

2023

Fiscal Year



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 <https://msbi.us/asset-listings>.** Asset listings are updated semi-annually.

INTRODUCTION

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Message from Executive Director and Chief Investment Officer

December 2023

The Minnesota State Board of Investment (SBI) is pleased to present its Annual Report for the fiscal year ending June 30, 2023 (FY '23). The primary purpose of this report is to communicate the investment goals, policies, and performance of each fund managed by the Board.

About the SBI

As of June 30, 2023, the SBI's assets under management totaled \$134.7 billion. The SBI is dedicated to delivering exceptional risk-adjusted returns and operational excellence to its stakeholders. The SBI is proud to serve the State of Minnesota by ensuring the retirement security of Minnesota's public employees and investing the assets of other SBI stakeholders in tax-advantaged savings, non-retirement accounts, and state cash accounts.

Market Review / Macro Perspective

Financial markets proved remarkably resilient during the course of FY '23. Despite a volatile backdrop that included substantial concerns over high inflation, the Fed's aggressive policy tightening regime, bank failures, continued geopolitical tensions, and the prospect of a slowdown in economic growth, global equities posted substantial gains.

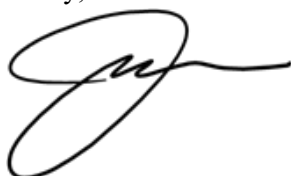
The broad U.S. equity market, as measured by the Russell 3000 Index, rose +19.0% on the year, led by gains in large-cap technology and consumer discretionary shares. Non-U.S. equities lagged the U.S., and the MSCI All Country World excluding USA Index of foreign shares rose +12.7%. Global fixed-income market performance was mixed. Government bond yields rose in response to continued policy tightening by global central banks, while credit-sensitive fixed income, such as corporate bonds, rallied as the economic outlook remained robust. The Bloomberg U.S. Aggregate Bond Index fell by -0.9% over the fiscal year.

Combined Funds Results for Fiscal Year 2023

The statewide public retirement systems combined totaled over \$85.7 billion in assets (the Combined Funds) and returned 8.9% (net of all fees) at fiscal year-end 2023. Over the recent fiscal ten- and 20-year periods, the Combined Funds generated annualized returns of 8.8% and 8.5% (net of all fees), respectively. The Combined Funds investment results are provided in the Investment Programs Section of this report starting on page 17.

It is a great privilege and honor to lead the SBI team and to be of service to such an important mission. We will remain singularly focused on our mission and will continue to build upon the strong foundation that has made the SBI one of the best-managed public retirement systems in the nation.

Sincerely,



Jill E. Schurtz
Executive Director and Chief Investment Officer
Minnesota State Board of Investment

State Board of Investment – Governance of Agency

Board Members

The Minnesota State Board of Investment (SBI) 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 advice of various committees.



Governor
Tim Walz, Chair



State Auditor
Julie Blaha



Secretary of State
Steve Simon



State Attorney General
Keith Ellison



Jill E. Schurtz

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 4.

Investment Advisory Council

The Minnesota Legislature ([Minnesota Statutes, Section 11A.08](#)) 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 provided on page 3.

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

[State Cash Accounts](#)

Principal Bank

Consultants

The SBI retains consultants to assist the Board and Executive Director in the ongoing development and evaluation of its investment programs.

[General Consultants](#)

Aon Investments

Meketa Investment Group

[Private Markets Consultant](#)

Albourne Partners

External Investment Managers

The majority of the SBI's 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.

State Board of Investment – Governance of Agency

Investment Advisory Council

The IAC fulfills its statutory duty to the SBI by providing advice and independent review of the investment policy and implementation recommendations that guide the SBI's investments.

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 & Treasurer,
Fairview Health Services

Susanna Gibbons
Managing Director,
Carlson Funds Enterprise
Carlson School of Management

Amy Jensen
Chief Investment Officer,
Lansing Group, LLC

Dan McConnell
President, Minnesota
Building and Construction
Trades Council

Nancy Orr
Formerly CIO of
Family Office

Carol Peterfeso
Managing Director of
Investments, Bush Foundation

Dennis Santos
Senior Vice President and
Chief Investment Officer
Okabena Investment
Services

Sunil Swami
Chief Investment Officer
Alerus

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 (MMB)

Erin Leonard
Executive Director,
Minnesota State
Retirement System

Doug Anderson
Executive Director,
Public Employees Retirement
Association

Jay Stoffel
Executive Director,
Teachers Retirement
Association

Jennifer Hassemer
MMB Commissioner's Designee
Assistant Commissioner,
Debt Management

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

Peggy Ingison
Governor's Appointee
Retiree Member Representative

State Board of Investment – Governance of Agency

SBI Staff

SBI staff provide recommendations to the Board and the IAC on strategic planning alternatives and executes the Board's asset allocation decisions.

Executive Leadership

Jill E. Schurtz
Executive Director and
Chief Investment Officer

Andy Christensen
Deputy Executive Director

Erol Sonderegger
Deputy Chief Investment
Officer

Andrew Krech
Managing Director, Private
Markets & Active Equities

Charlene Olson
Executive Assistant and Head of Office Services

Directors

Patricia Ammann
Director, Participant
Directed & Non-
Retirement Investments

Paul T. Anderson
Director, Financial
Services and
Operations

Cassie Boll,
Co-Director, Private
Markets

John Mulé
Director, Legal and
Policy Services

Jonathan Stacy,
Co-Director, Private
Markets

Investment Staff

Nathan Blumenshine
Sr. Investment Officer,
Stewardship and ESG

Sara Bruggeman
Investment Officer, Legal
and Policy Services

Tammy Brusehaver
Investment Officer,
Investment Operations

Dan Covich
Investment Officer,
Public Markets

Mike Clancey
Investment Officer,
Private Markets

Stephanie Gleeson
Investment Officer,
Investment Operations

Aaron D. Griga
Sr. Investment Officer,
Fixed Income

Ben Harris
Investment Analyst,
Participant Directed and
Non-Retirement Investment

Tim Johnson
Investment Officer, Cash
Management

Cathy Hua
Investment Officer,
Public Markets

Steven P. Kuettel
Investment Officer, Cash
Management

Mercy Ndungu
Investment Officer,
Private Markets

S. Emily Pechacek
Investment Officer,
Public Markets

Iryna Shafir
Investment Compliance
Specialist, Investment
Operations

David Velasquez
Investment Officer,
Performance Analytics

Jeffrey Weber
Sr. Investment Officer,
Legal and Policy Services

Samir Zahar
Sr. Investment Analyst,
Private Markets

Financial Services Staff

Kailee Anderson
Accounting
Officer, Senior

Shirley Baribeau
Controller

Stephanie Bui
Account Clerk,
Senior

Lani Hattling
Accounting
Officer, Senior

*Narmada
Ramaswami*
Accounting
Officer, Principal

Daniil Vasilyev
Accounting
Officer,
Intermediate

Information Technology Staff

Todd Lauf
Information Technology
Manager

Reece Tolkinen
Information Technology
Specialist

Office Services Staff

Melissa Mader
Office Administrative
Specialist, Senior

Kelly Nordstrom
Office Administrative
Specialist, Intermediate

State Board of Investment – Governance of Agency

Established

The Minnesota State Board of Investment was established in 1885 by Article XI of the Minnesota Constitution for the purpose of administering and directing the investment of 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 a 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, Section 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 SBI, in conjunction with its staff and the IAC, 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 IAC 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 initially adopted a set of Investment Beliefs, in 2017 and updated them in 2022. 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 retirement systems. 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 available on the SBI’s website and are provided on page 7 of this report.

ESG and Stewardship Report

In accordance with the Resolution Concerning Environmental, Social, and Governance Initiatives adopted by the Board in February of 2020, the SBI periodically publishes an ESG and Stewardship Report, which is available on the SBI’s website.

Fiscal Year 2023 Board Activity

During the course of a year, members of the Board undertake numerous activities in their oversight of the SBI.

Examples of Board activities during fiscal year 2023 include:

- Authorized the hiring of the following vendors: State Street Corporation for master custodian services; Principal Bank to provide banking custodial services for the State's cash accounts; Dynamo Software Inc. to provide contact and document management database services; and Ernst and Young LLP for foreign tax advisory services.
- Adopted a resolution concerning the selection of a new Executive Director for the SBI.
- Hired a new Executive Director for the SBI.
- Adopted a resolution to authorize the SBI Administrative Committee to review and make recommendations regarding the SBI's fiscal year budget, the Executive Director's yearly goals and objectives, the Executive Director's performance evaluation for FY23, and the evaluation process for the Executive Director.
- Approved the reappointment of three IAC members and appointed three new members to the IAC.
- Established a range around the Private Markets Target Allocation and revised the policy limit for Market Value plus Unfunded Commitments.
- Approved a resolution to reauthorize the Proxy Committee and delegate proxy voting responsibilities according to the established guidelines.
- Approved the Proxy Voting Guidelines.
- Authorized the Executive Director to negotiate commitments to 13 private market investment deals, totaling up to \$2.2 billion.

Legislative Update

During the 2023 legislative session the SBI monitored several pieces of legislation that had the potential to impact the SBI. Outlined below is legislation that was passed by the Minnesota Legislature and signed into law:

- The 2023 pension bill lowered the actuarial return assumption to 7% for the three statewide pension plans, the assets of which comprise the Combined Funds. The bill also provided, among other things, one-time state aid to various pension plans, temporary COLA increases, and contribution reductions. (Session Law Ch. 45).
- The Minnesota Secure Choice Act created a state-sponsored IRA/Roth IRA savings program for private employers who do not offer a retirement plan to employees. The program will begin in 2025 with a phased roll-out. The SBI will be responsible for choosing the investment options for the plans. The SBI executive director (or designee) will serve on the Secure Choice board responsible for administering the plan. (Session Law Ch. 46).
- The Omnibus State Government Finance and Policy Bill expanded the list of qualifying local governments who may invest in the SBI's non-retirement equity pool. The bill also creates a separate section providing qualified self-insurance pools with expanded investment authority. (Session Law Ch. 62).
- The Omnibus Economic Development Policy Bill created an account for long-term maintenance of the Giants Ridge Recreation Area, which is administered by the Iron Range Resources and Rehabilitation Board. The SBI is responsible for investing the assets of the account. (Session Law Ch. 33).

STATEMENT OF INVESTMENT BELIEFS

In September 2017, the Minnesota State Board of Investment (SBI) adopted a set of Investment Beliefs (updated May 2022). The Beliefs help provide context for SBI's actions, reflect SBI's investment values, and acknowledge SBI's role in supporting the State's 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.), 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.

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)'s 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 equal or exceed applicable 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.

Best practices are developed by the best teams.

There is no merit-based explanation for the lack of racial and gender diversity in the investment industry. In fact, research indicates that such diversity adds value. The SBI must ensure that non-financial biases do not prevent it from working with the best teams. In this diverse and changing world, organizations that demonstrate a commitment to diversity are more likely to succeed.

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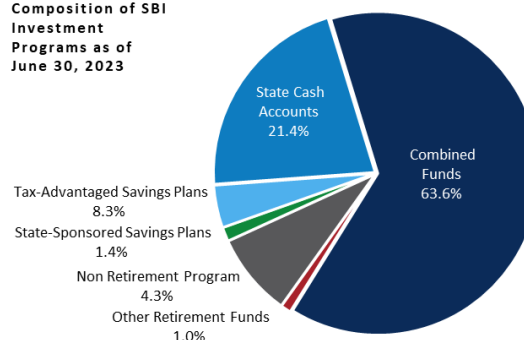
State Board of Investment Investment Programs

SBI Investment Programs

As of June 30, 2023, the SBI managed \$134.7 billion in total assets across various investment programs representing retirement savings plans, tax-advantaged savings plans, state-sponsored savings plans, non-retirement accounts, and state cash accounts. The SBI structures each program according to its unique requirements, allowing for a comprehensive set of investment solutions to aid participating plans and agencies in achieving their goals. The assets managed by the SBI and the participating plans of each investment program are provided below. A detailed description of each program is contained in subsequent sections of this report.

SBI Investment Programs	In Millions
Combined Funds	\$ 85,653.4
Other Retirement Funds	1,371.7
Tax-Advantaged Savings Plans	11,193.1
State-Sponsored Savings Plans	1,866.7
Non Retirement Program	5,731.8
State Cash Accounts	28,886.3
Total Funds Under Management	\$ 134,703.0

Figure 1.
Composition of SBI
Investment
Programs as of
June 30, 2023

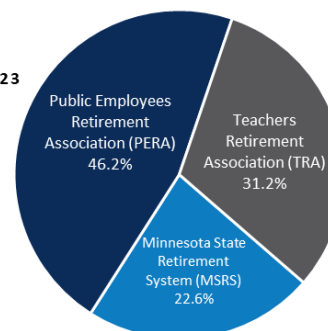


Combined Funds

The SBI's **Combined Funds** are comprised of the defined benefit pension assets of the three Statewide Retirement Systems.

Combined Funds	In Millions
Minnesota State Retirement System (MSRS)	\$ 19,394.1
Public Employees Retirement Association (PERA)	39,549.4
Teachers Retirement Association (TRA)	26,709.9
Total Combined Funds	\$ 85,653.4

Figure 2.
Composition of
Combined Funds
as of June 30, 2023

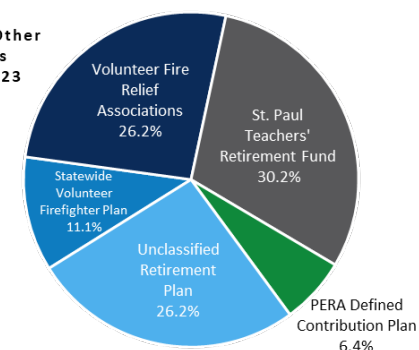


Other Retirement Funds

The SBI provides investment solutions for participating **Other Retirement Funds**.

Other Retirement Funds	In Millions
Statewide Volunteer Firefighter Plan	\$ 151.72
Volunteer Fire Relief Associations	359.0
St. Paul Teachers' Retirement Fund	413.7
PERA Defined Contribution Plan	88.3
Unclassified Retirement Plan	359.0
Total	\$ 1,371.7

Figure 3.
Composition of Other
Retirement Funds
as of June 30, 2023



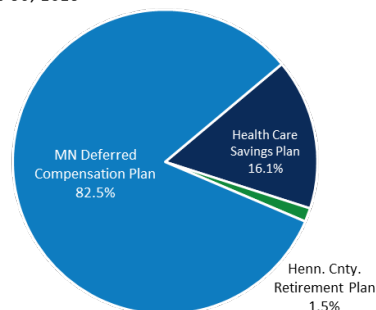
State Board of Investment Investment Programs

Tax-Advantaged Savings Plans

The SBI provides investment options to various **Tax-Advantaged Savings Plans** in accordance with their unique plan requirements.

Tax-Advantaged Savings Plans	In Millions
Health Care Savings Plan	\$ 1,796.9
Hennepin County Retirement Plan	163.9
MN Deferred Compensation Plan	9,232.3
Total	\$ 11,193.1

Figure 4.
Composition of Tax-Advantaged Savings Plans
as of June 30, 2023

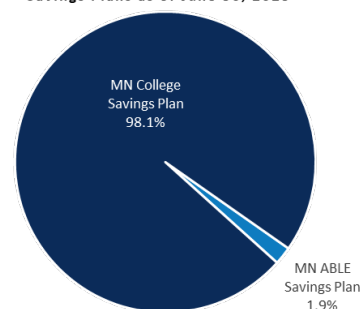


State-Sponsored Savings Plans

The SBI is responsible for oversight of the investment options in the **State-Sponsored Savings Plans**.

State Sponsored Savings Plan	In Millions
MN ABLE Savings Plan	\$ 36.3
MN College Savings Plan	1,830.5
Total	\$ 1,866.7

Figure 5. Composition of State Sponsored
Savings Plans as of June 30, 2023



Non-Retirement Investment Program

The **Non-Retirement Investment Program** is comprised of authorized state and public sector entities for whom the SBI provides broad investment solutions.

Non Retirement Funds	In Millions
Trust Funds	\$ 4,861.4
Assigned Risk Plan	264.9
Closed Landfill Investment Fund	129.7
Environmental Trust Fund	1,619.7
Permanent School Fund	1,889.6
Miscellaneous Trust Accounts	957.4
Qualifying Government Entities	13.0
Other Postemployment Benefits (OPEB)	857.4
Total Non-Retirement Funds	\$ 5,731.8

Figure 6. Composition of Non-Retirement Program
as of June 30, 2023

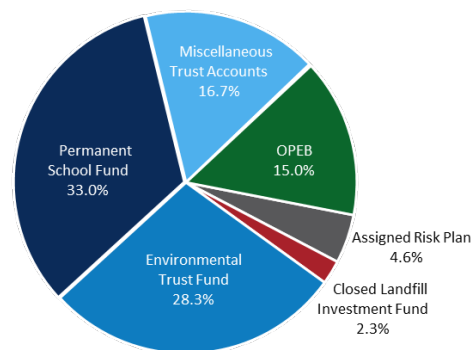


Figure 6 provides the asset composition of the largest Non-Retirement Trusts and other eligible entities as of June 30, 2023. In aggregate, Trust accounts represent over 84% of the program.

State Cash Accounts

The large majority of **State Cash Account** assets (greater than 99%) are invested in the Invested Treasurer's Cash (ITC) Pool, with the remainder invested in Other State Cash Accounts. SBI Staff internally manage these assets.

**State Board of Investment
Funds Under Management**

Funds Under Management

The SBI's total Plan assets are listed below in Figure 7. The majority of retirement assets are externally managed by institutional investment managers in separately managed accounts. These managers are required to adhere to the investment guidelines established for each portfolio.

Figure 7: Market Values as of June 30, 2023

Total Assets Invested by the SBI ¹			\$134.7 billion		
Combined Funds			Other Retirement Funds		*Subtotal of Retirement Assets, Tax-Advantaged Savings Plans, and State-Sponsored Plans:
Minnesota State Retirement System (MSRS) ²			Statewide Vol. Firefighter Retirement Plan	151.7 million	
Correctional Employees Fund	\$1,591.4 million		Volunteer Fire Relief Plans	359.0 million	
Highway Patrol Retirement Fund	939.9 million		St. Paul Teachers' Retirement Fund Assoc.	413.7 million	
Judges Retirement Fund	267.9 million		PERA Defined Contribution Plan	88.3 million	
State Employees Retirement Fund	16,594.9 million		Unclassified State Employees Retirement Plan	359.0 million	
Public Employees Retirement Association (PERA)					Combined Funds
Correctional Fund	1,066.6 million				\$85.7 billion
General Employees Retirement Fund	27,460.9 million				Other Retirement Funds
Police and Fire Fund	11,021.9 million				\$1.4 billion
Teachers Retirement Fund (TRA)	\$26,709.9 million				Tax-Advantaged Savings Plans
		\$ 85.7 billion			\$11.2 billion
Tax-Advantaged Savings Plans					State-Sponsored Plans
Health Care Savings Plan					1.9 billion
Hennepin County Supplemental Retirement Plan					
Minnesota Deferred Compensation Plan					
					\$100.2 billion*
		\$ 11.2 billion			
State-Sponsored Savings Plans					
Minnesota Achieving a Better Life Experience (ABLE) Plan					
Minnesota College Savings Plan					
		\$ 1.9 billion			
State Cash Accounts			Non-Retirement Accounts		
State Cash Accounts	\$28,696.7million		Assigned Risk Plan	\$264.9 million	
Miscellaneous State Accounts ³	189.6 million		Closed Landfill Investment Fund	129.7 million	
		\$ 28.9 billion	Environmental Trust Fund	1,619.7 million	
			Miscellaneous Trust Accounts	957.4 million	
			Permanent School Fund	1,889.6 million	
			Qualifying Government Entities	13.0 million	
			Other Postemployment Benefit (OPEB) Accts.	857.4 million	
					\$ 5.7 billion

¹Totals may not add due to rounding.

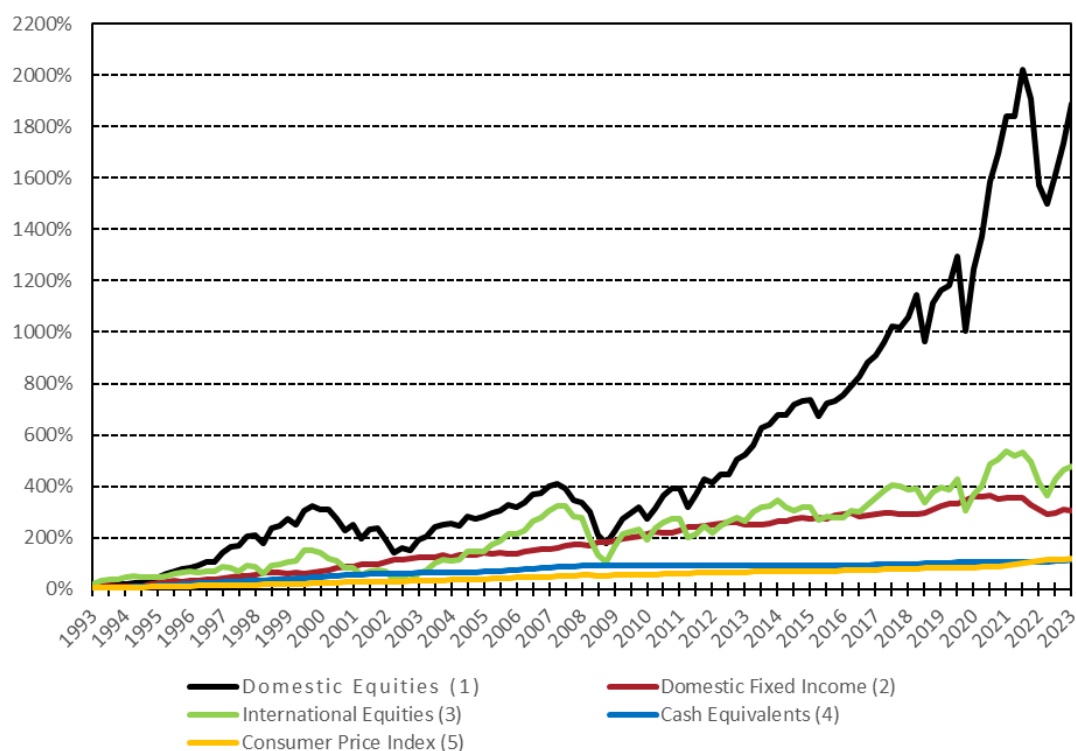
²The MSRS Legislative Plan is a closed plan that is funded by the General Fund on a "pay-as-you-go" basis.

³Includes Debt Service and Public Facilities Authority (PFA) assets.

Figure 8.

PERFORMANCE OF CAPITAL MARKETS

Cumulative Returns--30 Years Ending June 30, 2023



		Annualized Return (%)					
		1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs	30 Yrs
Domestic Equity							
(1)	Russell 3000-- Large and Small Cap Stocks	19.0	13.9	11.4	12.3	10.1	9.9
	Russell 1000	19.4	14.1	11.9	12.6	10.1	10.1
	Russell 2000	12.3	10.8	4.2	8.3	8.9	8.7
Domestic Fixed Income							
(2)	Bloomberg U.S. Aggregate	-0.9	-4.0	0.8	1.5	3.0	4.4
	Bloomberg 5+ Yr. U.S.Treasury	-4.3	-8.2	0.0	1.3	3.4	NA
(3) International Equity							
	MSCI ACWI ex USA (net)--Developed & Emerging	12.7	7.2	3.5	4.7	6.7	NA
	MSCI World ex USA (net)--Developed	17.4	9.3	4.6	5.4	6.6	5.4
	MSCI Emerging Market Index	1.7	2.3	0.9	3.0	8.9	NA
Cash							
(4)	ICE BofA 3 Month U.S. Treasury Bill	3.6	1.3	1.6	1.0	1.4	2.4
Inflation Measure							
(5)	Consumer Price Index CPI-U	3.1	5.7	3.9	2.7	2.6	2.5

(3) International equity cumulative return for graph represents: MSCI ACWI ex US (Net) since 1/1/99; MSCI ACWI Free Ex US (Net) from 12/31/98-10/1/92; and MSCI EAFE (Net) from 9/30/92-7/1/92.

Combined Funds

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Combined Funds

Investment Program Overview

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). As of June 30, 2023, the total market value of the Combined Funds was \$85.7 billion.

Figure 9 provides the market value for each plan sponsor in the Combined Funds.

The SBI commingles the assets of the state retirement systems in the Combined Funds to capture investment efficiencies.

To gain greater operating efficiency, external managers are grouped into several "investment pools" which are segregated by asset class. Retirement plans participate in the investment pools by purchasing units that function much like shares of a mutual fund. This structure allows the SBI to offer one or more of the investment pools to other investment programs. The Combined Funds and the Supplemental Investment Fund share many of the same investment pools, while some pools are exclusive to the Combined Funds.

Investment Objectives

A key responsibility of the SBI related to the Combined Funds is to ensure sufficient funds are available to pay promised benefits.

Figure 9. Combined Funds Assets as of June 30, 2023

Statewide Retirement System Funds	Market Value (\$ in 000's)
Minnesota State Employees Retirement General Fund ¹	\$ 16,594,908.9
Correctional Employees Fund	1,591,395.7
Highway Patrol Retirement Fund	939,908.8
Judges Retirement Fund	267,871.5
Total MSRS Assets	\$ 19,394,085.0
Public Employees Retirement Association General Fund	27,460,933.3
Police and Fire Fund	11,021,916.7
Correctional Employees Fund	1,066,565.0
Total PERA Assets	\$ 39,549,415.1
Teachers Retirement Association (TRA)	\$ 26,709,893.3
Combined Funds Total	85,653,393.3

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.

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 annual actuarial investment return assumption of 7.0% for the three Statewide Retirement Systems was approved by the legislature and signed into law in 2023.

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.

Asset Allocation

The allocation of assets among equities, fixed income, and private markets (private market investments include private equity, private credit, real estate, and real assets) has a significant impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio.

Historical evidence indicates that public equities and private equities have provided the greatest opportunity to maximize investment returns over the long-term. As a result, the Board has chosen to incorporate a large commitment to these asset classes in the asset allocation policy for the retirement funds. To mitigate the short-run volatility of returns exhibited by common stocks, the Board includes other asset classes such as fixed income (bonds), as well as diversifying private markets investments such as real estate, real assets, and private credit investments in the total portfolio. This diversification is intended to reduce fluctuations in

Combined Funds Investment Program Overview

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.

The following **strategic asset allocation** became effective July 1, 2020:

Public Equity	50%
Total Fixed Income	25
Private Markets	25
Total	100%

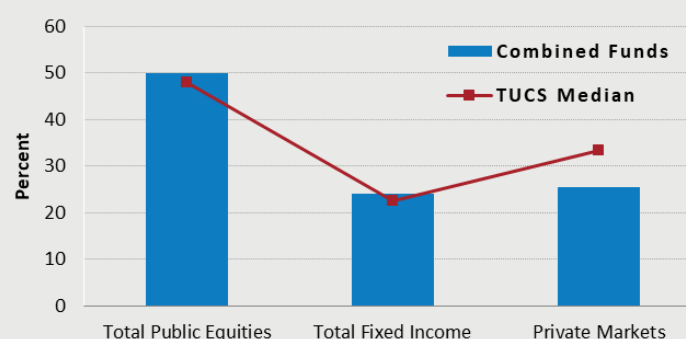
Strategic asset allocation changes listed in The Board Resolution Concerning the Management of the Combined Funds Asset Allocation and Liquidity can be found on the [SBI website](#).

Asset Mix Compared to Other Pension Funds

The Board finds it instructive to review the 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 \$20 billion in assets.

Comparisons of the Combined Funds' actual asset mix to the TUCS universe median allocation to stocks, bonds and private markets asset classes as of June 30, 2023 is displayed in

Figure 10. Combined Funds Asset Mix Comparison as of June 30, 2023



Asset Group	Combined Funds		
	Market Value (\$ Millions)	Actual Allocation ¹	TUCS* Median Allocation ²
Public Equity	\$43,265	50.5%	51.2%
Fixed Income	\$20,597	24.0%	18.5%
Private Markets	\$21,791	25.4%	35.0%
Total	\$85,653	100.0%	

¹ Totals may not add due to rounding.
² Represents the median allocation by asset class, which will not add to 100%.
 * TUCS may categorize assets differently than the SBI.

Figure 10. On average, the Combined Funds asset mix relative to the TUCS median allocation had larger weights to public equity, and fixed income (includes cash), and a lower allocation to private markets. The historical allocation to underlying asset classes in the Combined Funds is displayed on the next page in Figure 11.

Total Return Vehicles

The SBI invests the majority of the Combined Funds' assets in **Public Equity** (domestic, international, and global). This allocation is consistent with the investment time horizon of the Combined Funds and the advantageous long-term risk-return characteristics of common equities. The inclusion of international equities in the asset mix is intended to diversify holdings across world markets, providing an opportunity for

enhanced return and potential diversification benefits. The rationale underlying the inclusion of **Private Equity** is similar.

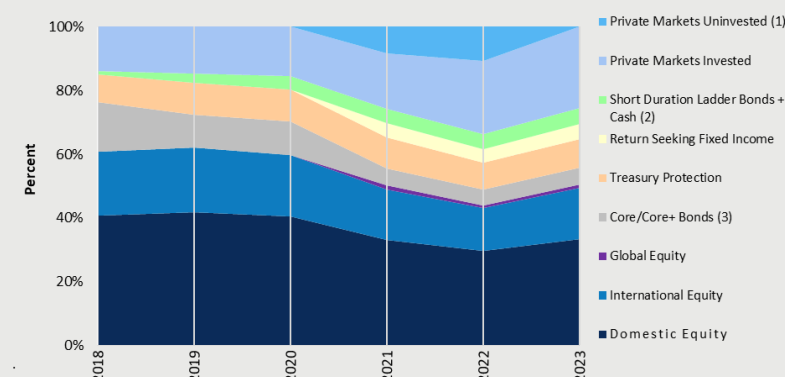
The Board recognizes that this sizable policy allocation to public and private equity relative to fixed income investments will result in increased volatility of returns and may result in periods of short-term relative underperformance.

Nevertheless, it is expected that future long-term returns for this type of policy will continue to compensate for the additional volatility.

Combined Funds

Investment Program Overview

Figure 11. Combined Funds Historical Asset Mix Fiscal Year 2018-2023



Footnotes:

Strategic allocation enhancements implemented as of December 2020 include the following:

(1) Private Markets Uninvested segregated from Public Equity and managed to S&P 500 mandate.

(2) Short Duration Ladder Bond strategy added to Cash allocation.

(3) Core Plus mandate added to Core Bond allocation.

Diversification Vehicles

The Board includes other asset classes in the Combined Funds to provide some protection against highly inflationary or deflationary environments and for portfolio diversification to reduce return volatility.

The allocation to **Fixed Income** acts 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, helps to diversify the Combined Funds, thereby moderating return volatility. The Treasury protection portfolio is expected to provide strong downside protection during periods of equity volatility over the long term.

Real Estate and Real Assets investments are intended to 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 is intended to dampen return volatility.

Private Credit investments provide the opportunity for higher long-term returns than those typically available from bonds. 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. Overall, this allocation is intended to reduce the volatility of the total portfolio, while generating higher returns relative to more traditional bond investments.

Investment Management

All assets in the Combined Funds are managed externally by professional 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 Programs** 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.
- **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 policy asset allocation of the Combined Funds.

Performance is reported net of all fees and expenses 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 5.9 percentage points. Historical results compared to inflation are shown in Figure 12 on the following page.

Combined Funds

Investment Program Overview

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 policy 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 above the returns available from the broad capital markets.
- The impact of the SBI's rebalancing activity. The SBI rebalances the Combined Funds when asset segments are above or below their 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.

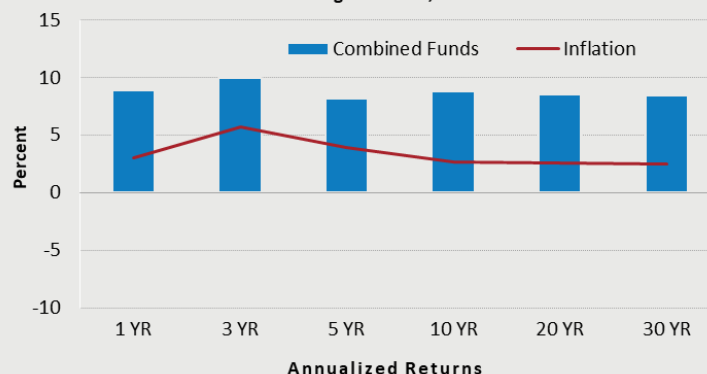
Historical performance results for the Combined Funds relative to its composite index are shown in Figures 13A and 13B.

The Combined Funds outperformed the composite index over the 2023 fiscal year. The Funds' performance exceeded the composite index over the last ten years and, therefore, met its stated performance goal. Importantly, performance measures are shown after all fees and expenses have been taken into consideration. The breakdown of the composite index is provided in Figure 14.

Comparison to Other Funds

While the SBI does attempt to evaluate how its returns compare to other pension investors, universe

Figure 12. Combined Funds Returns vs. Inflation For Periods Ending June 30, 2023



Annualized Returns (%) Ending June 30, 2023						
	1 Yr.	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	8.9	9.9	8.2	8.8	8.5	8.4
Inflation	3.0	5.7	3.9	2.7	2.6	2.5

Figure 13A. Combined Funds Fiscal Year Ending Returns For Periods Ending June 30

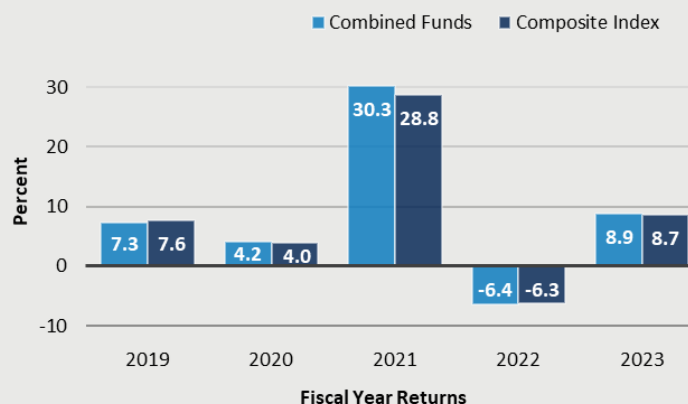
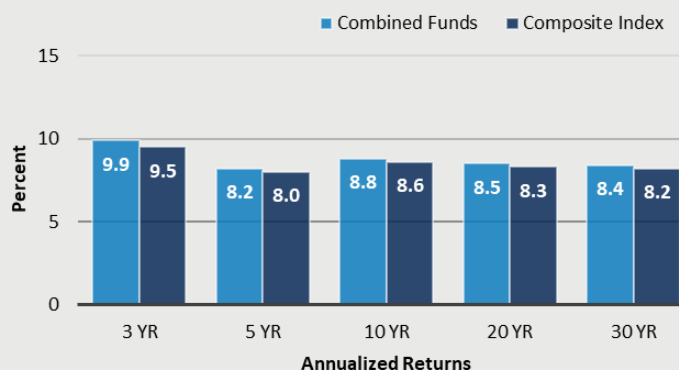


Figure 13B. Combined Funds Annualized Returns For Periods Ending June 30, 2023



Combined Funds Investment Program Overview

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 equities among the funds in TUCS typically ranges from 20% to 90%, too wide a range for meaningful comparison. In addition, we observe that many funds do not include private markets holdings in their reports to TUCS. This can further distort 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 is the primary determinant of 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 \$20 billion in assets in the Master Trust portion of TUCS is displayed in Figure 15.

Figure 14. Composite Index For Period Ending June 30, 2023

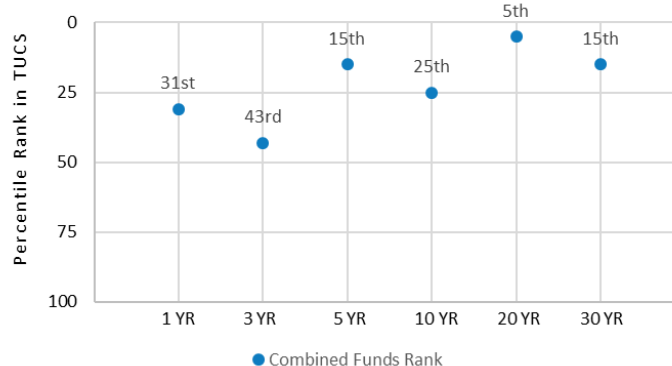
Asset Class	Market Index	Composite Index Weights % ¹
Public Equity	Public Equity Composite Benchmark ²	50.0
Fixed Income	Fixed Income Composite Benchmark ³	25.0
Private Markets	Private Markets	25.0
Total		100.0

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 12/1/2020 the benchmark represents 67% Russell 3000 and 33% MSCI ACWI ex-US (net). From 1/1/2019 to 12/1/2020 it was 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 to 12/31/2018 it was 67.0% Russell 3000 and 33.0% MSCI ACWI ex USA (net). From 6/30/16-6/30/17 the Public Equity benchmark adjusted by 2% each quarter from 75% Russell 3000 and 25% MSCI ACWI ex US until it reached 67% and 33%. Prior to 6/30/2016 the returns of Domestic and International Equity were not reported as a total Public Equity return.

³ Since 7/1/2020 the benchmark represents 40% Bloomberg U.S. Aggregate Index, 40% Bloomberg Treasury 5+ Years Index, 20% ICE BofA U.S. 3 Month Treasury Bill. From 4/1/2019 to 6/30/2019 it was 50% Bloomberg U.S. Aggregate and 50% Bloomberg Treasury 5+ Years Index. From 2/1/2018 to 3/31/2019 the weighting reflected the relative weights of Core Bonds and Treasuries allocations in Combined Funds Composite.

Figure 15. Combined Funds Returns Compared to Other Public Funds For Periods Ending June 30, 2023



	1 Yr.	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds ¹	31st	43rd	15th	25th	5th	15th

¹ Percentile rank in Trust Universe Comparison Service (TUCS) compared to other public plans greater than \$20 billion, gross of 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.

Objective

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 allows 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 considers more “why we invest” than “what we invest in”. Such approaches were developed as a response to the financial crisis in 2008 when it was observed that typically diversifying asset classes could still be highly correlated to public equities during periods of market stress.

Many institutional investors have advocated for approaches like the Strategic Allocation Category Framework based on an acknowledgement that certain asset classes (e.g. equities and high-yield corporate bonds) respond to the same underlying fundamental factors and economic drivers, and, therefore, the returns of these assets may become more highly correlated during a market correction, resulting in diminished diversification benefits. As a result, simple models of asset diversification (e.g. more asset classes = better diversification) have evolved into an appreciation that robust 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.

Allocation Categories

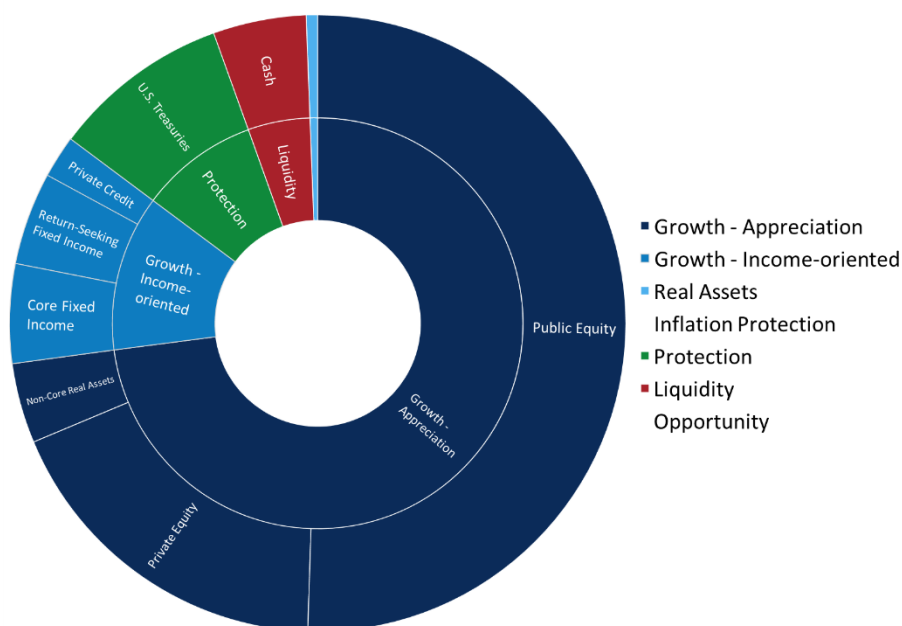
The following are the strategic allocation categories within the Framework and their intended roles within the portfolio.

- **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: some asset classes could reasonably be categorized under either the Growth-Appreciation or Growth-Income-oriented category. In these cases, Staff has applied its judgement to determine the most appropriate categorization.)
- **Real Assets:** provide diversification through investments in “hard” assets which have inflation-sensitive characteristics or the ability to provide a hedge against inflation.
- **Inflation Protection:** 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 compelling opportunities or new strategies that do not clearly fit in the other asset categories. 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 16 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 16: Status of Strategic Allocation Category Framework as of June 30, 2023



6/30/2023 (\$ millions)		6/30/2023 Weights	Category Range		6/30/2023 (\$ millions)	6/30/2023 Weights	Category Ranges	
Growth - Appreciation					Inflation Protection			
Public Equity	\$ 43,265.28	50.5%			TIPS	\$ -	0.0%	
Private Equity	\$ 15,585.99	18.2%			Commodities	\$ -	0.0%	
Non-Core Real Assets	\$ 3,601.02	4.2%				\$ -	0.0%	0%
	\$ 62,452.29	72.9%	50%	75%	Protection			
Growth - Income-oriented					U.S. Treasuries	\$ 8,003.44	9.3%	
Core Fixed Income	\$ 4,456.18	5.2%				\$ 8,003.44	9.3%	5%
Private Credit	\$ 1,884.67	2.2%			Liquidity			
Return-Seeking Fixed Income	\$ 4,170.68	4.9%			Cash	\$ 4,170.33	4.9%	
	\$ 10,511.53	12.3%	15%	30%		\$ 4,170.33	4.9%	0%
Real Assets					Opportunity			
Core Real Estate	\$ -	0.0%			Opportunity	\$ -	0.0%	0%
Real Assets	\$ 515.81	0.6%						
	\$ 515.81	0.6%	0%	10%				
Total			\$85,653.40		100.0%			
Illiquid Asset Exposure	\$ 21,587.50	25.2%	0%	30%				

Combined Funds

Volatility Equivalent Benchmark

Volatility Equivalent Benchmark

The **Volatility Equivalent Benchmark** was introduced as a metric to compare the longer-term (five 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 the investment 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 the investment process has performed relative to a passive alternative.

Figure 17 shows a comparison of the Combined Funds portfolio versus the Volatility Equivalent Benchmark and indicates the value added by 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 17. Volatility Equivalent Benchmark Comparison Periods Ending June 30, 2023

	As of June 30, 2023							
	1-year	3-year	5-year	10-year	15-year	20-year	25-year	30-year
SBI Combined Funds Return	8.9%	9.9%	8.2%	8.8%	8.0%	8.5%	7.1%	8.4%
Volatility Equivalent Benchmark Return			5.1%	5.8%	5.2%	6.2%	5.4%	6.4%
Value Added			3.1%	3.1%	2.7%	2.3%	1.6%	2.0%
Standard Deviation: Benchmark = Combined Funds			11.1%	8.9%	10.1%	9.3%	9.9%	9.6%
Benchmark Stock Weight			55%	56%	56%	57%	60%	60%
Benchmark Bond Weight			45%	44%	44%	43%	40%	40%

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. The bond return used is the Bloomberg U.S. Aggregate. The stock return used is the MSCI AC World Net Return Index. Prior to 12/31/98 it was the MSCI ACWI Total Return Index and pre-11/1/1993 it was the Wilshire 5000 adjusted for various SBI divestment mandates.

Combined Funds

Public Equity Program

Public Equity Program

The Combined Funds has a 50% target allocation to public equities, which is invested across domestic, international, and global equity segments. A description of each segment within the Public Equity Program is described in the respective sections of this annual report.

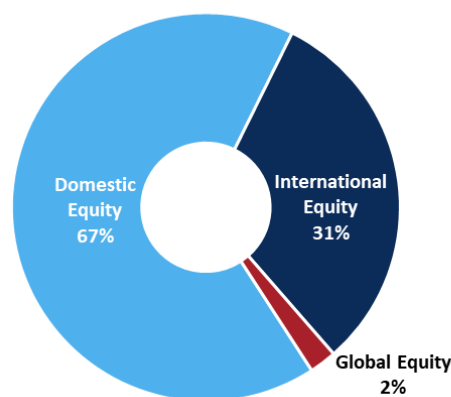
Allocation

The asset allocation target and actual weights within the Public Equity Program as of June 30, 2023, are shown below in Figure 18. Global Equities, which includes both domestic and international holdings, does not have a target allocation at this time.

Figure 18. Public Equity Program Policy Allocation and Asset Mix as of June 30, 2023

Segments	Target Allocation	Actual	
		Asset Mix	Assets In millions
Domestic Equity	67%	67%	\$29,285.1
International Equity	33%	31%	13,772.6
Global Equity	0%	2%	988.8
Public Equity Program	100%	100%	\$44,046.4

Public Equity Asset Mix as of June 30, 2023



Benchmark

The benchmarks used to monitor the returns of the segments are below. The Public Equity Program composite return consists of the target weight of the segment by the respective benchmark return.

Asset Class Segments	Benchmark
Domestic Equity	Russell 3000
International Equity	MSCI ACWI ex U.S. (net)
Global Equity	MSCI ACWI (net)

Fiscal Year 2023 Changes

During the 2023 fiscal year-end, one investment manager was removed from the international equity segment. The assets from this manager were reallocated among other existing managers in the segment.

Performance

Figure 19 provides the Public Equity Program and the underlying segment returns as of June 30, 2023. The Global Equity Segment was funded in January of 2021; therefore, only two full years of performance are available.

Figure 19. Public Equity Program Performance as of June 30, 2023

	1 Yr. %		3 Yrs. %		5 Yrs. %	
	Actual	Bmk	Actual	Bmk	Actual	Bmk
Domestic Equity	19.1	19.0	14.1	14.0	11.3	11.3
International Equity	14.0	12.7	8.8	7.2	4.5	3.5
Global Equity	17.1	16.5	NA	NA	NA	NA
Public Equity Program	17.4	17.0	12.2	11.8	9.0	8.8

Combined Funds

Public Equity: Domestic Equity

Domestic Equity

The domestic equity segment of the Public Equity portfolio invests in the broad U.S. equity market and represents the largest asset class allocation within the Combined Funds portfolio. The equity options of the Supplemental Investment Fund (SIF) also share many of the same investment managers as the Combined Funds. This sharing is accomplished by grouping managers by strategy into several investment pools. The active and semi-passively managed pools in the domestic equity segment comprise the U.S. Equity Actively Managed Fund (SIF) option while the U.S. Equity Index Fund (SIF) option invests in a passively managed pool indexed to the Russell 3000 Index.

As of June 30, 2023, the domestic equity segment, totaled over \$29.3 billion in assets, representing the investments of the following funds:

- Combined Funds \$26.8 billion
- U.S. Equity Actively Managed Fund (SIF) \$83.7 million
- U.S. Equity Index Fund (SIF) \$415.0 million
- Balanced Fund (SIF) (U.S. Equity Index Fund weight) \$68.4 million
- Volunteer Firefighter Account (SIF) (U.S. Equity Index Fund weight) \$55.7 million

Objective

The objective of the domestic equity segment is to provide broad U.S. equity exposure for the Combined Funds and investors in the SIF. The Board's **return objectives** are measured against the published Russell style and market capitalization indices representing the managers' specific investment approaches. These indices consider the

varying equity market forces that affect different investment styles.

Thus, a Russell-style index or benchmark is a more appropriate return target against which to judge a manager's returns than the Russell 3000 broad market index. 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. Assets are allocated both across styles and, in most cases, within each style, are allocated to multiple managers. This allocation approach seeks to minimize style bias within the domestic equity segment. Portfolio sector characteristics for each of the respective Russell benchmarks are shown in Figure 20 below.

Figure 20. Domestic Equity Segment Allocation (%) to Russell Global (U.S.) Sector Weights as of June 30, 2023

Russell Global U.S. Sector Classification	SBI Domestic Equity (DE) Portfolio Aggregates				Benchmarks		
	Active Mgmt	Semi-Passive Mgmt	Passive Mgmt	Total DE Program	Russell 1000	Russell 2000	Russell 3000
Basic Materials	2.9	1.9	1.9	2.0	1.9	3.5	2.1
Consumer Discretionary	16.5	14.6	14.6	14.8	14.7	12.7	14.7
Consumer Staples	2.4	5.4	5.19	4.9	5.2	3.4	5.1
Energy	5.0	3.7	4.12	4.2	4.1	5.5	4.3
Financials	11.3	8.4	9.92	9.9	10.0	4.9	10.2
Health Care	13.8	13.0	12.65	12.8	12.7	23.0	12.9
Industrials	17.2	14.3	12.75	13.4	12.8	22.2	13.1
Real Estate	3.3	2.6	2.83	2.9	2.8	1.6	3.0
Technology	18.2	31.7	30.29	29.2	30.6	19.4	29.6
Telecommunications	1.5	1.3	2.21	2.0	2.2	1.9	2.2
Utilities	2.0	2.0	2.74	2.6	2.8	2.0	2.8
Cash	1.8	0.3	0.3	0.5	N/A	N/A	N/A
Unassigned ¹	4.2	1.0	0.4	0.9	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 As of 12/1/2020 the Domestic Equity Program benchmark is the Russell 3000; from 1/1/2019-11/30/2020 it was 90% Russell 1000 and 10% Russell 2000.

Combined Funds

Public Equity: Domestic Equity

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

- **Investment Approach**
Each manager (active, semi-passive, or passive) is expected to hold a portfolio whose risk characteristics are consistent with the manager's stated investment approach. In the short run, market fluctuations may result in a departure from the active managers' risk targets depending on specific investment strategies.
- **Diversification**
The passive and semi-passive managers are expected to hold highly diversified portfolios. In contrast, each active domestic stock manager may hold a more concentrated portfolio, appropriate for the particular investment strategy and style.

During the fiscal year 2023, domestic equity managers met their long-term risk objectives. The managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification for their respective styles and investment approaches.

Management Structure

The SBI employs three management styles to invest the assets of the domestic equity segment: active, semi-passive, and passively managed portfolios. External investment managers manage all portfolios.

- **Active Management**
At the end of the 2023 fiscal year, approximately 10% of

the domestic equity segment was actively managed by a group of 13 investment managers. The assets allocated to each manager ranged in size from approximately \$153 million to \$379 million.

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

- **Semi-Passive Management**
At the end of fiscal year 2023, approximately 11% of the domestic equity segment was managed by two semi-passive investment managers, each managing a portfolio valued at approximately \$1.6 billion.

The **semi-passive** managers are expected to add incremental value relative to the Russell 1000 Index. These managers employ a strategy that more closely tracks the benchmark than active management and which seeks to produce modest excess returns on a consistent basis.

- **Passive Management**
At the end of fiscal year 2023, approximately 79% of the domestic equity segment was passively managed by one external manager across three distinct investment mandates, Russell 3000 Index, Russell 2000 Index and Russell 1000 Index, with portfolio values ranging from \$71 million to \$22.3 billion.

Figure 21A. Domestic Equity Segment Fiscal Year Performance For Periods Ending June 30

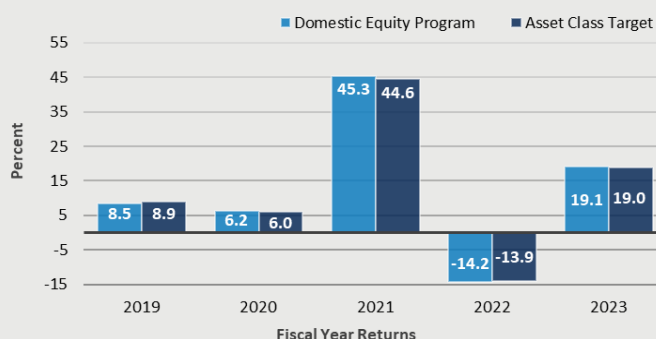
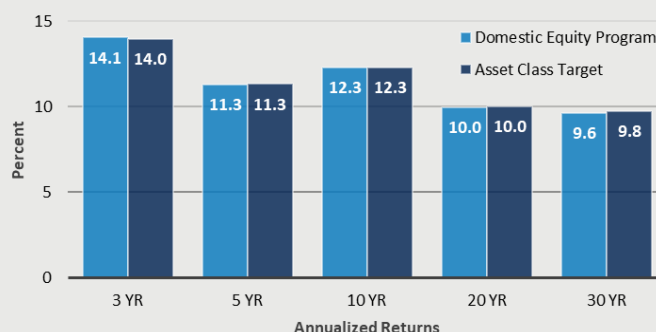


Figure 21B. Domestic Equity Segment Annualized Performance For Periods Ending June 30, 2023



Combined Funds

Public Equity: Domestic Equity

The *passive* manager in the domestic equity segment manages the portfolios to closely track the respective Russell indices consistently and inexpensively.

Investment Manager Summaries

A description of each domestic equity manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 35.

Investment Performance

The goal of the domestic equity segment is to outperform its

asset class target, the Russell 3000 Index. Figures 21A and 21B provide historical performance results for the domestic equity segment. In addition, each manager is also compared to its relevant Russell style benchmark. These benchmarks comparisons enable the SBI to evaluate the managers' individual and aggregate results with respect to risk incurred and returns achieved. Individual manager performance for fiscal year 2023 is shown in Figure 22.

In aggregate, the domestic equity segment outperformed its asset class target by 0.1 percentage point for the fiscal year. Active manager alpha was positive for the fiscal year; the active manager group outperformed its asset class target by 1.9 percentage points, while the semi-passive manager group outperformed its asset class target by 0.5 percentage point. However, a modest overweight to small cap managers and value style managers were drags on overall segment performance relative to the Russell 3000 Index.

Figure 22. Domestic Equity Segment Manager Performance for Periods Ending June 30, 2023

Manager Strategy (Benchmark)	1 Year		Annualized Returns				Market Value ¹ (In Millions)
	Actual %	Bmk %	3 Years		5 Years		
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	
Active Management							
All Cap Growth (Russell 3000 Growth) ²							
Zevenbergen Capital	43.4	26.6	-3.1	14.9	10.1	15.8	\$213.1
Large Cap Growth (Russell 1000 Growth)							
Sands Capital Management	31.7	27.1	-0.8	13.7	7.6	15.1	\$187.6
Winslow Capital Management	27.9	27.1	10.0	13.7	12.8	15.1	\$187.1
Large Cap Value (Russell 1000 Value)							
Barrow Hanley	13.4	11.5	18.3	14.3	10.2	8.1	\$379.0
LSV Asset Management	10.6	11.5	16.5	14.3	7.1	8.1	\$357.1
Small Cap Growth (Russell 2000 Growth)							
ArrowMark	20.0	18.5	8.7	6.1	3.9	4.2	\$183.6
Hood River	19.6	18.5	15.8	6.1	11.9	4.2	\$208.7
Rice Hall James	8.3	18.5	7.0	6.1	2.8	4.2	\$192.0
Wellington	16.8	18.5	5.6	6.1	4.4	4.2	\$239.8
Small Cap Value (Russell 2000 Value)							
Goldman Sachs	5.7	6.0	14.3	15.4	3.4	3.5	\$233.6
Hotchkis & Wiley	20.7	6.0	28.1	15.4	7.8	3.5	\$183.6
Martingale Asset Management	13.7	6.0	21.1	15.4	5.4	3.5	\$152.8
Peregrine Capital Management	4.7	6.0	16.9	15.4	3.4	3.5	\$241.4
Semi-Passive Management (Russell 1000)							
BlackRock Institutional Trust Company	18.9	19.4	14.0	14.1	11.9	11.9	\$1,595.0
J.P. Morgan Investment Management	20.7	19.4	15.5	14.1	12.9	11.9	\$1,611.3
Passive Management: BlackRock Institutional Trust Company							
All Cap (Russell 3000)	19.0	19.0	14.1	13.9	11.6	11.4	\$761.8
Large Cap (Russell 1000)	19.4	19.4	14.1	14.1	11.9	11.9	\$22,286.3
Small Cap (Russell 2000)	11.9	12.3	11.4	10.8	NA	NA	\$71.1
Total Domestic Equity Segment ³	19.1	19.0	14.1	14	11.3	11.3	\$29,285.1

¹ Market values include Supplemental Investment Fund (SIF) assets.

² As of 1/1/2021 Zevenbergen's benchmark is the Russell 3000 Growth Index, prior to that it was the Russell 1000 Growth.

³ As of 12/1/2020 the benchmark for the domestic equity segment is the Russell 3000; from 1/1/2019-11/30/2020 it was 90% Russell 1000 and 10% Russell 2000; from 10/1/2003 - 12/31/2018 it was the Russell 3000. Aggregate performance includes returns of terminated managers.

Combined Funds

Public Equity Program: International Equity

International Equity

The international equity segment of the Public Equity portfolio is the broad non-U.S. equity investment program for the Combined Funds. The international equity segment also invests certain assets of the Supplemental Investment Fund (SIF) portfolios, which allows the SIF to share many of the same managers as the Combined Funds. This sharing is accomplished by grouping managers by asset class into several investment pools.

As of June 30, 2023, international equity assets totaled \$13.8 billion, presenting the investments of the following funds:

- Combined Funds
\$13.6 billion
- Broad International Equity Fund (SIF)
\$135.4 million
- Volunteer Firefighter Account (SIF) (International Equity exposure)
\$23.0 million

Objective

The international equity allocation aims to provide broad exposure to non-U.S. equities for the Combined Funds and investors in the SIF. The Board's **return objectives** are stated relative to the MSCI Standard indices, which include 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.

Two long-term **risk objectives** exist for the international equity managers:

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

During fiscal year 2023, international equity managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification.

Management Structure

Currently, the SBI uses two management styles (active and passive) to invest the assets of the International Equity Segment. At the end of fiscal year 2023, the International Equity Segment was 73% invested in developed markets and 24% in emerging markets.

Active Management

At the end of fiscal year 2023, approximately 38% of the segment was actively managed in 14 separate portfolios. These portfolios range in size from \$143 million to over \$521 million.

The active managers may address currency management as part of their investment process. Their views on currency may be factored into their country and security selection; they may elect to hedge currency exposure opportunistically or seek to add value by actively managing currency positions. Managers are not required to hedge currency risk.

Developed Markets

Six of the 14 **active** managers 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 U.S. Index (net) over time.

Emerging Markets

Six of the 14 **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.

Opportunistic Investment Strategies

Other **actively** managed investment strategies that are expected to add incremental value over time are the non-U.S. all-country portfolio, which is measured against the MSCI ACWI ex-U.S. (net) Index return, and the China A-share portfolio, which is measured against the MSCI China A Index return.

Combined Funds

Public Equity Program: International Equity

— **Passive Management**

At the end of the 2023 fiscal year, approximately 62% of the international equity segment was passively managed by State Street Global Advisors (SSGA). SSGA manages two separate passive portfolios: a developed markets equity index portfolio and an emerging markets equity index portfolio, with market values of \$7.6 billion and \$1 billion, respectively.

The *passive* manager in the international equity segment manages the developed markets equity index portfolio to consistently and inexpensively track the developed markets MSCI World ex USA Index (net) and manages the emerging markets equity index portfolio to track the MSCI Emerging Markets Index (net).

Currency Overlay Program

The currency overlay program is an *active* currency risk management strategy; and the goal of the currency overlay program is to:

- Explicitly manage the currency risk inherent within the passive and selected active international equity portfolios.
- Seek to provide a hedge against a decline in the value of the Funds' international equity investments caused by currency fluctuations.

Investment Manager Summaries

A description of each international equity manager's investment approach is included in the **Investment Manager**

Summaries section beginning on page 41.

Investment Performance

The goal of the international equity segment is to outperform the asset class target, the MSCI ACWI ex U.S. (net). The international equity segment outperformed its target by 1.3 percentage points for the 2023 fiscal year. Over longer time periods, the segment has consistently exceeded its benchmark. Performance results for the international equity segment are shown below in Figures 23A and 23B.

Individual manager performance during fiscal year 2023 is shown in Figure 24 on the following page.

The international equity segment's country weights are displayed in Figure 25 on page 32.

Fiscal Year 2023 Changes

During the fiscal year, one manager was removed from the international equity segment. The assets from this manager were reallocated among other existing managers in the segment.

Figure 23A. International Equity Segment Fiscal Year Performance For Periods Ending June 30

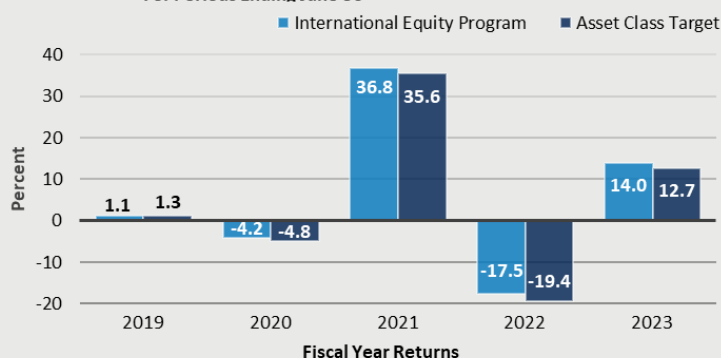
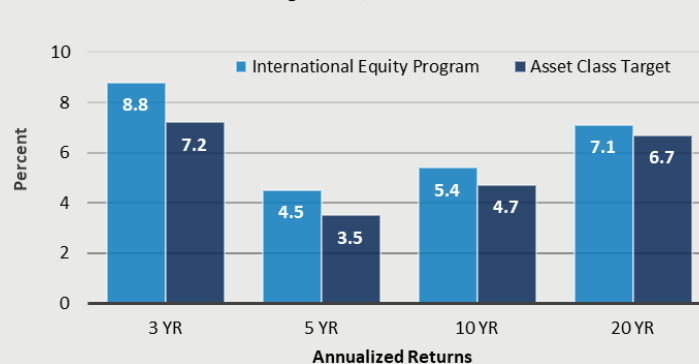


Figure 23B. International Equity Segment Annualized Performance For Periods Ending June 30, 2023



Combined Funds

Public Equity Program: International Equity

Figure 24. International Equity Segment Manager Performance for Periods Ending June 30, 2023

Manager Strategy (Benchmark)	1 Year		Annualized Returns				Market Value ¹ (In Millions)
	Actual %	Bmk %	3 Years		5 Years		
Developed Markets (MSCI World ex U.S. net)							
Active Management							
Acadian Asset Management	12.0	17.4	8.6	9.3	3.7	4.6	\$521.9
Columbia Mgmt. Investment Advisers	23.9	17.4	11.7	9.3	7.2	4.6	459.8
Fidelity Institutional Asset Management	17.0	17.4	9.2	9.3	5.9	4.6	455.5
J.P. Morgan Investment Management	18.2	17.4	8.3	9.3	5.2	4.6	342.1
Marathon Asset Management	18.6	17.4	11.5	9.3	5.1	4.6	384.5
AQR Capital Management	18.4	17.4	9.3	9.3	3.4	4.6	265.4
Passive Management							
State Street Global Advisers	17.8	17.4	9.8	9.3	5.0	4.6	\$7,592.0
Emerging Markets (MSCI Emerging Markets net)							
Active Management							
Macquarie Investment Management Advisers	2.5	1.7	1.0	2.3	1.9	0.9	\$355.4
Martin Currie Investment Management	4.3	1.7	1.5	2.3	1.5	0.9	377.9
Morgan Stanley Investments Management	9.0	1.7	3.0	2.3	1.3	0.9	454.1
Neuberger Berman Investment Advisers	1.6	1.7	-1.2	2.3	-1.5	0.9	325.9
Pzena Investment Management	15.2	1.7	14.9	2.3	5.7	0.9	381.4
Rock Creek	0.3	1.7	1.2	2.3	0.7	0.9	354.1
Passive Management							
State Street Global Advisers	1.4	1.7	1.9	2.3	0.7	0.9	\$1,013.8
Opportunistic Investment Strategies (Benchmark)							
Active Management							
Earnest Partners (MSCI ACWI ex U.S. net)	15.7	12.7	-	-	-	-	\$392.4
Earnest Partners (China A Index)	-16.5	-20.3	-	-	-	-	143.2
Currency Overlay Program							
Active Management							
Record Currency Management ²	0.4	NA	-	-	-	-	-\$49.2
Total International Equity Segment ³	14.0	12.7	8.8	7.2	4.5	3.5	\$13,772.6

¹ Market Value includes assets of the SIF Broad International Equity Fund.

² Reflects the current market-to-market value of the program's open currency hedges, which may be either positive or negative.

³ The International Equity Program benchmark is the MSCI ACWI ex. U.S. Index (net) since 1/1/2020, prior to that it was 75% MSCI World ex U.S. 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. Total AUM includes \$602,347 in transitional management and \$1,504,587 from a liquidating portfolio. Totals may not add due to rounding.

Combined Funds

Public Equity Program: International Equity

Figure 25. International Equity Segment Aggregate Country Weights for Period Ending June 30, 2023

Country ¹	Program Weights %	Benchmark Weights % ²
Argentina	0.1	-
Australia	4.3	4.7
Austria	0.3	0.1
Belgium	0.7	1.4
Brazil	1.5	1.4
Canada	7.0	7.2
Chile	0.1	0.1
China	7.2	8.0
Denmark	2.2	2.0
Finland	0.5	0.6
France	8.2	8.0
Germany	5.4	5.5
Greece	0.0	0.1
Hong Kong	1.9	1.8
Hungary	0.1	0.1
India	1.8	3.8
Indonesia	0.6	0.5
Ireland	0.2	0.2
Israel	0.4	0.4
Italy	1.5	1.6
Japan	14.3	14.5
Kuwait	0.1	0.2
Malaysia	0.2	0.4
Mexico	0.7	0.7
Netherlands	2.8	2.8
New Zealand	0.1	0.1
Norway	0.6	0.4
Peru	0.1	0.1
Philippines	0.1	0.2
Poland	0.2	0.2
Portugal	0.2	0.1
Qatar	0.1	0.3
Saudi Arabia	0.2	1.2
Singapore	1.0	0.9
South Africa	0.7	1.1
South Korea	0.2	0.0
Spain	1.8	1.7
Sweden	1.9	2.1
Switzerland	6.4	6.6
Taiwan	3.7	4.4
Thailand	0.4	0.5
Turkey	0.1	0.2
United Arab Emirates	0.1	0.3
United Kingdom	10.3	9.9
United States	2.4	0.9
U.S. Dollar	1.3	-
Other	2.8	-
Total³	100.0	100.0

¹ Grouped by country of domicile. Source: Factset.

² Benchmark listed is the MSCI ACWI ex U.S. Index (net).

³ Totals may not add due to rounding.

Combined Funds

Public Equity Program: Global Equity

Global Equity

The global equity segment of the Public Equity portfolio is made up of actively managed global equity portfolios. This segment is exclusive to the Combined Funds.

As of June 30, 2023, the global equity segment had a market value of \$988.8 million.

Objective

The global equity allocation aims to provide broad international and domestic equity exposure to the combined funds.

The Board's **return objectives** for the global equity segment are stated relative to the MSCI ACWI (net) Index, which includes large and mid-capitalization stocks across the developed and emerging markets, including the United States. The index is 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.

Two long-term **risk objectives** exist for the global equity managers:

- **Investment Approach.** Each manager is expected to hold a portfolio consistent with the manager's stated investment approach.
- **Diversification.** Each manager is expected to hold a portfolio of the manager's best ideas for outperforming their respective index.

Management Structure

The global equity segment is actively managed by three external investment managers funded in December of 2020. As of June 30, 2023, portfolio allocations ranged in size between \$223 million to over \$398 million.

Investment Manager Summaries

A description of each global equity manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 48.

Investment Performance

For the fiscal year, the global equity segment outperformed its benchmark by 0.6 percentage points.

Outperformance in the global equity segment was driven by a general rebound in the growth-oriented names that struggled in the previous fiscal year, including technology stocks fueled by the boom in generative artificial intelligence (AI).

Individual manager investment performance for the fiscal year is shown below in Figure 26.

The global equity segment's country weights are displayed in Figure 27 on the following page.

Figure 26. Global Equity Segment Manager Performance as of June 30, 2023

	1 Year		Market Value
Manager Strategy (Benchmark)	Actual %	Bmk %	(In Millions)
Active Management (MSCI ACWI (net))			
Ariel Investments	8.5	16.5	\$398.7
Baillie Gifford	24.3	16.5	223.2
Martin Currie Investment Management	23.4	16.5	366.8
Total Global Equity Segment	17.1	16.5	\$988.8

Combined Funds

Public Equity Program: Global Equity

Figure 27. Global Equity Segment Aggregate Country Weights for Period Ending June 30, 2023

Country ¹	Program Weights %	Benchmark Weights % ²
Australia	1.0	1.8
Belgium	0.1	0.2
Brazil	2.4	0.6
Canada	0.0	2.9
Chile	0.1	0.1
China	3.1	3.1
Denmark	1.2	0.8
Finland	0.7	0.2
France	8.0	3.0
Germany	2.2	2.1
Hong Kong	0.5	0.6
India	0.0	1.5
Indonesia	0.0	0.2
Ireland	1.4	0.2
Israel	0.3	0.2
Italy	4.1	0.6
Japan	2.4	5.5
Kuwait	0.0	0.1
Malaysia -EM	0.0	0.1
Mexico	0.1	0.3
Netherlands	5.5	1.1
Norway	0.0	0.2
Peru	1.6	0.0
Philippines	0.0	0.1
Poland	0.0	0.1
Portugal	0.0	0.1
Qatar	0.0	0.1
Saudi Arabia	0.0	0.4
Singapore	0.2	0.3
South Africa	0.0	0.3
South Korea	0.0	1.3
Spain	2.1	0.7
Sweden	2.7	0.8
Switzerland	2.8	2.5
Taiwan	0.2	1.6
Thailand	0.0	0.2
United Arab Emirates	0.0	0.1
United Kingdom	4.5	3.6
United States	47.2	62.1
U.S. Dollar	3.5	-
Total³	100.0	100.0

¹ Grouped by country of domicile. Source: Factset.

² Benchmark listed is the MSCI ACWI (net).

³ Totals may not add due to rounding. Countries in the benchmark with less than 0.1% exposure were removed from list.

Combined Funds

Public Equity Program: Investment Manager Summaries

Domestic Equity Program Managers

Active All-Cap Growth (Russell 3000 Growth) Manager

Zevenbergen Capital Investments LLC

Product Name:	Growth Equity	Benchmark:	Russell 3000 Growth
Product Inception Date:	January 1987	Investment Style:	All-Cap Growth
Firm Assets (6/30/23):	\$4.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.4 billion	Investment Process:	Bottom-up
Product Location:	Edmonds, WA	Expected # of Holdings:	35-60
Date Funded:	April 1994	Expected Ann. Turnover:	35-40%

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 with focus on long-term results. Portfolios are constructed with companies presenting compelling growth profiles – both established and prospective – across revenues, cash flows, and earnings.

Active Large-Cap Growth (Russell 1000 Growth) Managers

Sands Capital Management, LLC

Product Name:	Select Growth	Benchmark:	Russell 1000 Growth
Product Inception Date:	February 1992	Investment Style:	Large-Cap Growth
Firm Assets (6/30/23):	\$51.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$13.6 billion	Investment Process:	Bottom-up
Product Location:	Arlington, VA	Expected # of Holdings:	25-30
Date Funded:	January 2005	Expected Ann. Turnover:	20-25%

Sands Capital uses a growth-oriented investment philosophy rooted in the belief that over time, common stock price appreciation follows the earnings power and growth of the underlying business. Sands acts on this belief by seeking to identify high-quality, wealth-creating growth businesses using a fundamental, business-focused research approach. Sands constructs concentrated and conviction-weighted portfolios while maintaining a long-term investment horizon. The strategy focuses on six key investment criteria which the firm uses to consistently judge a potential investment's ability to sustain above average earnings growth as well as its ability to build and maintain a long-term competitive advantage to drive shareholder value.

Winslow Capital Management, LLC

Product Name:	U.S. Large-Cap Growth	Benchmark:	Russell 1000 Growth
Product Inception Date:	June 1992	Investment Style:	Large-Cap Growth
Firm Assets (6/30/23):	\$25.6 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$24.0 billion	Investment Process:	Bottom-up
Product Location:	Minneapolis, MN	Expected # of Holdings:	45-55
Date Funded:	December 2004	Expected Ann. Turnover:	50%

Winslow Capital believes that growth equities are a structurally advantaged asset class due to the compounding of earnings at superior growth rates and, when purchased at reasonable valuations, provide the best opportunity for achieving superior portfolio returns over the long-term. The firm's investment philosophy is founded on bottom-up, fundamental research. The strategy focuses on identifying companies with identifiable and sustainable competitive advantages, strong management teams and improving fundamentals driving long-term shareholder value.

Combined Funds

Public Equity Program: Investment Manager Summaries

Domestic Equity Program Managers

Active Large-Cap Value (Russell 1000 Value) Managers

Barrow, Hanley, Mewhinney & Strauss, LLC

Product Name:	Large-Cap Value	Benchmark:	Russell 1000 Value
Product Inception Date:	October 1979	Investment Style:	Large-Cap Value
Firm Assets (6/30/23):	\$46.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$13.8 billion	Investment Process:	Bottom-up
Product Location:	Dallas, TX	Expected # of Holdings:	40-50
Date Funded:	April 2004	Expected Ann. Turnover:	25-35%

Barrow Hanley 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. Stocks must be attractive according to the firm's dividend discount and relative return models in order to warrant consideration for investment. The team's research analysts conduct independent fundamental analysis to identify the best investment opportunities. Barrow Hanley's overall portfolio will always reflect all three value characteristics: price/earnings and price/book ratios below the market, and dividend yields above the market.

LSV Asset Management

Product Name:	U.S. Large-Cap Value Equity	Benchmark:	Russell 1000 Value
Product Inception Date:	December 1993	Investment Style:	Large-Cap Value
Firm Assets (6/30/23):	\$93.6 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/23):	\$22.7 billion	Investment Process:	Bottom-up
Product Location:	Chicago, IL	Expected # of Holdings:	150-175
Date Funded:	April 2004	Expected Ann. Turnover:	25%

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. The firm's processes use quantitative techniques to rank securities based on fundamental measures of value, past performance, and indicators of near-term appreciation potential. Portfolio construction seeks to systematically overweight securities that rank most attractive on these measures while underweighting securities with lower scores. The firm employs a rigorous risk control discipline limiting the portfolio's industry, sector, and issuer concentrations.

Active Small-Cap Growth (Russell 2000 Growth) Managers

ArrowMark Colorado Holdings, LLC

Product Name:	Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product Inception Date:	December 2013	Investment Style:	Small-Cap Growth
Firm Assets (6/30/23):	\$22.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$1.4 billion	Investment Process:	Bottom-up
Product Location:	Denver, CO	Expected # of Holdings:	90-120
Date Funded:	November 2016	Expected Ann. Turnover:	50%

ArrowMark manages a fundamentally driven small-cap growth portfolio and prioritizes downside risk while maintaining a long-term investment horizon. ArrowMark believes that 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.

Combined Funds

Public Equity Program: Investment Manager Summaries

Domestic Equity Program Managers

Active Small-Cap Growth (Russell 2000 Growth) Managers

Hood River Capital Management, LLC

Product Name:	Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product Inception Date:	June 2002	Investment Style:	Small-Cap Growth
Firm Assets (6/30/23):	\$3.4 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.2 billion	Investment Process:	Bottom-up
Product Location:	Palm Beach Gardens, FL	Expected # of Holdings:	80-100
Date Funded:	November 2016	Expected Ann. Turnover:	100-160%

Hood River believes the small-cap market is relatively inefficient and that small-cap stocks are scrutinized less closely than large-cap companies, which creates an opportunity for research to add value within the asset class. 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.

Rice Hall James & Associates, LLC

Product Name:	RHJ Small-Cap Opportunities	Benchmark:	Russell 2000 Growth
Product Inception Date:	October 1994	Investment Style:	Small-Cap Growth
Firm Assets (6/30/23):	\$2.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$991 million	Investment Process:	Bottom-up
Product Location:	Los Angeles, CA	Expected # of Holdings:	50-70
Date Funded:	November 2016	Expected Ann. Turnover:	30-40%

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 return 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.

Wellington Management Company LLP

Product Name:	Disciplined U.S. Small-Cap Growth	Benchmark:	Russell 2000 Growth
Product Inception Date:	May 2001	Investment Style:	Small-Cap Growth
Firm Assets (6/30/23):	\$1.2 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.1 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	125-150
Date Funded:	November 2016	Expected Ann. Turnover:	< 60%

Wellington'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.

Combined Funds

Public Equity Program: Investment Manager Summaries

Domestic Equity Program Managers

Active Small-Cap Value (Russell 2000 Value) Managers

Goldman Sachs Asset Management, L.P.

Product Name:	U.S. Small-Cap Value Strategy	Benchmark:	Russell 2000 Value
Product Inception Date:	September 1997	Investment Style:	Small-Cap Value
Firm Assets (6/30/23):	\$2.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.7 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	175-225
Date Funded:	January 2004	Expected Ann. Turnover:	50-80%

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. The team's portfolio managers are organized by industry, and use industry-specific valuation measures to evaluate companies within their area. They dissect historical financial reports, meet with management teams to evaluate a company's competitive position within its industry, and evaluate each company's valuation attractiveness relative to other comparable companies within the sector.

Hotchkis and Wiley Capital Management, LLC

Product Name:	Small-Cap Value	Benchmark:	Russell 2000 Value
Product Inception Date:	October 1985	Investment Style:	Small-Cap Value
Firm Assets (6/30/23):	\$29.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.0 billion	Investment Process:	Bottom-up
Product Location:	Los Angeles, CA	Expected # of Holdings:	50-80
Date Funded:	January 2004	Expected Ann. Turnover:	30-50%

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.

Product Name:	Small-Cap Value	Benchmark:	Russell 2000 Value
Product Inception Date:	July 1996	Investment Style:	Small-Cap Value
Firm Assets (6/30/23):	\$5.3 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/23):	\$178 million	Investment Process:	Multi-factor Systematic
Product Location:	Boston, MA	Expected # of Holdings:	250-350
Date Funded:	January 2004	Expected Ann. Turnover:	< 100%

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. 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.

Combined Funds

Public Equity Program: Investment Manager Summaries

Domestic Equity Program Managers

Active Small-Cap Value (Russell 2000 Value) Managers

Peregrine Capital Management

Product Name:	Small Cap Value	Benchmark:	Russell 2000 Value
Product Inception Date:	January 1996	Investment Style:	Small-Cap Value
Firm Assets (6/30/23):	\$4.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$1.2 billion	Investment Process:	Bottom-up
Product Location:	Minneapolis, MN	Expected # of Holdings:	90-110
Date Funded:	July 2000	Expected Ann. Turnover:	50-80%

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 well diversified by issue and sector weights are aligned closely to the benchmark allowing stock selection to drive performance.

Semi-Passive (Russell 1000) Managers

BlackRock Institutional Trust Company, N.A.

Product Name:	Alpha Tilts Low-Risk	Benchmark:	Russell 1000 Index
Product Inception Date:	December 1994	Investment Style:	Large-Cap Core
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	Quantitative
Product Assets (6/30/23):	\$8.8 billion	Investment Process:	Multi-factor Systematic
Product Location:	San Francisco, CA	Expected # of Holdings:	200-700
Date Funded:	January 1995	Expected Ann. Turnover:	80-150%

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. 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.

Product Name:	Research Enhanced Index 100 Strategy	Benchmark:	Russell 1000 Index
Product Inception Date:	December 1988	Investment Style:	Large-Cap Core
Firm Assets (6/30/23):	\$2.7 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$14.3 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	350-500
Date Funded:	January 1995	Expected Ann. Turnover:	< 65%

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.

Combined Funds

Public Equity Program: Investment Manager Summaries

Domestic Equity Program Managers

Passive (Russell 3000) Manager

BlackRock Institutional Trust Company, N.A.

Product Name:	Russell 3000 Equity Index	Benchmark:	Russell 3000 Index
Product Inception Date:	June 1995	Investment Style:	All-Cap Core
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$67.9 billion	Investment Process:	Optimized Indexing
Product Location:	San Francisco, CA	Expected # of Holdings:	2,800-3,000
Date Funded:	July 1995	Expected Ann. Turnover:	1-4%

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 (Russell 1000) Manager

BlackRock Institutional Trust Company, N.A.

Product Name:	Russell 1000 Equity Index	Benchmark:	Russell 1000 Index
Product Inception Date:	January 1987	Investment Style:	Large-Cap Core
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$154.2 billion	Investment Process:	Index Replication
Product Location:	San Francisco, CA	Expected # of Holdings:	Approx. 1000
Date Funded:	November 2016	Expected Ann. Turnover:	2-4%

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 (Russell 2000) Manager

BlackRock Institutional Trust Company, N.A.

Product Name:	Russell 2000 Equity Index	Benchmark:	Russell 2000 Index
Product Inception Date:	June 1997	Investment Style:	Small-Cap Core
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$72.1 billion	Investment Process:	Optimized Indexing
Product Location:	San Francisco, CA	Expected # of Holdings:	1,900-2,000
Date Funded:	October 2018	Expected Ann. Turnover:	10-15%

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 Program: Investment Manager Summaries

International Equity Program Managers

Active Developed Markets Managers

Acadian Asset Management LLC

Product Name:	Non-U.S. Equity	Benchmark:	MSCI World ex. USA Index
Product Inception Date:	January 1995	Investment Style:	Core
Firm Assets (6/30/23):	\$100 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/23):	\$7.7 billion	Investment Process:	Multi-factor Systematic
Product Location:	Boston, MA	Expected # of Holdings:	200-700
Date Funded:	July 2005	Expected Ann. Turnover:	50-100%

Acadian first uses a quantitative process to rank their universe of 43,000 stocks by relative attractiveness. The process uses a wide range of factors including valuation, earnings quality, size and price movements. Acadian also applies separate models to forecast how well each stock's region/industry peer group will perform relative to world equities. The stock and peer forecasts are combined to determine an overall relative return forecast. Country and sector weights fall out of the bottom-up stock selection process.

AQR Capital Management, LLC

Product Name:	Int'l 3-Alpha Equity	Benchmark:	MSCI World ex USA Index
Product Inception Date:	April 2005	Investment Style:	Value
Firm Assets (6/30/23):	\$96.9 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/23):	\$3.4 billion	Investment Process:	Bottom-up
Product Location:	Greenwich, CT	Expected # of Holdings:	150-500
Date Funded:	July 2005	Expected Ann. Turnover:	70-110%

The AQR International 3-Alpha Equity Strategy is a diversified strategy that aims for consistent and meaningful excess returns over the benchmark. The strategy pursues distinct alpha opportunities within three primary views: securities, countries and currencies. AQR combines many similar or correlated signals into themes (e.g., Value, Momentum, Quality and Sentiment) and combines themes to create their overall model. AQR creates separate model views for securities, countries and currencies to precisely capture opportunities and manage risks within each component as well as at the total portfolio level.

Columbia Threadneedle Investments

Product Name:	Institutional Int'l Equity EAFE	Benchmark:	MSCI World ex USA Index
Product Inception Date:	December 2003	Investment Style:	Core/Quality
Firm Assets (6/30/23):	\$618.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23)*:	\$1.5 billion	Investment Process:	Bottom-up
Product Location:	London, England	Expected # of Holdings:	50-80
Date Funded**:	March 2000*	Expected Ann. Turnover:	< 50%

* Includes all developed markets assets managed by this team and underpinned by a comparable investment strategy.

** Reflects SBI's initial funding date with Columbia Threadneedle predecessor firm IDS International.

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. This 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 an additional element of the framework, as these can represent both a risk to a company's competitive position or an opportunity to further enhance it.

Combined Funds

Public Equity Program: Investment Manager Summaries

International Equity Program Managers

Active Developed Markets Managers

Fidelity Institutional Asset Management LLC

Product Name:	International Growth	Benchmark:	MSCI World ex USA Index
Product Inception Date:	December 1995	Investment Style:	Growth
Firm Assets (6/30/23):	\$350.4 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$5.8 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	100-150
Date Funded:	July 2005	Expected Ann. Turnover:	25-75%

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 construct regional sub-portfolios, selecting stocks based on Fidelity analysts' fundamental research as well as their own judgment and expertise. Final portfolio allocation to the regional portfolios is determined by the lead portfolio manager.

J.P. Morgan Investment Management Inc.

Product Name:	EAFE Plus	Benchmark:	MSCI World ex USA Index
Product Inception Date:	January 1997	Investment Style:	Quality/Growth
Firm Assets (6/30/23):	\$2.7 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$14.6 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	70-100
Date Funded:	July 2005	Expected Ann. Turnover:	< 30%

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 analyst teams generate local market insights and conduct research on companies; the highest conviction regional stocks are further analyzed by a team of London-based Global Sector Specialists looking to identify global "industry winners". Finally, a team of senior portfolio managers are responsible for constructing risk controlled portfolios that capture the best thinking of both the local and global teams.

Marathon Asset Management LLP

Product Name:	World ex U.S. Strategy	Benchmark:	MSCI World ex USA Index
Product Inception Date:	June 1997	Investment Style:	Core
Firm Assets (6/30/23):	\$39.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$31.1 billion	Investment Process:	Bottom-up
Product Location:	London, England	Expected # of Holdings:	300-400
Date Funded:	November 1993*	Expected Ann. Turnover:	10-20%

* Reflects SBI's initial funding date in Marathon's MSCI EAFE strategy with an earlier product inception date.

At the heart of Marathon's investment philosophy is the "capital cycle" approach to investment, based on the idea that the prospect of high returns will attract excessive capital and vice versa. 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. 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.

Combined Funds

Public Equity Program: Investment Manager Summaries

International Equity Program Managers

Passive Developed Markets Manager

State Street Global Advisors

Product Name:	MSCI World ex USA Index Strategy	Benchmark:	MSCI World ex USA Index
Product Inception Date:	October 1992	Investment Style:	Core
Firm Assets (6/30/23):	\$3.8 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$63.8 billion	Investment Process:	Index Replication
Product Location:	Boston, MA	Expected # of Holdings:	800-1000
Date Funded:	October 1992	Expected Ann. Turnover:	2-8%

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

Active Emerging Markets Managers

Macquarie Investment Management Advisers

Product Name:	Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	September 2005	Investment Style:	Growth
Firm Assets (6/30/23):	\$575.6 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$6.9 billion	Investment Process:	Bottom-up
Product Location:	Philadelphia, PA	Expected # of Holdings:	90-130
Date Funded:	April 2017	Expected Ann. Turnover:	10-30%

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.

Martin Currie Inc.

Product Name:	Global Emerging Markets	Benchmark:	MSCI Emerging Market Index
Product Inception Date:	October 2010	Investment Style:	Quality/Growth
Firm Assets (6/30/23):	\$21.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$7.4 billion	Investment Process:	Bottom-up
Product Location:	Edinburgh, Scotland, UK	Expected # of Holdings:	40-60
Date Funded:	April 2017	Expected Ann. Turnover:	< 30%

The Martin Currie Global Emerging Markets (GEMs) team aims to deliver long-term capital growth by investing in companies with exposure to developing economies. Based on a philosophy that the market frequently undervalues the long-term, value-creation potential of sustainable growth businesses, the team use fundamental research to identify high-quality companies with industry-leading profitability, robust balance sheets and demonstrable growth potential. Rigorous ESG analysis is embedded in the process, enabling Martin Currie to identify material risks and long-term opportunities.

Combined Funds

Public Equity Program: Investment Manager Summaries

International Equity Program Managers

Active Emerging Markets Managers

Morgan Stanley Investment Management Inc.

Product Name:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	November 1991	Investment Style:	Quality/Growth
Firm Assets (6/30/23):	\$1.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.6 billion	Investment Process:	Top-Down/Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	70-90
Date Funded:	January 2001	Expected Ann. Turnover:	30-50%

The Morgan Stanley Investment Management (MSIM) Emerging Markets Equity team seeks to own quality growth stocks in attractive countries and/or in compelling themes. The team conducts original fundamental and macro-thematic research and invests in companies with the potential to deliver strong, sustainable growth over the next three to five years. The team also seeks to identify countries where growth is likely to accelerate and avoid or underweight countries with significant macro risks.

Neuberger Berman Investment Advisers LLC

Product Name:	Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	February 1997	Investment Style:	Quality/Growth
Firm Assets (6/30/23):	\$443.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.8 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	80-110
Date Funded:	April 2017	Expected Ann. Turnover:	30-50%

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

Product Name:	Emerging Markets Focused Value	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	January 2008	Investment Style:	Value
Firm Assets (6/30/23):	\$56.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$5.3 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	40-80
Date Funded:	April 2017	Expected Ann. Turnover:	20-40%

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. Pzena applies fundamental research to these companies to determine whether the problems that caused the earnings shortfall are temporary or permanent. Using a proprietary screening tool, Pzena focuses research on the cheapest 20% of its universe. The subsequent decision to dedicate further research resources to evaluate a given security is made by the four co-portfolio managers who make an initial judgment 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

Public Equity Program: Investment Manager Summaries

International Equity Program Managers

Active Emerging Markets Managers

The Rock Creek Group, LLC

Product Name:	Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	August 2009	Investment Style:	Core/Fund-of-Funds
Firm Assets (6/30/23):	\$15.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.2 billion	Investment Process:	Top-down/Bottom-up
Product Location:	Washington, D.C.	Expected # of Holdings:	300-500
Date Funded:	April 2017	Expected Ann. Turnover:	30-40%

Rock Creek's Emerging Markets Equity strategy utilizes an actively managed all-cap approach in which their top-down views drive country and sector selection. Sub-sector and issue selection is managed by 15-17 local investment teams via a fund-of-funds structure that provides on-the-ground stock picking talent to drive 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 a focus on small/mid-cap size companies. RockCreek's location in Washington, D.C. 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

Product Name:	MSCI Emerging Markets Index Strategy	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	December 2011	Investment Style:	Core
Firm Assets (6/30/23):	\$3.8 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$50.2 billion	Investment Process:	Optimized Indexing
Product Location:	Boston, MA	Expected # of Holdings:	1100-1500
Date Funded:	January 2012	Expected Ann. Turnover:	5-15%

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 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

Public Equity Program: Investment Manager Summaries

International Equity Program Managers

Opportunistic Investment Strategy - ACWI ex-US Manager

Earnest Partners LLC

Product Name:	EARNEST Partners International	Benchmark:	MSCI AWCI ex US Index
Product Inception Date:	May 1999	Investment Style:	Core
Firm Assets (6/30/23):	\$28.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$4.8 billion	Investment Process:	Bottom-up
Product Location:	Atlanta, GA	Expected # of Holdings:	50-80
Date Funded:	January 2021	Expected Ann. Turnover:	20-30%

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. The team’s fundamental review generally includes conversations with the company’s management 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.

Opportunistic Investment Strategy - China A-Share Manager

Earnest Partners LLC

Product Name:	EARNEST Partners China A-share	Benchmark:	MSCI China A Index
Product Inception Date:	April 2013	Investment Style:	Dedicated China A-share
Firm Assets (6/30/23):	\$28.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$464.0 million	Investment Process:	Bottom-up
Product Location:	Atlanta, GA	Expected # of Holdings:	15-30
Date Funded:	January 2021	Expected Ann. Turnover:	None

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 management 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.

Combined Funds

Public Equity Program: Investment Manager Summaries

International Equity Program Managers

Currency Overlay Manager

Record Currency LLC

Product Name:	Currency Overlay	Benchmark:	N/A
Product Inception Date:	July 1983	Investment Style:	Active Currency Hedging
Firm Assets (6/30/23):	\$86.4 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/23):	\$18.4 billion	Investment Process:	Systematic
Product Location:	Windsor, England, UK	Expected # of Holdings:	N/A
Date Funded:	October 2020	Expected Ann. Turnover:	4-8x hedgeable currency exposure

Record Currency's overlay program aims to reduce currency risk embedded in the international equity exposures of the SBI's international equity portfolio and to add value over a mid-term currency cycle. In order to protect against currency losses, the program uses a systematic investment process to adjust strategy hedge ratios in response to currency movements. Subject to the hedge ratios in place and the costs of their adjustments, the program will generate positive value when the U.S. dollar is strengthening vis-à-vis hedged currencies and will generate negative- to flat-value when the U.S. dollar is weakening. Periodic resetting of the program positions and/or their adjustment as part of risk management oversight contribute to an asymmetric payoff profile over time.

Combined Funds

Public Equity Program: Investment Manager Summaries

Global Equity Program Managers

Ariel Investments, LLC

Product Name:	Ariel Global Product	Benchmark:	MSCI ACWI Index (net)
Product Inception Date:	December 2011	Investment Style:	Global Equity
Firm Assets (6/30/23)*:	\$17.2 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.8 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	Approx. 60
Date Funded:	January 2021	Expected Ann. Turnover:	25-40%

Ariel's Global Product investment philosophy is biased toward owning undervalued, out-of-favor, franchise-quality companies. The investment process seeks to identify high-quality businesses with sustainably high returns relative to the risk of the business. The process also emphasizes consistency and incorporates risk management at every step in the process—regardless of the current market backdrop. Ariel's team seeks to understand both the upside and the downside of any potential investment and takes a contrarian approach that seeks to invest in companies that are out-of-favor.

**Assets under management as of June 30, 2023 include \$1.48 billion for Ariel Alternatives, a subsidiary of Ariel Investments, which reflects aggregate commitments and excludes fund specific leverage.*

Baillie Gifford Overseas Limited

Product Name:	Long-Term Global Growth	Benchmark:	MSCI ACWI Index (net)
Product Inception Date:	February 2004	Investment Style:	Growth
Firm Assets (6/30/23):	\$292.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$41.5 billion	Investment Process:	Bottom-up
Product Location:	Edinburgh, Scotland, UK	Expected # of Holdings:	30-60
Date Funded:	January 2021	Expected Ann. Turnover:	10-20%

Baillie Gifford's Long Term Global Growth (LTGG) strategy is purely stock-driven, investing in unconstrained global equity, with a focus on taking committed, long-term holdings in exceptional growth companies from around the world. Investing is driven by in-depth analyst research, team debate and a framework of questions designed to consistently identify the most attractive investment opportunities. They place emphasis on the use of alternative sources of information such as academia. Portfolio holding sizes are based purely on the magnitude of the potential upside and the associated level of conviction.

Martin Currie Inc.

Product Name:	Global Long-Term Unconstrained	Benchmark:	MSCI ACWI Index (net)
Product Inception Date:	June 2016	Investment Style:	Growth
Firm Assets (6/30/23):	\$21.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.0 billion	Investment Process:	Bottom-up
Product Location:	Edinburgh, Scotland, UK	Expected # of Holdings:	20-40
Date Funded:	January 2021	Expected Ann. Turnover:	< 25%

The Martin Currie Global Long-Term Unconstrained (GLTU) team aims to create a portfolio with exposure to sustainable quality growth stocks that can provide attractive, long-term risk adjusted alpha. The Martin Currie team believes that a combination of upside capture and limited negative exposure in downward markets will compound over time to generate a real rate of return for investors, as well as a relative rate of return in excess of the wider equity market. In order to deliver such expected outcomes, GLTU takes a long-term, unconstrained investment approach with a proprietary ESG risk assessment fully integrated into the process.

Combined Funds

Total Fixed Income Program

Total Fixed Income Program

The Combined Funds has a 25% target allocation to fixed income invested across four segments: core/core plus, return-seeking, Treasury protection, and laddered bond + cash. A description of each segment within the Total Fixed Income Program is described in the respective sections of this annual report.

Allocation

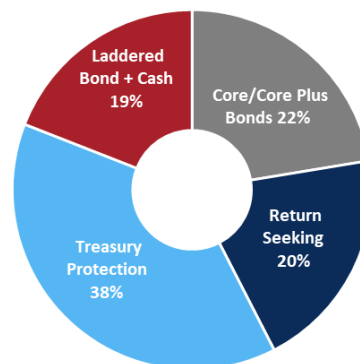
The asset allocation target and actual weights within the Total Fixed Income Program as of June 30, 2023, are below in Figure 28.

Figure 28. Total Fixed Income Policy Allocation and Asset Mix as of June 30, 2023

	Target Allocation	Actual	
		Asset Mix	Assets In Millions
Core/Core Plus*	40%	22%	\$4,659.6
Return Seeking*		20%	\$4,170.7
Treasury Protection	40%	38%	\$8,003.4
Laddered Bond + Cash	20%	19%	\$3,966.3
Total Fixed Income	100%	100%	\$20,800.0

*Combined has a target weight of 40%

Fixed Income Asset Mix of June 30, 2023



Benchmark

The benchmarks used to monitor the aggregate returns of each segment are listed below. The Total Fixed Income Program composite return consists of the respective segment benchmarks weighted by the target allocation to each segment.

Asset Class Segment	Benchmark
Core/Core Plus	Bloomberg U.S. Aggregate
Return Seeking	Bloomberg U.S. Aggregate
Treasury Protection	Bloomberg 5+Yr. Treasury
Laddered Bond + Cash	ICE BofA 3 Month T-Bill

Figure 29. Total Fixed Income Segments Performance as of June 30, 2023

	1 Year		3 Years		5 Years	
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %
Core/Core Plus Bonds	0.3	-0.9	-3.3	-4.0	1.3	0.8
Return Seeking	5.1	-0.9	NA	NA	NA	NA
Treasury Protection	-4.4	-4.3	-8.1	-8.2	0.0	0.0
Laddered Bond + Cash	3.8	3.6	1.2	1.3	1.5	1.6
Total Fixed Income	0.1	-1.3	-4.0	-4.6	1.7	1.3

Performance

Figure 29 provides the performance of the Total Fixed Income Program as of June 30, 2023. The return-seeking segment, funded in 2021, has only two years of performance history. The treasury protection managers were funded in 2018 and have just under five years of performance history.

Combined Funds

Total Fixed Income Program: Core/Core Plus Bonds

Core/Core Plus Bonds

The core/core plus bond segment of the Total Fixed Income portfolio invests across the broad fixed income market on behalf of the Combined Funds. This segment also invests certain assets of the Supplemental Investment Fund (SIF) portfolios, which allows the SIF to share many of the same managers with the Combined Funds. The sharing of managers is accomplished by grouping managers into a single unitized investment pool.

As of June 30, 2023, the core/core plus bond segment, totaled over \$4.7 billion, representing investments in the following funds:

- Combined Funds
\$4.5 billion
- Bond Fund (SIF)
\$100.7 million
- Balanced Fund (SIF)
(Bond allocation)
\$36.6 million
- Volunteer Firefighter Account
(SIF) (Bond allocation)
\$66.1 million

Objective

The objective of the core/core plus bond segment is to provide current income, to serve as a deflation hedge, and to provide diversification at the total fund level.

The SBI constrains the *risk* of the core/core plus bond managers' portfolios to help ensure the segment meets its objective. Specifically, the managers are constrained in terms of overall portfolio duration relative to the benchmark and the extent to

which they may invest in lower credit-quality securities.

The core/core plus managers successfully fulfilled their long-term risk objectives during fiscal year 2023. The managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of interest rate duration and overall portfolio credit quality.

Management Structure

The SBI uses active management for both the core and core plus mandates.

— Core Bond Strategy

At the end of the fiscal year 2023, approximately 40% of the total core/core plus segment was invested in the core bond strategy, which was managed by two external investment managers.

This segment invests in high-quality fixed-income securities across all sectors of the bond market.

Managers seek to add value primarily through issue selection and sector allocation rather than actively managing the portfolio's interest rate exposure. Portfolios are constrained to a +/- 20% range around the benchmark's duration. Managers have authority to invest a limited portion of their portfolios in bonds rated below investment grade in non-U.S. dollar denominated securities.

Each manager seeks to outperform the Bloomberg U.S. Aggregate Bond Index.

— Core Plus Bond Strategy

At the end of the fiscal year 2023, approximately 60% of the total core/core plus bond segment was invested in the core plus bond strategy, managed by three external managers.

This segment also invests primarily in high-quality fixed-income securities but managers are given additional flexibility to allocate a larger portion of their portfolios to below investment grade debt, including both dollar- and non-dollar-denominated debt. The managers use this additional authority on an opportunistic basis. The managers vary in the emphasis they place on active duration management and in the manner in which they approach security selection and sector weighting decisions. Each manager seeks to outperform the Bloomberg U.S. Aggregate Bond Index.

In keeping with the objective of utilizing the core/core plus bond segment as a deflation hedge, the core plus managers are constrained regarding the duration of their portfolios. This requirement is designed to prevent the dilution of the deflation hedge of the total segment from an excessively short-duration position. In addition, the duration constraint helps to avoid excess performance variability relative to the benchmark. The SBI constrains the duration range of the core plus portfolios to a band of plus

Combined Funds

Total Fixed Income Program: Core/Core Plus Bonds

or minus 20% of the duration of the index.

Investment Manager Summaries

A description of each core/core plus bond manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 58.

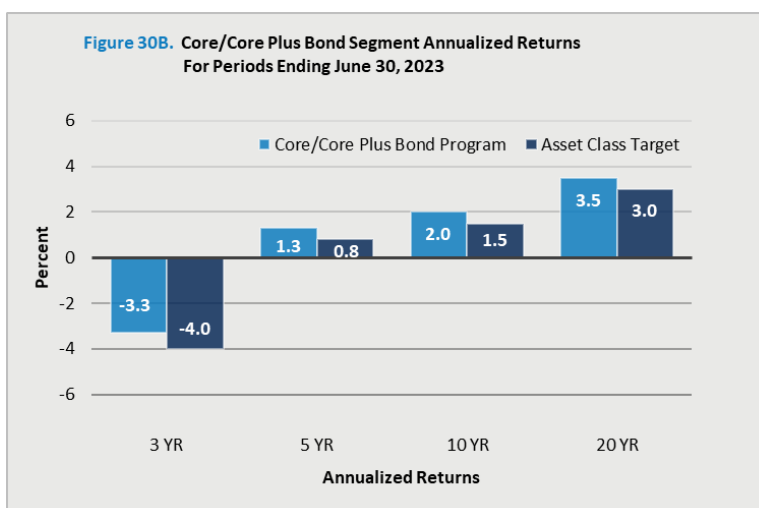
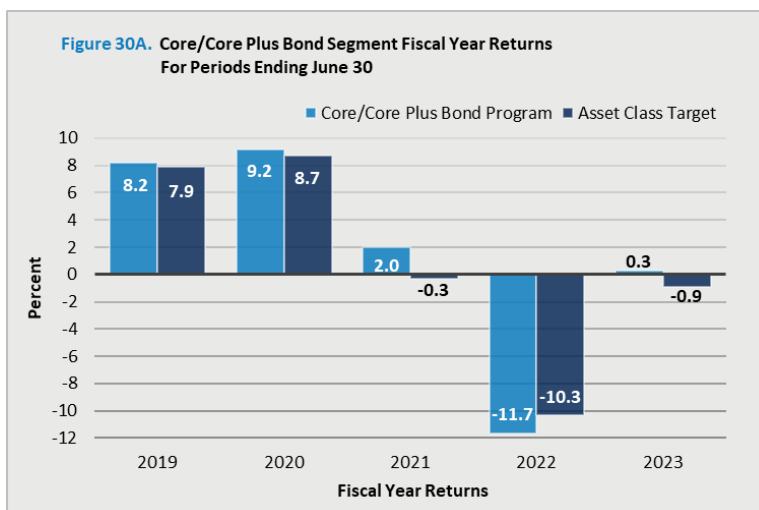
Investment Performance

The goal of the core/core plus segment is to outperform its asset class target, the Bloomberg U.S. Aggregate Bond Index. The individual performance of each manager is also measured against this benchmark. In aggregate, the core/core plus segment outperformed the Bloomberg U.S. Aggregate Bond Index by 1.2 percentage points for the 2023 fiscal year, and the segment outperformed the benchmark over the trailing three-, five-, 10- and 20-year periods.

During the most recent fiscal year, segment performance relative to the benchmark was helped by managers' shorter-than-benchmark duration positioning and an overweight to corporate bonds. All five managers outperformed the benchmark.

Figures 30A and 30B provide the historical performance results for the core/core plus segment. Individual results for each of the core and core plus managers are shown in Figure 31 on the following page.

The aggregate portfolio sector weights and portfolio characteristics for the core/core plus bond segment as of June 30, 2023, is provided on the following page in Figure 32 and Figure 33, respectively.



Combined Funds

Total Fixed Income Program: Core/Core Plus Bonds

Figure 31. Core/Core Plus Bond Segment Manager Performance for Periods Ending June 30, 2023

Manager Strategy (Benchmark)	1 Year		Annualized Returns				Market Value ¹ (In Millions)
	Actual %	Bmk %	3 Years		5 Years		
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	
Core Bond (Bloomberg U.S. Aggregate)							
Dodge & Cox	1.7	-0.9	-1.9	-4.0	1.9	0.8	\$1,026.0
BlackRock Financial Management	-0.3	-0.9	-3.7	-4.0	1.1	0.8	892.5
Core Plus Bond (Bloomberg U.S. Aggregate)							
Goldman Sachs Asset Management	-0.3	-0.9	-3.7	-4.0	1.1	0.8	896.2
Neuberger Investment Management	0.0	-0.9	-3.3	-4.0	1.4	0.8	876.9
Western Asset Management	-0.1	-0.9	-4.2	-4.0	1.0	0.8	968.0
Total Core/Core Plus Bond Segment ²	0.3	-0.9	-3.3	-4.0	1.3	0.8	\$4,659.5

¹ Market value includes assets of SIF Funds.

² Returns are net of investment management fees and includes terminated manager performance. In Oct. 2020, Core Bond allocation was re-structured from active and semi-passive portfolios to Core and Core Plus portfolios. Benchmark has been the Bloomberg U.S. Aggregate Bond Index since July 1994.

Figure 32. Core/Core Plus Bond Segment Sector Weights as of June 30, 2023

Market Strategy	Core Managers %	Core Plus Managers %	Aggregate Core/Core Plus Program %	Bloomberg U.S. Aggregate Bond Bmk %
Treasury	19.5	12.1	14.7	41.6
Government-Related	2.7	4.7	3.0	1.3
Corporate	31.3	37.9	34.3	24.8
U.S. Mortgage	32.0	34.0	33.6	26.9
Commercial Mortgage	1.8	4.4	3.3	1.7
Asset Backed	10.7	9.2	9.8	0.5
Municipal	1.3	0.3	0.7	3.2
Other	0.7	0.5	0.6	0.0

Note: May not equal 100% due to rounding.

Source: Factset

Figure 33. Core/Core Plus Bond Segment Portfolio Characteristics for Period Ending June 30, 2023

Portfolio Characteristics	Core Managers	Core Plus Managers	Aggregate Core/Core Plus Program	Bloomberg U.S. Agg. Bmk
Average Quality	A1	A2	A1	A2
Average Yield to Maturity (%)	5.5%	5.6%	5.6%	3.7%
Effective Duration ¹ (yrs)	5.8	6.6	6.3	6.3
Weighted Average Life ² (yrs)	9.0	10.5	9.9	8.6

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.

Source: Factset

Combined Funds

Total Fixed Income Program: Return Seeking Fixed Income

Return Seeking Fixed Income

The return-seeking fixed income segment was funded in December 2020 and is used exclusively for the Combined Funds.

As of June 30, 2023, the return-seeking fixed income segment had a market value of \$4.2 billion.

Objective

The objective of the return seeking fixed income segment is to generate incremental total return and provide interest rate risk mitigation through an emphasis on diversified credit exposure.

The return-seeking fixed income segment includes dedicated single-sector mandates (securitized credit, emerging markets debt, high-yield corporate bonds) and blended mandates that are designed to allow managers to allocate investments across a range of sectors (credit plus, multi-asset credit, and multi-sector opportunistic).

During fiscal year 2023, the managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification.

Management Structure

Nine investment managers actively manage the return seeking fixed-income segment with portfolios that range in size from \$291 million to over \$871 million.

Investment Manager Summaries

A description of each manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 60.

Investment Performance

The goal of the return-seeking fixed-income segment overall is to outperform its asset class target, the U.S. Bloomberg U.S. Aggregate Index. Each manager is assigned a specific benchmark and performance objective consistent with the manager's stated investment approach and/or sector emphasis.

Manager benchmarks are identified in Figure 34, along with returns and market value information as of June 30, 2023. Note: since the program was funded in December 2020, multi-year performance is not yet available.

The aggregate portfolio sector weights and portfolio characteristics as of June 30, 2023, are provided on the following page in Figure 35 and Figure 36, respectively.

Figure 34. Return Seeking Fixed Income Segment Manager Performance as of June 30, 2023					
Manager Strategy	Benchmark	1 Year		Market Value (In Millions)	
		Actual ¹ %	Bmk %		
Credit Plus					
Columbia	Credit Plus Benchmark ²	2.3	2.6	\$871.3	
PIMCO	Credit Plus Benchmark ²	2.8	2.6	824.6	
Multi-Asset Credit					
Payden & Rygel	Multi Asset Credit ³	9.0	8.7	\$291.8	
PGIM Fixed Income	Multi Asset Credit ³	9.0	8.7	337.2	
High Yield					
KKR	High Yield Credit ⁴	10.0	8.9	\$308.9	
Oaktree	High Yield Credit ⁴	8.9	8.9	305.2	
Opportunistic and Other					
Ashmore (EM Market Debt)	Emerging Market Blended Debt Total Return ⁵	7.2	9.4	\$291.4	
BlackRock (Opportunistic)	ICE BofA US 3 Month T Bill	3.7	3.6	539.3	
TCW (Securitized Credit)	ICE BofA US 3 Month T Bill	1.6	3.6	399.0	
Total Return Seeking Segment⁶	Bloomberg U.S. Aggregate	5.1	-0.9	\$4,170.7	

¹ Return Seeking managers were funded in either December of 2020 or January of 2021.

² Credit Plus Benchmark represents: 40% Bloomberg U.S. Corporate Index, 30% Bloomberg U.S. Mortgage-Backed Securities Index, 20% BofA ML High Yield BB-B Cash Pay, and 10% JPM EMBI Global Diversified Index.

³ Multi Asset Credit Benchmark represents: 1/3 BofA ML High Yield BB-B Cash Pay, 1/3 Credit Suisse Leverage Loan Index, and 1/3 JPMorgan EMBI Global Diversified Index.

⁴ High Yield Credit Benchmark is the ICE BofA High Yield Cash Pay Constrained.

⁵ Emerging Market Blended Debt Benchmark represents 50% JPMorgan EMBI Global Diversified Index and 50% JP Morgan GBI-EM Global Diversified Index.

⁶ Total amount includes a liquidating portfolio of \$1,916,745 in Russian Belarusian securities.

Combined Funds

Total Fixed Income Program: Return Seeking Fixed Income

Figure 35. Return Seeking Segment Sector Weights as of June 30, 2023

Market Strategy	Credit Plus Managers %	Multi Asset Credit Managers %	High Yield Credit Managers %	Opportunistic/ Other Managers %	Return Seeking Fixed Income Aggregate %	Bloomberg U.S. Aggregate Bond Bmk %
ABS	6.5	3.3	-	5.2	5.9	0.5
Agency MBS	25.1	1.0	-	4.4	11.7	26.9
Bank Loan	0.7	20.7	4.9	-	4.2	-
CMBS	4.5	1.3	-	4.8	3.6	1.7
Corporate	48.3	31.7	91.8	20.4	45.7	24.8
Municipal	1.3	-	-	0.1	0.5	3.2
Non US Govt (EMD)	5.9	26.0	-	31.8	13.4	1.2
Non Agency MBS	4.8	-	-	23.9	8.0	-
US Govt/Cash	2.1	13.9	2.5	8.1	5.9	41.6
Other	0.8	2.1	0.7	1.3	1.1	-
Note: May not equal 100% due to rounding.						
Sector categorizations are customized for indicative purposes and may not exactly conform to the sector rules of the Bloomberg Fixed Income Indices.						
Source: Factset						

Figure 36. Return Seeking Fixed Income Segment Portfolio Characteristics for Period Ending June 30, 2023

Market Sector	Credit Plus Managers	Multi-Asset Credit Managers	High Yield Credit Managers	Opportunistic /Other Managers	Return Seeking Fixed Income Aggregate	Bloomberg U.S. Aggregate Bond Bmk
Average Quality	Baa3	Ba3	B2	Baa1	Baa3	Aa2
Average Yield to Maturity (%)	6.3%	8.5%	8.3%	5.6%	7.2%	4.5%
Effective Duration ¹ (yrs)	6.5	3.5	3.3	3.4	4.8	6.3
Weighted Average Life ² (yrs)	10.7	6.8	4.8	5.9	7.6	8.6
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.						
Source: Factset						

Combined Funds

Total Fixed Income Program: Treasury Protection

Treasury Protection

The Treasury protection segment was funded in 2018 and is used exclusively by the Combined Funds.

As of June 30, 2023, the Treasury protection segment had a market value of \$8.0 billion.

Objectives

The primary objective of the Treasury protection segment is to provide downside protection during periods of significant equity drawdowns, to protect the portfolio against deflation risk, and to act as a hedge to the credit risk inherent in other segments of the Total Fixed Income Program.

The SBI constrains the amount of active risk that managers within the Treasury protection segment may take to ensure that the segment consistently fulfills its roles of diversification and downside protection against equity market shocks.

Management Structure

The managers must remain within +/- 0.5 years of the overall benchmark duration (currently 10.8 years). Managers may hold out-of-benchmark Treasury securities with maturities of less than five years. Managers may also invest in U.S. Agencies, dollar-denominated supranational debt, and Treasury Inflation-Protected Securities (TIPS) on a limited basis as they seek to outperform the benchmark.

Investment Manager Summaries

A description of each treasury manager's investment approach is included in the **Investment Manager Summaries** section on page 64.

Investment Performance

The Treasury protection segment is benchmarked to the Bloomberg Treasury 5+ Years Index.

Each manager has been given a modest risk budget and the objective to modestly outperform the Bloomberg Treasury 5+ Years Index total return over time. Individual manager performance for fiscal year 2023 and longer time periods is shown in Figure 37.

During the fiscal year, the Treasury protection segment returned -4.4%, slightly below the benchmark return of -4.3% for the same period. Over the trailing three-year and five-year periods, the segment's performance has matched or slightly exceeded the benchmark.

Portfolio characteristics for the Treasury protection segment as of June 30, 2023, are shown in Figure 38.

Figure 37. Treasury Protection Segment Manager Performance as of June 30, 2023

Manager Strategy (Benchmark)	1 Year		Annualized Returns				Market
	Actual %	Bmk %	3 Years		5 Years		Value
			Actual %	Bmk %	Actual %	Bmk %	(In Millions)
Treasury Protection (Bloomberg 5+ Year U.S. Treasury Index)							
BlackRock Financial Mgmt.	-4.3	-4.3	-8.3	-8.2	-0.1	0.0	\$2,788.9
Goldman Sachs Asset Mgmt.	-4.2	-4.3	-8.1	-8.2	0.0	0.0	2,551.1
Neuberger Investment Mgmt.	-4.7	-4.3	-8.0	-8.2	0.0	0.0	2,663.5
Total Treasury Protection	-4.4	-4.3	-8.1	-8.2	0.0	0.0	\$8,003.4

Figure 38. Treasury Protection Segment Characteristics as of June 30, 2023

	Total Portfolio	Benchmark ¹
Effective Duration (yrs)	11.0	10.8
Convexity	1.8	1.8
Coupon Rate (%)	2.7	2.6
Yield to Maturity (%)	4.3	3.9
Option Adjusted Spread (bps)	5.0	2.0
¹ The Treasury benchmark is the Bloomberg 5+ Year U.S. Treasury Index.		
Source: Factset		

Combined Funds

Total Fixed Income Program: Laddered Bond + Cash

Laddered Bond + Cash

The laddered bond + cash segment is used exclusively for the Combined Funds. The laddered bond strategy was added in 2020.

As of June 30, 2023, the total market value of the laddered bond + cash segment was \$4.0 billion.

Objective

The laddered bond + cash segment is used to meet the liquidity requirements of the Combined Funds, including monthly pension payments for the retirement systems and capital calls from the Funds' private markets program. The cash strategy also invests the unspent cash of the Combined Fund's public equity and fixed income managers. A portion of the laddered bond + cash portfolio is invested in the State's Certificate of Deposit (CD) program, described on page 57.

The SBI measures the performance of the laddered bond and cash strategies against specific benchmarks, based upon the guidelines for each strategy. The cash strategy is measured against the iMoneyNet All Taxable Money Fund Average, and the laddered bond strategy is measured against the ICE BofA 3-month T-Bill benchmark. Overall, the aggregate pool is measured against the ICE BofA 3-month T-Bill benchmark for reporting purposes.

Management Structure

The laddered bond + cash segment is an *actively* managed program.

— The *laddered bond* strategy is managed by Neuberger Berman and Goldman Sachs. The SBI provides the managers with specific maturity targets. Each manager then invests the funds in high-quality fixed-income securities in a laddered maturity style such that the portfolio's maturities are sufficient to meet the provided maturity targets. At least 50% of the portfolio is required to be invested in U.S. Treasury and Agency securities. A Nationally Recognized Statistical Rating Organization must rate all other securities at least "A" or higher. Finally, the

managers must keep the duration of their portfolios within +/- 0.25 years of the prevailing maturity schedule.

— The *cash strategy* is managed by State Street Global Advisors. This portfolio is invested in high-quality, liquid, short-term investments, similar to a money market fund. Allowable investments include U.S. Treasury and Agency issues, repurchase agreements, commercial paper, and certificates of deposit. The manager must keep the weighted average maturity of the portfolio at or below 60 days.

Figure 39A. Laddered Bond + Cash Segment
Performance for Periods Ending June 30

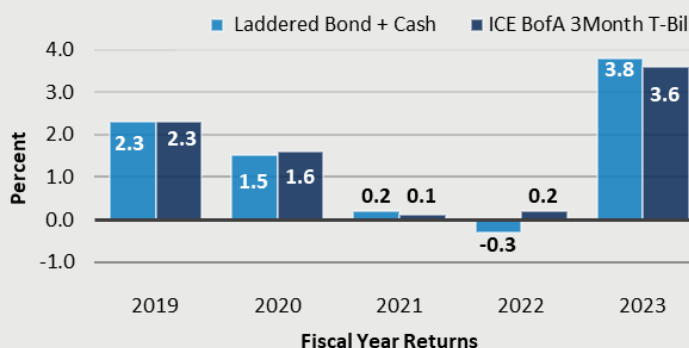
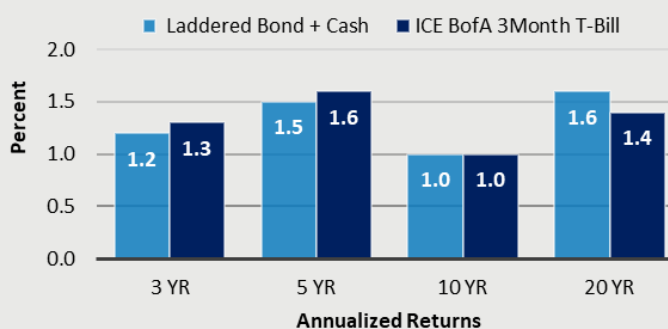


Figure 39B. Laddered Bond + Cash Segment
Performance for Periods Ending June 30, 2023



Combined Funds

Total Fixed Income Program: Laddered Bond + Cash

Investment Manager Summaries

A description of each manager's investment approach is included in the **Investment Manager Summaries** section on page 65.

Investment Performance

Historical returns provided in Figures 39A and 39B represent the return of the aggregate portfolio.

Individual manager performance and portfolio market values are provided in Figure 40.

For the 2023 fiscal year, the laddered bond + cash segment modestly outperformed the ICE BofA 3-month T-Bill benchmark.

Combined Funds Cash Related Programs

Certificate of Deposit Program

The SBI internally manages a Certificate of Deposit (CD) program that 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 SBI manages the program so that no single institution is favored in the allocation of assets. The CDs issued by the CD program are held exclusively in a segregated account within the Combined Funds cash pool.

As of June 30, 2023, the amount on deposit with the financial institutions via the CD program totaled \$62.5 million.

During fiscal year 2023, the SBI purchased a total of \$153.6 million of CDs from Minnesota financial institutions.

Figure 40. Laddered Bond + Cash Managers Performance as of June 30, 2023

Manager Strategy (Benchmark)	1 Year		Annualized Return 3 Years		Market Value (In Millions)
	Actual %	Bmk %	Actual %	Bmk %	
Laddered Bond (ICE BofA 3 Month T-Bill)					
Neuberger Berman	3.6	3.6	-	-	\$779.4
Goldman Sachs Asset Mgmt.	3.7	3.6	-	-	780.9
Cash (iMoneyNet All Taxable Money Fund Average)					
State Street Global Advisors	4.0	3.5	1.4	1.2	2,342.7
CD Repo					
SBI Internal Portfolio	3.7	3.6	1.4	1.3	63.1
Total Laddered Bond + Cash ¹	3.8	3.6	1.2	1.3	\$3,966.0

¹ Benchmark is the ICE BofA 3 Month T-Bill

¹ Benchmark is the ICE BofA 3 Month T-Bill

Securities Lending

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 securities 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. During fiscal year 2023, State Street generated additional income for the retirement systems of approximately \$13.0 million.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Core/Core Plus Bond Managers

BlackRock Financial Management, Inc.

Product Name:	U.S. Core Fixed Income	Benchmark:	Bloomberg U.S. Aggregate
Product Inception Date:	March 1996	Investment Style:	Active Core Bond
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$11.0 billion	Investment Process:	Top-down/Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	600-1200
Date Funded:	April 1996	Expected Ann. Turnover:	50-300%

BlackRock employs a team approach where a top-down multi-sector asset allocation framework is combined with sector specialists and traders with responsibility for relative value sub-sector rotation and security selection. The team seeks to add value through managing portfolio duration 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.

Dodge & Cox

Product Name:	Core Fixed Income	Benchmark:	Bloomberg U.S. Aggregate
Product Inception Date:	January 1978	Investment Style:	Active Core Bond
Firm Assets (6/30/23):	\$342.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$91.1 billion	Investment Process:	Bottom-up
Product Location:	San Francisco, CA	Expected # of Holdings:	150-250
Date Funded:	February 2000	Expected Ann. Turnover:	20-40%

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. Dodge & Cox's strategy tends to emphasize corporate credit and often maintains a relatively concentrated issuer profile within that sector.

Goldman Sachs Asset Management

Product Name:	U.S. Core Plus Fixed Income.	Benchmark:	Bloomberg U.S. Aggregate
Product Inception Date:	September 1990	Investment Style:	Active Core Plus Bond
Firm Assets (6/30/23):	\$2.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$89.4 billion	Investment Process:	Top-down/Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	250-350
Date Funded:	July 1993	Expected Ann. Turnover:	75-150%

Goldman Sachs Asset Management manages portfolios actively, combining fundamental economic analysis together with quantitative analysis and short-term market dynamics to determine portfolio positioning. GSAM's top-down strategy teams generate macro decisions on duration and broad sector allocation, while their bottom-up strategy teams drive sub-sector allocations and individual security selection. Portfolios are diversified among various sectors and individual securities, while the assigned portfolio manager ensures the team's best ideas are reflected in client portfolios, subject to unique objectives and constraints.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Core/Core Plus Bond Managers

Neuberger Berman Investment Advisers LLC

Product Name:	Core Plus	Benchmark:	Bloomberg U.S. Aggregate
Product Inception Date:	October 1998	Investment Style:	Active Core Plus Bond
Firm Assets (6/30/23):	\$443.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$2.3 billion	Investment Process:	Top-down/Bottom-up
Product Location:	Chicago, IL	Expected # of Holdings:	500-1000
Date Funded:	July 1988*	Expected Ann. Turnover:	75-200%

* Date reflects SBI's initial funding of semi-passive strategy.

Neuberger Berman's Core Plus team builds fixed income portfolios with an emphasis on broad diversification by sector, industry and security. Key sources of expected alpha are sector allocation/rotation and security selection, followed by a disciplined use of active duration/yield curve positioning. Sector allocation/rotation, duration/yield curve exposures and portfolio risk levels are determined using a proprietary asset allocation framework which seeks to identify relative value and risk across fixed income subsectors. Once sector allocations have been determined, security selection decisions are made by the portfolio managers, research analysts and traders on sector-specialty teams within these defined sector exposure constraints.

Western Asset Management Company, LLC

Product Name:	U.S. Core Plus	Benchmark:	Bloomberg U.S. Aggregate
Product Inception Date:	January 1982	Investment Style:	Active Core Plus Bond
Firm Assets (6/30/23):	\$388.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$79.1 billion	Investment Process:	Bottom up
Product Location:	Pasadena, CA	Expected # of Holdings:	1000-1800
Date Funded:	July 1984	Expected Ann. Turnover:	50-100%

Western believes that markets often misprice securities relative to their true fundamental fair value, and that a disciplined investment process can systematically identify and exploit security mispricing's over time. Western Asset's approach seeks diversified sources of returns to maximize consistency across different market environments so that no single strategy dominates performance. The team's investment process starts with a top-down macroeconomic and market investment outlook over a six- to nine- month horizon, formulated by the team's senior professionals. Portfolio managers incorporate this outlook into their strategy within the constraints and guidelines of each individual portfolio. Fundamental research is conducted by a large, highly experienced team of research professionals organized by sector specialization. Portfolio managers work closely with the sector specialist teams to ensure the firm's best ideas are fully implemented in client portfolios.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Return Seeking Fixed Income Managers – Credit Plus Mandates

Columbia Threadneedle Investments

Product Name:	Multi-Sector Fixed Income	Benchmark:	Custom Credit Plus Benchmark*
Product Inception Date:	November 2020	Investment Style:	Active Multi-Sector Bond
Firm Assets (6/30/23):	\$618.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$870.9 million	Investment Process:	Bottom up
Product Location:	Minneapolis, MN	Expected # of Holdings:	500-1250
Date Funded:	December 2020	Expected Ann. Turnover:	25-35%

* Benchmark is 40% BB US Corp Bond Index, 30% BB US MBS Index, 20% ICE BofA BB High Yield Index, 10% JPMorgan EMBI Global Div Index

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. The team emphasizes security selection and sector allocation as the primary drivers of relative return, while active duration and yield curve positioning are utilized sparingly. The fixed income team is divided into sector specialists which 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.

Pacific Investment Management Company LLC (PIMCO)

Product Name:	Diversified Income	Benchmark:	Custom Credit Plus Benchmark*
Product Inception Date:	July 2003	Investment Style:	Active Multi-Sector Bond
Firm Assets (6/30/23):	\$1.8 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$22.5 billion	Investment Process:	Bottom up
Product Location:	Newport Beach, CA	Expected # of Holdings:	850-1000
Date Funded:	December 2020	Expected Ann. Turnover:	N/A

* Benchmark is 40% BB US Corp Bond Index, 30% BB US MBS Index, 20% ICE BofA BB High Yield Index, 10% JPMorgan EMBI Global Div Index

PIMCO's Diversified Income strategy is a global multi-sector strategy that seeks to outperform the benchmark by capturing best ideas across corporate credit, emerging markets and structured credit. The strategy seeks to add value from tactical allocation among global credit sectors and combining bottom-up fundamental research and top-down macroeconomic analysis. Sector allocations, as well as duration and yield curve positioning, are guided by PIMCO's global macro outlook. Sector specialist teams focus on sub-sector and security level fundamental research and manage portfolio implementation at the direction of the strategy portfolio managers. The approach targets consistent excess returns by focusing on diversified sources of value add rather than relying on concentrated risks.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Return Seeking Fixed Income Managers – Multi-Asset Credit Mandates

Payden & Rygel

Product Name:	Payden Multi Asset Credit (PMAC) Strategy	Benchmark:	Custom Multi-Asset Credit Benchmark*
Product Inception Date:	October 2008	Investment Style:	Active Multi-Sector Bond
Firm Assets (6/30/23):	\$144.4 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$10.1 billion	Investment Process:	Top-Down/Bottom-up
Product Location:	Los Angeles, CA	Expected # of Holdings:	600-800
Date Funded:	December 2020	Expected Ann. Turnover:	60-80%

* Benchmark is 1/3 ICE BofA High Yield Index, 1/3 Credit Suisse Leveraged Loan Index, 1/3 JPMorgan EMBI Global Index.

Payden & Rygel's PMAC portfolios are managed with an emphasis on active management, risk control, downside protection, and ESG considerations. The top-down process resides with the firm's Investment Policy Committee (IPC) which reviews the global macro environment, forming broad-based views on growth, inflation and other key factors. Bottom-up security selection within PMAC is driven by ideas from the firms' research team of strategists, credit analysts and sector analysts shared across all strategies. The sector specialist teams continually identify the firm's best ideas from a broad multi-sector opportunity set and support the construction of a "core income stream" portfolio, while the strategy's portfolio managers oversee portfolio implementation.

PGIM Fixed Income

Product Name:	Strategic Credit	Benchmark:	Custom Multi-Asset Credit Benchmark*
Product Inception Date:	June 2019	Investment Style:	Active Multi-Sector Bond
Firm Assets (6/30/23):	\$775.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$1.135 billion	Investment Process:	Bottom up
Product Location:	Newark, NJ	Expected # of Holdings:	200-600
Date Funded:	December 2020	Expected Ann. Turnover:	50-100%

* Benchmark is 1/3 ICE BofA High Yield Index, 1/3 Credit Suisse Leveraged Loan Index, 1/3 JPMorgan EMBI Global Index.

PGIM Fixed Income manages multi-sector portfolios based on the philosophy that diversified portfolios, built through the integration of macroeconomic research, credit research, quantitative research, and risk management can achieve consistent excess returns for clients with a high information ratio or Sharpe ratio. Risk budgeting is central to the firm's investment approach. The Strategic Credit Strategy seeks to generate alpha from multiple sources through active allocation across spread sectors, with an intense focus on industry and issuer credit research. The team uses a collaborative bottom-up, research-driven security selection process where managers and analysts make joint decisions. Allocations are made within risk thresholds established by a 'risk budget' created specifically for each portfolio.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Return Seeking Fixed Income Managers – High Yield Mandates

KKR

Product Name:	High Yield Credit Strategy	Benchmark:	ICE BofA Cash Pay High Yield Constrained Index
Product Inception Date:	April 2011	Investment Style:	Active High Yield Bond
Firm Assets (6/30/23):	\$518.5billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.1 billion	Investment Process:	Bottom up
Product Location:	New York, NY	Expected # of Holdings:	264
Date Funded:	December 2020	Expected Ann. Turnover:	40-80%

The KKR High Yield Strategy focuses on income-generating high yield bonds and places a significant focus on principal protection. The strategy utilizes KKR's extensive credit research team to vet credits for creditworthiness and to identify the best risk-adjusted investments. The team builds portfolios from the bottom-up and relies heavily on security selection to generate alpha. KKR's process also utilizes their deep experience in private credit and private equity underwriting to supplement the experienced public high yield investment team.

Oaktree

Product Name:	U.S. High Yield Bond	Benchmark:	ICE BofA Cash Pay High Yield Constrained Index
Product Inception Date:	January 1986	Investment Style:	Active High Yield Bond
Firm Assets (6/30/23):	\$179.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$13.0 billion	Investment Process:	Bottom up
Product Location:	Los Angeles, CA	Expected # of Holdings:	190-220
Date Funded:	December 2020	Expected Ann. Turnover:	40-50%

Oaktree believes that the foundations of successful high yield bond investing are the conscious bearing of credit risk for profit and acting as a prudent lender rather than a securities trader. Oaktree believes that strong long-term performance can only be achieved through superior knowledge of companies. Oaktree's team of experienced credit analysts conduct extensive fundamental credit analysis to determine an issuer's credit worthiness and assess relative value. Analyst opinions are summarized and communicated using a proprietary Credit Scoring Matrix. Portfolio managers and analysts work together to construct well-diversified portfolios of quality high yield names that offer the best combination of downside protection and income potential.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Return Seeking Fixed Income Managers – Other Mandates

Ashmore Investment Management Ltd. (Emerging Markets Debt)

Product Name:	EM Blended Debt Total Return	Benchmark:	Custom EM Blended Debt Benchmark*
Product Inception Date:	June 2003	Investment Style:	Active Emerging Markets Bond
Firm Assets (6/30/23):	\$55.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.1 billion	Investment Process:	Top Down
Product Location:	London, England, UK	Expected # of Holdings:	300-500
Date Funded:	December 2020	Expected Ann. Turnover:	35-60%

* Benchmark is 50% JPMorgan EMBI Global, 50% JPMorgan GBI-EM Index

Ashmore's Blended Debt strategy was launched in 2007 based on the firm's experience that no one theme consistently outperforms year after year, and that tactical rotation between U.S. dollar-denominated external government debt, hard currency corporate debt and local currency sovereign debt offers the widest opportunity to add value for client portfolios. The team uses a combination of top-down macro insight and bottom-up country and security level research conducted by the firm's extensive research teams to construct portfolios. Over time, the team seeks to diversify sources of value across macro/theme allocation (40%), country/credit selection (40%) and currency allocation (20%).

BlackRock Financial Management, Inc. (Opportunistic)

Product Name:	Multi-Sector Opportunistic Fixed Income	Benchmark:	ICE BofA 3Mth T-Bill Index
Product Inception Date:	November 2020	Investment Style:	Active Opportunistic Bond
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.3 billion	Investment Process:	Top-Down/Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	600-1500
Date Funded:	December 2020	Expected Ann. Turnover:	50-300%

BlackRock's multi-sector opportunistic fixed income strategy is managed by the firm's Multi-Sector Portfolio Investment Team and led by Blackrock's CIO of Global Fixed Income. The strategy seeks alpha by strategically allocating between three alpha sources: (1) macro strategies, (2) sector allocation and (3) security selection. The Team's investment process is systematic, disciplined, research-driven and rooted in the firm's culture of teamwork and information sharing. Within the process, the multi-sector team is responsible for setting the top-down asset allocation framework for portfolio construction, and the sector specialists and traders are responsible for bottom-up idea generation (including research, analysis, and security selection) and trade execution.

TCW (Securitized Credit)

Product Name:	TCW Securitized Opportunities	Benchmark:	ICE BofA 3Mth T-Bill Index
Product Inception Date:	December 1991	Investment Style:	Active Securitized Credit Bond
Firm Assets (6/30/23):	\$210 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$4.6 billion	Investment Process:	Bottom-up
Product Location:	Los Angeles, CA	Expected # of Holdings:	600-800
Date Funded:	June 2021	Expected Ann. Turnover:	10-50%

The TCW Securitized Opportunities strategy is an opportunistic, total return fixed income strategy that invests in across agency and non-agency mortgage backed securities, commercial mortgage backed securities and asset-backed securities. The strategy is managed without a prescribed duration or credit limitation and may vary significantly over time. The strategy focuses on bottom-up security selection across the securitization market. TCW applies a disciplined fundamental-based research effort to distinguish opportunities among security types in order to achieve its total return target over a full credit cycle.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Treasury Protection Managers

BlackRock Financial Management, Inc.

Product Name:	Long Duration Treasury	Benchmark:	Bloomberg Treasury 5+ Year Index
Product Inception Date:	January 2018	Investment Style:	Active Fundamental Fixed Income
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$3.8 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	50-200
Date Funded:	February 2018	Expected Ann. Turnover:	50-300%

BlackRock manages a fixed income protection portfolio that closely tracks the Bloomberg Treasury 5+ Year Index. BlackRock employs a risk-controlled approach that keeps active duration and yield curve positions within tight limits, while using modest sector rotation and security selection positioning to add incremental value within the constraints of the mandate.

Goldman Sachs Asset Management

Product Name:	U.S. Government Fixed Income	Benchmark:	Bloomberg Treasury 5+ Year Index
Product Inception Date:	February 1993	Investment Style:	Active Fundamental Fixed Income
Firm Assets (6/30/23):	\$2.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$6.0 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	40-60
Date Funded:	January 2018	Expected Ann. Turnover:	50-75%

Goldman manages a fixed income protection portfolio that closely tracks the Bloomberg 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. Tactical trades between U.S. Treasuries, agencies, supranationals and TIPS may be implemented to take advantage of short-term relative value opportunities.

Neuberger Berman Investment Advisers LLC

Product Name:	Protection Portfolio	Benchmark:	Bloomberg Treasury 5+ Year Index
Product Inception Date:	January 2018	Investment Style:	Active Fundamental Fixed Income
Firm Assets (6/30/23):	\$443.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$6.5 billion	Investment Process:	Bottom-up
Product Location:	Chicago, IL	Expected # of Holdings:	50-125
Date Funded:	January 2018	Expected Ann. Turnover:	50-175%

Neuberger manages a fixed income protection portfolio that seeks to replicate the interest rate risk characteristics of the Bloomberg Treasury 5+ Year Index. Neuberger's Global Rates Team oversees strategy implementation, determining the appropriate active duration and yield curve positioning based on their outlook for the economy and their evaluation the expectations for growth, inflation and Fed policy reflected in prevailing interest rates. The team utilizes out-of-benchmark positions in U.S. agencies and TIPS on a tactical basis when such securities offer value relative to nominal U.S. Treasuries.

Combined Funds

Total Fixed Income Program: Investment Manager Summaries

Fixed Income Program Managers

Laddered Bond Managers

Goldman Sachs Asset Management

Product Name:	U.S. Short Duration Fixed Income	Benchmark:	ICE BofA 3Mth T-Bill Index
Product Inception Date:	September 1988	Investment Style:	Active Short Duration Bond
Firm Assets (6/30/23):	\$2.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$82.6 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	55-125
Date Funded:	October 2020	Expected Ann. Turnover:	Approx. 60%

Goldman Sachs manages a short duration fixed income ladder portfolio intended to preserve the value and safety of principal and provide liquidity consistent with the maturity profile of the custom liability benchmark provided by the SBI. The firm relies primarily on security selection strategies in rates sensitive asset classes tied to the liability benchmark such as Treasuries and U.S. Agencies, though Goldman also attempts to add incremental yield in credit and municipal bonds, when the technical and fundamental backdrop for these asset classes is constructive.

Neuberger Berman Investment Advisers LLC

Product Name:	Short Duration/Enhanced Cash	Benchmark:	ICE BofA 3Mth T-Bill Index
Product Inception Date:	November 2004	Investment Style:	Active Short Duration Bond
Firm Assets (6/30/23):	\$443.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$4.2 billion	Investment Process:	Bottom-up
Product Location:	Chicago, IL	Expected # of Holdings:	60-80
Date Funded:	October 2020	Expected Ann. Turnover:	30-125%

Neuberger manages a fixed income short duration treasury ladder portfolio that seeks to preserve the value and safety of principal and provide liquidity consistent with the maturity profile of the custom liability benchmark provide by SBI. While emphasizing these objectives, Neuberger seeks to maximize the rate of return on investment with the goal of outperforming the benchmark on a net of fees basis.

Cash Manager

State Street Global Advisors (SSGA)

Product Name:	Short Term Investment Strategy	Benchmark:	iMoneyNet All Taxable Money Fund Average
Product Inception Date:	May 1978	Investment Style:	Cash Management
Firm Assets (6/30/23):	\$3.8 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$148.6 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	50-125
Date Funded:	August 1990	Expected Ann. Turnover:	N/A

SSGA manages the cash portfolio to provide safety of principal, a high level of liquidity and a competitive yield. The Cash 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, banker's acceptances, commercial paper, short-term corporates, and certificates of deposit.

Combined Funds

Private Markets Program

Private Markets Program

The Combined Funds has a 25% target allocation to private market investments across private equity, private credit, real assets, and real estate funds. A description of each segment of the Private Markets Program is described in the respective sections of this annual report.

Allocation

As of June 30, 2023, asset mix and market values for asset class segments within the Private Markets Program are shown in Figure 41.

The Private Markets Program includes an invested allocation consisting of capital invested in underlying investment funds and an uninvested allocation. When the Private Markets Program is below its target allocation, the uninvested portion of the Private Markets Program represents the amount by which the actual market value of the Private Markets Segment lags the target allocation. If the Private Markets Program is not at its target allocation, by default, the uninvested amount is invested in a combination of the passively managed S&P 500 Index strategy and a cash overlay strategy.

When the program is at or above target, cash may be held in the uninvested allocation for processing of calls and distributions.

Performance

Figure 42 provides the performance of the Private Markets segments as of June 30, 2023.

Fiscal Year 2023 Changes

The Private Markets invested allocation remained at or above the target policy allocation during the fiscal year. Consequently, the uninvested portion of the private markets allocation was reallocated from public domestic equities to cash in November of 2022.

Private Markets Asset Mix as of June 30, 2023

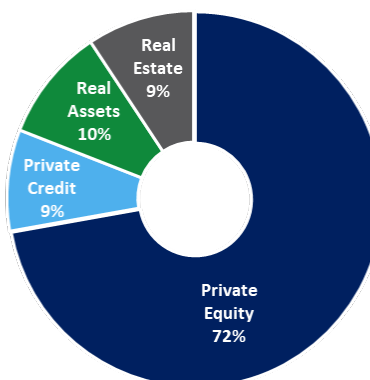


Figure 41. Private Markets Program as of June 30, 2023

Segments	Asset Mix	Market Value In Millions
Private Equity	72%	\$15,586.0
Private Credit	9%	1,884.7
Real Assets	10%	2,105.8
Real Estate	9%	2,011.1
<i>Stock Distributions and Accruals</i>	0%	(7.1)
Total Private Markets Invested	99%	\$21,580.4
Private Markets Uninvested	1%	211.0
Total Private Markets Program	100%	\$21,791.5

Figure 42. Performance of Private Markets Invested Allocation as of June 30, 2023

Private Market Segments	1 Yr. %	Annualized	
		3 Yrs. %	5 Yrs. %
Private Equity	1.5	22.8	17.0
Private Credit	9.1	16.1	11.7
Real Assets	2.8	17.1	3.9
Real Estate	-3.3	16.7	12.4
Total Private Market Invested	1.8	20.5	13.5

Combined Funds

Private Markets Program: Invested Allocation

Private Markets Invested Allocation

The invested portion of the Private Markets Program consists of funds that make equity or debt investments in private businesses. The Private Markets Program is exclusive to the Combined Funds.

As of June 30, 2023, the market value of the Private Markets Invested allocation was \$21.6 billion.

Statutory Constraints

The SBI's private market investments are generally subject to the following statutory constraints:

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

The foregoing statutory constraints do not apply to the SBI's private market investments in co-investment or separate account vehicles, which allow the SBI to leverage its scale to obtain cost savings and access to opportunities typically reserved for institutional investors.

Management Structure

Given their long-term investment horizon, the Combined Funds are especially well-suited for investments in private markets. The target allocation to private markets investments for the Combined Funds is 25% of the total portfolio market value.

The SBI does not establish an allocation target for each segment. Categorization of the private markets sub-asset allocations has evolved over time.

Private Markets Segments

— 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 2023, the SBI approved private equity commitments with CVC Partners, Goldner Hawn, Hellman & Friedman, KKR, Paine Schwartz, TA Associates, and Windjammer.

The SBI will continue to review private equity investment opportunities for possible inclusion in the program.

— Private Credit

The strategy for private credit investments is to target funds that typically provide a current return. In addition, certain funds may employ a strategy with an equity component. 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 2023, the SBI approved private credit commitments with Castlelake, Marathon, and Sixth Street Partners.

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 2023, the SBI approved real estate commitments with Angelo Gordon & Co. and TA Realty.

The SBI will continue to review real estate investment opportunities 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 diversification. Real asset investments may include natural resources, infrastructure, and agricultural and timber assets. The portfolio is managed to

Combined Funds

Private Markets Program: Invested Allocation

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 2023, the SBI approved real assets commitments with Energy Capital Partners.

The SBI will continue to review real assets investment opportunities for possible inclusion in the program.

Investment Manager Summaries

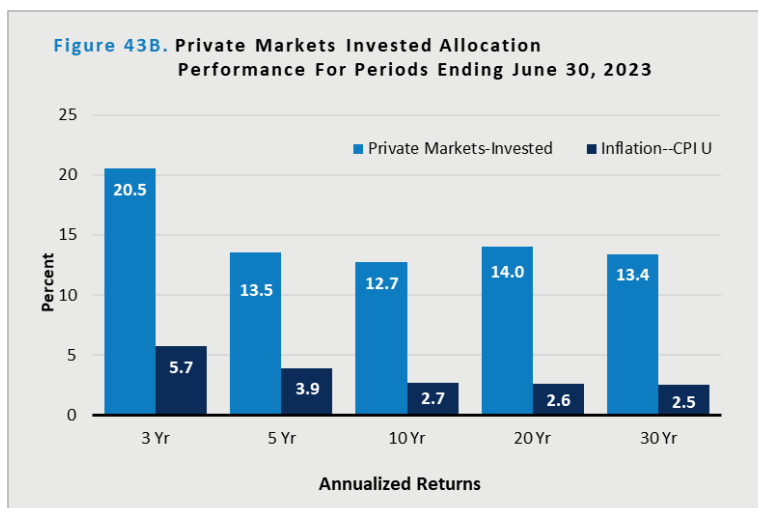
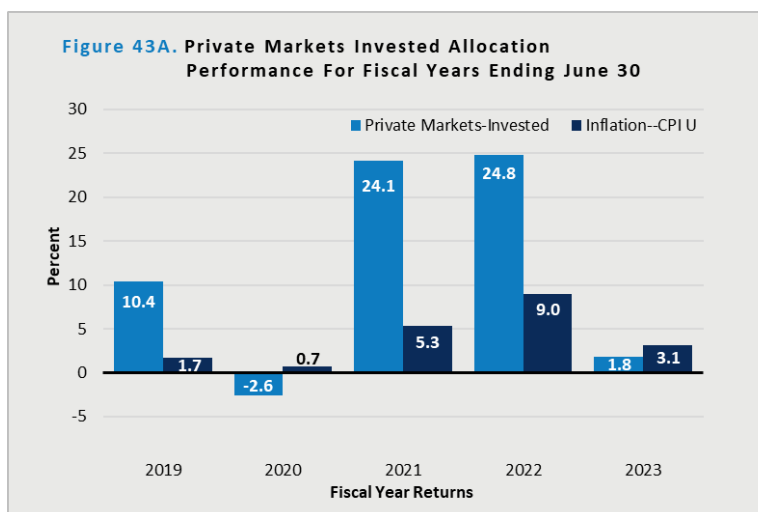
Descriptions of each of the private markets investments are included in the **Investment Manager Summaries** section beginning on page 70.

Investment Performance

The SBI reviews the 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 aggregate will be accretive to other investments in the Combined Funds.

The Private Markets Program provided a 1.8% return in fiscal year 2023. Over the ten years ending June 30, 2023, the Private Markets Program returned 12.7% on an annualized basis, which positively contributed to the Combined Funds' overall performance.

Historical performance results are shown below in Figures 43A and 43B.



Combined Funds

Private Markets Program: Uninvested Allocation

Private Markets Uninvested Allocation

When the Private Markets Program is below its target allocation, the uninvested allocation represents the amount by which the actual value of the Private Markets allocation lags the target allocation. In such instances, the default investment approach is to equitize the uninvested allocation until needed for investment.

When the program is near or above target, assets in the uninvested portion may be held in cash to facilitate processing of calls and distributions.

Beginning in fiscal year 2023, the Private Markets invested allocation was in-line with the target allocation. As a result, in November 2022, the assets of Private Markets uninvested allocation were reallocated from domestic equities to cash.

As of June 30, 2023, the Private Markets uninvested allocation market value was \$211.1 million.

Management Structure

When the Private Markets program is below the target allocation, the uninvested portion of the Private Markets allocation is invested in domestic equities using a combination of physical securities and an overlay program fully collateralized by cash.

The physical portion of the portfolio is invested in an index strategy benchmarked to the S&P 500. The cash overlay manager is also benchmarked to the S&P 500, and may utilize both equity and interest rate derivatives to replicate desired market exposures.

Two investment managers, BlackRock and NISA, are under retainer to execute this investment strategy when activated.

Objective

The mandate for the cash overlay manager is to equitize a portion of the uninvested private market dollars held in cash for liquidity purposes.

An investment strategy that uses physical assets and a fully collateralized cash overlay program serves many purposes.

- Disentangles the assets from the Public Equity Program and records assets within the targeted asset class to improve operational efficiencies.
- Facilitates rebalancing and enhances portfolio liquidity to reduce the transitions necessary to fund commitment drawdowns.
- Provides a low-cost option in a comparable public market mandate so that the portfolio remains fully invested.

Investment Manager Summaries

Descriptions of the private markets investment managers are included in the **Investment Manager Summaries** section beginning on page 103.

Investment Performance

The Private Markets uninvested allocation is measured against the S&P 500 Index when the equity strategy is activated.

When the Private Markets uninvested allocation is invested in cash, performance is measured against the ICE BofA 3-month T-Bill.

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

Adams Street Partners

Adams Street (formerly Brinson Partners) Global Secondary Funds will primarily make investments through secondary purchases of interests in private markets investment vehicles or assets, seeking to create a portfolio diversified by time, manager, geography, sector, and transaction type.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Secondaries		Strategy Location: Chicago, IL						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Adams Street Global Secondary Fund 5	\$ 100,000,000	\$ 77,114,692	\$ 77,395,843	\$ 26,941,830	1.35	6.3	2012	
Adams Street Global Secondary Fund 6	100,000,000	80,400,008	42,717,597	83,844,149	1.57	23.1	2017	
Adams Street Global Secondary Fund 7	265,355,000	57,860,684	-	78,684,333	1.36	77.3	2021	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Advent International GPE VI-A	\$ 50,000,000	\$ 52,993,313	\$ 103,400,194	\$ 5,126,420	2.05	16.5	2008	
Advent International GPE VII	90,000,000	86,490,641	140,322,935	17,132,078	1.82	13.5	2012	
Advent International GPE VIII-B	100,000,000	100,000,000	78,744,166	122,799,547	2.02	17.9	2016	
Advent International GPE IX	115,000,000	107,532,348	11,495,408	147,403,122	1.48	21.6	2019	
Advent International GPE X	150,000,000	34,875,000	-	32,818,386	0.94	-16.4	2022	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Affinity Ventures IV	\$ 4,000,000	\$ 4,000,000	\$ 1,541,970	\$ 3,279	0.39	-35.4	2004	
Affinity Ventures V	5,000,000	5,000,000	2,048,042	815,127	0.57	-8.1	2008	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Apax VIII - USD	\$ 200,000,000	\$ 240,451,261	\$ 364,650,169	\$ 33,039,893	1.65	13.8	2013	
Apax IX - USD	150,000,000	162,024,715	180,896,534	145,962,086	2.02	22.5	2016	
Apax X - USD	150,000,000	120,586,779	9,266,385	139,752,437	1.24	16.3	2019	
Apax XI	100,000,000	-	-	-	0.00	0.0	2022	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Arsenal Fund V	\$ 75,000,000	\$ 72,853,782	\$ 13,616,281	\$ 74,454,300	1.21	7.4	2019	
Arsenal Fund VI	100,000,000	29,425,977	287,031	29,028,183	1.00	-0.5	2021	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Asia Alternatives Capital Partners V	\$ 99,000,000	\$ 100,073,898	\$ 16,878,241	\$ 112,351,313	1.29	10.5	2017	
MN Asia Investors	550,000,000	60,616,499	1,131,343	53,416,789	0.90	-9.5	2020	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Banc Fund IX	\$ 107,205,932	\$ 107,205,932	\$ 43,369,555	\$ 100,877,893	1.35	5.0	2014	
Banc Fund X	71,345,455	80,254,545	7,325,397	78,519,843	1.07	2.1	2018	

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. 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: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
BlackRock Tempus Fund	\$ 1,774,870	\$ 1,774,870	\$ 1,866,904	\$ 63,481	1.09	4.5	2015
BlackRock Long-Term Capital	950,000,000	954,617,522	2,660,745	1,586,162,750	1.66	30.1	2019

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. Blackstone Growth funds make equity investments in dynamic, growth-stage business in five core sectors globally: consumer, consumer technology, enterprise software, financial services, and healthcare.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Blackstone Capital Partners Asia II	\$ 270,000,000	\$ 29,246,803	\$ -	\$ 21,965,314	0.75	-29.2	2021	
Blackstone Capital Partners IV	70,000,000	84,459,884	201,361,236	251,377	2.39	37.0	2002	
Blackstone Capital Partners V	140,000,000	152,408,625	245,685,920	1,214,275	1.62	8.0	2006	
Blackstone Capital Partners VI	100,000,000	106,834,851	157,913,327	34,587,690	1.80	12.4	2008	
Blackstone Capital Partners VII	130,000,000	136,510,319	89,353,422	125,434,966	1.54	13.0	2015	
Blackstone Capital Partners VIII	150,000,000	99,188,279	6,202,841	106,674,327	1.14	10.6	2019	
Blackstone Capital Partners IX	150,000,000	-	-	-	0.00	0.0	2022	
Blackstone Growth	250,000,000	204,707,785	19,742,139	185,649,824	1.00	0.2	2020	
Blackstone Growth Equity II	150,000,000	-	-	-	0.00	0.0	2022	
Blackstone Supplemental Account - M	125,000,000	63,257,591	-	63,867,296	1.01	0.7	2021	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
BS Strategic Partners III VC	\$ 25,000,000	\$ 25,075,239	\$ 34,045,314	\$ 93,376	1.36	6.0	2004	
BS Strategic Partners III-B	100,000,000	79,629,077	118,509,586	214,476	1.49	6.3	2004	
BS Strategic Partners IV VC	40,500,000	42,175,414	62,659,747	2,032,353	1.53	9.2	2008	
BS Strategic Partners IV-B	100,000,000	99,445,314	153,252,273	2,937,936	1.57	12.2	2008	
BS Strategic Partners V	100,000,000	87,190,444	135,892,900	7,216,190	1.64	18.5	2011	
BS Strategic Partners VI	150,000,000	104,075,534	130,882,448	27,049,176	1.52	14.2	2014	
BS Strategic Partners VII	150,000,000	121,382,805	126,292,370	77,995,386	1.68	18.3	2016	
BS Strategic Partners VIII	150,000,000	116,665,772	82,401,365	107,853,609	1.63	34.0	2018	
BS Strategic Partners IX	100,000,000	22,439,356	3,027,047	22,648,330	1.14	16.4	2022	

Blue Owl

Blue Owl GP Stakes funds 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Dyal Capital Partners III	\$ 175,000,000	\$ 212,783,584	\$ 213,288,776	\$ 168,447,163	1.79	26.8	2015	
Dyal Capital Partners IV	250,000,000	178,538,132	125,879,198	200,702,210	1.83	44.9	2018	
Dyal Capital Partners V	200,000,000	56,000,000	11,637,339	59,609,088	1.27	19.7	2020	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Bridgepoint Europe VI	\$ 163,650,051	\$ 159,330,724	\$ 14,957,084	\$ 223,178,903	1.49	20.9	2018	
Bridgepoint Europe VII	106,639,274	-	-	-	0.00	0.0	2022	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Brookfield Capital Partners IV	\$ 100,000,000	\$ 109,806,883	\$ 172,956,949	\$ 96,282,305	2.45	43.8	2015	
Brookfield Capital Partners V	250,000,000	245,678,311	28,311,500	308,799,115	1.37	16.3	2018	
Brookfield Capital Partners VI	150,000,000	28,584,091	60,937	35,524,194	1.24	26.4	2022	

Canyon Partners

Canyon is a global value-oriented alternative asset manager that employs a variety of credit strategies across a broad spectrum of asset classes. Canyon invests across the capital structure in instruments including leveraged loans, Debtor-in-Possession (DIP) loans, revolving credit facilities, privately negotiated financings, high yield bonds, trade claims, convertibles, credit derivatives and equities, among others. Canyon is headquartered in Los Angeles, California

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Non-Control		Strategy Location: Los Angeles, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Canyon Distressed Opportunity Fund III	\$ 125,000,000	\$ 128,095,847	\$ 21,475,843	\$ 127,503,778	1.16	9.2	2020	

Cardinal Partners

Cardinal Partners DSV Partners funds focus 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Cardinal Partners DSV Partners IV	\$ 10,000,000	\$ 10,000,000	\$ 39,196,082	\$ 30,226	3.92	10.6	1985

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. 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.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Washington, DC						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Carlyle Partners VII	\$ 150,000,000	\$ 154,627,392	\$ 15,998,919	\$ 169,100,132	1.20	7.4	2017	
Carlyle Partners VIII	150,000,000	41,299,118	44,379	39,275,343	0.95	-9.0	2021	
Carlyle Strategic Partners IV	100,000,000	119,848,375	53,429,269	83,488,532	1.14	7.2	2016	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Non-Control		Strategy Location: Minneapolis, MN						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
CVI Credit Value Fund A II	\$ 150,000,000	\$ 142,500,000	\$ 199,242,174	\$ 4,188,427	1.43	8.3	2012	
CVI Credit Value Fund A III	150,000,000	142,500,000	162,113,881	31,555,279	1.36	8.4	2015	
CVI Credit Value Fund IV	150,000,000	129,772,032	48,722,922	126,206,003	1.35	7.6	2017	
CVI Credit Value Fund V	150,000,000	97,500,000	154,566.00	103,857,000	1.07	4.5	2020	

Chicago Growth Partners

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Chicago Growth Partners II	\$ 60,000,000	\$ 58,347,626	\$ 123,930,240	\$ 10,706	2.12	19.5	2008	

Clearlake Capital

Founded in 2006, Clearlake makes investments across the private equity, credit, and special situations spectrum. Their efforts are focused in the technology, industrials, and consumer sectors. Clearlake has an operational improvement approach to transform and grow companies with a focus on implementing ESG best practices.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Santa Monica, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Clearlake Capital Partners VII	\$ 100,000,000	\$ 51,373,445	\$ 2,434	\$ 53,225,355	1.04	4.1	2022	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Court Square Capital Partners II	\$ 164,419,132	\$ 170,245,229	\$ 295,744,454	\$ 3,187,331	1.76	12.3	2006	
Court Square Capital Partners III	175,000,000	189,497,317	283,583,858	134,662,199	2.21	20.3	2012	
Court Square Capital Partners IV	150,000,000	122,495,985	40,603,998	124,764,315	1.35	17.7	2018	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

CVC Capital Partners

CVC focuses on making control-oriented buyout investments globally, but with a focus on 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 21 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
CVC European Equity Partners V	\$ 109,100,034	\$ 153,884,098	\$ 295,558,227	\$ 2,713,153	1.94	16.7	2008
CVC Capital Partners VI	245,475,076	284,567,637	362,639,619	212,682,651	2.02	16.9	2013
CVC Capital Partners IX	109,100,034	2	-	-	0.00	0.0	2023

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Glouston PE Opportunities IV	\$ 5,337,098	\$ 4,401,655	\$ 4,672,751	\$ 372,412	1.15	4.6	2015

Goldman Sachs Capital Partners (GS)

GS Capital Partners and GS 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
GS Capital Partners VI	\$ 100,000,000	\$ 110,285,035	\$ 143,299,966	\$ 1,618,843	1.31	7.1	2007	
GS China-US Cooperation Fund	99,800,000	39,430,412	523,330.00	52,858,552	1.35	13.2	2018	
GS Vintage VII	100,000,000	87,228,595	72,641,061	66,767,869	1.6	15.2	2016	
GS West Street Capital Partners VII	150,000,000	142,239,202	125,396,830	115,279,221	1.69	19.5	2016	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
GHJM TrailHead Fund	\$ 20,000,000	\$ 16,652,130	\$ 51,364,283	\$ 6,518,138	3.48	20.2	2012	
Goldner Hawn Fund VII	57,755,138	39,121,401	\$ 20,600,000	52,798,370	1.88	34.5	2018	
Goldner Hawn Fund VIII	67,186,250	-	-	-	0.00	0.0	2023	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
GTCR Fund X	\$ 100,000,000	\$ 105,821,208	\$ 215,422,690	\$ -	2.04	21.4	2010	
GTCR Fund XI	110,000,000	108,261,050	239,444,420	122,510,750	3.34	33.6	2013	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Dover Street VII Cayman Fund	\$ 2,198,112	\$ 2,074,235	\$ 1,845,767	\$ 17,043	0.90	-4.5	2015	
HarbourVest Intl PE V-Cayman US	3,386,759	3,346,199	4,508,944	25,307	1.36	13.6	2015	
HarbourVest Intl PE VI-Cayman	4,090,328	4,039,473	5,645,630	2,176,784	1.94	15.0	2015	
HarbourVest VIII Cayman Buyout	4,506,711	4,390,673	5,849,345	410,861	1.43	13.3	2015	
HarbourVest VIII-Cayman Venture	7,190,898	7,090,187	8,816,978	2,177,925	1.55	11.0	2015	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

Hellman and Friedman

Hellman and Friedman (“H&F”) seeks to build diversified private equity funds by making large-scale investments in high quality, growing businesses in the developed markets. The firm operates in the Technology, Healthcare, Consumer Services & Retail, Financial Services, and Information, Content, & Business Services 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Hellman & Friedman Capital Partners VII	\$ 50,000,000	\$ 49,914,704	\$ 154,063,260	\$ 10,193,452	3.29	24.9	2009	
Hellman & Friedman Investors IX	175,000,000	173,463,661	4,158,129	232,089,989	1.36	13.5	2018	
Hellman & Friedman Capital Partners X	250,000,000	186,382,141	7,412,203	182,565,086	1.02	1.6	2021	
Hellman & Friedman Capital Partners XI	100,000,000	-	-	-	0.00	0.0	2023	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
IK Fund VII	\$ 163,650,051	\$ 179,393,652	\$ 319,311,212	\$ 20,910,568	1.90	14.4	2013	
IK Fund VIII	163,650,051	177,056,244	183,004,699	143,196,157	1.84	19.0	2016	
IK Fund IX	147,285,046	116,486,003	-	121,334,005	1.04	2.6	2019	
IK Fund X	106,639,274	-	-	-	0.00	0.0	2022	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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. KKR MN Partnership is a separately managed account that invests across the active KKR private equity vehicles in which the SBI is a limited partner.

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
KKR Millennium Fund	\$ 200,000,000	\$ 205,167,570	\$ 424,946,028	\$ 161,060	2.07	16.4	2002	
KKR 2006 Fund	200,000,000	218,137,965	392,492,978	147,966	1.80	9.1	2006	
KKR Americas Fund XII	150,000,000	146,879,040	68,761,699	159,572,755	1.55	15.6	2016	
KKR Ascendant Strategy	150,000,000	-	-	-	0.00	0.0	2023	
KKR Asian Fund III	100,000,000	95,239,707	51,539,308	109,435,599	1.69	20.7	2017	
KKR Asian Fund IV	150,000,000	69,241,077	1,640,757	72,976,854	1.08	6.7	2020	
KKR Core Investments Fund II	100,000,000	-	-	-	0.00	0.0	2022	
KKR Core Investments Partnership	97,000,000	100,504,008	5,416,200	113,529,736	1.18	12.0	2021	
KKR Europe V	100,000,000	88,425,065	16,882,045	90,453,343	1.21	9.9	2018	
KKR European Fund VI (USD)	100,000,000	16,320,027	-	14,484,203	0.89	-11.2	2022	
KKR MN Partnership	150,000,000	80,488,217	720,098	85,635,841	1.07	6.2	2021	
KKR North America Fund XIII	300,000,000	106,017,138	-	103,226,150	0.97	-3.1	2021	

Leonard Green & Partners

The Green Equity Investors Funds targets investments in market-leading companies with attractive growth prospects across a broad range of industries with a preference for companies providing services, including consumer, healthcare, and business 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Green Equity Investors VI	\$ 200,000,000	\$ 224,914,839	\$ 237,369,166	\$ 213,165,082	2.0	13.9	2012	
Green Equity Investors VIII	125,000,000	111,856,552	1,012,746	126,389,637	1.14	7.6	2020	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Lexington Capital Partners VI-B	\$ 100,000,000	\$ 98,374,022	\$ 145,958,371	\$ 523,842	1.49	7.9	2005	
Lexington Capital Partners VII	200,000,000	172,199,401	266,823,840	22,893,500	1.67	14.5	2009	
Lexington Capital Partners VIII	150,000,000	136,614,631	138,342,403	89,640,768	1.67	16.3	2014	
Lexington Capital Partners IX	150,000,000	119,793,422	34,752,512	143,116,602	1.48	27.3	2018	
Lexington Capital Partners X	100,000,000	7,500,000	-	10,681,193	1.42	42.4	2021	
Lexington Co-Investment Partners IV	200,000,000	215,808,686	132,540,232	229,124,908	1.68	16.5	2017	
Lexington Co-Investment Partners V	300,000,000	226,573,417	10,031,374	255,974,374	1.17	16.0	2020	
Lexington Co-Investment Partners V Overage	45,000,000	31,086,000	839,090	34,304,170	1.13	10.2	2021	
Lexington Middle Market Investors IV	100,000,000	83,897,895	29,584,730	93,234,607	1.46	21.4	2016	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Madison Dearborn Capital Partners VII	\$ 100,000,000	\$ 99,647,695	\$ 60,112,099	\$ 108,011,412	1.69	13.5	2015	
Madison Dearborn Capital Partners VIII	100,000,000	76,529,114	8,101,482	71,123,499	1.04	2.9	2019	

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: Private Equity			Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control			Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Distressed Credit Fund	\$ 200,000,000	\$ 161,906,171	\$ 6,185,200	\$ 177,937,188	1.14	8.2	2020	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

Merced Capital

Merced Partners invests 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: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Non-Control		Strategy Location: Minneapolis, MN						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Merced Partners IV	\$ 125,000,000	\$ 124,968,390	\$ 120,597,539	\$ 17,777,882	1.11	2.1	2013	
Merced Partners V	53,737,500	59,297,897	29,542,537	47,029,452	1.29	5.3	2017	

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: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Distressed for Control		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
MHR Institutional Partners IV	\$ 75,000,000	\$ 83,022,509	\$ 24,307,372	\$ 98,668,144	1.48	11.0	2014	

Nordic Capital

Nordic 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Nordic Capital Fund VIII	\$ 163,650,051	\$ 225,322,480	\$ 295,912,941	\$ 60,260,060	1.58	12.9	2013	
Nordic Capital Fund X	147,285,046	118,837,256	-	144,583,430	1.22	23.1	2020	
Nordic Capital Fund IX Beta	163,650,051	177,781,572	38,155,612	239,309,604	1.56	18.6	2017	
Nordic Capital Fund XI	106,639,274	-	-	-	0.00	0.0	2022	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Oak Hill Capital Partners IV Onshore	\$ 150,000,000	\$ 153,245,546	\$ 219,478,696	\$ 68,444,366	1.88	32.7	2016	
Oak Hill Capital Partners V	100,000,000	93,037,096	39,414	117,275,306	1.26	14.1	2018	

Oaktree Capital Management

Oaktree Capital Management is a global private equity firm. The Oaktree 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.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Non-Control		Strategy Location: Los Angeles, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Oaktree Special Situations Fund	\$ 100,000,000	\$ 103,873,391	\$ 20,335,451	\$ 94,796,329	1.11	2.40	2014	
Oaktree Special Situations Fund II	100,000,000	99,479,491	42,579,241	111,838,470	1.56	45.9	2018	
Oaktree Special Situations Fund III	187,000,000	-	-	-	0.00	0.0	2022	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Paine Schwartz Food Chain Fund IV	\$ 75,000,000	\$ 69,747,990	\$ 35,397,971	\$ 60,185,286	1.37	7.5	2014	
Paine Schwartz Food Chain Fund V	150,000,000	128,316,549	44,184,222	140,253,898	1.44	24.0	2018	
Paine Schwartz Food Chain Fund VI	100,000,000	24,207,589	142,757	22,058,157	0.92	-9.8	2023	

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 Consumer, Services, Healthcare, and Technology sectors. Headquartered in London, Permira has 16 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Permira V	\$ 163,650,051	\$ 184,423,912	\$ 380,461,905	\$ 115,259,247	2.69	21.0	2013	
Permira VI	130,920,041	128,354,778	75,222,218	165,862,544	1.88	17.3	2016	
Permira VII	147,285,046	147,198,277	11,225,671	140,063,869	1.03	1.4	2019	
Permira VIII	163,650,051	25,545,463	-	24,204,794	0.95	-5.2	2022	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Public Pension Capital	\$ 285,000,000	\$ 162,322,320	\$ 102,191,267	\$ 203,144,265	1.88	23.2	2014

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, San Francisco, London, and Hong Kong, Singapore.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Menlo Park, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Silver Lake Partners III	\$ 100,000,000	\$ 93,866,167	\$ 192,376,979	\$ 25,008,127	2.32	18.3	2007	
Silver Lake Partners IV	100,000,000	115,939,897	126,010,284	158,908,523	2.46	21.7	2012	
Silver Lake Partners V	135,000,000	135,460,069	49,791,515	153,960,554	1.50	22.0	2017	

Siris Capital Group

The Siris Funds primarily seek to make control-oriented, private equity, equity-related, and similar investments in mature middle-market companies primarily in North America facing transitions in the technology sector. The strategy is built on targeting mature, leading technology companies that Siris believes have both mature assets and growth assets to unlock growth vectors for long-term strategic positioning.

Asset Class: Private Equity				Strategic Allocation Category:					
Strategy: Buyout				Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year		
Siris V	\$ 67,875,000	\$ -	\$ -	\$ -	0.00	0.0	2022		

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Split Rock Partners II	\$ 60,000,000	\$ 59,165,000	\$ 66,598,372	\$ 22,816,374	1.51	7.0	2008	
Split Rock Partners	50,000,000	47,890,906	58,794,192	2,302,648	1.28	3.0	2005	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
SP Growth Equity Fund VIII	\$ 100,000,000	\$ 116,727,192	\$ 237,084,364	\$ 48,728,283	2.45	26.3	2011	
SP Growth Equity Fund IX	100,000,000	132,784,916	141,424,991	151,081,688	2.20	31.5	2015	
SP Growth Equity Fund X-A	150,000,000	137,296,520	33,046,188	152,158,183	1.35	18.2	2019	
SP Growth Equity Fund XI	250,000,000	61,016,609	-	63,329,993	1.04	6.7	2021	

TA Associates

TA generally seeks to take a majority ownership position in investments but is also comfortable operating as a minority partner with board representation and active engagement with the companies it invests in. TA aims to invest in profitable, stable businesses, typically in the middle market across business services, consumer, financial services, healthcare, and technology.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Boston, MA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
TA XV	\$ 80,000,000	\$ -	\$ -	\$ -	0.00	0.0	2023	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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 and Western Europe. The firm has offices in San Francisco, Chicago, Miami, and London.

Asset Class: Private Equity			Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout			Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Thoma Cressey Fund VII	\$ 50,000,000	\$ 50,000,000	\$ 107,057,940	\$ 405,237	2.15	23.6	2000	
Thoma Bravo Fund XII	75,000,000	81,949,004	84,992,456	78,591,206	2.00	16.1	2016	
Thoma Bravo Fund XIII	150,000,000	184,783,234	92,067,654	225,660,160	1.72	27.5	2018	
Thoma Bravo Fund XIV	150,000,000	147,759,334	37	147,112,296	1.00	-0.2	2020	
Thoma Cressey Fund XV	100,000,000	67,966,603	19,556	67,593,318	0.99	-0.8	2021	

Thomas H. Lee Partners

THL is a private equity firm investing in middle market growth companies in Identified Sector Opportunities across three Industry Groups: Financial Services, Healthcare, and Technology & Business Solutions. The Firm draws on its deep domain expertise and the operating capabilities of its in-house Strategic Resource Group to create deal sourcing advantages, accelerate growth and improve operations in its portfolio companies in partnership with management.

Asset Class: Private Equity			Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout			Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Thomas H. Lee Equity Fund VII	\$ 100,000,000	\$ 99,643,507	\$ 137,891,993	\$ 47,113,559	1.86	21.3	2015	
Thomas H. Lee Equity Fund VIII	150,000,000	147,208,530	124,786,085	135,076,029	1.77	35.7	2018	
Thomas H. Lee Equity Fund IX	150,000,000	64,970,378	-	61,243,742	0.94	-9.6	2021	

TPG Capital

TPG Partners seeks attractive risk-adjusted returns by investing in traditional buyouts, transformational transactions, and off-the-beaten-path transactions. TPG was founded in 1993.

Asset Class: Private Equity			Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout			Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
TPG Growth V	\$ 150,000,000	\$ 104,342,948	\$ 8,437,171	\$ 122,659,194	1.26	18.2	2021	
TPG Partners VII	100,000,000	101,004,041	156,773,574	41,128,594	1.96	19.8	2015	
TPG Partners VIII	150,000,000	147,426,581	31,421,240	177,075,370	1.41	27.8	2018	
TPG Partners IX	100,000,000	-	-	-	0.00	0.0	2022	
TPG Tech Adjacencies II	150,000,000	49,859,903	290,595	49,333,881	1.0	-0.5	2021	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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: Private Equity			Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control			Strategy Location: Minneapolis, MN					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Värde Fund IX	\$ 100,000,000	\$ 100,000,000	\$ 216,671,921	\$ -	2.17	15.0	2008	
Varde Fund X	150,000,000	150,000,000	253,807,303	5,098,221	1.73	10.0	2010	
Värde Fund XI	200,000,000	200,000,000	227,185,961	34,089,875	1.31	4.4	2013	
Varde Fund XIII	150,000,000	144,000,000	25,668,661	145,303,299	1.19	7.6	2018	
Värde Fund XIV	31,286,710	14,861,188	-	15,312,715	1.03	4.0	2022	

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 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Vestar Capital Partners V	\$ 75,000,000	\$ 76,797,458	\$ 100,961,586	\$ 147,707	1.32	3.9	2005	
Vestar Capital Partners VI	100,000,000	108,816,906	152,887,343	66,608,922	2.02	23.5	2011	
Vestar Capital Partners VII	150,000,000	125,025,853	33,243,742	116,888,120	1.20	8.9	2017	

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 control acquisitions of 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Vista Equity Partners Perennial	\$ 200,000,000	\$ 147,738,030	\$ 77,223	\$ 166,298,546	1.13	4.8	2020

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

Warburg Pincus

Warburg Pincus has a global presence with seven additional offices around the world. These funds will make private equity investments 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Warburg Pincus China-Southeast Asia II	\$ 50,000,000	\$ 26,000,000	\$ 4,097,500	\$ 22,854,271	1.04	2.3	2019	
Warburg Pincus China	45,000,000	46,935,000	17,602,200	46,742,452	1.37	8.2	2016	
Warburg Pincus Financial Sector	90,000,000	90,562,652	34,617,600	129,362,847	1.81	20.3	2017	
Warburg Pincus Global Growth 14	300,000,000	59,576,783	-	58,771,140	0.99	-1.5	2022	
Warburg Pincus Global Growth	250,000,000	225,866,992	5,789,114	305,969,705	1.38	13.8	2018	
Warburg Pincus Equity Partners	100,000,000	100,000,000	163,542,253	400,857	1.64	10.0	1998	
Warburg Pincus Private Equity IX	100,000,000	100,000,000	171,072,950	38,831	1.72	9.6	2005	
Warburg Pincus Private Equity X	150,000,000	150,000,000	266,806,541	5,757,041	1.80	9.5	2007	
Warburg Pincus Private Equity XI	200,000,000	200,342,452	262,255,748	85,348,886	1.74	11.9	2012	
Warburg Pincus Private Equity XII	131,000,000	129,231,500	136,468,988	126,599,072	2.04	17.6	2015	

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: Private Equity			Strategic Allocation Category: Growth Appreciation				
Strategy: Distressed for Control			Strategy Location: Wayzata, MN				
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Wayzata Opportunities Fund III	\$ 150,000,000	\$ 68,415,000	\$ 51,516,408	\$ 19,776,761	1.04	0.9	2012

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Wellspring Capital Partners VI	\$ 125,000,000	\$ 152,361,431	\$ 57,804,878	\$ 168,005,231	1.48	19.2	2016	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
WCAS Fund XI	\$ 100,000,000	\$ 100,000,000	\$ 161,464,441	\$ 6,926,327	1.68	11.7	2008	
WCAS Fund XII	150,000,000	150,000,000	223,398,784	135,017,233	2.39	22.8	2014	
WCAS Fund XIII	250,000,000	213,945,620	89,788,704	211,508,407	1.41	23.3	2018	
WCAS Fund XIV	150,000,000	20,100,548	-	15,380,437	0.77	-30.9	2022	

Whitehorse Capital

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, Ontario					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
WHC Liquidity Partners III	\$ 100,000,000	\$ 104,256,456	\$ 87,372,605	\$ 55,924,578	1.37	19.4	2019	
WHC Liquidity Partners IV	100,000,000	95,855,329	54,465,430	63,139,766	1.23	18.8	2020	
WHC Liquidity Partners V	100,000,000	54,494,095	23,374,537	36,279,077	1.09	16.2	2021	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Wind Point Partners IX	\$ 100,000,000	\$ 93,964,209	\$ 3,109,544	\$ 129,870,527	1.42	21.1	2019	
Wind Point Partners X	100,000,000	36,470,632	-	39,142,252	1.07	12.2	2022	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Equity

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. The Firm was founded in 1990.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Waltham, MA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Windjammer Mezzanine & Equity Fund II	\$ 66,708,861	\$ 55,215,684	\$ 85,449,570	\$ 168,651	1.55	9.0	2000	
Windjammer Senior Equity Fund IV	100,000,000	94,740,728	166,415,656	71,635,844	2.51	17.8	2012	
Windjammer Senior Equity Fund V	100,000,000	82,350,042	39,549,152	76,891,947	1.41	18.4	2017	
Windjammer Capital Fund VI	175,000,000	-	-	-	0.00	0.0	2023	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Audax Mezzanine Fund III	\$ 100,000,000	\$ 105,207,316	\$ 133,977,984	\$ 5,457,799	1.33	9.8	2010	
Audax Mezzanine Fund IV-A	100,000,000	88,946,795	78,137,566	33,655,730	1.26	12.0	2015	
Audax Mezzanine Fund V	150,000,000	34,025,524	3,309,446	34,395,204	1.11	20.1	2020	

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: Private Credit			Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control			Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Avenue Energy Opportunities Fund	\$ 100,000,000	\$ 100,977,328	\$ 80,568,142	\$ 71,899,947	1.51	6.7	2014	
Avenue Energy Opportunities Fund II	100,000,000	100,000,000	98,377,901	87,314,240	1.86	14.7	2017	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Credit

BlackRock

BlackRock Middle Market Senior Fund was formed to invest primarily in 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
BR Middle Market Senior Fund	\$ 97,500,000	\$ 93,275,368	\$ 17,419,531	\$ 99,963,119	1.26	7.8	2018	

Brookfield Asset Management

Brookfield's lending activities will be focused principally on high-quality commercial real estate assets in strategic locations in the U.S and selectively in Europe. As one of the world's largest leading real estate managers, Brookfield will seek to finance commercial properties in markets and sectors in which they have significant experience and operating platforms.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Direct Lending		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Brookfield Real Estate Finance Fund VI	\$ 200,000,000	\$ 72,071,352	\$ 21,878,738	\$ 59,230,525	1.13	17.9	2021	

Castlelake

Castlelake Aviation V Stable Yield seeks to make stable yield investments in the global aviation finance market. The fund will seek to achieve attractive risk-adjusted rates of return while minimizing downside risk by investing in high quality aircraft and aircraft-related assets.

Asset Class: Private Credit			Strategic Allocation Category:						
Strategy:			Strategy Location:						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year		
Castlelake Aviation V Stable Yield	\$ 100,000,000	\$ -	\$ -	\$ -	0.00	0.0	2023		

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year		
Energy Capital Credit Solutions II-A	\$ 28,087,500	\$ 34,513,848	\$ 11,074,135	\$ 25,236,255	1.05	4.0	2018		

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Credit

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. 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Gold Hill Venture Lending	\$ 40,000,000	\$ 40,000,000	\$ 65,261,602	\$ 303,906	1.64	10.7	2004	
Gold Hill 2008	25,852,584	25,852,584	48,393,297	2,582,274	1.97	14.4	2008	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
HPS Mezzanine Partners 2019	\$ 100,000,000	\$ 95,382,125	\$ 30,801,952	\$ 86,030,137	1.22	10.3	2019	
HPS Strategic Investment Partners V	100,000,000	28,028,358	4,391,128	24,432,646	1.03	4.0	2022	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
KKR Lending Partners II	\$ 75,000,000	\$ 87,050,313	\$ 84,852,023	\$ 4,863,101	1.03	1.5	2015	
KKR Lending Partners III	199,000,000	284,918,920	246,348,549	100,404,501	1.22	13.6	2017	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
LBC Credit Partners IV	\$ 100,000,000	\$ 120,079,392	\$ 120,475,586	\$ 21,265,192	1.18	8.5	2016
LBC Credit Partners V	100,000,000	89,163,607	42,599,193	63,409,712	1.19	15.0	2019

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Credit

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	Distributions	Market Value	Net MOIC¹	IRR²	Vintage Year
Secured Private Strategies Fund II	\$ 100,000,000	\$ 96,022,008	\$ 5,858,534	\$ 119,976,930	1.31	10.7	2019
Secured Private Strategies Fund III	100,000,000	28,212,776	70,649	28,381,235	1.01	3.1	2022

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	Distributions	Market Value	Net MOIC¹	IRR²	Vintage Year
Merit Mezzanine Fund IV	\$ 75,000,000	\$ 70,178,571	\$ 139,120,463	\$ 1,112,906	2.0	11.6	2004
Merit Mezzanine Fund V	75,000,000	72,306,122	108,565,889	11,901,338	1.67	10.0	2009
Merit Mezzanine Fund VI	100,000,000	92,629,096	101,781,716	50,021,363	1.64	16.8	2016
Merit Mezzanine Fund VII	100,000,000	17,818,182	-	14,647,517	0.88	-18.4	2020

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. The Oaktree Opportunities Funds invest in the debt or equity of companies during periods of financial distress.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation					
Strategy: Direct Lending		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC¹	IRR²	Vintage Year
Oaktree Opportunities Fund X	\$ 50,000,000	\$ 46,500,021	\$ 38,544,660	\$ 30,516,736	1.49	9.4	2015
Oaktree Opportunities Fund Xb	100,000,000	75,000,000	-	110,834,325	1.48	13.9	2015
Oaktree Opportunities Fund XI	300,000,000	255,000,000	2,196,776	288,086,211	1.14	12.0	2020
OCM Real Estate Debt Fund, III	200,000,000	99,340,899	19,975,318	93,673,905	1.14	10.7	2020

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Credit

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: Private Credit			Strategic Allocation Category: Growth Appreciation					
Strategy: Non-Control			Strategy Location: Newport Beach, CA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Pimco Bravo Fund OnShore Feeder II	\$ 5,000,000	\$ 4,501,479	\$ 5,714,432	\$ 255,959	1.33	6.0	2015	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Prudential Capital Partners II	\$ 100,000,000	\$ 97,930,132	\$ 145,671,152	\$ 488,725	1.49	9.0	2005
Prudential Capital Partners III	100,000,000	102,871,088	174,839,469	2,849,084	1.73	14.1	2009
Prudential Capital Partners IV	100,000,000	113,143,330	133,421,700	19,458,486	1.35	8.6	2012
Prudential Capital Partners V	150,000,000	152,783,202	102,178,772	85,846,049	1.23	7.4	2016
Prudential Capital Partners VI	150,000,000	63,694,287	7,779,977	66,044,175	1.16	22.4	2020

Sixth Street

Sixth Street 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: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Non-Control		Strategy Location: San Francisco, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Sixth Street Opportunities Partners V	\$ 75,000,000	\$ 21,628,194	\$ 712,372	\$ 19,682,670	0.94	-6.6	2021	
Sixth Street TAO Partners (B)	50,000,000	47,754,708	20,556,001	42,097,400	1.31	10.4	2018	
Sixth Street TAO Partners (D)	100,000,000	61,073,149	15,951,628	60,480,239	1.25	13.2	2018	
TSSP Opportunities Partners IV	50,000,000	40,386,311	6,829,253	44,846,904	1.28	10.5	2018	

Combined Funds

Private Markets Program: Investment Manager Summaries

Private Credit

Summit Partners

The funds invest in many of the same companies as the Summit Partners 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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Summit Subordinated Debt Fund III	\$ 45,000,000	\$ 44,088,494	\$ 62,804,226	\$ 537,254	1.44	8.6	2004	
Summit Subordinated Debt Fund IV	50,000,000	55,914,003	74,257,864	1,560,186	1.36	9.8	2008	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
TCW Direct Lending LLC	\$ 89,570,000	\$ 83,599,652	\$ 88,959,322	\$ 19,330,558	1.3	8.3	2014	
TCW Direct Lending VII	100,000,000	90,919,484	65,220,904	50,599,973	1.27	10.2	2018	

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
BR Global Renewable Power Fund II	\$ 98,500,000	\$ 104,674,253	\$ 68,717,826	\$ 59,416,751	1.22	6.3	2017	
BR Global Renewable Power Infrastructure III	100,000,000	57,723,056	2,865,259	61,383,561	1.11	10.0	2019	

Combined Funds

Private Markets Program: Investment Manager Summaries

Real Assets

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
EIG Energy Fund XIV	\$ 100,000,000	\$ 113,459,470	\$ 95,309,310	\$ 3,585,109	0.87	-5.0	2007
EIG Energy Fund XV	150,000,000	161,497,867	156,372,490	18,473,639	1.08	1.9	2010
EIG Energy Fund XVI	200,000,000	195,656,159	133,850,997	114,822,343	1.27	5.6	2013

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
EnCap Energy Capital Fund VIII	\$ 100,000,000	\$ 103,352,598	\$ 67,325,767	\$ 40,782,541	1.05	0.8	2010
EnCap Energy Capital Fund IX	100,000,000	113,725,245	132,573,789	33,980,909	1.46	10.5	2012
EnCap Energy Capital Fund X	100,000,000	105,227,147	122,995,408	71,101,618	1.84	15.3	2015

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Energy Capital Partners III	\$ 200,000,000	\$ 235,844,231	\$ 302,156,801	\$ 47,429,617	1.48	10.9	2013
Energy Capital Partners IV-A	150,000,000	126,963,783	41,154,080	143,164,156	1.45	16.5	2017
Energy Capital Partners V	150,000,000	58,681,486	-	57,769,270	0.98	-1.6	2023

Combined Funds

Private Markets Program: Investment Manager Summaries

Real Assets

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
NGP Midstream & Resources	\$ 100,000,000	\$ 103,565,615	\$ 179,560,149	\$ 4,525,782	1.78	13.2	2007
The EMG Fund II	100,000,000	108,534,480	108,598,045	105,971,883	1.98	12.1	2011
The EMG Fund III	200,000,000	207,635,331	37,373,504	110,433,882	0.71	-4.8	2014
The EMG Fund IV	150,000,000	163,358,656	90,955,893	147,363,583	1.46	8.6	2015
The EMG Fund V	112,500,000	92,332,817	3,658,916	139,979,769	1.56	14.2	2019
The EMG Fund V Accordion	17,500,000	17,175,810	1,202,967	25,898,171	1.58	14.9	2019

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
EnerVest Energy Institutional Fund XIV	\$ 100,000,000	\$ 99,324,433	\$ 101,510,847	\$ 54,941,381	1.58	10.1	2015

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
First Reserve Fund XI	\$ 150,000,000	\$ 150,292,121	\$ 100,059,903	\$ 67,614	0.67	-8.8	2006
First Reserve Fund XII	150,000,000	165,617,044	85,669,271	182,952	0.52	-17.9	2008
First Reserve Fund XIII	200,000,000	238,362,885	124,585,575	95,631,261	0.92	-2.4	2013

Combined Funds

Private Markets Program: Investment Manager Summaries

Real Assets

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
KKR Global Infrastructure Investors III	\$ 149,850,000	\$ 135,517,819	\$ 37,946,283	\$ 131,106,935	1.25	10.1	2018
KKR Global Infrastructure Investors IV	100,000,000	56,977,241	1,719,402	55,366,443	1.00	0.3	2021

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Merit Energy Partners F-II	\$ 100,000,000	\$ 59,522,861	\$ 34,132,129	\$ 6,067,920	0.68	-5.5	2006
Merit Energy Partners H	100,000,000	100,000,000	29,668,582	47,306,974	0.77	-3.6	2011
Merit Energy Partners I	169,721,518	169,721,518	112,039,060	166,200,476	1.64	9.5	2014
Merit Energy Partners K	150,000,000	55,400,101	28,591,326	92,786,162	2.19	32.4	2019

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Natural Gas Partners IX	\$ 150,000,000	\$ 174,005,353	\$ 249,411,654	\$ 358,049	1.44	12.1	2007
NGP Natural Resources X	150,000,000	149,357,872	132,217,257	15,607,343	0.99	-0.3	2011
Natural Gas Capital Resources XI	150,000,000	154,850,028	133,585,376	112,784,534	1.59	10.8	2014
NGP Natural Resources XII	149,500,000	112,173,018	59,283,633	113,572,996	1.54	13.7	2017

Combined Funds

Private Markets Program: Investment Manager Summaries

Real Assets

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	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Sheridan Production Partners III-B	\$ 100,000,000	\$ 34,353,005	\$ 33,150,000	\$ 27,708,999	1.77	13.3	2014

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. Angelo Gordon was acquired by TPG in 2023.

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Opportunistic		Strategy Location: New York, NY, London, Seoul						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
AG Asia Realty Fund III	\$ 50,000,000	\$ 47,587,261	\$ 47,125,000	\$ 16,132,122	1.33	10.1	2016	
AG Asia Realty Fund IV	100,000,000	79,350,334	33,500,000	73,441,747	1.35	14.4	2018	
AG Asia Realty Fund V	100,000,000	-	-	-	0.00	0.0	2023	
AG Europe Realty Fund II	75,000,000	68,635,121	33,769,976	68,504,804	1.49	11.2	2018	
AG Europe Realty Fund III	75,000,000	47,713,586	3,000,000	50,854,357	1.18	10.1	2020	
AG Realty Fund IX	100,000,000	92,141,126	87,000,000	36,238,982	1.34	6.9	2014	
AG Realty Fund X	150,000,000	134,135,263	73,137,431	109,249,309	1.36	17.7	2018	

Combined Funds

Private Markets Program: Investment Manager Summaries

Real Estate

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 Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Opportunistic		Strategy Location: New York, NY, Hong Kong						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Blackstone Real Estate Partners Asia II	\$ 74,500,000	\$ 69,529,328	\$ 15,431,181	\$ 68,578,113	1.21	7.5	2017	
Blackstone Real Estate Partners Asia III	100,000,000	14,930,124	2,368	12,888,941	0.86	-17.2	2021	
Blackstone Real Estate Partners V	100,000,000	104,217,981	209,143,624	117,456	2.01	10.8	2006	
Blackstone Real Estate Partners VI	100,000,000	109,528,873	218,606,081	1,426,967	2.01	13.1	2007	
Blackstone Real Estate Partners VII	100,000,000	112,390,951	181,590,498	18,783,571	1.78	14.9	2011	
Blackstone Real Estate Partners VIII	150,000,000	174,197,714	178,468,578	113,957,717	1.68	15.7	2015	
Blackstone Real Estate Partners IX	300,000,000	313,554,841	100,998,244	353,956,678	1.45	23.9	2018	
Blackstone Real Estate Partners X	200,000,000	8,530,453	-	6,740,329	0.79	-41.4	2022	

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 Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Secondaries		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Blackstone Strategic Partners III RE	\$ 25,000,000	\$ 25,981,820	\$ 15,252,523	\$ 95,929	0.59	-6.4	2005	
Blackstone Strategic Partners IV RE	50,000,000	51,507,991	50,981,752	762,691	1.00	0.1	2008	

Brookfield Asset Management Inc.

Brookfield Asset Management’s disciplined real estate investment approach is focused on acquiring high-quality investments on a value basis and adding value through operational enhancements. Brookfield has well established operations in more than 30 countries on five continents which enable Brookfield to readily invest wherever the most attractive opportunities emerge.

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Brookfield Strategic Real Estate Partners IV	\$ 300,000,000	\$ 154,495,186	\$ 7,380,906	\$ 159,458,689	1.08	15.3	2021

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 Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Carlyle Realty Partners VIII	\$ 150,000,000	\$ 125,128,934	\$ 106,572,205	\$ 79,887,403	1.49	26.6	2017
Carlyle Realty Partners IX	300,000,000	29,317,268.00	-	22,334,247	0.76	-36.6	2021

KKR

KKR's Real Estate Partners' strategy focuses on making opportunistic real estate and real estate-related investments primarily in the United States. The investment team pursues opportunities where they can trade situational complexity for a more attractive basis in an asset, company, or portfolio. New York, NY is the headquarters for this strategy.

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Opportunistic		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
KKR Real Estate Partners Americas III	\$ 125,000,000	\$ 74,887,791	\$ 6,247,764	\$ 66,195,441	0.97	-2.7	2021	

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 Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Landmark Real Estate Partners VIII	\$ 149,500,000	\$ 104,789,284	\$ 63,819,374	\$ 79,772,301	1.37	16.3	2016
Landmark Real Estate Partners IX	100,000,000	-	-	-	0.00	0.0	2021

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 Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Value-Add		Strategy Location: Philadelphia, PA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Lubert-Adler Real Estate Fund VII	\$ 74,147,868	\$ 67,585,213	\$ 82,515,205	\$ 20,629,218	1.54	15.5	2017	
Lubert-Adler Recovery & Enhancement Capital Fund	100,000,000	68,085,030	3,702,087.00	66,322,820	1.08	7.7	2021	

Combined Funds

Private Markets Program: Investment Manager Summaries

Real Estate

Oaktree Capital Management

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 Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: Los Angeles, CA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
OT Real Estate Opportunities Fund VIII	\$ 200,000,000	\$ 150,475,519	\$ 36,760,052	\$ 122,005,853	1.06	10.8	2020

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 Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Rockpoint Real Estate Fund V	\$ 100,000,000	\$ 99,919,326	\$ 58,755,434	\$ 59,402,863	1.18	4.5	2014
Rockpoint Real Estate Fund VI	100,000,000	79,337,348	11,126,725	84,965,396	1.21	11.8	2019

Rockwood

Rockwood focuses on making value-add investments in commercial real estate in the U.S. Rockwood targets Office, Retail, Industrial, 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 offices in Los Angeles, New York City, and San Francisco.

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Value-Add		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Rockwood Capital RE Partners X	\$ 100,000,000	\$ 95,391,047	\$ 57,507,174	\$ 54,972,654	1.18	4.7	2015
Rockwood Capital RE Partners XI	100,000,000	70,833,887	4,276,848	75,867,288	1.13	7.2	2019

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.

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation					
Strategy: Opportunistic		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Silverpeak Legacy Pension Partners II	\$ 75,000,000	\$ 73,069,012	\$ 92,033,940	\$ 420,285	1.27	4.2	2005
Silverpeak Legacy Pension Partners III	150,000,000	70,940,363	17,261,685	3,313,931	0.29	-11.9	2008

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 Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Value-Add		Strategy Location: Boston, MA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
The Realty Associates Fund X	\$ 100,000,000	\$ 100,000,000	\$ 161,146,171	\$ 109,451	1.61	12.6	2012	
The Realty Associates Fund XI	100,000,000	100,000,000	116,669,552	47,285,369	1.64	11.4	2015	
The Realty Associates Fund XII	100,000,000	100,000,000	18,149,755	136,387,741	1.55	20.9	2018	
The Realty Associates Fund XIII	150,000,000	-	-	-	0.00	0.0	2023	

¹MOIC: Multiple of Invested Capital is calculated by dividing the sum of the fund's realized and unrealized value by the total dollar amount invested.

²IRR: 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.

Combined Funds

Private Markets Program: Investment Manager Summaries

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
T. Rowe Price SBI Private Markets	\$ 1,134,203	\$ -	\$ 1,671,488	\$ -	\$ -

Private Markets Uninvested Allocation Managers

S&P 500 Mandate

BlackRock Institutional Trust Company, N.A.

Product Name:	S&P 500 Passive Equity	Benchmark:	S&P 500 Index
Product Inception Date:	December 1977	Investment Style:	Large-Cap Core
Firm Assets (6/30/23):	\$9.4 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$893.8 billion	Investment Process:	Index Replication
Product Location:	San Francisco, CA	Expected # of Holdings:	Approx. 500
Date Funded:	December 2020	Expected Ann. Turnover:	3-5%

For this passive account, BlackRock seeks to match the total rate of return of the S&P 500 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. This account may be funded with part or all of the Uninvested Allocation when the Private Markets program is below its strategic target. The account is not funded when the program is at or above its target.

Cash Overlay Mandate

NISA Investment Advisors, LLC

Product Name:	Beta Overlay	Benchmark:	S&P 500 Index
Product Inception Date:	November 1998	Investment Style:	Large-Cap Core
Firm Assets (6/30/23):	\$270.0 billion (physical) + \$224.6 billion (notional)	Fundamental/Quant:	N/A
Product Assets (6/30/23):	\$116.6 billion (notional)	Investment Process:	Futures-based Cash Securitization
Product Location:	St. Louis, Missouri	Expected # of Holdings:	<10
Date Funded:	December 2020	Expected Ann. Turnover:	N/A

NISA manages a futures-based cash securitization program. In this program, derivatives are used to reduce cash drag and seek to increase expected returns of the overall Plan using a flexible and lower cost separately managed account framework. NISA's investment philosophy for overlay strategies is to seek to achieve specified market performance and carefully manage costs through efficient execution, rather than initiating active risk in pursuit of excess market returns. NISA manages some or all of the Uninvested Allocation to an S&P500 mandate when the Private Markets Program is below its strategic target, and holds cash when the program is at or above target.

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Other Retirement Funds

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Other Retirement Funds Overview

Overview

As of June 30, 2023, in addition to the Combined Funds, the SBI manages approximately \$1.4 billion in assets on behalf of Other Retirement Funds. These Other Retirement Funds and the market value of their assets managed by the SBI as of June 30, 2023, are listed in Figure 44.

There are a variety of investment goals among the participating plans that take advantage of the SBI's investment solutions. Some retirement funds, like the Statewide Volunteer Firefighter Plan, Volunteer Fire Relief Associations, and the St. Paul Teachers' Retirement Fund, utilize SBI investment options in making investment decisions for the plan members. Other plans, such as the Public Employees Retirement Association (PERA) Defined Contribution Plan and the Unclassified Retirement Plan, allow the participating individuals to choose their investment options from those provided by the SBI.

Investment options available to these participating plans include those covered by the Supplemental Investment Fund (SIF) and other investment options largely designed for participant-directed plans. The SIF is described immediately following, and the other participant-directed options are described on pages 121-123.

Supplemental Investment Fund (SIF) Investment Options

The SIF was established in [Minnesota Statutes, Section 11A.17](#), and enables the SBI to provide efficient investment solutions for various public retirement plans and funds.

Plan Sponsor	Market Value (\$ in 000's)
Statewide Volunteer Firefighter Plan	\$ 151,720.6
Volunteer Fire Relief Associations	359,021.9
St. Paul Teachers' Retirement Fund	413,654.9
PERA Defined Contribution Plan	88,309.7
Unclassified Retirement Plan	359,023.6
Total	\$ 1,371,730.8

The SIF structure allows the SBI to offer eligible participating plans the ability to invest in asset class pools and stand-alone options used by the Combined Funds.

SIF Asset Class Pools

Assets of the Combined Funds are grouped into several investment pools segregated by asset class to gain greater operating efficiency. The SIF invests in many of the same asset class pools as the Combined Funds. Sharing investment strategies with the Combined Funds offers other retirement funds access to high-quality professional investment

managers and the benefit of lower costs due to the SBI's scale. The performance of the SIF Asset Class Pools is driven by the underlying performance of the managers selected by the SBI to manage the assets of the respective shared investment pools.

Performance and Fund Summaries

Performance results for all SIF investment options for periods ending June 30, 2023, are provided below in Figure 45.

Fund Summaries are provided on pages 110-116. The Stable Value Investment Manager summary is on page 125.

Fund/Benchmark	Annualized Returns						Option Since
	1 Year		3 Years		5 Years		
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	
Broad International Equity Fund <i>Benchmark: MSCI ACWI ex USA Index (net)</i>	14.0	12.7	8.8	7.2	4.5	3.5	9/1994
U.S. Equity Actively Managed Fund <i>Benchmark: Russell 3000</i>	19.7	19.0	13.2	13.9	11.4	11.4	7/1986
U.S. Equity Index Fund <i>Benchmark: Russell 3000</i>	19.0	19.0	14.1	13.9	11.6	11.4	7/1986
Balanced Fund <i>Benchmark: Balanced Fund Composite</i>	11.6	11.2	7.4	7.0	7.8	7.5	1/1980
Bond Fund <i>Benchmark: Bloomberg U.S. Aggregate</i>	0.3	-0.9	-3.3	-4.0	1.3	0.8	7/1986
Money Market Fund <i>Benchmark: ICE BofA 3 Month Treasury Bill</i>	4.2	3.6	1.5	1.3	1.8	1.6	7/1986
Volunteer Firefighter Account ¹ <i>Benchmark: Volunteer Firefighter Composite</i>	8.7	8.3	4.7	4.3	5.7	5.3	1/2010
Stable Value Option ² <i>3 Year Constant Maturity Treasury + 0.45 bps</i>	2.5	4.4	2.2	2.3	2.4	2.3	11/1994
¹ Volunteer Firefighter Account is the investment option for the Statewide Volunteer Firefighter Plan.							
² Not all plans are eligible to invest in the Stable Value Option.							

Other Retirement Funds Overview

SIF Share Values

SIF investment options are priced daily, and participating plans transact at the most recent share value.

The share values in the Money Market investment option remain constant, and the accrued interest income is credited to the Fund by purchasing additional shares.

For the Stable Value investment option, shares are priced based on the blended crediting rates of the contracts and yields from the liquid investments.

Statewide Volunteer Firefighter (SVF) Plan

Description

Volunteer fire relief associations are governed under [Minnesota Statutes, Chapter 424A](#). Minnesota Statutes, Chapter 353G authorized a statewide, voluntary plan for local fire relief associations. The Plan, established on January 1, 2010, is administered by the Public Employees Retirement Association (PERA). Volunteer relief association participation in the SVF becomes effective on December 31 of the year they elect to join.

2023 Activity

In January of 2023, 12 volunteer fire relief plans with collective assets of \$10.7 million joined the SVF Plan.

At the close of fiscal year 2023, the SVF was comprised of 216 volunteer fire relief plans with assets of \$151.7 million.

Investment Options

The assets of the SVF are invested in a SIF option called the Volunteer Firefighter

Account. This investment option is only available to the SVF Plan.

Volunteer Fire Relief Associations

Description

Eligible fire relief associations that choose not to participate in the SVF (and therefore are not eligible to invest in the Volunteer Firefighter Account) can choose to invest in other SIF investment options managed by the SBI, as well as non-SBI investment options. The non-SVF fire relief associations are responsible for their investment decisions and plan administration.

As of June 30, 2023, 166 non-SVF volunteer fire relief associations invested approximately \$359 million of their assets with the SBI.

Investment Options

Investment options available to volunteer fire relief associations are the SIF Asset Class Pools identified below.

- U.S. Equity Index Fund
- U.S. Equity Actively Managed Fund
- Broad International Equity Fund
- Bond Fund
- Balanced Fund
- Money Market Fund

Other Public Retirement Plans

Description

Under [Minnesota Statutes, Section 11A.17](#), any public retirement plan or fund is authorized to invest its assets in

the eligible investment options in the SIF Fund.

As of June 30, 2023, the SBI invested \$413.7 million of assets for the St. Paul Teachers' Retirement Fund.

Investment Options

Investment options available to St. Paul Teachers' Retirement Fund Associations are the SIF Asset Class Pools identified below.

- U.S. Equity Index Fund
- U.S. Equity Actively Managed Fund
- Broad International Equity Fund
- Bond Fund
- Balanced Fund
- Money Market Fund

PERA Defined Contribution Plan

Description

The PERA DC Plan is governed by [Minnesota Statutes, Chapter 353D](#), and satisfies the requirements of section 401(a) of the Internal Revenue Code. The PERA DC plan is exclusively for physicians, elected local governmental officials, city managers, and governmental volunteer ambulance service personnel.

PERA is the administrator of the Plan, and the SBI is responsible for the management and selection of investment options along with the reporting of annual returns and market values.

As of June 30, 2023, participants invested \$88.3 million in the PERA DC Plan.

Other Retirement Funds Overview

Investment Options

In addition to the SIF Asset Class Pools offered as investment options to participants in the PERA DC Plan, participants may also invest in the Stable Value Fund, as reflected below.

- U.S. Equity Index Fund
- U.S. Equity Actively Managed Fund
- Broad International Equity Fund
- Bond Fund
- Balanced Fund
- Money Market Fund
- Stable Value Option

The default investment option, unless participants direct otherwise, is the Balanced Fund.

Unclassified Retirement Plan

Description

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 certain Minnesota employees in unclassified positions. The Plan is administered by MSRS, which has contracted with Empower as the record keeper.

As of June 30, 2023, over \$359 million was invested in the Unclassified Retirement Plan.

Investment Options

Participants in the Unclassified Retirement Plan can invest in the following investment options:

- Vanguard Total U.S. Stock Market Index Fund
- Vanguard Midcap Index Fund
- Vanguard Dividend Growth Fund
- T. Rowe Price Small Cap Fund
- Vanguard Total International Stock Index Fund
- Vanguard Bond Index Fund
- Dodge & Cox Income Fund
- Vanguard Balanced Fund
- Minnesota Target Retirement Option
- Money Market Fund
- Stable Value Option

Unless participants direct otherwise, the default investment option is the Target Retirement Fund.

The description of the investment options available to the Unclassified Retirement Plan is available on pages 121-123.

Performance

Performance results for these investment options for periods ending June 30, 2023, are provided on page 122 and 123 in Figures 54 and 55.

Supplemental Investment Fund

Investment Option: Broad International Equity Fund

Broad International Equity Fund

Investment Objective

The Broad International Equity Fund invests in the equity of companies outside the US, with a goal of outperforming the MSCI ACWI ex USA Index, a developed international and emerging markets index.

Most of the Fund is typically invested in the stocks of the largest developed international markets, including Japan, the United Kingdom, France, Switzerland, and Canada. A portion of the fund is invested in other well-established markets in Europe and the Pacific region. In addition, the Fund invests in emerging markets worldwide, including those in Asia, Latin America, Eastern Europe, the Middle East, and Africa.

At the end of fiscal year 2023, the Fund's market value was \$135.4 million.

Investment Management

The Broad International Equity Fund invests alongside the Combined Funds by investing all its assets in the Combined Funds' International Equity Program. The International Equity Program retains active and passive managers. Active managers use a variety of investment styles and approaches as they seek to outperform the market. The Program's passive manager seeks to approximate the returns of the international markets in developed and emerging markets at a low cost.

Fiscal Year 2023 Changes

One manager was removed from the Broad International Equity Fund during the 2023 fiscal year. The assets of that manager were reallocated to other managers within the Fund.

Investment Performance

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

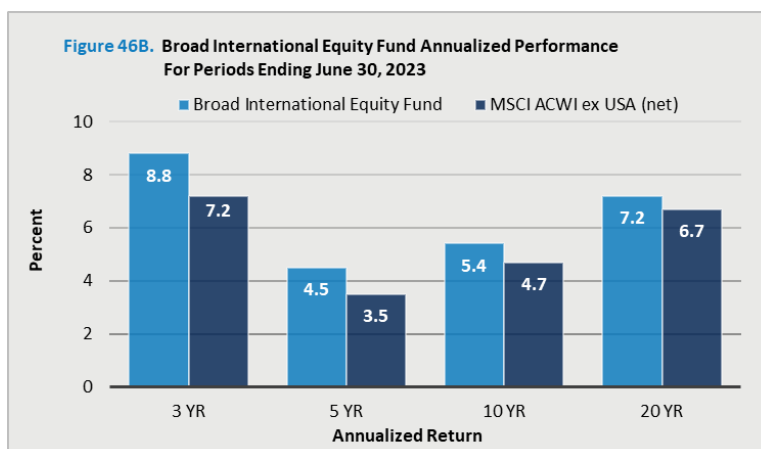
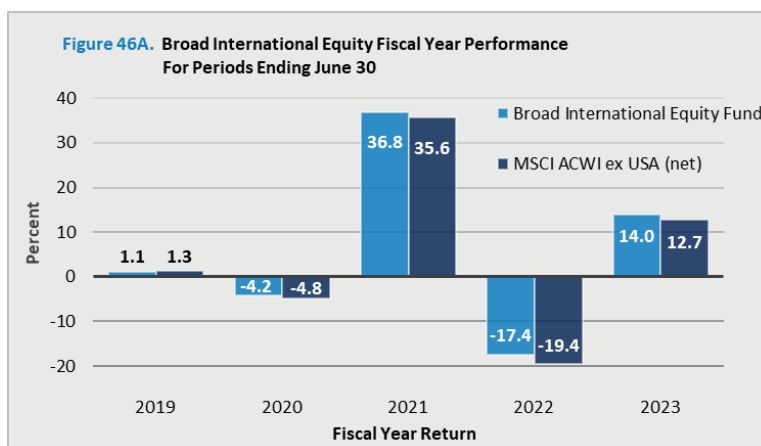
— **Total Fund.** The Broad International Equity Fund is expected to exceed the MSCI ACWI ex-USA Index (net) returns.

Individual Manager.

Performance objectives for the individual managers are described on pages 41-47 of this report.

During fiscal year 2023, the Fund outperformed the MSCI ACWI ex USA Index (net) by 1.3 percentage points. Over the most recent ten-year period, the Fund exceeded its benchmark by 0.7 percentage point per annum.

Historical performance results for this Fund are shown below in Figures 46A and 46B.



Supplemental Investment Fund

Investment Option: U.S. Equity Actively Managed Fund

U.S. Equity Actively Managed Fund

Investment Objective

The investment objective of the U.S. Equity Actively Managed Fund is to generate returns over the broad U.S. equity market as measured by the Russell 3000 Index. To achieve this objective, the Fund is invested primarily in domestic equities.

At the end of fiscal year 2023, the Fund's market value was \$83.7 million.

Investment Management

The U.S. Equity Actively Managed Fund assets are invested across the actively managed strategies within the Combined Funds Domestic Equity Program. The Program's actively managed strategies include managers benchmarked to various Russell styles, including large-cap growth and value, small-cap growth and value, and all-cap growth. The fund also invests in semi-passive managers benchmarked to a large-cap core style. These categories represent the actively managed sub-asset groups within the Domestic Equity Program.

As a fully actively managed investment strategy, the Fund's performance can be expected to exhibit more variability than a passively managed approach. The Fund may hold a small amount of cash representing new contributions received before investment in the market and cash that may be held by individual managers in the Fund.

Investment Performance

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

- **Total Fund.** The U.S. Equity Actively Managed Fund is expected to exceed the returns of the Russell 3000 Index.
- **Individual Manager.** Performance objectives for the individual managers are described on pages 35-40 of this report.

The U.S. Equity Actively Managed Fund returned 19.7% for the fiscal year, outperforming the Russell 3000 Index return. Over the

last ten-year period, the Fund outperformed its benchmark by 0.3 percentage point per annum.

The Fund's outperformance relative to the benchmark for the fiscal year was driven by strong underlying performance from the Fund's managers, particularly those focused on large-cap growth stocks. Strong relative performance from the Fund's semi-passive managers also benefitted the Fund's performance for the fiscal year.

Historical performance results for this Fund are shown below in Figures 47A and 47B.

Figure 47A. U.S. Equity Actively Managed Fund Fiscal Year Performance For Periods Ending June 30

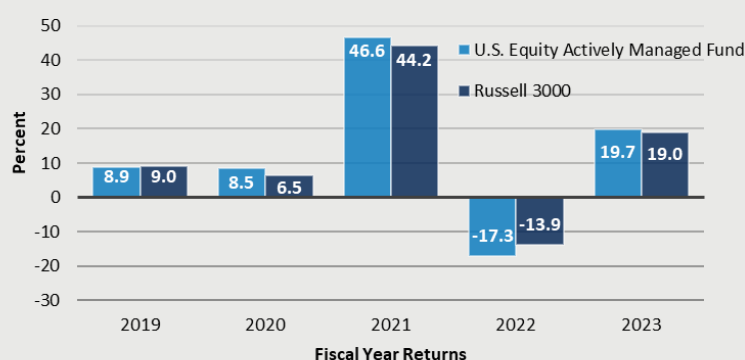
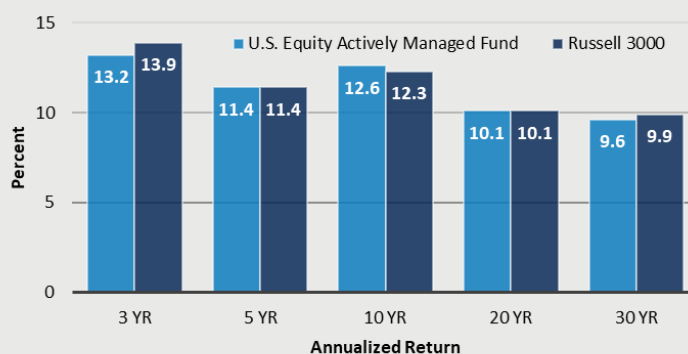


Figure 47B. U.S. Equity Actively Managed Fund Annualized Performance For Periods Ending June 30, 2023



Supplemental Investment Fund

Investment Option: U.S. Equity Index Fund

U.S. Equity Index Fund

Investment Objective

The investment objective of the U.S. Equity Index Fund is to generate returns that track the performance of the broad U.S. equity market, as represented by the Russell 3000 Index. The SBI invests in a fully passively managed strategy to accomplish this objective.

At the end of fiscal year 2023, the Fund's market value was \$415.0 million.

Investment Management

The U.S. Equity Index Fund invests in the Russell 3000 passively managed segment of the Combined Funds Domestic Equity Program, managed by BlackRock Institutional Trust Company.

In addition to being a standalone investment option, the U.S. Equity Index Fund is the option used for the equity allocation within the Balanced Fund and Volunteer Firefighter Account.

Investment Performance

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

Performance objectives for the Russell 3000 Index manager are described on page 40 of this report.

The U.S. Equity Index Fund matched the Russell 3000 Index for the fiscal year with a 19.0%. The Fund closely tracked the benchmark over longer time-periods.

Historical performance results for this Fund are shown below in Figures 48A and 48B.

Figure 48A. U.S. Equity Index Fund Fiscal Year Performance
For Periods Ending June 30

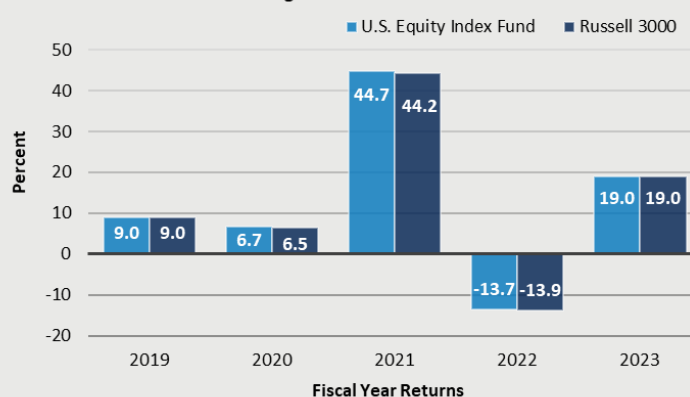
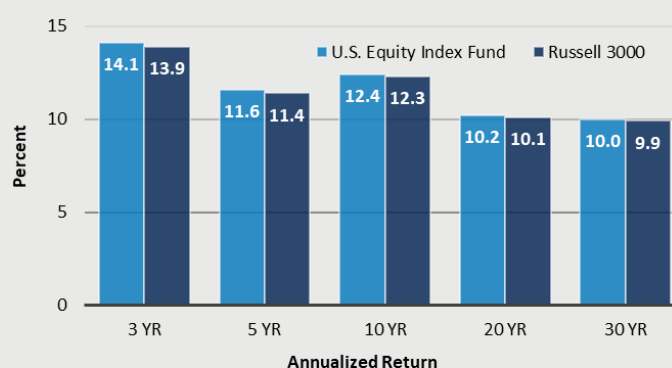


Figure 48B. U.S. Equity Index Fund Annualized Performance
For Periods Ending June 30, 2023



Supplemental Investment Fund

Investment Option: Balanced Fund

Balanced Fund

Investment Objective

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

The SBI invests the Balanced Fund in a portfolio of domestic equities, fixed-income securities, and cash. The Balanced Fund's long-term strategic asset allocation is:

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

The Fund's allocation provides a hedge against deflation and diversification protection against equity market volatility.

The SBI follows a disciplined approach to rebalancing to maintain the target asset allocation and risk exposure over time.

At the end of fiscal year 2023, the market value of the Balanced Fund was \$113.5 million.

Investment Management

The equity segment of the Balanced Fund 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 segment of the Fund is invested in the Combined Funds Core Plus Bond segment, managed by multiple active external

investment managers retained by the SBI. State Street Global Advisors actively manages the Money Market Fund.

Investment Performance

As with the other SBI investment options that 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 Managers.** The passive stock manager is expected to closely track the

performance of the Russell 3000 Index. The external managers for the Bond Fund are expected to exceed the performance of the Bloomberg 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 returned 11.6% for fiscal year 2023, outperforming its benchmark. Over the most recent ten years, the Balanced Fund exceeded its benchmark by 0.3 per annum.

Figures 49A and 49B below show the historical performance results for this Fund.

Figure 49A. Balanced Fund Fiscal Year Performance For Periods Ending June 30

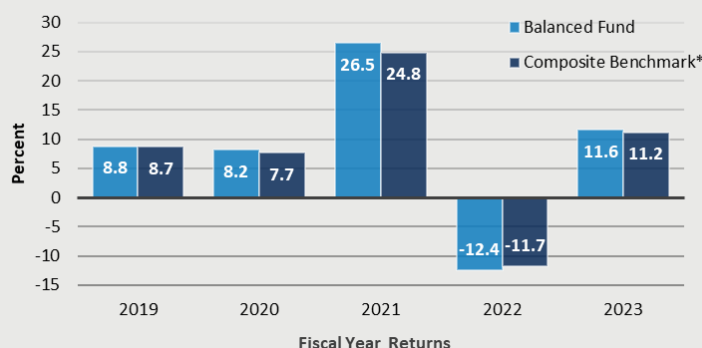
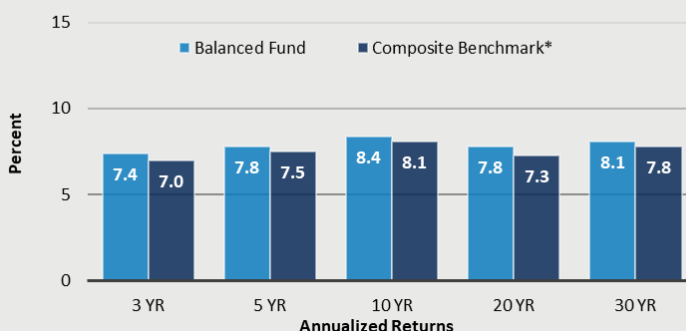


Figure 49B. Balanced Fund Annualized Performance For Periods Ending June 30, 2023



*The Composite Benchmark represents the respective sub-asset group benchmark return weighted by its target allocation.

Supplemental Investment Fund

Investment Option: Bond Fund

Bond Fund

Investment Objective

The objective of the Bond Fund is to provide current income and long-term growth potential while preserving invested capital.

The Fund earns investment returns through interest income and capital appreciation. Because bond prices move inversely with interest rates, the value of the Fund may fluctuate with changes in prevailing interest rates. Historically, the Fund represents a lower-risk alternative than the investment options that include common stocks.

At the end of fiscal year 2023, the Fund's market value was \$100.7 million.

Investment Management

The Bond Fund invests alongside the Combined Funds Core Plus Bond segment. This segment retains active managers with either a core or a core plus investment strategy.

Managers in the core bond strategy invest in high-quality fixed-income securities across all investment-grade sectors of the market. Managers in the core plus bond strategy invest in high-quality fixed-income security. They are also allowed expanded flexibility to invest in high-yield corporate bonds, international securities, and bonds issued by emerging market sovereign and corporate issuers.

In addition to being a standalone investment option, the Bond Fund provides the fixed income allocation for the Balanced Fund and the Volunteer Firefighter Account.

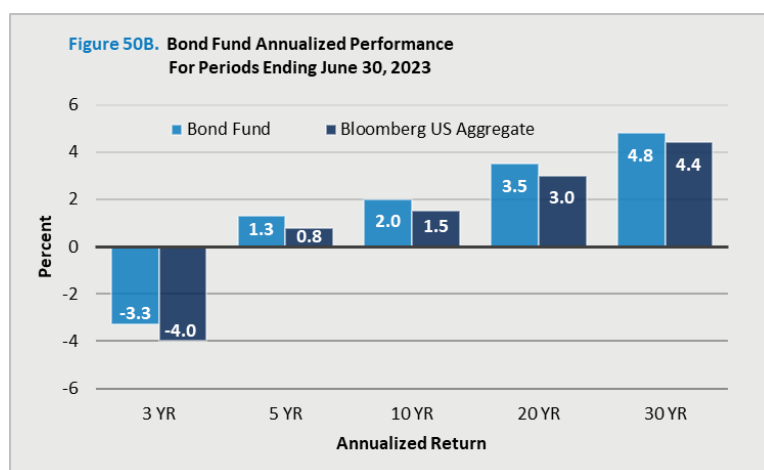
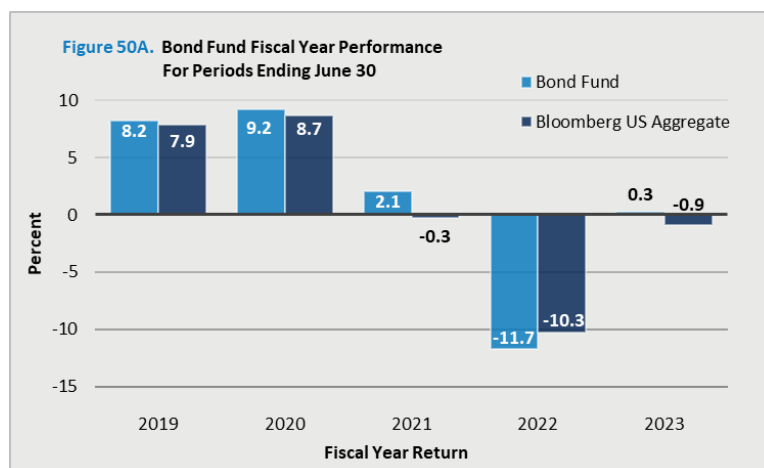
Investment Performance

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 U.S. Aggregate Bond Index.
- **Individual Manager.** Performance objectives for the individual managers are described on pages 58-59 of this report.

For fiscal year 2023, the Bond Fund returned 0.3%, outperforming its benchmark, which returned -0.9% for the same period. For the most recent ten-year period, the Fund exceeded its benchmark by 0.5 percentage point per annum.

Historical performance results for this Fund are shown below in Figures 50A and 50B.



Supplemental Investment Fund

Investment Option: Money Market Fund

Money Market Fund

Investment Objective

The Fund seeks to provide safety of principal and a high level of liquidity while offering competitive money market returns. Although the Fund seeks to maintain a stable or constant net asset value, there can be no assurance that it will do so.

The Fund is not a “money market fund” registered with the U.S. Securities Exchange Commission (SEC) and is not subject to the various rules and limitations that apply to such funds.

As of June 30, 2023, \$699.4 million was invested in the Money Market Fund.

Investment Management

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

Investment Strategy

The Fund invests primarily in high-quality, short-term securities and other instruments including but not limited to: U.S. Treasury bills, notes, bonds, and other obligations issued or guaranteed as to principal or interest by the U.S. Government, its agencies, or instrumentalities. All securities must be denominated in U.S. dollars.

Investment Performance

The Fund is expected to produce returns competitive with those available from short-term debt securities. For fiscal year 2023, the Money Market Fund returned 4.2%, outperforming its benchmark, the ICE BofA 3-month T-Bill Index, which returned 3.6% for the same period. 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 Figures 51A and 51B.

Figure 51A. Money Market Fund Fiscal Year Performance For Periods Ending June 30

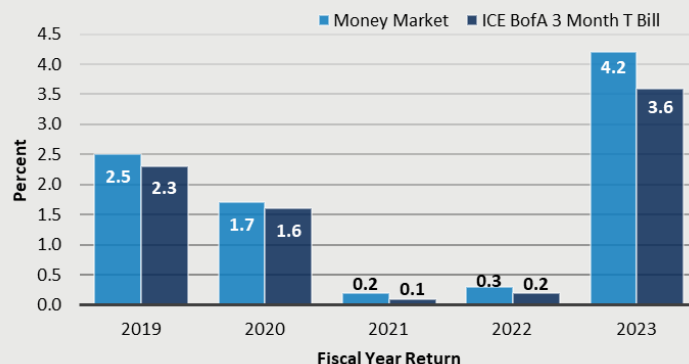
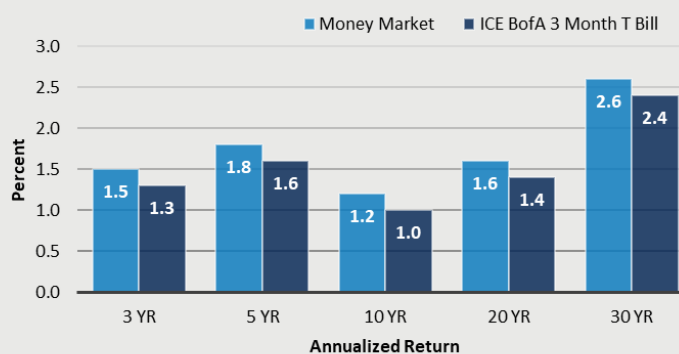


Figure 51B. Money Market Fund Annualized Performance For Periods Ending June 30, 2023



Supplemental Investment Fund

Investment Option: Volunteer Firefighter Account

Volunteer Firefighter Account

Investment Objective

The investment objective of the Volunteer Firefighter Account is to earn a return from both capital appreciation (increases in market value) and current yield (dividends from stocks and interest on bonds). The policy allocation targets also consider the objectives of protecting against adverse economic environments and controlling short-run portfolio return volatility.

The SBI invests the Account using the following allocation targets:

Domestic Equity	35%
International Equity	15%
Fixed Income	45%
Cash Equivalent	5%
Total	100%

The Fund's allocation provides a hedge against deflation and diversification protection against equity market volatility.

The SBI follows a disciplined approach to rebalancing to maintain the target asset allocation and risk exposure over time.

As of June 30, 2023, \$151.7 million was invested in the Volunteer Firefighter Account.

Investment Management

The Account's investment management structure combines active and passive management. The Domestic Equity segment invests in the U.S. Equity Index Fund, a passively managed portfolio that tracks the returns of the Russell 3000 Index. The International Equity segment

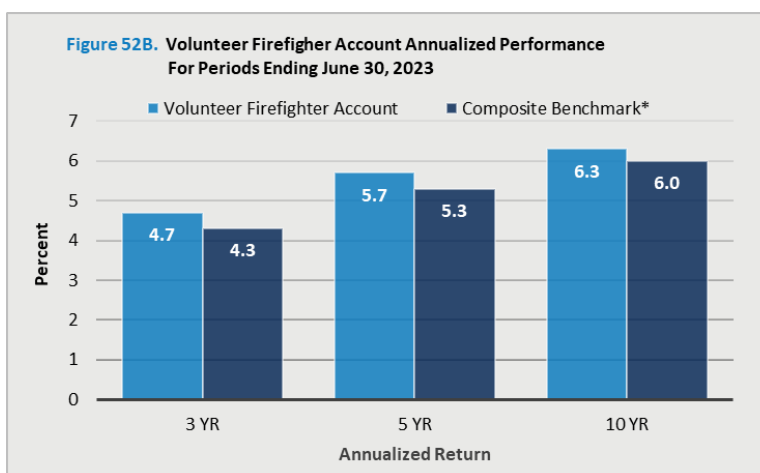
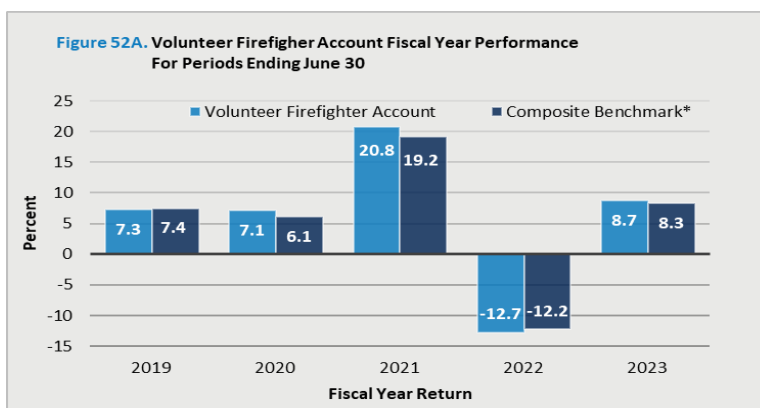
invests in the Combined Funds International Equity Program to invest across a broad range of developed and emerging markets. The bond allocation represents the Core Plus Bond segment within the Combined Funds.

Investment Performance

The Board evaluates the performance of the Volunteer Firefighter Account on two levels: by total account and by the individual manager. The

Account returned 8.7% for the fiscal year ending June 30, 2023, outperforming its composite benchmark by 0.4%.

Over the most recent ten-year period, the Plan exceeded its benchmark by 0.3 percentage point per annum. Figures 52A and 52B provide the historical performance results for the Volunteer Firefighter Account.



*The Composite Benchmark represents the respective sub-asset group benchmark returns weighted by its target allocation.



Tax- Advantaged Savings Plans

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Tax-Advantaged Savings Plans

Investment Program Overview

Overview

The SBI is responsible for providing investment options to various tax-advantaged savings plans. These plans represent approximately \$11.2 billion of assets managed by the SBI as of June 30, 2023. Figure 53 lists the assets of the plans that comprise this group: Health Care Savings Plan, Hennepin County Supplemental Retirement Plan, and Minnesota Deferred Compensation Plan.

The SBI aims to help participants meet their savings and investment goals by offering a range of investment options across asset classes, with high-quality managers at competitive fees and expenses, benefiting from the SBI's scale.

The investment options offered within each plan will vary based on several factors, including statutory requirements, operational limitations, and other rules and regulations established for each participating plan.

Tax-Advantaged Savings Plans Investment Options Performance

As of June 30, 2023, performance results for all SBI Tax-Advantaged Savings Plans are provided on page 122 in Figure 54.

Health Care Savings Plan

Description

The Health Care Savings Plan (HCSP) was established under [Minnesota Statutes, Section 352.98](#) and is organized as a section 115 Governmental Trust exempt from federal income tax through Private Letter Ruling.

Figure 53. Tax-Advantaged Savings Plans Assets as of June 30, 2023

Plans	Market Value (\$ in 000's)
Health Care Savings Plan	\$1,796,911.3
Hennepin County Supplemental Retirement Plan	163,891.5
Minnesota Deferred Compensation Plan	9,232,262.0
Total Tax-Advantaged Savings Plans	\$11,193,064.8

The HCSP is available to all public employees in the state of Minnesota. As specified in [Minnesota Statutes, Section 356.645](#),

the SBI is responsible for determining the investment options for this plan. The Plan is administered by the Minnesota State Retirement System (MSRS), which contracts with Empower as the record keeper.

As of June 30, 2023, approximately \$1.8 billion was invested in the Health Care Savings Plan.

Investment Options

Participants in this Plan can select from the following investment options:

- Vanguard Total U.S. Stock Market Index Fund
- Vanguard Midcap Index Fund
- Vanguard Dividend Growth Fund
- T. Rowe Price Small Cap Fund
- Vanguard Total International Stock Index Fund
- Vanguard Bond Index Fund
- Dodge & Cox Income Fund
- Vanguard Balanced Fund
- Money Market Fund
- Stable Value Option

The default investment option is the Money Market Fund unless participants direct otherwise.

Hennepin County Retirement Plan

Description

The Hennepin County Supplemental Retirement Plan is governed under [Minnesota Statutes, Section 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 before April 14, 1982. The plan is administered by MSRS, which has contracted with Empower as record keeper.

As of June 30, 2023, approximately \$163.9 million was invested in the Hennepin County Supplemental Retirement Plan.

Investment Options

Participants in this Plan can invest in the following investment options:

- Vanguard Total U.S. Stock Market Index Fund
- Vanguard Midcap Index Fund
- Vanguard Dividend Growth Fund
- T. Rowe Price Small Cap Fund
- Vanguard Total International Stock Index Fund

Tax-Advantaged Savings Plans Investment Program Overview

- Vanguard Bond Index Fund
- Dodge & Cox Income Fund
- Vanguard Balanced Fund
- Money Market Fund

The Hennepin County Supplemental Retirement Fund is a closed plan.

Minnesota Deferred Compensation Plan

Description

The Minnesota Deferred Compensation Plan (MNDCP) was established under [Minnesota Statutes, Section 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. The plan is administered by MSRS, which has contracted with Empower as a record keeper.

As of June 30, 2023, participants invested over \$9.2 billion in the Minnesota Deferred Compensation Plan.

Investment Options

Participants in this Plan can select from the following investment options:

- Vanguard Total U.S. Stock Market Index Fund
- Vanguard Institutional Index Fund (S&P)
- Vanguard Midcap Index Fund
- Vanguard Dividend Growth Fund
- T. Rowe Price Small Cap Fund
- Vanguard Total International Stock Index Fund
- Fidelity Diversified International Equity Option
- Vanguard Bond Index Fund
- Dodge & Cox Income Fund
- Minnesota Target Retirement Option
- Vanguard Balanced Fund
- Money Market Fund
- Stable Value Option
- Self-Directed Brokerage Account (allows participants to invest in most publicly traded mutual funds).

Unless participants direct otherwise, the default option is the Target Retirement Fund.

Tax-Advantaged Savings Plans

Investment Options

Investment Options

Investment options for the SBI Tax-Advantaged Savings Plans are selected to accommodate varying risk appetites and investment goals. Equity options present the potential for higher returns, while fixed-income options offer a steady income with relatively lower risk. Additionally, stable value and money market options prioritize principal protection and liquidity. Most investment choices encompass both active and passive management strategies. Actively managed funds are available for participants aiming for potential above-market returns, acknowledging the associated risk of underperformance against market benchmarks. Passively managed options cater to participants seeking consistent market exposure at a reduced cost compared to active management.

A description of each investment option is included in the **Investment Manager Summaries** section on pages 124-128.

Performance results for June 30, 2023, are provided in Figures 54 and 55 on pages 122 and 123.

Actively Managed Investment Options

Actively managed investment options are available in the following asset classes:

- **Large-Cap Equity:** a concentrated portfolio of high-quality stocks offering exposure to dividend-focused companies across all industries. The fund performance is measured against the S&P U.S. Dividend Growers Index.

The fund currently offered is the Vanguard Dividend Growth Fund.

- **Small-Cap Equity:** invests primarily in companies with small market capitalizations. The fund is expected to outperform the Russell 2000 Index. The fund currently offered is the T. Rowe Price Small-Cap Stock Fund.
- **International Equity:** invests primarily in stocks of companies in developed countries outside the U.S. The fund is expected to outperform the Morgan Stanley Capital International (MSCI) Index of Europe, Australasia, and the Far East (EAFE). The fund currently offered is the Fidelity Diversified International Equity Commingled Investment Trust (CIT).
- **Fixed Income:** invests primarily in investment-grade securities in the U.S. bond market. The fund is expected to outperform the Bloomberg U.S. Aggregate Bond Index. The fund currently offered is the Dodge & Cox Income Fund.
- **Stable Value:** is managed to preserve principal and produce steady positive income. The portfolio is benchmarked to the 3-Year Constant Maturity Treasury Yield +0.45% and is managed by Galliard Capital Management in a separately managed account.
- **Money Market:** seeks to provide safety of principal, daily liquidity, and competitive yield by investing in short-term instruments. The fund is benchmarked to the 90-Day

T-Bill and is currently managed by State Street Global Advisors.

Passively Managed Investment Options

Passively managed investment options are available in the following asset classes:

- **All-Cap Equity:** is a passive domestic equity portfolio that tracks the CRSP U.S. Stock Market Index. The fund currently offered is the Vanguard Total U.S. Stock Index Fund.
- **Large-Cap Equity:** is a passive domestic stock portfolio that tracks the S&P 500 Index. The fund currently offered is the Vanguard Institutional Index Plus Fund.
- **Mid-Cap Equity:** 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.
- **International Equity:** 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 non-U.S. developed and emerging markets. The fund currently offered is the Vanguard Total International Stock Index Fund.
- **Fixed Income:** invests in a broad range of investment-grade U.S. fixed-income securities. The fund is expected to track the performance of the Bloomberg U.S. Aggregate Bond Index. The fund

Tax-Advantaged Savings Plans Investment Options

currently offered is the Vanguard Total Bond Market Index Fund.

- **Balanced Option:** is comprised of 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 U.S. Aggregate Bond Index. The fund currently offered is the Vanguard Balanced Index Fund.

Self-directed Brokerage

Account: The self-directed brokerage account is offered through Charles Schwab for experienced investors who may want a wider variety of publicly traded mutual fund options. This investment option is only available to Minnesota Deferred Compensation Plan participants.

Figure 54. Investment Options Performance as of June 30, 2023

Asset Class	Fund/Benchmark	1 Year		Annualized Returns ¹				Market Value ² (\$ in 000's)	Option Since
		Actual %	Bmk %	3 Years		5 Years			
Active Management									
Large Cap Equity	Vanguard Dividend Growth <i>Dividend Growth Spliced Index³</i>	10.7	15.7	13.8	13.7	12.2	12	\$983,811.3	10/2016
Small Cap Equity	T. Rowe Price Small Cap Stock <i>Russell 2000</i>	11.0	12.3	9.6	10.8	7.8	4.2	859,711.0	4/2000
International Equity	Fidelity Diversified International Option <i>MSCI EAFE Net Div</i>	19.2	18.8	6.3	8.9	5.9	4.4	334,559.4	7/1999
Fixed Income	Dodge & Cox Income Fund <i>Bloomberg U.S. Aggregate</i>	1.8	-0.9	-1.8	-4.0	2.0	0.8	297,141.2	7/1999
Stable Value	Stable Value Option <i>3 year Constant Maturity Treasury + 45 bps</i>	2.5	4.4	2.2	2.3	2.4	2.3	1,699,074.3	11/1994
Money Market	Money Market Fund <i>Three Month T-Bill Benchmark</i>	4.2	3.6	1.5	1.3	1.8	1.6	699,382.0	7/1986
Passive Management									
All Cap Equity	Vanguard Total U.S. Stock Index Fund <i>CRSP U.S. Total Stock Market</i>	18.9	18.9	13.8	13.8	NA	NA	732,338.9	7/2019
Large Cap Equity	Vanguard Institutional Index Plus Fund <i>S&P 500</i>	19.6	19.6	14.6	14.6	12.3	12.3	1,785,476.8	7/1999
Mid Cap Equity	Vanguard Mid Cap Fund <i>CRSP U.S. Mid Cap Benchmark</i>	13.7	13.7	12.0	12.0	8.6	8.6	726,378.2	1/2004
International Equity	Vanguard Total International Stock Index <i>FTSE Global All Cap ex U.S.</i>	12.3	12.3	7.5	7.4	3.7	3.5	353,779.2	7/2011
Fixed Income	Vanguard Total Bond Fund <i>Bloomberg U.S. Aggregate</i>	-0.9	-0.9	-4.0	-4.0	0.8	0.8	317,676.4	12/2003
Balanced Option	Vanguard Balanced Fund <i>Composite Benchmark</i>	10.7	10.9	6.5	6.6	7.3	7.4	1,339,480.6	12/2003
Target Date Option	Minnesota Target Retirement Option <i>Composite Benchmarks</i>	See Figure 64 for respective glide path returns						1,358,262.4	7/2011
Self Directed Brokerage Window								86,982.5	
Total ⁴								\$11,574,054.0	
¹ Returns are net of investment management fees and before MSRS Administrative fees. Returns over one year are annualized.									
² Market Value of SBI participation in Fund.									
³ S&P U.S. Dividend Growers Index Since 9/20/21, NASDAQ U.S. Dividend Achievers Select Index from 2/1/2010-9/19/21.									
⁴ Total includes assets of the Unclassified Plan and PFRA DC Plan investment in Stable Value Option									

¹ Returns are net of investment management fees and before MSRS Administrative fees. Returns over one year are annualized.

² Market Value of SBI participation in Fund.

³ S&P U.S. Dividend Growers Index Since 9/20/21, NASDAQ U.S. Dividend Achievers Select Index from 2/1/2010-9/19/21.

⁴ Total includes assets of the Unclassified Plan and PERA DC Plan investment in Stable Value Option

Tax-Advantaged Savings Plans

Investment Options

Minnesota Target Retirement Fund

The Minnesota Target Retirement Fund offers a range of glide paths, 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 manages this investment option, which is available to Minnesota Deferred Compensation Plan and Unclassified Retirement Plan participants.

Glidepath Construction

The target date funds' glide paths gradually shift the asset allocation to specific targets at different stages in a participant's life cycle. The funds feature underlying investment options that provide participants 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. At changing levels over time, the Minnesota Target Retirement Fund will allocate assets across the following 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 the Long U.S. Government Bond Index for diversification and matches duration to longer-term liabilities for younger participants.

– **Intermediate Inflation-Protected Bonds:** invests in the 1-10-year U.S. Treasury Inflation Protected Securities (TIPS) Index for income, inflation protection, volatility risk protection, and to mitigate interest rate risk for older participants.

– **High Yield Bonds:** invests in the U.S. High Yield Very Liquid Index to provide diversification and mitigate longevity risk.

– **Short-Term Bonds:** invests in the U.S. Short-Term Government/Credit Bond Index for income, volatility risk protection, and interest rate risk mitigation for older participants.

– **Commodities:** invests in the Bloomberg Roll Select Commodities Index Strategy for diversification and inflation protection.

Performance results and market values for the Minnesota Target Retirement Fund glide paths for periods ending June 30, 2023 are shown in Figure 55.

Figure 55. Minnesota Target Retirement Option Performance For Periods Ending June 30, 2023								
Funds	Annualized Returns ¹							
	1 Year		3 Years		5 Years		Market Value ² (\$ In 000's)	Option Since
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
Income Fund	4.0	4.1	3.3	3.4	4.0	4.0	\$205,519.6	7/2011
2025 Fund	4.8	4.7	4.5	4.5	4.7	4.7	214,242.3	7/2011
2030 Fund	7.2	7.2	5.3	5.3	5.6	5.6	212,832.8	7/2011
2035 Fund	10.0	10.0	6.0	6.0	6.2	6.2	173,485.3	7/2011
2040 Fund	11.3	11.2	6.7	6.7	6.5	6.5	143,032.7	7/2011
2045 Fund	12.2	12.1	7.5	7.5	6.8	6.8	137,636.3	7/2011
2050 Fund	13.0	12.9	8.2	8.2	7.0	7.0	120,212.5	7/2011
2055 Fund	13.8	13.7	8.6	8.6	7.2	7.2	80,451.1	7/2011
2060 Fund	13.8	13.7	8.6	8.6	7.2	7.2	60,843.3	7/2011
2065 Fund	13.8	13.7	8.6	8.6	NA	NA	10,006.6	4/2020
Total MN Target Retirement Option							\$1,358,262.4	
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 each Fund.								

Tax-Advantaged Savings Plans

Mutual Funds and Target Date Fund: Investment Manager Summaries

Mutual Fund Investment Platform Managers

Actively Managed Funds

Dodge & Cox Income Fund

Asset Class:	Fixed Income	Benchmark:	Bloomberg U.S. Aggregate Bond Index
Added to Platform:	July 1999	Investment Style:	Active Core
Firm Assets (6/30/23):	\$342.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$91.1billion	Investment Process:	Bottom-up
Product Location:	San Francisco, CA	Expected # of Holdings:	1,300

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

Asset Class:	International Equity	Benchmark:	MSCI EAFE Index
Added to Platform:	July 1999	Investment Style:	Large-Cap, Developed Countries
Firm Assets (6/30/23):	\$4.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$6.7 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	100-200

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

Asset Class:	Small-Cap Equity	Benchmark:	Russell 2000
Added to Platform:	April 2000	Investment Style:	Core
Firm Assets (6/30/23):	\$1.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$4.2 billion	Investment Process:	Bottom-up
Product Location:	Baltimore, MD	Expected # of Holdings:	301

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.

Tax-Advantaged Savings Plans

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Vanguard Dividend Growth Fund

Asset Class:	Domestic Equity	Benchmark:	Dividend Growth Spliced Index
Added to Platform:	October 2016	Investment Style:	Large-Cap, High Dividend Yield
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$53.2 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	42

The fund is an actively managed U.S. stock fund that uses the Dividend Growth Spliced Index as its benchmark, which consist of the S&P U.S. Dividend Growers Index since 9/19/21, the NASDAQ U.S. Dividend Achievers Select Index from 9/18/21-2/1/2010 and the Russell 1000 1/31/2010-12/6/2002. 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.

Galliard Capital Management, Inc.

Asset Class:	Stable Value	Benchmark:	3 Yr Constant Maturity Treasury Index +0.45%
Added to Platform:	November 1994	Investment Style	Investment grade fixed income portfolio within a book value wrap contract issued by insurance companies and banks
Firm Assets (6/30/23):	\$88.2 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$71.0 billion	Investment Process:	Bottom-up
Manager Location:	Minneapolis, MN	Expected # of Holdings:	1,379

Galliard Capital Management manages the Stable Value Fund to provide preservation of principal, maintain adequate liquidity to meet potential withdrawals, produce a level of steady positive income, and provide low volatility of returns. The Fund invests in Synthetic Guaranteed Investment Contracts (GICs), which is a combination of an underlying fixed income portfolio within a book value wrap contract (an investment contract) issued by insurance companies and banks. These wrap contracts assure that participants can transact at book value (principal plus accrued interest) as well as maintain a relatively stable return profile for the portfolio regardless of daily market changes. The underlying fixed income portfolio provides a source of long-term total return while the stable value contract smooths return over time (amortizes gains/losses). The underlying fixed income portfolio invests in a well-diversified portfolio of U.S. dollar denominated, investment grade fixed income securities. The Fund also invests less than 3% of the assets in short-term securities in order to maintain necessary liquidity.

Tax-Advantaged Savings Plans

Mutual Funds and Target Date Fund: Investment Manager Summaries

Mutual Fund Investment Platform Managers

Actively Managed Funds

State Street Global Advisors

Asset Class:	Cash	Benchmark:	90 Day T Bill
Added to Platform:	July 1999	Investment Style:	Short-Term Cash
Firm Assets (6/30/23):	\$3.8 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/23):	\$54.86 billion	Investment Process:	
Manager Location:	Boston, MA	Expected # of Holdings:	227

The Money Market Fund seeks to provide safety of principal, daily liquidity, and a competitive yield over the long term. The Fund is not a "money market fund" registered with the Securities and Exchange Commission and is not subject to the various rules and limitations that apply to such funds. There can be no assurance that the Fund will maintain a stable net asset value.

The Fund invests in a diversified portfolio of U.S. dollar-denominated securities issued or guaranteed by the U.S. Government or its agencies or instrumentalities; debt securities of domestic or foreign corporations; mortgage-backed and other asset-backed securities; taxable and tax-exempt municipal bonds; obligations of international agencies or supranational entities; inflation-indexed bonds; structured notes; loan participations; delayed funding loans and revolving credit facilities; and short-term investments, such as repurchase agreements, bank certificates of deposit, fixed time deposits, and bankers' acceptances.

Passively Managed Funds

Vanguard Institutional Index Fund Institutional Plus

Asset Class:	Large-Cap Domestic Equity	Benchmark:	S&P 500 Index
Added to Platform:	July 1999	Investment Style:	Core
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$254.1 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	503

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

Asset Class:	Mid-Cap Domestic Equity	Benchmark:	CRSP U.S. Mid-Cap Index
Added to Platform:	January 2004	Investment Style:	Core
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$147.3 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	342

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.

Tax-Advantaged Savings Plans

Mutual Funds and Target Date Fund: Investment Manager Summaries

Mutual Fund Investment Platform Managers

Passively Managed Funds

Vanguard Balanced Index Fund Institutional

Asset Class::	Diversified Portfolio of 60% stocks and 40% bonds	Benchmark:	Stock allocation: CRSP U.S. Total Market Index Bond allocation: Bloomberg U.S. Aggregate Bond Index
Added to Platform:	December 2003	Investment Style:	Core
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$49.8 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	3,409 stock holdings 9,268 bond holdings

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 U.S. Aggregate Float Adjusted Bond Index, which covers virtually all taxable fixed income securities.

Vanguard Total Bond Market Index Fund Institutional Plus

Asset Class:	Fixed Income	Benchmark:	Bloomberg U.S. Aggregate Float Adjusted Bond Index
Added to Platform:	December 2003	Investment Style:	Core
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$297.3 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	10,543

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 U.S. Aggregate Float Adjusted Bond Index, which currently ranges between 5 and 10 years.

Vanguard Total International Stock Index Fund Plus

Asset Class:	International Equity	Benchmark:	FTSE Global All Cap ex US Index
Added to Platform:	July 2011	Investment Style:	Core
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$378.6 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	7,969

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.

Tax-Advantaged Savings Plans

Mutual Funds and Target Date Fund: Investment Manager Summaries

Mutual Fund Investment Platform Managers

Passively Managed Funds

Vanguard Total Stock Market Index Institutional Plus

Asset Class:	All Cap Domestic Equity	Benchmark:	CRSP U.S. Total Market Index
Added to Platform:	July 2019	Investment Style:	Core
Firm Assets (6/30/23):	\$7.4 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$1.4 trillion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	3,858

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 Manager

Minnesota Target Retirement Funds

State Street Global Advisors

Asset Class:	Diversified Portfolio that glides the allocation according to participants retirement age	Benchmark:	10* Asset Classes
Added to Platform:	July 2011	Investment Style:	Target Date Funds
Firm Assets (6/30/23):	\$3.8 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/23):	\$134.1 billion	Investment Process:	Passive
Product Location:	Boston, MA	Expected # of Holdings:	N.A.

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.

*Note: The benchmark for the US High Yield Bond exposure was transitioned from the Bloomberg U.S. High Yield Very Liquid Bond Index to the Bank of America ICE US High Yield Constrained Index effective March 31, 2023. Additionally, the U.S. Intermediate Government Bond exposure throughout the glidepath was re-allocated to the Bloomberg U.S. Long Government Bond Index effective March 31, 2023. There was no change in the overall allocation to US High Yield Bonds and US Government Bonds throughout the glidepath as a result of these changes.



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State-Sponsored Savings Plans

Investment Program Overview

Overview

The SBI is responsible for the investment options offered in the state-sponsored savings plans: Minnesota Achieving A Better Life Experience (ABLE) and MN College Savings Plan. Figure 56 lists the two plans and assets, which total approximately \$1.9 billion as of June 30, 2023.

Legislative approval is required for the SBI to invest the assets of any plan. Since the SBI does not directly administer the plans, it partners with the respective plan administering agencies when selecting investment options.

Summaries of the Minnesota ABLE Plan and the Minnesota College Savings Plan, begin on pages 132 and 133, respectively.

Minnesota ABLE Plan

Description

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 overseeing the investment options, 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.

Figure 56. State-Sponsored Savings Plan Assets as of June 30, 2023

Plans	Market Value (\$ in 000's)
Minnesota Achieving a Better Life Experience (ABLE) Plan	36,254.5
Minnesota College Savings Plan	1,830,494.5
Total State-Sponsored Savings Plans	\$1,866,748.9

In 2017, the State of Minnesota joined the National ABLE Alliance Program, which allows states across the nation to enter an interstate consortium to benefit from scale and drive fee savings 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 at www.savewithable.com.

Investment Options

A summary of the investment options offered under the Minnesota ABLE Plan is found on page 132.

As of June 30, 2023, approximately \$36.3 million was invested in the Minnesota ABLE Plan.

Performance

Performance results of the investment options for periods ending June 30, 2023, are provided on page 132 in Figure 57.

Minnesota College Savings Plan

Description

The Minnesota Legislature authorized the establishment of the Minnesota College Savings Plan under [Minnesota Statutes, Chapter 136G](#) in 1997 to help families set aside funds for future educational needs. The SBI is responsible for

overseeing the investment options, 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.

Information on the Minnesota College Savings Plan can be found at www.mnsaves.org.

Investment Options

A summary of the investment options available in the MN College Savings Plan begins on page 133.

As of June 30, 2023, approximately \$1.8 billion in assets were invested in the Minnesota College Savings Plan.

Performance

Performance results of the investment options for periods ending June 30, 2023, are provided on page 135 in Figure 59.

State-Sponsored Savings Plans

Minnesota ABLE Plan

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, 2023, the market value of the Plan was approximately \$36.3 million.

The Minnesota ABLE Plan was established to encourage and assist individuals and families to save to support individuals with disabilities to maintain health, independence, and quality of life. The SBI is responsible for overseeing the investment options, 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 member-states in the National ABLE Alliance Program, a coalition of states that has partnered to create and share program efficiencies while maintaining member-state independence.

Historical performance as of June 30, 2023, is shown in Figure 57.

Objective

The Plan aims to provide multiple saving and investment 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 seeks to

accommodate 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 and does not focus on income generation. This option has a target allocation of 90% to equities and 10% to bonds.

Moderately Aggressive Option

The moderately aggressive option seeks to provide long-term capital appreciation with relatively little focus on income generation. This option has a target allocation of 75% to equities and 25% to bonds.

Growth Option

The growth option seeks to provide capital appreciation and low current income. This option has a target allocation of 60% to equities and 40% to bonds.

Moderate Option

The moderate option seeks capital appreciation and, secondarily, moderate

current income. This option has a target allocation of 45% to equities and 55% to bonds.

Moderately Conservative Option

The moderately conservative option seeks to provide moderate current income and low capital appreciation. This option has a target allocation of 30% to equities, 45% to bonds, and 25% to cash.

Conservative Option

The conservative option seeks substantial capital preservation, limited current income, and very low capital appreciation. This option has a target allocation of 10% to equities, 30% to bonds, and 60% to 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 57. Minnesota ABLE Plan Performance for Periods Ending June 30, 2023

Investment Options	1 Year		<u>Annualized Return</u> 3 Years		Market Value	Option
	Actual %	Bmk %	Actual %	Bmk %	(\$ In 000's)	Since
Target Risk Options						
Aggressive Allocation	11.9	12.4	8.9	9.2	\$2,703.6	12/2016
Moderately Aggressive Allocation	9.9	10.3	7.3	7.6	3,106.0	12/2016
Growth Allocation	7.9	8.2	5.6	5.9	4,580.1	12/2016
Moderate Allocation	5.8	6.1	3.9	4.2	4,090.6	12/2016
Moderately Conservative Allocati	4.6	5.1	2.9	3.1	3,778.4	12/2016
Conservative Allocation	3.0	3.7	1.4	1.6	6,512.3	12/2016
Liquid Option						
Checking Option					11,483.5	3/2017
Total Minnesota ABLE Plan					\$36,254.5	
*Returns are net of underlying fund management fees and program management fees.						
*Benchmark of the multi-asset class funds represents the aggregate of the underlying funds weighted by the target asset allocation.						
*Market value of SBI participation in fund.						

State-Sponsored Savings Plans

Minnesota College Savings Plan

Minnesota College Savings Plan

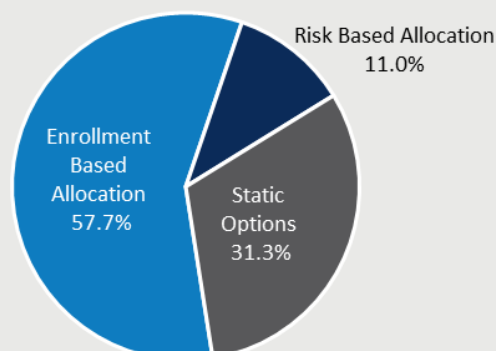
The Minnesota College Savings Plan is an education savings plan designed to help families save for future college costs. It is established under the provisions of the Internal Revenue Code Section 529, which authorizes these types of savings plans to help families meet the costs of qualified colleges nationwide. On June 30, 2023, the market value of the Plan was approximately \$1.8 billion.

The Minnesota Legislature authorized the establishment of the Minnesota College Savings Plan in 1997 and the Plan was launched in 2001. The SBI is responsible for overseeing the investment options, 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 marketplace 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 Enrollment-Based Managed Allocation Options, three Risk-Based Allocation Options, and eight Static Investment Options. The Plan includes both active and passive management strategies offered through a selection of TIAA mutual fund options. All options are priced daily.

Figure 58. MN College Savings Plan Assets by Investment Option as of June 30, 2023



Participants may re-allocate their investment twice per calendar year.

The distribution of the Plan's assets across investment option categories as of June 30, 2023, is shown in Figure 58.

Enrollment-Based Managed Allocation Option

These investment options seek to define the investment objective and level of risk to the beneficiary's investment horizon by considering the 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 categories.

As the beneficiary progresses towards college age, the asset allocation transitions to a more conservative portfolio. The enrollment options for younger beneficiaries seek favorable long-term returns by investing with relatively higher exposures to equities. As a beneficiary nears college age, the allocation to equity and real estate are reduced in favor

of fixed income and money market securities to preserve capital.

Risk-Based Allocation Option

These investment options provide a fixed level of risk and do not change as the beneficiary ages. There are three separate Risk-Based Allocation Options: Aggressive, Moderate and Conservative.

- The **Aggressive allocation 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, fixed income 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 fixed income securities denominated in U.S. dollars; 4% to inflation-linked bonds and 2% to high yield bonds.

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Minnesota College Savings Plan

- The **Moderate allocation 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% to real estate securities; 28% to public, investment-grade, taxable fixed income securities denominated in U.S. dollars; 8% to inflation-linked bonds and 4% to high yield bonds.
- 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, in equity securities. This option also invests in a funding agreement to provide capital preservation. 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 fixed income 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 in Figure 60 on the following page for further detail on the funding agreement).

Static Options

The static investment options provide investors with a broad selection of asset classes to create their own portfolios based on their desired risk and return profile.

- **International Equity Index 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:** 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:** 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.
- **Active Social Choice Equity Option:** seeks to provide a favorable long-term total return mainly from capital appreciation. The fund's evaluation process

favors companies with leadership in Environmental, Social, and Governance (ESG) performance relative to their peers. The investment process starts with an investable universe of companies from the Russell 3000 that meet defined ESG performance criteria. The process incorporates a company's exposure to ESG-related issues and involvement in certain business activities. Approximately half of the companies evaluated are included in the ESG Eligible Universe.

- **Equity and Interest Accumulation Option:** 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:** 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 fixed income securities denominated in U.S. dollars, 20% to inflation-linked bonds and 10% to a high yield bonds.
- **Money Market Option:** seeks to provide current income consistent with preserving capital. The money market option converted to a "government money market fund" in October 2016. As a result, the Fund invests only in U.S. Government securities and will invest at least 99.5% of its total assets in cash,

State-Sponsored Savings Plans

Minnesota College Savings Plan

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.

The Funding Agreement provides for a return of principal plus a fixed rate of interest.

Historical performance as of June 30, 2023, is shown below in Figure 59.

Figure 59. Minnesota College Savings Plan Performance for Periods Ending June 30, 2023

Investment Options	1 Year		Annualized Returns ¹				Market Value ² (\$ In 000's)	Option Since ³
	Actual%	Bmk %	3 Years		5 Years			
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
Enrollment-Based Options								
In School Enrollment	3.3	4.2	1.9	1.8	-	-	\$366,211.6	10/2019
2024/2025 Enrollment	3.9	5.1	3.2	3.6	-	-	167,303.0	10/2019
2026/2027 Enrollment	5.4	6.2	4.1	4.4	-	-	125,587.0	10/2019
2028/2029 Enrollment	6.8	7.4	5.2	5.6	-	-	93,792.4	10/2019
2030/2031 Enrollment	8.2	8.8	6.3	6.7	-	-	76,051.4	10/2019
2032/2033 Enrollment	9.8	10.3	7.2	7.6	-	-	66,434.0	10/2019
2034/2035 Enrollment	10.8	11.3	7.9	8.2	-	-	59,991.7	10/2019
2036/2037 Enrollment	11.4	12.0	8.4	8.7	-	-	73,684.5	10/2019
2038/2039 Enrollment	12.1	12.5	-	-	-	-	26,158.2	6/2021
2040/2041 Enrollment	-	-	-	-	-	-	1,130.3	6/2023
Risk-Based Allocation Options								
Aggressive Allocation	12.2	12.8	8.6	9.0	7.3	7.3	87,082.0	8/2014
Moderate Allocation	9.1	9.7	6.0	6.3	6.0	6.0	96,056.5	8/2007
Conservative Allocation	5.1	6.0	2.8	3.1	3.8	3.9	17,256.2	8/2014
Static Options								
International Equity Index	14.9	15.3	7.9	7.7	4.0	3.8	10,344.4	6/2013
U.S. and International Equity	15.3	15.9	11.3	11.8	8.6	8.5	287,922.6	10/2001
U.S Large-Cap Equity	19.4	19.6	14.4	14.6	12.1	12.3	113,692.6	8/2014
Social Choice Equity Fund	17.8	19	-	-	-	-	1,306.8	6/2021
Equity and Interest Accumulator	10.1	11.7	7.7	7.9	6.7	6.9	8,462.3	8/2014
100% Fixed-Income	0.1	0.3	-2.2	-2.0	1.3	1.6	18,066.8	8/2007
Money Market	3.6	3.4	1.3	1.2	1.4	1.3	18,039.9	11/2007
Principal Plus Interest ⁴	1.6	3.8	1.5	1.3	1.7	1.6	115,907.4	10/2001
Total Minnesota College Saving Plan							\$1,830,481.7	
¹ Returns are net of Underlying Fund Expense, TFI Program Management Fee and State Administrative fee of 0.25%. 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 until 8/31/2023 is 2.9%; from 9/1/2021 until 8/31/2023 the crediting rate was 1.10%. Assets from the MN 529 Plan Matching Grant Program are allocated to the Principal Plus Interest option.								

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Non-Retirement Investment Program

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Non-Retirement Investment Program

Investment Program Overview

Overview

The SBI manages the Non-Retirement Funds program for designated trust funds, Other Postemployment Benefit (OPEB) trusts, and various programs created by the Minnesota Constitution and Legislature.

On June 30, 2023, the market value of all Non-Retirement Funds assets managed by the SBI was approximately \$5.7 billion.

The SBI established the various investment options within the Non-Retirement Funds to provide certain Minnesota public sector entities the opportunity to achieve their investment objectives.

Investment Options

There are three asset class-specific investment options for eligible participating entities: the Equity Fund, the Bond Fund, and the Money Market Fund. In addition to these options, the SBI manages dedicated portfolios for the Assigned Risk Plan and Met Council. These portfolios invest in fixed-income securities and have investment objectives specific to of each plan.

Figure 60 lists Non-Retirement Fund investment options with market values as of June 30, 2023.

Participating Entities

The Non-Retirement Program's participating entities are identified as Trusts, OPEBs, or Qualifying Governmental Entities.

Figure 61 provides the composition of assets by participating entity.

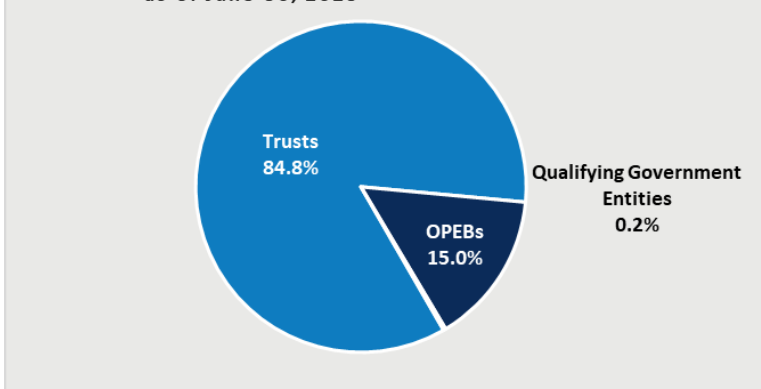
These entities may allocate their investments among one or more funds that are appropriate for their needs and are within the rules and eligibilities established for their account.

Figures 62-64, on the next page, provide a breakdown of the participating entities within the Non-Retirement Funds.

Figure 60. Non-Retirement Fund Assets by Investment Option as of June 30, 2023

Investment Option	Market Value (\$ in 000's)	% of Assets
Non-Retirement Equity Fund	\$3,142,567.3	54.8%
Non-Retirement Bond Fund	1,559,220.0	27.2%
Non-Retirement Money Market Fund	722,953.6	12.6%
Assigned Risk Plan Intermediate Govt. Bond Fund	207,435.4	3.6%
Met Council Ladder Fixed Income Portfolio	99,598.2	1.7%
Total Non-Retirement Assets	\$5,731,774.5	100.0%

Figure 61. Non-Retirement Fund Participation by Entity as of June 30, 2023



Non-Retirement Fund Participation by Entity as of June 30, 2023

Participating Entity	Market Value (\$ in 000's)	% of Assets
Trusts	\$4,861,380.1	84.8%
OPEBs (Other Post Employment Benefit)	857,389.8	15.0%
Qualifying Government Entities	13,004.7	0.2%
Total Non-Retirement Assets	\$5,731,774.5	100.0%

Non-Retirement Investment Program

Investment Program Overview

Investment Management

Non-Retirement Equity Fund

Mellon Investments Corporation passively manages this Fund in a separate account that seeks to track the performance of the S&P 500 Index.

The Non-Retirement Equity Fund summary is provided on page 141.

Non-Retirement Bond Fund

This Fund is actively managed by Prudential Global Investment Management (PGIM) and seeks to outperform the Bloomberg U.S. Aggregate Bond Index.

The Non-Retirement Bond Fund summary is provided on page 142.

Non-Retirement Money Market Fund

The Money Market Fund provides safety of principal by investing in high-quality short-term money market securities. State Street Global Advisors manage this Fund.

The Non-Retirement Money Market Fund summary is provided on page 143.

Assigned Risk Plan Fixed Income Portfolio

The Assigned Risk Plan fixed income portfolio is actively managed by RBC Global Asset Management to provide income and preserve invested principal to support the payment of worker compensation claims.

The Fund summary for the Assigned Risk Plan fixed income portfolio is provided on page 144.

Figure 62. Participating Trust Accounts as of June 30, 2023

Participating Trust Funds	Market Value (\$ in 000's)	% of Assets
Assigned Risk Plan	\$264,902.8	5.4%
Closed Landfill Investment Fund	\$129,730.7	2.7%
Environmental Trust Fund	\$1,619,749.4	33.3%
Permanent School Fund	\$1,889,599.2	38.9%
Other Trusts ¹	\$957,398.0	19.7%
Total	\$4,861,380.1	100.0%
¹ Includes assets of Duluth Community Investment Trust, Emergency Medical Services, Ethel Currey, IRRR (Iron Range Resources and Rehabilitation), Lifetime Fish and Wildlife, Metropolitan Landfill Contingency Action Trust, Mitigation Easement Stewardship, Natural Resources Conservation, Saint Louis County Environmental, Water and Soil Conservation Easement, Winona State, and 3M East Metro Trusts.		

Figure 63. Participating OPEB Accounts as of June 30, 2023

Participating OPEB Accounts	Market Value (\$ in 000's)	% of Assets
Anoka County (Irrevocable)	\$100,260.0	11.7%
Duluth	96,348.0	11.2%
Metropolitan Council	324,950.9	37.9%
Ramsey County (Irrevocable)	116,303.9	13.6%
Washington County	95,179.6	11.1%
Other OPEBs ¹	124,347.4	14.5%
Total	\$857,389.8	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, and Yellow Medicine ISD #2190.		

Figure 64. Participating Qualifying Governmental Accounts as of June 30, 2023

Qualifying Governmental Account	Market Value (\$ in 000's)	% of Assets
Carver County Minnesota	\$2,072.1	15.9%
Minnesota Counties Intergovernmental Trust	\$5,558.0	42.7%
City of Woodbury	\$5,374.6	41.3%
Total	\$13,004.7	100.0%

Non-Retirement Investment Program

Investment Option: Non-Retirement Equity Fund

Non-Retirement Equity Fund

The Non-Retirement Equity Fund provides domestic equity exposure to entities authorized to use this investment vehicle. The types of entities that may invest in the Non-Retirement Equity Fund include state and other trust funds, OPEB accounts, and Qualifying Governmental Entities.

As of June 30, 2023, the Non-Retirement Equity Fund had a market value of \$3.1 billion.

Investment Objective

The investment objective of the Non-Retirement Equity Fund is to track the S&P 500 Index, a widely used benchmark of large-capitalization U.S. stocks. The Fund 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, is expected to be within 0.1%.

Investment Management

In 2017, Mellon Investments Corporation was hired to manage the Fund. Prior to Mellon, the Fund was managed internally by SBI staff.

Mellon employs an index replication strategy by owning all the stocks in the S&P 500 Index at the weightings assigned by the Index.

To maintain appropriate liquidity for daily cash flows, the manager holds some cash in the portfolio, which is equitized by using S&P 500 futures contracts.

Mellon is required to adhere to the SBI's investment guidelines in managing the account.

Investment Performance

The SBI measures the Non-Retirement Equity Fund against the S&P 500 Index.

The Non-Retirement Equity Fund closely tracked its benchmark for all time periods listed.

Historical performance results are shown below in Figures 65A and 65B.

Figure 65A. Non-Retirement Equity Fund Fiscal Year Returns For Periods Ending June 30

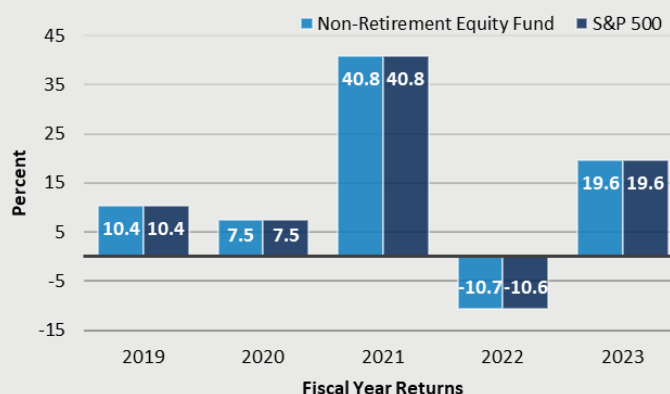
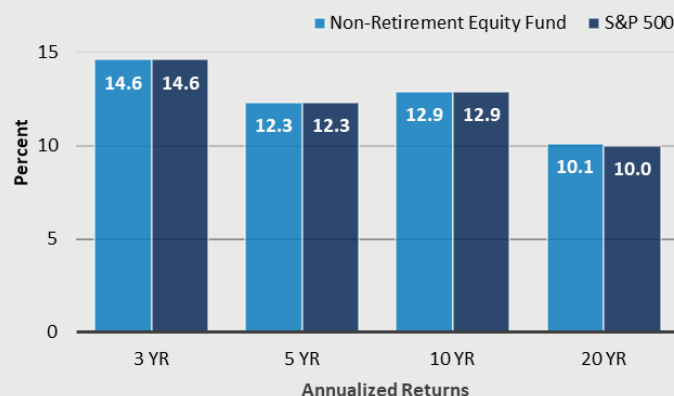


Figure 65B. Non-Retirement Equity Fund Annualized Returns For Periods Ending June 30, 2023



Non-Retirement Program

Investment Option: Non-Retirement Bond Fund

Non-Retirement Bond Fund

The Non-Retirement Bond Fund is designed to generate current income and to protect invested principal. This Fund is available to state and other trust funds and to OPEB accounts.

As of June 30, 2023, the Non-Retirement Bond Fund had approximately \$1.6 billion in market value.

Investment Objective

The investment objective of the Non-Retirement Bond Fund is to deliver positive returns over its benchmark, the Bloomberg U.S. Aggregate Bond Index, while controlling the level and composition of active risk relative to the benchmark. The U.S. Aggregate Bond Index is a broad-based index of investment grade, U.S. dollar-denominated, fixed income securities.

Asset Allocation

The Fund primarily invests in U.S. government, corporate, mortgage, and structured securities. As an actively managed strategy, the Fund's sector allocation is expected to deviate from the benchmark composition. As of June 30, 2023, the Fund had a higher allocation to corporate bonds and commercial mortgage-backed securities and less exposure to U.S. Government securities relative to its benchmark, the Bloomberg U.S. Aggregate Bond Index.

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 the SBI's investment

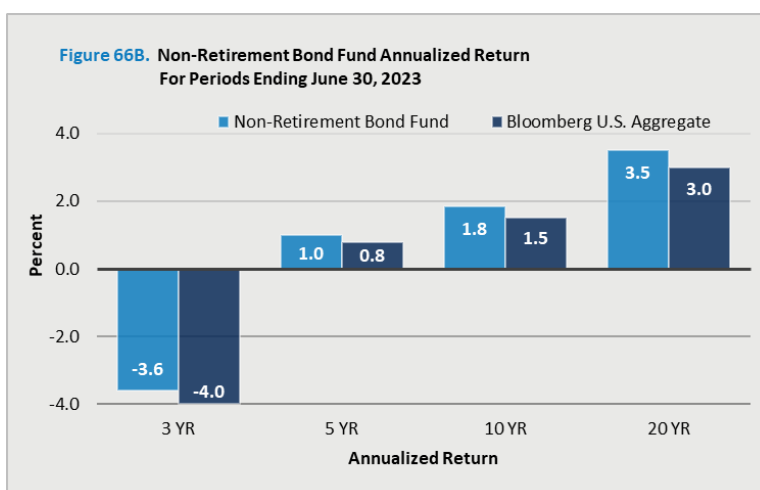
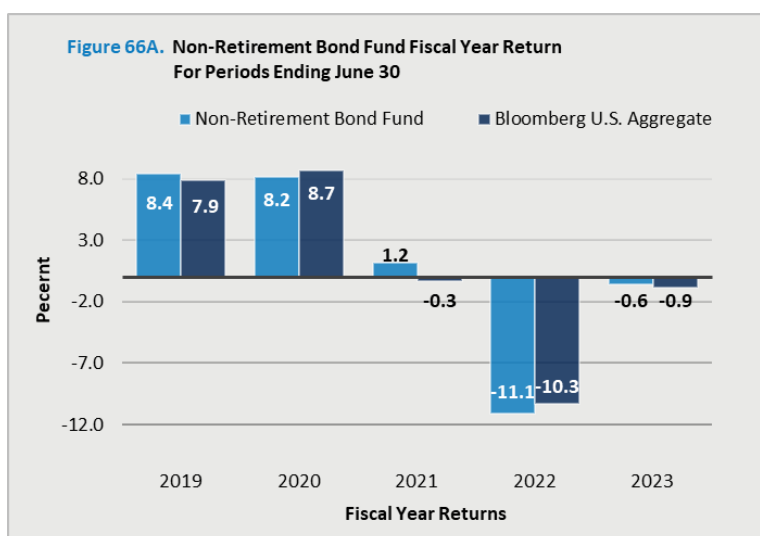
guidelines in managing the account. The Fund's guidelines give PGIM the flexibility to seek to outperform the benchmark through active positioning across duration, yield curve, and sector positioning, as well as through individual security selection decisions. PGIM is expected to maintain a maximum active 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.

Investment Performance

For fiscal year 2023, the Non-Retirement Bond Fund outperformed its benchmark. The fund also outperformed its benchmark index for the trailing three-, five-, 10- and 20-year periods ended June 30, 2023.

Historical performance results are shown below in Figures 66A and 66B.



Non-Retirement Program

Investment Option: Non-Retirement Money Market Fund

Non-Retirement Money Market Fund

The Non-Retirement Money Market Fund invests in high-quality short-term cash investments designed to generate current income while safeguarding principal. The types of entities that may invest in the Fund include state and other trust funds and OPEB accounts.

As of June 30, 2023, the Non-Retirement Money Market Fund had approximately \$723 million in market value.

Investment Objective

The objective of the Non-Retirement Money Market Fund is to provide current income and safety of principal by investing in high-quality, short-term securities. The Fund's return is based on the interest income generated by its investments, rather than price appreciation.

Asset Allocation

The Fund invests in high-quality short-term money market securities, including U.S. Treasury and Agency issues, repurchase agreements, commercial paper, and certificates of deposit.

At the end of the fiscal year, the Non-Retirement Fund Money Market Fund had a current average yield of 5.36% and a weighted average maturity of 25 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, including for the Combined Funds.

Investment Performance

The SBI measures the Non-Retirement Money Market Fund against the iMoneyNet All Taxable Money Fund Average.

As of June 30, 2023, the Non-Retirement Money Market Fund outperformed its benchmark for all periods listed.

Historical performance results are shown below in Figures 67A and 67B.

Figure 67A. Non-Retirement Money Market Fiscal Year Return For Periods Ending June 30

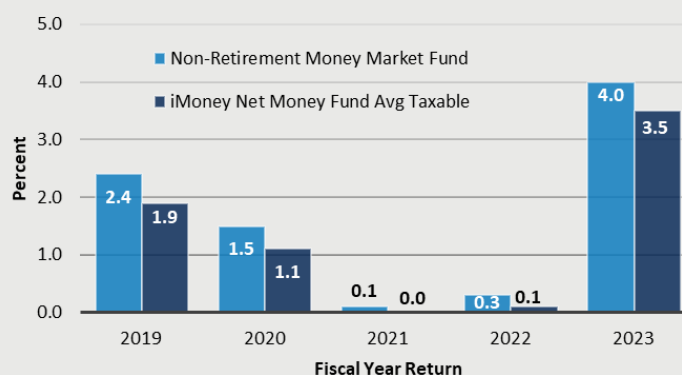
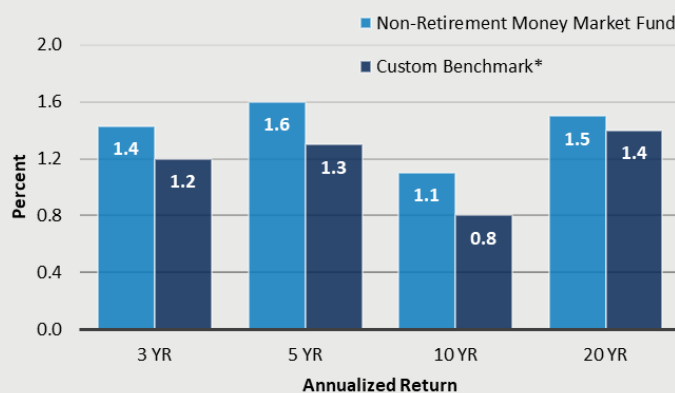


Figure 67B. Non-Retirement Money Market Fund Annualized Return For Periods Ending June 30, 2023



*The Custom benchmark represents the returns of the iMoneyNet Fund Average--All Taxable since 1/1/04 and the ICE BofA 3 Mo Treasury Bill Index prior to 12/31/03.

Non-Retirement Investment Program

Assigned Risk Plan Fixed Income Portfolio

Assigned Risk Plan Fixed Income Portfolio

The Assigned Risk Plan fixed income portfolio is benchmarked to the Bloomberg Intermediate Government Index, which consists of high-quality, U.S. dollar-denominated, fixed-income securities issued by the U.S. Government and its agencies.

As of June 30, 2023, the Assigned Risk Plan fixed income portfolio had \$207.4 million in assets.

Investment Objective

The main objective of the Assigned Risk Plan fixed income portfolio is to provide income and preservation of invested principal to support the payment of worker compensation claims. Because of the uncertainty of the timing and size of premiums and liability cash flows, the fund is invested conservatively in a portfolio of high-quality fixed-income securities.

Investment Management

RBC Global Asset Management (RBC) has managed the fixed income portfolio for the Assigned Risk Plan since July 1991. RBC actively manages the portfolio with a primary focus on individual security selection and, secondarily, on sector allocation and rotations.

RBC is required to adhere to the SBI's investment guidelines in managing the account. These guidelines allow RBC to actively manage the portfolio through duration, yield curve, sector, and security selection while closely tracking its benchmark.

Asset Allocation

An actively managed strategy, the Fund's sector allocation is expected to deviate from the benchmark composition.

As of June 30, 2023, the Assigned Risk Plan fixed income portfolio had a higher allocation to U.S. Government-related and Agency-securitized bonds and less exposure to U.S. Treasury securities relative to the benchmark.

Investment Performance

Performance is measured relative to the Bloomberg Intermediate Government Index return since June 2011. Before that, performance was measured to a custom benchmark using target weights to indices with different maturities.

For fiscal year 2023, the Assigned Risk Plan fixed income portfolio returned -0.9%, slightly outperforming the benchmark's -1.0% return. The Fund matched or exceeded its composite index over the trailing three-, five-, ten-, and twenty-year periods ending June 30, 2023.

Historical performance results for the Assigned Risk Plan fixed income portfolio are shown in Figures 68A and 68B.

Figure 68A. Assigned Risk Plan Fixed Income Fiscal Year Performance
For Periods Ending June 30

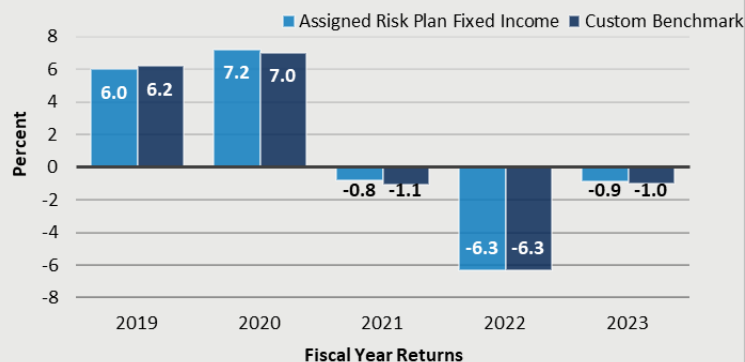
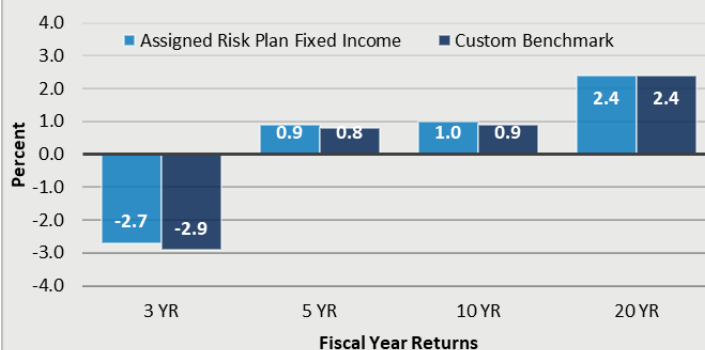


Figure 68B. Assigned Risk Plan Fixed Income Annualized Performance
For Periods Ending June 30



Non-Retirement Investment Program

Permanent School Fund

Permanent School Fund

The Permanent School Fund is a trust fund created by the Minnesota 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.

As of June 30, 2023, the Fund's market value was approximately \$1.9 billion.

Investment Objective

The SBI invests the Permanent School Fund to produce a growing level of spendable income for school districts within the constraints of maintaining adequate liquidity and overall portfolio credit quality.

Investment Constraints

The Fund's investment objectives are dictated 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 it is earned.

Asset Allocation

To produce a growing level of spendable income, the Fund invests a portion of its assets in equities. The Fund's allocation to fixed income and cash provide current income, liquidity, and risk diversification.

The current long-term asset allocation targets for the Fund are:

Domestic Equity	50%
Domestic Bonds	48%
Cash	2%

The SBI follows a disciplined approach to rebalancing to maintain the target asset allocation and risk exposure over time.

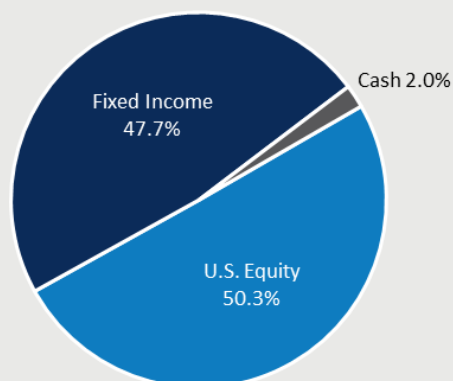
Prior to fiscal year 1998 legislation, the Permanent School Fund was invested entirely in fixed-income securities.

Figure 69 presents the actual asset mix of the Permanent School Fund at the end of the 2023 fiscal year.

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 141-143.

Figure 69. Permanent School Fund Asset Mix as of June 30, 2023



Non-Retirement Investment Program Permanent School Fund

Investment Performance

For the 2023 fiscal year, the **equity** segment of the Permanent School Fund slightly outperformed its benchmark, the S&P 500 Index

The **bond** segment outperformed its benchmark, the Bloomberg U.S. Aggregate, by 0.3 percentage point for the 2023 fiscal year.

The **cash** segment outperformed its benchmark, the iMoneyNet All Taxable Fund Average, by 0.5 percentage point for the 2023 fiscal year.

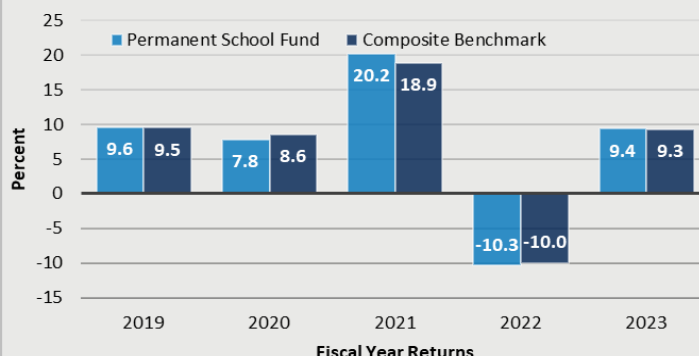
Overall, the Permanent School Fund provided a return of 9.4% for fiscal year 2023, outperforming its composite index by 0.1 percentage point. The Fund also outperformed its composite index over the trailing three-, five-, ten-, and twenty-year periods ending June 30, 2023.

Historical performance results for the total fund and each asset class segment are provided in Figures 70A and 70B.

Spendable income generated by the portfolio over the last five fiscal years is shown below:

<u>Fiscal Year</u>	<u>Millions</u>
2019	\$36
2020	\$39
2021	\$36
2022	\$36
2023	\$43

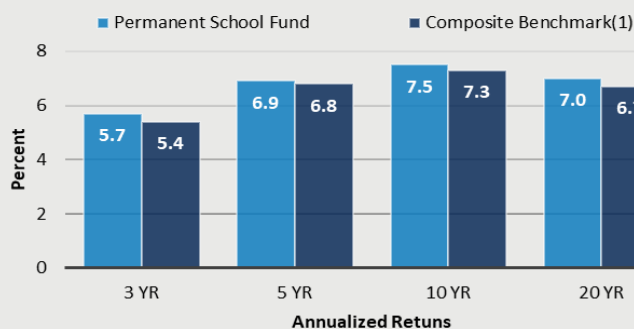
Figure 70A. Permanent School Fund Fiscal Year Performance
For Periods Ending June 30



	Fiscal Year End Return (%)				
	2019	2020	2021	2022	2023
Permanent School Fund Total	9.6	7.8	20.2	-10.3	9.4
Composite Benchmark ¹	9.5	8.6	18.9	-10.0	9.3
U.S. Equity Segment	10.4	7.5	40.8	-10.6	19.7
S&P 500	10.4	7.5	40.8	-10.6	19.6
Bond Segment	8.4	8.2	1.2	-11.1	-0.6
Bloomberg Agg	7.9	8.7	-0.3	-10.3	-0.9
Cash Segment	2.4	1.5	0.1	0.2	4.0
iMoney Net All Taxable Fund	1.9	1.1	0.0	0.1	3.5

¹ Represents the aggregate returns of the target allocation: S&P 500 50%, Bloomberg U.S. Aggregate 48%, and iMoney Net All Taxable Money Fund Avg 2%.

Figure 70B. Permanent School Fund Annualized Performance
For Periods Ending June 30, 2023



	Annualized Returns (%) as of June 30, 2023			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Permanent School Fund Total	5.7	6.9	7.5	7.0
Composite Benchmark ¹	5.4	6.8	7.3	6.7
U.S. Equity Segment	14.6	12.3	12.9	10.1
S&P 500	14.6	12.3	12.9	10.0
Bond Segment	-3.6	1.0	1.8	3.5
Bloomberg Agg	-4.0	0.8	1.5	3.0
Cash Segment	1.4	1.6	1.1	1.5
Custom Benchmark ²	1.2	1.3	0.8	1.4

¹ Represents the aggregate returns of the target allocation: S&P 500 50%, Bloomberg U.S. Aggregate 48%, and iMoney Net All Taxable Money Fund Avg 2%.

² Custom Benchmark is the iMoneyNet All Taxable Money Fund Average since 1/1/2004; prior to that was the ICE BofA 3 Month Treasury Index.

Non-Retirement Investment Program

Environmental and Natural Resources Trust Fund

Environmental and Natural Resources Trust Fund

The Environmental and Natural Resources Trust Fund (Environmental Trust Fund) was established in 1988 by the Minnesota Legislature to provide a long-term, consistent, and stable funding source for activities that protect and enhance the environment. By statute, the SBI is responsible for investing the assets of the Environmental Trust Fund. The Minnesota Legislature funds environmental projects from a portion of the market value of the Fund.

As of June 30, 2023, the market value of the Fund was \$1.6 billion.

Investment Objective

The Environmental Trust Fund's investment objective is to generate long-term capital growth to support a growing level of funding while maintaining adequate portfolio liquidity.

A constitutional amendment passed in November 1998 mandated that 40% of the net proceeds from the state lottery be credited to the Fund through 2025.

The amendment provided for an annual spending rate of 5.5% of the Fund's market value. The amendment eliminated certain accounting restrictions on capital gains and losses and removed 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 consistent with the Commission's goals for spending and growth of the Fund. The Fund's asset allocation is designed to provide appropriate long-term growth potential to meet the Fund's objective to produce a growing level of funding, while also providing adequate liquidity and diversification.

The current long-term asset allocation targets for the Fund are:

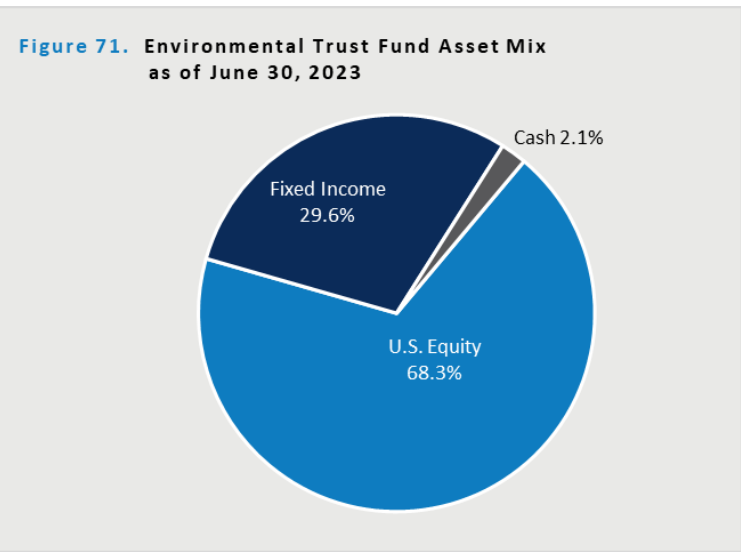
Domestic Equity	70%
Domestic Bonds	28%
Cash	2%

The SBI follows a disciplined approach to rebalancing to maintain the target asset allocation and risk exposure over time.

Figure 71 presents the actual asset mix of the Fund at the end of fiscal year 2023.

Investment Management

The Environmental Trust Fund is invested in the Non-Retirement Equity, Bond, and Money Market Funds. Fund Summaries are provided on pages 141-143.



Non-Retirement Investment Program

Environmental Trust Fund

Investment Performance

For the 2023 fiscal year, the **equity** segment slightly outperformed its benchmark, the S&P 500 Index.

The **bond** segment outperformed its benchmark, the Bloomberg U.S. Aggregate Index, by 0.3 percentage point for the 2023 fiscal year.

The **cash** segment outperformed its benchmark, the iMoneyNet All Taxable Money Fund Average by 0.5 percentage point for the 2023 fiscal year.

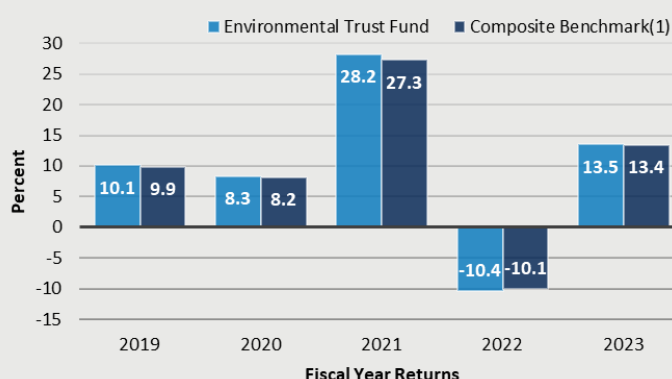
Overall, the Environmental Trust Fund provided a return of 13.5% for fiscal year 2023, outperforming its composite index by 0.1 percentage point over the period. The Fund also outperformed its composite index over the trailing three-, five-, ten-, and twenty-year periods ending June 30, 2023.

Historical performance results for the total Fund and each of the asset class segments are presented in Figure 72A and 72B.

Spendable income generated by the Fund over the last five fiscal years is shown below:

<u>Fiscal Year</u>	<u>Millions</u>
2019	\$51
2020	\$61
2021	\$61
2022	\$71
2023	\$71

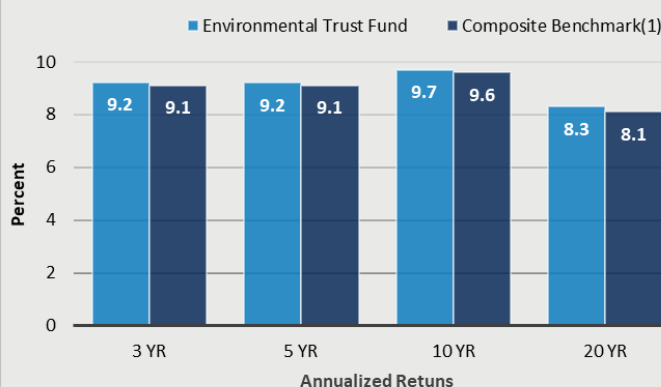
Figure 72A. Environmental Trust Fund Fiscal Year Returns For Periods Ending June 30



	Fiscal Year End Return (%)				
	2019	2020	2021	2022	2023
Environmental Trust Fund Total	10.1	8.3	28.2	-10.4	13.5
Composite Benchmark ¹	9.9	8.2	27.3	-10.1	13.4
Equity Segment	10.4	7.5	40.8	-10.6	19.7
S&P 500	10.4	7.5	40.8	-10.6	19.6
Bond Segment	8.4	8.2	1.2	-11.1	-0.6
Bloomberg Agg	7.9	8.7	-0.3	-10.3	-0.9
Cash Segment	2.4	1.5	0.1	0.2	4.0
iMoney Net All Taxable Fund	1.9	1.1	0.0	0.1	3.5

¹ Represents the aggregate returns of the target allocation: S&P 500 70%, Bloomberg U.S. Aggregate 28%, and iMoney Net All Taxable Money Fund Avg 2%.

Figure 72B. Environmental Trust Fund Annualized Returns For Periods Ending June 30, 2023



	Annualized Returns (%) as of June 30, 2023			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Environmental Trust Fund Total	9.2	9.2	9.7	8.3
Composite Benchmark ¹	9.1	9.1	9.6	8.1
Equity Segment	14.6	12.3	12.9	10.1
S&P 500	14.6	12.3	12.9	10.0
Bond Segment	-3.6	1.0	1.8	3.5
Bloomberg Agg	-4.0	0.8	1.5	3.0
Cash Segment	1.4	1.6	1.1	1.5
Custom Benchmark ²	1.2	1.3	0.8	1.4

¹ Represents the aggregate returns of the target allocation: S&P 500 70%, Bloomberg U.S. Aggregate 28%, and iMoney Net All Taxable Money Fund Avg 2%.

² Custom Benchmark is the iMoneyNet All Taxable Money Fund Average since 1/1/2004; prior to that was the ICE BofA 3 Month Treasury Index.

Non-Retirement Investment Program

Closed Landfill Investment Fund

Closed Landfill Investment Fund

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.

As of June 30, 2023, the fund's market value was \$129.7 million.

Investment Objective

The investment objective of the Closed Landfill Investment Fund is to grow the value of the Fund to meet future expenditure needs while maintaining an appropriate level of market risk.

Asset Allocation

An allocation to equities provides the potential for capital appreciation, while the allocation to fixed-income securities acts as a deflation hedge and provides portfolio diversification.

The current long-term asset allocation targets for the Fund are:

Domestic Equity	70%
Domestic Bonds	30%

The SBI follows a disciplined approach to rebalancing to maintain the target asset allocation and risk exposure over time.

Before September 2014, the Closed Landfill Investment Fund had been invested entirely in domestic equities. While this asset class maximized long-term growth opportunities, it did not represent a diversified asset allocation and experienced greater return volatility relative to a balanced asset allocation.

Investment Management

The Closed Landfill Investment Fund is invested in the Non-Retirement Equity and Bond Funds. Fund Summaries are provided on pages 141-142.

Investment Performance

During the fiscal year, the *equity* segment of the Closed Landfill Investment Fund outperformed its benchmark, the S&P 500 Index. The *bond* segment outperformed the Bloomberg U.S. Aggregate benchmark by 0.3 percentage point during the 2023 fiscal year.

Overall, the Closed Landfill Investment Fund provided a return of 13.6% for fiscal year 2023, outperforming its composite index by 0.3 percentage point. The Fund matched or exceeded its composite index over the trailing three-, five-, ten-, and twenty-year periods ending June 30, 2023.

Historical performance results for the total Fund and each asset class segment are shown in Figures 73A and 73B.

Figure 73A. Closed Landfill Investment Fund Fiscal Year Performance For Periods Ending June 30

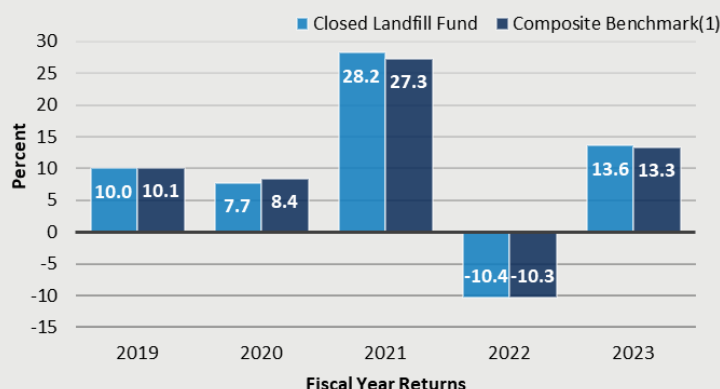
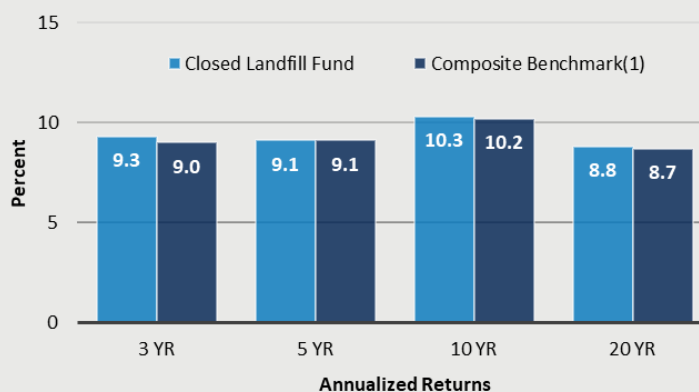


Figure 73B. Closed Landfill Investment Fund Annualized Performance For Periods Ending June 30, 2023



¹ The Composite Benchmark represents the aggregate returns of the target allocation: 70% S&P 500 and 30% Bloomberg U.S. Aggregate since September 2014; prior to that the target allocation was 100% S&P 500.

Non-Retirement Investment Program

Assigned Risk Plan

Assigned Risk Plan

The 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 periodically or in a lump sum.

As of June 30, 2023, the Fund's market value was \$264.9 million.

Investment Objectives

The SBI recognizes that the Assigned Risk Plan has limited tolerance for risk due to unpredictable cash flows, no allowance for surplus, and generally short-duration liabilities.

Therefore, the SBI has established two investment objectives for the Plan:

- To minimize any mismatch between assets and liabilities.
- To provide sufficient liquidity to pay ongoing claims and operating expenses.

Performance relative to these objectives is measured against a composite index that reflects the portfolio's asset allocation.

Asset Allocation

Due to the uncertainty of the Plan's premium and liability cash flows, it is invested in a conservative asset allocation.

The current long-term asset allocation targets for the Plan are as follows:

Domestic Equity	20%
Domestic Bonds	80%

The fixed-income portion of the portfolio is invested to fund the Plan's shorter-term liabilities (less than ten years), while the equity component of the portfolio is intended to provide long-term growth potential and hedges some of the inflation risk associated with the Plan's future liabilities.

The asset allocation may be updated in response to changes in the liability stream projected by the Plan's actuary and ongoing analysis by SBI staff.

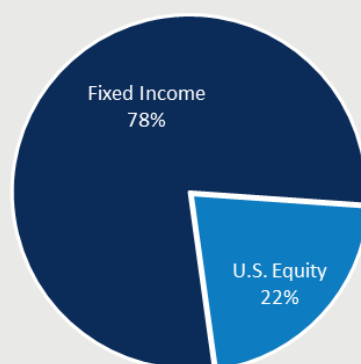
Figure 74 presents the asset mix of the Assigned Risk Plan at the end of fiscal year 2023.

Investment Management

Mellon Investments Corporation manages the Non-Retirement Equity Fund segment to fund the Plan's longer-term liabilities. More detail on the Non-Retirement Equity Fund is provided on page 141.

The **bond segment** is managed by RBC Global Asset Management using a risk-controlled active approach, with a focus primarily on security selection, and secondarily on sector allocation and rotation. More information on the Assigned Risk Plan fixed income portfolio is provided on page 144.

Figure 74. Assigned Risk Plan Asset Mix as of June 30, 2023



Non-Retirement Account Assigned Risk Plan

Investment Performance

Due to the focus on liability matching, the Assigned Risk Plan's investment portfolio features a conservative asset allocation. The underlying investments are managed conservatively, with a focus on closely tracking the respective benchmarks.

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 Index.
- The target for the fixed income component is the Bloomberg U.S. Government Index.

The **equity** segment returned 19.7% for the 2023 fiscal year, slightly outperforming its benchmark, the S&P 500 Index.

The **bond** segment returned -0.9% for the 2023 fiscal year, slightly outperforming its benchmark, the Bloomberg U.S. Intermediate Government Index.

Overall, the Assigned Risk Plan returned 3.3% for fiscal year 2023, outperforming its composite index by 0.2 percentage point. The Plan matched or exceeded the benchmark for the three-, five-, ten-, and twenty-year periods ending June 30, 2023.

Historical performance results are provided in Figures 75A and 75B.

**Figure 75A. Assigned Risk Plan Total Fiscal Year Performance
For Periods Ending June 30**

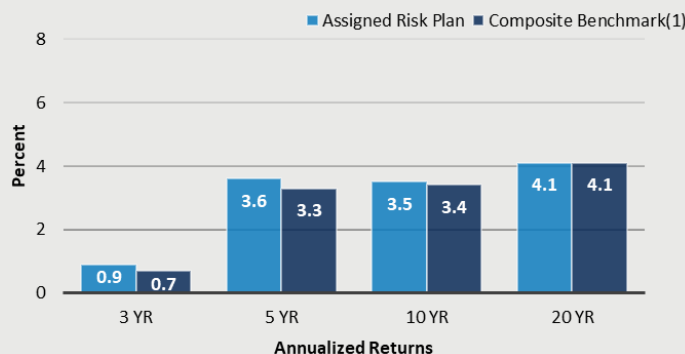


	Fiscal Year End Return (%)				
	2019	2020	2021	2022	2023
Assigned Risk Plan Total	7.4	8.2	6.9	-6.9	3.3
Composite Benchmark ¹	7.3	7.6	6.4	-7.0	3.1
Equity Allocation	10.4	7.5	40.8	-10.6	19.7
S&P 500	10.4	7.5	40.8	-10.6	19.6
Bond Allocation	6.0	7.2	-0.8	-6.3	-0.9
Benchmark ²	6.2	7.0	-1.1	-6.3	-1.0

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 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 Trsry/Agency, 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, and 25% ML Mortgage Master.

**Figure 75B. Assigned Risk Plan Total Annualized Performance
For Periods Ending June 30, 2023**



	Annualized Returns (%) as of June 30, 2023			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Assigned Risk Plan Total	0.9	3.6	3.5	4.1
Composite Benchmark ¹	0.7	3.3	3.4	4.1
Equity Allocation	14.6	12.3	12.4	9.7
S&P 500	14.6	12.3	12.9	10.0
Bond Allocation	-2.7	0.9	1.0	2.4
Benchmark ²	-2.9	0.8	0.9	2.4

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 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 Trsry/Agency, 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, and 25% ML Mortgage Master.

Non-Retirement Investment Program

Other Postemployment Benefits & Qualifying Governmental Entities

Other Postemployment Benefits (OPEB)

Overview

Under the provisions of [Minnesota Statutes, Section 471.6175](#), local units of government, including school districts, may choose the Public Employees Retirement Association (PERA) to administer their postemployment benefits.

If a local unit chooses PERA, assets of that unit's account are invested by the SBI.

Investment Options

Three investment options are available to local OPEB trusts: Equity, Bond, and Money Market Funds. Fund summaries are provided on pages 141-143.

Asset Allocation

The SBI does not determine the asset allocation policy for these assets.

Participating Entities

As of June 30, 2023, there were 23 OPEB investment accounts invested with the SBI with a total market value of \$857.4 million.

Duluth OPEB

Overview

The SBI must report the returns for assets invested by the City of Duluth, who first invested with the SBI in July 2007.

As of June 30, 2023, the market value of the Duluth OPEB Fund was \$96.3 million.

Asset Allocation

Duluth is responsible for determining the asset allocation for this account, and as of June 30, 2023, the asset allocation was:

Domestic Equities	80.5%
Domestic Bonds	19.5%

Figure 76. Duluth OPEB Performance for Periods Ending June 30, 2023

	Annualized Returns (%)		
	1 Yr.	3 Yr.	5 Yr.
Duluth OPEB	15.1	10.1	9.6
Composite Benchmark ¹	13.3	9.0	9.1
U.S. Equity Segment	19.7	14.6	12.3
S&P 500	19.6	14.6	12.3
Bond Segment	-0.6	-3.6	1.0
Bloomberg U.S. Aggregate	-0.9	-4.0	0.8

¹ Represents the aggregate returns of a target allocation to 70% S&P 500 and 30% Bloomberg U.S. Aggregate.

Investment Performance

Historical annualized performance results as of June 30, 2023, is provided in Figure 76.

Qualifying Governmental Entities

Overview

Under the provisions of [Minnesota Statutes, Section 118A.09](#), counties and cities that meet the criteria provided within the statute may invest in the Non-Retirement Equity Fund. The statute also authorizes certain self-insurance pools to invest with the SBI.

As of June 30, 2023, the total market value of the Qualifying Governmental Entities investment account was \$13.0 million.

Investment Option

The Non-Retirement Equity Fund is an investment option for Qualifying Governmental Entities.

Figure 77 provides the return for the equity option as of June 30, 2023. More information on the Non-Retirement Equity Fund is provided on page 141.

Figure 77. Equity Option Performance for Qualifying Governmental Entities as of June 30, 2023

	Annualized Returns (%)		
	1 Yr.	3 Yr.	5 Yr.
Non-Retirement Equity Fund	19.6	14.6	12.3
S&P 500	19.6	14.6	12.3

Participating Entities

As of June 30, 2023, three Qualifying Governmental investment accounts were invested with the SBI.

Plan Administrator

PERA administers the accounts for Qualifying Governmental Entities. Each entity must maintain a Long-Term Equity Investment Account Agreement with PERA to invest through the SBI.

State Cash Accounts

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State Cash Accounts

Investment Program Overview

State Cash Accounts

The SBI 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 returns on invested cash. On June 30, 2023, the total market value of the cash accounts internally managed by the SBI was \$28.9 billion.

State Cash Account assets represent funds invested in the Invested Treasurer's Cash (ITC) Pool and in Other State Cash Accounts. Certain State agencies with varying investment objectives, investment restrictions, and time horizons, are not invested in the ITC Pool and are invested in separate accounts.

Investment Objectives

The investment objectives for investing State Cash Accounts are to preserve capital, to meet the agencies 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.

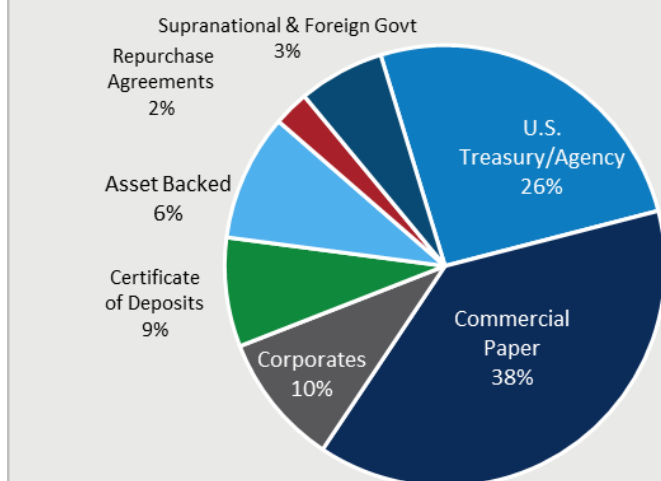
Investment Management

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). As of June 30, 2023, the assets invested in the ITC totaled \$28.7 billion, representing 99.3% of total State Cash Account assets. The ITC pool invests the cash balances of special or dedicated accounts

Figure 78. Invested Treasurer's Cash Fund Distribution as of June 30, 2023



necessary for the operation of certain State agencies, and the non-dedicated cash in the State's General Account.

Asset Allocation

The ITC portfolio is managed to generate current income while preserving capital by investing in high-quality, liquid, short-term investments. Investments include U.S. Treasury and Agency securities, repurchase agreements, commercial paper, short-term corporate bonds, and certificates of deposit.

The composition of the Pool as of June 30, 2023, is shown in Figure 78.

At the end of the fiscal year, the Pool had a current yield of 4.53% and a weighted average maturity of 106 days.

Investment Performance

The SBI measures the performance of the ITC Pool against its benchmark the iMoneyNet All Taxable Fund Average, which reflects the

investment objectives of the account. Performance results are shown in Figure 79A and Figure 79B on the following page. For fiscal year 2023, the ITC Pool returned 3.6%, outperforming its benchmark by 0.1 percentage point. Over the trailing five-year and ten-year periods ended June 30, 2023, the ITC Pool outperformed its benchmark, while it trailed its benchmark over the trailing three-year period.

State Cash Accounts

Investment Program Overview

Other State Cash Accounts

Approximately \$189.6 million of assets are held in Other State Cash Accounts, representing dedicated separately-managed accounts with varying investment objectives and restrictions. In these cases, the State agency either directs the SBI to make specific investments or provides the SBI with investment guidelines, and the SBI manages the investment strategy on the agency's behalf. Most of the assets in the Other State Cash Accounts 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 conform with requirements related to the issuance of general obligation bonds.

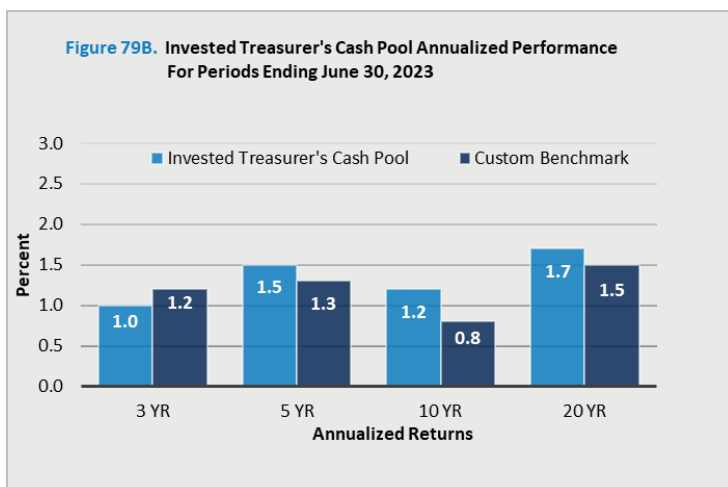
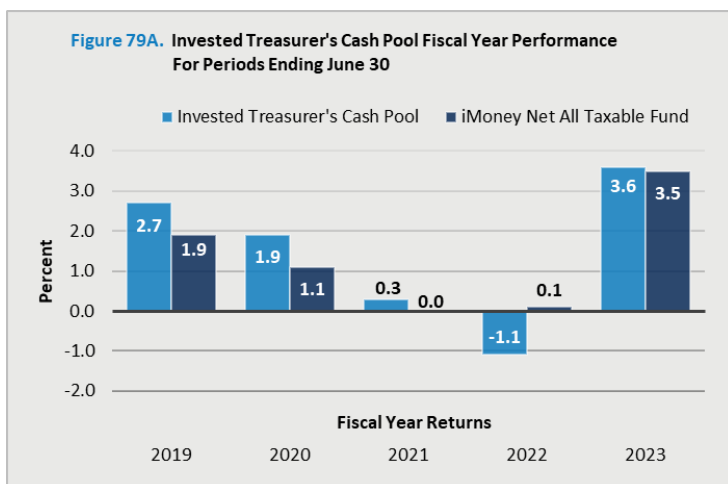
When the full faith and credit of the state has been pledged for the payment of the state's bonds, the Minnesota Constitution and Statutes require the state to have on hand by, December 1 of each year, an amount sufficient to pay principal and interest on the State's general obligation debt for the next nineteen months.

The Internal Revenue Code establishes rules surrounding debt issuance, debt service, and yield management.

The SBI complies with these rules by separating 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 for the reserve accounts are U.S. Treasuries and municipal bonds. As of the end of the fiscal year 2023, the SBI had \$115.7 million invested in the Excess Debt Service Reserve accounts.



*The Custom benchmark represents the returns of the iMoneyNet Fund Average--All Taxable since 1/1/04 and the ICE BofA 3 Mo Treasury Bill Index prior to 12/31/03.

Minnesota Public Facilities Authority

The SBI periodically invests assets on behalf and at the direction of the Minnesota Public Facilities Authority.

As of June 30, 2023, the SBI did not invest any assets on behalf of the Public Facilities Authority.

Minnesota Housing Finance Agency

Minnesota Housing Finance Agency has the authority to invest in a separate investment account with the SBI.

As of June 30, 2023, the SBI had \$73.9 million in assets invested on behalf of the Housing Finance Authority.

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Financial Reports

Notes to the Financial Schedules – June 30, 2023

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 listing of Combined Funds assets by Plan is provided in a schedule on page 161. Annual Comprehensive Financial Reports are prepared by the respective retirement systems and can be found on their websites at:

TRA - <https://minnesotatra.org/>

MSRS - <https://www.msrs.state.mn.us/>

PERA - <https://mnpera.org/>

Fire Relief Plans and Other Public Retirement Plans: Fire Relief Plans, Statewide Volunteer Firefighter (SVF) Retirement Plan, and St. Paul Teachers' Retirement Fund use the Supplemental Investment Fund (SIF) investment platform. The SVF Plan, administered by PERA, is included in PERA's Annual Comprehensive Financial Report. SIF Plan Participation is provided in a schedule on pages 160-168.

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 for the SIF is provided beginning on page 160 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 168.

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 169. The Annual Comprehensive Financial Reports for the Trusts are prepared by Minnesota Management and Budget and are available on their website at <https://mn.gov/mmb/>. The Annual Comprehensive Financial Reports for the OPEBs are prepared by PERA and are available on their website at <https://mnpera.org/financial/>.

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 Public Facilities Authority. Detailed financial statements, supporting schedules, and further breakdown for these assets can be found in the State of Minnesota's Annual Comprehensive Financial Reports available from Minnesota Management and Budget at <https://mn.gov/mmb/accounting/reports/annual-comprehensive-financial-report.jsp>.

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Financial Reporting: 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 investment 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 in equity, debt, real estate or resource investments through a variety of legal structures; participation in co-investment or separate account vehicles, liquid alternatives, or bank loans; and participation in registered mutual funds.

Security Valuation: All securities are valued at fair value except for short-term securities, which are valued at amortized cost. For fixed income securities, SBI uses an approved hierarchy of pricing sources. For equity securities, SBI uses valuation services provided by quoted prices in active markets throughout an exchange. 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."

Financial Reports

Supplemental Investment Accounts – Fund Schedules

Retirement Plans – Supplemental Investment Accounts

Schedule of Net Positions (Amounts in 000's) – As of June 30, 2023

	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 Firefighter Account	Total Supplemental Investment Fund
Assets									
Short-Term Investments									
Stable Value Fixed Interest	\$ 1,699,074								\$ 1,699,074
Money Fund		699,382		8,538				6,930	714,850
Fixed Income Investments									
Bond Pool			100,683	36,596				66,111	203,389
Equity Investments									
Domestic Stock Pool				68,413	414,972	83,715		55,709	622,808
International Stock Pool							135,375	22,971	158,346
Net Supplemental Position Assets Held in Trust	\$ 1,699,074	\$ 699,382	\$ 100,683	\$ 113,546	\$ 414,972	\$ 83,715	\$ 135,375	\$ 151,721	\$ 3,398,468
<i>Unaudited</i>									

Retirement Plans – Supplemental Investment Accounts

Schedule of Changes in Net Assets (Amounts in 000's) – As of June 30, 2023

	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	\$ 3,524	\$ 26,750	\$ 153	\$ 302	\$ 3,290	\$ 120	\$ (2,571)	\$ 130	\$ 31,697
Net Increase in Fair Value of Investments	42,949	0	278	11,399	66,895	14,527	16,905	12,908	165,861
Total Investment Income (Loss)	\$ 46,473	\$ 26,750	\$ 431	\$ 11,700	\$ 70,185	\$ 14,647	\$ 14,334	\$ 13,038	\$ 197,559
Expenses									
Administrative Expenses	\$ (150)	\$ (58)	\$ (9)	\$ (9)	\$ (33)	\$ (7)	\$ (11)	\$ (175)	\$ (452)
Investment Expenses	(3,374)	\$0	(105)	(41)	(19)	(149)	(351)	(129)	(4,167)
Total Expenses	\$ (3,524)	\$ (58)	\$ (114)	\$ (50)	\$ (52)	\$ (156)	\$ (362)	\$ (304)	\$ (4,619)
Net Income - Supplemental Investments	\$ 42,949	\$ 26,692	\$ 317	\$ 11,651	\$ 70,134	\$ 14,491	\$ 13,972	\$ 12,734	\$ 192,940
Participant Transactions									
Additions	\$ 49,875	\$ 109,260	\$ 1,076	\$ 17,483	\$ 1,826	\$ 1,454	\$ 443	\$ 17,866	\$ 199,282
Withdrawals	(138,538)	(71,860)	(1,755)	(13,163)	(8,742)	(8,131)	(6,043)	(11,134)	(259,366)
Net Participant Transactions	\$ (88,663)	\$ 37,400	\$ (679)	\$ 4,321	\$ (6,917)	\$ (6,676)	\$ (5,600)	\$ 6,732	\$ (60,084)
Total Change in Assets	\$ (45,715)	\$ 64,092	\$ (362)	\$ 15,971	\$ 63,217	\$ 7,815	\$ 8,372	\$ 19,466	\$ 132,856
Net Supplemental Investment Assets Held in Trust									
Beginning of Fiscal Year	1,744,789	635,290	101,045	97,575	351,755	75,900	127,003	132,255	3,265,612
End of Fiscal Year	\$ 1,699,074	\$ 699,382	\$ 100,683	\$ 113,546	\$ 414,972	\$ 83,715	\$ 135,375	\$ 151,721	\$ 3,398,468
<i>Unaudited</i>									

Financial Reports

Retirement Plans Participation – As of June 30, 2023

Retirement Plan Participation

Total Plan Participation (Amounts in 000's) – As of June 30, 2023

	Domestic Equity	International Equity	Global Equity	Fixed Income	Cash	Private Markets Invested	Private Markets Uninvested	Stable Value Fund	Total
Retirement Plans Participation									
Combined Funds	\$ 28,662,253,029	\$ 13,614,312,327	\$ 988,760,377	\$ 18,190,547,045	\$ 2,406,030,730	\$ 21,580,442,582	\$ 211,047,258	\$ -	\$ 85,653,393,347
Fire Relief + Other Public Retirement Plans	565,107,481	154,554,383		185,827,077	18,908,495	-	-	-	924,397,435
Participant Directed Investment Program	57,700,757	3,791,570		17,561,897	695,941,788	-	-	1,699,074,294	2,474,070,306
Total Plan Participation	\$ 29,285,061,267	\$ 13,772,658,279	\$ 988,760,377	\$ 18,393,936,019	\$ 3,120,881,012	\$ 21,580,442,582	\$ 211,047,258	\$ 1,699,074,294	\$ 89,051,861,088

Retirement Plans

Combined Funds Plan Participation (Amounts in 000's) – As of June 30, 2023

	Domestic Equity	International Equity	Global Equity	Core/Core Plus Bonds	Return Seeking Fixed Income	Treasury Protection	Short Duration Laddered Bonds	Cash	Private Markets Invested	Private Markets Uninvested	Total
Combined Retirement Funds											
MSRS General Employee Retirement Fund	\$ 5,561,209,436	\$ 2,641,525,058	\$ 192,406,755	\$ 864,611,815	\$ 811,172,936	\$ 1,552,844,243	\$ 302,731,711	\$ 440,300,131	\$ 4,187,157,895	\$ 40,948,915	\$ 16,594,908,895
Correctional Employees Retirement Fund	534,388,410	253,829,969	17,175,210	83,082,383	72,645,832	149,205,224	29,090,132	45,953,222	402,353,185	3,672,177	1,591,395,743
Highway Patrolmen's Retirement Fund	314,897,328	149,573,515	10,529,515	48,957,687	44,421,090	87,925,009	17,141,848	27,119,140	237,093,290	2,250,411	939,908,833
Judges Retirement Fund	89,579,680	42,549,544	3,066,402	13,927,123	12,935,620	25,012,876	4,876,387	7,817,744	67,446,518	659,604	267,871,499
PERA General Employee Retirement Fund	9,202,020,833	4,370,876,935	315,028,036	1,430,655,692	1,329,378,615	2,569,451,413	500,924,043	747,126,075	6,928,404,396	67,067,277	27,460,933,315
Public Employee Corrections	359,419,005	170,720,904	11,173,826	55,879,557	47,388,806	100,349,919	19,565,444	29,079,268	270,614,672	2,373,621	1,066,565,020
Public Employee Police & Fire Fund	3,695,840,330	1,755,490,909	125,512,704	574,599,330	529,608,336	1,031,968,212	201,187,904	298,336,365	2,782,679,801	26,692,855	11,021,916,744
Teacher's Retirement Fund	8,904,898,008	4,229,745,494	313,867,930	1,384,461,441	1,323,128,041	2,486,668,602	484,749,773	810,298,783	6,704,692,826	67,382,398	26,709,893,297
	\$ 28,662,253,029	\$ 13,614,312,327	\$ 988,760,377	\$ 4,456,175,028	\$ 4,170,679,276	\$ 8,003,425,499	\$ 1,560,267,242	\$ 2,406,030,730	\$ 21,580,442,582	\$ 211,047,258	\$ 85,653,393,347

Retirement Plans – Supplemental Investment Fund Investments

Fire Relief Plans + Other Public Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Ada	\$ 179,261	\$ 63,812	\$ 69,330	\$ 115,487	\$ 427,890
Almelund	527,140	0	106,874	335,297	969,310
Amboy	236,131	0	17,037	0	253,168
Argyle	252,501	0	41,031	9,573	303,104
Arrowhead	129,999	0	32,247	2,562	164,808
Askov	149,120	0	25,893	6,041	181,054
Audubon	396,868	0	292,032	39,667	728,568
Austin	1,615,321	0	231,591	54,032	1,900,943
Avon	165,954	0	0	0	165,954
Backus	47,415	0	0	0	47,415
Bagley	180,492	0	80,663	12,399	273,553
Balsam	660,627	0	131,550	30,691	822,869
Battle Lake	521,321	0	278,867	65,061	865,249
Bayport	1,791,265	0	958,191	223,552	2,973,008
Beardsley	278,275	52,356	55,175	483	386,289
Beaver Creek	91,886	0	37,154	0	129,039
Bemidji	2,203,883	683,031	786,483	20,232	3,693,629
Bertha	331,990	0	60,270	14,061	406,321
Bigfork	491,435	26,493	11,109	2,592	531,629
Bird Island	219,597	0	36,522	8,521	264,641
Blackduck	31,781	45,259	0	0	77,039
Blooming Prairie	277,191	0	144,185	52,963	474,338

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Bloomington	71,609,660	22,168,392	78,227,535	0	172,005,587
Boyd	70,595	0	12,703	2,964	86,261
Brooten	10,625	0	0	506,198	516,822
Buffalo Fire	322,490	0	19,188	21,163	362,841
Buffalo Lake	622,379	0	95,562	22,295	740,236
Carlton	341,456	34,346	64,379	5,067	445,249
Ceylon	442,275	0	51,882	12,104	506,262
Cherry	475,936	0	70,663	16,486	563,085
Chisago City	940,732	105,064	155,490	176,454	1,377,740
Chokio	191,189	46,876	102,272	23,861	364,197
Clarissa	139,967	0	41,958	0	181,925
Clarkfield	249,597	0	140,513	21,674	411,784
Clear Lake	443,892	0	61,923	512,674	1,018,488
Cloquet (Perch Lake)	792,662	46,238	312,824	12,769	1,164,493
Columbia Heights	3,149,568	0	547,412	0	3,696,979
Coon Rapids	1,859,372	0	2,160,036	232,052	4,251,460
Courtland	37,578	0	20,101	8,062	65,741
Cyrus	133,192	20,327	33,798	0	187,317
Dawson	396,704	0	148,716	34,696	580,116
Dayton Fire	315,919	0	42,299	26,905	385,123
Deer Creek	103,719	15,924	29,624	314,537	463,803
Dover	343,100	55,685	93,322	33,334	525,440
East Grand Forks	939,509	0	502,566	117,252	1,559,327
Edgerton	810,060	0	189,175	44,136	1,043,370
Elbow Lake	498,577	44,071	104,241	24,453	671,342
Excelsior	3,925,885	1,788,574	1,964,376	0	7,678,835
Eyota	169,477	0	166,407	158,676	494,560
Fairmont	1,188,031	0	635,506	148,268	1,971,805
Fergus Falls	1,844,772	130,186	1,127,417	67,277	3,169,652
Forest Lake	282,049	0	113,553	26,493	422,095
Franklin	579,359	0	0	0	579,359
Ghent	71,540	8,878	8,671	0	89,088
Glencoe	593,922	0	0	0	593,922
Glenville	153,324	60,506	71,516	4,406	289,752
Glenwood	976,367	0	190,422	44,253	1,211,042
Golden Valley	3,857,344	588,192	806,634	129,381	5,381,552
Gonvick	224,024	0	36,971	8,625	269,620
Good Thunder	549,053	0	82,233	19,186	650,472
Goodland	84,656	0	7,697	1,796	94,148
Grand Meadow	560,962	0	90,083	15,442	666,488
Grey Eagle	217,446	55,829	116,317	27,137	416,729
Hackensack	302,418	192,206	262,536	37,742	794,903
Hamel	999,161	0	534,475	124,697	1,658,333
Hanover Regular	568,717	0	615,674	70,977	1,255,368
Hanska	233,924	0	106,144	11,935	352,003
Harmony	202,487	40,653	37,258	71,347	351,745
Hawley	256,664	0	0	114	256,778
Hayward	171,025	48,767	21,941	451,968	693,701
Hector	746,224	0	399,173	93,130	1,238,527
Herman	227,244	34,680	38,198	0	300,122
Hokah	99,964	0	30,912	12,215	143,090
Holdingford	97,895	0	9,648	2,251	109,793
Holland	210,296	117,756	71,149	5,115	404,315
Jacobson	193,199	50,403	27,043	13,835	284,479
Kandiyohi	586,848	0	122,279	14,320	723,447
Kasson	264,487	48,895	98,355	184,566	596,303
Kelsey	75,395	35,226	26,548	0	137,169
Kerkhoven	277,188	0	69,305	6,394	352,887

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Kilkenny	554,739	0	153,715	53,884	762,338
La Crescent	1,081,051	0	143,216	22,027	1,246,294
La Salle	119,732	0	10,424	2,432	132,587
Lafayette	617,408	70,488	133,267	27,830	848,993
Lake City	667,116	0	345,611	77,993	1,090,721
Lakeville	7,958,746	405,358	929,995	0	9,294,099
Lewiston	483,643	0	77,978	18,193	579,814
Littlefork	612,023	0	129,036	30,105	771,164
Long Lake	1,449,564	0	775,407	180,907	2,405,878
Lonsdale	717,434	154,751	67,846	27,298	967,329
Loretto	1,367,337	0	731,421	170,645	2,269,403
Lowry	240,748	0	0	0	240,748
Lyle	230,121	3,879	35,063	7,437	276,500
Mable	93,943	24,841	30,994	30,893	180,671
Madelia	0	0	0	452,078	452,078
Madison	467,569	0	51,390	39,343	558,302
Madison Lake	39,088	9,603	7,832	1,827	58,350
Maple Hill	277,588	0	203,476	34,643	515,707
Mapleton	112,471	0	28,111	2,542	143,124
Mapleview	265,330	44,409	97,345	10,584	417,668
Marietta	239,855	0	135,077	10,035	384,966
Marine St. Croix	229,534	0	122,783	351,492	703,808
Maynard	111,462	0	59,624	13,911	184,996
McDavitt	298,850	17,278	52,210	9,836	378,174
McGrath	51,815	0	25,067	2,847	79,729
McIntosh	248,452	0	21,784	15,872	286,108
Medford	787,101	65,113	119,775	5,958	977,947
Medicine Lake	645,776	206,567	136,496	0	988,839
Menahga	205,445	0	294,978	25,640	526,063
Mendota Heights	2,419,506	325,857	1,020,289	291,787	4,057,439
Milan	300,325	0	61,756	8,433	370,513
Minneota	179,338	18,861	61,153	7,432	266,783
Minnetonka	7,797,093	1,181,509	4,842,633	973,087	14,794,322
Mission Twp	364,980	0	201,835	45,550	612,366
Morristown	1,195,166	0	240,859	63,459	1,499,484
Murdock	128,477	17,710	12,788	2,984	161,959
Myrtle	173,225	0	92,662	77,465	343,351
Nassau	358,033	42,560	73,498	3,994	478,086
Nerstrand	12,959	3,595	8,846	131,923	157,324
New Brighton	3,626,150	0	1,726,710	0	5,352,859
New Ulm	915,400	0	0	0	915,400
New York Mills	139,990	0	74,884	17,471	232,344
Nicollet	785,352	223,579	155,362	44,434	1,208,727
Nodine	281,570	28,656	47,227	80,854	438,307
North Branch	335,038	38,426	30,024	7,005	410,492
Northfield	4,004,411	823,720	628,406	591,860	6,048,397
Northrop	218,859	0	30,068	7,015	255,942
Onamia	93,769	0	72,977	255,057	421,803
Ormsby	31,655	13,266	5,127	1,196	51,244
Oronoco	370,990	0	96,631	12,145	479,766
Pequot Lakes	1,265,249	0	348,532	47,860	1,661,641
Pine Island	1,025,664	0	423,268	64,049	1,512,981
Pipestone	551,247	0	85,910	20,043	657,200
Plymouth	3,048,946	1,531,554	2,370,018	253,593	7,204,112
Randolph	1,115,210	83,112	200,285	46,728	1,445,336
Red Lake Falls Regular	148,811	0	70,198	16,378	235,387
Red Lake Falls Special	0	11,385	0	0	11,385
Redwood Falls	0	0	57,003	0	57,003

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Renville	392,492	0	114,400	10,729	517,621
Robbinsdale	1,789,896	139,434	211,501	767,337	2,908,168
Rollingstone	54,443	0	10,653	64,471	129,567
Rose Creek	92,489	6,401	9,098	2,123	110,110
Roseau	4,504	0	0	0	4,504
Rosemount	2,559,095	0	458,790	555,051	3,572,935
Roseville	10,714,977	0	3,221,393	0	13,936,369
Ruthton	241,240	0	24,147	35,852	301,239
Saint Clair	1,444,158	0	187,034	26,587	1,657,779
Saint Peter	858,574	162,798	24,442	5,575	1,051,388
Savage	2,108,050	0	1,127,647	263,087	3,498,784
Sherburn	620,282	0	111,781	26,079	758,142
Silver Bay	643,948	483	77,512	18,084	740,027
Starbuck	448,439	13,777	44,899	10,475	517,590
Stewart	286,614	0	70,583	16,467	373,664
Sturgeon Lake	162,282	0	9,644	0	171,926
Tofte	342,531	0	57,217	13,349	413,097
Truman	407,301	0	65,399	4,814	477,515
Two Harbors	591,092	101,557	232,759	42,231	967,639
Tyler	334,438	0	178,899	41,738	555,075
Verndale	78,266	0	0	0	78,266
Viking Fire	109,191	13,886	22,422	4,195	149,694
Warroad Area	544,786	0	324,139	67,990	936,915
Watkins Fire	545,549	90,042	68,352	16,073	720,016
Williams	292,600	0	79,070	18,447	390,117
Willow River	274,346	0	8,757	0	283,103
Woodstock	292,303	0	30,598	6,772	329,673
Wykoff	112,729	0	60,301	14,069	187,099
Wyoming	514,661	0	352,777	49,037	916,475
Zumbro Falls	101,468	8,529	60,599	285,603	456,199
Total Fire Relief Plans	\$ 194,835,641	\$ 32,491,611	\$ 119,716,503	\$ 11,978,182	\$ 359,021,937

Public Retirement Plan					
SPTIFA	\$ 314,563,304	\$ 99,091,585	\$ -	\$ -	\$ 413,654,889

Statewide Volunteer Firefighter Plan					
Aitkin Fire	\$ 458,381	\$ 189,011	\$ 543,971	\$ 57,024	\$ 1,248,386
Alaska	71,895	29,646	85,320	8,944	195,805
Albert Lea	317,151	130,776	376,371	39,455	863,753
Alborn	72,698	29,977	86,272	9,044	197,991
Alden	109,393	45,108	129,820	13,609	297,930
Ashby	242,315	99,918	287,561	30,145	659,939
Aurora	144,392	59,539	171,353	17,963	393,248
Barnum	168,935	69,660	200,479	21,016	460,091
Barrett	97,413	40,168	115,602	12,119	265,302
Bearville	5,481	2,260	6,504	682	14,927
Belview	117,450	48,430	139,380	14,611	319,871
Benson	213,324	87,963	253,156	26,538	580,981
Biwabik Fire	119,783	49,392	142,149	14,901	326,225
Biwabik Township	131,822	54,356	156,436	16,399	359,014
Blomkest	144,838	59,724	171,883	18,018	394,463
Braham	207,948	85,746	246,776	25,869	566,340
Brandon	180,552	74,450	214,266	22,461	491,729
Breckenridge	168,384	69,432	199,825	20,947	458,588
Breitung	194,908	80,370	231,302	24,247	530,828

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Bricelyn	170,801	70,429	202,693	21,248	465,171
Brimson	71,505	29,485	84,857	8,895	194,742
Brook Park	138,763	57,218	164,673	17,263	377,917
Browerville	160,397	66,139	190,346	19,954	436,836
Brownsville	138,046	56,923	163,822	17,173	375,963
Buyck	67,891	27,994	80,567	8,446	184,898
Cambridge Fire	471,962	194,612	560,088	58,714	1,285,375
Canby	270,019	111,341	320,438	33,591	735,389
Canosia	206,291	85,063	244,810	25,663	561,828
Canton	55,714	22,974	66,117	6,931	151,736
Carsonville	160,452	66,162	190,412	19,961	436,986
Carver	472,858	194,981	561,151	58,825	1,287,816
Center City	196,591	81,064	233,299	24,457	535,411
Central Lakes	47,298	19,503	56,129	5,884	128,814
Chatfield	201,036	82,896	238,574	25,009	547,516
Clarks Grove	109,301	45,070	129,710	13,597	297,678
Clifton	276,977	114,211	328,695	34,457	754,340
Colvill	65,830	27,145	78,121	8,189	179,285
Colvin	65,223	26,894	77,401	8,114	177,632
Cosmos	149,871	61,799	177,855	18,644	408,169
Cottage Grove	1,344,351	554,337	1,595,371	167,241	3,661,301
Cotton	149,126	61,491	176,971	18,552	406,140
Cottonwood	260,672	107,487	309,346	32,428	709,934
Crane Lake	96,161	39,652	114,117	11,963	261,892
Crookston	422,215	174,099	501,052	52,525	1,149,891
Culver	59,234	24,425	70,294	7,369	161,322
Dakota	117,896	48,614	139,910	14,667	321,086
Dalbo Fire Department	190,297	78,468	225,830	23,674	518,270
De Graff	39,459	16,271	46,827	4,909	107,466
Delavan	104,510	43,094	124,024	13,001	284,630
Dent	149,826	61,780	177,802	18,639	408,048
Dunnell Lake	57,598	23,750	68,353	7,165	156,866
Eagle's Nest	30,448	12,555	36,134	3,788	82,925
Echo Fire	132,003	54,431	156,651	16,422	359,507
Elbow Tulaby	52,610	21,694	62,434	6,545	143,283
Elgin	209,761	86,494	248,928	26,095	571,279
Ellsburg	76,303	31,463	90,550	9,492	207,808
Ellsworth	114,503	47,215	135,883	14,245	311,846
Elmore	130,651	53,874	155,047	16,253	355,825
Ely	278,942	115,020	331,026	34,701	759,689
Embarrass	124,682	51,412	147,963	15,511	339,567
Emmons	194,829	80,337	231,207	24,237	530,610
Evansville	117,814	48,580	139,812	14,656	320,863
Evergreen	32,728	13,495	38,839	4,071	89,134
Fairfax	229,997	94,838	272,943	28,612	626,390
Federal Dam	77,872	32,110	92,413	9,688	212,082
Finland	73,254	30,206	86,933	9,113	199,506
Finlayson	111,363	45,920	132,157	13,854	303,293
Forada	262,185	108,111	311,141	32,617	714,053
Foxhome	16,885	6,963	20,038	2,101	45,987
Fredenberg	131,016	54,024	155,479	16,299	356,818
French	99,454	41,010	118,025	12,372	270,861
Frost	127,737	52,672	151,589	15,891	347,889
Garvin	65,513	27,014	77,746	8,150	178,423
Gaylord	190,123	78,396	225,623	23,652	517,794
Geneva	135,172	55,738	160,412	16,816	368,137
Gilbert	110,435	45,538	131,056	13,739	300,768
Gnesen	161,635	66,650	191,816	20,108	440,209
Goodview Fire	237,388	97,886	281,714	29,532	646,520

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Grand Lake	230,485	95,039	273,521	28,673	627,719
Grand Marais	177,517	73,199	210,664	22,084	483,464
Granite Falls	212,842	87,765	252,585	26,478	579,670
Greenwood	264,138	108,916	313,458	32,860	719,371
Hamburg	205,455	84,719	243,818	25,559	559,551
Hanley Falls	78,507	32,372	93,166	9,767	213,812
Hardwick	99,610	41,074	118,209	12,392	271,285
Harris	46,774	19,287	55,508	5,819	127,388
Hastings	1,818,582	749,885	2,158,152	226,237	4,952,855
Hayfield	273,314	112,700	324,348	34,001	744,364
Hendricks	94,510	38,971	112,157	11,757	257,395
Henning	211,013	87,010	250,414	26,251	574,687
Hermantown	934,833	385,475	1,109,387	116,296	2,545,991
Hewitt	89,216	36,788	105,875	11,099	242,978
Hill City	113,218	46,685	134,358	14,085	308,345
Hills	141,039	58,157	167,374	17,546	384,115
Hinckley	271,211	111,833	321,852	33,739	738,635
Hitterdal	134,909	55,629	160,099	16,783	367,420
Hollandale	63,965	26,376	75,908	7,957	174,205
Houston	229,894	94,796	272,820	28,600	626,110
Hovland Fire Department	93,536	38,569	111,002	11,636	254,743
Hoyt Lakes	135,354	55,813	160,628	16,838	368,633
Industrial Township	173,563	71,568	205,971	21,592	472,694
International Falls	388,481	160,189	461,019	48,328	1,058,017
Isanti	1,158,311	477,625	1,374,594	144,097	3,154,627
Kelliher	76,359	31,486	90,617	9,499	207,963
Kerrick	28,160	11,612	33,419	3,503	76,694
Kettle River	78,430	32,340	93,074	9,757	213,601
Kiester	97,842	40,345	116,111	12,172	266,469
Lake Bronson	107,504	44,329	127,577	13,374	292,783
Lake Kabetogama	124,325	51,265	147,539	15,466	338,595
Lake Lillian	64,925	26,771	77,048	8,077	176,820
Lakeland	210,153	86,656	249,394	26,144	572,347
Lakewood	89,215	36,787	105,873	11,099	242,973
Lancaster	99,397	40,986	117,956	12,365	270,704
Leaf Valley	163,312	67,341	193,806	20,317	444,776
Leroy	106,551	43,936	126,446	13,255	290,188
Lester Prairie	216,075	89,098	256,421	26,880	588,474
LeSueur	441,755	182,156	524,241	54,956	1,203,108
Lexington	225,684	93,060	267,824	28,076	614,644
Lino Lakes Fire	383,857	158,282	455,531	47,753	1,045,423
Linwood	333,047	137,331	395,235	41,432	907,045
Lutsen	131,785	54,341	156,392	16,394	358,912
Lynd	56,514	23,303	67,066	7,030	153,914
Mahtomedi	859,813	354,540	1,020,359	106,963	2,341,675
Mahtowa	126,841	52,303	150,526	15,779	345,449
Makinen	41,565	17,139	49,327	5,171	113,202
Manchester	116,501	48,039	138,254	14,493	317,287
Mantorville	238,142	98,197	282,609	29,626	648,574
Mayer	335,801	138,466	398,503	41,775	914,545
McGregor	448,135	184,787	531,812	55,749	1,220,483
McKinley	71,023	29,286	84,285	8,835	193,429
Meadowlands	41,982	17,311	49,821	5,223	114,337
Melrose	258,648	106,652	306,943	32,177	704,419
Middle River	108,617	44,788	128,898	13,512	295,814
Milaca	297,156	122,531	352,642	36,967	809,296
Miltona	158,348	65,294	187,916	19,699	431,257
Minnesota City	16,741	6,903	19,867	2,083	45,593
Montrose	468,393	193,140	555,853	58,270	1,275,656
Moose Lake	248,407	102,430	294,790	30,903	676,530

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Morse-Fall Lake	319,127	131,591	378,716	39,700	869,135
Mountain Iron	205,422	84,705	243,779	25,555	559,461
NE Sherburne	333,692	137,596	396,000	41,512	908,800
New Germany	253,709	104,616	301,082	31,562	690,969
Newfolden	96,723	39,883	114,784	12,033	263,423
Newport	420,248	173,288	498,718	52,280	1,144,534
Normanna	50,832	20,960	60,324	6,324	138,440
North Star	55,268	22,789	65,587	6,875	150,520
Northhome	70,954	29,258	84,203	8,827	193,242
Northland Fire	46,922	19,348	55,683	5,837	127,790
Norwood-Young America	259,769	107,115	308,273	32,316	707,473
Nowthen	19,630	8,094	23,296	2,442	53,463
Oak Grove	675,491	278,536	801,620	84,033	1,839,680
Ogema	22,182	9,147	26,324	2,760	60,412
Ogilvie	169,842	70,034	201,556	21,129	462,561
Osakis	377,294	155,576	447,744	46,937	1,027,550
Ottertail	260,196	107,291	308,780	32,369	708,636
Palisade	127,842	52,715	151,712	15,904	348,173
Palo	167,781	69,184	199,110	20,873	456,947
Parkers Prairie	121,407	50,062	144,077	15,103	330,649
Pennock	204,918	84,497	243,180	25,492	558,087
Pequaywan Lake	57,186	23,580	67,863	7,114	155,743
Pickwick Fire	32,360	13,344	38,403	4,026	88,132
Pike Sandy Britt	157,241	64,837	186,601	19,561	428,240
Plato Fire	143,260	59,073	170,010	17,822	390,166
Porter	235,382	97,059	279,333	29,282	641,055
Princeton	646,116	266,423	766,761	80,379	1,759,680
Proctor	307,935	126,976	365,433	38,308	838,652
Raymond	186,186	76,773	220,951	23,162	507,072
Remer	160,882	66,339	190,922	20,014	438,156
Rice Lake	218,594	90,136	259,410	27,194	595,333
Rockford	305,173	125,837	362,155	37,964	831,129
Russell	116,415	48,003	138,152	14,482	317,053
Sabin Elmwood Fire	199,818	82,394	237,129	24,858	544,199
Sacred Heart	96,317	39,716	114,302	11,982	262,317
Saint Francis	425,862	175,602	505,380	52,979	1,159,822
Saint Leo Fire	108,009	44,537	128,177	13,437	294,159
Saint Paul Park	396,362	163,438	470,372	49,309	1,079,481
Scandia	339,146	139,845	402,472	42,191	923,654
Sandstone	133,576	55,079	158,517	16,617	363,790
Scandia Valley	214,816	88,578	254,927	26,724	585,045
Schroeder	105,006	43,299	124,614	13,063	285,982
Shafer	151,818	62,601	180,165	18,887	413,471
Shevlin	161,978	66,791	192,223	20,151	441,143
Silver Lake	109,729	45,246	130,218	13,651	298,844
Solway (Main)	87,503	36,082	103,842	10,886	238,313
Solway(Cloquet)	150,647	62,119	178,776	18,741	410,283
Spring Grove	126,970	52,355	150,678	15,795	345,798
Spring Lake Park	7,995,665	3,296,979	9,488,635	994,685	21,775,964
St Anthony	492,368	203,026	584,304	61,252	1,340,950
Stacy Lent	272,726	112,457	323,650	33,928	742,761
Stephen	170,863	70,455	202,767	21,256	465,340
Sunburg	129,875	53,553	154,126	16,157	353,711
Taylor's Falls	143,223	59,058	169,966	17,817	390,064
Toivola	61,126	25,205	72,539	7,604	166,474
Tower	103,963	42,869	123,375	12,933	283,139
Twin Valley	140,026	57,739	166,172	17,420	381,358
Ulen	156,949	64,717	186,255	19,525	427,447
Underwood	201,829	83,223	239,514	25,108	549,674
Vadnais Heights	766,096	315,896	909,143	95,305	2,086,439

Financial Reports

Retirement Plans Participation – As of June 30, 2023

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Vermilion Lake	117,503	48,452	139,444	14,618	320,017
Vesta	89,500	36,905	106,211	11,134	243,750
Victoria	659,142	271,794	782,219	81,999	1,795,154
Vining	76,544	31,563	90,837	9,522	208,466
Waconia	821,690	338,820	975,118	102,221	2,237,849
Waite Park	304,498	125,558	361,354	37,880	829,291
Wanda	78,689	32,447	93,382	9,789	214,307
Warba - Feeley - Sago	119,550	49,296	141,873	14,872	325,591
Watertown	593,556	244,750	704,386	73,840	1,616,533
Wells	254,162	104,803	301,620	31,619	692,204
West Concord	159,287	65,681	189,030	19,816	433,814
White Bear Lake	2,750,171	1,134,022	3,263,690	342,130	7,490,013
Willmar	724,735	298,841	860,059	90,159	1,973,794
Winnebago	307,247	126,692	364,617	38,223	836,779
Winthrop	309,894	127,783	367,758	38,552	843,987
Wolf Lake	135,381	55,824	160,660	16,842	368,708
Wood Lake	97,289	40,117	115,455	12,103	264,963
Wrenshall	149,638	61,703	177,579	18,615	407,536
Total Statewide Volunteer Firefighter Assets	\$ 55,708,536	\$ 22,971,186	\$ 66,110,574	\$ 6,930,312	\$ 151,720,609
Total Fire Relief + Other Public Retirement Plans	\$ 565,107,481	\$ 154,554,383	\$ 185,827,077	\$ 18,908,495	\$ 924,397,435

	Stable Value Fund	Domestic Equity	International Equity	Fixed Income	Cash	Total
Participant Directed Investment Program (PDIP) Plan Participation						
MSRS - Empower	\$ 1,694,879,092	\$ -	\$ -	\$ -	\$ 690,881,466	\$ 2,385,760,559
Pera DCP	4,195,202	57,700,757	3,791,570	17,561,897	5,060,322	88,309,748
Total PDIP Participation	\$ 1,699,074,294	\$ 57,700,757	\$ 3,791,570	\$ 17,561,897	\$ 695,941,788	\$ 2,474,070,306
Total Supplemental Investment Fund	\$ 1,699,074,294	\$ 622,808,238	\$ 158,345,953	\$ 203,388,974	\$ 714,850,283	\$ 3,398,467,742

Note: Balanced Fund and Volunteer Firefighter Account assets are recorded in the respective asset group category

Financial Reports

Non-Retirement Funds Participation

Non-Retirement Funds Participation Schedule As of June 30, 2023

	Non-Retirement Cash Fund	Non-Retirement Bond Fund	Non-Retirement Equity Fund	Assigned Risk Plan Fixed Income	Met Council Laddered Fixed Income Portfolio	Total
Trust Funds						
Assigned Risk			\$ 57,467,349	\$ 207,435,432		\$ 264,902,781
Closed Landfill		38,227,777	91,502,947			129,730,724
Environmental Trust	30,723,193	421,884,649	1,167,141,528			1,619,749,370
Permanent School	37,725,361	902,066,812	949,806,989			1,889,599,161
Other Trusts:						
3M East Metro Capital & Drinking Water Protection	311,210,373					\$ 311,210,373
3M East Metro Contingency	188,581,120					188,581,120
3M East Metro O & M	118,507,261					118,507,261
Center for Rural Policy and Development	94,890	1,225,197	571,691			1,891,777
Duluth Community Investment Trust		6,034,688	24,051,324			30,086,012
Emergency Med SVC	107,759	792,032	1,368,755			2,268,545
Ethel Currey		600,708	1,193,048			1,793,756
Iron Range Resources		78,555,857	126,394,154			204,950,011
Life Time Fish & Wild Life	894,739	12,444,857	34,131,168			47,470,764
Metro Landfill Contingency Action		4,732,619	12,653,135			17,385,754
Mittigation Easement Stewardship		297,220	798,562			1,095,782
Natural Resources Conservation		803,591	2,073,274			2,876,865
Saint Louis County Environmental		9,847,648	13,811,664			23,659,312
Water & Soil Conservation Easement		1,490,028	3,999,143			5,489,171
Winona State		37,460	94,073			131,533
Total Trust Fund Assets	\$ 687,844,696	\$ 1,479,041,143	\$ 2,487,058,803	\$ 207,435,432	\$ -	\$ 4,861,380,074
Qualifying Governmental Entities						
Carver County Minnesota			\$ 2,072,072			\$ 2,072,072
City of Woodbury			5,557,965			5,557,965
Minnesota Counties Intergovernmental Trust			5,374,620			5,374,620
Total Qualifying Governmental Assets			\$ 13,004,658			\$ 13,004,658
Other Post Employment Benefit Plans (OPEB)						
Anoka County (Irrevocable)			\$ 100,259,989			\$ 100,259,989
Carver County		3,135,528	9,450,624			12,586,152
City of Eagan			26,134,560			26,134,560
City of Virginia			2,932,369			2,932,369
Crosby-Ironton ISD#182	86,919	2,047	4,972,622			5,061,587
Duluth		18,768,217	77,579,738			96,347,955
Fillmore Central Schools #2198	319,262					319,262
Foley ISD#51		705,835	2,131,928			2,837,763
Hastings ISD#200	5,932,611					5,932,611
Kingsland ISD#2137			425,187			425,187
Mendota Hgts Eg WSP#197	70,480	5,448,501				5,518,981
Metro Mosquito Control District		33,665	5,358,713			5,392,378
Metropolitan Council	13,059,627		212,293,122		99,598,198	324,950,947
Mounds View ISD#621	7,920,901	7,016,229	12,145,036			27,082,166
Mt. Iron-Buhl District #712		171,879.67				1,718,792
Ogilvie ISD#333	33,636					33,636
Port Authority of the City of St. Paul	160,381	393,241	92,421			646,043
Ramsey County	7,447,545	16,145,502	92,710,868			116,303,914
Roseville District#623		\$6,179,476				6,179,476
Scott County		8,681,057	12,402,402			21,083,459
Staples Motley #2170	26,992	385,395				412,387
Washington County		11,565,364	83,614,211			95,179,575
Yellow Medicine ISD#2190	50,589					50,589
Total OPEB Assets	\$ 35,108,942	\$ 80,178,849	\$ 642,503,791	\$ -	\$ 99,598,198	\$ 857,389,781
Non-Retirement Plan Participation	\$ 722,953,638	\$ 1,559,219,993	\$ 3,142,567,251	\$ 207,435,432	\$ 99,598,198	\$ 5,731,774,512

Financial Reports

Investment Manager Fees – Total Payments for Fiscal Year 2023

Investment Manager Name	Fees Paid in FY 2023
Domestic Equity Active Managers	
ArrowMark Colorado Holdings, LLC	\$ 1,178,713
Barrow, Hanley, Mewhinney & Strauss, LLC	727,564
Goldman Sachs Asset Management, L.P.	1,433,267
Hood River Capital Management, LLC	1,637,691
Hotchkis and Wiley Capital Management, LLC	1,697,129
LSV Asset Management	663,815
Martingale Asset Management, L.P.	766,390
Peregrine Capital Management	1,484,186
Rice Hall James & Associates, LLC	1,300,582
Sands Capital Management, LLC	1,029,707
Wellington Management Company LLP	1,247,289
Winslow Capital Management, LLC	525,776
Zevenbergen Capital Investments LLC	820,275
Domestic Equity Semi-Passive Managers	
BlackRock Institutional Trust Company, N.A.	1,439,369
J.P. Morgan Investment Management Inc.	1,542,780
Domestic Equity Passive Manager	
BlackRock Institutional Trust Company, N.A. (Passive R3000)	40,599
BlackRock Institutional Trust Company, N.A. (Passive R2000)	5,774
BlackRock Institutional Trust Company, N.A. (Passive R1000)	1,021,693
Fixed Income Core/Core Plus Managers	
BlackRock Financial Management, Inc.	633,955
Dodge & Cox	1,075,406
Goldman Sachs Asset Management	966,697
Neuberger Berman Investment Advisers LLC	969,901
Western Asset Management Company	1,153,182
Fixed Income Return Seeking Managers	
Ashmore Investment Management Limited	1,314,464
Ashmore Investment Management Limited	28,441
BlackRock Financial Management, Inc.	1,963,195
Columbia Threadneedle Investments	1,292,343
KKR Credit Advisors (US) LLC	832,284
Oaktree Capital Management, L.P.	1,012,101
Payden & Rygel	992,937
Prudential Global Investment Management, Inc. (PGIM)	1,038,074
Pacific Investment Management Company LLC (PIMCO)	1,919,691
TCW Asset Management Company, LLC	1,114,960
Treasury Portfolio Managers	
BlackRock Financial Management, Inc.	1,126,021
Goldman Sachs Asset Management	1,214,433
Neuberger Berman Investment Advisers LLC	1,096,854
Laddered Bond Managers	
Goldman Sachs Asset Management	305,062
Neuberger Berman Investment Advisers LLC	301,499

Financial Reports

Investment Manager Fees – Total Payments for Fiscal Year 2023

Investment Manager Name	Fees Paid in FY 2023
International Equity Active Developed Markets Managers	
AQR Capital Management, LLC	\$ 846,774
Acadian Asset Management LLC	1,601,358
Columbia Threadneedle Investments	1,218,232
Fidelity Institutional Asset Management LLC	1,238,705
J.P. Morgan Investment Management Inc.	1,217,590
Marathon Asset Management LLP	1,202,177
McKinley Capital Management, LLC	566,265
International Equity Passive Manager	
State Street Global Advisors (Developed Markets)	665,408
State Street Global Advisors (Emerging Markets)	471,708
International Equity Active Emerging Markets Managers	
Ashmore Investment Management Limited	25,000
Macquarie Investment Management Advisers	1,785,136
Martin Currie Inc.	1,922,803
Morgan Stanley Investment Management Inc.	2,671,041
Neuberger Berman Investment Advisers LLC	2,354,723
Pzena Investment Management, LLC	2,575,495
The Rock Creek Group, LLC	4,316,149
International Equity Active Opportunistic Strategies	
Earnest Partners (ACWI ex-US)	1,291,278
Earnest Partners LLC (China A Index)	1,469,875
Record Currency LLC (Currency Management)	7,997,875
Global Equity Managers	
Ariel Investments, LLC	1,764,111
Baillie Gifford Overseas Limited	998,934
Martin Currie Inc.	936,456
Private Markets--Uninvested Allocation	
BlackRock Institutional Trust Company, N.A.	8,076
NISA Investment Advisors, LLC	53,913
Stable Value Manager	
Galliard Capital Management, Inc. ⁽¹⁾	3,373,775
Assigned Risk Plan Manager	
RBC Global Asset Management (U.S.) Inc.	171,416
Non-Retirement Managers	
Mellon Investments Corporation	110,134
Prudential Global Investment Management, Inc. (PGIM)	1,414,882
State Street Global Advisors	25,100
Total Investment Manager Fees Paid	\$ 83,208,488

(1) Includes Investment Contract fees of \$2,546,582.47 charged by wrap providers.

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2023

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
ABEL NOSER CORPORATION	\$ 4,094,307	\$ 5,662	\$ -	\$ -	\$ -
ABG SECURITIES AS (STOCKHOLM)	\$ 138,676	\$ 69	\$ -	\$ -	\$ -
ABN AMRO CLEARING BANK N.V.	\$ 5,180,019	\$ 1,555	\$ 188,879	\$ -	\$ -
ABSA BANK LIMITED	\$ -	\$ -	\$ 3,819,599	\$ -	\$ -
ACADEMY SECURITIES INC	\$ 1,857,572	\$ 372	\$ -	\$ -	\$ 975,883,899
ALLEN & COMPANY LLC	\$ 76,925	\$ 107	\$ -	\$ -	\$ -
ALTACORP CAPITAL INC	\$ 375,862	\$ 554	\$ -	\$ -	\$ -
ANDISA SECURITIES (PTY)LIMITED	\$ 1,923,202	\$ 2,288	\$ -	\$ -	\$ -
AUSTRACLEAR LIMITED	\$ -	\$ -	\$ 375	\$ -	\$ -
AUSTRALIA AND NEW ZEALAND BANKING GROUP	\$ -	\$ -	\$ 1,126,045	\$ -	\$ -
AVIOR RESEARCH PTY LTD	\$ 1,892,085	\$ 579	\$ -	\$ -	\$ -
B.RILEY & CO., LLC	\$ 21,239,910	\$ 32,557	\$ -	\$ -	\$ -
BANCO BILBAO VIZCAYA	\$ -	\$ -	\$ 28,534,329	\$ -	\$ -
BANCO BNPPARIBAS BRASIL SA	\$ -	\$ -	\$ 22,500,484	\$ -	\$ -
BANCO BTGPACTUAL SA CAYMAN BRANCH	\$ -	\$ -	\$ 795,885	\$ -	\$ -
BANCO CHASE MANHATTAN S.A.	\$ -	\$ -	\$ 29,299,917	\$ -	\$ -
BANCO GANADERO COLUMBIA	\$ -	\$ -	\$ 49,464	\$ -	\$ -
BANCO ITAU SA	\$ 10,143,046	\$ 15,223	\$ 10,536,239	\$ -	\$ -
BANCO PACTUAL S.A.	\$ 28,664,622	\$ 27,263	\$ -	\$ -	\$ -
BANCOLOMBIA S.A.	\$ -	\$ -	\$ 207,607	\$ -	\$ -
BANCROFT CAPITAL LLC	\$ 125,108	\$ 23	\$ -	\$ -	\$ -
BANK MUSCAN AL AHLI ALOMANI	\$ -	\$ -	\$ 13,562	\$ -	\$ -
BANK OF AMERICA	\$ 78,076,265	\$ 110,441	\$ 1,991,671,148	\$ -	\$ 53,621,000
BANK OF NOVA SCOTIA	\$ 27,238,077	\$ 11,190	\$ 95,080,866	\$ -	\$ 183,997,450
BARCLAYS BANK	\$ 652,205,143	\$ 157,351	\$ 8,257,134,522	\$ 2,479	\$ 7,591,881,008
BARRINGTON RESEARCH ASSOCIATES	\$ 707,034	\$ 3,094	\$ -	\$ -	\$ -
BBVA SECURITIES INC.	\$ -	\$ -	\$ 14,218,406	\$ -	\$ -
BCP SECURITIES LLC	\$ -	\$ -	\$ 2,440,955	\$ -	\$ -
BERENBERG CAPITAL MARKETS LLC	\$ 728,064	\$ 559	\$ -	\$ -	\$ -
BERNSTEINAUTONOMOUS LLP	\$ 4,760,522	\$ 3,674	\$ -	\$ -	\$ -
BETZOLD BERG & NUSSBAUM INC.	\$ -	\$ -	\$ 103,272	\$ -	\$ -
BGC FINANCIAL, LP	\$ -	\$ -	\$ 2,801,750	\$ -	\$ -
BLAYLOCK ROBERT VAN LLC	\$ 43,290	\$ 83	\$ 3,630,769	\$ -	\$ -
BMO CAPITAL MARKETS	\$ 68,916,059	\$ 34,657	\$ 2,481,488,425	\$ -	\$ 1,961,748,134
BMO NESBITT BURNS INC	\$ 11,864,487	\$ 7,233	\$ -	\$ -	\$ -
BNP PARIBAS	\$ 738,547,115	\$ 107,695	\$ 1,750,881,780	\$ -	\$ 19,949,735,563
BNY MELLON	\$ 12,994,323	\$ 312	\$ 118,331,489	\$ -	\$ 38,453,683
BOFA SECURITIES INC	\$ 2,115,127,292	\$ 339,029	\$ 16,370,808,259	\$ 304,948	\$ 34,466,055,603
BRADESCO S.A. CTVM	\$ 6,856,314	\$ 13,149	\$ 180,106	\$ -	\$ -
BREAN CAPITAL LLC	\$ -	\$ -	\$ 1,423,307	\$ -	\$ -
BROADCORT CAPITAL CORP	\$ 48,868,258	\$ 26,873	\$ -	\$ -	\$ -
BROWN BROTHERS HARRIMAN + CO	\$ -	\$ -	\$ 468,313	\$ -	\$ -
BROWNSTONE INVESTMENT GROUP LLC	\$ -	\$ -	\$ 920,100	\$ -	\$ -
BTG PACTUAL CASA DE BOLSA	\$ 2,414,529	\$ 2,623	\$ -	\$ -	\$ -
BTIG LLC	\$ 19,844,257	\$ 24,126	\$ 1,830,735	\$ -	\$ -
CABRERA CAPITAL MARKETS	\$ 280,108	\$ 51	\$ -	\$ -	\$ 75,000,000
CACEIS BANK	\$ 506,590	\$ 253	\$ -	\$ -	\$ -
CALYON SECURITIES (USA) INC.	\$ -	\$ -	\$ 2,404,202	\$ -	\$ -
CANACCORD GENUITY	\$ 16,178,319	\$ 9,336	\$ -	\$ -	\$ -
CANTOR FITZGERALD + CO	\$ 94,921,734	\$ 23,706	\$ 86,530,481	\$ -	\$ 98,000,000,000
CAPITAL INSTITUTIONAL SVCS INC EQUITIES	\$ 19,081,876	\$ 11,705	\$ -	\$ -	\$ -
CARNEGIE INVESTMENT BANK AB	\$ 4,389,777	\$ 5,778	\$ -	\$ -	\$ -
CASTLEOAK SECURITIES LP	\$ 2,932,420	\$ 520	\$ -	\$ -	\$ 6,149,956

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2023

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
CHINA INTERNATIONAL CAPITAL CO	\$ 14,457,104	\$ 17,879	\$ -	\$ -	\$ -
CIBC WORLD MARKETS	\$ 12,613,439	\$ 5,268	\$ 12,725,132	\$ -	\$ 32,750,000
CIMB BANK BERHAD	\$ -	\$ -	\$ 648,032	\$ -	\$ -
CITADEL	\$ -	\$ -	\$ 2,044,345,367	\$ -	\$ 104,767,520
CITIBANK	\$ 360,484,938	\$ 113,404	\$ 128,798,973	\$ -	\$ 758,818,661
CITIGROUP	\$ 1,238,765,213	\$ 286,207	\$ 13,853,531,073	\$ 61	\$ 49,722,296,937
CITIZENS BANK	\$ -	\$ -	\$ 6,116,253	\$ -	\$ -
CL SECURITIES TAIWAN COMPANY LIMITED	\$ 15,966,528	\$ 6,329	\$ -	\$ -	\$ -
CLSA	\$ 77,939,571	\$ 33,942	\$ -	\$ -	\$ -
COMMERZBANK AG	\$ -	\$ -	\$ 712,365	\$ -	\$ -
CORMARK SECURITIES INC	\$ 289,840	\$ 101	\$ -	\$ -	\$ -
COWEN AND COMPANY, LLC	\$ 450,566,479	\$ 245,411	\$ -	\$ -	\$ -
CRAIG-HALLUM	\$ 10,306,547	\$ 24,807	\$ -	\$ -	\$ -
CREDIT AGRICOLE	\$ -	\$ -	\$ 97,649,240	\$ -	\$ -
CREDIT LYONNAIS SECURITIES(ASIA)	\$ 37,377,870	\$ 27,705	\$ -	\$ -	\$ -
CREDIT SUISSE	\$ 265,921,695	\$ 68,705	\$ 3,939,028,766	\$ -	\$ 846,647,779
D.P.M. SECS	\$ -	\$ -	\$ -	\$ -	\$ -
DAIWA	\$ 15,520,032	\$ 9,049	\$ 1,200,374,643	\$ -	\$ 607,340,415
DAVIDSON D.A. + COMPANY INC.	\$ 13,073,298	\$ 17,536	\$ -	\$ -	\$ -
DAVY STOCKBROKERS	\$ 1,240,767	\$ 931	\$ -	\$ -	\$ -
DBS BANK LTD. SINGAPORE	\$ -	\$ -	\$ 1,892,555	\$ -	\$ -
DBTC AMERICA	\$ -	\$ -	\$ 13,018,565	\$ -	\$ -
DEPOSITO CENTRAL DE VALORES S	\$ -	\$ -	\$ 286,729	\$ -	\$ -
DEPOSITORY TRUST COMPANY	\$ -	\$ -	\$ 3,655,000	\$ -	\$ -
DEUTSCHE BANK	\$ 2,185,214	\$ 4,997	\$ 1,120,295,152	\$ 3,460	\$ 20,610,967,133
DNB MARKETS CUSTODY, A BUSINESS UNIT OF	\$ 103,697	\$ 83	\$ -	\$ -	\$ -
DORN & CO INC	\$ -	\$ -	\$ 450,977	\$ -	\$ -
DOWLING & PARTNERS	\$ 11,952,358	\$ 4,190	\$ -	\$ -	\$ -
DUNCAN WILLIAMS INC	\$ -	\$ -	\$ 5,453,555	\$ -	\$ -
ELECTRONIC BROKERAGE SYSTEMS, LLC	\$ 2,752,444	\$ 1,700	\$ -	\$ -	\$ -
ERSTE BANK BEFEKTETESI RT.	\$ -	\$ -	\$ 395,703	\$ -	\$ -
EUROCLEAR BANK	\$ 480,841	\$ 4,990	\$ 4,081,947	\$ -	\$ -
EUROMOBILIARE SIM S.P.A.	\$ 747,897	\$ 749	\$ -	\$ -	\$ -
EVERCORE GROUP L.L.C.	\$ 48,289,969	\$ 45,959	\$ -	\$ -	\$ -
EXANE S.A.	\$ 17,280,087	\$ 9,693	\$ -	\$ -	\$ -
FEDERAL RESERVE BANK OF BOSTON	\$ -	\$ -	\$ 2,803,631	\$ -	\$ 445,778,582
FIDELITY CAPITAL MARKETS	\$ 46,029,759	\$ 8,115	\$ -	\$ -	\$ -
FIDELITY CLEARING CANADA	\$ 257,432	\$ 244	\$ -	\$ -	\$ -
FIRST ABU DHABI BANK PJSC	\$ -	\$ -	\$ 666,596	\$ -	\$ -
FIRST HORIZON BANK	\$ -	\$ -	\$ 3,827,715,050	\$ -	\$ 146,333,625
FIRST TENNESSEE SECURITIES CORP	\$ -	\$ -	\$ 1,265,906	\$ -	\$ -
FIRST UNION NATL BK CHARLOTTE	\$ 700,794	\$ 1,868	\$ -	\$ -	\$ -
FLOW CORRETORA DE MERCADORIAS LTDA.	\$ 2,418,825	\$ 2,498	\$ -	\$ -	\$ -
FLOW TRADERS U.S. INSTITUTIONAL TRADING	\$ -	\$ -	\$ 117,990	\$ -	\$ -
FRANK RUSSELL SEC/BROADCORT CAP CLEARING	\$ 8,679,241	\$ 24,295	\$ -	\$ -	\$ -
GLAS SECURITIES LIMITED	\$ -	\$ -	\$ -	\$ -	\$ -
GMP SECURITIES, LLC	\$ -	\$ -	\$ 68,402	\$ -	\$ -
GOLDMAN SACHS	\$ 1,401,686,034	\$ 384,330	\$ 8,006,509,082	\$ 349,236	\$ 46,421,588,146
GOLUB CAPITAL	\$ -	\$ -	\$ 2,159,874	\$ -	\$ -
GOODBODY STOCKBROKERS	\$ 6,317,514	\$ 2,731	\$ -	\$ -	\$ -
GORDON HASKETT CAPITAL CORP	\$ 1,048,734	\$ 4,889	\$ -	\$ -	\$ -
GRABER	\$ -	\$ -	\$ -	\$ -	\$ -
GUGGENHEIM	\$ -	\$ -	\$ 1,730,000	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2023

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
GUZMAN + CO	\$ 17,097,841	\$ 1,771	\$ -	\$ -	\$ -
HANWHA SECURITIES SEOUL	\$ 15,636,764	\$ 15,267	\$ -	\$ -	\$ -
HARRIS TRUST + SAVINGS BANK CHICAGO	\$ -	\$ -	\$ 13,968,248	\$ 61,804	\$ -
HIBERNIA SOUTHCOAST CAPITAL INC	\$ 1,251,331	\$ 1,349	\$ -	\$ -	\$ -
HILLTOP SECURITIES INC	\$ 2,401,781	\$ 4,360	\$ 2,878,338	\$ -	\$ -
HSBC	\$ 84,221,019	\$ 40,750	\$ 480,652,650	\$ -	\$ 32,958,438,000
HUATAI FINANCIAL HOLDINGS (HK) LTD	\$ 1,546,382	\$ 2,336	\$ -	\$ -	\$ -
HYUNDAI SECURITIES	\$ 2,147,406	\$ 3,292	\$ -	\$ -	\$ -
ICAP SECURITIES LTD	\$ -	\$ -	\$ 156,280	\$ -	\$ -
ICBC STANDARD BANK PLC	\$ -	\$ -	\$ 1,869,755	\$ -	\$ -
ICBCFS LLC	\$ -	\$ -	\$ 387,404,868	\$ -	\$ -
IMPERIAL CAPITAL	\$ -	\$ -	\$ 945,744	\$ -	\$ -
INDUSTRIAL AND COMMERCIAL BANK OF CHINA	\$ -	\$ -	\$ 4,939,310	\$ -	\$ -
ING BANK	\$ -	\$ -	\$ 38,032,140	\$ -	\$ -
INSTINET	\$ 835,874,092	\$ 264,990	\$ -	\$ -	\$ -
INTESA SANPAOLO SPA	\$ -	\$ -	\$ 610,537	\$ -	\$ -
INTL FCSTONE FINANCIAL INC	\$ -	\$ -	\$ 92,806,977	\$ -	\$ 193,884,237
INVESTEC BANK PLC	\$ 1,224,456	\$ 695	\$ -	\$ -	\$ -
INVESTMENT TECHNOLOGY GROUP INC.	\$ 4,160,041	\$ 882	\$ -	\$ -	\$ -
IPOPEMA SECURITIES S.A.	\$ 162,867	\$ 408	\$ -	\$ -	\$ -
ITAU UNIBANCO S A	\$ -	\$ -	\$ 1,235,288	\$ -	\$ -
ITG	\$ 9,242,719	\$ 3,278	\$ -	\$ -	\$ -
JANE STREET EXECUTION SERVICES, LLC	\$ -	\$ -	\$ 11,313,267	\$ -	\$ -
JANNEY MONTGOMERY SCOTT INC.	\$ 2,150,095	\$ 1,990	\$ 2,830,867	\$ -	\$ -
JEFFERIES & CO.	\$ 572,177,278	\$ 234,376	\$ 369,579,563	\$ 8,323	\$ 144,481,144
JMP SECURITIES	\$ 5,305,502	\$ 7,015	\$ -	\$ -	\$ -
JOH. BERENBERG, GOSSLER & CO. KG	\$ 8,560,593	\$ 9,444	\$ -	\$ -	\$ -
JONESTRADING INSTITUTIONAL SERVICES, LLC	\$ 11,199,384	\$ 18,617	\$ -	\$ -	\$ -
JP MORGAN	\$ 1,052,112,430	\$ 458,175	\$ 15,228,284,652	\$ 94,041	\$ 188,850,348,212
KEEFE BRUYETTE + WOODS INC	\$ 17,794,536	\$ 15,680	\$ -	\$ -	\$ -
KEPLER CHEUVREUX	\$ 755,847	\$ 714	\$ -	\$ -	\$ -
KEYBANC CAPITAL MARKETS INC	\$ 23,585,239	\$ 30,648	\$ 1,243,834	\$ -	\$ -
KIM ENG SECURITIES (HK) LTD.	\$ 41,854	\$ 42	\$ -	\$ -	\$ -
KOREA INVESTMENT AND SECURITIES CO., LTD	\$ 2,543,889	\$ 2,033	\$ -	\$ -	\$ -
LADENBURG THALMAN + CO	\$ 1,408,114	\$ 2,457	\$ -	\$ -	\$ -
LATTICE	\$ -	\$ -	\$ -	\$ -	\$ -
LEERINK PARTNERS LLC	\$ 8,529,091	\$ 9,366	\$ -	\$ -	\$ -
LIBERUM CAPITAL LIMITED	\$ 248,033	\$ 124	\$ -	\$ -	\$ -
LINSICO PRIVATE LEDGER CORP	\$ -	\$ -	\$ 541,824	\$ -	\$ -
LIQUIDITY FINANCE LLP	\$ 152,460	\$ -	\$ 21,936,679	\$ -	\$ -
LIQUIDNET INC	\$ 51,379,078	\$ 23,063	\$ -	\$ -	\$ -
LOOP CAPITAL MARKETS	\$ 299,766,273	\$ 41,878	\$ 149,240,601	\$ -	\$ 1,165,733
LUMINEX TRADING AND ANALYTICS	\$ 4,101,575	\$ 350	\$ -	\$ -	\$ -
MACQUARIE BANK LIMITED	\$ 50,300,803	\$ 36,309	\$ 294,750	\$ -	\$ -
MARKETAXESS CORPORATION	\$ -	\$ -	\$ 211,667,443	\$ -	\$ -
MAXIM GROUP	\$ 477,952	\$ 177	\$ -	\$ -	\$ -
MERRILL LYNCH	\$ 282,766,391	\$ 115,466	\$ 71,841,746	\$ -	\$ -
MESIROW FINANCIAL INC.	\$ -	\$ -	\$ 2,053,877	\$ -	\$ -
MILLA E. CO. SIM SPA	\$ 15,053,795	\$ 397	\$ -	\$ -	\$ -
MILLENNIUM ADVISORS LLC	\$ -	\$ -	\$ 4,697,261	\$ -	\$ -
MIRAE ASSET	\$ 1,520,555	\$ 882	\$ -	\$ -	\$ -
MISCHLER FINANCIAL GROUP	\$ 16,676,312	\$ 7,025	\$ -	\$ -	\$ 10,000,000
MITSUBISHI UFJ SECURITIES	\$ 904,192	\$ 425	\$ 341,492,972	\$ -	\$ 585,057,073

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2023

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
MIZUHO CORP	\$ 39,400,118	\$ 23,626	\$ 2,044,900,531	\$ -	\$ 782,728,075
MKM PARTNERS LLC	\$ 2,191,808	\$ 2,068	\$ -	\$ -	\$ -
MORGAN STANLEY	\$ 936,895,601	\$ 267,216	\$ 19,398,001,900	\$ 2,510	\$ 1,313,079,926
NATIONAL BANK FINANCIAL INC./CDS	\$ -	\$ -	\$ 3,055,446	\$ -	\$ -
NATIONAL BANK OF CANADA	\$ -	\$ -	\$ 19,140,326	\$ -	\$ -
NATIONAL FINANCIAL SERVICES CORP	\$ 78,224,344	\$ 33,403	\$ 119,112,836	\$ -	\$ 29,394,375
NATWEST MARKETS PLC	\$ -	\$ -	\$ 436,100	\$ -	\$ -
NEEDHAM AND COMPANY LLC	\$ 23,059,520	\$ 20,364	\$ -	\$ -	\$ -
NOMURA	\$ -	\$ -	\$ 1,030,231,715	\$ -	\$ 17,201,095,761
NORDEA BANK ABP	\$ 3,691,526	\$ 2,803	\$ -	\$ -	\$ -
NORTH SOUTH CAPITAL LLC	\$ 3,974,611	\$ 2,104	\$ -	\$ -	\$ -
NORTHERN TRUST COMPANY, THE	\$ 676,122	\$ 23	\$ 697,921	\$ -	\$ -
NORTHLAND SECURITIES INC.	\$ 7,980,184	\$ 7,517	\$ -	\$ -	\$ -
NUMIS SECURITIES LIMITED	\$ 4,032,138	\$ 1,151	\$ -	\$ -	\$ -
ODDO ET CIE	\$ 410,541	\$ 328	\$ 742,544	\$ -	\$ -
OPPENHEIMER	\$ 30,667,224	\$ 29,690	\$ 3,855,996	\$ -	\$ 99,647,589
OPTIVER VOF	\$ 4,701,399	\$ 966	\$ -	\$ -	\$ -
PANMURE GORDON (UK) LIMITED	\$ 1,388,062	\$ 828	\$ -	\$ -	\$ -
PAREL	\$ 9,251,244	\$ 3,614	\$ -	\$ -	\$ -
PENSERRA SECURITIES	\$ 87,593,918	\$ 42,365	\$ -	\$ -	\$ -
PERSHING LLC	\$ 1,016,366,274	\$ 179,310	\$ 5,847,996,628	\$ -	\$ 10,174,275,778
PIPER JAFFRAY & CO.	\$ 207,178,784	\$ 122,364	\$ 952,258	\$ -	\$ -
PROVINCIAL DE VALORES	\$ -	\$ -	\$ 2,319	\$ -	\$ -
RAIFFEISEN ZENTRALBANK OESTERREICH AG	\$ -	\$ -	\$ 473,379	\$ -	\$ -
RAYMOND JAMES	\$ 44,778,609	\$ 59,257	\$ 9,464,867	\$ -	\$ -
READ LTD (LONDON)	\$ -	\$ -	\$ 26,846	\$ -	\$ -
REDBURN	\$ 5,587,140	\$ 3,375	\$ -	\$ -	\$ -
ROBERT W. BAIRD CO. INCORPORATED	\$ 62,511,271	\$ 54,208	\$ 126,343,414	\$ -	\$ -
ROSENBLATT SECURITIES INC.	\$ 5,816,380	\$ 5,994	\$ -	\$ -	\$ -
ROTH CAPITAL PARTNERS LLC	\$ 5,831,004	\$ 6,127	\$ -	\$ -	\$ -
ROYAL BANK OF CANADA	\$ 405,822,420	\$ 130,652	\$ 1,648,789,676	\$ -	\$ 6,380,533,649
ROYAL BANK OF SCOTLAND	\$ -	\$ -	\$ 397,868,770	\$ -	\$ 109,960,000,000
RZB BANK	\$ -	\$ -	\$ 29,352	\$ -	\$ -
SAMSUNG SECURITIES CO LTD	\$ 57,736	\$ 23	\$ -	\$ -	\$ -
SANFORD C. BERNSTEIN AND CO. LLC	\$ 109,496,439	\$ 57,353	\$ -	\$ -	\$ -
SANTANDER	\$ 11,618,069	\$ 12,994	\$ 414,267,584	\$ -	\$ -
SBI CAPITAL MARKET	\$ -	\$ -	\$ -	\$ -	\$ 26,850,000
SEAPORT GROUP SECURITIES LLC	\$ 3,759,031	\$ 5,998	\$ 7,214,615	\$ -	\$ -
SHENWAN HONGYUAN SECURITIES (H.K.) LIMIT	\$ 208,999	\$ 356	\$ -	\$ -	\$ -
SIX SIS AG	\$ 136,468	\$ -	\$ -	\$ -	\$ -
SKANDINAVISKA ENSKILDA BANKEN	\$ 3,647,243	\$ 3,563	\$ -	\$ -	\$ -
SMBC NIKKO SECURITIES	\$ 10,790,094	\$ 4,415	\$ 3,940,079	\$ -	\$ -
SOCIETE GENERALE	\$ 33,228,739	\$ 9,654	\$ 676,126,302	\$ -	\$ 576,042,791
STANDARD BANK OF SOUTH AFRICA LTD	\$ -	\$ -	\$ -	\$ -	\$ -
STANDARD CHARTERED BANK	\$ -	\$ -	\$ 16,007,322	\$ -	\$ -
STANLEY (CHARLES) + CO LIMITED	\$ -	\$ -	\$ 775,327	\$ -	\$ -
STATE STREET GLOBAL MARKETS, LLC	\$ 315,076,144	\$ 33,123	\$ 5,341,237,579	\$ -	\$ 16,517,475,238
STEPHENS INC	\$ 26,899,025	\$ 32,386	\$ -	\$ -	\$ -
STIFEL NICOLAUS + CO INC	\$ 46,425,157	\$ 49,665	\$ 37,580,180	\$ -	\$ -
STIRES O DONNELL	\$ -	\$ -	\$ -	\$ -	\$ -
STONEX FINANCIAL INC.	\$ 399,831	\$ 386	\$ 1,345,005	\$ -	\$ -
STRATEGAS SECURITIES LLC	\$ 18,309,835	\$ 4,567	\$ -	\$ -	\$ -
STUART FRANKEL + CO INC	\$ 44,251	\$ 17	\$ -	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2023

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
SUMRIDGE PARTNERS LLC	\$ -	\$ -	\$ 2,843,454	\$ -	\$ -
SUNTRUST CAPITAL MARKETS, INC.	\$ 12,838,850	\$ 13,837	\$ -	\$ -	\$ -
SVENSKA HANDELSBANKEN	\$ 232,390	\$ 116	\$ -	\$ -	\$ -
TELSEY ADVISORY GROUP	\$ 1,288,066	\$ 3,797	\$ -	\$ -	\$ -
THE BENCHMARK COMPANY LLC	\$ 209,468	\$ 2,657	\$ -	\$ -	\$ -
THEMIS TRADING LLC	\$ 69,946	\$ 29	\$ -	\$ -	\$ -
TORONTO DOMINION BANK	\$ 10,496,259	\$ 3,042	\$ 1,570,692,086	\$ -	\$ 1,711,854,091
TPCG FINANCIAL SERVICES S.A	\$ -	\$ -	\$ 1,467,727	\$ -	\$ -
TRUIST SECURITIES, INC.	\$ -	\$ -	\$ 45,924,829	\$ -	\$ -
U.S. BANK	\$ -	\$ -	\$ 3,148,344	\$ -	\$ 922,250,000
UBS	\$ 1,286,398,793	\$ 383,497	\$ 910,095,397	\$ -	\$ 7,712,953,072
UNICREDITBANK AG (HYPOVEREINSBANK)	\$ -	\$ -	\$ 2,080,324	\$ -	\$ -
US BANCORP INVESTMENTS INC	\$ -	\$ -	\$ 73,002,314	\$ -	\$ -
VALEURS MOBILIERES DESJARDINS	\$ 484,002	\$ 159	\$ -	\$ -	\$ -
VIRTU	\$ 350,672,910	\$ 121,833	\$ -	\$ -	\$ -
WALSH GREENWD WISH	\$ -	\$ -	\$ 50,580,000	\$ -	\$ -
WEDBUSH SECURITIES INC	\$ 6,535,100	\$ 9,376	\$ -	\$ -	\$ -
WELLS FARGO	\$ 212,304,453	\$ 35,218	\$ 7,690,115,459	\$ 33,576	\$ 2,111,647,781
WILLIAM BLAIR & COMPANY L.L.C	\$ 23,299,071	\$ 17,958	\$ -	\$ -	\$ -
WILLIAMS CAPITAL GROUP LP (THE)	\$ 1,236,654	\$ 730	\$ -	\$ -	\$ 27,300,000
WOOD AND COMPANY	\$ 826,308	\$ 1,233	\$ -	\$ -	\$ -
XP INVESTIMENTOS CCTVM SA	\$ 3,173,404	\$ 3,170	\$ -	\$ -	\$ -
YUANTA SECURITIES CO., LTD.	\$ 2,277,499	\$ 4,480	\$ -	\$ -	\$ -
ZURCHER KANTONAL ZURICH	\$ -	\$ -	\$ 257,560	\$ -	\$ -
Grand Total	\$ 16,953,595,790	\$ 5,509,312	\$ 130,499,176,472	\$ 860,439	\$ 681,288,722,497

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