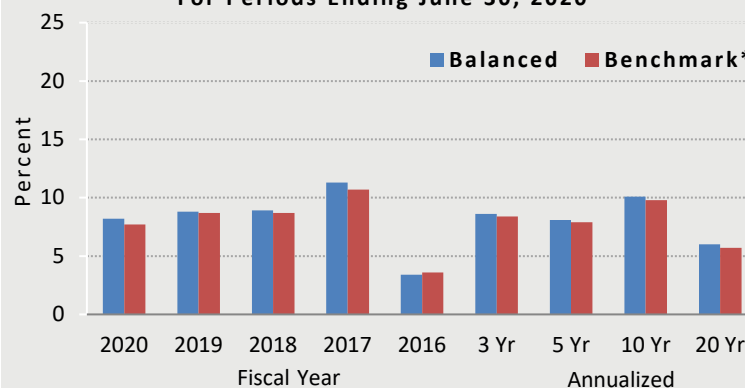
- **Total Fund.** The Balanced Fund is expected to exceed the returns of a composite of market indices weighted in the same proportion as its long-term asset allocation.
- **Individual Manager.** The passive stock manager is

expected to closely track the performance of the Russell 3000. The group of external bond managers for the Fund are expected to exceed the performance of the Bloomberg Barclays U.S. Aggregate Bond Index. The cash manager for the Fund is expected to exceed the performance of ICE BofA 3 Month U.S. Treasury Bill Index.

The Balanced Fund provided a return of 8.2% for fiscal year 2020, outperforming its benchmark. Over the most recent ten years, the Balanced Fund exceeded its benchmark by 0.3 percentage point.

Figure 37 below shows the historical performance results for this Fund.

Figure 37. Balanced Fund Performance
For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Balanced Fund	8.2	8.8	8.9	11.3	3.4
Benchmark*	7.7	8.7	8.7	10.7	3.6

* Composite since 10/1/03 consist of: 60% Russell 3000, 35% Bloomberg Barclays U.S. Aggregate Bond Index, and 5% in ICE BofA 3 Month T-Bills.

	Annualized as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Balanced Fund	8.6	8.1	10.1	6.0
Benchmark*	8.4	7.9	9.8	5.7

* Composite since 10/1/03 consist of: 60% Russell 3000, 35% Bloomberg Barclays U.S. Aggregate Bond Index, and 5% in ICE BofA 3 Month T-Bills.

Investment Vehicle - SIF Asset Class Pool

Investment Option - U.S. Equity Actively Managed Fund

U.S. Equity Actively Managed Fund

Objective

The investment objective of the U.S. Equity Actively Managed Fund is to generate high returns from capital appreciation. To achieve this objective, the Fund is invested primarily in domestic equities.

At the close of fiscal year 2020, the value of the Fund was \$64.1 million.

Management

The assets of the U.S. Equity Actively Managed Fund consists of the large-cap, small-cap, and semi-passive managers. These are actively managed asset groups within the Domestic Equity Program. This allocation reflects a more aggressive investment than is available through passive management. The Fund may hold a small amount of cash that represents new contributions received prior to investment in the market and cash that may be held by the individual managers in the Fund.

Performance

The Board evaluates the performance of the U.S. Stock Actively Managed Fund on two levels:

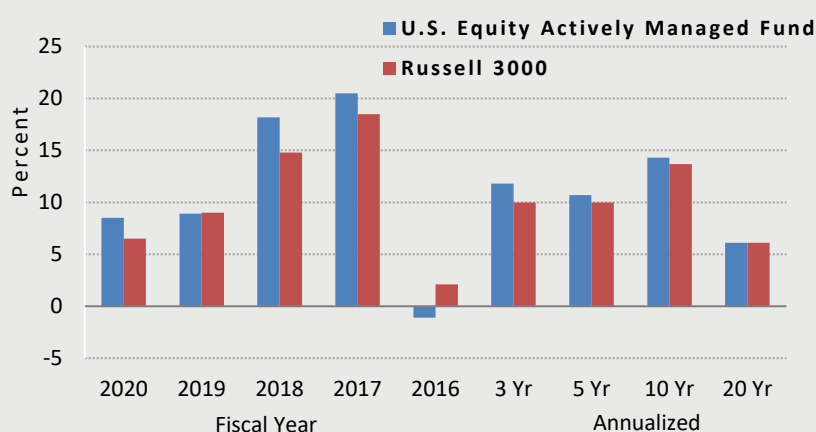
— **Total Fund.** The U.S. Stock Actively Managed Fund is expected to exceed the returns of the Russell 3000 Index.

— **Individual Manager.** Performance objectives for the individual managers are described beginning on page B17 of this report.

The U.S. Equity Actively Managed Fund provided a return of 8.5% for the fiscal year, outperforming its benchmark by 2.0 percentage points. Over the last ten-year period, the Fund outperformed its benchmark by 0.6 percentage point.

Historical performance results for this Fund is shown below in Figure 38.

Figure 38. U.S. Equity Actively Managed Fund Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
U.S. Equity Actively Managed Fund	8.5	8.9	18.2	20.5	-1.1
Benchmark*	6.5	9.0	14.8	18.5	2.1

* The U.S. Actively Managed Fund Asset Class Target is the Russell 3000 since 10/1/03.

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
U.S. Equity Actively Managed	11.8	10.7	14.3	6.1
Benchmark*	10.0	10.0	13.7	6.1

* The U.S. Actively Managed Fund Asset Class Target is the Russell 3000 since 10/1/03.

Investment Vehicle - SIF Asset Class Pool

Investment Option - U.S. Equity Index Fund

U.S. Equity Index Fund

Objective

The investment objective of the U.S. Equity Index Fund is to generate returns that track the performance of the broad U.S. common stock market as represented by the Russell 3000 Index. To accomplish this objective, the SBI allocates all of the assets of the Fund to passively managed domestic equities.

As of June 30, 2020, the value of the Fund was \$367.2 million.

Management

The U.S. Equity Index Fund invests in the Russell 3000 passively managed segment of the Domestic Equity Program.

The assets of the U.S. Equity Index Fund is passively managed by BlackRock Institutional Trust Company.

The passively managed mandate of the Domestic Equity Program provides the equity allocation in the Balanced Fund and Volunteer Firefighter Account.

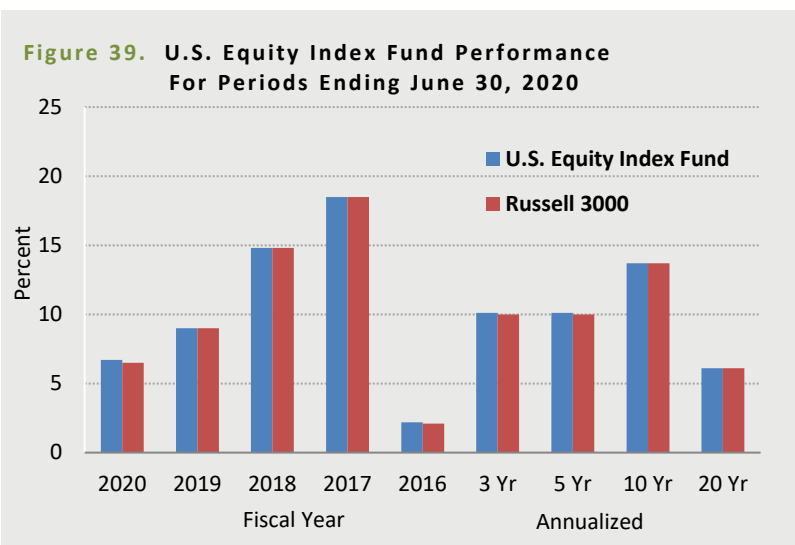
Performance

The performance objective of the U.S. Equity Index Fund is to track the performance of the Russell 3000. The SBI recognizes that the Fund's returns may deviate slightly from those of the Russell 3000 due to the effects of management fees, trading costs and cash flows.

Performance objectives for the Russell 3000 Index manager is described on page B23 of this report.

The U.S. Equity Index Fund outperformed the Russell 3000 Index for the fiscal year and closely tracked over longer periods.

Historical performance results for this Fund are shown below in Figure 39.



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
U.S. Equity Index	6.7	9.0	14.8	18.5	2.2
Benchmark*	6.5	9.0	14.8	18.5	2.1

* The U.S. Equity Index Fund Asset Class Target is the Russell 3000 since 10/1/03.

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
U.S. Equity Index	10.1	10.1	13.7	6.1
Benchmark*	10.0	10.0	13.7	6.1

* The U.S. Equity Index Fund Asset Class Target is the Russell 3000 since 10/1/03.

Investment Vehicle - SIF Asset Class Pool

Investment Option - Broad International Equity Fund

Broad International Equity Fund

Objective

The investment objective of the Broad International Equity Fund is to earn a high rate of return by investing in the equity of companies outside the U.S.

Typically, a majority of the Fund is invested in the largest international stock markets (Japan, United Kingdom, France, Switzerland and Canada). Most of the remainder is invested in other well-established markets in Europe and the Pacific region. In addition, the fund invests in emerging markets around the world, including those in Asia, Latin America, Eastern Europe, the Middle East and Africa.

At the end of fiscal year 2020, the Fund had a market value of \$110.5 million.

Management

The Broad International Equity Fund invests in the same pool of investment managers of the International Equity Program in the Combined Funds. The International Equity Program retains active, semi-passive, and passive managers. These managers use a variety of investment styles and approaches to buy and sell equities in an attempt to maximize market value. The passively managed portfolio's objective is to approximate the returns of the international markets in both the developed and emerging markets. The semi-passive mandates add incremental value over the index return by investing in broadly diversified portfolios of stocks in the developed and emerging markets. Overall, the Fund is

designed to consistently track the return of the MSCI ACWI ex USA Index (net), a developed and emerging markets index.

Performance

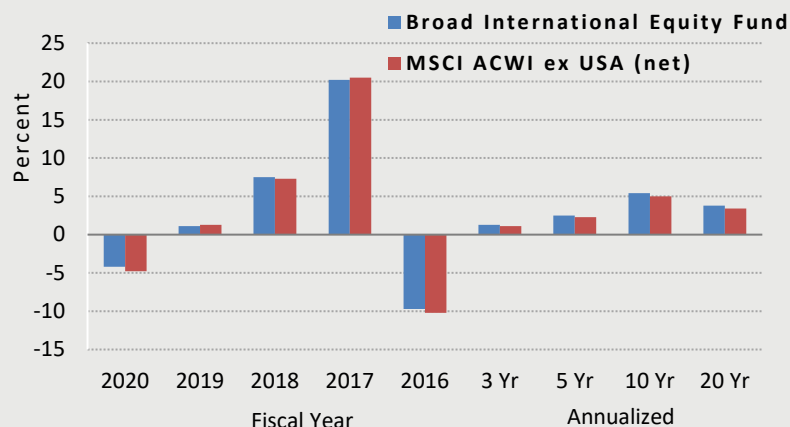
The Board evaluates the performance of the Broad International Equity Fund on two levels:

- **Total Fund.** The Broad International Equity Fund is expected to exceed the returns of the MSCI ACWI ex USA Index (net).
- **Individual Manager.** Performance objectives for the individual managers are described beginning on page B28 of this report.

During fiscal year 2020, the Broad International Equity Fund, with a return of -4.2%, outperformed the MSCI ACWI ex USA Index (net) by 0.6 percentage point. Over the most recent ten year period, the Broad International Equity Fund exceeded its benchmark by 0.4 percentage point.

Historical performance results for this Fund is shown below in Figure 40.

Figure 40. Broad International Equity Fund Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Broad International Equity Fund	-4.2	1.1	7.5	20.2	-9.7
Benchmark*	-4.8	1.3	7.3	20.5	-10.2

* The International Equity Asset Class Target is MSCI ACWI ex USA Index (net) since 10/1/03.

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr
Broad International Equity Fund	1.3	2.5	5.4	3.8
Benchmark*	1.1	2.3	5.0	3.4

* The International Equity Asset Class Target is MSCI ACWI ex USA Index (net) since 10/1/03.

Investment Vehicle - SIF Asset Class Pool

Investment Option - Bond Fund

Bond Fund

Objective

The objective of the Bond Fund is to maximize total return with investments that provide current income and long-term growth while still focusing on preservation of capital. The Fund is invested primarily in investment-grade government and corporate bonds and mortgage securities with intermediate to long maturities. A small portion of the Fund is invested in below investment grade and non-U.S. securities.

At the end of fiscal year 2020, the Fund had a market value of \$107.9 million.

The Fund earns investment returns through interest income and capital appreciation. Because bond prices move inversely with interest rates, the Fund entails some risk for investors. Historically, however, it represents a lower risk alternative than the investment options that include common stocks.

Management

The Bond Fund invests in the same managers of the Combined Funds Core Bond Program. The Bond Fund retains both active and semi-passive managers.

The Bond Fund also provides the fixed income allocation in the Balanced Fund and the Volunteer Firefighter Account.

Performance

The Board evaluates the performance of the Bond Fund on two levels:

- **Total Fund.** The Fund is expected to exceed the returns of the Bloomberg

Barclays U.S. Aggregate Bond Index.

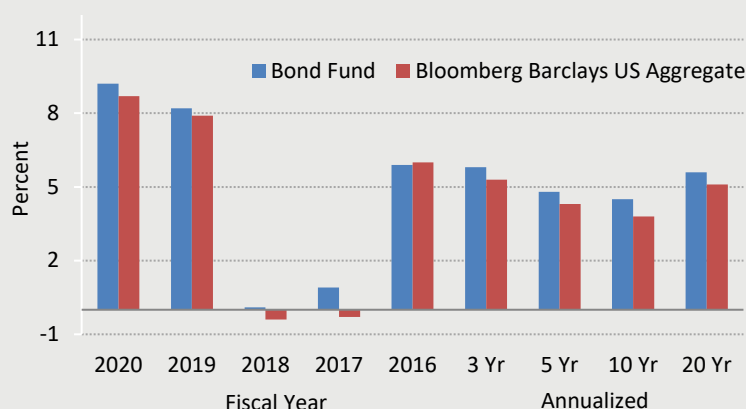
Individual Manager.

Performance objectives for the individual managers are described beginning on page B38 of this report.

For fiscal year 2020, the Bond Fund produced a return of 9.2%, which was 0.5 percentage point above the Bloomberg Barclays U.S. Aggregate Bond Index. For the most recent ten-year period, the Fund exceeded its benchmark by 0.7 percentage point.

Historical performance results for this Fund are shown below in Figure 41.

Figure 41. Bond Fund Performance
For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Bond Fund	9.2	8.2	0.1	0.9	5.9
BBG Barclays U.S. Aggregate Bond Index	8.7	7.9	-0.4	-0.3	6.0

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Bond Fund	5.8	4.8	4.5	5.6
BBG Barclays U.S. Aggregate Bond Index	5.3	4.3	3.8	5.1

SIF Investment Vehicle

Investment Option - Volunteer Firefighter Account

Statewide Volunteer Firefighter Retirement Plan

Minnesota Statutes, Chapter 353G creates a statewide, voluntary plan for local relief associations. The Plan was established January 1, 2010. Local entities may choose to join the statewide plan which is administered by Public Employees Retirement Association (PERA). Assets of the Plan are invested in the Volunteer Firefighter Account. Participation in the Plan is effective on December 31 of each year. The SBI must evaluate the assets of each local entity that seeks to join the Plan. In January of 2020, 14 local entities joined the Plan, transferring just under \$4.4 million to the SBI for investment. At the close of fiscal year 2020, 187 local fire entities, representing over \$118.0 million in assets, were in the Statewide Volunteer Firefighter Retirement Plan.

Objective

The investment objective of the Volunteer Firefighter Account is to earn a high rate of return from both capital appreciation (increases in market value) and current yield (dividends from stocks and interest on bonds). The Plan pursues this objective within the constraints of protecting against adverse financial environments and limiting short-run portfolio return volatility.

The SBI invests the Account in a balanced portfolio using the following allocations: U.S. Equity Index Fund 35%; Broad International Equity Fund 15%; Bond Fund 45%; and Money Market Fund 5%.

Domestic equities provide the potential for significant long-term capital appreciation, international equities provide similar potential along with a measure of diversification, and bonds provide both a hedge against deflation and the diversification needed to limit excessive portfolio return volatility.

Management

The Account's investment management structure combines active and passive management used by the Combined Funds. The domestic equity segment invests in the U.S. Equity Index Fund, a passively managed portfolio to track the returns of the Russell 3000 Index. The international equity segment invests in the International Equity Program which uses a combination of active, semi-passive and passive management to invest across a broad range of

developed and emerging markets. The bond segment invests in the Core Bond Program used by the Combined Funds, which retains both active and semi-passive managers.

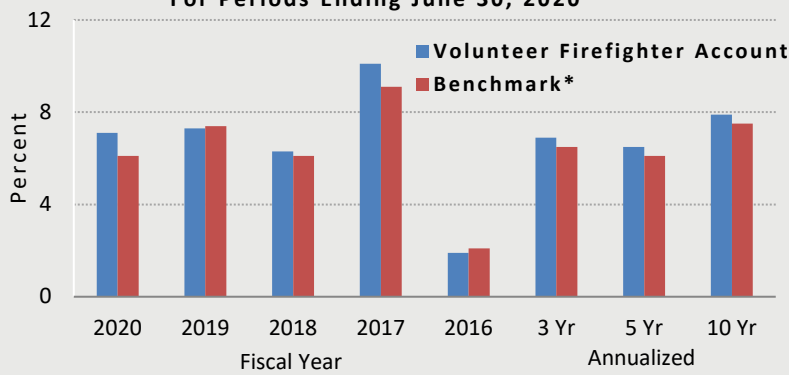
Performance

As with other SBI funds which utilize a multi-manager investment structure, the Board evaluates the performance of the Volunteer Firefighter Account on two levels: total account and by individual manager.

The Account provided a return of 7.1% for the year ending June 30, 2020, which outperformed its composite benchmark by 1.0 percentage points. Over the most recent ten-year period, the Plan exceeded its benchmark by 0.4 percentage point.

Figure 42 provides the historical performance results for the Volunteer Firefighter Account.

Figure 42. Volunteer Firefighter Account Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Volunteer Firefighter Account	7.1	7.3	6.3	10.1	1.9
Benchmark*	6.1	7.4	6.1	9.1	2.1

* Composite consist of: 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Bloomberg Barclays U.S. Aggregate Bond Index, and 5% ICE BofA 3 Mo. T-Bills.

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Volunteer Firefighter Account	6.9	6.5	7.9	NA
Benchmark*	6.5	6.1	7.5	NA

* Composite consist of: 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Bloomberg Barclays U.S. Aggregate Bond Index, and 5% ICE BofA 3 Mo. T-Bills.

SIF Investment Vehicle

Investment Option - Money Market Fund

Money Market Fund

Objective

The Money Market Fund invests in high quality, short-term debt instruments. The Fund's investment objectives are to preserve capital and offer competitive money market returns.

The Money Market Fund is available in both the SIF and Mutual Fund Investment Platforms. As of June 30, 2020, there was \$567.0 million invested in the Money Market Fund. Not including the cash balances from the Balanced Fund and the Volunteer Firefighter Account, which are reported in their respective Funds, the market value of the Money Market Fund is \$557.0 million.

Figure 43 provides the composition of the plans invested in the Money Market Fund as of June 30, 2020.

Management

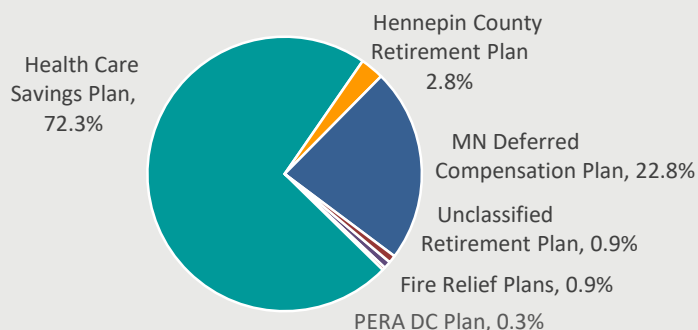
The Money Market Fund uses the same cash manager as the Combined Funds, which is State Street Global Advisors.

Performance

The Money Market is expected to produce returns competitive with those available from short-term debt securities. For fiscal year 2020, the Money Market Fund generated a return of 1.7%, which slightly outperformed its benchmark. Over the most recent ten-year period, the Fund outperformed its target by 0.2 percentage point.

Historical performance results for the Fund are shown in Figure 44.

Figure 43. Composition of Money Market Fund by Plan as of June 30, 2020

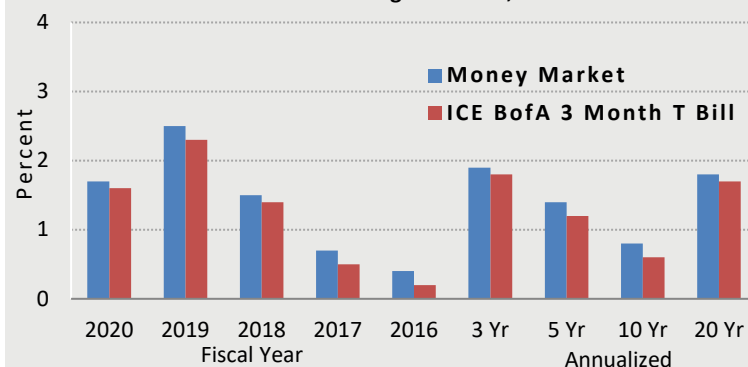


Allocation of Money Market Fund Assets by Plan as of June 30, 2020

Plan Sponsor	Investment Platform	Market Value (\$ in 000's)
Fire Relief Plans	SIF	4,818.8
PERA DC Plan	SIF	1,934.7
Health Care Savings Plan	Mutual Fund	402,756.2
Hennepin County Retirement Plan	Mutual Fund	15,461.0
MN Deferred Compensation Plan	Mutual Fund	127,120.8
Unclassified Retirement Plan	Mutual Fund	4,919.5
Total		557,011.0

The Money Market Fund totaled \$562.8 million when including the Balanced Fund and the Volunteer Firefighter Account cash balances.

Figure 44. Money Market Fund Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Money Market Fund	1.7	2.5	1.5	0.7	0.4
ICE BofA 3 Month T Bill	1.6	2.3	1.4	0.5	0.2

	Annualized Return (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr
Money Market Fund	1.9	1.4	0.8	1.8
ICE BofA 3 Month T Bill	1.8	1.2	0.6	1.7

SIF Investment Vehicle

Investment Option - Stable Value Fund

Stable Value Fund

Objective

The investment objectives of the Stable Value Fund are to provide preservation of principal, maintain adequate liquidity, produce a level of income, and provide low volatility of returns.

At the end of June 30, 2020, the total market value of the Stable Value Fund was approximately \$1.7 billion. Figure 45 provides the composition of the plans invested in the Stable Value Fund as of June 30, 2020.

Management

The manager for the Stable Value Fund is Galliard Capital Management, a subsidiary of Wells Fargo Asset Management.

The Fund invests in synthetic Guaranteed Investment Contracts (GICs), each of which is a combination of an underlying fixed income portfolio and a book value wrap contract issued by an insurance company or a bank. These wrap contracts are designed to allow participants to transact at book value (principal plus accrued interest) and provide preservation of principal and a relatively stable return profile.

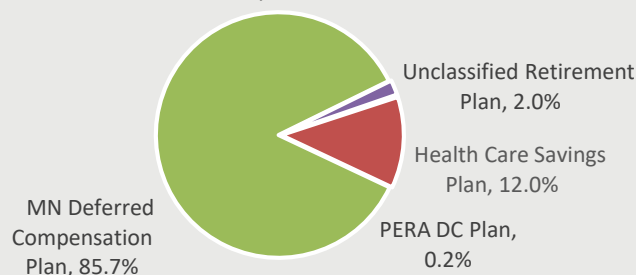
The underlying fixed income portfolio invests in a well-diversified portfolio of U.S. dollar denominated, investment grade fixed income securities. Separate from the assets held under the wrap contracts, the Fund may hold up to 3% of the Fund's assets in a short-term investment fund in order to maintain necessary liquidity.

Performance

Performance reflects the blended crediting rates from all investments in the fund. The Stable Value Fund is expected to exceed the returns of its benchmark, the 3-year Constant Maturity Treasury plus 45 basis points.

During fiscal year 2020, the Stable Value Fund provided a return of 2.7%, an outperformance of 1.1 percentage points above its benchmark. Figure 46 provides the historical performance results for the Stable Value Fund.

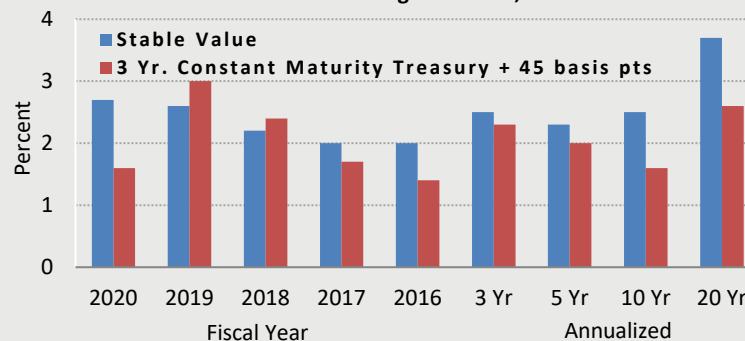
Figure 45. Composition of Stable Value Fund by Plan as of June 30, 2020



Allocation of Stable Value Fund Assets by Plan as of June 30, 2020

Plan Sponsor	Investment Platform	Market Value (\$ in 000's)
PERA DC Plan	SIF	4,083.8
Health Care Savings Plan	Mutual Fund	199,820.4
MN Deferred Compensation Plan	Mutual Fund	1,422,997.7
Unclassified Retirement Plan	Mutual Fund	32,884.0
Total		1,659,785.9

Figure 46. Stable Value Fund Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Stable Value Fund	2.7	2.6	2.2	2.0	0.4
Benchmark*	1.6	3.0	2.4	1.7	0.2
	Annualized Return (%) as of June 30, 2020				
	3 Yr.	5 Yr.	10 Yr.	20 Yr.	
Stable Value Fund	2.5	2.3	2.5	3.7	
Benchmark*	2.3	2.0	1.6	2.6	

* Benchmark is the 3-Year Constant Maturity Treasury plus 45 basis points since 7/1/02.

PARTICIPANT DIRECTED INVESTMENT PROGRAM

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PARTICIPANT DIRECTED INVESTMENT PROGRAM

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Participant Directed Investment Program

Investment Program Overview

The Participant Directed Investment Program (PDIP) consist of retirement or other tax advantaged savings plans where the participant is responsible for making their own investment decisions. As of June 30, 2020, just under \$11.2 billion was invested with the various investment platforms offered in PDIP.

Overview

The Participant Directed Investment Program (PDIP) provides investment options for a variety of retirement and tax advantaged savings plans. Investment goals among the participants will vary. In order to meet the variety of goals, participants may allocate their investments among one or more of the eligible investment options offered within the SIF Investment Platform utilized by the PERA DC Plan; and the Mutual Fund Investment Platform utilized by the remaining plans in the PDIP program. Eligible options depend on the statutory requirements, operational limitations, and other regulations and rules established for the participating organization.

Program Changes

Investment options within the PDIP platform are subject to change. On July 1, 2019 three of the plans: Health Care Savings Plan (HCSP), Unclassified Retirement Plan, and the Hennepin County Supplemental Retirement Plan, transitioned from the SIF Investment Platform to the Mutual Fund Investment Platform offered to participants in the Minnesota Deferred Compensation Plan (MNDGP).

Investment Objective

The SBI's objective is to provide quality investment options at a low cost to help

participants meet their savings goals. Participants in this program are responsible for their own asset allocation and investment decisions.

Participating Plans

Legislative approval is required for the SBI to invest the assets of any plan. The SBI does not administer plan assets. Figure 47 provides the composition of the plans in PDIP. A brief summary of the eligible entities and participating plans that invest in PDIP are as follows.

Health Care Savings Plan

The Health Care Savings Plan (HCSP) was established under *Minnesota Statutes*, § 352.98 and is set up as a section 115 Governmental Trust exempt from federal income tax through Private Letter Ruling. The HCSP is available to all public employees in the state of Minnesota. As specified in *Minnesota Statutes*, § 356.645 the SBI is responsible for determining the investment options for this plan.

Participants in this Plan invest in the following vehicles:

- Mutual Funds
- Stable Value Fund
- Money Market Fund

Unless participants direct otherwise, the default investment option is the Money Market Fund.

The Plan is administered by Minnesota State Retirement System (MSRS) who has contracted with Empower as the record keeper. As of June 30, 2020, approximately \$1.3 billion was invested in the Health Care Savings Plan.

Hennepin County Supplemental Retirement Plan

The Hennepin County Supplemental Retirement Plan is governed under *Minnesota Statutes*, § 383B.48 and is a voluntary, non-qualified deferred compensation plan. This is an optional plan for qualified employees of Hennepin County, Minnesota who were employed prior to April 14, 1982.

Figure 47. Participant Directed Investment Plan Assets as of June 30, 2020

Plans	Market Value (\$ in 000's)
Health Care Savings Plan	1,299,176.5
Hennepin County Supplemental Retirement Plan	159,779.1
Minnesota Deferred Compensation Plan	7,717,315.8
Public Employees Retirement Association Defined Contribution Plan	77,964.5
Unclassified State Employees Retirement Plan	330,609.9
Minnesota College Savings Plan	1,557,075.2
Minnesota Achieving a Better Life Experience (ABLE) Plan	11,996.7
Total Participant Directed Investment Plan Assets	11,153,917.7

Participant Directed Investment Program

Investment Program Overview

Participants in this Plan invest in the following vehicles:

- Mutual Funds
- Money Market Fund

This is a closed plan. The investment default option was the SIF Bond Fund. The Plan is administered by Minnesota State Retirement System (MSRS) who has contracted with Empower as the record keeper. As of June 30, 2020 just under \$160 million was invested in the Hennepin County Supplemental Retirement Plan.

Minnesota Deferred Compensation Plan

The Minnesota Deferred Compensation Plan (MNDCP) was established under *Minnesota Statutes*, § 352.965 and is classified under section 457(b) of the Internal Revenue Code. The Plan is optional for all public employees in the state of Minnesota and political subdivision employees.

Participants in this Plan have the option to invest in the following vehicles:

- Mutual Funds
- Target Date Fund (TDF)
- Stable Value Fund
- Money Market Fund
- Brokerage Window

Unless participants direct otherwise, the default option is the Minnesota Target Retirement Fund.

The Plan is administered by Minnesota State Retirement System (MSRS) who has contracted with Empower as the record keeper. As of

June 30, 2020, participants invested a total of \$7.7 billion in the Minnesota Deferred Compensation Plan.

Public Employees Retirement Association Defined Contribution (PERA DC) Plan

The PERA DC Plan is governed under *Minnesota Statutes*, Chapter 353D and satisfies the requirements of section 401(a) of the Internal Revenue Code. The defined contribution plan is exclusively for physicians, elected local governmental officials, city managers, and governmental volunteer ambulance service personnel.

Participants in this Plan invest in the Supplemental Investment Fund (SIF) platform which include the following:

- SIF Asset Class Pools
- Stable Value Fund
- Money Market Fund

Unless participants direct otherwise, the default investment option is the SIF Balanced Fund.

PERA is the administrator for the Plan and the SBI provides reports showing annual returns and market value of all SIF investment options. As of June 30, 2020 participants invested \$78 million in the PERA DC Plan.

Unclassified Retirement Plan

The Unclassified Retirement Plan was established under *Minnesota Statutes*, Chapter 352D and satisfies the requirements of section 401(a) of the Internal Revenue Code. The Unclassified Retirement

Plan is available to specified Minnesota employees in unclassified positions.

Participants in this Plan invest in the following vehicles:

- Mutual Funds
- Target Date Fund (TDF)
- Stable Value Fund
- Money Market Fund

Unless participants direct otherwise, the default investment option is the Minnesota Target Retirement Fund.

The Plan is administered by Minnesota State Retirement System (MSRS) who has contracted with Empower as the record keeper. As of June 30, 2020 there was over \$330 million invested in the Unclassified Retirement Plan.

Minnesota College Savings Plan (529 Plan)

The Minnesota Legislature authorized establishment of the Minnesota College Savings Plan under *Minnesota Statutes*, § 136G.01 in 1997 and in 2001 the tax advantaged savings plan was launched. 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. (TFI) to provide administrative, marketing, communication, record keeping and investment management services.

A summary of the investment options in this Plan begin on page B95.

Participant Directed Investment Program Investment Program Overview

As of June 30, 2020, there was approximately \$1.6 billion in assets invested in the Minnesota College Savings Plan.

Information on the Minnesota College Savings Plan can be found under www.mnsaves.org.

Minnesota ABLE (Achieving a Better Life Experience) Plan

The Minnesota ABLE Plan was established in 2015 under *Minnesota Statutes*, Chapter 256Q. The Plan is allowed under section 529A of the Internal Revenue Code to encourage and assist individuals to save for qualified disability related expenses in a tax-advantaged savings plan without jeopardizing eligibility for other benefits.

The SBI is responsible for the investment oversight and the Commissioner of the Department of Human Services (DHS) is responsible for the administration of the Plan. The SBI and DHS have contracted jointly with Ascensus to provide record keeping, administrative and investment management services. In 2017, the State of Minnesota joined the National ABLE Alliance Program, which allowed states across the nation to enter an interstate consortium so that the Plan would have scale so that it would benefit from lower fees and operational efficiencies.

Information on the Minnesota ABLE Plan, including the list of states that sponsor an ABLE

Plan in the program can be found under www.savewithable.com.

A summary of the investment options in this Plan is found on page B98.

As of June 30, 2020, there was approximately \$12 million invested in the Minnesota ABLE Plan.

Investment Vehicles

The investment vehicles offered in PDIP are described in more detail in the respective sections of the annual report. Figure 48 provides a grid of the vehicles available to the participating entities.

Figure 48. Investment Vehicles available to Eligible Plans in the Participant Directed Investment Program as of June 30, 2020

Investment Vehicle	Annual Report Pages	Health Care Savings Plan (HCSP)	Hennepin County Supplemental Retirement Plan	MN Deferred Comp Plan (MNDCP)	PERA Defined Contribution Plan	Unclassified Employees Retirement Plan	MN College Savings Plan and MN ABLE Plan
SIF Asset Class Pools	B81-B85				✓		
Money Market Fund	B87	✓	✓	✓	✓	✓	
Stable Value Fund	B88	✓		✓	✓	✓	
Mutual Funds	B93	✓	✓	✓		✓	
Target Date Fund (TDF)	B94			✓		✓	
Third Party Program Manager	B97-98						✓

Participant Directed Investment Program Investment Vehicles

The Participant Directed Investment Program (PDIP) provides a variety of investment vehicles to state and local public employees for their retirement or other tax-advantaged savings plans and to individuals and families in the State Sponsored Savings Plans.

Program Structure

The investment platforms used by PDIP participants include the Supplemental Investment Fund (SIF) line-up, Mutual Fund line-up, and the mutual fund line-up provided by a third party program manager used by the State Sponsored Savings Plan.

Over \$8.6 billion of PDIP assets are invested in the Mutual Fund investment platform. Historical performance results for the Mutual Fund investment platform for periods ending June 30, 2020, are provided on page B93 in Figure 49.

A description of the investment approach for the mutual fund and target date fund investment options is included in the **Manager Summaries** section beginning on page B99.

Information and performance results for the two state sponsored savings plans, the Minnesota College Savings Plan and the Minnesota ABLE Plan, begin on page B95 and B98, respectively.

Mutual Fund Investment Vehicles

Actively Managed Options

The platform offers a range of actively managed options that allows participants the flexibility to create an investment program to meet their needs.

- *Large-Cap Equity*

This option is a concentrated portfolio of high quality

stocks that generally offer current dividends. The fund is expected to outperform the NASDAQ U.S. Dividend Achievers Select Index. The fund currently offered is the Vanguard Dividend Growth Fund.

- *Small-Cap Equity*

This option invests primarily in companies with small market capitalizations. The fund is expected to outperform the Russell 2000 over time. T. Rowe Price Small-Cap Stock Fund is the fund currently offered.

- *Bond Fund*

This option invests primarily in investment grade securities in the U.S. bond market. The fund is expected to outperform the Bloomberg Barclays U.S. Aggregate Bond Index over time. The fund currently offered is the Dodge & Cox Income Fund.

- *International Equity Commingled Investment Trust (CIT)*

This option invests primarily in stocks of companies in developed countries located outside the United States. The fund is expected to outperform the Morgan Stanley Capital International (MSCI) Index of Europe, Australasia and the Far East (EAFE) over time. The fund currently offered is the Fidelity Diversified International Fund.

Passively Managed Options

The plan offers a range of passively managed options that allows participants the flexibility to create a lower cost investment program to meet their needs.

- *All-Cap Equity*

This option is a passive domestic equity portfolio that tracks the CRSP U.S. Stock Market. The fund currently offered is the Vanguard Total U.S. Stock Index Fund.

- *Large-Cap Equity*

This option is a passive domestic stock portfolio that tracks the S&P 500. The fund currently offered is the Vanguard Institutional Index Plus Fund.

- *Mid-Cap Equity*

This option invests in companies with medium market capitalizations that track the CRSP U.S. Mid-Cap Index. The fund currently offered is the Vanguard Mid-Capitalization Index Institutional Fund.

- *Balanced Fund*

This option is a mix of stocks and bonds. The fund is expected to track a weighted benchmark of 60% CRSP U.S. Total Market Index and 40% Bloomberg Barclays U.S. Aggregate Bond Index. The fund currently offered is the Vanguard Balanced Index Fund.

Participant Directed Investment Program Investment Vehicles

- **Bond Fund**
This option invests in a broad range of U.S. fixed income securities. The fund is expected to track the performance of the Bloomberg Barclays U.S. Aggregate Bond Index. The fund currently offered is the Vanguard Total Bond Market Index Fund.
- **International Equity**
This option invests in international equities and is expected to track the FTSE Global All Cap ex U.S. Index, an index designed to measure equity market performance in developed and emerging markets, excluding the United States. The fund currently offered is the Vanguard Total International Stock Index Fund.

Figure 49. Mutual Fund Investment Vehicles¹ as of June 30, 2020

Fund/Benchmark	Annualized Returns ²						Market Value ³ (\$ in 000's)	Option Since
	1 Year		3 Years		5 Years			
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
Actively Managed								
Vanguard Dividened Growth	1.3	3.7	10.1	10.3			709,554.8	9/2016
NASDAQ U.S. Dividend Achievers Select Index								
T. Rowe Price Small Cap Stock Fund	-0.4	-6.6	9.3	2.0	9.1	4.3	734,924.5	4/2000
Russell 2000								
Fidelity Diversified International Fund	8.5	-5.1	5.7	0.8	4.8	2.1	310,651.0	7/1999
MSCI EAFE Net Div								
Dodge & Cox Income Fund	8.3	8.7	5.4	5.3	4.7	4.3	302,153.4	7/1999
Bloomberg Barclays U.S. Aggregate								
Stable Value Fund ⁴	2.7	1.6	2.5	2.3	2.3	2.0	1,655,702.1	11/1994
3 year Constant Maturity Treasury + 45 bps								
Money Market Fund ⁵	1.7	1.6	1.9	1.8	1.4	1.2	546,418.1	7/1999
Three Month T-Bill Benchmark								
Passively Managed								
Vanguard Total U.S. Stock Index Fund	6.5	6.5					493,798.7	7/2019
CRSP U.S. Total Stock Market								
Vanguard Institutional Index Plus Fund	7.5	7.5	10.7	10.7	10.7	10.7	1,335,839.9	7/1999
S&P 500								
Vanguard Mid Cap Fund	-0.2	-0.2	6.5	6.5	7.0	7.0	542,524.8	1/2004
CRSP U.S. Mid Cap Benchmark								
Vanguard Total Intl Stock Index	-4.0	-4.6	1.1	0.9	2.5	2.2	274,779.2	7/2011
FTSE Global All Cap ex U.S.								
Vanguard Balanced Fund	8.2	8.0	8.6	8.6	8.0	8.0	1,241,210.9	12/2003
Composite Benchmark								
Vanguard Total Bond Fund	9.0	8.7	5.3	5.3	4.3	4.3	383,413.7	12/2003
Bloomberg Barclays U.S. Aggregate								
Brokerage Window								
Ameritrade Self Directed							77,541.7	
Total Mutual Fund Vehicles							8,608,512.9	

¹ Includes Mutual Funds, CIT, Stable Value Fund and Money Market Fund.

² Returns are net of Investment Fees and before MSRS Administrative fees.

³ Market Value of SBI participation in Fund.

⁴ Market Value reported does not include PERA DC Plan assets. In aggregate, assets in Stable Value Fund is \$1,659.8 million as of June 30, 2020.

⁵ Market Value reported does not include the Fire Relief Plan, SVF Plan, and PERA DC Plan assets. In aggregate, assets in Money Market Fund is \$557.0 million as of June 30, 2020.

Participant Directed Investment Program Investment Vehicles

Minnesota Target Retirement Fund

The Minnesota Target Retirement Fund offers a range of target date funds, which are diversified options with allocations that change over time to reduce risk and become more conservative as the target retirement date approaches.

State Street Global Advisors (SSGA) was hired in 2011 to manage the Fund.

Glidepath Construction

The target date fund glide path gradually shifts the asset allocation to specific targets at different stages in a participant's life cycle. The Minnesota Target Date Retirement Fund glide path features investment solutions to provide the participant with opportunities

for growth, diversification, capital preservation and, ultimately, real income replacement at retirement.

Underlying Passive Funds in Glidepath

The underlying funds are passively managed in index funds. Over time, the Minnesota Target Retirement Fund will allocate assets across the following underlying strategies:

- **U.S. Large Cap:** invests in the S&P 500 Index for wealth accumulation.
- **U.S. Small/Mid Cap Equity:** invests in the Russell Small Cap Completeness Index for diversification and wealth accumulation.
- **Non-U.S. Developed/ Emerging Equity:** invests in the MSCI ACWI ex-US IMI

Index for wealth accumulation and diversification.

- **Global Real Estate:** invests in the Global Real Estate Securities Index for Income, diversification, and inflation protection.
- **Core Aggregate Bonds:** invests in the U.S. Aggregate Bond Index for income, and to balance volatility risk.
- **Long-Term Governmental Bonds:** invests in Long U.S. Government Bond Index for diversification and matches duration to longer term liabilities for younger participants.
- **Intermediate Inflation-Protected Bonds:** invests in 1-10 year U.S. Treasury Inflation Protected Securities (TIPS) for income, inflation protection, volatility risk protection and to mitigate interest rate risk for older participants.
- **High Yield Bonds:** invests in U.S. High Yield Very Liquid Bond Index for diversification, and to mitigate longevity risk.
- **Short-Term Bonds:** invests in U.S. Short Term Government/Credit Bond Index invest for income, volatility risk protection and mitigate interest rate risk for older participants.
- **Commodities:** invests in Bloomberg Roll Select Commodities Index Strategy for diversification and inflation protection.

Figure 50. Minnesota Target Retirement Fund Performance for Periods Ending June 30, 2020

Fund	Annualized Returns ¹						Market Value ² (\$ in 000's)	Option Since
	1 Year		3 Years		5 Years			
	Actual	Bmk	Actual	Bmk	Actual	Bmk		
	%	%	%	%	%	%		
Income Fund	4.2	4.0	4.7	4.6	4.3	4.2	223,298.4	7/2011
2025 Fund	4.0	3.9	5.5	5.4	5.3	5.3	178,297.8	7/2011
2030 Fund	5.9	5.7	6.6	6.6	6.4	6.4	131,549.0	7/2011
2035 Fund	6.8	6.7	7.2	7.2	6.9	6.8	102,083.2	7/2011
2040 Fund	6.5	6.3	7.3	7.2	7.0	7.0	81,609.0	7/2011
2045 Fund	5.9	5.7	7.1	7.1	7.0	7.0	70,405.9	7/2011
2050 Fund	5.2	5.1	7.1	7.0	7.1	7.0	53,500.8	7/2011
2055 Fund	5.0	4.9	7.0	6.9	7.0	7.0	33,230.6	7/2011
2060 Fund	4.9	4.9	7.0	6.9	7.0	7.0	28,409.5	7/2011
2065 Fund							873.3	4/2020
Total MN Target Retirement Funds							903,257.6	

¹ Returns are net of Investment Fees and before MSRS Administrative fees. The benchmark return for each fund is an aggregate of SSGA's underlying index fund return weighted by its target asset allocation.

² Market Value of SBI participation in Fund.

Performance results for the target date fund option for periods ending June 30, 2020 is shown in Figure 50.

Participant Directed Investment Program

State Sponsored Savings Program: Minnesota College Savings Plan

The Minnesota College Savings Plan is an education savings plan designed to help families save for future college costs. It is established under the provisions of the Internal Revenue Code Section 529, which authorized these types of savings plans to help families meet the costs of qualified colleges nationwide. On June 30, 2020, the market value of the Plan was just under \$1.6 billion.

Program Structure

The Minnesota Legislature authorized establishment of the Minnesota College Savings Plan (the Plan) in 1997 and in 2001 the Plan was launched. The State Board of Investment (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. (TFI) to provide administrative, marketing, communication, recordkeeping and investment management services.

Objective

The objective of the Plan is to be competitive in the market place by providing quality investment options with low fees to its participants. The Plan is a direct-sold plan (i.e. may be purchased directly without an investment advisor) and offers nine Age-Based Managed Allocation Options, three Risk-Based Allocation Options and seven Static Investment Options. The Plan has both active and passive management through TIAA's mutual funds. While all options are priced daily, participants may re-allocate their investment twice per calendar year.

2020 Changes

There were a number of enhancements made to the Plan during the 2020 fiscal year:

- Lowered program management fees and investment management fees.
- Added underlying funds from Dimensional Fund Advisors (actively managed Real Estate Fund) and Vanguard (passively managed Emerging Market Stock Index, Total Bond Market Index, Short Term Inflation Protected Securities Index, and an actively managed High Yield Corporate Fund).
- Transitioned the Managed Allocation Option from an age-based to an Enrollment Year Investment Option. This change provided flexibility for the investor to choose the option that corresponds to the beneficiary's expected year of enrollment, or one that best meets the investment risk profile and time horizon. This transition also allows for performance reporting of the beneficiary's portfolio throughout the lifetime of their account.

The distribution of assets in the Minnesota College Savings Plan investment options as of June 30, 2020, is shown in Figure 51 on the following page.

Enrollment Based Managed Allocation Option

This investment option seeks to align the investment objective and level of risk to the investment horizon by taking into account the beneficiary's number of years before the beneficiary is expected to enter

college. Depending on the length of time until the beneficiary is expected to attend school, the assets contributed to this option are placed in one of ten enrollment options. As the beneficiary progresses towards college, the assets transition to a more conservative allocation. The enrollment options for younger beneficiaries seek a favorable long-term return by investing at a higher level of risk but greater potential for higher returns than more conservative investments. As a beneficiary nears college age, the age bands allocate less to equity and real estate and more to fixed-income and money market securities to preserve capital.

Risk Based Allocation Option

These Investment Options provide a fixed risk level and do not change as the beneficiary ages. There are three separate Risk Based Allocation Options: Aggressive, Moderate and Conservative.

- The **aggressive option** seeks to generate a favorable long-term return by investing in mutual funds that invest primarily in equity securities and, to a lesser extent, invest in debt securities.

Approximately 48% of the fund is allocated to U.S. equity securities; 19% to developed international equities; 5% to emerging markets equities; 8% real estate securities; 14% to public, investment-grade, taxable debt securities

Participant Directed Investment Program

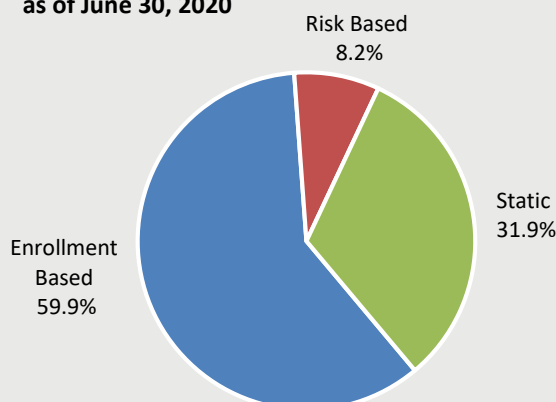
State Sponsored Savings Program: Minnesota College Savings Plan

denominated in U.S. dollars; 4% to inflation-linked bonds and 2% to high yielding debt securities.

- The **moderate option** seeks to provide moderate growth by investing in a balanced mix of domestic and foreign equity securities, fixed income and real estate-related securities. Approximately 36% of the fund is allocated to U.S. equity securities; 14% to developed international equities; 4% to emerging markets equities; 6% real estate securities; 28% to public, investment-grade, taxable debt securities denominated in U.S. dollars; 8% to inflation-linked bonds and 4% to high yielding debt securities.

- The **conservative allocation option** seeks to provide a conservative to moderate total return by investing in mutual funds that invest primarily in debt securities and, to a lesser extent, invests in equity securities. This option also invests in a funding agreement. Approximately 18% of the fund is allocated to U.S. equity securities; 7% to developed international equities; 2% to emerging markets equities; 3% real estate securities; 32% to public, investment-grade, taxable debt securities denominated in U.S. dollars; 9% to inflation-linked bonds; 4% to high yielding debt securities and 25% in a funding agreement issued by TIAA-CREF Life (see the Principal Plus Interest Option on the following page for further detail on the funding agreement).

Figure 51. MN College Savings Plan Assets by Investment Option as of June 30, 2020



Static Options

- International Equity Index Option

This investment option seeks to provide a favorable long-term total return, mainly

through capital appreciation. Approximately 80% of the fund is allocated to equity securities of issuers located in developed markets and 20% is allocated to equity securities of issuers located in emerging markets.

- U.S. and International Equity Option

This investment option seeks to provide a favorable long-term total return, mainly from capital appreciation, by allocating primarily to a blend of equity and real estate-related securities.

Approximately 60% of the fund is allocated to U.S. equity securities, 24% to equity issuers located in developed markets, 6% to equity securities of issuers located in emerging markets and 10% to real estate-related securities.

- U.S. Large Cap Equity Option

This investment option seeks to provide a favorable long-term total return mainly from capital appreciation. All assets of the fund are invested in an S&P 500 index fund.

- Equity and Interest Accumulation Option

This investment seeks to provide a moderate long-term total return. Approximately half of its assets are invested in an equity index fund and the other half in a funding agreement.

- 100% Fixed-Income Option

This investment option seeks to provide preservation of capital along with a moderate rate of return through a diversified mix of fixed income investments. Approximately 70% of the fund is allocated to public, investment-grade, taxable bonds denominated in U.S. dollars, 20% to inflation-linked bonds and 10% to a high yield fund.

Participant Directed Investment Program

State Sponsored Savings Program: Minnesota College Savings Plan

- **Money Market Option**

This investment option seeks to provide current income consistent with preserving capital.

The money market option converted to a “governmental money market fund” in October 2016. As a result, the Fund is limited to U.S. Government securities and will invest at least 99.5% of

its total assets in cash, short-term U.S. Government securities and/or repurchase agreements collateralized fully by cash or U.S. Government securities.

- **Principal Plus Interest Option**

This investment option seeks to preserve capital and provide a stable return. The contributions into this

investment option 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.

Historical performance as of June 30, 2020 is shown below in Figure 52.

Figure 52. Minnesota College Savings Plan Performance for Periods Ending June 30, 2020

	Annualized Returns ¹						Market Value ² (\$ in 000's)	Option Since ³
	1 Year		3 Years		5 Years			
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
Age Based Options								
In School Enrollment							208,455.2	10/28/2019
2020/2021 Enrollment							191,315.3	10/28/2019
2022/2023 Enrollment							157,351.0	10/28/2019
2024/2025 Enrollment							123,593.5	10/28/2019
2026/2027 Enrollment							82,926.6	10/28/2019
2028/2029 Enrollment							57,042.1	10/28/2019
2030/2031 Enrollment							40,919.8	10/28/2019
2032/2033 Enrollment							30,589.9	10/28/2019
2034/2035 Enrollment							24,539.8	10/28/2019
2036/2037 Enrollment							16,707.9	10/28/2019
Risk Based Allocation Options								
Aggressive Allocation	3.4	4.7	6.6	7.0	6.8	7.2	38,036.7	8/12/2014
Moderate Allocation	4.8	5.6	6.3	6.6	6.2	6.5	75,986.9	8/2/2007
Conservative Allocation	4.6	5.1	4.8	5.1	4.5	4.6	13,087.6	8/18/2014
Static Options								
International Equity Index	-4.4	-4.7	1.0	1.1	2.2	2.3	5,122.8	6/18/2013
U.S. and International Equity	2.0	3.7	6.8	7.3	7.4	7.7	263,551.6	10/1/2001
U.S Large-Cap Equity	7.4	7.5	10.5	10.7	10.5	10.7	46,979.6	8/12/2014
Equity and Interest Accumulation	4.7	4.7	6.0	6.2	5.9	5.8	5,052.6	8/18/2014
100% Fixed-Income	6.7	7.0	4.5	4.8	3.7	4.0	20,921.8	8/16/2007
Money Market	1.2	1.1	1.4	1.3	0.9	0.8	17,002.9	11/1/2007
Principal Plus Interest ⁴	2.1	1.6	1.9	1.7	1.7	1.2	137,891.7	10/10/2001
Total Minnesota College Saving Plan							1,557,075.2	

¹ Returns are net of Total Fund Expense, TIAA Program Administrative Fee, and State Administrative fee. Benchmark of the multi-asset class funds represent the aggregate of the underlying index funds weighted by the target asset allocation.

² Market value of SBI participation in fund.

³ The Managed Allocation Investment Option transitioned from an Age-Based Investment Option to an Enrollment Year Investment Option as of 10/25/2019.

⁴ The guaranteed annual crediting rate effective 9/1/2020 until 8/31/2021 is 1.5% and prior to that was 1.95% from 9/1/2019 through 8/31/2020.

Participant Directed Investment Program

State Sponsored Savings Program: Minnesota ABLE Plan

The Minnesota ABLE Plan (Achieving a Better Life Experience) is a tax advantaged savings plan designed to help families set aside funds for eligible disability expenses under Section 529A of the Internal Revenue Code. On June 30, 2020, the market value of the Plan was approximately \$12.0 million.

Program Structure

The Minnesota ABLE Plan (Achieving a Better Life Experience) was established to encourage and assist individuals and families to save for the purpose of supporting individuals with disabilities to maintain health, independence, and quality of life. The SBI is responsible for the investment oversight and the Commissioner of the Minnesota Department of Human Services (DHS) is responsible for the overall administration of the Plan. The SBI and DHS have contracted jointly with Ascensus to provide administrative, recordkeeping and investment management services.

Minnesota is one of 18 states in the National ABLE Alliance Program, which is a coalition of States that has partnered to share a Program and Program Manager, while maintaining Member State independence.

Historical performance as of June 30, 2020, is shown in Figure 53.

Objective

The objective of the Plan is to provide multiple financial options at a low cost. There are seven investment options available, six are Target Risk-Based Options and one is a Checking Account Option. Each of the six Target Risk-Based Options seek to meet a specific investment goal and risk tolerance by investing in multiple underlying investment funds.

Aggressive Option

The aggressive option seeks to provide long-term capital appreciation with very low income potential. This option has a mixed allocation of 90% stocks and 10% bonds.

Moderately Aggressive Option

The moderately aggressive option seeks to provide long-term capital appreciation with low income potential. The investments are allocated 75% in stocks and 25% in bonds.

Growth Option

The growth option seeks to provide capital appreciation and low current income. The investments are allocated 60% stocks and 40% bonds.

Moderate Option

The moderate option seeks to provide capital appreciation and secondarily provide moderate current income. The investments are allocated 45% stocks and 55% in bonds.

Moderately Conservative Option

The moderately conservative option seeks to provide moderate current income and low capital appreciation. The investments are allocated 30% stocks, 45% bonds, and 25% cash.

Conservative Option

The conservative option seeks to provide substantial capital preservation, limited current income and very low capital appreciation. The investments are allocated 10% stocks, 30% bonds and 60% cash.

Checking Account Option

The Checking Account Option seeks to provide preservation of principal. It invests 100% of its assets in an FDIC-insured checking account.

Figure 53. Minnesota ABLE Plan Performance for Periods Ending June 30, 2020

	Annualized Returns ¹				Market Value ² (\$ in 000's)	Option Since
	1 Year		3 Years			
	Actual %	Bmk %	Actual %	Bmk %		
Multi-Asset Class Fund Allocation Options						
Aggressive Allocation	0.7	1.2	5.5	6.0	935.0	12/15/2016
Moderately Aggressive Allocation	2.0	2.7	5.4	6.0	1,093.8	12/15/2016
Growth Allocation	2.9	3.8	5.2	5.8	1,495.1	12/15/2016
Moderate Allocation	4.0	4.7	5.0	5.5	1,342.6	12/15/2016
Moderately Conservative Allocation	3.6	4.3	4.0	4.6	1,366.8	12/15/2016
Conservative Allocation	2.9	3.2	2.7	3.0	2,108.8	12/15/2016
Liquid Option						
Checking Option					3,654.6	12/15/2016
Total Minnesota ABLE Plan					11,996.7	

¹ Returns are net of Total Fund Expense. Benchmark of the multi-asset class funds represent the aggregate of the underlying funds weighted by the target asset allocation.

² Market value of SBI participation in fund.

PDIP Mutual Fund Investment Platform

Mutual Funds and Target Date Fund - Manager Summaries

Mutual Fund Investment Platform

Actively Managed Funds

Dodge & Cox Income Fund

Mandate:	Fixed Income	Benchmark:	Bloomberg Barclays U.S. Aggregate Bond Index
Product Net Asset Value/Firm Assets (as of 6/30):	\$64.2 billion / \$292.9 billion	# of Holdings:	1,152
Style:	Active Core	Fund/Quant:	Fundamental
Manager Location:	San Francisco, CA	Date Funded:	July 1999

The objective of this fund is to seek a high and stable rate of current income, consistent with long-term preservation of capital, with capital appreciation being a secondary consideration. This portfolio invests primarily in investment-grade quality corporate and mortgage bonds, government issues, and, to a lesser extent, fixed income securities rated below investment grade. While it invests primarily in the U.S. bond market, the fund may invest up to 25% of its total assets in U.S. dollar-denominated securities of non-U.S. issuers, including emerging market issuers.

Fidelity Diversified International Commingled Pool

Mandate:	International Equity	Benchmark:	MSCI EAFE Index
Product Assets/Firm Assets (as of 6/30):	\$5.9 billion / \$3.3 trillion	# of Holdings:	168
Style:	Large-Cap, Developed Countries	Fund/Quant:	Fundamental
Manager Location:	Boston, MA	Date Funded	July 1999

The portfolio's investment objective is to seek capital growth over a market cycle relative to the MSCI EAFE Index, through the active management of primarily, non-U.S. common stock using a bottom-up stock selection process. The portfolio's investment philosophy is that selecting companies based on rigorous fundamental analysis, management quality and attractive valuations creates the best framework to outperform the market over the long-term. Generally, the portfolio's universe includes non-U.S. common stocks with market capitalization consistent with the MSCI EAFE Index, though the portfolio's investable universe extends beyond the EAFE Index to include emerging market, Canadian, U.S., and other international stocks. The fund does not employ currency hedging.

T. Rowe Price Institutional Small-Cap Stock Fund

Mandate:	Small-Cap Equity	Benchmark:	Russell 2000
Product Assets/Firm Assets (as of 6/30):	\$4.7 billion / \$1.2 trillion	# of Holdings:	316
Style:	Core	Fund/Quant:	Fundamental
Manager Location:	Baltimore, MD	Date Funded:	July 1999

The fund seeks to provide long-term capital growth by investing primarily in stocks of small companies. The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in stocks of small companies. The fund defines a small company as one whose market capitalization falls within or below the current range of companies in either the Russell 2000 Index or the S&P Small-Cap 600 Index. When choosing stocks, the fund manager generally looks for one or more of the following characteristics: capable management, attractive business niches, pricing flexibility, sound financial and accounting practices, a potential or demonstrated ability to grow earnings, revenues, and cash flow consistently, and the potential for a catalyst (such as increased investor attention, asset sales, strong business prospects, or a change in management) to cause the stock's price to rise. In September 2016 the T. Rowe Price Institutional Small-Cap Stock Fund replaced the retail mutual fund vehicle.

PDIP Mutual Fund Investment Platform

Mutual Funds and Target Date Fund - Manager Summaries

Actively Managed Funds

Vanguard Dividend Growth Fund

Mandate:	Domestic Equity	Benchmark:	NASDAQ U.S. Dividend Achievers Select Index
Product Assets/Firm Assets (as of 6/30):	\$40.3 billion / \$6.1 trillion	# of Holdings:	40
Style:	Large-Cap, High Dividend Yield	Fund/Quant:	Fundamental
Manager Location:	Boston, MA	Date Funded:	September 2016

The fund is an actively managed U.S. stock fund and uses the NASDAQ U.S. Dividend Achievers Select Index as its benchmark. The fund investment objective is to provide, primarily, a growing stream of income over time and, secondarily, long-term capital appreciation and current income. The fund invests primarily in stocks that tend to offer current dividends. The fund focuses on high-quality companies that have prospects for long-term total returns as a result of their ability to grow earnings and willingness to increase dividends over time. These stocks typically, but not always, will be undervalued relative to the market and will show potential for increasing dividends. The fund will be diversified across industry sectors.

Passively Managed Funds

Vanguard Institutional Index Fund Institutional Plus

Mandate:	Large-Cap Domestic Equity	Benchmark:	S&P 500 Index
Product Assets/Firm Assets (as of 6/30):	\$224.9 billion / \$6.1 trillion	# of Holdings:	507
Style:	Core	Fund/Quant:	N.A.
Manager Location:	Malvern, PA	Date Funded:	July 1999

The passively managed fund tracks the S&P 500 index. The fund employs an indexing investment approach designed to track the performance of the Standard & Poor's 500 Index, which is dominated by the stocks of large U.S. companies. The fund attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index.

Vanguard Mid-Capitalization Index Institutional Fund Plus

Mandate:	Mid-Cap Domestic Equity	Benchmark:	CRSP U.S. Mid-Cap Index
Product assets/Firm Assets (as of 6/30):	\$107 billion / \$6.1 trillion	# of Holdings:	356
Style:	Core	Fund/Quant:	N.A.
Manager Location:	Malvern, PA	Date Funded:	January 2004

The fund is passively managed to track the performance of the CRSP U.S. Mid-Cap Index, a broadly diversified index of stocks of medium-size U.S. companies. The fund attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

PDIP Mutual Fund Investment Platform

Mutual Funds and Target Date Fund - Manager Summaries

Passively Managed Funds

Vanguard Balanced Index Fund Institutional

Mandate:	Diversified Portfolio of 60% stocks and 40% bonds.	Benchmark:	Stock allocation: CRSP U.S. Total Market Index Bond allocation: Barclays U.S. Aggregate Bond Index
Product assets/Firm Assets (as of 6/30):	\$44.3 billion / \$6.1 trillion	# of Holdings:	3,278 stock holdings 8,079 bond holdings
Style:	Core	Fund/Quant:	N.A.
Manager Location:	Malvern, PA	Date Funded:	December 2003

The fund portfolio provides a diversified portfolio of stocks and bonds by investing in a mix of 60 percent stocks and 40 percent bonds. The manager does not change the asset mix. The fund is passively managed with the equity portfolio to track the returns of the CRSP U.S. Total Market Index, which covers all regularly traded U.S. stocks. The bond portfolio is invested to track the returns of the Bloomberg Barclays U.S. Aggregate Float Adjusted Bond Index, which covers virtually all taxable fixed income securities.

Vanguard Total Bond Market Index Fund Institutional Plus

Mandate:	Fixed Income	Benchmark:	Bloomberg U.S. Aggregate Float Adjusted Bond Index
Product assets/Firm Assets (as of 6/30):	\$277.1 billion / \$6.1 trillion	# of Holdings:	9,659
Style:	Core	Fund/Quant:	N.A.
Manager Location:	Malvern, PA	Date Funded:	December 2003

The fund is passively managed to track the performance of the Bloomberg Barclays U.S. Aggregate Float Adjusted Bond index. The manager uses an index sampling technique to invest in investment-grade corporate, U.S. Treasury, international dollar denominated bonds, mortgage-backed and asset-backed securities of varying maturities in order to create a portfolio of intermediate duration like the Bloomberg Barclays U.S. Aggregate Float Adjusted Bond Index, which currently ranges between 5 and 10 years.

Vanguard Total International Stock Index Fund Plus

Mandate:	International Equity	Benchmark:	FTSE Global All Cap ex US Index
Product assets/Firm Assets (as of 6/30):	\$399.1 billion / \$6.1 trillion	# of Holdings:	7,334
Style:	Core	Fund/Quant:	N.A.
Manager Location:	Malvern, PA	Date Funded:	December 2003

The fund is passively managed to track the returns of the FTSE Global All Cap ex U.S. Index, a free-float-adjusted market-capitalization-weighted index designed to measure equity market performance in developed markets and emerging markets, excluding the U.S. The fund invests in small, mid and large cap stocks in the market index and includes more than 5,300 stocks of companies located in 46 countries. The fund invests substantially all of its assets in the common stocks included in its target index. Fund assets are allocated based on each regions weighting in the index.

PDIP Mutual Fund Investment Platform

Mutual Funds and Target Date Fund - Manager Summaries

Passively Managed Fund

Vanguard Total Stock Market Index Institutional Plus

Mandate:	All Cap Domestic Equity	Benchmark:	CRSP U.S. Total Market Index
Product Assets/Firm Assets (as of 6/30):	\$872.2 billion / \$6.1 trillion	# of Holdings:	3,531
Style:	Core	Fund/Quant:	N.A.
Manager Location:	Malvern, PA	Date Funded:	April 1992

The passively managed fund tracks the performance of its benchmark, the CRSP U.S. Total Market Index, which measures the investment return of the overall stock market. The manager uses an index sampling technique to invest in large-, mid-, small and micro-cap U.S. companies diversified across growth and value styles. The key characteristics of the portfolio, in aggregate, will approximate the full index in terms of industry weightings and market capitalization, as well as certain financial measures, such as price/earnings and dividend yield.

Target Date Fund

Minnesota Target Retirement Funds

State Street Global Advisors

Mandate:	Diversified Portfolio that glides the allocation according to participants retirement age	Benchmark:	10 Asset Classes
Product assets/Firm Assets (as of 6/30):	\$88.9 billion / \$3.1 trillion	# of Holdings:	N.A.
Style:	Target Date Funds	Fund/Quant:	N.A.
Manager Location:	Boston, MA	Date Funded:	July 2011

The MN Target Retirement Funds managed by State Street Global Advisors (SSGA), seek to offer complete, low cost investment strategies with asset allocations, which become more conservative as employees near retirement. Each Fund seeks to achieve its objective by investing in a set of underlying SSGA collective trust funds representing various asset classes. Over time, the allocation to asset classes and funds change according to a predetermined "glide path". (The glide path represents the shifting of asset classes over time and does not apply to the Income Fund.) Each Fund's asset allocation will become more conservative as it approaches its target retirement date. This reflects the need for reduced investment risks as retirement approaches and the need for lower volatility of a portfolio, which may be a primary source of income after retiring.

NON-RETIREMENT PROGRAM

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NON-RETIREMENT PROGRAM

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Non-Retirement Funds Investment Program Overview

The Non-Retirement Program is managed by the SBI for designated trust funds, Other Postemployment Benefit (OPEB) trusts, and programs created by the State Constitution and Legislature. On June 30, 2020, the market value of all Non-Retirement Assets managed by the SBI was just under \$4.3 billion.

Overview

The State Board of Investment established the various Non-Retirement Funds to provide certain Minnesota public sector entities the opportunity to invest in a U.S. Equity Fund, a U.S. Bond Fund, or a Money Market Fund to facilitate the achievement of its investment objectives. The funds are available to those non-retirement entities that are authorized to invest in these asset classes with the SBI. Currently, all or some of these options are available to designated trust funds, local Other Postemployment Benefit (OPEB) trusts, Qualifying Governmental Entities, and other state and public sector entities.

Investment Options

There are three Non-Retirement Fund investment options for eligible participating entities and each one offers different advantages and risks. In addition to these options, the Assigned Risk Plan and Met Council have fixed income portfolios that are specific to their needs. Figure 54 provides the listing of Non-Retirement Fund investment vehicles with market values as of June 30, 2020.

Investment Management

Non-Retirement Equity Fund

The equity segment is passively managed by Mellon Investments Corporation and tracks the performance of the S&P 500

Index. The Non-Retirement Equity Fund summary is provided on page B105.

Non-Retirement Bond Fund

The fixed income segment is actively managed by Prudential Global Investment Management (PGIM) to add incremental value through sector, security and yield curve decisions. The Non-Retirement Bond Fund

summary is provided on page B106.

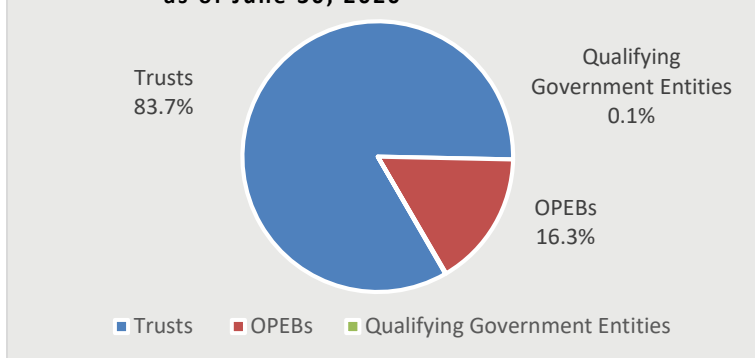
Money Market Fund

The Money Market Fund provides safety of principal by investing in high-quality short-term money market securities. This Fund is managed by State Street Global Advisors. The Fund summary is provided on page B107.

Figure 54. Non-Retirement Fund Assets by Investment Option as of June 30, 2020

Investment Option	Market Value (\$ in 000's)	% of Assets
Non-Retirement Equity Fund	2,573,785.8	59.9%
Non-Retirement Bond Fund	1,323,666.3	30.8%
Non-Retirement Money Market Fund	87,187.0	2.0%
Assigned Risk Plan Fixed Income Portfolio	244,759.7	5.7%
Met Council Ladder Fixed Income Portfolio	68,669.0	1.6%
Total Non-Retirement Assets	4,298,067.8	100.0%

Figure 55. Non-Retirement Fund Participation by Entity as of June 30, 2020



Non-Retirement Fund Participation by Entity as of June 30, 2020

Participating Entity	Market Value (\$ in 000's)	% of Assets
Trusts	3,595,930.2	83.7%
OPEBs	698,444.5	16.3%
Qualifying Government Entities	3,692.9	0.1%
Total Non-Retirement Assets	4,298,067.6	100.0%

Non-Retirement Funds Investment Program Overview

Assigned Risk Plan Fixed Income Portfolio

The Assigned Risk Plan fixed income portfolio is actively managed by RBC Global Asset Management to provide cash for the payment of worker compensation claims. Fund summary for this portfolio is provided on pages B108.

Participating Entities

The participating entities of the Non-Retirement Program are identified either as Trusts, OPEBs, or Qualifying Governmental Entity. Figure 55 on the previous page provides the listing of assets by participating entity. These entities may allocate their investments among one or more funds that are appropriate for their needs and are within the rules and eligibility established for their account. Figures 56-58 provide a breakdown of the assets within each segment of the Non-Retirement Program.

Figure 56. Participating Trust Accounts as of June 30, 2020

Participating Trust Funds	Market Value (\$ in 000's)	% of Assets
Permanent School Fund	1,621,525.2	45.1%
Environmental Trust Fund	1,288,758.0	35.8%
Assigned Risk Plan	307,552.9	8.6%
Closed Landfill Investment Fund	102,597.1	2.9%
IRRRB (Iron Range Resources and Rehabilitation Board)	169,107.5	4.7%
Other Trusts ¹	106,389.5	3.0%
Total	3,595,930.2	100.0%

¹ Includes assets of Duluth Community Investment Trust, Emergency Medical Services, Ethel Currey, Lifetime Fish and Wildlife, Metropolitan Landfill Contingency Action Trust, Mitigation Easement Stewardship, Natural Resources Conservation, Saint Louis County Environmental, Water and Soil Conservation Easement, and Winona State.

Figure 57. Participating OPEB Accounts as of June 30, 2020

Participating OPEB Accounts	Market Value (\$ in 000's)	% of Assets
Anoka County (Irrevocable)	73,173.3	10.5%
Duluth	70,873.1	10.1%
Metropolitan Council	287,785.6	41.2%
Ramsey County (Irrevocable)	80,992.5	11.6%
Washington County	68,468.4	9.8%
Other OPEBs ¹	117,151.6	16.8%
Total	698,444.5	100.0%

¹ Includes the assets of Carver County, City of Eagan, City of Virginia, Crosby-Ironton ISD #182, Fillmore Central Schools #2198, Foley Public Schools ISD #51, Hastings ISD #200, Kingsland ISD #2137, Mendota Heights Eg WSP #197, Metro Mosquito Control District, Mounds View ISD #621, Mt. Iron-Buhl District #712, Ogilvie ISD #333, Port Authority of the City of St. Paul, Roseville District #623, Scott County, Staples Motley #2170, Washington County, and Yellow Medicine ISD #2190.

Figure 58. Participating Qualifying Governmental Accounts as of June 30, 2020

Qualifying Govt Account	Market Value (\$ in 000's)	% of Assets
City of Woodbury	3,692.9	100.0%

Non-Retirement Program

Investment Vehicle: Non-Retirement Equity Fund

Mellon Investments Corporation manages the Non-Retirement Equity Fund used by various state trust funds such as the Permanent School Fund, Environmental Trust Fund, Assigned Risk Plan, and Closed Landfill Investment Fund. On June 30, 2020, the total market value of the Non-Retirement Equity Fund was \$2.6 billion.

Non-Retirement Equity Fund

The Non-Retirement Equity Fund provides domestic equity exposure to entities with authority to use this investment vehicle. The types of entities that invest in the Non-Retirement Equity Fund include state and other trust funds, OPEB funds, and Qualifying Governmental Entities.

Investment Objectives

The investment objective of the Non-Retirement Equity Fund is to track the S&P 500 index, a large capitalization domestic equity benchmark. The portfolio is expected to have a realized active risk level relative to the benchmark of 0.2 or less, where active risk is the annualized standard deviation of the Manager's excess returns relative to the benchmark. Over time, the annual return shortfall relative to the benchmark, due to fees and trading expenses, should be no more than 0.1%.

Asset Allocation

As a passively managed portfolio, this fund will closely track the benchmark sector and will provide 100% domestic equity exposure.

Investment Management

In 2017, Mellon Investments Corporation was hired to manage the fund. Prior to Mellon, the fund was managed internally by SBI staff.

The strategy replicates the S&P 500 by owning all of the names in the index at the weightings assigned by the index. To maintain appropriate liquidity for daily cash flows, some cash is held in the portfolio and is equitized by using S&P 500 futures contracts.

Mellon Investments Corporation is required to adhere to the investment guidelines in managing the account.

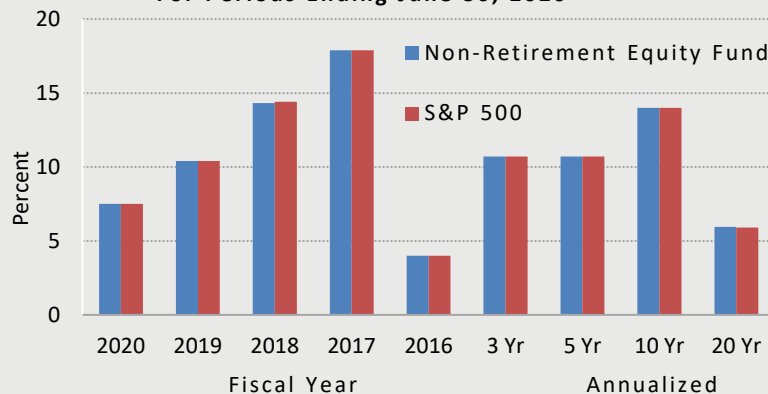
Investment Performance

The SBI measures the Non-Retirement Equity Fund against the S&P 500 Index.

For fiscal year 2020, the Non-Retirement Equity Fund matched its benchmark, the S&P 500 Index. Over the most recent three, five and ten year time-period, the Non-Retirement Equity Fund matched its benchmark and outperformed on a twenty-year time-period.

Historical performance results are shown below in Figure 59.

Figure 59. Non-Retirement Equity Fund Return For Periods Ending June 30, 2020



	Fiscal Year End Returns (%)				
	2020	2019	2018	2017	2016
Non-Retirement Equity Fund	7.5	10.4	14.3	17.9	4.0
S&P 500 Index	7.5	10.4	14.4	17.9	4.0

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Non-Retirement Equity Fund	10.7	10.7	14.0	6.0
S&P 500 Index	10.7	10.7	14.0	5.9

Non-Retirement Program

Investment Vehicle: Non-Retirement Bond Fund

Prudential Global Investment Management manages the Non-Retirement Bond Fund used by various state trust funds such as the Permanent School Fund, Environmental Trust Fund, and Closed Landfill Investment Fund. On June 30, 2020, the total market value of the Non-Retirement Bond Fund was \$1.3 billion.

Non-Retirement Bond Fund

The Non-Retirement Bond Fund is an investment vehicle to generate income and preserve capital. This Fund is available to state and other Trust funds and to OPEB entities that have received authority to use this fund.

Investment Objectives

The investment objectives for the Non-Retirement Bond Fund are to deliver cumulative returns in excess of its benchmark, the Bloomberg Barclays U.S. Aggregate Bond Index, and to manage the level and composition of active risk in the portfolio relative to this benchmark. The U.S. Aggregate Bond Index is a broad-based index of investment grade, U.S. dollar denominated, fixed rate taxable bonds.

Asset Allocation

As an actively managed bond fund, the sector allocation will deviate from the benchmark composition. As of June 30, 2020, the Non-Retirement Bond Fund had a higher allocation in Corporate debt securities and Structured Products and less exposure to U.S. Government and Mortgage bonds relative to its' benchmark, the Bloomberg Barclays U.S. Aggregate.

Investment Management

In 2017, Prudential Global Investment Management (PGIM) was hired to manage the fund. Prior to PGIM, the fund was managed internally by SBI staff. PGIM is required to

adhere to investment guidelines in managing the account. These guidelines give PGIM the flexibility to actively manage the portfolio through duration, yield curve, sector and security selection decisions, while maintaining a maximum five-year active risk level of 1.5, where active risk is the annualized standard deviation of the Manager's excess returns relative to the benchmark. PGIM is required to maintain the duration of the portfolio within +/- one year of the index duration. The Fund primarily invests in U.S. government, corporate, mortgage and structured securities.

PGIM is required to maintain the duration of the portfolio within +/- one year of the index duration. The Fund primarily invests in U.S. government, corporate, mortgage and structured securities.

Current Positioning

PGIM has portfolio duration positioned slightly longer than the benchmark with an effective

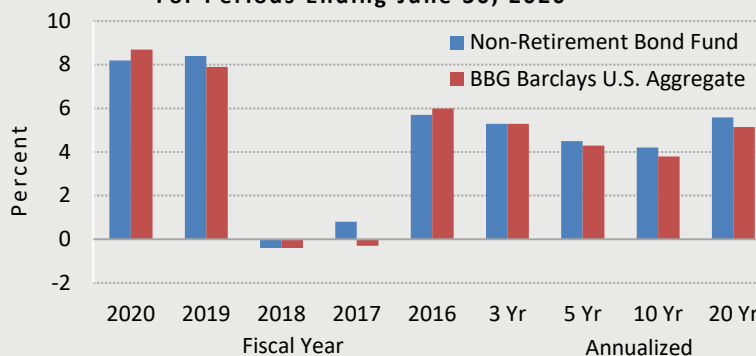
duration of 6.2 years vs. the benchmark duration of 6.0 years. With a relatively higher option adjusted spread (116 bps vs. 66 bps benchmark) and slightly lower average credit quality, the portfolio expects to continue generating yields exceeding the benchmark (as of June 30, 2020 portfolio effective yield to maturity of 1.7% vs. 1.2% benchmark).

Investment Performance

The Non-Retirement Bond Fund underperformed its benchmark for the fiscal year, matched the three-year period and outperformed in the five, ten and twenty year periods ending June 30, 2020.

Historical performance results are shown below in Figure 60.

Figure 60. Non-Retirement Bond Fund Return For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Non-Retirement Bond Fund	8.2	8.4	-0.4	0.8	5.7
BBG Barclays U.S. Aggregate	8.7	7.9	-0.4	-0.3	6.0

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Non-Retirement Bond Fund	5.3	4.5	4.2	5.6
BBG Barclays U.S. Aggregate	5.3	4.3	3.8	5.1

Non-Retirement Program

Investment Vehicle: Non-Retirement Money Market Fund

State Street Global Advisors manages the Non-Retirement Money Market Fund used by various state trust funds such as the Permanent School Fund and Environmental Trust Fund. On June 30, 2020, the total market value of the Non-Retirement Money Market Fund was \$87.2 million.

Non-Retirement Money Market Fund

The Non-Retirement Money Market Fund is an investment vehicle that provides high quality short-term cash exposure to entities that have received authority to use this fund. The types of entities that invest in the Fund include State and other Trust funds and OPEB Accounts.

Investment Objectives

The objective of the Non-Retirement Money Market Fund is to provide safety of principal by investing in high quality, short-term securities. The return of the fund is based on the interest income generated by the fund's investments.

Asset Allocation

The fund invests in high quality short-term money market securities.

At the end of the fiscal year, the Non-Retirement Fund Money Market Fund had a current average yield of 0.27% and a weighted average maturity of 34.6 days.

Investment Management

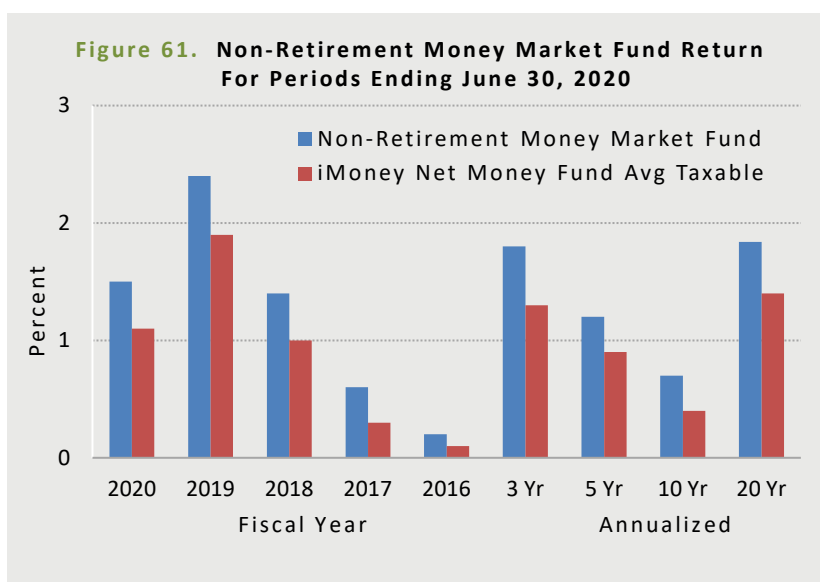
The Non-Retirement Money Market Fund is managed by State Street Global Advisors (SSGA). SSGA provides short-term investment management for a substantial portion of the Board's cash reserves.

Investment Performance

The SBI measures the Non-Retirement Money Market Fund against the iMoneyNet All Taxable Money Fund Average.

As of June 30, 2020, the Non-Retirement Money Market Fund outperformed its benchmark, the iMoneyNet Money All Taxable Money Fund Average, for all time-periods listed and outperformed the ICE BofA 3 Month Treasury Bill Index for a twenty-year time period ending June 30, 2020.

Historical performance for the Non-Retirement Money Market Fund is provided below in Figure 61.



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Non-Retirement Money Market Fund	1.5	2.4	1.4	0.6	0.2
iMoneyNet Money Fund Avg Taxable	1.1	1.9	1.0	0.3	0.1

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Non-Retirement Money Market Fund	1.8	1.2	0.7	1.8
iMoneyNet Money Fund Avg Taxable	0.1	1.3	0.9	1.4

Non-Retirement / Assigned Risk Plan

Investment Vehicle: Fixed Income Portfolio

RBC Global Asset Management manages the fixed income portfolio for the Assigned Risk Plan. On June 30, 2020, the total market value of the fixed income portfolio was \$244.8 million.

Assigned Risk Plan Fixed Income Portfolio

The Assigned Risk Plan fixed income portfolio is benchmarked to the Bloomberg Barclays Intermediate Government Index, which consists of high quality, U.S. dollar denominated, fixed rate taxable bonds.

Investment Objectives

The main objective for the fixed income portfolio is to provide cash for the payment of workers compensation claims on the required dates. Because of the uncertainty of premium and liability cash flows, the fund is invested in a conservative portfolio of investment grade debt securities.

Investment Management

RBC Global Asset Management has managed the fixed income portfolio for the Assigned Risk Plan since July 1991. The primary focus for portfolio construction is with security selection and secondarily on sector analysis.

RBC Global Asset Management is required to adhere to the investment guidelines in managing the account. These guidelines allow RBC Global Asset Management to actively manage the portfolio through duration, yield curve, sector and security selection while closely tracking its benchmark.

Asset Allocation

As an actively managed bond portfolio the sector allocation will deviate from the benchmark composition. As of June 30, 2020, the Assigned

Risk Plan fixed income portfolio had a higher allocation in Government Related and Agency Securitized bonds and less exposure to U.S. Treasury bonds relative to the benchmark.

Current Positioning

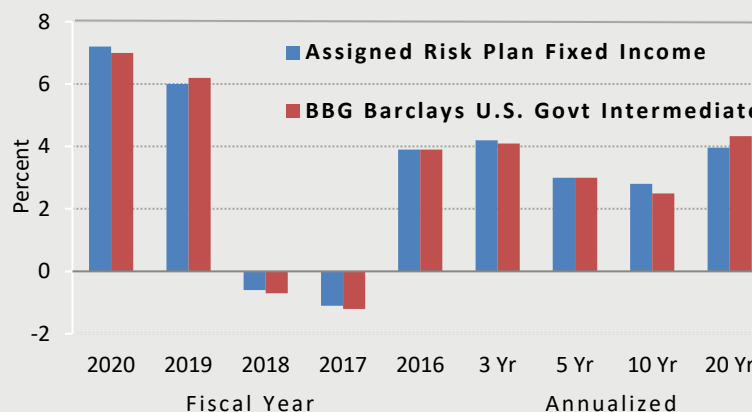
RBC Global Asset Management has the portfolio positioned with a slightly longer duration than the benchmark with an effective duration of 3.83 years compared to the benchmark duration of 3.76 years, a higher market yield of 0.41% compared to the benchmark market yield of 0.28% and similar average credit quality of AAA.

Investment Performance

As of June 30, 2020, Assigned Risk Plan fixed income portfolio outperformed its benchmark, the Bloomberg Barclays U.S. Government Intermediate Index, for the fiscal year, three, and ten year time-periods. The portfolio matched the benchmark's five-year return and underperformed for the twenty-year time period ending June 30, 2020.

Historical performance results for the Assigned Risk Plan fixed income portfolio are shown in Figure 62.

Figure 62. Assigned Risk Plan Fixed Income Return For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Assigned Risk Plan Fixed Income	7.2	6.0	-0.6	-1.1	4.0
BB Barclays U.S. Govt Intermediate	7.0	6.2	-0.7	-1.2	3.9

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Assigned Risk Plan Fixed Income	4.2	3.0	2.8	4.1
BB Barclays U.S. Govt Intermediate	4.1	3.0	2.5	4.3

Non-Retirement Account Permanent School Fund

The SBI invests the assets of the Permanent School Fund in the Non-Retirement Equity Fund, Bond Fund, and Money Market Fund. On June 30, 2020, the market value of the Fund was \$1.6 billion.

Permanent School Fund

Overview

The Permanent School Fund is a trust fund created by the Minnesota State Constitution and is designated as a long-term source of revenue for public schools. Proceeds from land sales, mining royalties, timber sales, lake shore and other leases are invested in the Fund. Income generated by the Fund's assets is appropriated directly to school districts.

Investment Objective

The State Board of Investment invests the Permanent School Fund to produce a growing level of spendable income for school districts within the constraints of maintaining adequate portfolio quality and liquidity.

Investment Constraints

The Fund's investment objectives are influenced by the legal provisions under which its investments must be managed. These provisions require that the Fund's principal remain inviolate. Any net realized capital gains from stock or bond investments must be added to the principal. Moreover, if the Fund realizes net capital losses, these losses must be offset against interest and dividend income before such income can be distributed. Finally, all interest and dividend income must be distributed in the year in which it is earned.

Asset Allocation

In order to produce a growing level of spendable income, the Fund has exposure to equities.

The current long-term asset allocation targets for the Fund are:

Domestic Equity	50%
Domestic Bonds	48%
Cash	2%

Prior to fiscal year 1998, the Permanent School Fund had been invested entirely in fixed income securities for more than a decade. While this asset allocation maximized current income, it limited the long-term growth of the Fund and caused the income stream to lose value in inflation adjusted terms, over time.

To solve both issues, a proposal to introduce equities to the Fund's asset mix was presented during fiscal year 1997. Since this modification would reduce short-term income and have

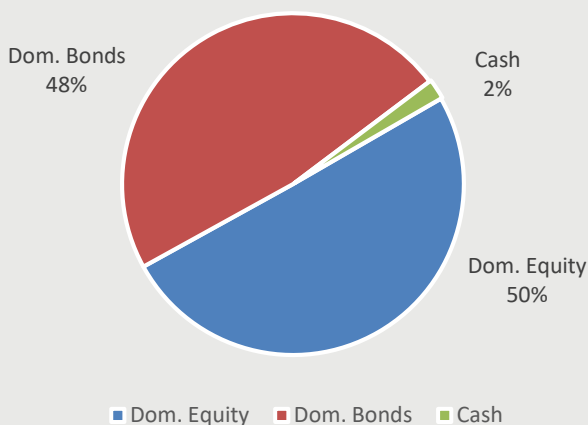
budgetary implications for the state, the consent of the executive and legislative branches was necessary. It was favorably received by the Legislature and incorporated into the K-12 education finance bill. As a result, the Fund allocation was shifted to a 50% stocks/48% bonds/2% cash allocation during July 1997.

Figure 63 presents the actual asset mix of the Permanent School Fund at the end of fiscal year 2020.

Investment Management

Assets of the Permanent School Fund are invested in the Non-Retirement Equity, Bond and Money Market Funds. Fund summaries are provided on pages B105-B107.

**Figure 63. Permanent School Fund Asset Mix
as of June 30, 2020**



Non-Retirement Account Permanent School Fund

Investment Performance

During the fiscal year, the *equity* segment of the Permanent School Fund matched its benchmark, the S&P 500.

The *bond* segment underperformed its benchmark, the Bloomberg Barclays U.S. Aggregate, by 0.5 percentage point during the current fiscal year.

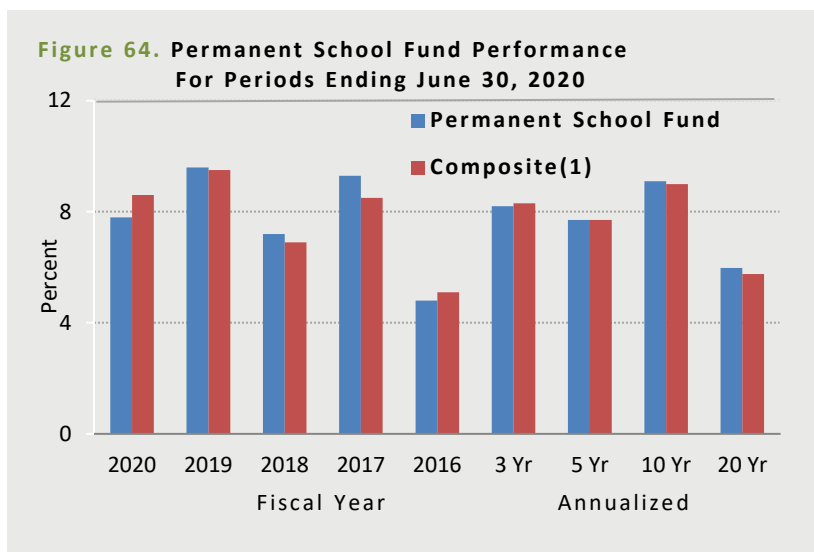
The *cash* segment outperformed its benchmark, the iMoneyNet All Taxable Fund, by 0.4 percentage point during the fiscal year.

Overall, the Permanent School Fund provided a return of 7.8% for fiscal year 2020, underperforming its composite index by 0.8 percentage point. Results for longer time-periods show the Fund outperforming its composite index over the ten and twenty-year time periods ending June 30, 2020.

Historical performance results for the total Fund and each of the asset class segments are provided in Figure 64.

Spendable income generated by the portfolio over the last five fiscal years is shown below:

<u>Fiscal Year</u>	<u>Millions</u>
2016	\$28
2017	\$30
2018	\$33
2019	\$36
2020	\$39



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Permanent School Fund	7.8	9.6	7.2	9.3	4.8
Composite ¹	8.6	9.5	6.9	8.5	5.1
U.S. Equity Segment	7.5	10.4	14.3	17.9	4.0
S&P 500	7.5	0.4	14.4	17.9	4.0
Bond Segment	8.2	8.4	-0.3	0.8	5.7
BB Barclays Agg	8.7	7.9	-0.4	-0.3	6.0
Cash Segment	1.5	2.4	1.4	0.6	0.2
iMoney Net All Taxable Fund	1.1	1.9	1.0	0.3	0.1

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Permanent School Fund	8.2	7.7	9.1	6.0
Composite ¹	8.3	7.7	9.0	5.8
U.S. Equity Segment	10.7	10.7	14.0	6.0
S&P 500	10.7	10.7	14.0	5.9
Bond Segment	5.3	4.5	4.2	5.6
BB Barclays Agg	5.3	4.3	3.8	5.1
Cash Segment	1.8	1.2	0.7	1.8
iMoney Net All Taxable Fund	1.3	0.9	0.4	1.4

¹ Represents the aggregate returns of the target allocation: S&P 500 50%, Bloomberg Barclays U.S. Aggregate 48%, and iMoney Net All Taxable Money Fund Avg 2%.

Non-Retirement Account Environmental Trust Fund

The SBI invests the assets of the Environmental Trust Fund in the Non-Retirement Equity Fund, Bond Fund, and Money Market Fund. On June 30, 2020, the market value of the Fund was \$1.3 billion.

Environmental Trust Fund

Overview

The Environmental Trust Fund was established in 1988 by the Minnesota Legislature to provide a long-term, consistent and stable source of funding for activities that protect and enhance the environment. By statute, the State Board of Investment invests the assets of the Environmental Trust Fund. The Minnesota Legislature funds environmental projects from a portion of the market value of the Fund.

Investment Objective

The Environmental Trust Fund's investment objective is long-term growth in order to produce a growing level of funding within the constraints of maintaining adequate portfolio liquidity.

A constitutional amendment passed in November 1998 continues the mandate that 40% of the net proceeds from the state lottery be credited to the Fund through 2025.

The amendment provides for spending 5.5% of the Fund's market value annually. The amendment eliminated certain accounting restrictions on capital gains and losses as well as the provision that the principal must remain inviolate.

Asset Allocation

After the constitutional amendment was adopted in November 1998, SBI staff worked with the Legislative

Citizen Commission on Minnesota Resources to establish an asset allocation policy that is consistent with the Commission's goals for spending and growth of the Fund. The allocation positions the Fund for an appropriate long-term growth potential to meet the Fund's objective to produce a growing level of funding.

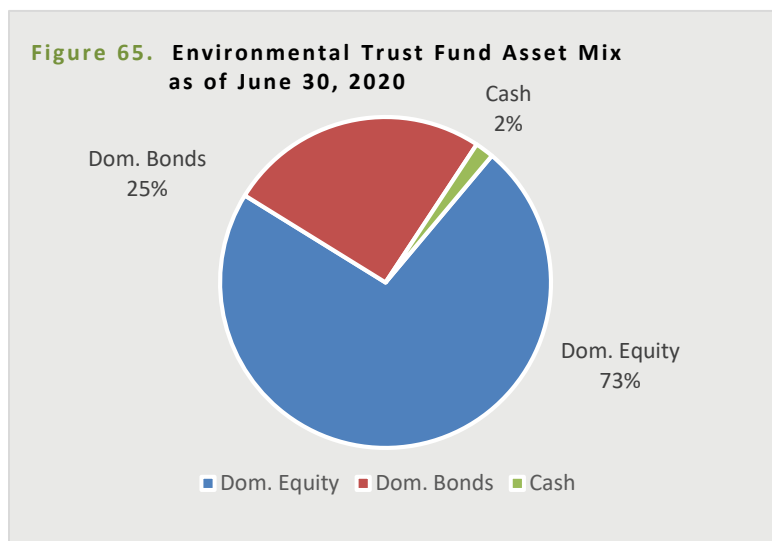
The current long-term asset allocation targets for the Fund are:

Domestic Equity	70%
Domestic Bonds	28%
Cash	2%

Figure 65 presents the actual asset mix of the Fund at the end of fiscal year 2020.

Investment Management

The Environmental Trust Fund is invested in the Non-Retirement Equity, Bond and Money Market Funds. Fund Summaries are provided on pages B105-B107.



Non-Retirement Account Environmental Trust Fund

Investment Performance

During the fiscal year, the *equity* segment matched its benchmark, the S&P 500, for the fiscal year.

The *bond* segment underperformed its benchmark, the Bloomberg Barclays U.S. Aggregate Index, by 0.5 percentage point during the fiscal year.

The *cash* segment outperformed its benchmark, the iMoneyNet All Taxable Money Fund Average by 0.4 percentage point during the fiscal year.

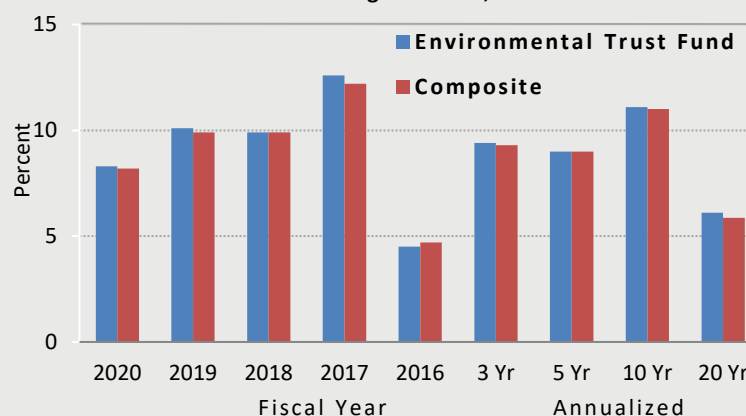
Overall, the Environmental Trust Fund provided a return of 8.3% for fiscal year 2020, which outperformed its composite index by 0.1 percentage point during the fiscal year. Results for a longer time-periods, show the Fund outperforming its composite index over the ten and twenty-year time periods ending June 30, 2020.

Historical performance results for the total Fund and each of the asset class segments are presented in Figure 66.

Spendable income generated by the Fund over the last five fiscal years is shown below:

<u>Fiscal Year</u>	<u>Millions</u>
2016	\$46
2017	\$46
2018	\$51
2019	\$51
2020	\$61

**Figure 66. Environmental Trust Fund Return
For Periods Ending June 30, 2020**



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Environmental Trust Fund	8.3	10.1	9.9	12.6	4.5
Composite ¹	8.2	9.9	9.9	12.2	4.7
Equity Segment	7.5	10.4	14.3	17.9	4.0
S&P 500	7.5	10.4	14.4	17.9	4.0
Bond Segment	8.2	8.4	-0.3	0.8	5.7
BB Barclays Agg	8.7	7.9	-0.4	-0.3	6.0
Cash Segment	1.5	2.4	1.4	0.6	0.2
iMoney Net All Taxable Fund	1.1	1.9	1.0	0.3	0.1

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Environmental Trust Fund	9.4	9.0	11.1	6.1
Composite ¹	9.3	9.0	11.0	5.9
Equity Segment	10.7	10.7	14.0	6.0
S&P 500	10.7	10.7	14.0	5.9
Bond Segment	5.3	4.5	4.2	5.6
BB Barclays Agg	5.3	4.3	3.8	5.1
Cash Segment	1.8	1.2	0.7	1.8
iMoney Net All Taxable Fund	1.3	0.9	0.4	1.4

¹ Represents the aggregate returns of the target allocation: S&P 500 70%, Bloomberg Barclays U.S. Aggregate 28%, and iMoney Net All Taxable Money Fund Avg 2%.

Non-Retirement Account Closed Landfill Investment Fund

The SBI invests the assets of the Closed Landfill Investment Fund in the Non-Retirement Equity Fund and Bond Fund. On June 30, 2020, the market value of the Fund was \$102.6 million.

Closed Landfill Investment Fund

Overview

The Closed Landfill Investment Fund is a trust fund created by the Minnesota Legislature to invest money to pay for the long-term costs of maintaining the integrity of landfills in Minnesota once they are closed.

Investment Objective

The investment objective of the Closed Landfill Investment Fund is to increase the market value of the Fund and to reduce volatility in order to meet future expenditure needs.

Asset Allocation

Equities provide the potential for capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

The current long-term asset allocation targets for the Fund are:

Domestic Equity	70%
Domestic Bonds	30%

Prior to September of 2014, the Closed Landfill Fund had been invested entirely in domestic equity. While this asset class maximized long-term growth opportunities, it did not allocate any assets for capital protection.

Investment Management

The Closed Landfill Investment Fund is invested in the Non-Retirement Equity and Bond Funds. Fund Summaries are provided on pages B105-B106.

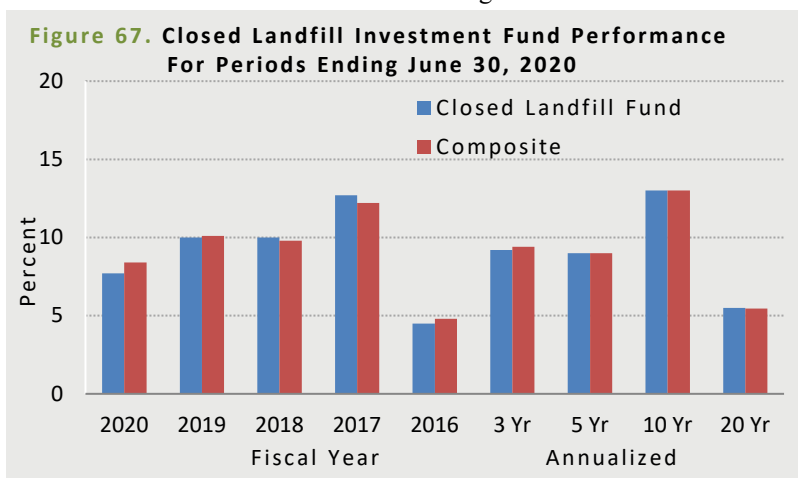
Investment Performance

During the fiscal year, the **equity** segment of the Closed Landfill Investment Fund matched the return of its benchmark, the S&P 500.

The **bond** segment underperformed its benchmark by 0.5 percentage point during the current fiscal year.

Overall, the Closed Landfill Investment Fund returned 7.7% during the fiscal year 2020, underperforming its composite index. For the ten and twenty-year time-periods, the Fund matched its composite benchmark.

Historical performance results for the total Fund and each asset class segment are shown in Figure 67.



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Closed Landfill Investment Fund	7.7	10.0	10.0	12.7	4.5
Composite ¹	8.4	10.1	9.8	12.2	4.8
Equity Segment	7.5	10.4	14.3	17.9	4.0
S&P 500	7.5	10.4	14.4	17.9	4.0
Bond Segment	8.2	8.4	-0.3	0.8	5.7
BB Barclays Agg	8.7	7.9	-0.4	-0.3	6.0

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Closed Landfill Investment Fund	9.2	9.0	13.0	5.5
Composite ¹	9.4	9.0	13.0	5.5
Equity Segment	10.7	9.0	13.0	6.0
S&P 500	10.7	10.7	14.0	5.9
Bond Segment	5.3	4.5	NA	NA
BB Barclays Agg	5.3	4.3		

¹ Represents the aggregate returns of the target allocations: S&P 500 70% and Bloomberg Barclays U.S. Aggregate 30%. The Bond allocation was added to the portfolio in 2014.

Non-Retirement Account Assigned Risk Plan

The SBI invest the Assigned Risk Plan assets in the Non-Retirement Equity Fund and the Assigned Risk Plan fixed income portfolio managed by RBC Global Asset Management. The Plan has a market value of \$307.6 million as of June 30, 2020.

Assigned Risk Plan

Overview

Minnesota Workers Compensation Assigned Risk Plan was established in 1983 to provide workers' compensation coverage to Minnesota employers rejected by a private insurance carrier. The Assigned Risk Plan operates as a non-profit, tax-exempt entity administered by the Department of Commerce. The Plan provides disability income, medical expenses, retraining expenses and death benefits with payments made either periodically or in lump sum.

Investment Objectives

The SBI recognizes that the Assigned Risk Plan has limited tolerance for risk due to erratic cash flows, no allowance for surplus, and generally short duration liabilities.

Therefore, the SBI has established two investment objectives for the Plan:

- To minimize mismatch between assets and liabilities.
- To provide sufficient liquidity (cash) for payment of on-going claims and operating expenses.

Performance relative to these objectives is measured against a composite index that reflects the asset allocation of the portfolio.

Asset Allocation

The SBI believes that due to the uncertainty of premium and liability cash flows, the Plan

should be invested very conservatively.

The fixed income portfolio is invested to fund the shorter-term liabilities (less than 10 years) and the equity segment is invested to fund the longer-term liabilities. The result is a high fixed income allocation, which minimizes the possibility of a future fund deficit. The smaller equity exposure provides higher expected returns and hedges some of the inflation risk associated with the future liability stream.

The current long-term asset allocation targets for the Plan are as follows:

Domestic Equity	20%
Domestic Bonds	80%

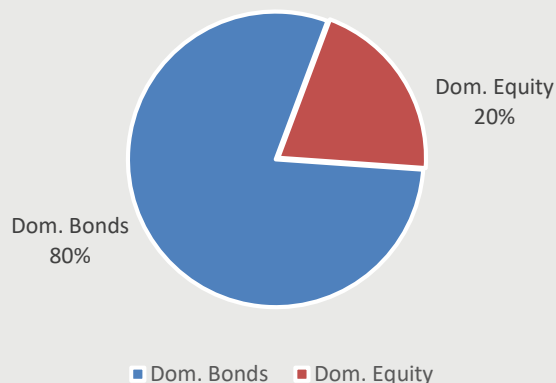
The asset allocation may fluctuate in response to changes in the liability stream projected by the Plan's actuary and further analysis by the SBI staff. Figure 68 presents the actual asset mix of the Assigned Risk Plan at the end of fiscal year 2020.

Investment Management

The **equity segment** is managed by Mellon Investments Corporation in the Non-Retirement Equity Fund to fund the longer-term liabilities of the Plan. More detail on the Non-Retirement Equity Fund is provided on pages B105.

The **bond segment** is managed by RBC Global Asset Management using a fundamental approach, with a focus primarily on security selection and secondarily on sector analysis. More information on the Assigned Risk Plan fixed income portfolio is provided on page B108.

Figure 68. Assigned Risk Plan Asset Mix as of June 30, 2020



Non-Retirement Account Assigned Risk Plan

Investment Performance

Due to the focus on liability matching, the Assigned Risk Plan's investment portfolio is conservatively structured. While active management is utilized in the fixed income portfolio, return enhancement plays a secondary role.

The Assigned Risk Plan is measured against a composite index which is weighted to reflect the asset allocation of the Plan:

- The target for the equity component is the S&P 500.
- The target for the fixed income component is a custom benchmark which reflects the duration target established for the bond segment (approximately three years).

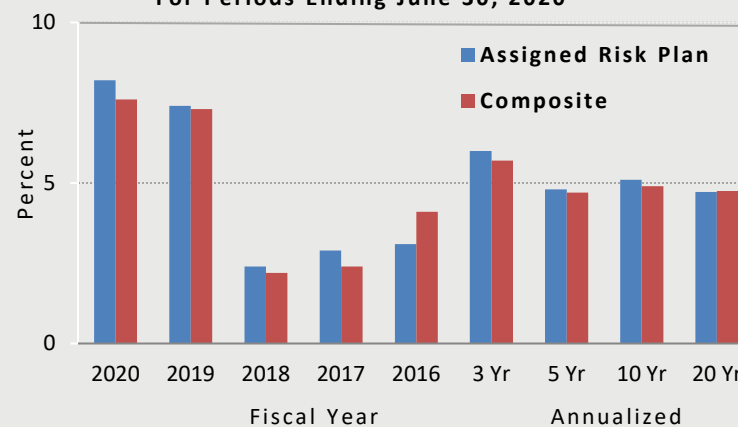
The **equity** segment matched the benchmark, the S&P 500, with a 7.5% return at fiscal year-end 2020.

The **bond** segment outperformed its benchmark, the Bloomberg Barclays U.S. Intermediate Government Index, with a 7.2% return at fiscal year-end 2020.

Overall, the Assigned Risk Plan provided a return of 8.2% for fiscal year 2020, which was 0.6 percentage point above the composite index. For longer time-periods, the ten year outperformed and the twenty year underperformed the composite benchmark return as of June 30, 2020.

Historical performance results are provided in Figure 69.

Figure 69. Assigned Risk Plan Total Performance For Periods Ending June 30, 2020



	Fiscal Year End Return (%)				
	2020	2019	2018	2017	2016
Assigned Risk Plan	8.2	7.4	2.4	2.9	3.1
Composite ¹	7.6	7.3	2.2	2.4	4.1
Stock Segment	7.5	10.4	14.3	17.9	4.0
S&P 500	7.5	10.4	14.4	17.9	4.0
Bond Segment	7.2	6.0	-0.6	-1.1	4.0
Benchmark ²	7.0	6.2	-0.7	-1.2	3.9

	Annualized Returns (%) as of June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Assigned Risk Plan	6.0	4.8	5.1	4.7
Composite ¹	5.7	4.7	4.9	4.8
Stock Segment	10.7	9.9	13.2	6.2
S&P 500	10.7	10.7	14.0	5.9
Bond Segment	4.2	3.0	2.8	4.0
Benchmark ²	4.1	3.0	2.5	4.2

¹ Represents the aggregate returns of the target allocation: 20% equity and 80% fixed income

² Fixed income portfolio benchmark since 7/1/11 is the Bloomberg Barclays US Int Govt. From 4/1/02 – 6/30/11 was: 10% ML 91 Day T-Bill / 25% ML 1-3yr Govt / 15% ML 3-5yr Treasury/Agency / 25% ML 5-10yr Tsy/Agy / 25% ML Mortgage Master. From 7/1/01 – 3/31/02 was: 10% ML 91 Day T-Bill / 25% ML 1-3yr Govt/Credit / 15% ML 3-5yr Govt/Credit / 25% ML 5-10yr Govt/Credit / 25% ML Mortgage Master.

Non-Retirement Account Other Postemployment Benefits (OPEB)

Other Postemployment Benefits (OPEB) are the assets set aside by local units of government for the payment of retiree benefits administered by the Public Employees Retirement Association. On June 30, 2020, the total market value of the OPEB accounts was \$698.5 million.

Other Postemployment Benefits (OPEB)

Overview

Under the provisions of *Minnesota Statutes*, § 471.6175, local units of government, including school districts, may choose Public Employees Retirement Association (PERA) to administer their postemployment health benefits. If PERA is chosen by the local unit, assets of that unit's account are invested by the SBI.

Investment Options

There are three Non-Retirement investment options available to local OPEB trusts: an Equity, Bond, and a Money Market Fund. Fund summaries are provided on pages B105-B107. The SBI does not determine the asset allocation policy for these assets.

Participating Entities

As of June 30, 2020, there were 23 entities with OPEB investment accounts invested by the SBI. In total, these accounts represented \$698.5 million. Staff anticipates that the number of these accounts will increase in the future.

Duluth OPEB

The SBI is required to report the returns provided on assets invested by the City of Duluth for this purpose. Duluth made its first investment with the SBI in July 2007.

As of June 30, 2020 the market value of the Duluth OPEB Fund was \$70.8 million.

Investment Performance

The **equity** segment matched the benchmark, the S&P 500, with a 7.5% return during the fiscal year 2020.

The **bond** segment underperformed its benchmark, the Bloomberg Barclays U.S. Aggregate, during the fiscal year 2020.

Overall, the Duluth OPEB portfolio provided a return of 7.7%, which was 0.7 percentage point below a composite index that represents a 70% allocation to S&P 500 and 30% allocation to the Bloomberg Barclays U.S. Aggregate.

Historical annualized performance results as of June 30, 2020, are provided in Figure 70.

Asset Allocation

Duluth is responsible for the asset allocation decisions in this account and as of June 30, 2020, the asset allocation was the following:

Domestic Equities	72.5%
Domestic Bonds	27.5%

Figure 70. Duluth OPEB Performance for Periods Ending June 30, 2020

	Annualized Returns (%)		
	1Yr.	3 Yr.	5 Yr.
Duluth OPEB	7.7	9.3	9.0
Composite ¹	8.4	9.4	9.0
U.S. Equity Segment	7.5	10.7	10.7
S&P 500	7.5	10.7	10.7
Bond Segment	8.2	5.3	4.5
BB Barclays Agg	8.7	5.3	4.3

¹ Represents the aggregate returns of a target allocation to 70% S&P 500 and 30% Bloomberg Barclays U.S. Aggregate.

Non-Retirement Account Qualifying Governmental Entities

Qualifying Governmental Entities have the authority to invest in the Non-Retirement Equity Fund. On June 30, 2020, the total market value of the Qualifying Governmental investment account was \$3.7 million.

Qualifying Governmental Entities

Overview

Under the provisions of *Minnesota Statutes*, § 118A.09, primarily counties and cities who meet the criteria provided within statute may invest in the Non-Retirement Equity Fund. Statute also authorizes certain self-insurance pools to invest with the SBI.

Investment Option

Only one Non-Retirement investment option is available to Qualifying Governmental Entities at this time, the Non-Retirement Equity Fund. Information on the Non-Retirement Equity Fund is provided on pages B105.

Participating Entity

As of June 30, 2020, there was one Qualifying Governmental investment account invested with the SBI. This account represented \$3.7 million.

Plan Administrator

The Public Employees Retirement Association (PERA) administers the accounts for Qualifying Governmental Entities. Each entity must maintain a Long-Term Equity Investment Account Agreement with PERA in order to invest through the SBI.

Investment Objective

An investment in the Non-Retirement Equity Fund should be viewed as a long-term investment. Equity investments carry a risk of loss, and all Qualifying Governmental Entities are responsible for determining their risk tolerance for equities and investing accordingly. Funds needed for operations or short-term obligations should be kept at a local financial institution in an appropriate account; an account with the SBI is not intended for maintaining operating or short-term funds.

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STATE CASH ACCOUNTS
AND
OTHER CASH RELATED
PROGRAMS

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***STATE CASH ACCOUNTS
AND CASH RELATED PROGRAMS***

State Cash Accounts Overview.....B119

Invested Treasurer’s Cash PoolB119

Other State Cash Accounts.....B120

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State Cash Accounts

Investment Program Overview and Investment Vehicles

The State Board of Investment manages the cash balances of more than 400 state agency accounts with the objectives of preserving capital, meeting state agency liquidity needs, and providing competitive money market returns. On June 30, 2020, the total market value of the cash accounts internally managed by the SBI was \$15.1 billion.

State Cash Accounts

State Cash Account assets represent funds invested in the Invested Treasurer's Cash (ITC) Pool and in Other State Cash Accounts. State agencies with differing investment objectives, strategies, and time horizons, are not invested in the ITC Pool and are invested in a separate account.

Investment Objectives

The investment objectives for investing state cash accounts are to preserve capital, to meet the state's cash needs without the forced sale of securities at a loss, and to provide a level of current income consistent with the goal of preserving capital.

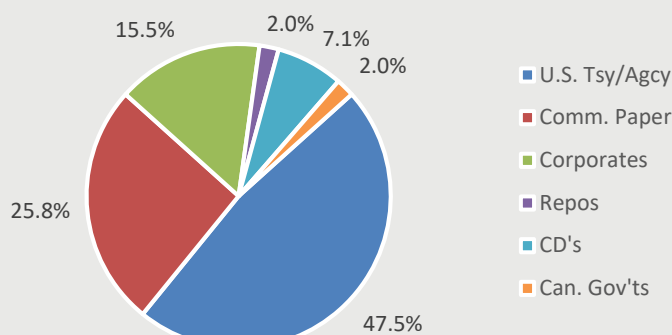
Investment Management

All State Cash Accounts are managed internally by SBI investment staff.

Invested Treasurer's Cash Pool

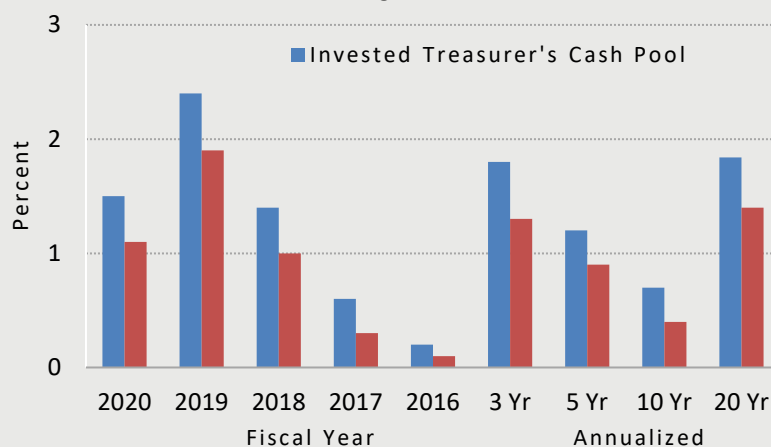
The majority of the State Cash Accounts are invested in a short-term pooled fund referred to as the Invested Treasurer's Cash Pool (ITC). ITC assets represent \$15.0 billion, or 99.4% of State Cash Account assets. This pool contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury.

Figure 71. Invested Treasurer's Cash Fund Distribution as of June 30, 2020



* Totals may not add due to rounding.

Figure 72. Invested Treasurer's Cash Pool Performance For Periods Ending June 30, 2020



	Fiscal Year Returns (%)				
	2020	2019	2018	2017	2016
Invested Treasurer's Cash Pool	1.9	2.7	1.4	0.8	0.7
iMoney Net All Taxable Fund	1.1	1.9	1.0	0.3	0.1

	Annualized Returns (%) Ending June 30, 2020			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Invested Treasurer's Cash Pool	2.0	1.5	1.0	2.2
iMoney Net All Taxable Fund	1.3	0.9	0.4	1.4

State Cash Accounts

Investment Program Overview and Investment Vehicles

Asset Allocation

The portfolio is constructed to generate current income while preserving capital 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, short-term corporates, and certificates of deposit. The composition of the Pool as of June 30, 2020 is shown in Figure 71 on page B119.

At the end of the fiscal year, the Pool had a current yield of 0.71% and a weighted average maturity of 251 days.

Investment Performance

The SBI measures the performance of the Invested Treasurer's Cash Pool against its benchmark the iMoneyNet All Taxable Fund Average, which reflects the maturity structure of the pool.

Performance results are shown in Figure 72 on page B119. For fiscal year 2020, the Treasurer's Cash Pool outperformed its benchmark by 0.8 percentage point and outperformed for all time-periods listed.

Other State Cash Accounts

Approximately \$92.1 million of assets are in Other State Cash Accounts, which are separately managed dedicated accounts because of special legal restrictions. These agencies

direct the investments or provide the SBI with investment guidelines and the SBI executes on their behalf. The vast majority of these assets are related to state or state agency debt issuance including debt service reserves and proceeds.

Excess Debt Reserve

The SBI manages excess debt reserve accounts separate from the ITC Pool in order to align with requirements related to the issuance of general obligation bonds.

When the full faith and credit of the state has been pledged for the payment of the state's bonds, the Minnesota Constitution and statutes require the state to have on hand by December 1 of each year an amount sufficient to pay principal and interest on the state's general obligation debt for the next nineteen months. The Internal Revenue Code establishes rules surrounding debt issuance, debt service, and yield management.

The SBI complies with these rules by splitting the nineteen months of funds set aside for debt service into two accounts:

- A "bona fide debt service account" to comply with federal regulations; and
- An "excess reserve account," to comply with the Minnesota Constitution and statutes.

The primary investments used for the reserve accounts are U.S. Treasuries and municipal bonds.

As of fiscal year end 2020, the SBI had \$83.1 million invested in the Excess Debt Service Reserve.

Minnesota Public Facilities Authority

The SBI additionally invests assets on behalf of and at the direction of the Minnesota Public Facilities Authority. As of June 30, 2020, \$9 million was invested on behalf of the Public Facilities Authority.

Minnesota Housing Finance Agency

Minnesota Public Facilities Authority has the authority to invest in a separate cash account with the SBI. As of June 30, 2020, the SBI did not invest any assets on behalf of the Housing Finance Authority.

LEGISLATIVE,
COMPLIANCE AND
STEWARDSHIP
INITIATIVES

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***LEGISLATIVE, COMPLIANCE
AND STEWARDSHIP INITIATIVES***

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Legislative Update, Unauthorized Holdings and Compliance

Legislative Update

In Fiscal Year 2020, the State Board of Investment (SBI) proposed an amendment to the SBI's authorized investment list. The proposed amendment provided the SBI additional investment authority to enter into co-investment and separate account funds in the SBI's private markets program. The additional authority provides the SBI opportunities to take advantage of investment structures which provide fee savings and enhanced returns. The amendment also broadened the SBI's investment authority to include bank loans. The amendment was passed unanimously by the Legislature and signed into law by the Governor as part of the 2020 Pension Bill.

The 2020 Pension Bill also included a provision that eliminated a requirement that the SBI provide certain reports on the pension assets to the State Auditor's Office.

Unauthorized Holdings and Compliance

Sudan

Minnesota Statutes, § 11A.243 concerns the SBI's investment in companies with operations in Sudan. The law requires the SBI to make its best efforts to identify all "scrutinized companies" in which the SBI has direct or indirect stock holdings or could possibly have holdings in the future.

The statute also requires that the SBI communicate with those companies, and divest stocks over a specified period of time if the companies continue their business activities in Sudan.

The SBI receives a list of scrutinized companies from Vigeo Eiris. SBI Staff sends a list of restricted Sudan companies to the SBI's equity investment managers quarterly; and has required divestment of holdings in compliance with the law. SBI Staff reports to the Board each quarter on its actions to implement the law.

Iran

Minnesota Statutes, § 11A.244, requires the SBI to take a series of steps to identify companies that do business in Iran, communicate with those companies, and divest stocks and bonds over a specified period of time if the companies continue their business activities in Iran.

The SBI retains the firm Institutional Shareholder Services, Inc. (ISS) to provide a list of scrutinized companies to implement the law. SBI Staff sends a list of restricted Iran companies to the SBI's equity and fixed income investment managers quarterly; and has required divestment of holdings in compliance with the law. SBI Staff reports to the Board each quarter on its actions to implement the law.

Tobacco

At its September 1998 meeting, the Board adopted a resolution that required each active and semi-passive equity manager to liquidate by September 2001 shares of any company which obtained more than 15% of its revenues from the manufacture of consumer tobacco products. SBI Staff notified each active and semi-passive equity manager of the policy. Since 2001, the SBI has continued to regularly update the list of restricted tobacco

companies and communicate this restricted stock listing to the active and semi-passive equity managers according to this divestment resolution.

Thermal Coal

In May of 2020, the Board adopted a resolution stating that any publicly traded company that derives more than 25% of their revenue from thermal coal production (exploration or mining) were no longer authorized investments in the Combined Funds. The SBI's Executive Director expanded this mandate to the SBI's Non-Retirement Funds and Stable Value Fund. Unauthorized thermal coal holdings are to be removed from the portfolio by December 31, 2020. The Executive Director also began the process of removing Fossil fuel companies from the ITC State Cash Account.

The SBI retains Vigeo Eiris to provide a list of unauthorized thermal coal holdings. SBI Staff will update and communicate the unauthorized thermal coal holdings list annually to all active and passively managed equity and fixed income portfolio managers.

Legislative Reporting Mandate on Northern Ireland

Requirements

The SBI is responsible for implementing certain statutory provisions concerning its investments in U.S. companies with operations in Northern Ireland. *Minnesota Statutes*, § 11A.241 requires the State Board of Investment (SBI) to:

Legislative Update, Unauthorized Holdings List and Compliance

- Annually compile a list of U.S. corporations with operations in Northern Ireland in which the SBI invests.
- Annually determine whether those corporations have taken affirmative action to eliminate religious or ethnic discrimination. The statute lists nine goals modeled after the MacBride Principles.
- Sponsor, co-sponsor and support resolutions that encourage U.S. companies to pursue affirmative action in Northern Ireland, where feasible.

The statute does not require the SBI to divest existing holdings in any companies and does not restrict future investments by the SBI.

Implementation

The SBI uses the services of Institutional Shareholder Services, Inc. (ISS) to monitor corporate activity in Northern Ireland. In June 2020, the SBI held stocks or bonds in 134 of 143 corporations identified by ISS as having operations in Northern Ireland.

Environmental, Social, and Governance (ESG) Stewardship, Including Proxy and Shareholder Initiatives

Proxy Voting

Shareholder Resolutions

In previous years, the SBI co-sponsored a number of shareholder resolutions. The SBI did not co-sponsor any resolutions during the 2020 proxy season.

As a stockholder the State Board of Investment (SBI) is entitled to participate in corporate annual meetings through direct attendance or by casting its votes by proxy. Through proxy voting, the Board directs company representatives to vote its shares in a particular way on resolutions under consideration at annual meetings. These resolutions range from issues involving the election of corporate directors and ratification of auditors to matters such as merger proposals and corporate social responsibility issues. In effect, as a shareholder the SBI can participate in shaping corporate policies and practices.

The Board recognizes its fiduciary responsibility to cast votes on proxy issues. Except for the shares held by the international managers, the SBI does not delegate the duty to its external investment managers. Rather, the SBI actively votes all shares according to guidelines established by its Proxy Committee.

Proxy Committee

The Board delegates proxy voting responsibilities to its Proxy Committee which is comprised of a designee of each Board member. The four member Committee meets only if it has a quorum and casts votes on proxy issues based on a majority vote of those present.

In the event that it reaches a tie vote or a quorum is not present, the Committee will cast a vote to abstain.

Proxy Voting Guidelines

The Proxy Committee has formulated guidelines by which it votes on a wide range of corporate governance, social responsibility and environmental issues. Each year the Proxy Committee reviews existing guidelines and determines which issues it will review on a case-by-case basis.

Corporate Governance Issues

The proxy voting guidelines for major corporate governance issues are summarized below:

- **Routine Matters**

In general, the SBI supports management on routine matters such as uncontested election of directors, selection of auditors, and limits on director and officer liability or increases in director and officer indemnification permitted under the laws of the state of incorporation.

- **Shareholder Rights**

In general, the SBI opposes proposals that would restrict shareholder ability to effect change. Such proposals include instituting super-majority requirements to ratify certain actions or events, creating classified boards, barring shareholders from participating in the determination of the rules governing the board's actions (e.g. quorum requirements and the duties of directors), prohibiting or limiting shareholder action by written consent, and granting certain stockholders superior voting rights over other stockholders.

In general, the SBI supports proposals that preserve or enhance shareholder rights to effect change. Such proposals include requiring shareholder approval of poison pill plans, repealing classified boards, adopting confidential balloting of proxy votes, and adopting anti-greenmail provisions.

- **Executive Compensation**

In general, the SBI supports efforts to have executive compensation linked to a company's long-term performance and to encourage full disclosure of compensation packages for principal executives. Accordingly, the SBI evaluates compensation packages on a case-by-case basis, including compensation agreements that are contingent upon corporate change in control.

- **Mergers**

In general, the SBI supports friendly takeovers and management buyouts. The SBI evaluates hostile takeovers, contested elections of directors, and re-capitalization plans on a case-by-case basis.

Social Responsibility Issues

The voting guidelines for major social responsibility issues are shown below:

- **Tobacco and Opioid**

In general, the SBI supports a variety of tobacco and opioid related resolutions including those that call for corporations to limit their promotion of those products and to report on the risks faced by the company due to those products.

Environmental, Social, and Governance (ESG) Stewardship, Including Proxy and Shareholder Initiatives

- **Human Capital Management**

In general, the SBI supports proposals that require a company to report or disclose to shareholders company efforts concerning diversity, sexual harassment and human rights.

- **Environmental Protection, Awareness, and Climate Change**

In general, the SBI supports proposals that require a corporation to report or disclose to shareholders company efforts in the environmental arena, seek to improve a company's environmental practices to protect the world's natural resources, or address climate change. Proposals that request the adoption of various environmental policies are evaluated on a case-by-case basis.

Summary of FY 2020 Proxy Proposals

During fiscal year 2020 the SBI voted proxies for approximately 2,400 U.S. corporations.

In 2020, the Proxy Committee continued its focus on environmental, social, and governance (ESG) related shareholder proposals submitted by other shareholders and voted on by the SBI.

In keeping with the trend of the past several years, there was a decline in total number of shareholder proposals submitted to U.S. companies. Part of the decline in total proposals is attributed to increased investor dialogue with issuers as a means to effect change rather than through a proxy ballot.

The average support for environmental, social and governance issues declined slightly relative to 2019, from 32.9% to 31.7%. However, certain types of proposals gained more support in 2020 relative to 2019, such as environmental proposals (25.1% in 2019 versus 31.2% in 2020) and compensation related proposals (21.2% in 2019 versus 23.1% in 2020). While most shareholder proposals fail, several social proposals in 2020 related to reporting on health risks, opioids, lobbying, and diversity, received majority support.

In terms of governance, one area that is receiving more attention from investors in 2020 is gender and racial diversity on company boards. The number of board diversity related resolutions has increased by over 20% this year. In 2020, 12.5% of directors were racial minorities compared to 40% of the U.S. population. Company boards also continue to be majority male, with 27% of all S&P 500 company board seats being held by women.

On the topic of executive compensation, the overall number of advisory votes that did not receive majority shareholder support decreased slightly from 2.4% in 2019 to 2.3% in 2020. In fiscal year 2020, the SBI voted against close to 68% of proposed executive compensation plans. Source: Glass Lewis

Northern Ireland Shareholder Resolutions

The SBI did not file any shareholder resolutions for the 2020 proxy season regarding the MacBride Principles. Shareholder activity has been greatly reduced over the last several years as many

companies have signed the Principles.

ESG Stewardship

ESG Initiatives

The Board maintains the following investment belief:

Utilizing engagement initiatives to address environmental, social, and governance-related (ESG) issues can lead to positive portfolio and governance outcomes.

In addition to its investment beliefs, at its February 2020 meeting, the Board adopted a resolution on ESG directing the SBI Executive Director to continue developing and refining the SBI's approach to addressing ESG investment risk throughout the investment portfolios. See page C5 for additional information on this resolution. Staff continues to implement the Board's directives through coalition membership, engagement, proxy voting, and investment manager due diligence.

Coalition Membership

The SBI continues to maintain membership in ESG advocacy organizations including:

- Council of Institutional Investors
- Ceres Investor Network
- Midwest Investors Diversity Initiative
- United Nations Principles of Responsible Investment
- Thirty Percent Coalition
- Climate Action 100+
- Institutional Limited Partners Association (ILPA)
- RFK Compass Initiative

Environmental, Social, and Governance (ESG) Stewardship, Including Proxy and Shareholder Initiatives

These organizations provide resources, engagement opportunities and other resources to more effectively address ESG issues. Common issues addressed by the coalitions include, but are not limited to, climate; gender, racial, and ethnic diversity; shareholder rights; corporate governance; and workers' rights. The SBI continues to research additional coalitions that will provide resources to the SBI to better address ESG issues within the SBI investment portfolios.

Engagement Initiatives

The SBI participated in various ESG engagement initiatives with companies in which the SBI holds an interest in its investment portfolios. For instance, the SBI continues to engage with Xcel Energy on climate issues through the Climate Action 100+, and the SBI contributed to engagement on board diversity with ANI

Pharmaceuticals, Inc. through the Midwest Investors Diversity Initiatives. SBI staff continue to develop additional engagement efforts with companies.

In addition to engaging with companies, the SBI engages with regulatory authorities on ESG issues impacting institutional investors. In 2020, the SBI submitted a comment to the Securities Exchange Commission opposing new rules regulating SBI's proxy service providers. In addition, the SBI submitted a comment to the U.S. Department of Labor in opposition to amended rules regarding ESG considerations in ERISA regulated investment portfolios.

Proxy Voting

As described previously, the SBI votes proxies in accordance with SBI proxy procedures and precedents. Many of these proxy votes concern material

ESG issues related to subjects such as climate, diversity and inclusion, and other ESG related risks.

For instance, the SBI voted for a Chevron Corporation shareholder proposal regarding climate related lobbying. Additionally, the SBI voted for a National Healthcare proposal regarding board diversity. Both proposals received majority support.

Manager Due Diligence

SBI investment staff engage with the SBI's external investment managers on ESG risk within the managers' investment portfolios and within the managers' organizations themselves.

ESG Report

The SBI publishes an ESG Report, which is available on the SBI website.

Resolution Concerning Environmental, Social, and Governance Initiatives

The Board passed a resolution at its February 26, 2020, meeting Concerning Environmental, Social, and Governance initiatives. Consistent with its fiduciary responsibility, the Board has determined the following measures be taken:

- Continue to actively vote proxies in accordance with SBI proxy guidelines, policies, and precedents as approved by the Board.
- Continue to participate in ESG coalitions and engage with corporations on ESG related issues.
- Prepare and update a Stewardship Report and other ESG informational materials.
- Develop and implement plans for reporting and addressing ESG investment risks; to evaluate options for reducing long-term carbon exposure; and to promote efforts for greater diversity and inclusion on corporate boards and within the investment industry.

Resolution Concerning Reduction of Investments Associated With Thermal Coal Production

At the May 28, 2020, Board meeting, the Board passed a resolution Concerning Reduction of Investment Associated with Thermal Coal Production. The resolution called upon the Executive Director to evaluate options for reducing the SBI's long-term carbon risk exposure.

As part of this initiative, the resolution authorized the Executive Director to remove publicly traded securities of companies that derive more than 25% of their revenue from the extraction and/or production of thermal coal as authorized investments in the Combined Funds. The Executive Director expanded this mandate to the SBI's Non-Retirement portfolios and to the Stable Value Fund. Investment managers are required to remove such companies from the SBI's portfolio by the end of calendar 2020. The Executive Director also began the process of screening for and removing investments in fossil fuel companies within the ITC State Cash Account.

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FINANCIAL SERVICES

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FINANCIAL SERVICES

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NOTES TO THE FINANCIAL SCHEDULES

JUNE 30, 2020

Financial Report Background:

The State Board of Investment (SBI) provides investment management vehicles to numerous retirement plans and non-retirement funds. The assets are separated by legal requirements and grouped into the following five investment programs: Combined Funds, Fire Relief and Other Public Retirement Plans, Participant Directed Investment Plans, Non-Retirement Funds, and State Cash Accounts. The SBI's goal is to provide investment vehicles that will allow each plan to maximize returns given the appropriate level of risk. For each investment program, the assets are further broken down and reported by the entity responsible for the financial accounting and presentation of the funds. The information provided by the SBI is audited in conjunction with the audit of the reporting entities.

Combined Funds: The Combined Funds consist of assets administered by the three Statewide Retirement Systems: Teachers Retirement Association (TRA), Public Employees Retirement Association (PERA), and Minnesota State Retirement System (MSRS). A list of the Combined Fund assets by Plan is provided in a schedule on page D3. Comprehensive Annual Financial Reports are prepared by the respective agencies. These reports can be obtained by contacting TRA at (800) 657-3669, PERA at (800) 652-9026, MSRS at (800) 657-5757.

Fire Relief Plans and Other Public Retirement Plans: Fire Relief Plans, Statewide Voluntary Firefighter (SVF) Plan and St. Paul Teachers' Retirement Fund use the Supplemental Investment Fund (SIF) investment platform. The SVF Plan, which is administered by PERA, is included in PERA's Comprehensive Annual Financial Report. A list of plan participants is provided in a schedule beginning on page D3.

The Supplemental Investment Fund (SIF) platform provides all or some of the investment options for a variety of plans. Not all SIF options are available to all plans due to statutory requirements and regulatory rules. A financial schedule on the SIF is provided beginning on page D2 as required by statute.

Participant Directed Investment Program (PDIP): Participants in this investment program are responsible for their own investment choices using investment vehicles from a mutual fund investment platform and eligible options from the SIF investment platform. PDIP participation in the SIF platform is included in the SIF schedule on page D10.

Non-Retirement Funds: The Non-Retirement Funds provide investment vehicles for Trusts, OPEBs, and Qualifying Government Entities. A listing of the Non-Retirement Accounts is provided in the participation schedule on page D11. The Comprehensive Financial Reports for the Trusts are prepared by Minnesota Management and Budget and are available by calling (800) 627-3529. The Comprehensive Financial Reports for the OPEBs are prepared by PERA and are available by calling (800) 652-9026.

State Cash Accounts: The State Cash Account assets are invested by SBI staff in either the Invested Treasurer's Cash (ITC) Account or in Other State Cash Accounts. Other State

Cash Accounts include: Debt Service and Housing Finance. Detailed financial statements, supporting schedules, and further breakdown for these assets can be found in the State's Comprehensive Annual Financial Report available from Minnesota Management and Budget at (800) 627-3529.

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Financial Reporting: The SBI reporting requirements changed under the legislation passed during the 2012 legislative session. References in *Minnesota Statutes*, Section 11A.07, subdivision 4 and 11A.14, subdivision 14 to fund and participant annual statements prepared in accordance with generally accepted accounting principles were deleted. These requirements were deemed redundant to statements prepared for the State of Minnesota's Comprehensive Financial Statements and those of PERA, MSRS, and TRA retirement systems.

As required by state statute the SBI has prepared schedules for the SIF, a schedule of participation for all pooled investments, a schedule of external manager fees, and an investment commission report.

Authorized Investments: *Minnesota Statutes*, Section 11A.24 authorizes investments to obligations and stocks of the U.S. and Canadian governments, their agencies and their registered corporations; short-term obligations of specified high quality; international securities; participation as a limited partner in venture capital, real estate or resource equity investments; and participation in registered mutual funds.

Security Valuation: All securities are valued at fair value except for U.S. Government short-term securities and commercial paper, which are valued at fair value less accrued interest. Accrued short-term interest is recognized as income as part of "Short-Term Gain". For long-term fixed income securities, SBI uses the Financial Times Interactive Data Services valuation system. This service provides prices for both actively traded and privately placed bonds. For equity securities, SBI uses a valuation service provided by Reuters. The basis for determining the fair value of investments that are not based on market quotations may include audited financial statements, analysis of future cash flows, and independent appraisals.

Recognition of Security Transactions: Security transactions are accounted for as of the date the securities are purchased or sold.

Income Recognition: Pool dividend income is recorded on the ex-dividend date. Pool interest and dividend income are accrued monthly. Short-term interest is accrued monthly and is presented as "Accrued Short-Term Gain."

Amortization of Fixed Income Securities: Premiums and discounts on fixed income purchases are amortized over the remaining life of the security using the "Effective Interest Method."

Financials

Supplemental Investment Accounts – Fund Schedules

Retirement Plans – Supplemental Investment Accounts

Schedule of Net Positions (Amounts in 000's) – As of June 30, 2020

	Stable Value Fund	Money Market Fund	Bond Fund	Balanced Fund	U.S. Equity Index Fund	U.S. Equity Actively Managed Fund	Broad International Stock Fund	Volunteer Fire Fighter Account	Total Supplemental Investment Fund
Assets									
Short-Term Investments									
Stable Value Fixed Interest	\$ 1,659,786	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,659,786
Money Fund		557,011		4,216				5,774	567,001
Fixed Income Investments									
Bond Pool			107,941	31,478				53,229	192,648
Equity Investments									
Domestic Stock Pool				56,083	367,179	64,097		41,435	528,794
International Stock Pool							110,506	17,586	128,092
Net Supplemental Position Assets Held in Trust	\$ 1,659,786	\$ 557,011	\$ 107,941	\$ 91,777	\$ 367,179	\$ 64,097	\$ 110,506	\$ 118,024	\$ 3,076,321
<i>Unaudited</i>									

Retirement Plans – Supplemental Investment Accounts

Schedule of Changes in Net Assets (Amounts in 000's) – As of June 30, 2020

	Stable Value Fund	Money Market Fund	Bond Fund	Balanced Fund	U.S. Equity Index Fund	U.S. Equity Actively Managed Fund	Broad International Equity Fund	Volunteer Firefighter Account	Total Supplemental Investment Fund
Investment Income									
Interest, Dividends and Other	\$ 3,622	\$ 9,743	\$ 11,029	\$ (1,122)	\$ (10,203)	\$ (1,031)	\$ 337	\$ 89	\$ 12,464
Net Increase in Fair Value of Investments	42,685		9,505	7,255	23,600	5,190	(5,022)	7,680	90,893
Total Investment Income (Loss)	\$ 46,307	\$ 9,743	\$ 20,534	\$ 6,133	\$ 13,397	\$ 4,159	\$ (4,685)	\$ 7,769	\$ 103,357
Expenses									
Administrative Expenses	\$ (136)	\$ (1)	\$ (7)	\$ (3)	\$ (21)	\$ (3)	\$ (6)	\$ (143)	\$ (320)
Investment Expenses	(3,486)		(114)	(36)	(17)	(124)	(216)	(89)	(4,082)
Total Expenses	\$ (3,622)	\$ (1)	\$ (121)	\$ (39)	\$ (38)	\$ (127)	\$ (222)	\$ (232)	\$ (4,402)
Net Income - Supplemental Investments	\$ 42,685	\$ 9,742	\$ 20,413	\$ 6,094	\$ 13,359	\$ 4,032	\$ (4,907)	\$ 7,537	\$ 98,955
Participant Transactions									
Additions	\$ 123,146	\$ 131,398	\$ 2,481	\$ 5,021	\$ 1,764	\$ 1,046	\$ 5,413	\$ 10,647	\$ 280,916
Withdrawals	(91,685)	(52,559)	(95,689)	(393,573)	(300,475)	(218,086)	(85,549)	(7,611)	(1,245,227)
Net Participant Transactions	\$ 31,461	\$ 78,839	\$ (93,208)	\$ (388,552)	\$ (298,711)	\$ (217,040)	\$ (80,136)	\$ 3,036	\$ (964,311)
Total Change in Assets	\$ 74,146	\$ 88,581	\$ (72,795)	\$ (382,458)	\$ (285,352)	\$ (213,008)	\$ (85,043)	\$ 10,573	\$ (865,356)
Net Supplemental Investment Assets Held in Trust									
Beginning of Fiscal Year	1,585,640	468,430	180,736	474,235	652,531	277,105	195,549	107,451	3,941,677
End of Fiscal Year	\$ 1,659,786	\$ 557,011	\$ 107,941	\$ 91,777	\$ 367,179	\$ 64,097	\$ 110,506	\$ 118,024	\$ 3,076,321
<i>Unaudited</i>									

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plan Participation

Total Plan Participation – As of June 30, 2020

	Stable Value Fund	Domestic Equity	International Equity	Fixed Income	Alternative Investment	Money Market	Total
Retirement Plans Participation							
Combined Funds		\$ 28,485,608,368	\$ 13,865,036,710	\$ 14,462,777,340	\$ 11,104,458,917	\$ 3,134,979,108	\$ 71,052,860,443
Fire Relief + Other Public Retirement Plans		479,543,279	124,906,175	175,025,172		12,922,674	792,397,299
PDIP	1,659,785,901	49,250,569	3,185,645	17,623,212		554,078,791	2,283,924,118
Total Plan Participation	\$ 1,659,785,901	\$ 29,014,402,217	\$ 13,993,128,529	\$ 14,655,425,724	\$ 11,104,458,917	\$ 3,701,980,572	\$ 74,129,181,861

Retirement Plans – Combined Funds

Plan Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Alternative Investment	Money Market	Total
Combined Retirement Funds						
Correctional Employees Retirement Fund	\$ 489,034,443	\$ 238,031,793	\$ 248,293,671	\$ 190,638,965	\$ 54,856,962	\$ 1,220,855,834
Highway Patrolmen's Retirement Fund	302,500,641	147,238,649	153,586,308	117,922,924	34,560,315	755,808,837
Judges Retirement Fund	86,526,174	42,115,603	43,931,263	33,730,244	10,027,154	216,330,438
Public Employee Corrections	315,769,747	153,697,229	160,323,329	123,095,669	33,814,489	786,700,463
Public Employee Police & Fire Fund	3,597,097,350	1,750,845,059	1,826,326,382	1,402,245,730	387,451,344	8,963,965,865
Public Employees Retirement Fund	9,070,935,556	4,415,171,784	4,605,515,864	3,536,095,650	965,704,465	22,593,423,319
State Employees Retirement Fund	5,544,407,411	2,698,675,461	2,815,019,039	2,161,359,847	590,716,833	13,810,178,591
Teacher's Retirement Fund	9,079,337,046	4,419,261,132	4,609,781,484	3,539,369,888	1,057,847,546	22,705,597,096
Total Combined Funds Assets	\$ 28,485,608,368	\$ 13,865,036,710	\$ 14,462,777,340	\$ 11,104,458,917	\$ 3,134,979,108	\$ 71,052,860,443

Retirement Plans – Supplemental Investment Fund

Fire Relief Plans Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Fire Relief Plans					
Ada	\$ 34,864	\$ 13,594	\$ 16,738	\$ 318,711	\$ 383,907
Almelund	481,678		98,472	130,667	710,817
Amboy	114,190		13,183		127,373
Argyle	196,937		35,278	4,725	236,940
Arrowhead	121,204		36,788	1,771	159,763
Askov	107,489		22,261	2,982	132,732
Audubon	343,668		290,825	22,465	656,957
Austin	1,086,588		218,474	29,264	1,334,326
Avon	113,055				113,055
Backus	31,926				31,926
Bagley	195,173		103,523	8,524	307,220
Balsam	436,147		101,582	13,607	551,335
Battle Lake	414,338		232,554	31,150	678,042
Beardsley	190,116	40,667	60,611	238	291,632
Beaver Creek	51,656		26,377		78,034
Bemidji	1,579,965	530,480	1,632,503	240,470	3,983,419
Bertha	243,535		51,817	6,941	302,293

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund Fire Relief Plans Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Fire Relief Plans					
Bigfork	\$ 337,580	\$ 20,578	\$ 9,551	\$ 1,279	\$ 368,989
Bird Island	163,918		33,446	4,480	201,844
Blackduck	21,914	35,154			57,068
Blooming Prairie	189,670		98,912	7,190	295,772
Bloomington	66,898,380	22,863,983	72,390,227		162,152,591
Boyd	51,758		10,921	1,463	64,142
Brooten	432,921				432,921
Buffalo Fire	224,980		16,497	18,212	259,690
Buffalo Lake	476,073		70,408	9,431	555,912
Carlton	237,876	26,677	65,959	2,501	333,013
Ceylon	340,129		47,986	6,428	394,542
Cherry	329,944		46,680	6,253	382,876
Chisago City	800,972	245,782	180,677	24,103	1,251,535
Chokio	156,661	36,466	87,929	11,778	292,834
Clarissa	95,335		46,459		141,794
Clarkfield	193,874		132,633	10,699	337,206
Clear Lake	310,979		63,397	487,636	862,012
Cloquet (Perch Lake)	433,695	35,914	262,186	4,256	736,051
Columbia Heights	1,984,011		467,881		2,451,891
Coon Rapids	1,523,580		2,145,446	114,543	3,783,569
Courtland	55,710		31,268	25,612	112,591
Cyrus	90,730	15,788	37,431		143,950
Dakota	162,181		101,239	5,794	269,214
Dawson	309,690		127,859	17,126	454,676
Dayton Fire	230,697		38,368	21,481	290,546
Deer Creek	253,496	28,989	103,436	4,734	390,655
Dover	249,199	45,373	99,969	30,608	425,149
East Grand Forks	747,235		419,397	56,177	1,222,809
Edgerton	564,882		152,275	20,397	737,554
Edina	6,587,639		3,421,804	27,005	10,036,448
Elbow Lake	345,693	30,921	83,505	11,185	471,304
Excelsior	3,029,855	1,517,780	2,032,884		6,580,519
Eyota	146,169		160,476	136,927	443,572
Fairmont	879,479		493,622	66,119	1,439,220
Fergus Falls	1,402,921	102,298	1,253,074	30,904	2,789,198
Forest Lake	308,550		146,784	19,661	474,996
Franklin	390,099				390,099
Ghent	48,160	6,896	9,610		64,666
Glencoe	409,412				409,412
Glenville	163,446	55,002	79,954	3,006	301,409
Glenwood	658,614		251,888	13,749	924,250
Golden Valley	2,765,838	456,867	756,598	264,164	4,243,466
Gonvick	163,434		31,786	4,258	199,478
Good Thunder	425,132		73,511	9,847	508,489
Goodland	59,756		6,617	886	67,260
Grand Meadow	399,124		83,471	7,622	490,218
Grey Eagle	178,176	43,428	100,004	13,395	335,004
Hackensack	247,803	149,293	250,732	18,630	666,457
Hanover Regular	425,102		525,055	31,959	982,116
Hanska	184,917		88,302	11,466	284,685
Harmony	146,513	24,265	32,033	4,291	207,102
Hawley	172,785			154	172,939
Hayward	169,834	29,471	27,815	413,227	640,347
Hector	602,421		338,118	45,290	985,829
Herman	154,799	26,937	42,321		224,057
Hokah	68,093		34,202	11,693	113,988
Holdingford	69,171		8,295	1,111	78,577
Holland	148,277	91,469	73,379	2,525	315,650

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund

Fire Relief Plans Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Fire Relief Plans					
Jacobson	\$ 139,735	\$ 39,150	\$ 23,250	\$ 10,354	\$ 212,489
Kandiyohi	383,811		98,473	6,447	488,731
Kelsey	54,751	30,076	33,645		118,472
Kerkhoven	209,018		78,342	3,408	290,768
Kilkenny	528,283		65,603	23,846	617,732
La Crescent	820,389		103,025	10,790	934,205
La Salle	84,274		8,962	1,200	94,436
Lafayette	418,586	28,004	105,503	13,342	565,434
Lake City	541,148		300,148	38,498	879,794
Lakeville	5,886,864	432,577	1,326,712		7,646,153
Leroy	84,922		74,975	6,384	166,282
Lewiston	352,389		67,042	8,980	428,411
Littlefork	447,045	-	68,547	9,182	524,774
Long Lake	1,297,873		728,452	97,574	2,123,899
Lonsdale	480,748	111,051	45,037	6,033	642,869
Lowry	162,103				162,103
Lyle	170,415	9,424	30,954	4,146	214,938
Mable	66,540	19,295	31,867	28,482	146,183
Madison	349,329		46,747	16,272	412,348
Madison Lake	28,854	7,459	6,734	902	43,949
Maple Hill	227,457		188,606	17,100	433,164
Mapleton	103,511		29,789	1,434	134,734
Mapleview	222,725	34,494	96,601	5,224	359,045
Marietta	262,700		38,393	5,143	306,236
Marine St. Croix	251,919		141,394	202,283	595,597
Maynard	106,967		60,037	8,042	175,046
McDavitt	196,277	13,421	47,438	4,855	261,991
McGrath	38,681		24,741	1,405	64,827
McIntosh	178,869		18,729	12,866	210,464
Medford	519,066	46,786	141,086	3,195	710,133
Medicine Lake	748,865	280,245	261,927	0	1,291,036
Menahga	150,858		261,494	11,341	423,693
Mendota Heights	2,098,998	331,018	865,438	24,609	3,320,063
Milan	214,477		59,484	4,163	278,123
Minneota	130,382	14,650	59,856	3,668	208,556
Minnetonka	6,388,985	917,715	4,332,119	480,324	12,119,142
Mission Twp	303,020		170,075	22,781	495,875
Morristown	1,145,334		201,656	27,011	1,374,001
Morse-Fall Lake	394,945		90,317	30,834	516,097
Murdock	120,752	18,318	14,637	1,961	155,668
Myrtle	141,941		79,667	64,077	285,685
Nassau	258,678	44,031	75,545	1,920	380,174
New Brighton	2,543,672		1,732,149		4,275,821
New Germany	191,806		107,654	14,420	313,879
New Ulm	616,365				616,365
New York Mills	114,731		64,395	8,625	187,751
Nicollet	561,051	169,065	117,251	19,764	867,131
Nodine	202,460	22,258	40,604	72,222	337,544
North Branch	235,714	29,847	25,813	3,458	294,832
Northfield	4,065,609	527,777	616,529	502,161	5,712,076
Northrop	233,637		43,243	5,792	282,672
Ormsby	16,378	10,304	3,480	466	30,629
Oronoco	296,846		44,756	5,995	347,597
Owatonna	345,258	187,687	248,605	158,430	939,980
Pequot Lakes	1,036,000		441,143	23,574	1,500,717
Pine Island	701,494		309,824	26,186	1,037,504
Pipestone	437,003		83,460	11,179	531,642
Plymouth			3,410,408		3,410,408

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund

Fire Relief Plans + Other Public Retirement Plans Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Fire Relief Plans					
Randolph	\$ 812,610	\$ 75,346	\$ 170,997	\$ 22,905	\$ 1,081,858
Red Lake Falls Regular	100,138		49,387	6,615	156,140
Red Lake Falls Special		8,845			8,845
Redwood Falls			63,083		63,083
Renville	249,939		115,328	5,296	370,562
Robbinsdale	1,262,795	115,922	172,437	568,918	2,120,072
Rose Creek	65,372	4,972	7,822	1,048	79,213
Roseau	3,105				3,105
Rosemount	1,774,880		382,401	711,674	2,868,955
Roseville	8,317,196	494,553	3,871,258		12,683,007
Ruthton	164,672		19,376	26,527	210,576
Saint Clair	1,048,710		123,012	14,191	1,185,913
Saint Peter	593,030	126,450	21,347	2,752	743,579
Sandstone	9,115		5,116	685	14,917
Savage	1,727,692		969,694	129,888	2,827,274
Sherburn	366,682		152,234	20,391	539,307
Silver Bay	637,040	21,136	106,470	14,261	778,908
Starbuck	317,130	10,701	38,602	5,171	371,604
Stewart	212,292		60,684	8,128	281,104
Sturgeon Lake	110,387		10,703	0	121,090
Tofte	246,286		49,193	6,589	302,068
Truman	283,495		67,361	2,376	353,232
Two Harbors	386,984	63,003	209,179	9,479	668,645
Tyler	188,384		105,734	14,163	308,280
Verndale	53,311				53,311
Viking Fire	66,271	8,563	16,016	3,523	94,372
Warroad Area	442,981		248,630	33,303	724,914
Watkins Fire	423,649	80,985	88,178	18,182	610,995
Williams	214,504		65,053	9,079	288,636
Willow River	186,558		9,742	0	196,300
Woodbury	6,586,092	2,039,033	5,630,991	267,391	14,523,506
Woodstock	202,623		26,871	3,358	232,852
Wykoff	92,389		51,855	6,946	151,189
Wyoming	351,799		309,228	20,265	681,292
Zumbro Falls	73,278	6,625	150,078	290,319	520,300
Total Fire Relief Plans	\$ 170,243,714	\$ 32,854,857	\$ 121,795,683	\$ 7,148,543	\$ 332,042,797
Public Retirement Plan					
SPTRFA	\$ 267,864,974	\$ 74,465,610	\$ -	\$ -	\$ 342,330,584
Statewide Voluntary Firefighter Plan					
Aitkin Fire	\$ 430,725	\$ 182,809	\$ 553,336	\$ 60,024	\$ 1,226,893
Alaska	59,351	25,190	76,246	8,271	169,058
Albert Lea	166,033	70,468	213,296	23,138	472,935
Alborn	65,596	27,840	84,269	9,141	186,846
Alden	74,635	31,676	95,880	10,401	212,592
Ashby	205,886	87,383	264,495	28,691	586,455
Aurora	109,493	46,471	140,661	15,258	311,884
Barnum	143,641	60,964	184,530	20,017	409,153
Barrett	80,321	34,090	103,186	11,193	228,790
Belview	95,430	40,503	122,596	13,299	271,827
Benson	175,129	74,329	224,982	24,405	498,845
Biwabik Fire	120,044	50,949	154,216	16,729	341,939
Biwabik Township	100,785	42,775	129,475	14,045	287,081
Blomkest	101,781	43,198	130,754	14,184	289,917
Brandon	132,361	56,177	170,039	18,445	377,022
Breitung	145,689	61,834	187,162	20,303	414,987

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund

Other Public Retirement Plans Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Statewide Voluntary Firefighter Plan					
Bricelyn	\$ 166,750	\$ 70,772	\$ 214,217	\$ 23,237	\$ 474,977
Brimson	53,018	22,502	68,110	7,388	151,019
Brook Park	106,077	45,021	136,274	14,782	302,155
Browerville	114,258	48,493	146,782	15,922	325,456
Brownsville	103,893	44,094	133,467	14,478	295,933
Buyck	50,915	21,610	65,409	7,095	145,030
Cambridge Fire	399,202	169,430	512,839	55,631	1,137,101
Canby	231,171	98,114	296,977	32,215	658,477
Canton	33,244	14,109	42,707	4,633	94,692
Carsonville	114,917	48,773	147,629	16,014	327,333
Center City	167,624	71,143	215,341	23,359	477,467
Central Lakes	29,422	12,487	37,797	4,100	83,806
Chatfield	160,347	68,055	205,992	22,345	456,738
Clarks Grove	80,165	34,024	102,985	11,171	228,346
Clifton	213,102	90,445	273,765	29,697	607,009
Colvill	49,837	21,152	64,023	6,945	141,956
Colvin	43,552	18,484	55,950	6,069	124,055
Cosmos	131,347	55,746	168,737	18,304	374,134
Cottage Grove	1,073,550	455,637	1,379,150	149,605	3,057,942
Cotton	126,354	53,627	162,323	17,608	359,912
Cottonwood	205,194	87,089	263,605	28,595	584,482
Crane Lake	74,762	31,731	96,044	10,419	212,956
Crookston	346,370	147,007	444,968	48,268	986,613
Culver	47,206	20,035	60,644	6,578	134,464
Dalbo Fire Department	159,440	67,670	204,827	22,219	454,157
De Graff	29,181	12,385	37,487	4,066	83,119
Delavan	93,830	39,824	120,540	13,076	267,270
Dent	138,160	58,638	177,490	19,253	393,542
Dunnell Lake	58,529	24,841	75,190	8,156	166,717
Eagle's Nest	19,132	8,120	24,578	2,666	54,496
Echo Fire	117,743	49,973	151,260	16,408	335,384
Elbow Tulaby	65,448	27,778	84,079	9,121	186,425
Elgin	152,533	64,738	195,954	21,256	434,481
Ellsburg	54,829	23,271	70,437	7,641	156,178
Ellsworth	97,286	41,290	124,980	13,557	277,114
Elmore	101,242	42,969	130,062	14,109	288,382
Ely	209,428	88,886	269,044	29,185	596,543
Embarrass	110,053	46,709	141,381	15,336	313,479
Emmons	182,326	77,383	234,228	25,408	519,345
Evergreen	21,251	9,019	27,301	2,961	60,533
Fairfax	171,776	72,905	220,674	23,938	489,292
Federal Dam	65,279	27,706	83,862	9,097	185,943
Forada	241,390	102,451	310,105	33,639	687,585
Foxhome	3,743	1,589	4,809	522	10,662
Fredenberg	117,700	49,954	151,205	16,402	335,262
French	69,270	29,400	88,989	9,653	197,312
Frost	92,233	39,146	118,488	12,853	262,720
Garvin	63,490	26,947	81,564	8,848	180,848
Geneva	106,620	45,252	136,971	14,858	303,702
Gilbert	106,194	45,071	136,424	14,799	302,488
Gnesen	134,292	56,996	172,519	18,714	382,522
Goodview Fire	182,365	77,400	234,278	25,414	519,456
Grand Lake	199,070	84,489	255,737	27,741	567,038
Grand Marais	185,129	78,573	237,828	25,799	527,329
Granite Falls	211,949	89,956	272,283	29,536	603,724
Greenwood	253,853	107,741	326,115	35,376	723,085
Hamburg	170,101	72,194	218,523	23,704	484,522
Hardwick	80,182	34,031	103,007	11,174	228,394

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund

Other Public Retirement Plans Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Statewide Voluntary Firefighter Plan					
Harris	\$ 63,966	\$ 27,149	\$ 82,175	\$ 8,914	\$ 182,204
Hayfield	232,756	98,786	299,013	32,436	662,990
Henning	170,479	72,355	219,008	23,757	485,598
Hermantown	683,596	290,133	878,191	95,263	1,947,182
Hewitt	65,851	27,948	84,596	9,177	187,571
Hill City	107,789	45,748	138,473	15,021	307,032
Hills	101,267	42,980	130,094	14,112	288,454
Hinckley	203,542	86,387	261,482	28,365	579,776
Hitterdal	112,029	47,547	143,919	15,612	319,108
Hollandale	56,145	23,829	72,127	7,824	159,925
Houston	206,045	87,450	264,698	28,713	586,905
Hovland Fire Department	85,819	36,423	110,249	11,959	244,451
Hoyt Lakes	135,992	57,718	174,705	18,951	387,366
Industrial Township	166,546	70,686	213,956	23,209	474,397
International Falls	316,002	134,118	405,956	44,037	900,113
Isanti	911,986	387,066	1,171,594	127,090	2,597,736
Kabetogama	102,083	43,326	131,142	14,226	290,777
Kelliher	100,341	42,587	128,904	13,983	285,815
Kettle River	56,333	23,909	72,369	7,850	160,461
Kiester	78,410	33,279	100,731	10,927	223,347
Lake Bronson	94,331	40,036	121,184	13,146	268,696
Lakeland	163,077	69,213	209,499	22,726	464,515
Lakewood	135,941	57,696	174,639	18,944	387,221
Lancaster	69,968	29,696	89,885	9,750	199,299
Leaf Valley	115,884	49,184	148,872	16,149	330,090
Lester Prairie	189,474	80,417	243,410	26,404	539,705
LeSueur	443,217	188,111	569,385	61,765	1,262,477
Lexington	268,515	113,963	344,952	37,419	764,849
Lino Lakes Fire	208,471	88,479	267,815	29,052	593,816
Linwood	291,956	123,912	375,065	40,686	831,619
Lutsen	116,049	49,253	149,083	16,172	330,558
Lynd	44,348	18,822	56,972	6,180	126,322
Mahtomedi	646,890	274,554	831,036	90,148	1,842,627
Mahtowa	113,678	48,247	146,038	15,842	323,804
Makinen	28,652	12,160	36,808	3,993	81,613
Manchester	88,610	37,608	113,834	12,348	252,400
Mayer	316,550	134,351	406,660	44,113	901,674
McGregor	345,910	146,811	444,378	48,204	985,303
McKinley	51,741	21,960	66,469	7,210	147,380
Melrose	253,295	107,504	325,399	35,298	721,496
Middle River	81,099	34,420	104,185	11,302	231,005
Milaca	255,574	108,471	328,327	35,616	727,988
Miltona	116,547	49,465	149,724	16,242	331,978
Minnesota City	5,993	2,544	7,699	835	17,071
Montrose	406,708	172,615	522,483	56,677	1,158,483
Mountain Iron	155,554	66,020	199,834	21,677	443,086
NE Sherburne	227,823	96,693	292,676	31,748	648,941
Newfolden	72,593	30,810	93,257	10,116	206,777
Normanna	38,929	16,522	50,011	5,425	110,887
North Star	46,221	19,617	59,379	6,441	131,659
Northhome	49,604	21,053	63,724	6,913	141,294
Northland Fire	38,482	16,333	49,436	5,363	109,613
Norwood-Young America	258,739	109,814	332,393	36,057	737,003
Oak Grove	634,393	269,250	814,981	88,406	1,807,030
Oakdale	1,127,424	478,502	1,448,360	157,112	3,211,398
Ogilvie	131,556	55,835	169,006	18,333	374,730
Omega	6,686	2,838	8,589	932	19,044
Osakis	394,363	167,376	506,624	54,957	1,123,319

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund

Other Public Retirement Plans and PDIP Participation – As of June 30, 2020

	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Statewide Voluntary Firefighter Plan					
Ottertail	\$ 218,764	\$ 92,848	\$ 281,038	\$ 30,486	\$ 623,136
Palisade	98,141	41,653	126,078	13,676	279,548
Palo	144,680	61,405	185,865	20,162	412,113
Parkers Prairie	166,829	70,806	214,319	23,249	475,203
Pennock	151,674	64,374	194,850	21,137	432,034
Pequaywan Lake	49,315	20,930	63,354	6,872	140,472
Pickwick Fire	14,419	6,120	18,523	2,009	41,071
Pike Sandy Britt	134,097	56,914	172,269	18,687	381,967
Plato Fire	156,926	66,603	201,597	21,868	446,994
Porter	245,413	104,158	315,273	34,200	699,043
Princeton	609,892	258,851	783,506	84,992	1,737,240
Raymond	160,674	68,194	206,412	22,391	457,671
Remer	132,663	56,305	170,427	18,487	377,883
Rice Lake	196,052	83,209	251,861	27,321	558,443
Russell	86,342	36,645	110,920	12,032	245,940
Sabin Elmwood Fire	155,441	65,972	199,689	21,662	442,764
Sacred Heart	66,148	28,075	84,978	9,218	188,420
Saint Francis	308,547	130,954	396,379	42,998	878,877
Saint Leo Fire	92,585	39,295	118,940	12,902	263,721
Saint Paul Park	310,473	131,771	398,853	43,266	884,364
Scandia	266,589	113,146	342,478	37,151	759,364
Scandia Valley	170,274	72,268	218,745	23,729	485,015
Schroeder	85,379	36,237	109,684	11,898	243,198
Shafer	118,743	50,397	152,544	16,547	338,232
Shevlin	137,514	58,364	176,659	19,163	391,700
Silver Lake	131,540	55,828	168,984	18,331	374,683
Solway (Main)	63,937	27,136	82,137	8,910	182,120
Solway(Cloquet)	119,279	50,625	153,234	16,622	339,760
Spring Grove	101,988	43,286	131,020	14,213	290,506
Spring Lake Park	6,669,608	2,830,721	8,568,199	929,445	18,997,974
St Anthony	355,002	150,670	456,058	49,471	1,011,203
Stephen	136,487	57,928	175,340	19,020	388,776
Sunburg	98,822	41,942	126,952	13,771	281,487
Toivola	71,999	30,558	92,494	10,033	205,084
Tower	95,798	40,659	123,068	13,350	272,875
Twin Valley	116,163	49,302	149,230	16,188	330,883
Ulen	125,672	53,338	161,446	17,513	357,969
Vadnais Heights	591,108	250,879	759,375	82,374	1,683,736
Vermilion Lake	105,818	44,911	135,941	14,746	301,417
Vesta	68,186	28,940	87,596	9,502	194,225
Victoria	474,433	201,359	609,486	66,115	1,351,393
Vining	57,145	24,253	73,412	7,963	162,773
Waconia	586,181	248,788	753,045	81,687	1,669,702
Waite Park	277,198	117,649	356,106	38,629	789,582
Wanda	56,759	24,090	72,917	7,910	161,676
Warba - Feeley - Sago	101,023	42,876	129,780	14,078	287,757
Watertown	463,456	196,700	595,385	64,585	1,320,126
Wells	218,746	92,841	281,015	30,483	623,086
White Bear Lake	2,393,729	1,015,949	3,075,135	333,579	6,818,392
Willmar	504,641	214,180	648,293	70,324	1,437,438
Winnebago	230,447	97,806	296,047	32,114	656,414
Winthrop	240,232	101,959	308,617	33,478	684,286
Wolf Lake	107,863	45,780	138,568	15,031	307,243
Wood Lake	84,009	35,655	107,923	11,707	239,294
Wrenshall	123,698	52,500	158,910	17,238	352,346
Total Statewide Volunteer Firefighter Assets	\$ 41,434,591	\$ 17,585,708	\$ 53,229,488	\$ 5,774,131	\$ 118,023,918
Total Fire Relief + Other Public Retirement Plan Assets	\$ 479,543,279	\$ 124,906,175	\$ 175,025,172	\$ 12,922,674	\$ 792,397,299

Financials

Retirement Plans Participation – As of June 30, 2020

Retirement Plans – Supplemental Investment Fund

Other Public Retirement Plans and PDIP Participation – As of June 30, 2020

	Stable Value Fund	Domestic Equity	International Equity	Fixed Income	Money Market	Total
Participant Directed Investment Program (PDIP) Plan Participation						
MSRS - Empower	\$ 1,655,702,128	\$ -	\$ -	\$ -	\$ 550,257,519	\$ 2,205,959,646
Pera DCP	4,083,773	49,250,569	3,185,645	17,623,212	3,821,272	77,964,471
Total PDIP Participation	\$ 1,659,785,901	\$ 49,250,569	\$ 3,185,645	\$ 17,623,212	\$ 554,078,791	\$ 2,283,924,118
Total Supplemental Investment Fund (SIF) Assets	\$ 1,659,785,901	\$ 528,793,848	\$ 128,091,820	\$ 192,648,384	\$ 567,001,464	\$ 3,076,321,417

Note: Balanced Fund and Volunteer Firefighter Account assets are recorded in the respective asset group category

Financials

Non-Retirement Funds Participation

Non-Retirement Funds Participation Schedule As of June 30, 2020 – (Amounts in 000's)

	Non-Retirement Money Market	Non-Retirement Bond	Non-Retirement Equity	Assigned Risk Plan Fixed Income	Total
Trust Funds					
Permanent School	\$ 31,327	\$ 774,457	\$ 815,741	\$ -	\$ 1,621,525
Environmental Trust	23,486	328,265	937,007		1,288,758
Assigned Risk	-	-	62,793	244,760	307,553
Closed Landfill		30,938	71,660		102,598
Iron Range Resources		62,626	106,481		169,107
Other Trusts:					
Duluth Community Investment Trust		6,861	19,733		26,594
Emergency Med SVC	84	593	1,145		1,822
Ethel Currey		671	1,014		1,685
Life Time Fish & Wild Life	682	9,588	24,707		34,977
Metro Landfill Contingency Action		3,514	8,271		11,785
Mittigation Easement Stewardship		63	152		215
Natural Resources Conservation		430	1,128		1,558
Saint Louis County Environmental		10,463	11,797		22,260
Water & Soil Conservation Easement		694	1,817		2,511
Winona State		1,121	1,863		2,984
Total Trust Fund Assets	\$ 55,579	\$ 1,230,284	\$ 2,065,309	\$ 244,760	\$ 3,595,932
Qualifying Governmental Entities					
City of Woodbury	\$ -	\$ -	\$ 3,693		\$ 3,693
Other Post Employment Benefit Plans (OPEB)					
Anoka County (Irrevocable)	\$ -	\$ -	\$ 73,173		\$ 73,173
Carver County		1,900	7,642		9,542
City of Eagan			18,965		18,965
City of Virginia			1,916		1,916
Crosby-Ironton ISD#182	85	2	3,610		3,697
Duluth		19,464	51,409		70,873
Fillmore Central Schools #2198	342				342
Foley ISD#51		1,000	1,417		2,417
Hastings ISD#200	3,879				3,879
Kingsland ISD#2137			290		290
Mendota Hgts Eg WSP#197	70	7,338			7,408
Metro Mosquito Control District		102	3,663		3,765
Metropolitan Council	17,204	68,669	201,912		287,785
Mounds View ISD#621	2,233	7,840	13,508		23,581
Mt. Iron-Buhl District #712		2,106			2,106
Ogilvie ISD#333	110				110
Port Authority of the City of Saint Paul	154	459	62		675
Ramsey County	7,153	18,040	61,574		86,767
Roseville District#623		\$9,389			9,389
Scott County		12,235	9,989		22,224
Staples Motley #2170	26	584	109		719
Washington County		12,923	55,545		68,468
Yellow Medicine ISD#2190	352				352
Total OPEB Assets	\$ 31,608	\$ 162,051	\$ 504,784		\$ 698,443
Non-Retirement Plan Participation	\$ 87,187	\$ 1,392,335	\$ 2,573,786	\$ 244,760	\$ 4,298,068

Financials

Investment Manager Fees – Total Payments for Fiscal Year 2020

Manager Name	Fees Paid
Domestic Equity Active Managers	
ArrowMark Colorado Holdings, LLC	\$ 1,554,060
Barrow, Hanley, Mewhinney & Strauss, LLC	645,387
Earnest Partners, LLC	501,958
Goldman Sachs Asset Management, L.P.	1,901,822
Hood River Capital Management, LLC	1,878,212
Hotchkis and Wiley Capital Management, LLC	1,241,404
LSV Asset Management	484,389
Martingale Asset Management, L.P.	1,318,295
Peregrine Capital Management	1,612,191
Rice Hall James & Associates, LLC	1,520,002
Sands Capital Management, LLC	1,412,376
Wellington Management Company LLP	1,644,568
Winslow Capital Management, LLC	841,347
Zevenbergen Capital Investments LLC	1,506,202
Domestic Equity Semi-Passive Managers	
BlackRock Institutional Trust Company, N.A.	1,175,015
J.P. Morgan Investment Management Inc.	1,431,653
Domestic Equity Passive Manager	
BlackRock Institutional Trust Company, N.A. (Passive R3000)	68,546
BlackRock Institutional Trust Company, N.A. (Passive R2000)	27,965
BlackRock Institutional Trust Company, N.A. (Passive R1000)	998,351
Fixed Income Active Managers	
Columbia Threadneedle Investments	1,021,742
Dodge & Cox	1,145,071
Pacific Investment Management Company LLC (PIMCO)	2,225,486
Western Asset Management Company	1,232,246
Fixed Income Semi-Passive Managers	
BlackRock Financial Management, Inc.	736,323
Goldman Sachs Asset Management	816,304
Neuberger Berman Investment Advisers LLC	428,279
Treasury Managers	
BlackRock Financial Management, Inc.	1,110,085
Goldman Sachs Asset Management	1,149,004
Neuberger Berman Investment Advisers LLC	1,019,852

Financials

Investment Manager Fees – Total Payments for Fiscal Year 2020

Manager Name	Fees Paid
International Active Developed Markets Managers	
Acadian Asset Management LLC	\$ 1,499,232
Columbia Threadneedle Investments	1,204,472
Fidelity Institutional Asset Management LLC	1,319,396
J.P. Morgan Investment Management Inc.	1,127,496
Marathon Asset Management LLP	1,271,440
McKinley Capital Management, LLC	1,091,337
International Semi Passive Developed Markets Managers	
AQR Capital Management, LLC	1,511,534
International Passive Developed Markets Manager	
State Street Global Advisors	727,772
International Active Emerging Markets Managers	
Earnest Partners LLC	1,892,691
Macquarie Investment Management Advisers	1,763,749
Martin Currie Inc.	1,860,507
Morgan Stanley Investment Management Inc.	3,726,853
Neuberger Berman Investment Advisers LLC	2,359,143
Pzena Investment Management, LLC	2,047,807
The Rock Creek Group, LLC	2,077,997
International Passive Emerging Markets Manager	
State Street Global Advisors	590,412
Stable Value Manager	
Galliard Capital Management, Inc. ⁽¹⁾	3,485,620
Assigned Risk Plan Manager	
RBC Global Asset Management (U.S.) Inc.	235,800
Non-Retirement Managers	
Mellon Investments Corporation	98,691
Prudential Global Investment Management, Inc. (PGIM)	1,270,495
State Street Global Advisors	25,100
Total Investment Manager Fees Paid	\$ 63,835,677

¹ Includes Investment Contract fees of \$2,655,626 charged by wrap providers.

Financials

Investment Commission and Trading Volume Data

Commissions and Trading Volume By Broker for Fiscal Year 2020

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
ABEL NOSER	\$ 3,750,903	\$ 4,209	\$ -	\$ -	\$ -
ACADEMY SECURITIES INC	\$ 2,144,987	\$ 802	\$ -	\$ -	\$ -
ALLEN & COMPANY LLC	\$ 21,640	\$ 18	\$ -	\$ -	\$ -
AMHERST PIERPONT SECURITIES LLC	\$ -	\$ -	\$ 166,013,093	\$ -	\$ 70,964,536
APEX CLEARING CORPORATION/SANTANDER	\$ -	\$ -	\$ 702,985	\$ -	\$ -
AQUA SECURITIES	\$ 150,700	\$ 640	\$ -	\$ -	\$ -
B RILEY	\$ 52,885,646	\$ 96,718	\$ -	\$ -	\$ -
BANCA D'INTERMEDIAZIONE MOBILARE IMI SPA	\$ -	\$ -	\$ 99,810,285	\$ -	\$ -
BANCO ITAU SA	\$ 12,969,512	\$ 13,285	\$ -	\$ -	\$ -
BANCO PACTUAL S.A.	\$ 16,657,125	\$ 13,484	\$ -	\$ -	\$ -
BANCO SANTANDER CENTRAL HISPANO	\$ 15,054,735	\$ 14,982	\$ -	\$ -	\$ -
BANK J.VONTOBEL UND CO. AG	\$ 844,794	\$ 1,265	\$ -	\$ -	\$ -
BANK OF AMERICA	\$ 158,253,689	\$ 203,634	\$ 181,267,506	\$ -	\$ -
BANK OF MELBOURNE AUST	\$ -	\$ -	\$ -	\$ -	\$ -
BANK OF MONTREAL, CHICAGO BRANCH	\$ -	\$ -	\$ -	\$ -	\$ 115,000,000
BANK OF NEW YORK	\$ 4,629,554	\$ 88	\$ 1,927,559,032	\$ -	\$ 1,622,409,066
BANK OF NOVA SCOTIA	\$ 3,518,061	\$ 4,678	\$ -	\$ -	\$ 116,951,946
BARCLAYS	\$ 526,417,316	\$ 257,335	\$ 1,885,006,904	\$ 5,536	\$ 8,485,735,287
BARRINGTON RESEARCH ASSOCIATES	\$ 4,662,980	\$ 14,484	\$ -	\$ -	\$ -
BBVA/SECURITIES NY	\$ -	\$ -	\$ 137,850	\$ -	\$ -
BETZOLD BERG & NUSSBAUM INC.	\$ -	\$ -	\$ 24,111,987	\$ -	\$ -
BLAYLOCK ROBERT VAN LLC	\$ 67,084	\$ 535	\$ -	\$ -	\$ -
BMO CAPITAL MARKETS	\$ 118,330,939	\$ 36,058	\$ 885,957,729	\$ -	\$ 2,395,833,783
BNP PARIBAS	\$ 117,301,154	\$ 103,488	\$ 878,989,574	\$ -	\$ 12,659,945,993
BOFA SECURITIES	\$ 3,302,511,830	\$ 426,003	\$ 11,073,063,255	\$ 145,248	\$ 21,500,892,264
BRADESCO S.A. CTVM	\$ 9,384,692	\$ 15,640	\$ -	\$ -	\$ -
BREAN CAPITAL LLC	\$ -	\$ -	\$ 3,293,531	\$ -	\$ -
BROADCORT CAPITAL CORP	\$ 184,895	\$ 22	\$ -	\$ -	\$ -
BTG PACTUAL	\$ 1,551,812	\$ 2,272	\$ -	\$ -	\$ -
BTIG LLC	\$ 31,227,728	\$ 49,810	\$ -	\$ -	\$ -
BUCKINGHAM RESEARCH GROUP INC	\$ 3,043,470	\$ 2,083	\$ -	\$ -	\$ -
CALYON SECURITIES (USA) INC.	\$ -	\$ -	\$ 3,251,860	\$ -	\$ -
CANACCORD GENUITY	\$ 20,782,637	\$ 15,490	\$ -	\$ -	\$ -
CANTOR FITZGERALD	\$ 193,404,231	\$ 62,339	\$ 122,626,491	\$ -	\$ 58,100,000,000
CAP GUARDIAN BROKER	\$ 188,843	\$ 268	\$ -	\$ -	\$ -
CAPEL CURE MYERS GILTS	\$ 53,267	\$ 27	\$ -	\$ -	\$ -
CAPITAL INSTITUTIONAL SERVICES	\$ 130,765,395	\$ 62,671	\$ -	\$ -	\$ -
CARNEGIE INVESTMENT BANK AB	\$ 4,561,854	\$ 6,315	\$ -	\$ -	\$ -
CHINA INTERNATIONAL CAPITAL CO	\$ 6,844,913	\$ 7,480	\$ -	\$ -	\$ -
CIBC WORLD	\$ 29,718,545	\$ 5,773	\$ 28,212,902	\$ -	\$ 448,179,611
CIMB	\$ 1,367,360	\$ 1,431	\$ -	\$ -	\$ -
CITADEL	\$ -	\$ -	\$ 1,870,870,252	\$ -	\$ -
CITADEL DERIVATIVES GROUP LLC	\$ -	\$ -	\$ 38,934,862	\$ -	\$ -
CITIBANK	\$ 2,796,499	\$ 2,458	\$ 4,205,245	\$ -	\$ 2,285,004,454
CITIGROUP	\$ 1,008,887,492	\$ 264,019	\$ 7,456,922,598	\$ 2,768	\$ 38,640,228,638
CL SECURITIES TAIWAN COMPANY LIMITED	\$ 24,548,733	\$ 16,776	\$ -	\$ -	\$ -
CLSA	\$ 111,088,331	\$ 47,593	\$ -	\$ -	\$ -
CORMARK SECURITIES INC	\$ 144,036	\$ 53	\$ -	\$ -	\$ -
CORNERSTONE MACRO LLC	\$ 1,714,071	\$ 382	\$ -	\$ -	\$ -
COWEN AND COMPANY, LLC	\$ 457,427,416	\$ 324,478	\$ -	\$ -	\$ -
COWEN EXECUTION SERVICES LLC	\$ 458,482,273	\$ 192,262	\$ -	\$ -	\$ -
CPR PARIS	\$ 369,818	\$ 1,234	\$ -	\$ -	\$ -

Financials

Investment Commission and Trading Volume Data

Commissions and Trading Volume By Broker for Fiscal Year 2020

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
CRAIG HALLUM	\$ 5,888,906	\$ 10,435	\$ -	\$ -	\$ -
CREDIT AGRICOLE SECURITIES (USA) INC	\$ -	\$ -	\$ 108,813,978	\$ -	\$ -
CREDIT LYONNAIS SECURITIES	\$ 98,126,123	\$ 55,949	\$ -	\$ -	\$ -
CREDIT SUISSE	\$ 1,553,359,226	\$ 335,462	\$ 8,109,037,198	\$ -	\$ 258,300,418
CREWS + ASSOCIATES, INC.	\$ -	\$ -	\$ -	\$ -	\$ -
CS FIRST BOSTON (HONG KONG) LIMITED	\$ 42,757,382	\$ 36,177	\$ -	\$ -	\$ -
CSFB	\$ 5,253,957	\$ 2,273	\$ -	\$ -	\$ -
CUTTONE & CO. INC.	\$ 429,634	\$ 105	\$ -	\$ -	\$ -
D.A. DAVIDSON AND CO	\$ 2,932,455	\$ 2,292	\$ -	\$ -	\$ -
DAIWA	\$ 26,657,147	\$ 13,942	\$ 784,155,385	\$ -	\$ 500,232,806
DAVIDSON D.A. + COMPANY INC.	\$ 53,602,761	\$ 63,470	\$ 593,201	\$ -	\$ -
DAVY STOCKBROKERS	\$ 1,496,407	\$ 1,110	\$ -	\$ -	\$ -
DBS VICKERS SECURITIES (SINGAPORE)	\$ 731,688	\$ 224	\$ -	\$ -	\$ -
DBTC AMERICA/PNC BANK, N.A.-SECS.CO	\$ -	\$ -	\$ 30,699,495	\$ -	\$ -
DEN NORSKE BANK	\$ 49,018	\$ 49	\$ -	\$ -	\$ -
DEUTSCHE BANK	\$ 20,881,553	\$ 2,126	\$ 1,535,299,716	\$ -	\$ 809,950,467
DEUTSCHE MORGAN GRENFELL INC.	\$ -	\$ -	\$ -	\$ -	\$ 5,221,838,000
DEUTSCHE SECURITIES ASIA LIMITED	\$ 133,762	\$ 236	\$ -	\$ -	\$ -
DOUGHERTY & COMPANY LLC	\$ 22,749,449	\$ 22,025	\$ -	\$ -	\$ -
DOWLING & PARTNERS	\$ 679,318	\$ 142	\$ -	\$ -	\$ -
DSP MERRILL LYNCH LTD	\$ 11,653,793	\$ 2,382	\$ -	\$ -	\$ -
ELECTRONIC BROKERAFFE SYSTEMS LLC	\$ 6,123,168	\$ 4,217	\$ -	\$ -	\$ -
EUROCLEAR BANK S.A N.V.	\$ 292,818	\$ 66	\$ -	\$ -	\$ -
EVERCORE GROUP L.L.C.	\$ 3,443,652	\$ 4,040	\$ -	\$ -	\$ -
EVERCORE ISI	\$ 51,543,170	\$ 33,618	\$ -	\$ -	\$ -
EXANE S.A.	\$ 31,674,232	\$ 19,061	\$ -	\$ -	\$ -
FBN SECURITIES, INC	\$ 7,697,897	\$ 7,487	\$ -	\$ -	\$ -
FEDERAL HOME LOAN MORTGAGE CORPORATIO	\$ -	\$ -	\$ 45,682,456	\$ -	\$ -
FEDERAL RESERVE BANK OF BOSTON	\$ -	\$ -	\$ 28,516,094	\$ -	\$ -
FIDELITY	\$ 166,926,156	\$ 23,095	\$ -	\$ -	\$ -
FIFTH THIRD SECURITIES, INC	\$ -	\$ -	\$ 2,700,894	\$ -	\$ -
FINANCIAL BROKERAGE GROUP (FBG)	\$ 3,649,149	\$ 9,163	\$ -	\$ -	\$ -
FIRST HORIZON BANK	\$ -	\$ -	\$ 1,841,047,959	\$ -	\$ 100,000,000
FIRST TENNESSEE SECURITIES CORP	\$ -	\$ -	\$ 4,578,074	\$ -	\$ -
FIS BROKERAGE & SECURITIES SERVICES LLC	\$ 18,432,005	\$ 3,071	\$ -	\$ -	\$ -
FLOW CORRETORA DE MERCADORIAS LTDA.	\$ 20,591,544	\$ 37,756	\$ -	\$ -	\$ -
FRANK RUSSELL SEC/BROADCORT CAP CLEARING	\$ 13,812,256	\$ 25,326	\$ -	\$ -	\$ -
FTN FINANCIAL SECURITIES	\$ -	\$ -	\$ 76,523,131	\$ -	\$ -
G TRADE SERVICES LLC, PAR FRANCE	\$ 477,363	\$ 239	\$ -	\$ -	\$ -
GMP SECURITIES LTD.	\$ 77,125	\$ 90	\$ -	\$ -	\$ -
GOLDMAN SACHS	\$ 1,313,951,229	\$ 563,381	\$ 4,846,353,086	\$ 410,236	\$ 17,256,222,834
GOODBODY STOCKBROKERS	\$ 613,133	\$ 447	\$ -	\$ -	\$ -
GORDON HASKETT CAPITAL CORP	\$ 3,248,805	\$ 10,845	\$ -	\$ -	\$ -
GUGGENHEIM	\$ 2,993,136	\$ 4,501	\$ -	\$ -	\$ -
HANWHA SECURITIES SEOUL	\$ 9,839,931	\$ 8,530	\$ -	\$ -	\$ -
HARRIS TRUST + SAVINGS BANK CHICAGO	\$ -	\$ -	\$ 19,909,005	\$ 42,875	\$ -
HEIGHT SECURITIES, LLC	\$ 74,808	\$ 40	\$ -	\$ -	\$ -
HIBERNIA SOUTHCOAST CAPITAL INC	\$ 6,390,300	\$ 22,550	\$ -	\$ -	\$ -
HILLTOP SECURITIES INC	\$ 10,481,869	\$ 19,229	\$ 15,088,290	\$ -	\$ -
HONGKONG AND SHANGHAI BANKING CORPOR	\$ 1,097,171	\$ 1,080	\$ -	\$ -	\$ -
HSBC	\$ 229,323,586	\$ 115,469	\$ 1,044,481,151	\$ -	\$ 28,192,873,000
ICBC STANDARD BANK PLC	\$ 2,341,585	\$ 2,342	\$ -	\$ -	\$ -

Financials

Investment Commission and Trading Volume Data

Commissions and Trading Volume By Broker for Fiscal Year 2020

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
ICBCFS LLC	\$ 268,342	\$ 202	\$ 165,375,766	\$ -	\$ -
ICICI BROKERAGE SERVICES	\$ 2,417,096	\$ 484	\$ -	\$ -	\$ -
IMPERIAL CAPITAL LLC	\$ 4,565,390	\$ 2,883	\$ 608,458	\$ -	\$ -
ING BARING	\$ -	\$ -	\$ 411,000	\$ -	\$ -
INSTINET	\$ 1,115,607,717	\$ 290,523	\$ -	\$ -	\$ -
INTL FCSTONE FINANCIAL	\$ 1,977,309	\$ 1,452	\$ 922,230,579	\$ -	\$ -
INVESTEC	\$ 835,330	\$ 1,107	\$ -	\$ -	\$ -
INVESTMENT TECHNOLOGY GROUP	\$ 115,722,752	\$ 79,401	\$ -	\$ -	\$ -
IPOPEMA SECURITIES S.A.	\$ 356,760	\$ 536	\$ -	\$ -	\$ -
IS YATIRIM MENKUL DEGERLER AS	\$ 539,156	\$ 540	\$ -	\$ -	\$ -
ITG	\$ 62,963,286	\$ 13,017	\$ -	\$ -	\$ -
ITG AUSTRA	\$ 31,739,134	\$ 23,024	\$ -	\$ -	\$ -
J P MORGAN	\$ 755,534,008	\$ 592,683	\$ 9,572,684,933	\$ 89,090	\$ 5,031,192,464
JANE STREET EXECUTION SERVICES, LLC	\$ -	\$ -	\$ 4,368,657	\$ -	\$ -
JANNEY MONTGOMERY, SCOTT INC	\$ 2,598,087	\$ 2,958	\$ 1,327,707	\$ -	\$ -
JEFFERIES	\$ 617,928,171	\$ 304,205	\$ 642,732,603	\$ 2,015	\$ 332,737,931
JMP SECURITIES	\$ 22,690,869	\$ 17,122	\$ -	\$ -	\$ -
JOH. BERENBERG, GOSSLER & CO. KG	\$ 9,750,063	\$ 6,608	\$ -	\$ -	\$ -
JOHNSON RICE & COMPANY LLC	\$ 1,342,319	\$ 715	\$ -	\$ -	\$ -
JONESTRADING INSTITUTIONAL SERVICES LLC	\$ 59,215,612	\$ 53,583	\$ -	\$ -	\$ -
JP MORGAN	\$ 77,344,349	\$ 61,513	\$ 1,041,145,661	\$ -	\$ 54,234,266,258
JUPITER SECURITIES SDN BHD	\$ 61,357	\$ 49	\$ -	\$ -	\$ -
KEEFE BRUYETTE + WOODS INC	\$ 26,321,392	\$ 39,479	\$ -	\$ -	\$ -
KEPLER EQUITIES PARIS	\$ 7,877,976	\$ 6,297	\$ -	\$ -	\$ -
KEYBANC CAPITAL MARKETS INC	\$ 59,106,256	\$ 52,509	\$ 63,369,249	\$ -	\$ -
KNIGHT CAPITAL AMERICAS, L.P.	\$ 1,387,444	\$ 1,020	\$ -	\$ -	\$ -
KOREA INVESTMENT AND SECURITIES CO., LTD	\$ 651,782	\$ 1,431	\$ -	\$ -	\$ -
LADENBURG THALMAN + CO	\$ 2,003,151	\$ 2,257	\$ -	\$ -	\$ -
LEERINK PARTNERS LLC	\$ 4,771,966	\$ 4,660	\$ -	\$ -	\$ -
LIBERUM CAPITAL LIMITED	\$ 48,292	\$ 24	\$ -	\$ -	\$ -
LIQUIDNET	\$ 196,752,944	\$ 119,798	\$ -	\$ -	\$ -
LOOP CAPITAL	\$ 119,173,094	\$ 24,439	\$ 284,384,011	\$ -	\$ -
LUMINEX	\$ 15,369,255	\$ 2,076	\$ -	\$ -	\$ -
MACQUARIE	\$ 196,374,458	\$ 120,076	\$ 4,657	\$ 4	\$ -
MARKETAXESS CORP	\$ -	\$ -	\$ 12,685,161	\$ -	\$ -
MAXIM GROUP	\$ 1,755,537	\$ 1,714	\$ -	\$ -	\$ -
MELLON BANK CAPITAL MARKETS INVEST ACC	\$ -	\$ -	\$ 982,614	\$ -	\$ 37,852,364
MERRILL LYNCH	\$ 358,328,271	\$ 243,148	\$ 2,312,365	\$ -	\$ -
MERRILL LYNCH, PIERCE, FENNER & SMITH	\$ 77,251,900	\$ 51,782	\$ -	\$ -	\$ -
MILLENNIUM ADVISORS LLC	\$ -	\$ -	\$ 4,863,745	\$ -	\$ -
MIRABAUD SECURITIES LLP	\$ 7,957,356	\$ 2,777	\$ -	\$ -	\$ -
MIRAE ASSET	\$ 20,892,111	\$ 34,210	\$ -	\$ -	\$ -
MISCHLER FINANCIAL GROUP, INC-EQUITIES	\$ 1,321,526	\$ 697	\$ -	\$ -	\$ -
MITSUBISHI	\$ 3,564,823	\$ 2,132	\$ 76,059,674	\$ -	\$ 576,576,248
MIZUHO	\$ 19,810,020	\$ 11,280	\$ 955,926,276	\$ -	\$ 1,646,103,027
MKM PARTNERS LLC	\$ 10,736,731	\$ 10,985	\$ -	\$ -	\$ -
MONNESS, CRESPI, HARDT & CO. INC	\$ 431,422	\$ 482	\$ -	\$ -	\$ -
MORGAN STANLEY	\$ 1,258,100,915	\$ 377,449	\$ 6,870,208,777	\$ 232	\$ 2,590,038,222
NATIONAL BANK FINANCIAL INC./CDS	\$ -	\$ -	\$ 540,070	\$ -	\$ -
NATIONAL FINANCIAL SERVICES	\$ 311,272,470	\$ 162,651	\$ 259,776,692	\$ -	\$ 216,665,833
NBC CLEARING SERVICES INCORPORATED	\$ 1,238,357	\$ 786	\$ -	\$ -	\$ -
NEEDHAM AND COMPANY LLC	\$ 17,579,730	\$ 24,274	\$ -	\$ -	\$ -

Financials

Investment Commission and Trading Volume Data

Commissions and Trading Volume By Broker for Fiscal Year 2020

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
NESBITT BURNS	\$ 9,085,514	\$ 7,038	\$ -	\$ -	\$ -
NOMURA	\$ 3,093,506	\$ 1,287	\$ 1,922,223,850	\$ -	\$ 209,494,787
NORDEA BANK AB (PUBL), FINNISH BRANCH	\$ 1,863,061	\$ 1,517	\$ -	\$ -	\$ -
NORTHCOAST RESEARCH PARTNERS LLC	\$ 575,190	\$ 58	\$ -	\$ -	\$ -
NORTHLAND SECURITIES INC.	\$ 22,617,298	\$ 12,775	\$ -	\$ -	\$ -
NUMIS SECURITIES	\$ 5,511,307	\$ 6,815	\$ -	\$ -	\$ -
O NEIL, WILLIAM AND CO. INC/BCC CLRG	\$ 1,400,916	\$ 388	\$ -	\$ -	\$ -
ODDO ET CIE	\$ 1,447,215	\$ 1,081	\$ -	\$ -	\$ -
OPPENHEIMER + CO. INC.	\$ 43,794,241	\$ 60,104	\$ 4,005,209	\$ -	\$ -
PAREL	\$ 4,668,603	\$ 6,058	\$ -	\$ -	\$ -
PAVILION	\$ 3,230,500	\$ 866	\$ -	\$ -	\$ -
PENSERRA SECURITIES	\$ 50,345,234	\$ 27,817	\$ -	\$ -	\$ -
PERSHING	\$ 487,596,555	\$ 137,227	\$ 4,728,516,864	\$ -	\$ 4,086,177,417
PIPER JAFFRAY	\$ 398,769,664	\$ 186,261	\$ -	\$ -	\$ -
R.W PRESSPRICH AND CO INC	\$ -	\$ -	\$ 1,284,388	\$ -	\$ -
RAYMOND JAMES	\$ 68,702,665	\$ 102,209	\$ 15,379,087	\$ -	\$ -
RBC CAPITAL MARKETS LLC	\$ 221,601,700	\$ 82,252	\$ 618,258,612	\$ 117	\$ 3,238,001,616
RBC DOMINION SECURITIES	\$ 28,017,309	\$ 17,150	\$ 24,659,682	\$ -	\$ -
RBS SECURITIES	\$ -	\$ -	\$ 72,234,352	\$ -	\$ 43,341,576,997
READ LTD (LONDON)	\$ -	\$ -	\$ 18,176	\$ -	\$ -
REDBURN	\$ 19,114,847	\$ 19,548	\$ -	\$ -	\$ -
REGIONS BANK	\$ -	\$ -	\$ 6,618,915	\$ -	\$ -
RENAISSANCE SECURITIES (CYPRUS) LIMITED	\$ 288,754	\$ 725	\$ -	\$ -	\$ -
RENCAP SECURITIES INC	\$ 728,527	\$ 382	\$ -	\$ -	\$ -
ROBERT W. BAIRD CO.INCORPORATED	\$ 104,986,778	\$ 136,654	\$ 21,038,510	\$ -	\$ -
ROSENBLATT	\$ 2,912,800	\$ 3,344	\$ -	\$ -	\$ -
ROTH CAPITAL PARTNERS LLC	\$ 5,305,096	\$ 11,735	\$ -	\$ -	\$ -
ROYAL BANK OF CANADA	\$ 9,211,990	\$ 7,584	\$ -	\$ -	\$ -
ROYAL BANK OF SCOTLAND	\$ -	\$ -	\$ -	\$ -	\$ 11,612,583,000
SAMSUNG SECURITIES CO LTD	\$ 2,551,659	\$ 2,411	\$ -	\$ -	\$ -
SANDLER ONEILL	\$ 3,630,050	\$ 6,977	\$ -	\$ -	\$ -
SANFORD C BERNSTEIN CO LLC	\$ 250,051,530	\$ 107,589	\$ -	\$ -	\$ -
SANTANDER INVESTMENT SECURITIES	\$ -	\$ -	\$ 2,092,000	\$ -	\$ -
SANTANDER MERCHANT S.A.	\$ 461,847	\$ 694	\$ -	\$ -	\$ -
SCOTIA CAPITAL	\$ 26,572,686	\$ 7,452	\$ 70,543,766	\$ -	\$ -
SEAPORT GROUP SECURITIES, LLC	\$ 16,898,604	\$ 20,638	\$ 1,548,338	\$ -	\$ -
SG AMERICAS SECURITIES LLC	\$ 103,410,738	\$ 2,816	\$ 605,648,354	\$ -	\$ 16,886,738
SG ASIA SECURITIES (INOIA) PVT LTD	\$ 6,096,164	\$ 1,235	\$ -	\$ -	\$ -
SG SECURITIES	\$ 38,157,012	\$ 10,887	\$ -	\$ -	\$ -
SIDOTI + COMPANY LLC	\$ 11,691,620	\$ 22,478	\$ -	\$ -	\$ -
SINOPAC SECURITIES CORPORATION	\$ 507,854	\$ 510	\$ -	\$ -	\$ -
SKANDINAVISKA ENSKILDA BANKEN LONDON	\$ 413,908	\$ 620	\$ -	\$ -	\$ -
SMBC NIKKO	\$ 23,960,528	\$ 8,090	\$ 2,920,603	\$ -	\$ -
SOCIETE G	\$ 16,427,138	\$ 10,366	\$ -	\$ -	\$ -
SOCIETE GENERALE	\$ 18,783,425	\$ 9,744	\$ -	\$ -	\$ -
STATE STREET	\$ 388,650,251	\$ 46,685	\$ 1,581,265,832	\$ -	\$ 68,115,003,794
STEPHENS	\$ 47,157,975	\$ 75,517	\$ 505,805	\$ -	\$ -
STIFEL NICOLAUS	\$ 55,055,015	\$ 67,755	\$ 53,343,929	\$ -	\$ -
STRATEGAS SECURITIES LLC	\$ 6,077,683	\$ 3,106	\$ -	\$ -	\$ -
STUART FRANKEL + CO INC	\$ 168,540	\$ 203	\$ -	\$ -	\$ -
SUMRIDGE PARTNERS LLC	\$ -	\$ -	\$ 2,601,673	\$ -	\$ -
SUNTRUST CAPITAL MARKETS, INC.	\$ 42,602,022	\$ 65,180	\$ -	\$ -	\$ -

Financials

Investment Commission and Trading Volume Data

Commissions and Trading Volume By Broker for Fiscal Year 2020

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
SUNTRUST ROBINSON HUMPHREY, INC.	\$ -	\$ -	\$ 14,978,255	\$ -	\$ 47,013,511
SVENSKA HANDELSBANKEN	\$ 133,152	\$ 73	\$ -	\$ -	\$ -
TD SECURITIES (USA) LLC	\$ -	\$ -	\$ 20,613,476	\$ -	\$ -
TELSEY ADVISORY GROUP	\$ 9,979,936	\$ 24,004	\$ -	\$ -	\$ -
THE HONGKONG AND SHANGHAI BANK	\$ 1,316,590	\$ 2,030	\$ -	\$ -	\$ -
THE VERTICAL TRADING GROUP	\$ 2,365,237	\$ 1,175	\$ -	\$ -	\$ -
THEMIS TRADING LLC	\$ 3,661,718	\$ 2,580	\$ -	\$ -	\$ -
TORONTO DOMINION	\$ 13,859,434	\$ 6,663	\$ 79,078,809	\$ -	\$ 53,971,405
TRADEWEB DIRECT LLC	\$ -	\$ -	\$ 2,376,581	\$ -	\$ -
TROIKA DIALOG USA, INC	\$ 174,883	\$ 105	\$ -	\$ -	\$ -
U.S. BANK	\$ -	\$ -	\$ 50,598,473	\$ -	\$ 805,000,000
UBS	\$ 1,118,074,277	\$ 607,940	\$ 458,919,341	\$ -	\$ 201,230,582
UBS WARBURG AUSTRALIA EQUITIES	\$ 4,787,221	\$ 1,192	\$ -	\$ -	\$ -
US BANCORP INVESTMENTS INC	\$ -	\$ -	\$ 91,997,176	\$ -	\$ -
VALEURS MOBILIERES DESJARDINS	\$ 1,091,030	\$ 662	\$ -	\$ -	\$ -
VIRTU AMERICAS LLC	\$ 685,553,902	\$ 131,437	\$ -	\$ -	\$ -
VOLPE + COVINGTON	\$ -	\$ -	\$ -	\$ -	\$ -
WALL STREET ACCESS	\$ 14,695,470	\$ 3,600	\$ -	\$ -	\$ -
WEDBUSH MORGAN SECURITIES INC	\$ 18,441,310	\$ 14,179	\$ 598,512	\$ -	\$ -
WEEDEN + CO.	\$ 17,297,970	\$ 8,080	\$ -	\$ -	\$ -
WELLS FARGO	\$ 462,936,649	\$ 58,596	\$ 9,450,204,653	\$ 10,641	\$ 3,907,782,331
WILLIAM BLAIR & COMPANY L.L.C	\$ 51,917,602	\$ 33,973	\$ -	\$ -	\$ -
WILLIAMS CAPITAL GROUP LP (THE)	\$ 37,679,702	\$ 8,968	\$ -	\$ -	\$ -
WOLFE TRAHAN SECURITIES	\$ 7,441,770	\$ 2,445	\$ -	\$ -	\$ -
WOOD AND COMPANY	\$ 112,076	\$ 135	\$ -	\$ -	\$ -
XP INVESTIMENTOS CCTVM SA	\$ 5,145,863	\$ 7,004	\$ -	\$ -	\$ -
YUANTA SECURITIES CO., LTD.	\$ 1,094,118	\$ 1,752	\$ -	\$ -	\$ -
Grand Total	\$ 21,206,681,341	\$ 8,706,080	\$ 85,930,488,928	\$ 708,762	\$ 399,080,717,630



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