

2022

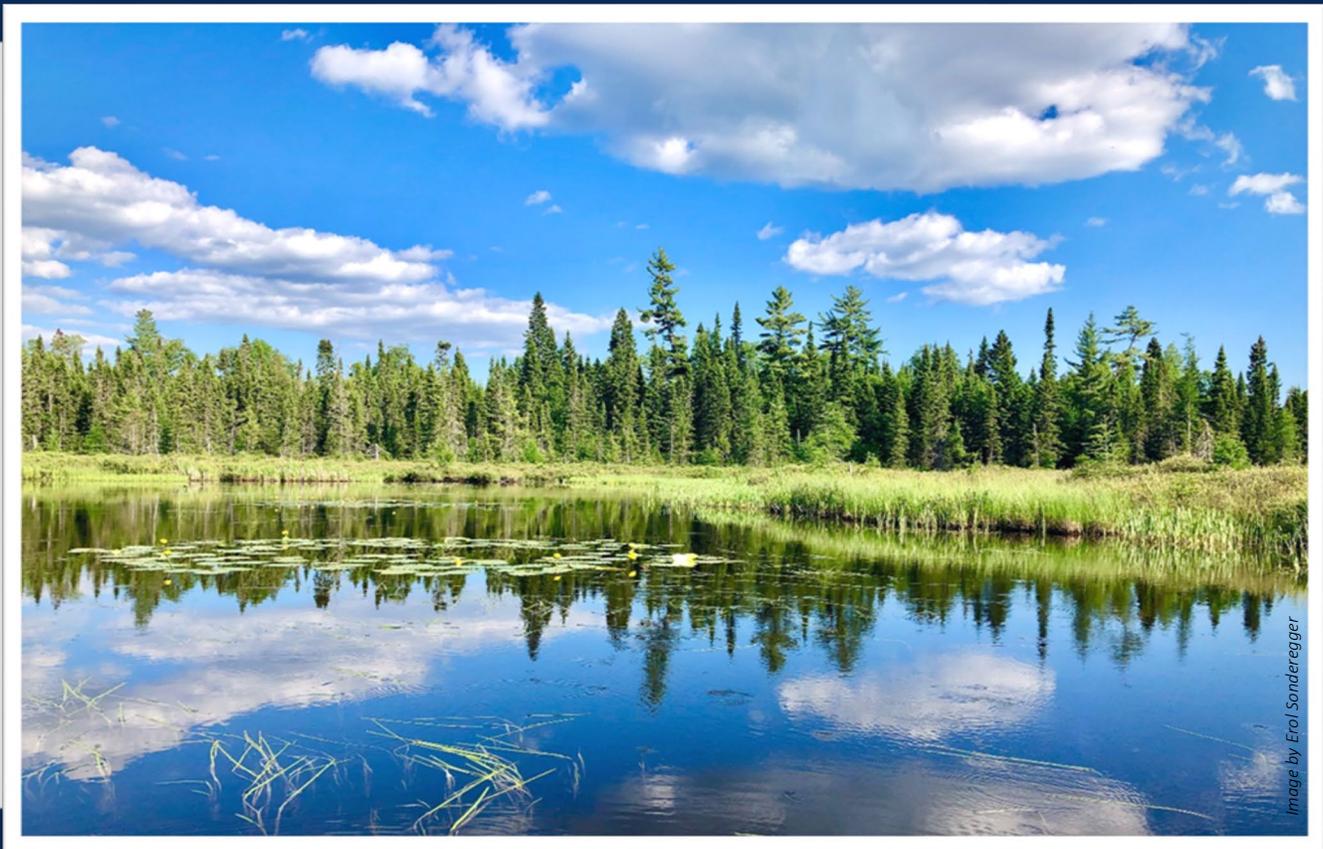


Image by Erol Sanderegger

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 as the new data becomes available.



INTRODUCTION

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Message from Executive Director and Chief Investment Officer

January 2023

The Minnesota State Board of Investment (SBI) is pleased to present its Annual Report for the fiscal year ending June 30, 2022. The primary purpose of this report is to communicate the investment goals, policies, and performance of each fund managed by the Board.

Of special note, this marks the final Annual Report for the tenure of Mr. Mansco Perry III, who retired as the SBI Executive Director and Chief Investment Officer in October 2022, after serving in the role since 2013. Mr. Perry's service to the SBI and the broader investment community was impactful and much appreciated. Decisions made during his tenure, together with those of his predecessor, Mr. Howard Bicker, have served the State of Minnesota exceptionally well. As a result of their efforts, the SBI has a resilient, well-constructed portfolio and, most importantly, an experienced and dedicated team of professionals.

About the SBI

As of June 30, 2022, the SBI's assets under management totaled \$124.8 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

Following a positive first half, global capital markets declined sharply in the second half of the fiscal year. Markets were buffeted by Russia's invasion of Ukraine, continued Covid lockdowns in China, and a shift by the U.S. Federal Reserve (Fed) to aggressively battle rising inflation.

For the year ending June 30, 2022, the broad U.S. equity market, as measured by the Russell 3000 Index, fell -13.9% while the MSCI All Country World ex U.S. Index declined -19.4%. Global fixed income markets also posted sharp losses as interest rates rose in response to central bank rate hikes, while credit-sensitive sectors lagged as investors priced in a higher risk of recession. The Bloomberg U.S. Aggregate Bond Index performance declined -10.3% for the fiscal year.

Combined Funds Results for Fiscal Year 2022

Combined, the statewide public retirement systems had over \$81.3 billion in assets and returned -6.4% at fiscal year-end 2022. Over the recent fiscal 10 and 20-year time periods, the Combined Funds generated annualized returns of 9.4% and 8.2%, respectively. The Combined Funds investment results are provided in the Investment Programs Section of this report starting on page 9.

It is a great privilege and honor to join the SBI team and to be of service to such an important mission. We will endeavor 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



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.

Jill E. Schurtz

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 on page 3.

Consultants

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

General Consultants
Aon Investments
Meketa Investment Group

Private Markets Consultant
Albourne Partners

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 Cash Accounts
State Street Corporation *Principal Bank*

External Investment Managers

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

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. Three open positions will be filled in fiscal year 2023.

<i>Gary Martin, Chair</i> Chief Investment Officer, Macalester College	<i>Kim Faust, Vice Chair</i> Vice President and Treasurer, Fairview Health Services	<i>Susanna Gibbons</i> Managing Director, Carlson Funds Enterprise Carlson School of Management	<i>Dan McConnell</i> Business Manager, Building & Construction Trades Council of Minneapolis
<i>Nancy Orr</i> Formerly CIO of Family Office	<i>Carol Peterfeso</i> Managing Director of Investments, Bush Foundation	<i>Shawn Wischmeier</i> 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.

<i>Jim Schowalter</i> Commissioner, Minnesota Management and Budget (MMB)	<i>Erin Leonard</i> Executive Director, Minnesota State Retirement System	<i>Doug Anderson</i> Executive Director, Public Employees Retirement Association	<i>Jay Stoffel</i> Executive Director, Teachers Retirement Association
<i>Jennifer Hassemer</i> 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.

<i>Denise Anderson</i> Governor’s Appointee Active Employee Representative	<i>Martha Severson Rush</i> Governor’s Appointee Active Employee Representative	<i>Peggy Ingison</i> Governor’s Appointee Retiree Member Representative
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As of January 2023

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. A list of the SBI staff is provided below.

Executive Director and Chief Investment Officer

Jill E. Schurtz

Executive Assistant and Head of Office Services

Charlene Olson

Assistant Executive Directors

Andy Christensen

Assistant Executive Director,
Investment Strategy and Administration

Erol Sonderegger

Assistant Executive Director,
Portfolio Management and Risk Analysis

Directors

Patricia Ammann

Director,
Participant Directed and
Non-Retirement Investments

Paul T. Anderson

Director,
Financial Services
and Operations

Andrew Krech

Director,
Private Markets

John Mulé

Director,
Legal and Policy Services

Investment Staff

Nathan Blumenshine
Sr. Investment Officer,
Stewardship and ESG

Tammy Brusehaver
Investment Officer,
Public Markets

Dan Covich
Investment Officer,
Public Markets

Mike Clancey
Investment Officer,
Private Markets

Stephanie Gleeson
Investment Officer,
Public Markets

Aaron D. Griga
Sr. Investment Officer,
Public Markets and
Cash Management

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

Cathy Hua
Investment Officer,
Research and Special
Projects

Steven P. Kuettel
Investment Officer,
Public Markets and
Cash Management

Mercy Ndungu
Investment Officer,
Private Markets

S. Emily Pechacek
Investment Officer,
Public Markets

Iryna Shafir
Investment Compliance
Specialist,
Public Markets

Jonathan Stacy
Sr. Investment Officer,
Private Markets

David Velasquez
Investment Officer,
Performance Analytics

Jeffrey Weber
Sr. Investment Officer,
Legal and Policy Services

Samir Zahar
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

Office Services Staff

Melissa Mader
Office Administrative
Specialist, Senior

Kelly Nordstrom
Office Administrative
Specialist, Intermediate

Information Technology Services Staff

Todd Lauf
Information Technology
Manager

Reece Tolkinen
Information Technology
Specialist

As of January 2023

State Board of Investment – Governance of Agency

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 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 broader retirement systems. When relevant, the SBI also uses these Beliefs as a guide when investing the assets of the other investment programs that it manages, as deemed appropriate.

The SBI Investment Beliefs are 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 has published an ESG and Stewardship Report, which is available on the SBI’s website.

State Board of Investment – Governance of Agency

FY 2022 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 2022 include:

- Authorized the hiring of Aon Investment USA Inc. and Meketa Investment Group for investment consulting services.
- Authorized the Executive Director to pursue legislation to allow the hiring of unclassified investment analysts under the SBI salary plan and clarify the terms under which an employee qualifies for the SBI Investment Salary Plan coverage.
- Adopted a resolution authorizing the creation of an Executive Director Search Committee to assist the Board with the task of hiring a new Executive Director for the SBI.
- Added a Diversity, Equity, and Inclusion investment belief to the SBI's Statement of Investment Beliefs.
- Authorized the hiring of Broadridge Financial Solutions, Inc. for investment accounting system services.
- Established the Water Quality and Sustainability Account and required sub-accounts.
- Adopted a Resolution on Climate Change Risk-related Information Transparency, which supports the SEC's Proposed Rules for the Enhancement and Standardization on Climate-Related Disclosures for Investors, File No. S7-10-22.
- Engaged with Meketa Investment Group to expand upon their 2019 Climate Risk Investment Study to complete a more in-depth Climate Risk Investment Analysis.
- Authorized the Executive Director to negotiate investment in 38 private market investment deals, totaling up to \$4.9 billion.

Legislative Update

During the 2022 legislative session the SBI monitored several pieces of legislation that had potential impact to the SBI. Outlined below is legislation that was passed by the Minnesota Legislature and signed into law:

- [Minnesota Statutes, Section 11A.245](#) prohibits any new directly held investments in companies whose principal place of business is in Russia or Belarus and requires the SBI to identify and liquidate, to the extent practicable, 50% of its direct holdings in target companies within nine months after April 2, 2022; and 100% of its direct holdings in target companies within 15 months after April 2, 2022. Upon enactment, the SBI notified its external investment managers of the applicable statutory prohibition on additional purchases of Russian or Belarusian securities. SBI Staff has incorporated the requirements of the law into its unauthorized holdings process.
- The 2022 Omnibus Pension Policy and Technical Bill includes language that corrects and clarifies classification of investment professionals in the SBI's Salary Plan. The amended language specifies that all investment personnel of the SBI are in the unclassified service of the state, the effect of which was to allow the SBI to hire Investment Analysts in accordance with the 2019 changes to the SBI salary plan. Additional language in the legislation requires the State Auditor to annually publish the returns earned by the volunteer fire relief associations compared to the returns for the Supplemental Investment Fund investment options managed by the SBI.

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 broader retirement systems. When relevant, the SBI also uses these Beliefs as a guide when investing the assets of the other investment programs that it manages, as deemed appropriate.

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

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

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

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

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

Diversification of the SBI investment portfolio takes place across several critical dimensions, such as allocation across global regions and country markets (e.g., U.S. versus Europe, Asia, emerging markets, etc.), allocation among different types of assets (equities, bonds, real estate, etc.), 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.

Investment Beliefs

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

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

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

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

The Investment Advisory Council (IAC)'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.



INVESTMENT PROGRAMS

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State Board of Investment Investment Programs

SBI Investment Programs

The SBI is responsible for the management of various retirement savings plans, tax-advantaged savings plans, non-retirement accounts, and state cash accounts. On June 30, 2022, the SBI was responsible for the management of \$124.8 billion in assets. Each investment program has its own investment platform that reflects its unique requirements. This allows the SBI to establish a comprehensive management program to assist participating plans and agencies best reach their savings goals.

SBI Investment Programs	In Millions
Combined Funds	\$ 81,319.9
Fire Plans + Other Public Retirement Plans	830.9
Participant Directed Investment Program	12,367.5
Non Retirement Program	4,656.4
State Cash Accounts	25,585.2
Total Funds Under Management	\$ 124,759.9

Figure 1.
Composition of
SBI Investment
Programs
as of
June 30, 2022

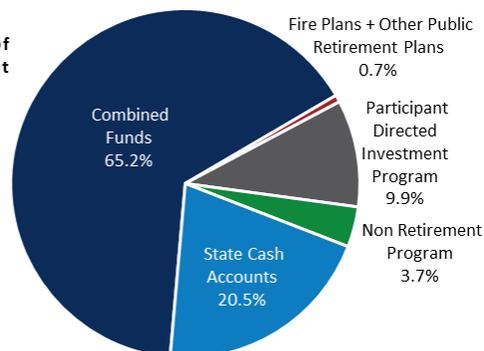


Figure 1 shows the allocation of assets by investment program as of June 30, 2022.

Combined Funds

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

Combined Funds	In Millions
Minnesota State Retirement System (MSRS)	\$ 18,386.1
Public Employees Retirement Association (PERA)	37,378.9
Teachers Retirement Association (TRA)	25,554.9
Total Combined Funds	\$ 81,319.9

Figure 2.
Composition of
Combined Funds
as of June 30, 2022

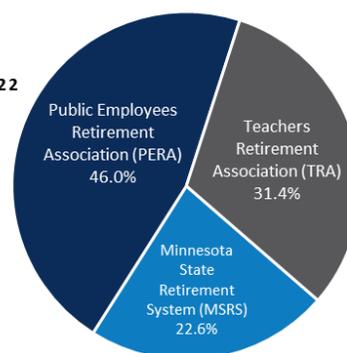


Figure 2 shows the allocation to the retirement systems that make up the Combined Funds as of June 30, 2022.

Fire Relief Plans + Other Public Retirement Plans

The SBI is responsible for providing investment options to participating **Fire Relief Plans + Other Public Retirement Plans**.

Fire Plans + Other Public Retirement Plans	In Millions
St. Paul Teachers' Retirement Fund	\$ 356.4
Statewide Volunteer Firefighter Plan	132.3
Volunteer Fire Relief Associations	342.3
Total Fire Plans and Other Retirement Plans	\$ 830.9

Figure 3. Composition
of Fire Relief + Other
Public Retirement Plans
as of June 30, 2022

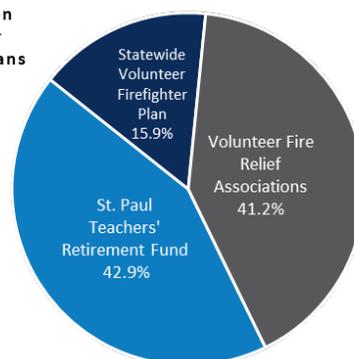


Figure 3 shows the allocation to various plans in the Fire Relief + Other Public Retirement Investment Program as of June 30, 2022.

State Board of Investment Investment Programs

Participant Directed Investment Program

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

Participant Directed Investment Program	In Millions
Health Care Savings Plan	\$ 1,577.5
Hennepin County Retirement Plan	156.2
MN ABLA Savings Plan	27.4
MN College Savings Plan	1,708.7
MN Deferred Compensation Plan	8,480.5
PERA Defined Contribution Plan	82.6
Unclassified Retirement Plan	334.6
Total PDIP	\$ 12,367.5

Figure 4. Composition of PDIP as of June 30, 2022

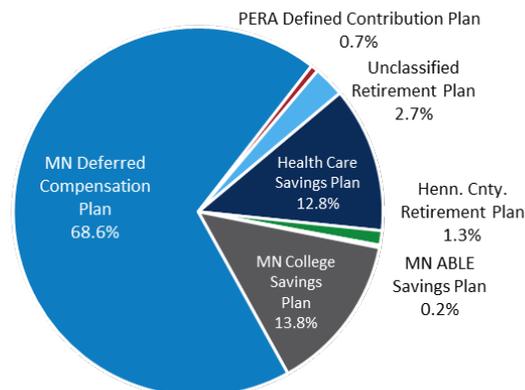


Figure 4 provides the allocation to the various plans in the PDIP as of June 30, 2022.

Non-Retirement Program

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

Non Retirement Funds	In Millions
Trust Funds	\$ 3,876.2
Assigned Risk Plan	255.1
Closed Landfill Investment Fund	116.1
Environmental Trust Fund	1,448.1
Permanent School Fund	1,743.2
Miscellaneous Trust Accounts	313.7
Qualifying Government Entities	7.3
Other Postemployment Benefits (OPEB)	772.9
Total Non-Retirement Funds	\$ 4,656.4

Figure 5. Composition of Non-Retirement Program as of June 30, 2022

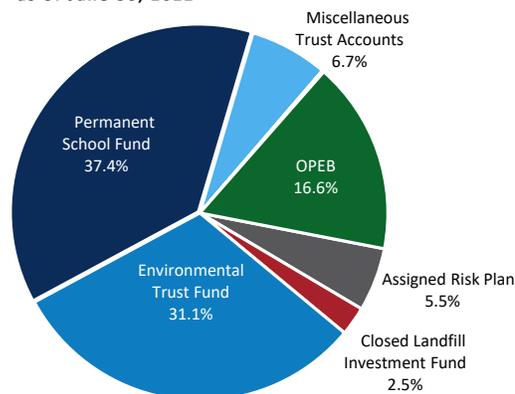


Figure 5 provides the composition of the largest Non-Retirement Trusts and other eligible entities as of June 30, 2022. In aggregate, Trust accounts represent over 83% of the program.

State Cash Accounts

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

Funds Under Management

The SBI's total Plan assets are listed on the next page (Figure 6). The majority of retirement assets are externally managed by institutional investment managers in a separate account and are required to adhere to the investment guidelines for the portfolio.

Capital Markets

Investment risk and return profiles vary across entities that invest with the SBI. Figure 7 on page 14 provides benchmark returns for some of the major asset class groups along with a chart of the cumulative returns from investing in the respective asset classes over the last thirty years.

State Board of Investment Funds Under Management

Total Assets Invested by the SBI¹

\$124.8 billion

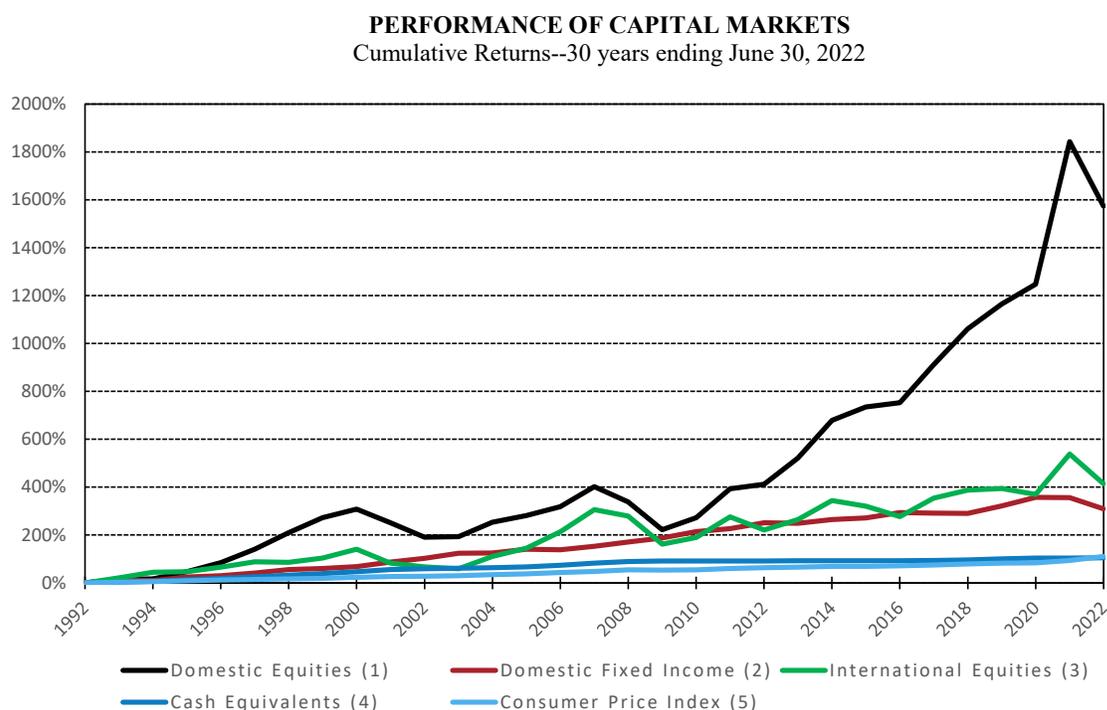
Combined Funds		Fire Plans + Other Public Retirement Plans		*Subtotal of Retirement Assets and Other Tax-Advantaged Savings Plans:
Minnesota State Retirement System (MSRS) ²				
Correctional Employees Fund	\$1,471 million			
Highway Patrol Retirement Fund	879.8 million	St. Paul Teachers'		
Judges Retirement Fund	253.5 million	Retirement Fund Assoc.	\$356.4 million	
State Employees Retirement Fund	15,781.8 million			
Public Employees Retirement Association (PERA)		Statewide Vol. Firefighter		
Correctional Fund	974.7 million	Retirement Plan	132.3 million	
General Employees Retirement Fund	25,997.9 million			
Police and Fire Fund	10,406.3 million	Volunteer Fire Relief Plans	342.3 million	
Teachers Retirement Fund (TRA)	\$ 25,554.9 million			
	\$ 81.3 billion		\$ 831 million	Combined Funds \$81.3 billion
Participant Directed Investment Program (PDIP)				Fire Plans + Other Public Retirement Plans \$831 million
Health Care Savings Plan	\$1,577.5 million			
Hennepin County Supplemental Retirement Plan	156.2 million			
Minnesota Achieving a Better Life Experience (ABLE) Plan	27.4 million			
Minnesota College Savings Plan	1,708.7 million			
Minnesota Deferred Compensation Plan	8,480.5 million			
Public Employees Retirement Association Defined Contribution Plan	82.6 million			
Unclassified State Employees Retirement Plan	334.6 million			
	\$ 12.4 billion			Participant Directed Investment Program \$12.4 billion
State Cash Accounts		Non-Retirement Accounts		\$94.5 billion*
State Cash Accounts	\$25,494.2 million	Assigned Risk Plan	\$255.1 million	
Miscellaneous State Accounts ³	91.0 million	Closed Landfill Investment Fund	116.1 million	
	\$ 25.6 billion	Environmental Trust Fund	1,448.1 million	
		Miscellaneous Trust Accounts	313.7 million	
		Permanent School Fund	1,743.2 million	
		Qualifying Government Entities	7.3 million	
		Other Postemployment Benefit (OPEB) Accts.	772.9 million	
			\$ 4.7 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 7.



PERFORMANCE OF BENCHMARKS
Annualized Returns--Time Periods Ending June 30, 2022

	Annualized Return (%)					
	1 Yr	3 Yrs	5 Yrs	10 Yrs	20 Yrs	30 Yrs
Domestic Equity						
(1) Russell 3000-- Large and Small Cap Stocks	-13.9	9.8	10.6	12.6	9.1	9.8
Russell 1000	-13.0	10.2	11.0	12.8	9.2	9.9
Russell 2000	-25.2	4.2	5.2	9.4	8.2	9.1
Domestic Fixed Income						
(2) Bloomberg U.S. Aggregate	-10.3	-0.9	0.9	1.5	3.6	4.8
Bloomberg 5+ Yr. U.S.Treasury	-13.5	-1.8	0.7	NA	NA	NA
(3) International Equity						
MSCI ACWI ex USA (net)--Developed & Emerging	-19.4	1.4	2.5	4.8	5.8	NA
MSCI World ex USA (net)--Developed	-16.8	1.7	2.7	5.4	5.5	5.5
MSCI Emerging Market Index	-25.3	0.6	2.2	3.1	9.2	NA
Cash						
(4) ICE BofA 3 Month U.S. Treasury Bill	0.2	0.6	1.1	0.6	1.3	2.4
Inflation Measure						
(5) Consumer Price Index CPI-U	9.0	5.0	3.9	2.6	2.5	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

The Combined Funds represent the assets of both active and retired public employees who participate in the defined benefit plans of three statewide retirement systems: Teachers Retirement Association (TRA), Public Employees Retirement Association (PERA) and the Minnesota State Retirement System (MSRS). On June 30, 2022, the Combined Funds had a market value of \$81.3 billion.

Overview

The SBI commingles the assets of the state retirement systems into the Combined Funds to capture investment efficiencies. The composition of public retirement plans in the Combined Funds is provided in Figure 8. To gain greater operating efficiency, external managers are grouped into several "Investment Pools" which are segregated by asset class. Retirement plans participate in the asset class pools by purchasing units which 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 asset class pools, but some asset class pools are exclusive to the Combined Funds.

Investment Objectives

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

Actuarial Assumed Return

Employee and employer contribution rates are specified in state law as a percentage of an employee's salary. The rates are set so that contributions plus expected investment earnings will cover the projected cost of promised pension benefits. The

investment returns needed to meet these projected pension costs are set by statute. The current annual actuarial investment return assumption for the three statewide retirement systems is 7.5%, which was approved in 2018.

Time Horizon

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

Asset Allocation

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

Historical evidence indicates that 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. In order to

Figure 8. Composition of Combined Funds as of June 30, 2022

	Combined Funds %
Minnesota State Retirement System (MSRS)¹	
State Employees Retirement Fund	19.4%
Correctional Employees Fund	1.8%
Highway Patrol Retirement Fund	1.1%
Judges Retirement Fund	0.3%
Total MSRS	22.6%
Public Employees Retirement Association (PERA)	
General Plan	32.0%
Police and Fire Fund	12.8%
Correctional	1.2%
Total PERA	46.0%
Teachers Retirement Association (TRA)	
	31.4%
Combined Funds Total²	100.0%

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

² Totals may not add due to rounding

Combined Funds Investment Program Overview

limit the short-run volatility of returns exhibited by common stocks, the Board includes other asset classes such as fixed income (bonds), as well as other private market investments such as real estate, real assets, and private credit investments in the total portfolio. This diversification is intended to reduce wide fluctuations in investment returns on a year-to-year basis and enhances the Funds' ability to meet or exceed the actuarial return target over the long-term.

Long-Term Allocation Policy

The Combined Funds have a policy asset allocation that is based on the investment objectives of the Combined Funds and the expected long-run performance of the capital markets. The SBI periodically reviews this policy allocation.

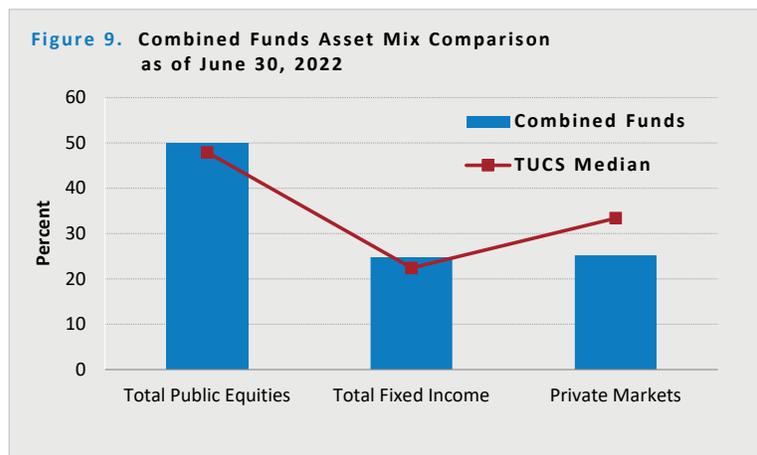
The following **strategic asset allocation** became effective July 1, 2020:

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 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



Asset Group	Combined Funds		
	Market Value (\$ Millions)	Actual Allocation ¹	TUCS* Median Allocation ²
Public Equity	\$40,682	50.0%	47.9%
Fixed Income	\$20,183	24.8%	22.4%
Private Markets - Invested	\$20,455	25.2%	33.4%
Total	\$81,320	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.

information on public and corporate pension and trust funds with diversified asset mixes and more than \$1 billion in assets.

Comparisons of the Combined Funds' actual asset mix to the median allocation to stocks, bonds and other assets of the funds in TUCS on June 30, 2022, is displayed in Figure 9. On average, the Combined Funds allocation relative to the TUCS median allocation had larger weights to public equity, and fixed income (includes cash), and a lower allocation to private markets. Historical allocation to underlying asset classes in the Combined Funds is displayed on the next page in Figure 10.

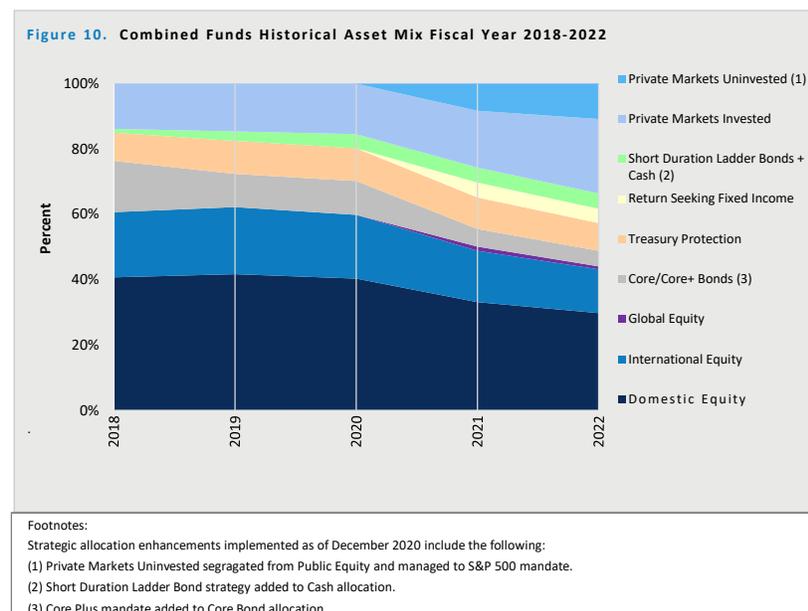
Total Return Vehicles

The SBI invests the majority of the Combined Funds' assets in

Public Equity (domestic, international, and global). Such an allocation is consistent with the investment time horizon of the Combined Funds and the advantageous long-term risk-return characteristics of common equities. Including international equities in the asset mix allows the SBI to diversify holdings across world markets and offers the opportunity to enhance returns and reduce the volatility of the total portfolio. The rationale underlying the inclusion of **Private Equity** is similar.

The Board recognizes that this sizable policy allocation to public and private equities likely will produce more volatile portfolio returns than a more conservative policy focused on fixed income securities. It is understood that this policy may result in short-term relative underperformance.

Combined Funds Investment Program Overview



Nevertheless, the long-run return benefits of this policy have in the past and are expected in the future to compensate for the additional volatility.

Diversification Vehicles

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

The allocation to **Fixed Income** is to act as a hedge against a deflationary economic environment. In the event of substantial deflation, high quality fixed income assets are expected to protect principal and generate significant capital gains. Fixed income, like real estate and real assets, under normal financial conditions, helps to diversify the Combined Funds, thereby moderating return volatility. The Treasury portfolio is expected to provide strong downside protection

during a period of equity volatility over the long-term.

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

Private Credit investments provide the opportunity for higher long-term returns than those typically available from bonds, yet still generate sufficient current income. Typically, these investments (e.g., subordinated debt, mezzanine debt, or resource income investments such as producing properties) are structured more like fixed income securities with the opportunity to participate in the appreciation of the underlying assets. While these investments may have an equity component,

they display a return pattern more like a bond. 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 investment management firms retained by contract. More information on the structure, management and performance of the various investment managers is included in the respective areas of the **Investment Program** sections.

Return Objectives

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

- **Provide Real Returns.** Over a twenty year period, the Combined Funds are expected to produce returns that exceed inflation by three to five percentage points on an annualized basis.
- **Match or Exceed Market Returns.** Over a ten year period, the Combined Funds are expected to match or exceed a composite of market indices weighted using the asset allocation of the Combined Funds.

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

Combined Funds Investment Program Overview

Investment Results

Comparison to Inflation

Over the last twenty years, the Combined Funds exceeded inflation by 5.7 percentage points. Historical results compared to inflation are shown in Figure 11.

Comparison to Market Returns

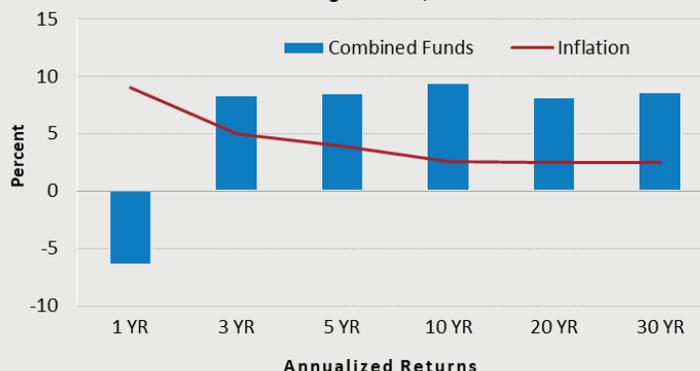
The Combined Funds' performance is also evaluated relative to a composite of market indices which is weighted in a manner that reflects the asset allocation of the Combined Funds. Performance relative to this standard will measure two effects:

- The ability of the managers selected by the SBI, in aggregate, to add value to the returns available from the broad capital markets.
- The impact of the SBI's rebalancing activity. The SBI rebalances the 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 12A and 12B.

The Combined Funds exceeded the composite index over the last ten years by 0.4 percentage point and, therefore, met the stated performance goal. The Funds met or exceeded the composite index over all time-periods shown except for fiscal year 2019 and 2022. These results are largely a measure of value added or lost from active

Figure 11. Combined Funds Returns vs. Inflation For Periods Ending June 30, 2022

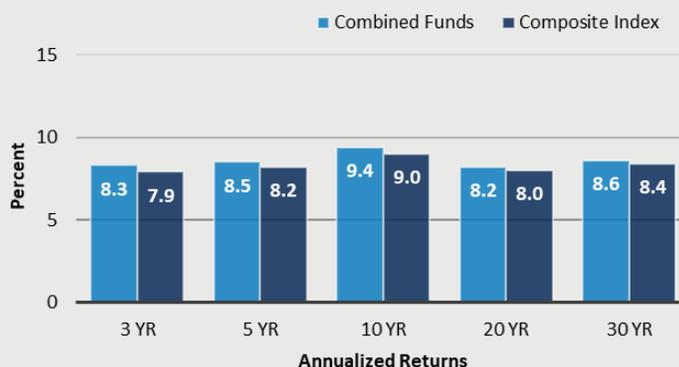


	Annualized Returns (%) Ending June 30, 2022					
	1 Yr.	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	-6.4	8.3	8.5	9.4	8.2	8.6
Inflation	9.0	5.0	3.9	2.6	2.5	2.5

Figure 12A. Combined Funds Fiscal Year Ending Returns For Periods Ending June 30



Figure 12B. Combined Funds Annualized Returns For Periods Ending June 30, 2022



Combined Funds Investment Program Overview

management after all fees and expenses have been taken into consideration. The breakdown of the composite index is provided in Figure 13.

Comparison to Other Funds

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

- **Differing Allocations.** Asset allocation has a dominant effect on returns. The allocation to equities among the funds in TUCS typically ranges from 20% to 90%, too wide a range for meaningful comparison. In addition, it appears that many funds do not include private market holdings in their reports to TUCS. This further distorts comparisons among funds.
- **Differing Goals/Liabilities.** Each pension fund structures its portfolio to meet its own liabilities and risk tolerance, leading to different choices on asset mix. Since asset mix will largely determine investment results, a universe ranking may not be relevant to a discussion of how well a plan sponsor is meeting its long-term liabilities.

With these considerations in mind, the performance of the Combined Funds compared to other public and corporate pension funds with over \$20 billion in assets in the Master Trust portion of TUCS is displayed in Figure 14.

Figure 13. Composite Index For Period Ending June 30, 2022

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-Invested	21.9
Public Equity	Private Markets-Uninvested ⁴	3.1
Total		100.0

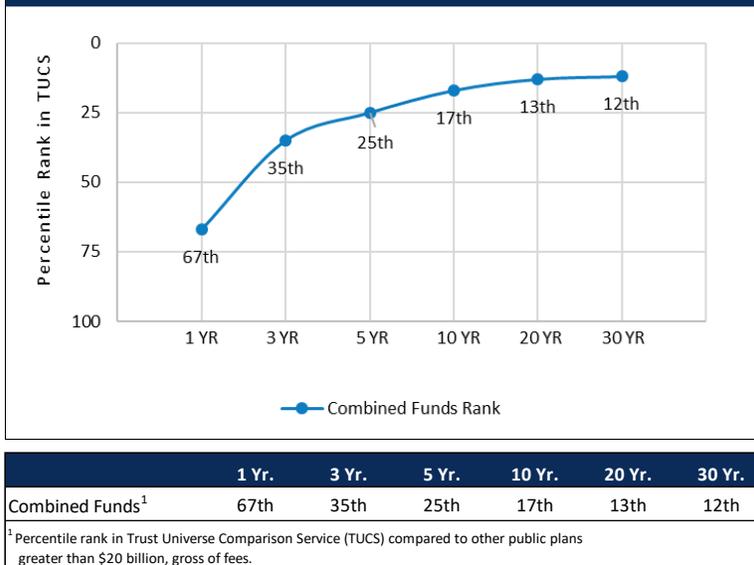
¹ Weights are reset in the composite index at the start of each month to reflect the combined allocation policies of the Combined Funds.

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.

⁴ Benchmark is the S&P 500

Figure 14. Combined Funds Returns Compared to Other Public Funds For Periods Ending June 30, 2022



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 focuses less in terms of "what we invest in" and rather on "why we invest." Such approaches were developed as a response to the financial crisis in 2008 when it was observed that supposedly diversifying asset classes could still be highly correlated to public equities during periods of market stress.

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

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

Allocation Categories

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

- **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:** to provide diversification through investments in "hard" assets which have inflation-sensitive characteristics or the ability to provide a hedge against inflation.
- **Inflation Protection:** to provide diversification through investments in "soft" assets (e.g., Inflation-linked securities, commodities) which have a direct link to inflation. These assets provide a hedge against inflation.
- **Protection:** provides stability, protection during crisis, and can act as a hedge against deflation.
- **Liquidity:** provides liquidity to meet daily obligations; primarily benefit payments and capital calls. Consists of cash and cash equivalents.
- **Opportunity:** the purpose of this bucket is to allow for investments in interesting opportunities or new strategies that do not fit within clearly-defined asset class lines. Asset allocation constraints should not preclude investors from accessing interesting and attractive opportunities.

Combined Funds Volatility Equivalent Benchmark

Volatility Equivalent Benchmark

The **Volatility Equivalent Benchmark** was introduced as a metric to compare the longer-term (5 years or greater) investment performance of the Combined Funds' portfolio relative to a passively managed equity and bond portfolio which had a similar level of risk (as measured by its standard deviation) over the same time period. The comparison is an evaluation of how well our decisions made for the portfolio match up against a passively managed index strategy (which we would be unable to define on a prospective basis). When the comparison of the Combined Funds portfolio exceeds the Volatility Equivalent Benchmark, the positive value added is a validation of how well our investment process performs.

Figure 16 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 16. Volatility Equivalent Benchmark Comparison Periods Ending June 30, 2022

	As of June 30, 2022							
	1-year	3-year	5-year	10-year	15-year	20-year	25-year	30-year
SBI Combined Funds Return	-6.4%	8.3%	8.5%	9.4%	7.0%	8.2%	7.5%	8.6%
Volatility Equivalent Benchmark Return			4.8%	6.0%	4.5%	6.0%	5.6%	6.6%
Value Added			3.7%	3.4%	2.5%	2.2%	1.9%	2.0%
Standard Deviation: Benchmark = Combined Funds			10.1%	8.4%	10.0%	9.4%	10.0%	9.4%
Benchmark Stock Weight			60%	60%	58%	59%	62%	62%
Benchmark Bond Weight			40%	40%	42%	41%	38%	38%

The Volatility Equivalent Benchmark stock and bond weights are adjusted to equal the standard deviation of the SBI Combined Funds portfolio. Then a return is calculated. 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 invested with domestic, international, and global equity investment managers. A description of each sub-asset group within the Public Equity Program is described in the respective sections of this annual report.

Allocation

Current target allocations within the Public Equity Program became effective July 1, 2020.

Figure 17 provides the target allocation and asset mix as of June 30, 2022. Global Equities, which includes both domestic and international holdings, does not have a target allocation at this time.

Sub Asset Groups	Target Allocation	Actual	
		Asset Mix	Assets In millions
Domestic Equity	67%	68%	\$26,808.0
International Equity	33%	30%	12,040.5
Global Equity	0%	2%	844.2
Public Equity Program	100%	100%	\$39,692.7

Benchmark

The benchmarks used to monitor the aggregate returns of the sub-asset groups are below. The Public Equity Program composite return consists of the respective benchmarks weighted by the target allocation.

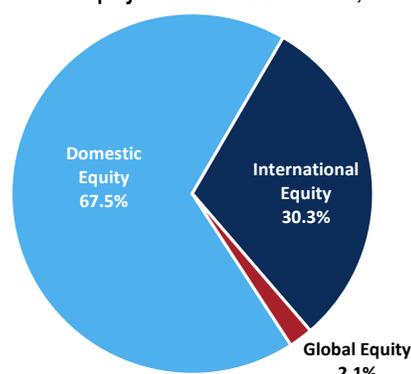
<u>Asset Group</u>	<u>Benchmark</u>
Domestic Equity	Russell 3000
International Equity	MSCI ACWI ex U.S. (net)
Global Equity	MSCI ACWI (net)

Performance

Figure 18 provides the performance of the Public Equity Program as of June 30, 2022.

The Global Equity sub-asset group was funded in January of 2021 and, therefore, only one full year of performance is available.

Public Equity Asset Mix as of June 30, 2022



Fiscal Year 2022 Changes

The following changes were implemented during the fiscal year:

- Extended the currency hedging program to include most assets managed by active developed market equity managers.
- Adjusted the active versus passive mix for each sub-asset class within public equities to optimize the distribution of the active risk budget.

	1 Yr. %		3 Yrs. %		5 Yrs. %	
	Actual	BM	Actual	BM	Actual	BM
Domestic Equity	-14.2	-13.9	9.8	9.7	10.6	10.5
International Equity	-17.5	-19.4	2.6	1.3	3.3	2.5
Global Equity	-27.9	-15.8	NA	NA	NA	NA
Public Equity Program	-15.5	-15.7	7.3	6.9	8.1	7.9

BM = benchmark, identified above under Benchmark Section

Combined Funds Public Equity / Domestic Equity Program

Domestic Equity

The Domestic Equity Program is the broad U.S. equity investment option for the Combined Funds and shares many of the same managers with the Supplemental Investment Fund (SIF) equity options. This sharing is accomplished by grouping managers by asset class into several investment pools. The active and semi-passively managed pools in the Domestic Equity Program together comprise the SIF U.S. Equity Actively Managed Fund option and the Russell 3000 Index pool is the SIF U.S. Equity Index Fund option.

As of June 30, 2022, the Domestic Equity Program market value was \$27.3 billion comprised of the following funds:

- Combined Funds
\$26.8 billion

- U.S. Equity Actively Managed Fund (SIF)
\$75.9 million
- U.S. Equity Index Fund (SIF) \$351.8 million
- Balanced Fund (SIF) (U.S. Equity Index Fund weight) \$58.2 million
- Volunteer Firefighter Account (SIF) (U.S. Equity Index Fund weight) \$44.7 million

Objective

The goal of the Domestic Equity Program is to outperform the asset class target, the Russell 3000. The Russell 3000 Index can be segmented into sub-indexes or Russell style indexes. Assets of the Domestic Equity Program are allocated based on the Russell style indexes. Assets within each style are then allocated to managers within the designated style. This allocation is done to minimize the style bias within the Domestic Equity Program.

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

Portfolio sector characteristics for each of the respective Russell benchmarks are shown in Figure 19 below.

Figure 19. Domestic Equity Program Allocation to Russell Global (U.S.) Sector Weights as of June 30, 2022

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	3.3	1.6	1.8	1.8	1.8	4.1	1.9
Consumer Discretionary	15.8	13.9	14.5	14.5	14.5	13.4	14.4
Consumer Staples	3.1	5.8	5.6	5.4	5.7	3.3	5.6
Energy	7.9	4.3	4.4	4.6	4.5	7.6	4.6
Financials	16.5	10.8	11.1	11.3	11.0	16.0	11.3
Health Care	10.4	13.5	13.4	13.4	13.4	15.2	13.5
Industrials	14.6	13.4	12.7	13.1	12.6	15.6	12.8
Real Estate	5.4	3.4	3.5	3.5	3.4	7.9	3.7
Technology	13.6	27.5	27.1	25.9	27.2	11.6	26.3
Telecommunications	1.9	2.2	2.7	2.6	2.7	1.7	2.7
Utilities	2.2	2.9	3.2	3.0	3.2	3.6	3.2
Cash	1.7	0.3	0.0	0.4	N/A	N/A	N/A
Unassigned ¹	3.6	0.4	0.0	0.5	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 Program

Management Structure

The SBI uses three styles of management to invest the assets of the Domestic Equity Program: active, semi-passive, and passively managed portfolios. All portfolios are managed by external investment managers.

— Active Management

At the end of fiscal year 2022, approximately 10% of the Domestic Equity Program was actively managed by a group of 13 investment managers. The assets allocated to each of the managers ranged in size from approximately \$142 million to \$334 million.

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

— Semi-Passive Management

At the end of fiscal year 2022, approximately 10% of the Domestic Equity Program was managed by two semi-passive investment managers each managing a portfolio valued at approximately \$1.3 billion.

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

— Passive Management

At the end of fiscal year 2022, approximately 80%

of the Domestic Equity Program 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 \$163 million to \$20.9 billion.

The *passive* manager in the Domestic Equity Program manages the portfolios to consistently and inexpensively track the respective Russell indices.

Investment Manager Summaries

A description of each domestic equity manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 36.

Investment Performance

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

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

— Investment Approach

Each manager (active, semi-passive, or passive) is expected to hold a portfolio that is consistent, in terms of risk characteristics, with the manager's stated investment approach. In the

short-run, market fluctuations may result in a departure from the active managers' risk targets as part of their specific investment strategies.

— Diversification

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

The domestic equity managers successfully fulfilled their long-term risk objectives during fiscal year 2022. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained levels of diversification that were appropriate for their respective active, semi-passive and passive approaches.

Figure 20A and 20B on the following page provide the historical performance results of the Domestic Equity Program.

In aggregate, the Domestic Equity Program underperformed its asset class target by -0.3 percentage point for the fiscal year. The active manager group underperformed its asset class targets by -3.4 percentage points, while the semi-passive manager group outperformed its asset class target by 1.1 percentage points.

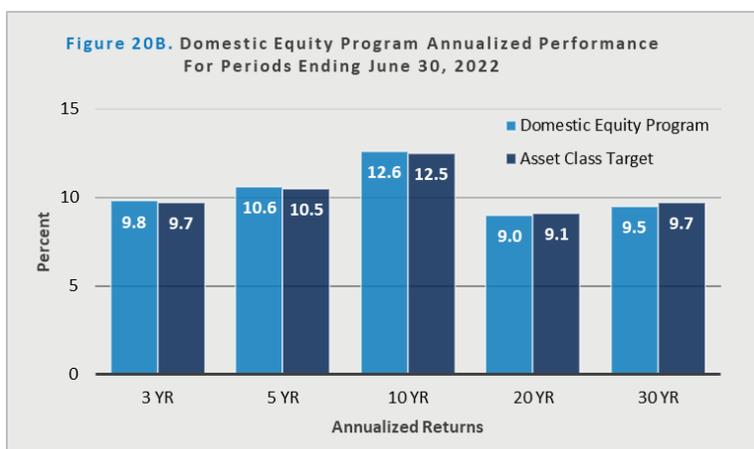
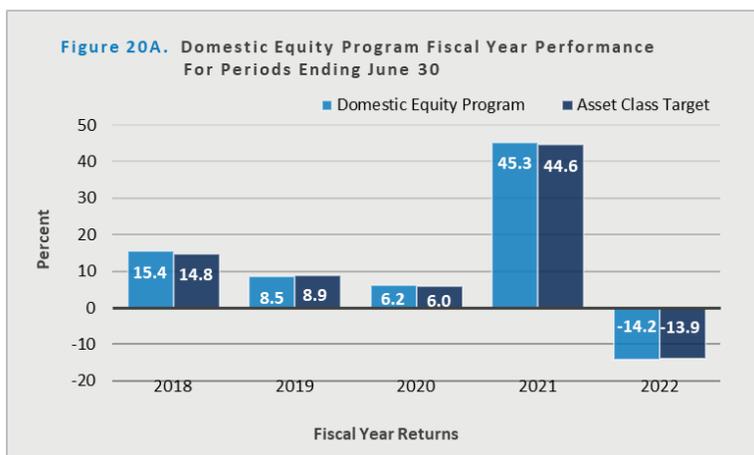
Relative to the aggregate benchmark, underperformance of the active managers was due to poor overall stock selection, particularly within the technology sector. Weak

Combined Funds Public Equity / Domestic Equity Program

performance from holdings of out-of-benchmark stocks also hurt relative performance. The semi-passive managers' performance benefited from stock selection.

Individual manager performance for fiscal year 2022 is shown in Figure 21 on the following page.

Manager performance relative to their respective benchmarks for the fiscal year end was mixed. Nine of the 13 active managers outperformed their assigned benchmarks, while four managers underperformed. Both semi-passive managers outperformed the Russell 1000 Index. For the fiscal year, the Russell 1000 Index portfolio slightly underperformed the benchmark return, and the Russell 3000 and Russell 2000 Index portfolios slightly outperformed their respective benchmarks.



Combined Funds

Public Equity / Domestic Equity Program

Figure 21. Domestic Equity Program Manager Performance for Periods Ending June 30, 2022

Manager Strategy (Benchmark)	Annualized Returns						Market Value ¹ (In Millions)
	1 Year		3 Years		5 Years		
	Actual	Bmk	Actual	Bmk	Actual	Bmk	
	%	%	%	%	%	%	
Active Management							
All Cap Growth (Russell 3000 Growth)²							
Zevenbergen Capital	-57.5	-19.8	-0.6	13.9	8.7	15.1	\$148.7
Large Cap Growth (Russell 1000 Growth)							
Sands Capital Management	-49.8	-18.8	-0.8	12.6	8.1	14.3	142.4
Winslow Capital Management	-24.8	-18.8	8.4	12.6	12.9	14.3	146.3
Large Cap Value (Russell 1000 Value)							
Barrow, Hanley	-0.6	-6.8	9.7	6.9	9.2	7.2	334.2
LSV Asset Management	-8.2	-6.8	7.7	6.9	7.4	7.2	322.9
Small Cap Growth (Russell 2000 Growth)							
ArrowMark	-31.1	-33.4	0.7	1.4	5.1	4.8	153.1
Hood River	-28.4	-33.4	11.9	1.4	11.3	4.8	199.7
Rice Hall James	-21.9	-33.4	4.7	1.4	6.3	4.8	177.3
Wellington	-31.3	-33.4	1.8	1.4	4.7	4.8	213.9
Small Cap Value (Russell 2000 Value)							
Goldman Sachs	-13.1	-16.3	4.3	6.2	4.7	4.9	258.8
Hotchkis & Wiley	-3.5	-16.3	9.7	6.2	6.4	4.9	165.8
Martingale Asset Management	-6.6	-16.3	7.7	6.2	5.2	4.9	154.0
Peregrine Capital Management	-11.5	-16.3	7.5	6.2	5.6	4.9	246.0
Semi-Passive Management (Russell 1000)							
BlackRock Institutional	-12.5	-13.0	10.2	10.2	11.6	11.0	1,341.0
J.P. Morgan Investment Management	-11.3	-13.0	11.4	10.2	11.6	11.0	1,335.1
Passive Management							
All Cap (Russell 3000)							
BlackRock Institutional	-13.7	-13.9	10.0	9.8	10.8	10.6	914.0
Large Cap (Russell 1000)							
BlackRock Institutional	-13.1	-13.0	10.1	10.2	11.0	11.0	20,922.3
Small Cap (Russell 2000)							
BlackRock Institutional	-24.5	-25.2	5.1	4.2	NA	NA	163.0
Total Domestic Equity Program³	-14.2	-13.9	9.8	9.7	10.6	10.5	\$27,338.5
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 Domestic Equity Program benchmark 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. The SBI Domestic Equity Program return includes the performance of terminated managers.							

Combined Funds

Public Equity / International Equity Program

International Equity

The International Equity Program is the broad non-U.S. equity investment option for the Combined Funds. The International Equity Program also shares the same managers with the Supplemental Investment Fund (SIF) Broad International Equity Fund option. This sharing is accomplished by grouping managers by asset class into several investment pools.

As of June 30, 2022, the International Equity Program market value was \$12.2 billion allocated to the following funds:

- Combined Funds
\$12.1 billion
- Broad International Equity Fund (SIF)
\$127.0 million
- Volunteer Firefighter Account (SIF)
(International Equity exposure)
\$19.5 million

Objective

The goal of the International Equity Program is to outperform the asset class target, the MSCI ACWI ex U.S. (net).

The Board's *return objectives* are stated relative to the MSCI Standard indices which includes large and mid-capitalization stocks. The indices are capitalization weighted and measured in U.S. dollar terms, with currencies unhedged.

Individual active managers are expected to exceed their benchmark by an amount appropriate for their level of active risk. The active risk level varies by manager and is

influenced by the manager's stated strategy and style.

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

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

The international equity managers successfully fulfilled their long-term risk objectives during fiscal year 2022. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification.

Management Structure

Currently, the SBI uses two styles of management (active and passive) to invest the assets of the International Equity Program. At the end of fiscal year 2022, the International Equity Program was 68% invested in developed markets and 32% in emerging markets.

Active Management

At the end of fiscal year 2022, approximately 42% of the program was actively managed in 15 separate portfolios. These portfolios range in size from \$172 million to over \$416 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 explicitly hedge currency exposure on an opportunistic basis, or they may seek to add value by actively managing currency positions. Managers are not required to hedge currency risk.

— **Developed Markets**

Seven of the 15 *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 15 *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 / International Equity Program

Passive Management

At the end of fiscal year 2022, approximately 58% of the International Equity Program 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 \$6.1 billion and \$1 billion, respectively.

The *passive* manager in the International Equity Program 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 was extended during the fiscal year to include most assets managed by active developed market managers. 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 42.

Investment Performance

The program outperformed its target by 1.9 percentage points for the 2022 fiscal year and exceeded the benchmark over the last ten years by 0.8 percentage point per annum. Performance results for the International Equity Program are shown below in Figures 22A and 22B.

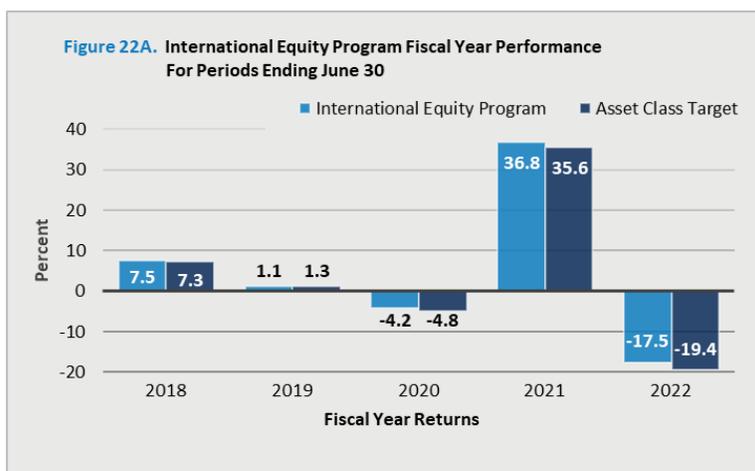
For the 2022 fiscal year, the program's outperformance was driven by strong gains from the currency hedging program, which benefitted from a strong U.S. dollar. Active manager performance during the fiscal year was broadly negative as most managers underperformed their respective benchmarks.

Individual manager performance during fiscal year 2022 is shown in Figure 23 on the following page.

The program's country weights are displayed in Figure 24 on page 33.

Fiscal Year 2022 Changes

In Fiscal Year 2022, the currency overlay program was extended to those active developed market equity portfolios for which the underlying manager does not already explicitly manage currency risk.



Combined Funds

Public Equity / International Equity Program

Figure 23. International Equity Program Manager Performance for Periods Ending June 30, 2022

Manager Strategy (Benchmark)	Annualized Returns						Market Value ¹ (In Millions)
	1 Year		3 Years		5 Years		
	Actual	Bmk	Actual	Bmk	Actual	Bmk	
	%	%	%	%	%	%	
Developed Markets (MSCI World ex U.S. net)							
<i>Active Management</i>							
Acadian Asset Management	-16.8	-16.8	3.4	1.7	4.0	2.7	\$329.9
Columbia Mgmt. Investment Advisers	-18.2	-16.8	3.5	1.7	5.2	2.7	336.9
Fidelity Institutional Asset Management	-18.1	-16.8	3.5	1.7	4.4	2.7	335.9
J.P. Morgan Investment Management	-19.7	-16.8	1.8	1.7	3.4	2.7	289.4
Marathon Asset Management	-16.6	-16.8	2.8	1.7	3.0	2.7	324.2
McKinley Capital Management	-17.1	-16.8	2.7	1.7	4.0	2.7	241.6
AQR Capital Management	-17.7	-16.8	0.5	1.7	0.8	2.7	312.1
<i>Passive Management</i>							
State Street Global Advisers	-16.3	-16.8	2.2	1.7	3.1	2.7	6,128.1
Emerging Markets (MSCI Emerging Markets net)							
<i>Active Management</i>							
Macquarie Investment Management Advisers	-28.9	-25.3	2.1	0.6	3.0	2.2	346.7
Martin Currie	-32.2	-25.3	1.1	0.6	3.4	2.2	362.3
Morgan Stanley Investments Management	-29.4	-25.3	-1.3	0.6	0.2	2.2	416.6
Neuberger Berman Investment Advisers	-28.5	-25.3	-2.9	0.6	0.1	2.2	320.8
Pzena Investment Management	-15.4	-25.3	3.8	0.6	3.2	2.2	331.2
Rock Creek	-27.2	-25.3	1.4	0.6	1.7	2.2	352.2
<i>Passive Management</i>							
State Street Global Advisers	-25.6	-25.3	0.4	0.6	2.0	2.2	999.3
Opportunistic Investment Strategies (benchmark)							
<i>Active Management</i>							
Earnest Partners (MSCI ACWI ex U.S. net)	-15.0	19.4	-	-	-	-	339.1
Earnest Partners (China A Index)	-17.3	-14.3	-	-	-	-	171.5
Currency Overlay Program							
<i>Active Management</i>							
Record Currency Management	3.5	-	-	-	-	-	243.9
Total International Equity Program²	-17.5	-19.4	2.6	1.3	3.3	2.5	\$12,181.8

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

² 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.

Combined Funds

Public Equity / International Equity Program

Figure 24. International Equity Program Aggregate Country Weights for Period Ending June 30, 2022

Country ¹	Program Weights %	Benchmark Weights % ²
Argentina	0.1	-
Australia	4.5	4.9
Austria	0.2	0.1
Belgium	0.6	0.6
Brazil	1.2	1.4
Canada	7.7	8.1
Chile	0.0	0.1
China	6.4	10.5
Czech Republic	0.1	0.0
Denmark	2.1	1.7
Finland	0.6	0.6
France	7.1	7.0
Germany	4.5	4.8
Greece	0.0	0.1
Hong Kong	2.4	2.1
Hungary	0.1	0.0
India	0.6	3.8
Indonesia	0.5	0.5
Ireland	0.4	0.3
Israel	0.5	0.5
Italy	1.2	1.4
Japan	13.4	13.8
Kuwait	0.1	0.2
Malaysia	0.1	0.4
Mexico	0.5	0.6
Netherlands	2.6	2.6
New Zealand	0.1	0.1
Norway	0.8	0.5
Peru	0.1	-
Philippines	0.1	0.1
Poland	0.1	0.2
Portugal	0.1	0.2
Qatar	0.2	0.1
Russia	0.1	0.3
Saudi Arabia	-	1.3
Singapore	1.0	0.9
South Africa	0.7	1.0
South Korea	3.0	3.3
Spain	1.4	1.5
Sweden	1.7	2.1
Switzerland	6.2	6.5
Taiwan	3.1	4.3
Thailand	0.1	0.6
Turkey	0.1	0.1
United Arab Emirates	0.2	0.4
United Kingdom	10.0	9.9
United States	0.4	-
U.S. Dollar	1.3	-
Other	11.7	-
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 / Global Equity Program

Global Equity

The Global Equity Program is made up of actively managed global equity portfolios. This program is exclusive to the Combined Funds.

As of June 30, 2022, the program had a market value of \$844.2 million.

Objective

The goal of the Global Equity Program is to outperform the asset class target, the MSCI ACWI (net) Index.

The Board's *return objectives* for the Global Equity Program 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 that is 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 program is actively managed by three external investment managers funded in December of 2020 with portfolio portfolios ranging in size between \$178 million and \$367 million.

Each investment manager's fiscal year ending portfolio value is shown below in Figure 25.

Investment Manager Summaries

A description of each global equity manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 49.

Investment Performance

The Global Equity Program's country weights are displayed in Figure 26 on the following page.

For the year, the Global Equity Program, underperformed its benchmark by -12.1 percentage points with a return of -27.9% compared to the benchmark return of -15.8%.

Underperformance in the Global Equity Program was driven primarily by the Program's emphasis on managers with concentrated, high growth-oriented portfolios. This style experienced a significant pullback during the fiscal year.

Figure 25. Global Equity Portfolio Manager Performance and Market Value as of June 30, 2022

Manager	1 Year Return		Market Value (In Millions)
	Actual %	Bmk %	
Active Management			
Ariel Investments	-2.7	-15.8	\$367.3
Baillie Gifford	-49.2	-15.8	\$179.7
Martin Currie Investments	-32.3	-15.8	\$297.3
Total Global Equity Program	-27.9	-15.8	\$844.2

The Global Equity benchmark is the MSCI ACWI (net)

Combined Funds

Public Equity / Global Equity Program

Figure 26. Global Equity Program Aggregate Country Weights for Period Ending June 30, 2022

Country ¹	Program Weights %	Benchmark Weights % ²
Australia	1.3	1.9
Belgium	0.1	0.2
Brazil	1.9	0.6
Canada	0.0	3.2
Chile	0.1	0.1
China	8.6	4.1
Denmark	1.0	0.7
Finland	0.7	0.2
France	6.5	2.7
Germany	3.6	1.9
Hong Kong	4.3	0.8
India	0.0	1.5
Indonesia	0.0	0.2
Ireland	2.6	0.1
Israel	0.3	0.2
Italy	3.3	0.5
Japan	2.3	5.4
Kuwait	0.0	0.1
Malaysia -EM	0.0	0.2
Mexico	0.1	0.2
Netherlands	3.8	1.0
Norway	0.0	0.2
Peru	1.5	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	0.5
Singapore	0.1	0.4
South Africa	0.0	0.4
South Korea	0.0	1.3
Spain	1.2	0.6
Sweden	3.1	0.8
Switzerland	3.3	2.6
Taiwan	0.2	1.7
Thailand	0.0	0.2
United Arab Emirates	0.0	0.1
United Kingdom	4.5	3.9
United States	41.9	60.6
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

Domestic Equity Program - Investment Manager Summaries

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 (6/30/22):	\$2.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/21):	\$1.7 billion	Investment Process:	Bottom-up
Product Location:	Seattle, 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 (6/30/22):	\$42.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$12.4 billion	Investment Process:	Bottom-up
Product Location:	Arlington, VA	Expected # of Holdings:	25-30
Date Funded:	January 2005	Expected Ann. Turnover:	20-25%

Sands seeks to invest in concentrated portfolios of high-quality, seasoned and growing businesses. Bottom-up, company-focused, and long-term oriented research are the cornerstones of the firm’s investment process. To be considered as a potential holding, companies must demonstrate superior historical and projected sales and earnings growth; have the potential for wealth creation; and reside in a growing sector. 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 in order 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 (6/30/22):	\$21.6 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$20.5 billion	Investment Process:	Bottom-up
Product Location:	Minneapolis, MN	Expected # of Holdings:	45-55
Date Funded:	January 2005	Expected Ann. Turnover:	50%

Winslow believes that investing in quality large-cap companies with above-average revenue and EPS growth provides 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 seeks to identify companies that can grow earnings above consensus expectations and builds portfolios with expected forward earnings growth in the range of 15-20% annually.

Combined Funds

Domestic Equity Program - Investment Manager Summaries

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 (6/30/22):	\$43.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$14.4 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 (6/30/22):	\$90.1 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$24.9 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 limit 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 (6/30/22):	\$21.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$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

Domestic Equity Program - Investment Manager Summaries

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 (6/30/22):	\$2.6 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$2.5 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 (6/30/22):	\$2.2 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$1.2 billion	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 (6/30/22):	\$1.2 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$6.9 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	150-200
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

Domestic Equity Program - Investment Manager Summaries

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 (6/30/22):	\$2.3 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$5.4 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 (6/30/22):	\$27.7 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$1.8 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 (6/30/22):	\$5.7 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$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 Domestic Equity Program - Investment Manager Summaries

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 (6/30/22):	\$4.6 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$1.3 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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$6.0 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 (6/30/22):	\$2.3 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$10.6 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

Domestic Equity Program - Investment Manager Summaries

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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$55.3 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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$143.9 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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$68.5 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

International Equity Program - Investment Manager Summaries

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 (6/30/22):	\$90.5 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$7.0 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 (6/30/22):	\$100.1 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$4.2 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/Growth
Firm Assets (6/30/22):	\$599.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$1.2 billion	Investment Process:	Bottom-up
Product Location:	London, England	Expected # of Holdings:	50-80
Date Funded:	March 2000*	Expected Ann. Turnover:	< 50%

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

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

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

Combined Funds

International Equity Program - Investment Manager Summaries

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 (6/30/22):	\$3.7 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$5.0 billion	Investment Process:	Bottom-up
Product Location:	Smithfield, RI	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 (6/30/22):	\$2.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$12.6 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 (6/30/22):	\$42.6 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$29.2 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

International Equity Program - Investment Manager Summaries

Active Developed Markets Managers

McKinley Capital Management, LLC

Product Name:	Non-U.S. Developed Core Growth	Benchmark:	MSCI World ex USA Index
Product Inception Date:	May 2004	Investment Style:	Growth
Firm Assets (6/30/22):	\$2.2 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$428.0 million	Investment Process:	Bottom-up
Product Location:	Anchorage, AK	Expected # of Holdings:	60-75
Date Funded:	July 2005	Expected Ann. Turnover:	50-80%

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

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 (6/30/22):	\$3.5 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$31.8 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.

Combined Funds

International Equity Program - Investment Manager Summaries

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 (6/30/22):	\$534.2 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$7.2 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 Markets Index
Product Inception Date:	October 2010	Investment Style:	Quality/Growth
Firm Assets (6/30/22):	\$21.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$6.6 billion	Investment Process:	Bottom-up
Product Location:	Edinburgh, Scotland, UK	Expected # of Holdings:	45-60
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.

Morgan Stanley Investment Management Inc.

Product Name:	Global Emerging Markets Equity	Benchmark:	MSCI Emerging Markets Index
Product Inception Date:	January 2001	Investment Style:	Quality/Growth
Firm Assets (6/30/22):	\$1.4 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$4.6 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's original macro-thematic and fundamental research seeks 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.

Combined Funds

International Equity Program - Investment Manager Summaries

Active Emerging Markets Managers

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 (6/30/22):	\$417.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$3.8 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 (6/30/22):	\$45.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$4.6 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 judgement as to whether the causes of the under-valuation are likely temporary or permanent, and whether the research process is likely to reasonably forecast the company's normalized earnings power.

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 (6/30/22):	\$15.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$2.8 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.

Combined Funds

International Equity Program - Investment Manager Summaries

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 (6/30/22):	\$3.5 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$36.8 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.

Opportunistic Investment Strategies

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 (6/30/22):	\$25.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$4.4 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.

Combined Funds

International Equity Program - Investment Manager Summaries

Opportunistic Investment Strategies

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 (6/30/22):	\$25.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$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.

Currency Overlay Strategy

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 (6/30/22):	\$77.9 billion	Fundamental/Quant:	Quantitative
Product Assets (6/30/22):	\$10.6 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

Global Equity Program - Investment Manager Summaries

Global Equity 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 (6/30/22):	\$16.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$2.8 billion	Investment Process:	Bottom-up
Product Location:	New York, NY	Expected # of Holdings:	50-75
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.

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 (6/30/22):	\$280.3 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$34.0 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 consistent 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 (6/30/22):	\$21.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$1.7 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 genuinely 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

The Total Fixed Income Program has a 25% target allocation in the Combined Funds. The assets are invested with core and core plus bond managers, return seeking fixed income managers, treasury protection managers, laddered bond managers and a cash manager. A description of each sub-asset class within the Total Fixed Income Program is described in the respective sections of this annual report.

Allocation

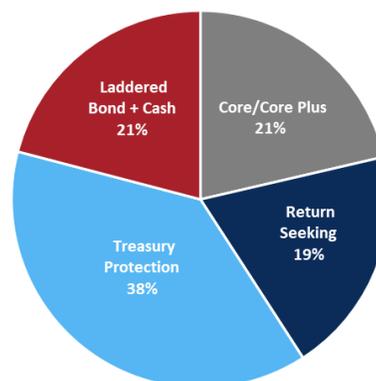
The asset allocation target and actual weights within the Total Fixed Income Program as of June 30, 2022 are below in Figure 27.

Figure 27. Policy Allocation and Asset Mix as of June 30, 2022

	Target Allocation	Actual	
		Asset Mix	Assets In Billions
Core/Core Plus*	40%	21%	\$4.3
Return Seeking*	40%	19%	\$3.9
Treasury Protection	40%	38%	\$7.7
Laddered Bond + Cash	20%	21%	\$4.2
Total Fixed Income	100%	100%	\$20.1

*Combined has a target weight of 40%

Fixed Income Asset Mix of June 30, 2022



Benchmark

The benchmarks used to monitor the aggregate returns of the sub-asset groups are below. The Total Fixed Income Program composite return consists of the respective benchmarks weighted by the target allocation.

<u>Asset Group</u>	<u>Benchmark</u>
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

Performance

Figure 28 provides the performance of the Total Fixed Income Program as of June 30, 2022. The program slightly underperformed the benchmark for one-year ending June 30, 2022 and outperformed for longer periods.

The Return Seeking sub-asset group was funded in 2021; so therefore, only one-year of performance is available. The Treasury Protection sub-asset group was funded in 2018, therefore, five-year performance history is not yet available.

Figure 28. Performance of Total Fixed Income Program as of June 30, 2022

	1 Yr. %		3 Yrs. %		5 Yrs. %	
	Actual	BM	Actual	BM	Actual	BM
Core/Core Plus Bonds	-11.7	-10.3	-0.5	-0.9	1.3	0.9
Return Seeking	-12.3	-10.3	NA	NA	NA	NA
Treasury Protection	-13.5	-13.5	-1.8	-1.8	NA	NA
Laddered Bond + Cash	-0.3	0.2	0.5	0.6	1.0	1.1
Total Fixed Income	-10.5	-9.6	-0.1	-0.2	1.8	NA

BM = benchmark and are identified under Benchmark of this section

Combined Funds

Total Fixed Income / Core/Core Plus Bonds Segments

Core/Core Plus Bonds

The Core/Core Plus Bond segments are part of the Combined Funds Total Fixed Income Program. The Core/Core Plus Bond segments also share the same managers with the Supplemental Investment Fund (SIF) Bond Fund option. This sharing is accomplished by grouping managers by asset class into several investment pools.

As of June 30, 2022, the Core/Core Plus Bond segments had a market value of \$4.5 billion comprised of the following funds:

- Combined Funds
\$4.3 billion
- Bond Fund (SIF)
\$101.0 million
- Balanced Fund (SIF)
(Bond allocation)
\$34.4 million
- Volunteer Firefighter Account
\$61.3 million

Objective

The goal of the Core/Core Plus Bond segments is to outperform the Bloomberg U.S. Aggregate Bond Index.

The SBI constrains the *risk* of the Core/Core Plus bond managers' portfolios to help ensure that the program meets its goals of both acting as a deflation hedge and providing diversification at the total fund level. As noted below, managers are constrained in terms of both overall portfolio duration 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 2022.

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

Management Structure

The SBI uses active management for both the Core and Core Plus mandates.

— Core Bond Segment

At the end of fiscal year 2022, approximately 40% of the Program was invested in the Core Bond segment, which was managed by two external investment managers.

This segment invests in high quality fixed income securities across all sectors of the market. Managers seek to add value primarily through superior bond selection and sector allocation rather than through 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 non-investment grade rated dollar-denominated debt and in non-dollar denominated bonds on a tactical basis. Each manager seeks to outperform the Bloomberg U.S. Aggregate Bond Index.

— Core Plus Bond Segment

At the end of fiscal year 2022, approximately 60% of the Program was invested in the Core Plus Bond segment, which was managed by three external managers.

This segment also invests primarily in high quality fixed income securities, but is given additional flexibility to allocate a larger portion of the portfolio to non-investment grade debt, including both dollar- and non-dollar denominated debt. The managers vary, however, in the emphasis they place on interest rate anticipation (duration) and in the manner in which they approach security selection and sector weighting decisions. The managers use this additional authority on a tactical basis. 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 program from an excessively short duration position. In addition, the duration constraint helps to avoid excess variability in total returns relative to the benchmark. The SBI constrains the duration range of the Core Plus portfolios to a band of plus 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 59.

Combined Funds

Total Fixed Income / Core/Core Plus Bonds Segments

Investment Performance

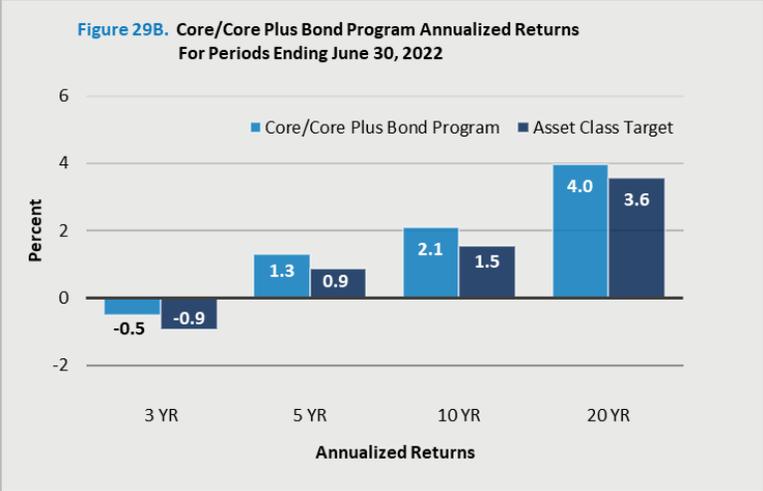
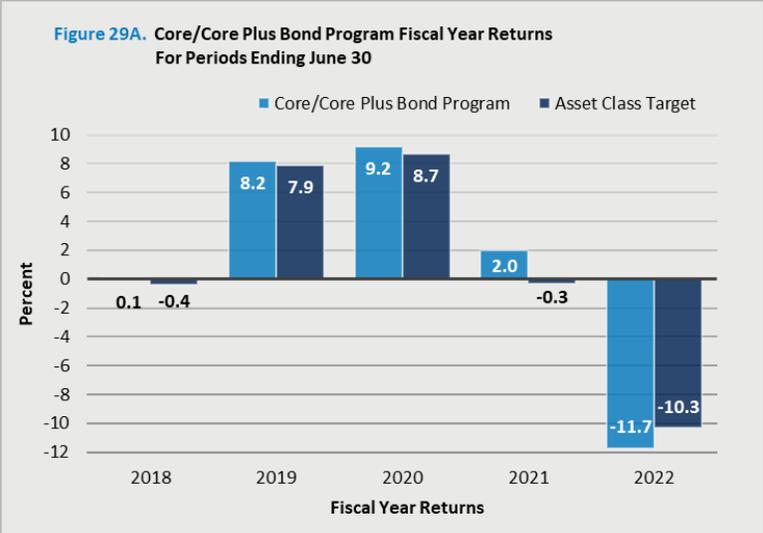
The *returns* of each of the Core/Core Plus bond managers are compared to the Bloomberg U.S. Aggregate Bond Index. Individual managers are expected to exceed the target, net of fees, on an annualized basis. In total, the segments underperformed the Bloomberg U.S. Aggregate Bond Index by -1.4 percentage points for the recent fiscal year.

Underperformance was driven by an overall overweight to duration, or interest rate risk, which hurt relative performance as interest rates rose sharply over the fiscal year. An overweight to credit risk was also a negative as credit spreads widened.

Over the last fiscal year, four managers underperformed the benchmark while only one manager outperformed. Over longer time periods, however, the Core/Core Plus segments has consistently outperformed the asset class target.

Figure 29A and 29B provides the historical performance results for the Core/Core Plus segments. Individual results for each of the Core and Core Plus managers is shown in Figure 30 on the following page.

The aggregate portfolio sector weights and portfolio characteristics for the Core/Core Plus Bond segments as of June 30, 2022, is provided on the following page in Figure 31 and Figure 32, respectively.



Combined Funds

Total Fixed Income / Core/Core Plus Bonds Segments

Figure 30. Core/Core Plus Bond Manager Performance for Periods Ending June 30, 2022

Manager Strategy	Annualized Returns						Market Value ¹ (In Millions)
	1 Year		3 Years		5 Years		
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	
Core Bond							
Dodge & Cox	-10.1	-10.3	0.2	-0.9	1.7	0.9	\$957.6
BlackRock Financial Management	-10.7	-10.3	-0.8	-0.9	1.0	0.9	843.4
Core Plus Bond							
Goldman Sachs Asset Management	-10.8	-10.3	-0.6	-0.9	1.2	0.9	847.7
Neuberger Investment Management	-11.4	-10.3	-0.3	-0.9	1.3	0.9	876.5
Western Asset Management	-15.0	-10.3	-1.1	-0.9	1.1	0.9	968.7
Total Core/Core Plus Bond Program²	-11.7	-10.3	-0.5	-0.9	1.3	0.9	\$4,493.8

¹ Market value includes assets of SIF Funds.

² Returns are net of investment management fees. In Oct. 2020, Core Bond allocation was re-structured from active and semi-passive portfolios to Core and Core Plus portfolios. There is no change to the benchmark, which continues to be the BBG U.S. Aggregate Bond Index (since July 1994).

Figure 31. Core/Core Plus Program Sector Weights as of June 30, 2022

	Core Managers %	Core Plus Managers %	Aggregate Core/Core Plus Program %	Bloomberg U.S. Aggregate Bond Bmk %
Treasury	17.5	12.3	15.5	42.3
Government-Related	2.1	4.7	3.6	2.8
Corporate	35.7	39.1	36.7	24.1
U.S. Mortgage	32.1	29.7	30.6	27.8
Commercial Mortgage	2.4	4.3	3.5	2.0
Asset Backed	8.7	8.5	8.6	0.4
Municipal	1.3	0.3	0.7	0.7
Other	0.2	1.1	0.8	0.0

Note: May not equal 100% due to rounding.
Source: Factset

Figure 32. Core/Core Plus Bond Program Portfolio Characteristics for Period Ending June 30, 2022

	Core Managers %	Core Plus Managers %	Aggregate Core/Core Plus Program %	Bloomberg U.S. Agg. Bmk %
Average Quality	A1	A2	A1	Aa2
Average Yield to Maturity (%)	4.9%	5.5%	5.3%	3.7%
Effective Duration ¹ (yrs)	5.8	6.6	6.3	6.3
Weighted Average Life ² (yrs)	9.0	10.4	9.5	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 / Return Seeking Fixed Income Program

Return Seeking Fixed Income

The Return Seeking Fixed Income segment within the Total Fixed Income Program is used exclusively for the Combined Funds.

As of June 30, 2022, the program had a market value of \$3.9 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.

Each manager has been given a mandate with the goal of outperforming their respective benchmark and to hold a portfolio that is consistent with the manager's stated investment objective.

Prior to implementation of the Return Seeking Fixed Income allocation, SBI Staff conducted a series of portfolio optimization studies with its consultant to determine the specific market sectors with the most potential for both enhanced returns and diversification relative to the Bloomberg Aggregate Index and Bloomberg Treasury 5+ Year Index.

The Return Seeking Fixed Income allocation includes both dedicated single sector mandates (securitized credit, emerging markets debt, high yield corporate bonds) as well as blended mandates that allow managers to allocate investments across a range of sectors (credit plus, multi-asset credit, opportunistic).

During fiscal year 2022, 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 \$264 million to over \$849 million.

Investment Manager Summaries

A description of the manager's investment approach is included in the **Investment Manager Summaries** section beginning on page 61.

Investment Performance

The Return Seeking Fixed Income Aggregate benchmark is the Bloomberg U.S. Aggregate Index.

Managers are also tracked relative to their specific benchmarks for evaluation purposes. The specific benchmark and portfolio value for each manager is provided in Figure 33.

The aggregate portfolio sector weights and portfolio characteristics for the Return Seeking Fixed Income Program as of June 30, 2022, is provided on the following page in Figure 34 and Figure 35, respectively.

Figure 33. Return Seeking Fixed Income Portfolio Market Values as of June 30, 2022

Manager Strategy	Benchmark	1 Yr. Return		Market Value (In Millions)
		Actual ¹ %	Bmk %	
Credit Plus				
Columbia	Credit Plus Benchmark ²	-14.2	-13.0	\$849.2
PIMCO	Credit Plus Benchmark ²	-12.7	-13.0	\$802.0
Multi-Asset Credit				
Payden & Rygel	Multi Asset Credit ³	-12.7	-12.3	\$267.8
PGIM Fixed Income	Multi Asset Credit ³	-13.1	-12.3	\$309.4
High Yield				
KKR	High Yield Credit ⁴	-12.5	-12.6	\$280.8
Oaktree	High Yield Credit ⁴	-11.6	-12.6	\$280.2
Opportunistic and Other				
Ashmore (EM Market Debt)	Emerging Market Blended Debt Total Return ⁵	-25.8	-20.2	\$264.0
BlackRock (Opportunistic)	ICE BofA US 3 Month T Bill	-6.5	0.2	\$520.3
TCW (Securitized Credit)	ICE BofA US 3 Month T Bill	-2.1	0.2	\$342.4
Total Return Seeking Portfolio⁶	Bloomberg U.S. Aggregate	-12.3	-10.3	\$3,916.0

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 Russian and Belarusian transition portfolio of \$4.4 million is included in the Total Return but not in the market value reported.

Combined Funds

Total Fixed Income / Return Seeking Fixed Income Program

Figure 34. Return Seeking Program Sector Weights as of June 30, 2022

	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	7.8	4.0	0.0	11.0	7.1	0.4
Agency MBS	16.4	0.0	0.0	3.0	7.8	27.8
Bank Loan	1.6	21.1	4.9	0.0	4.5	0.0
CMBS	6.2	1.5	0.0	9.0	5.5	2.0
Corporate	48.9	32.7	88.4	20.2	43.6	24.0
Municipal	1.4	0.0	0.0	1.3	1.0	0.7
Non US Govt (EMD)	5.7	24.9	0.0	20.6	12.0	2.8
Non Agency MBS	4.8	0.0	0.0	2.0	2.6	0.0
US Govt/Cash	6.5	12.7	4.1	18.2	10.5	42.3
Other	0.8	3.1	2.7	14.6	5.4	0.0

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 35. Return Seeking Fixed Income Program Portfolio Characteristics for Period Ending June 30, 2022

	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	Baa1	Ba3	B2	Baa1	Baa3	Aa2
Average Yield to Maturity (%)	6.0%	8.2%	8.8%	5.6%	6.6%	3.7%
Effective Duration ¹ (yrs)	6.9	3.85	4.01	2.48	4.77	6.31
Weighted Average Life ² (yrs)	11.2	7.5	5.7	5.88	8.32	8.59

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 / Treasury Portfolio

Treasury Portfolio

The Treasury Portfolio was funded in early 2018 and is used exclusively by the Combined Funds.

As of June 30, 2022, the program had a market value of \$7.7 billion.

Objectives

The primary objective of the Treasury Portfolio 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 the Total Fixed Income Program.

Each manager has been given a modest risk budget with the goal of outperforming the Bloomberg Treasury 5+ Years Index total return over time, while largely retaining the primary characteristics of the benchmark.

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

Management Structure

The managers are required to remain within +/- 0.5 years of the overall benchmark duration (currently 11.0 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 65.

Investment Performance

During the fiscal year, the Total Treasury Portfolio returned -13.5%, which matched its benchmark return for the same time-period.

During the fiscal year, positive active yield curve positioning on the 20 year portion of the curve was offset by slight overweight to duration and weak TIPS performance.

Figure 36 provides historical performance results for the Treasury Portfolio and individual results for each of the Treasury managers.

Portfolio characteristics for the Treasury Portfolio as of June 30, 2022, are shown in Figure 37.

Figure 36. Treasury Portfolio Manager Performance and Market Value as of June 30, 2022

Manager	1 Yr. Return (%)		3 Yr. Return (%)		Market Value (In Millions)
	Actual	Bmk ¹	Actual	Bmk ¹	
Active Management					
BlackRock Financial Mgmt.	-13.6	-13.5	-2.0	-1.8	\$2,385.1
Goldman Sachs Asset Mgmt.	-13.6	-13.5	-1.8	-1.8	\$2,549.6
Neuberger Investment Mgmt.	-13.3	-13.5	-1.6	-1.8	\$2,751.0
Total Treasury Portfolio	-13.5	-13.5	-1.8	-1.8	\$7,685.7

¹Treasury Portfolio benchmark is the Bloomberg 5+ Year U.S. Treasury Index.

Figure 37. Treasury Portfolio Characteristics as of June 30, 2022

	Total Portfolio	Benchmark ¹
Effective Duration (yrs)	11.0	11.0
Convexity	1.9	1.9
Coupon Rate (%)	2.3	2.1
Yield to Maturity (%)	3.2	3.1
Option Adjusted Spread (bps)	9.0	7.0

¹The Treasury benchmark is the Bloomberg 5+ Year U.S. Treasury Index.
Source: Factset

Combined Funds Total Fixed Income/ Laddered Bond + Cash Portfolio

Laddered Bond + Cash Portfolio

The Laddered Bond + Cash portfolio is used exclusively for the Combined Funds.

As of June 30, 2022, there was just under \$4.3 billion invested in the Laddered Bond + Cash portfolio.

Objective

The Combined Funds Laddered Bond + Cash portfolio is used to meet the liquidity requirements of the Combined Funds. This includes monthly pension payments for the retirement systems as well as any unspent cash of the Combined Fund's public equity and fixed income managers. A portion of the Laddered Bond + Cash portfolio is used for the State's CD program, described on page 58.

The SBI measures the performance of the Laddered Bond and Cash portfolios against specific benchmarks, based upon the guidelines for each portfolio. The Cash portfolio is measured against the iMoneyNet All Taxable Money Fund Average. The Laddered Bond portfolios are measured against the ICE BofA 3-month T-Bill benchmark. For reporting purposes, the aggregate pool (Cash, Laddered Bonds and CD program) is shown against the ICE BofA 3-month T-Bill Benchmark.

Management Structure

The Laddered Bond + Cash allocation is an *actively* managed program.

- The *Laddered Bond* portfolios are managed by Neuberger Berman and Goldman Sachs. 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 with the additional requirement that at least 50% of the portfolio be invested in U.S. Treasury securities. All other securities must be rated at least "A" or higher by a nationally Recognized

Figure 38. Laddered Bond + Cash Managers Performance and Market Values as of June 30, 2022

Manager Strategy	1 Yr. Return %		3 Yr. Return %		Market Value (In Millions)
	Actual	Bmk	Actual	Bmk	
Laddered Bond¹					
Neuberger Berman	-0.5	0.2	-	-	\$1,374.9
Goldman Sachs Asset Mgmt.	-0.4	0.2	-	-	1,375.9
Cash²					
State Street Global Advisors	0.3	0.1	0.6	0.4	1,506.9
CD Repo					
SBI Internal Portfolio	0.2	NA	0.8	NA	22.3
Total Laddered Bond + Cash¹	-0.3	0.2	0.5	0.6	\$4,280.0

¹ Benchmark is the ICE BofA 3 Month T-Bill
² Benchmark is the iMoneyNet All Taxable Money Fund Average
 Performance includes terminated portfolios

Figure 39A. Combined Funds Laddered Bond + Cash Portfolio Performance For Periods Ending June 30



Figure 39B. Combined Funds Laddered Bond + Cash Portfolio Performance for Periods Ending June 30, 2022



Combined Funds

Total Fixed Income/ Laddered Bond + Cash Portfolio

Statistical Rating Organization. Finally, the managers must keep the duration of their portfolios within +/- 0.25 years of the prevailing maturity schedule.

- The **Cash Portfolio** 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.

Investment Manager Summaries

A description of each manager's investment approach is included in the **Investment Manager Summaries** section on page 66.

Investment Performance

The portfolio values for each manager and performance, are provided in Figure 38 on the previous page.

Historical returns provided in Figures 39A and 39B (on the previous page) represent the return of the aggregate portfolio.

Combined Funds Cash Related Programs

Certificate of Deposit Program

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

As of June 30, 2022, the amount on deposit with the financial institutions totaled \$22.3 million.

During fiscal year 2022, the SBI purchased \$57.3 million of CDs from Minnesota financial institutions.

The CD Program is internally managed by SBI investment staff.

Securities Repurchase Program

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

During fiscal year 2022, the SBI did not enter into any Repo transactions with Minnesota financial institutions.

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 2022, State Street generated additional income for the retirement systems of approximately \$14.1 million.

Combined Funds

Core/Core Plus Bonds Program - Investment Manager Summaries

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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$12.2 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 (6/30/22):	\$327.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$87.7 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:	GS U.S. Core Plus Fixed Income.	Benchmark:	Bloomberg U.S. Aggregate
Product Inception Date:	September 1990	Investment Style:	Active Core Plus Bond
Firm Assets (6/30/22):	\$2.3 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$80.5 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 (GSAM) 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

Core/Core Plus Bonds Program - Investment Manager Summaries

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 (6/30/22):	\$417.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$2.8 billion	Investment Process:	Top-down/Bottom-up
Product Location:	Chicago, IL	Expected # of Holdings:	250-350
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 (6/30/22):	\$407.5 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$93.4 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 mispricings over time. Western Asset's approach seeks diversified sources of returns to maximize consistency across different market environments and 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

Fixed Income Program - Investment Manager Summaries

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 (6/30/22):	\$599.1 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$811.3 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 (6/30/22):	\$1.8 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$25.5 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

Fixed Income Program - Investment Manager Summaries

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 (6/30/22):	\$135.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$11.6 billion	Investment Process:	Top-Down/Bottom-up
Product Location:	Los Angeles, CA	Expected # of Holdings:	200-400
Date Funded:	December 2020	Expected Ann. Turnover:	70-90%

* Benchmark is 1/3 ICE BofA High Yield Index, 1/3 LSTA 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 10-member 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 (6/30/22):	\$790.4 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$865.0 million	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 LSTA 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

Fixed Income Program - Investment Manager Summaries

Return Seeking Fixed Income Managers – High Yield Mandates

KKR (Kohlberg, Kravis and Roberts)

Product Name:	KKR 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 (6/30/22):	\$490.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$2.8 billion	Investment Process:	Bottom up
Product Location:	New York, NY	Expected # of Holdings:	246
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:	Oaktree 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 (6/30/22):	\$159.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$12.3 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

Fixed Income Program - Investment Manager Summaries

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 (6/30/22):	\$64.0 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$4.0 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 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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$3.7 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 (6/30/22):	\$220.4 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$5.4 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 Treasury Portfolio - Investment Manager Summaries

Treasury Portfolio 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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$3.4 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 (6/30/22):	\$2.3 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$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 (6/30/22):	\$417.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$6.7 billion	Investment Process:	Bottom-up
Product Location:	Chicago, IL	Expected # of Holdings:	175-300
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

Laddered Bond + Cash Portfolio - Investment Manager Summaries

Laddered Bond Managers

Goldman Sachs Asset Management

Product Name:	US Short Duration Fixed Income	Benchmark:	ICE BofA 3Mth T-Bill Index
Product Inception Date:	September 1988	Investment Style:	Active Short Duration Bond
Firm Assets (6/30/22):	\$2.3 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$71.1 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 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 (6/30/22):	\$417.8 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$8.3 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:	Money Market Strategy	Benchmark:	iMoneyNet All Taxable Money Fund Average
Product Inception Date:	May 1978	Investment Style:	Cash Management
Firm Assets (6/30/22):	\$3.5 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$144.0 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 within equity, credit, real assets, and real estate funds. Each sub-asset group within the Private Markets Program is described in the respective sections of this annual report.

Allocation

Asset mix and market values for the Private Markets Program as of June 30, 2022 are shown in Figure 40.

The Private Markets Program consists of an invested allocation and an uninvested allocation. The uninvested portion is managed to an S&P 500 mandate in a combination of a passive index strategy and a cash overlay strategy.

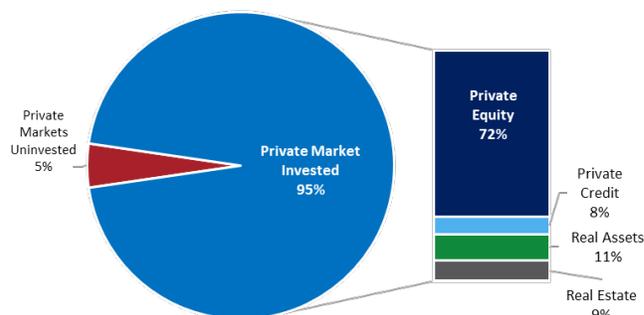
Benchmark

The following asset class targets are used to calculate the Private Markets composite benchmark:

<u>Asset Class</u>	<u>Benchmark</u>
Private Markets Invested	Private Markets return
Private Markets Uninvested	S&P 500

Sub-Asset Groups	Market Value In Millions	Asset Mix
Private Equity	\$14,756.3	69%
Private Credit	1,590.2	7%
Real Assets	2,284.6	11%
Real Estate	1,784.3	8%
<i>Stock Distributions and Accruals</i>	39.3	0%
Total Private Markets Invested	\$20,454.8	95%
S&P 500 Physicals	571.7	3%
S&P 500 Cash Overlay	417.3	2%
Total Private Markets Uninvested	\$989.1	5%
Total Private Markets Program	\$21,443.9	100%

Private Markets Asset Mix as of June 30, 2022



Performance

Figure 41 provides the performance of the Private Markets sub-asset groups as of June 30, 2022.

Sub-Asset Group	Annualized		
	1 Yr. %	3 Yrs. %	5 Yrs. %
Private Equity	22.1	23.6	20.9
Private Credit	21.3	13.0	12.3
Real Assets	33.8	5.3	4.2
Real Estate	43.7	19.4	15.8
Total Private Market Invested	24.8	18.7	16.3

Combined Funds Private Markets Program / Invested Allocation

Private Markets Invested Allocation

The invested portion of the Private Markets Program consists of funds that make an equity or debt investment with a private business. The Private Markets Program is exclusive to the Combined Funds.

As of June 30, 2022, the market value of the Private Markets Invested allocation was \$20.4 billion.

Statutory Constraints

The SBI's private markets 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 investment time horizon, the Combined Funds are especially well suited for private markets investments. Up to 25% of the market value of the Combined Funds is targeted for private markets investments.

A breakdown of the private markets invested program by segment is shown in Figure 42.

The SBI does not establish an allocation target for each segment. Categorization of the

private markets segments 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 2022, the SBI approved private equity commitments with Advent International, Apax Partners, Arsenal Capital Partners, Asia Alternatives, Blackstone, Bridgepoint, Brookfield Asset Management, The Carlyle Group, Clearlake Capital Group, IK Partners, KKR, Lexington Partners, Nordic Capital, Permira, Siris Capital Group, Summit Partners, Thoma Bravo,

TPG Capital, Warburg Pincus, Welsh Carson Anderson Stowe, Whitehorse, and Wind Point Partners.

The SBI will continue to review and add new private equity investments as attractive opportunities are identified.

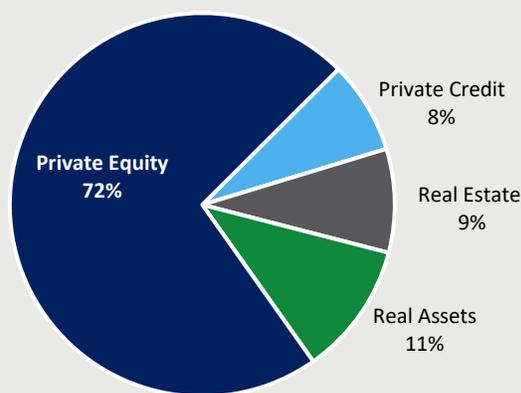
Private Credit

The strategy for private credit investments is to target funds that typically provide a current return and may have an equity component. Structures such as subordinated debt, mezzanine, and direct lending investments are typical private credit investments. Managers are selected based on the manager's performance, experience and investment strategy.

During fiscal year 2022, the SBI approved private credit commitments with HPS Investment Partners, Marathon Asset Management, Oaktree, Sixth Street Partners, and Värde.

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

Figure 42. Private Markets Invested Allocation Asset Mix as of June 30, 2022



Combined Funds Private Markets Program / Invested Allocation

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 2022, the SBI approved real estate commitments with Blackstone, KKR, and Landmark Partners.

The SBI will continue to review real estate managers for possible inclusion in the program.

Real Assets

The strategy for real asset investments is to establish and maintain a diversified portfolio of investment vehicles comprised of tangible assets, which provide an inflation hedge and additional diversification. Real asset investments may include natural resources, infrastructure, and agricultural and timber assets. The portfolio will be diversified by geographic area as well as by type. Real asset investments are selected based on the manager's experience, investment strategy and performance history.

During fiscal year 2022, the SBI approved real assets commitments with KKR.

The SBI will continue to review real estate managers for possible inclusion in the program.

Investment Manager Summaries

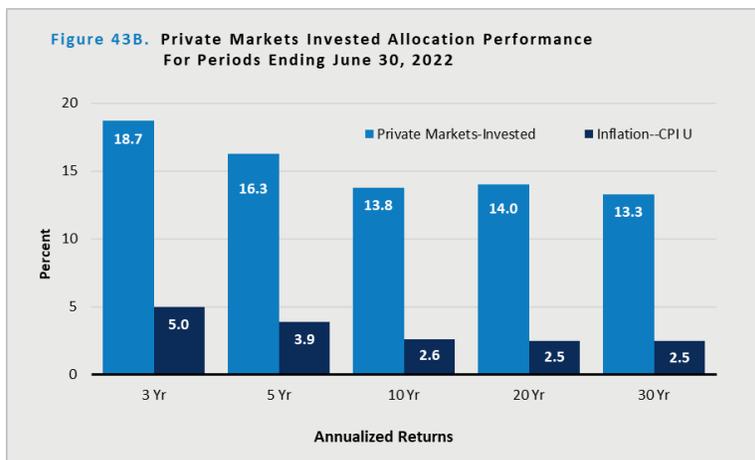
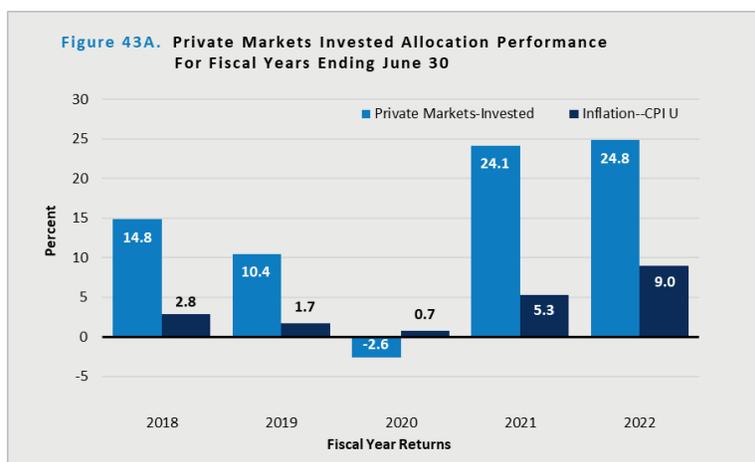
Descriptions of each of the private markets investments are included in the **Investment Manager Summaries** section beginning on page 71.

Investment Performance

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

The Private Markets Program provided a 24.8% return in fiscal year 2022. Over a ten-year period ending June 30, 2022, the annualized return was 13.8%, which provided a positive contribution to the overall performance for the Combined Funds.

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



Combined Funds

Private Markets Program / Uninvested Allocation

Private Markets Uninvested Allocation

The uninvested portion of the Private Markets Program represents the amount by which the actual value of the Private Markets allocation lags the target allocation. The difference is invested in public equities until needed for investment.

As of June 30, 2022, the Private Markets Uninvested allocation market value was \$989.1 million.

Management Structure

The Uninvested portion of the Private Markets allocation is invested in two separate portfolios managed to the S&P 500 using physical securities and an overlay program fully collateralized by cash.

The cash overlay manager may utilize both equity and interest rate derivatives to replicate desired market exposures. The physical portion of the portfolio is invested in public equities.

A breakdown of the managers that execute this investment strategy is shown in Figure 43.

Objective

The initial 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.

Figure 44. Private Markets Uninvested Performance and Market Value as of June 30, 2022

Managers	Strategy	1 Year Return (%)		Market Value (In Millions)
		Actual ¹	Bmk ²	
BlackRock	Physical Securities	-10.1	-10.6	\$571.7
NISA	Cash Overlay	-10.3	-10.6	417.3
Total Private Market - Uninvested		-10.2	-10.6	\$989.1

¹ Inception date is January 2021
² Benchmark is the S&P 500

- 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 performance is measured against its benchmark the S&P 500. For fiscal year 2022, the private markets uninvested allocation outperformed its benchmark by 0.4 percentage point.

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Adams Street Partners (AS)

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Secondaries		Strategy Location: Chicago, IL						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Adams Street Global Secondary Fund 5	\$ 100,000,000	\$ 77,114,692	\$ 72,719,159	\$ 32,878,006	1.37	6.92	2012	
Adams Street Global Secondary Fund 6	100,000,000	75,200,000	36,630,587	91,937,940	1.71	36.39	2017	
Adams Street Global Secondary Fund 7	149,120,500	14,912,050	-	25,811,463	1.73	0.00	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	\$ 5,538,801	2.06	16.61	2008	
Advent International GPE VII	90,000,000	85,590,641	138,972,935	21,530,638	1.88	14.16	2012	
Advent International GPE VIII-B	100,000,000	100,000,000	73,062,483	129,810,536	2.03	21.10	2016	
Advent International GPE IX	115,000,000	79,646,967	9,195,408	154,800,689	2.06	57.21	2019	
Advent International GPE X	150,000,000	-	-	-	0.00	0.00	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	-37.45	2004	
Affinity Ventures V	5,000,000	5,000,000	2,048,042	854,215	0.58	-8.37	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	\$ 233,892,465	\$ 335,200,854	\$ 69,473,217	1.73	14.74	2013	
Apax IX - USD	150,000,000	155,305,183	147,113,643	204,601,152	2.26	29.14	2016	
Apax X - USD	150,000,000	76,708,774	7,291,608	87,049,569	1.23	26.32	2019	
Apax XI	100,000,000	-	-	-	0.00	0.00	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	\$ 67,788,176	\$ 2,579,409	\$ 82,557,454	1.26	12.71	2019	
Arsenal Fund VI	100,000,000	14,726,231	-	14,726,231	1.00	0.00	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	\$ 90,995,539	\$ 13,100,628	\$ 101,528,337	1.26	12.99	2017	
MN Asia Investors	300,000,000	26,981,967	7,831.00	25,063,441	0.93	-10.80	2020	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

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 VIII	\$ 98,250,000	\$ 98,250,000	\$ 211,093,311	\$ 33,216	2.15	12.73	2008	
Banc Fund IX	107,205,932	107,205,932	32,414,449	128,277,794	1.50	7.78	2014	
Banc Fund X	71,345,455	80,254,545	3,312,670.00	95,090,481	1.23	9.02	2018	

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	\$ 1,796,583	\$ 180,592	1.11	5.63	2015	
BlackRock Long-Term Capital	950,000,000	954,617,522	2,660,745	1,209,928,550	1.27	29.16	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.

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	\$ -	\$ -	\$ -	0.00	0.00	2021	
Blackstone Capital Partners IV	70,000,000	84,459,884	200,562,452	1,028,076	2.39	37.02	2002	
Blackstone Capital Partners V	140,000,000	152,406,707	245,675,051	870,191	1.62	8.02	2006	
Blackstone Capital Partners VI	100,000,000	106,536,126	144,395,601	44,408,772	1.77	12.52	2008	
Blackstone Capital Partners VII	130,000,000	136,647,177	65,753,267	158,490,728	1.64	17.87	2015	
Blackstone Capital Partners VIII	150,000,000	60,649,186	2,658,588	73,102,750	1.25	29.40	2019	
Blackstone Capital Partners IX	150,000,000	-	-	-	0.00	0.00	2022	
Blackstone Growth	250,000,000	183,041,291	16,441,778	184,618,689	1.10	13.59	2020	
Blackstone Growth Equity II	150,000,000	-	-	-	0.00	0.00	2022	
Blackstone Supplemental Account - M	125,000,000	41,750,000	-	43,447,096	1.04	5.73	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	\$ 25,059,678	\$ 33,874,990	\$ 272,077	1.36	5.98	2004	
BS Strategic Partners III-B	100,000,000	79,629,077	118,509,586	205,488	1.49	6.35	2004	
BS Strategic Partners IV VC	40,500,000	42,142,465	61,953,059	3,133,887	1.54	9.28	2008	
BS Strategic Partners IV-B	100,000,000	99,356,038	152,338,242	3,905,141	1.57	12.21	2008	
BS Strategic Partners V	100,000,000	87,076,150	133,611,131	10,198,223	1.65	18.68	2011	
BS Strategic Partners VI	150,000,000	103,206,952	125,203,876	36,105,859	1.56	15.43	2014	
BS Strategic Partners VII	150,000,000	113,380,474	108,026,963	97,077,735	1.81	22.16	2016	
BS Strategic Partners VIII	150,000,000	106,675,490	63,771,177	127,616,658	1.79	55.65	2018	
BS Strategic Partners IX	100,000,000	15,362,402	302,140	14,881,193	0.99	-1.24	2022	

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	\$ 167,542,238	\$ 135,728,894	\$ 13,311,036	\$ 156,389,122	1.25	16.60	2018	

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	\$ 107,053,430	\$ 168,651,562	\$ 110,315,643	2.61	47.89	2015	
Brookfield Capital Partners V	250,000,000	211,377,867	19,494,488	247,397,718	1.26	17.85	2018	
Brookfield Capital Partners VI	150,000,000	-	-	-	0.00	0.00	2022	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

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 the United States 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	\$ 97,826,145	\$ 21,475,843	\$ 97,534,190	1.22	17.48	2020	

Cardinal Partners (CP)

DSV focuses on start-up and early stage investments.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Growth		Strategy Location: Princeton, NJ						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Cardinal Partners DSV Partners IV	\$ 10,000,000	\$ 10,000,000	\$ 39,196,082	\$ 30,380	3.92	10.61	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	\$ 146,080,022	\$ 4,889,664	\$ 168,301,293	1.19	10.51	2017	
Carlyle Partners VIII	150,000,000	4,860,867	-	4,196,173	0.86	-13.67	2021	
Carlyle Strategic Partners IV	100,000,000	113,334,126	52,212,670	72,883,645	1.10	7.29	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 Global Value Fund	\$ 200,000,000	\$ 190,012,391	\$ 320,848,863	\$ -	1.69	9.53	2007
CVI Credit Value Fund I	100,000,000	95,025,281	213,808,779	-	2.25	18.71	2010
CVI Credit Value Fund A II	150,000,000	142,500,000	199,242,174	3,971,331	1.43	8.30	2012
CVI Credit Value Fund A III	150,000,000	142,500,000	149,290,605	42,727,808	1.35	8.55	2015
CVI Credit Value Fund IV	150,000,000	135,203,333	10,058,440	159,033,915	1.25	7.33	2017
CVI Credit Value Fund V	150,000,000	67,500,000	154,566.00	70,734,668	1.05	6.15	2020

Chicago Growth Partners (William Blair)

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Growth		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Chicago Growth Partners II	\$ 60,000,000	\$ 58,347,626	\$ 123,371,040	\$ 624,099	2.13	19.54	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	\$ 31,282,144	\$ 2,434	\$ 30,248,707	0.97	-5.11	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	\$ 170,029,204	\$ 295,744,454	\$ 6,253,288	1.78	12.43	2006
Court Square Capital Partners III	175,000,000	187,850,200	225,585,707	163,609,361	2.07	20.15	2012
Court Square Capital Partners IV	150,000,000	104,782,717	40,500,973	102,715,186	1.37	25.95	2018

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Crescendo

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Venture		Strategy Location: Minneapolis, MN						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Crescendo IV	\$ 101,500,000	\$ 103,101,226	\$ 57,982,654	\$ 290,742	0.57	-4.60	2000	

CVC Capital Partners

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: London						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
CVC European Equity Partners V	\$ 133,809,414	\$ 153,884,098	\$ 294,886,647	\$ 5,630,132	1.95	16.79	2008	
CVC Capital Partners VI	256,146,007	281,754,857	246,086,929	309,391,552	1.97	17.91	2013	

Goldman Sachs Capital Partners (GS)

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
GS Capital Partners V	\$ 100,000,000	\$ 74,319,006	\$ 191,435,136	\$ 436,736	2.58	18.23	2005	
GS Capital Partners VI	100,000,000	110,260,752	141,234,290	4,162,371	1.32	7.17	2007	
GS China-US Cooperation Fund	99,800,000	30,613,445	-	43,091,123	1.41	18.75	2018	
GS Vintage VII	100,000,000	83,536,746	52,317,848	92,600,201	1.73	20.15	2016	
GS West Street Capital Partners VII	150,000,000	137,799,274	107,024,488	122,867,353	1.67	21.90	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	\$ 6,623,935	3.48	20.44	2012
Goldner Hawn Fund VII	57,755,138	40,356,924	-	51,874,339	1.29	22.46	2018

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	\$ 214,751,215	\$ 559,932	2.03	21.36	2010
GTCR Fund XI	110,000,000	105,855,919	209,513,594	222,657,944	4.08	39.37	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	\$ 2,074,080	\$ 1,787,970	\$ 83,989	0.90	-4.28	2014
HarbourVest Intl PE V-Cayman US	3,507,877	3,346,005	4,413,905	154,221	1.37	13.81	2014
HarbourVest Intl PE VI-Cayman	4,220,088	4,039,458	5,122,622	2,879,169	1.98	16.27	2014
HarbourVest VIII Cayman Buyout	4,506,711	4,387,189	5,574,478	707,754	1.43	13.60	2014
HarbourVest VIII-Cayman Venture	7,190,898	7,085,519	8,470,577	3,469,409	1.69	13.13	2014

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 investment that are high quality, growing businesses in the developed markets. The firm operates in the Software, Financial Services, Internet and Media, Business and Information Services, Healthcare, Insurance, Retail and Consumer, and Energy and Industrials sectors. H&F has offices in San Francisco, New York, and London.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: San Francisco, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Hellman & Friedman Capital Partners VI	\$ 175,000,000	\$ 171,037,755	\$ 315,233,005	\$ 3,174,994	1.86	12.90	2007	
Hellman & Friedman Capital Partners VII	50,000,000	49,892,204	153,705,841	10,471,748	3.29	25.00	2009	
Hellman & Friedman Investors IX	175,000,000	170,925,623	4,158,129	216,698,798	1.29	18.80	2018	
Hellman & Friedman Investors X	250,000,000	142,748,653	7,412,203	138,290,168	1.02	2.80	2021	

IK Partners

IK 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	\$ 179,637,471	\$ 179,315,195	\$ 295,129,855	\$ 45,298,555	1.90	14.67	2013	
IK Fund VIII	170,085,135	175,535,613	135,146,215	166,734,107	1.72	19.18	2016	
IK Fund IX	150,612,647	95,588,640	-	94,406,075	0.99	-1.52	2019	

Kohlberg, Kravis, Roberts (KKR)

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Respective Continents: New York, Hong Kong, London						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
KKR Millennium Fund	\$ 200,000,000	\$ 205,167,570	\$ 424,946,028	\$ 161,924	2.07	16.37	2002	
KKR 2006 Fund	200,000,000	218,137,965	372,893,706	20,029,959	1.80	9.12	2006	
KKR Americas Fund XII	150,000,000	144,039,881	50,557,068	227,625,000	1.93	29.98	2016	
KKR Asian Fund III	100,000,000	87,203,475	40,314,000	129,582,200	1.95	32.24	2017	
KKR Asian Fund IV	150,000,000	35,267,786	415,503.00	35,520,480	1.02	2.62	2020	
KKR Core Investments Fund II	100,000,000	-	-	-	0.00	0.00	2022	
KKR Core Investments Partnership	97,000,000	67,729,650	3,014,541	74,630,004	1.15	15.99	2021	
KKR Europe V	100,000,000	78,176,644	13,622,788	90,226,775	1.33	22.18	2018	
KKR European Fund VI (USD)	100,000,000	-	-	-	0.00	0.00	2022	
KKR MN Partnership	150,000,000	48,923,770	-	49,911,394	1.02	3.41	2021	
KKR North America Fund XIII	300,000,000	50,170,417	-	48,830,014	0.97	-2.67	2021	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Leonard Green Equity Investors

Leonard Green is a private equity firm that invests in market leading companies backed by strong management teams. Since its founding in 1989, the firm has invested in over 100 companies, the majority of which have been service businesses or multi-unit companies.

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	\$ 224,241,721	\$ 234,504,568	\$ 249,259,240	2.16	16.21	2012
Green Equity Investors VIII	125,000,000	96,716,257	136,874.00	103,640,994	1.07	7.70	2020

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	\$ 145,572,539	\$ 1,006,329	1.49	7.91	2005
Lexington Capital Partners VII	200,000,000	172,835,427	259,262,085	33,341,371	1.69	14.78	2009
Lexington Capital Partners VIII	150,000,000	136,386,669	126,618,706	111,177,569	1.74	19.47	2014
Lexington Capital Partners IX	150,000,000	93,876,748	27,468,456	134,684,381	1.73	60.47	2018
Lexington Capital Partners X	100,000,000	-	-	-	0.00	0.00	2021
Lexington Co-Investment Partners IV	200,000,000	212,079,081	105,958,564	258,374,593	1.72	21.06	2017
Lexington Co-Investment Partners V	300,000,000	120,743,252	7,588,884	136,538,058	1.19	33.67	2020
Lexington Co-Investment Partners V Overage	45,000,000	19,503,000	839,090	20,904,755	1.11	17.60	2021
Lexington Middle Market Investors IV	100,000,000	68,962,128	24,287,295	84,088,535	1.57	34.12	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	\$ 99,037,562	\$ 41,826,032	\$ 125,031,144	1.68	15.96	2015
Madison Dearborn Capital Partners VIII	100,000,000	39,385,977	7,625,444	42,784,055	1.28	29.05	2019

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

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	\$ 133,906,171	\$ 6,185,200	\$ 157,371,776	1.22	23.89	2020

Merced Capital

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

Asset Class: 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 III	\$ 100,000,000	\$ 103,878,468	\$ 133,823,596	\$ 1,065,950	1.30	5.50	2010
Merced Partners IV	125,000,000	124,968,390	114,347,539	24,765,811	1.11	2.30	2013
Merced Partners V	53,737,500	59,297,897	24,168,787	49,448,058	1.24	5.13	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	\$ 75,934,392	\$ 20,350,497	\$ 80,732,330	1.33	9.48	2014

Neuberger Berman (NB)

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Dyal Capital Partners III	\$ 175,000,000	\$ 197,750,746	\$ 186,355,275	\$ 144,903,070	1.68	27.02	2015
Dyal Capital Partners IV	250,000,000	150,768,430	81,688,193	210,580,932	1.94	65.48	2018
Dyal Capital Partners V	200,000,000	35,000,000	422,914	65,450,490	1.88	78.53	2020

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Nordic Capital

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Stockholm, Sweden						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Nordic Capital Fund VIII	\$ 175,605,270	\$ 222,197,616	\$ 283,473,946	\$ 111,491,328	1.78	15.87	2013	
Nordic Capital Fund X	144,805,949	56,603,841	-	67,893,248	1.20	44.96	2020	
Nordic Capital Fund IX Beta	168,890,098	160,367,925	38,155,612	254,713,413	1.83	34.74	2017	
Nordic Capital Fund XI	94,090,487	-	-	-	0.00	0.00	2022	

North Sky Capital

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Minneapolis, MN						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
North Sky Capital LBO Fund III	\$ 1,070,259	\$ 720,259	\$ 1,026,684	\$ 78,527	1.53	14.57	2014	
North Sky Capital Venture Fund III	1,384,080	1,277,830	1,464,808	145,389	1.26	9.39	2014	

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	\$ 217,959,501	\$ 70,764,587	1.88	35.67	2016	
Oak Hill Capital Partners V	100,000,000	90,409,262	35,043	108,784,402	1.20	26.57	2018	

Oaktree Capital Management

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

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	\$ 101,617,427	\$ 20,335,451	\$ 93,292,028	1.12	3.15	2014	
Oaktree Special Situations Fund II	100,000,000	59,691,187	30,379,241	78,037,073	1.82	82.00	2018	
Oaktree Special Situations Fund III	37,000,000	-	-	-	0.00	0.00	2022	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

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	\$ 65,619,119	\$ 35,397,971	\$ 58,548,789	1.43	9.32	2014	
Paine Schwartz Food Chain Fund V	150,000,000	105,390,629	9,273,998	129,944,898	1.32	29.50	2018	

Permal PE (formerly 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	\$ 4,387,326	\$ 4,339,751	\$ 703,292	1.15	4.77	2014	

Permira

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: London						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Permira V	\$ 177,271,306	\$ 183,303,708	\$ 350,218,136	\$ 163,758,054	2.80	22.45	2013	
Permira VI	134,743,818	125,857,463	72,333,687	168,178,927	1.91	21.13	2016	
Permira VII	151,958,868	118,938,719	11,225,671	110,952,322	1.03	2.04	2019	
Permira VIII	156,817,478	-	-	-	0.00	0.00	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	\$ 240,000,000	\$ 123,880,036	\$ 85,241,161	\$ 166,125,873	2.03	25.83	2014	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Silver Lake Partners

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Menlo Park, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Silver Lake Partners III	\$ 100,000,000	\$ 93,804,936	\$ 192,001,680	\$ 25,617,750	2.32	18.48	2007	
Silver Lake Partners IV	100,000,000	115,466,047	121,537,519	188,065,734	2.68	25.83	2012	
Silver Lake Partners V	135,000,000	130,124,626	37,027,569	179,097,774	1.66	22.02	2017	

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	\$ 27,193,825	1.59	7.92	2008	
Split Rock Partners	50,000,000	47,890,906	58,794,192	2,157,852	1.27	2.96	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	\$ 230,283,579	\$ 68,806,167	2.56	27.55	2011	
SP Growth Equity Fund IX	100,000,000	131,564,916	141,424,991	160,172,667	2.29	38.55	2015	
SP Growth Equity Fund X-A	150,000,000	131,866,518	22,116,412.00	141,448,169	1.24	23.69	2019	
SP Growth Equity Fund XI	250,000,000	-	-	-	0.00	0.00	2021	

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. The firm has offices in San Francisco and Chicago.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: San Francisco, CA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Thoma Bravo Fund XII	\$ 75,000,000	\$ 81,455,833	\$ 47,157,550	\$ 109,860,883	1.93	17.18	2016
Thoma Bravo Fund XIII	150,000,000	175,850,937	88,494,868	217,426,714	1.74	38.21	2018
Thoma Bravo Fund XIV	150,000,000	141,216,364	37	142,788,667	1.01	1.30	2020
Thoma Cressey Fund VII	50,000,000	50,000,000	107,057,940	426,789	2.15	23.58	2000

Thomas H. Lee Partners

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Boston, MA					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Thomas H. Lee Equity Fund VII	\$ 100,000,000	\$ 99,416,381	\$ 137,123,365	\$ 53,598,781	1.92	23.59	2015
Thomas H. Lee Equity Fund VIII	150,000,000	144,123,246	89,430,024	217,452,971	2.13	66.07	2018
Thomas H. Lee Equity Fund IX	150,000,000	14,941,224.00	-	15,958,691.00	1.07	11.45	2021

Thomas, McNerney & Partners

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Venture Capital		Strategy Location: Stamford, Connecticut					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Thomas, McNerney & Partners Fund I	\$ 30,000,000	\$ 30,000,000	\$ 15,945,755	\$ -	0.53	-10.86	2002
Thomas, McNerney & Partners Fund II	50,000,000	48,125,000	109,667,526	93,746	2.28	16.39	2006

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

TPG Capital

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: San Francisco, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
TPG Growth V	\$ 150,000,000	\$ 68,959,038	\$ 526,470	\$ 84,485,267	1.23	27.02	2021	
TPG Partners VII	100,000,000	100,557,107	135,130,268	69,204,324	2.03	21.98	2015	
TPG Partners VIII	150,000,000	98,053,550	26,903,303	112,324,002	1.42	39.43	2018	
TPG Partners IX	100,000,000	-	-	-	0.00	0.00	2022	
TPG Tech Adjacencies II	150,000,000	19,831,506	327.00	18,588,229	0.94	-12.41	2021	

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 X	\$ 150,000,000	\$ 150,000,000	\$ 252,548,040	\$ 9,084,824	1.74	10.10	2010	
Värde Fund XI	200,000,000	200,000,000	212,032,546	56,928,654	1.34	4.91	2013	
Värde Fund XIII	150,000,000	136,500,000	20,038	154,854,200	1.13	8.85	2018	

Vestar Capital Partners

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Vestar Capital Partners IV	\$ 55,000,000	\$ 55,652,024	\$ 102,293,320	\$ 377,736	1.84	14.62	1999	
Vestar Capital Partners V	75,000,000	76,797,458	99,818,631	1,356,514	1.32	3.89	2005	
Vestar Capital Partners VI	100,000,000	106,955,659	150,510,164	58,535,394	1.95	23.92	2011	
Vestar Capital Partners VII	150,000,000	93,872,491	120,808	128,368,937	1.37	17.13	2017	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

Vista Equity Partners

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Buyout		Strategy Location: Chicago, IL					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Vista Equity Partners Perennial	\$ 200,000,000	\$ 147,617,149	\$ 77,223.00	\$ 157,216,492	1.07	4.26	2020

Warburg Pincus

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Growth		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
Warburg Pincus China-Southeast Asia II	\$ 50,000,000	\$ 17,200,000	\$ 3,300,000	\$ 18,304,908	1.26	18.88	2019
Warburg Pincus China	45,000,000	45,585,000	16,711,200	58,182,947	1.64	15.33	2016
Warburg Pincus Financial Sector	90,000,000	80,736,630	15,357,600	130,902,252	1.81	24.79	2017
Warburg Pincus Global Growth 14	300,000,000	29,876,507	-	30,789,930	1.03	4.87	2022
Warburg Pincus Global Growth	250,000,000	219,852,402	2,625,000	293,395,462	1.35	20.68	2018
Warburg Pincus Equity Partners	100,000,000	100,000,000	163,542,253	392,275	1.64	10.02	1998
Warburg Pincus Private Equity IX	100,000,000	100,000,000	171,872,950	1,107,532	1.73	9.64	2005
Warburg Pincus Private Equity X	150,000,000	150,000,000	266,203,541	3,264,714	1.80	9.52	2007
Warburg Pincus Private Equity XI	200,000,000	200,342,452	262,255,748	94,471,254	1.78	12.86	2012
Warburg Pincus Private Equity XII	131,000,000	129,231,500	93,297,283	177,476,416	2.10	20.77	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 II	\$ 150,000,000	\$ 174,750,000	\$ 333,882,672	\$ 303,707	1.91	16.51	2007
Wayzata Opportunities Fund III	150,000,000	68,415,000	45,139,810	18,528,903	0.93	-1.67	2012

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Equity

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	\$ 149,192,072	\$ 55,485,810	\$ 151,222,622	1.39	23.09	2016

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	\$ 7,179,043	1.69	11.75	2008
WCAS Fund XII	150,000,000	145,877,897	177,480,040	196,002,149	2.56	29.51	2014
WCAS Fund XIII	250,000,000	194,890,827	26,274,517	226,676,195	1.30	30.73	2018

Whitehorse Capital (WHC)

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

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation					
Strategy: Secondaries		Strategy Location: Toronto, Onatrio					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
WHC Liquidity Partners III	\$ 100,000,000	\$ 93,311,782	\$ 68,865,298	\$ 64,653,688	1.34	22.80	2019
WHC Liquidity Partners IV	100,000,000	87,205,482	42,229,770	69,220,816	1.28	37.34	2020
WHC Liquidity Partners V	100,000,000	13,806,834	7,456,285	11,135,011	1.35	28.30	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	\$ 76,531,864	\$ 1,912,585	\$ 90,114,606	1.20	19.02	2019

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. Since its inception in 1990, the firm has completed over 50 platform investments and 100 add-on acquisitions.

Asset Class: Private Equity		Strategic Allocation Category: Growth Appreciation						
Strategy: Buyout		Strategy Location: Waltham, MA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Windjammer Mezzanine & Equity Fund II	\$ 66,708,861	\$ 55,215,684	\$ 85,036,800	\$ 225,454	1.54	8.96	2000	
Windjammer Senior Equity Fund IV	100,000,000	94,740,728	165,677,026	61,480,126	2.40	17.76	2012	
Windjammer Senior Equity Fund V	100,000,000	70,594,933	1,206,897	94,135,557	1.35	21.23	2017	

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.

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	\$ 5,019,606	1.32	9.80	2010
Audax Mezzanine Fund IV-A	100,000,000	84,788,842	72,840,448	30,239,177	1.22	11.41	2015
Audax Mezzanine Fund V	150,000,000	4,886,982	-	6,534,971	1.34	33.72	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	\$ 76,484,671	\$ 64,838,757	1.40	5.94	2014	
Avenue Energy Opportunities Fund I	100,000,000	100,000,000	66,116,432	102,261,090	1.68	14.03	2017	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

BlackRock (BR)

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

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Direct Lending		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
BR Middle Market Senior Fund	\$ 97,500,000	\$ 92,646,829	\$ 11,145,751	\$ 98,570,389	1.18	7.86	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	\$ 34,157,840	\$ -	\$ 35,392,816	1.04	4.43	2021	

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	\$ 24,139,611	\$ 9,769,268	\$ 15,189,235	1.03	3.60	2018	

Goldman Sachs Mezzanine Partners (GS)

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

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Mezzanine		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
GS Mezzanine Partners 2006	\$ 100,000,000	\$ 113,458,168	\$ 135,137,487	\$ 584,683	1.20	5.00	2006	
GS Mezzanine Partners V	127,500,000	147,718,660	180,850,800	611,102	1.23	9.08	2007	

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. Prior to forming Gold Hill, the partners executed a similar mandate for Silicon Valley Bank, and they expect to continue a close relationship for purposes of deal-sourcing. Gold Hill has offices in Santa Clara, CA and Boston, MA.

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Mezzanine		Strategy Location: Santa Clara, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Gold Hill Venture Lending	\$ 40,000,000	\$ 40,000,000	\$ 65,261,602	\$ 350,906	1.64	10.70	2004	
Gold Hill 2008	25,852,584	25,852,584	48,393,297	3,112,627	1.99	14.57	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	\$ 93,355,090	\$ 13,757,452	\$ 96,441,495	1.18	13.64	2019	

Kohlberg, Kravis, Roberts (KKR)

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

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Direct Lending		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
KKR Lending Partners II	\$ 75,000,000	\$ 86,884,685	\$ 82,467,685	\$ 7,530,584	1.04	1.79	2015	
KKR Lending Partners III	199,000,000	262,936,887	208,546,681	108,488,363	1.21	14.85	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	\$ 110,960,534	\$ 104,845,762	\$ 25,495,082	1.17	8.32	2016	
LBC Credit Partners V	100,000,000	74,574,466	26,096,189	59,343,659	1.15	19.53	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 MOIC ¹	IRR ²	Vintage Year	
Secured Private Strategies Fund II	\$ 100,000,000	\$ 96,022,008	\$ 858,534	\$ 123,146,125	1.29	16.31	2019	
Secured Private Strategies Fund III	100,000,000	-	-	-	0.00	0.00	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 MOIC ¹	IRR ²	Vintage Year	
Merit Mezzanine Fund IV	\$ 75,000,000	\$ 70,178,571	\$ 139,120,463	\$ 787,345	1.99	11.58	2004	
Merit Mezzanine Fund V	75,000,000	71,902,041	79,877,706	33,522,199	1.58	9.39	2009	
Merit Mezzanine Fund VI	100,000,000	91,845,514	77,019,590	62,784,656	1.52	16.42	2016	
Merit Mezzanine Fund VII	100,000,000	-	-	-	0.00	0.00	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 MOIC ¹	IRR ¹	Vintage Year	
Oaktree Opportunities Fund X	\$ 50,000,000	\$ 46,500,021	\$ 32,044,660	\$ 34,297,931	1.43	9.50	2015	
Oaktree Opportunities Fund Xb	100,000,000	60,000,000	-	88,994,160	1.48	16.89	2015	
Oaktree Opportunities Fund XI	300,000,000	135,000,000	1,222,794	159,178,286	1.19	22.76	2020	
OCM Real Estate Debt Fund, III	200,000,000	42,540,899	12,479,306	42,906,881	1.30	17.06	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 I	\$ 3,958,027	\$ 3,958,027	\$ 4,016,443	\$ 6,495	1.02	1.60	2014	
Pimco Bravo Fund OnShore Feeder II	5,243,670	4,715,524	5,367,742	781,250	1.30	5.53	2014	

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	\$ 492,778	1.49	9.02	2005	
Prudential Capital Partners III	100,000,000	102,823,075	174,159,760	3,233,482	1.73	14.13	2009	
Prudential Capital Partners IV	100,000,000	112,819,414	119,011,951	31,051,292	1.33	8.47	2012	
Prudential Capital Partners V	150,000,000	149,798,262	91,962,979	90,880,328	1.22	8.20	2016	
Prudential Capital Partners VI	150,000,000	19,207,228	409,042	21,488,970	1.14	26.97	2020	

Summit Partners

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

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Mezzanine		Strategy Location: Boston, MA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
Summit Subordinated Debt Fund III	\$ 45,000,000	\$ 44,088,494	\$ 60,443,093	\$ 2,665,969	1.43	8.58	2004	
Summit Subordinated Debt Fund IV	50,000,000	55,914,003	73,235,942	2,275,617	1.35	9.74	2008	

Combined Funds

Private Markets Program - Investment Manager Summaries

Private Credit

TCW Asset Management

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

Asset Class: Private Credit		Strategic Allocation Category: Growth Appreciation						
Strategy: Direct Lending		Strategy Location: Los Angeles, CA						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year	
TCW Direct Lending VI	\$ 100,000,000	\$ 83,599,652	\$ 87,717,684	\$ 19,000,467	1.28	8.32	2014	
TCW Direct Lending VII	100,000,000	90,919,484	47,928,067	62,097,976	1.21	10.10	2018	

TSSP

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

Asset Class: 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	\$ 12,818,018	\$ -	\$ 12,818,018	1.00	0.00	2021	
Sixth Street TAO Partners (B)	50,000,000	42,787,998	17,262,393	39,841,420	1.33	13.17	2018	
Sixth Street TAO Partners (D)	100,000,000	52,449,486	11,437,722	53,582,728	1.24	19.70	2018	
TSSP Opportunities Partners IV	50,000,000	40,045,949	5,821,838	44,395,125	1.25	14.86	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	\$ 97,789,849	\$ 55,490,848	\$ 55,465,418	1.13	4.29	2017	
BR Global Renewable Power Infrastructure III	100,000,000	25,213,148	1,464,238	24,548,379	1.03	3.14	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 MOIC¹	IRR²	Vintage Year	
EIG Energy Fund XIV	\$ 100,000,000	\$ 113,459,470	\$ 95,309,310	\$ 3,840,512	0.87	-4.99	2007	
EIG Energy Fund XV	150,000,000	161,871,503	154,367,874	24,375,000	1.10	2.37	2010	
EIG Energy Fund XVI	200,000,000	194,493,874	127,530,520	117,253,544	1.26	5.95	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 MOIC¹	IRR²	Vintage Year	
EnCap Energy Capital Fund VII	\$ 100,000,000	\$ 105,420,704	\$ 141,245,195	\$ 452,145	1.34	14.51	2007	
EnCap Energy Capital Fund VIII	100,000,000	103,335,766	60,931,531	44,953,093	1.02	0.50	2010	
EnCap Energy Capital Fund IX	100,000,000	113,593,325	111,036,911	45,739,984	1.38	9.67	2012	
EnCap Energy Capital Fund X	100,000,000	103,097,708	75,431,685	105,681,896	1.76	15.69	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 MOIC¹	IRR²	Vintage Year	
Energy Capital Partners II	\$ 100,000,000	\$ 85,856,131	\$ 117,653,952	\$ 151,918	1.37	8.94	2010	
Energy Capital Partners III	200,000,000	232,678,193	208,991,750	121,907,471	1.42	10.23	2013	
Energy Capital Partners IV	150,000,000	111,473,812	26,653,565	124,679,626	1.36	17.25	2017	

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	\$ 5,769,259	1.79	13.31	2007	
The EMG Fund II	100,000,000	108,534,480	107,280,051	108,701,955	1.99	12.99	2011	
The EMG Fund III	200,000,000	205,909,034	29,560,105	115,886,961	0.71	-5.47	2014	
The EMG Fund IV	150,000,000	161,569,139	64,613,529	178,313,832	1.50	10.69	2015	
The EMG Fund V	112,500,000	77,017,651	3,658,916	127,927,910	1.71	20.93	2019	
The EMG Fund V Accordion	17,500,000	14,846,938	820,649	24,393,784	1.70	21.81	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	\$ 98,748,934	\$ 89,138,179	\$ 60,540,026	1.52	9.99	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	\$ 152,670	0.67	-8.73	2006	
First Reserve Fund XII	150,000,000	165,617,044	84,745,180	5,387,555	0.54	-14.46	2008	
First Reserve Fund XIII	200,000,000	233,238,451	87,079,001	143,851,524	0.99	-0.36	2013	

Combined Funds

Private Markets Program - Investment Manager Summaries

Real Assets

Kohlberg, Kravis, Roberts & Co. (KKR)

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

Asset Class: Real Asset		Strategic Allocation Category: Real Assets					
Strategy: Infrastructure		Strategy Location: New York, NY					
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC ¹	IRR ²	Vintage Year
KKR Global Infrastructure Investors III	\$ 149,850,000	\$ 124,810,350	\$ 26,509,443	\$ 115,608,430	1.14	8.28	2018
KKR Global Infrastructure Investors IV	100,000,000	17,124,817	-	17,001,450	0.99	-0.72	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	\$ 32,929,385	\$ 9,209,656	0.71	-4.78	2006
Merit Energy Partners H	100,000,000	100,000,000	29,668,582	61,902,048	0.92	-1.30	2011
Merit Energy Partners I	169,721,518	169,721,518	89,039,059	230,036,683	1.88	13.67	2014
Merit Energy Partners K	150,000,000	55,400,101	14,534,295	95,194,280	1.98	40.58	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	\$ 173,962,921	\$ 249,243,688	\$ 774,555	1.44	12.07	2007
NGP Natural Resources X	150,000,000	148,935,849	126,358,808	20,243,732	0.98	-0.44	2011
Natural Gas Capital Resources XI	150,000,000	153,405,370	84,127,723	131,093,523	1.40	8.86	2014
NGP Natural Resources XII	149,500,000	103,508,154	17,994,537	124,773,747	1.38	11.99	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	\$ 100,000,000	\$ 34,353,005	\$ 26,450,000	\$ 38,794,002	1.90	16.30	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.

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	\$ 18,755,721	1.38	12.20	2016
AG Asia Realty Fund IV	100,000,000	73,298,760	17,500,000	71,820,649	1.22	13.14	2018
AG Europe Realty Fund II	75,000,000	68,779,896	26,644,976	72,642,988	1.44	12.69	2018
AG Europe Realty Fund III	75,000,000	36,687,885	-	40,455,527	1.10	9.53	2020
AG Realty Fund IX	100,000,000	92,141,126	73,000,000	60,724,792	1.45	9.40	2014
AG Realty Fund X	150,000,000	121,603,841	31,512,431	130,697,343	1.33	22.28	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	\$ 62,432,965	\$ 7,342,747	\$ 69,918,786	1.24	11.46	2017	
Blackstone Real Estate Partners Asia III	100,000,000	-	-	-	0.00	-	2021	
Blackstone Real Estate Partners V	100,000,000	104,213,007	208,932,593	122,149	2.01	10.83	2006	
Blackstone Real Estate Partners VI	100,000,000	109,477,567	217,880,533	2,828,566	2.02	13.10	2007	
Blackstone Real Estate Partners VII	100,000,000	112,064,035	177,634,974	25,368,829	1.81	15.36	2011	
Blackstone Real Estate Partners VIII	150,000,000	172,057,391	173,157,085	127,227,354	1.75	18.26	2015	
Blackstone Real Estate Partners IX	300,000,000	225,796,404	90,248,128	279,261,967	1.64	41.41	2018	
Blackstone Real Estate Partners X	200,000,000	-	-	-	0.00	-	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	\$ 25,981,820	\$ 25,987,864	\$ 15,252,523	\$ 93,065	0.59	-6.46	2005	
Blackstone Strategic Partners IV RE	50,000,000	51,572,185	50,766,269	1,152,651	1.01	0.11	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	\$ -	\$ -	\$ -	0.00	-	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	\$ 109,319,068	\$ 83,493,461	\$ 82,766,259	1.52	32.90	2017	
Carlyle Realty Partners IX	300,000,000	-	-	-	0.00	0.00	2021	

Kohlberg, Kravis, Roberts & Co.

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 expects to pursue opportunities for the Fund 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	\$ 65,080,194	\$ 2,694,165	\$ 69,465,586	1.11	16.73	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	\$ 90,305,635	\$ 54,693,746	\$ 71,453,366	1.40	19.76	2016	
Landmark Real Estate Partners IX	100,000,000	-	-	-	0.00	-	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	\$ 77,321,940	\$ 23,283,024	1.49	15.67	2017	
Lubert-Adler Recovery & Enhancement Capital Fund	100,000,000	35,335,030	-	34,911,275	0.99	-2.47	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 MOIC¹	IRR²	Vintage Year	
OT Real Estate Opportunities Fund VIII	\$ 200,000,000	\$ 64,475,519	\$ 34,370,464	\$ 42,236,372	1.19	80.96	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 MOIC¹	IRR²	Vintage Year	
Rockpoint Real Estate Fund V	\$ 100,000,000	\$ 99,126,386	\$ 53,707,916	\$ 80,266,752	1.35	9.17	2014	
Rockpoint Real Estate Fund VI	100,000,000	71,635,745	9,674,919	81,240,398	1.27	27.62	2019	

Rockwood

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

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Value-Add		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC¹	IRR²	Vintage Year	
Rockwood Capital RE Partners X	\$ 100,000,000	\$ 94,027,411	\$ 56,119,269	\$ 68,616,639	1.33	9.13	2015	
Rockwood Capital RE Partners XI	100,000,000	51,144,308	4,276,848	57,372,797	1.21	15.82	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. (In 2010, the funds were renamed Silverpeak Legacy Pension Partners II and III to reflect the General Partner ownership change after the Lehman Brothers bankruptcy in 2008.)

Asset Class: Real Estate		Strategic Allocation Category: Growth Appreciation						
Strategy: Opportunistic		Strategy Location: New York, NY						
Fund	SBI Commitment	Total Contribution	Distributions	Market Value	Net MOIC¹	IRR²	Vintage Year	
Silverpeak Legacy Pension Partners II	\$ 75,000,000	\$ 73,069,012	\$ 92,033,940	\$ 441,078	1.27	4.18	2005	
Silverpeak Legacy Pension Partners III	150,000,000	70,867,952	14,345,220	6,436,683	0.29	-12.12	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, L.P.	\$ 100,000,000	\$ 100,000,000	\$ 161,064,353	\$ 95,612	1.61	12.56	2012
The Realty Associates Fund XI, L.P.	100,000,000	100,000,000	80,550,731	112,206,954	1.93	16.38	2015
The Realty Associates Fund XII, L.P.	100,000,000	100,000,000	7,541,978	152,475,056	1.60	40.40	2018

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						
		Beginning Balance	Receipts	Sales	Unrealized G/L	Ending Balance
Sheridan Production Partners III	\$	6,940,081	\$ 7,900,299	\$ 9,783,274	\$ (3,922,903)	\$ 1,134,203

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 (6/30/22):	\$8.5 trillion	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$741.3 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.

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 (6/30/22):	\$276.6 billion (physical) + \$167.8 billion (notional)	Fundamental/Quant:	N/A
Product Assets (6/30/22):	\$72.0 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.

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FIRE RELIEF PLANS + OTHER PUBLIC RETIREMENT PLANS

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Fire Relief Plans + Other Public Retirement Plans Investment Program Overview

Volunteer Firefighter Associations, the Statewide Volunteer Firefighter (SVF) Plan, and Other Public Retirement Plans invested over \$831 million in assets with the SBI as of June 30, 2022.

Overview

As of June 30, 2022, the SBI invested approximately \$831 million in assets from Volunteer Fire Relief Plans, the Statewide Volunteer Firefighter (SVF) Plan, and a participating public retirement plan. Figure 45 provides the market value for each plan sponsor as of June 30, 2022. Figure 46 shows the plan allocations within the Program.

The SBI is responsible for making certain investment vehicles available to volunteer fire relief plans and other public retirement plans. These plans are responsible for their own investment and asset allocation decisions and can invest some or all of their assets in one or more of the available investment options. In contrast, volunteer fire relief plans that are consolidated within the PERA administered SVF Plan are no longer responsible for the investment decisions of their plan. The SVF Plan is managed to a strategic asset allocation target.

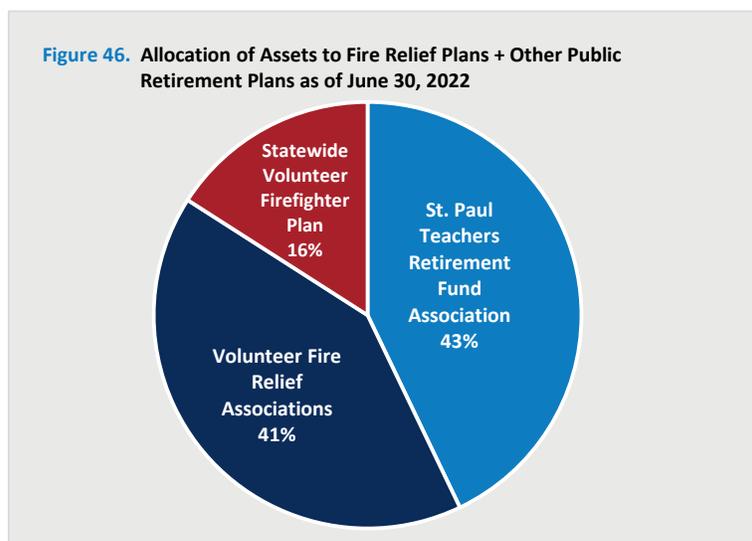
Investment Vehicles

The Supplemental Investment Fund (SIF) platform was established to allow eligible plans to invest with the SBI. The SIF platform offers a variety of investment vehicles. These investment vehicles include:

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

Figure 45. Fire Relief Plans and Other Public Retirement Plans Investment Program as of June 30, 2022

Plan Sponsor	Market Value (\$ in 000's)
Fire Relief Associations	\$342,252.6
St. Paul Teachers' Retirement Fund Association	356,390.4
Statewide Volunteer Firefighter (SVF) Plan	132,255.2
Total	\$830,898.2



Participating Plans

Fire Relief Plans

Fire relief plans that are not eligible to be consolidated by PERA or elect not to be administered by PERA in the SVF Plan may invest their assets with the SBI. There are approximately 527 volunteer firefighter plans with authority to invest with the SBI, if they so choose, using the following options:

- SIF Asset Class Pools
- Money Market Fund

Volunteer firefighter relief associations are governed under [Minnesota Statutes, Chapter 424A](#). Per [Minnesota Statutes, Chapter 356](#), the SBI provides the fire relief plan with reports showing annual returns and market values of all SIF investment options. Fire relief associations are responsible for providing their specific return data to the Office of the State Auditor.

As of June 30, 2022, there were 165 volunteer relief associations invested with the SBI with approximately \$342 million in assets.

Fire Relief Plans + Other Public Retirement Plans Investment Program Overview

Other Public Retirement Plans or Funds

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

- SIF Asset Class Pools
- Money Market Fund

As of June 30, 2022, the St. Paul Teachers' Retirement Fund had over \$356 million invested with the SBI.

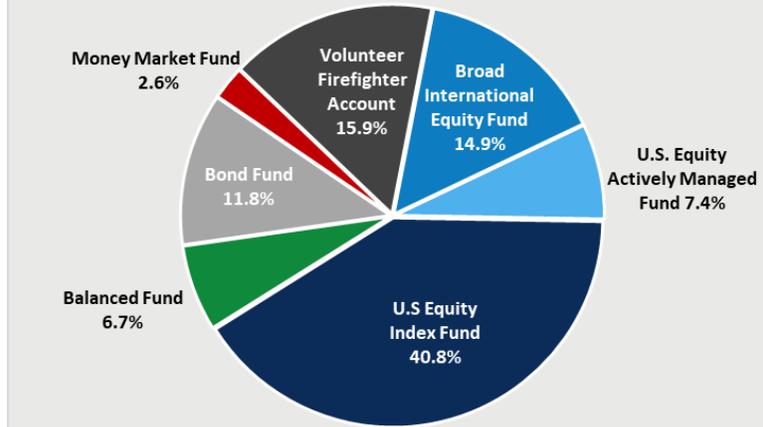
Statewide Volunteer Firefighter (SVF) Plan

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

- Volunteer Firefighter Account

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

Figure 47. Fire Plans + Other Public Retirement Plans Allocation to SIF Investment Options as of June 30, 2022



In January 2022, 11 volunteer fire plans joined the plan transferring over \$4.8 million to the SBI for investment. At the close of fiscal year 2022, there were 205 fire entities, representing over \$132.3 million in assets in the SVF Plan.

Allocation to Investment Options

Figure 47 provides the distribution of assets among the investment options that are available to the Fire Relief Plans and Other Public Retirement Plans as of June 30, 2022.

Fund summaries for each of these investment options are provided on pages 111-117.

Investment Platform Supplemental Investment Fund (SIF)

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

Overview

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

The SIF platform has eight investment options (listed in Figure 48) for eligible plans. As of June 30, 2022, it provided some or all of the investment options for the Fire Relief + Other Public Retirement Plans Investment Program and the Participant Directed Investment Program. In aggregate, the SIF investment options represent over \$3.3 billion in assets.

Figure 49 provides the percentage that each participating plan represents in the SIF investment platform as of June 30, 2022.

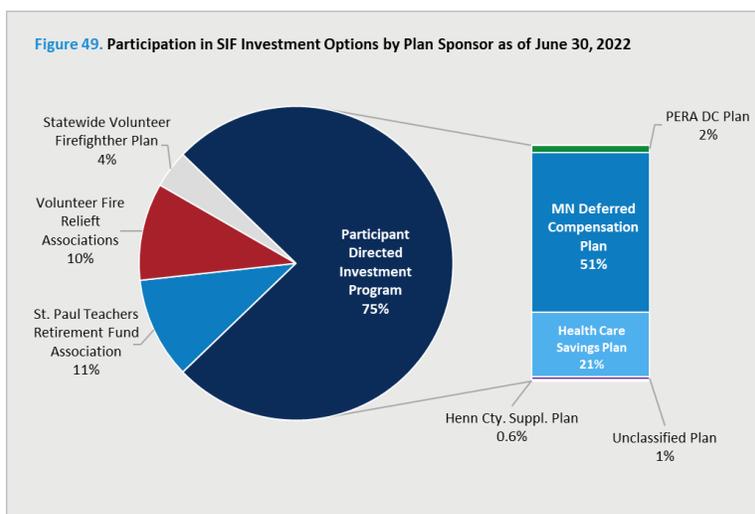
SIF Share Values

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

In the Stable Value Fund, shares are priced based on the blended

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

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



crediting rates of the contracts and yields from the liquid investments. Performance is calculated based on changes in these share values.

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

Investment Platform

Supplemental Investment Fund (SIF)

SIF Performance

Performance results as of June 30, 2022, for the participants in the SIF investment platform are provided in Figure 50. Two of the SIF investment options, the Stable Value and Money Market Funds, are offered in both the SIF and Mutual Fund investment platforms; market values are reported in their respective platform to eliminate duplication.

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

SIF Asset Class Pools

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

Fund summaries are provided on pages 111-118.

Volunteer Firefighter Account

The Volunteer Firefighter Account is only available to participants in the SVF Plan. The fund summary is provided on page 116.

Money Market Fund

All participating entities are eligible to invest in the Money Market Fund. The Fund summary is provided on page 117.

Stable Value Fund

The Stable Value Fund is not available to Fire Relief Plan + Other Public Retirement Plans. A summary of the Stable Value Fund is provided on page 118.

Figure 50. Supplemental Investment Fund Platform as of June 30, 2022

Fund/Benchmark	Annualized Returns ¹						Market Value ² (\$ In 000's)	Option Since
	1 Year		3 Years		5 Years			
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
SIF Asset Class Pools								
Balanced Fund <i>Balanced Fund Composite Benchmark</i>	-12.4	-11.7	6.3	5.9	7.3	7.0	\$97,575.1	1/1980
U.S. Equity Actively Managed Fund <i>Russell 3000</i>	-17.3	-13.9	9.6	9.8	11.1	10.6	75,900.1	7/1986
U.S. Equity Index Fund <i>Russell 3000</i>	-13.7	-13.9	10.0	9.8	10.8	10.6	351,755.0	7/1986
Broad International Equity Fund <i>MSCI ACWI ex USA Index (net)</i>	-17.4	-19.4	2.6	1.3	3.3	2.5	127,002.9	9/1994
Bond Fund <i>Bloomberg Barclays U.S. Aggregate</i>	-11.7	-10.3	-0.5	-0.9	1.3	0.9	101,045.1	7/1986
Volunteer Firefighter Account <i>Volunteer Firefighter Composite Benchmark</i>	-12.7	-12.2	4.1	3.6	5.2	4.8	132,255.2	1/2010
Money Market Fund								
Money Market Fund ³ <i>ICE BofA 3 Month Treasury Bill</i>	0.3	0.2	0.7	0.6	1.2	1.1	22,817.6	7/1986
Stable Value Fund								
Stable Value Fund ³ <i>3 Year Constant Maturity Treasury + 0.45 bps</i>	1.8	1.9	2.2	1.4	2.3	1.9	5,221.0	11/1994
SIF Investment Platform							\$913,572.1	

¹All returns are reported net of Investment Management fees.

²Represents the market value of the Fire Relief Plans + Other Public Retirement Plans and the PERA DC Plan assets.

³Money Market and Stable Value Funds are offered in two different investment platforms. In aggregate, total investment in the Money Market Fund and Stable Value Fund was \$635.3 million and \$1,744.8 million respectively, for a total of \$3,265.6 million invested in SIF investment vehicles as of June 30, 2022.

Investment Vehicle - SIF Asset Class Pool

Investment Option - Balanced Fund

Balanced Fund

Objective

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

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

The Balanced Fund's long-term strategic asset allocation is:

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

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

At the end of fiscal year 2022, the market value of the Balanced Fund was \$97.6 million.

Management

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

active external investment managers retained by the SBI. The cash portion of the Fund is actively managed by State Street Global Advisors.

Performance

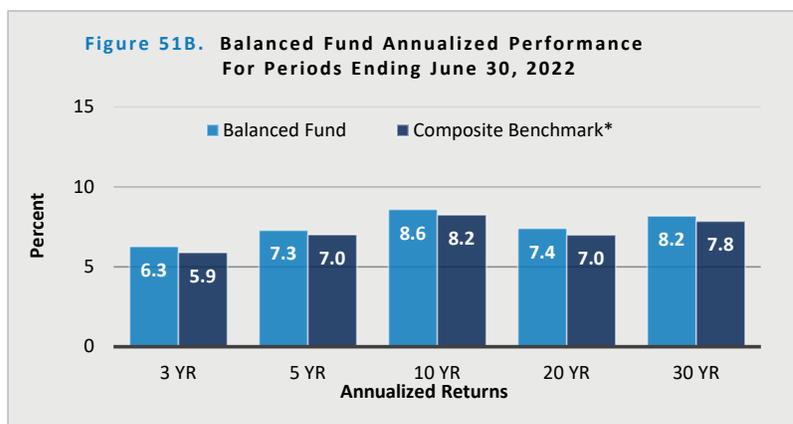
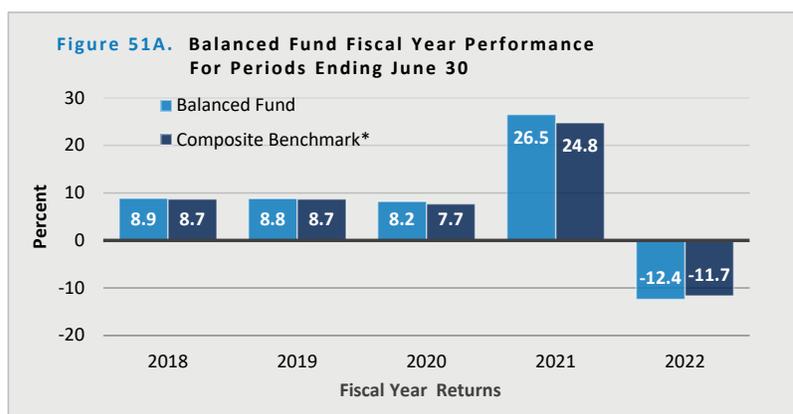
As with the other SBI funds that use a multi-manager investment structure, the Board evaluates the performance of the Balanced Fund on two levels:

- **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. 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 provided a return of -12.4% for fiscal year 2022, underperforming its benchmark. Over the most recent ten years, the Balanced Fund exceeded its benchmark by 0.4 percentage point per annum.

Figures 51A and 51B below show the historical performance results for this Fund.



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

Investment Vehicle - SIF Asset Class Pool

Investment Option - U.S. Equity Actively Managed Fund

U.S. Equity Actively Managed Fund

Objective

The investment objective of the U.S. Equity Actively Managed Fund is to generate returns in excess of Russell 3000. To achieve this objective, the Fund is invested primarily in domestic equities.

At the end of fiscal year 2022, the market value of the Fund was \$75.9 million.

Management

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

Performance

The Board evaluates the performance of the U.S. 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 36-40 of this report.

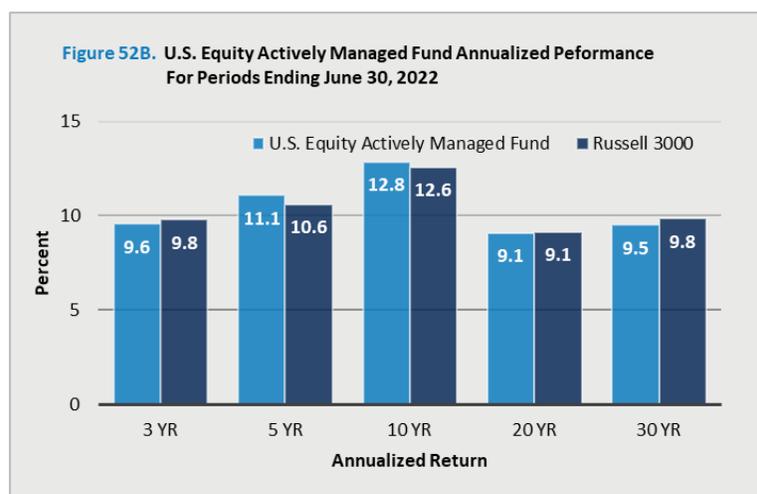
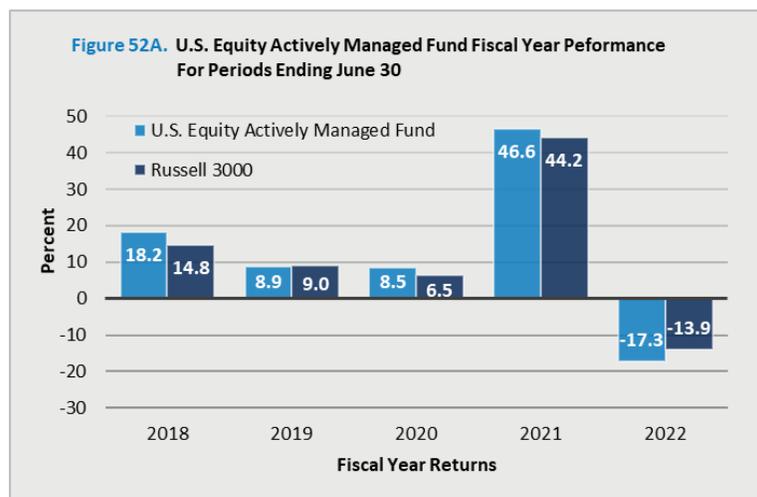
The U.S. Equity Actively Managed Fund provided a return of -17.3% for the fiscal year, underperforming its benchmark by 3.4 percentage points. Over the last ten-year period, the Fund outperformed its benchmark by 0.3 percentage point per annum.

The Fund's underperformance relative to the benchmark for the fiscal year was primarily attributable to poor stock selection, particularly within the technology sector.

An allocation to underperforming out-of-benchmark stocks also hurt relative performance.

Manager performance relative to the respective benchmarks for the fiscal year end was mixed. Nine of the 13 active managers outperformed their assigned benchmarks, while four managers underperformed.

Historical performance results for this Fund are shown below in Figures 52A and 52B.



Investment Vehicle - SIF Asset Class Pool

Investment Option - U.S. Equity Index Fund

U.S. Equity Index Fund

Objective

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

At the end of fiscal year 2022, the market value of the Fund was \$351.7 million.

Management

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

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

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

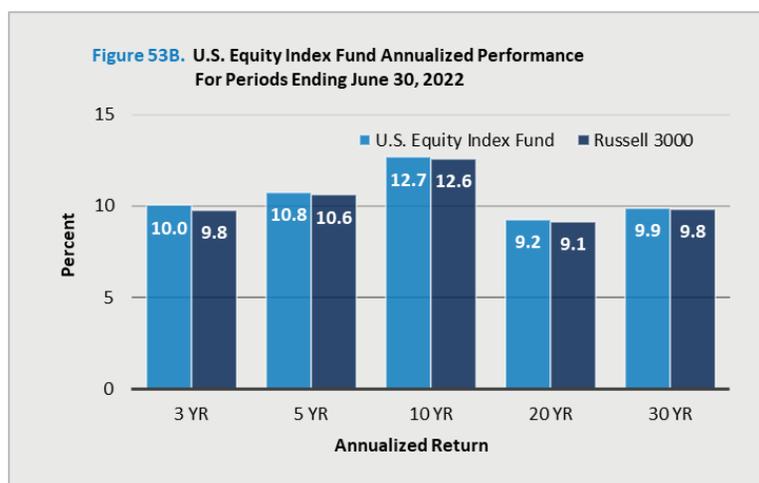
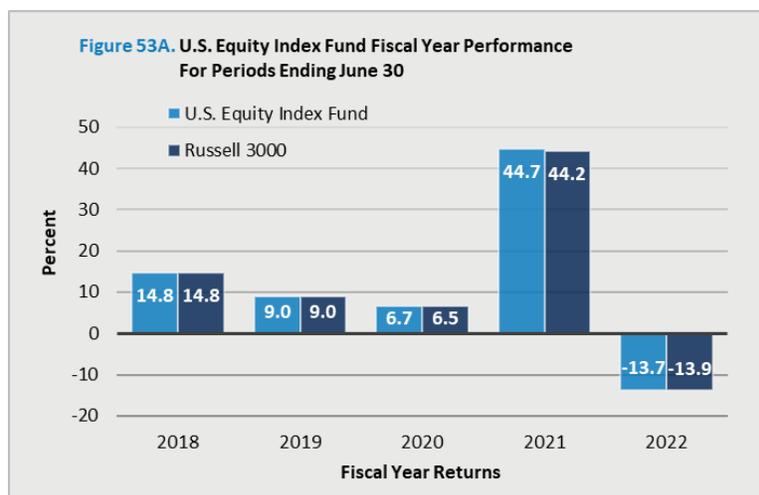
Performance

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

Performance objectives for the Russell 3000 Index manager are described on page 41 of this report.

The U.S. Equity Index Fund outperformed the Russell 3000 Index for the fiscal year with a -13.7% return compared to the benchmark return of -13.9%. The Fund closely tracked the benchmark over longer time-periods.

Historical performance results for this Fund are shown below in Figures 53A and 53B.



Investment Vehicle - SIF Asset Class Pool

Investment Option - Broad International Equity Fund

Broad International Equity Fund

Objective

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

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

At the end of fiscal year 2022, the market value of the Fund was \$127 million.

Management

The Broad International Equity Fund invests in the same pool of investment managers of the International Equity Program in the Combined Funds. The International Equity Program retains active and passive managers. Active managers use a variety of investment styles and approaches to buy and sell equities in an attempt to maximize market value. The passively managed portfolio's objective is to approximate the returns of the international markets in both the developed and emerging markets. Overall, the Fund is designed to consistently track the return of the MSCI ACWI ex USA Index (net), a developed and emerging markets index.

Fiscal Year 2022 Changes

The currency overlay strategy was extended during the 2022 fiscal year to those active developed market portfolios for which the underlying manager does not already explicitly manage currency risk.

Performance

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

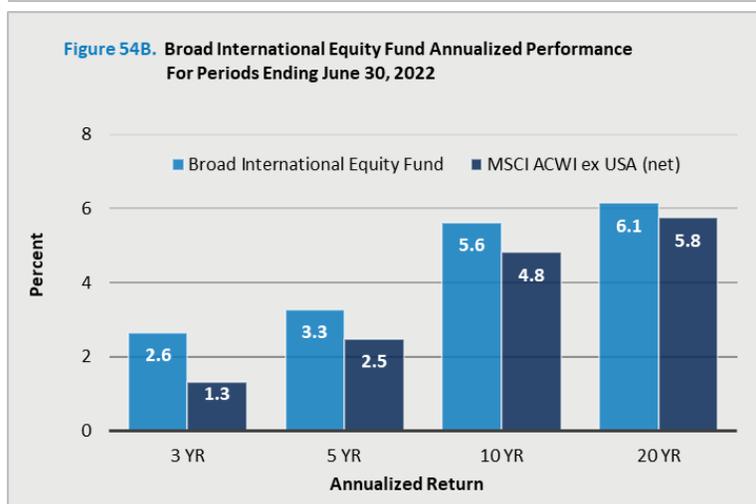
— **Total Fund.** The Broad International Equity Fund is expected to exceed the returns of the MSCI ACWI ex USA Index (net).

— Individual Manager.

Performance objectives for the individual managers are described on page 42-48 of this report.

During fiscal year 2022, the Fund outperformed the MSCI ACWI ex USA Index (net) by 2.0 percentage points, driven by gains in the currency overlay strategy, which benefitted from a strong U.S. dollar. Over the most recent ten-year period, the Fund exceeded its benchmark by 0.8 percentage point per annum.

Historical performance results for this Fund are shown below in Figures 54A and 54B.



Investment Vehicle - SIF Asset Class Pool

Investment Option - Bond Fund

Bond Fund

Objective

The objective of the Bond Fund is to maximize total return with investments that provide current income and long-term growth while still focusing on preservation of capital. Risk in the Bond Fund is constrained to ensure the investment managers fulfill their deflation hedge and total fund diversification roles.

At the end of fiscal year 2022, the market value of the Fund was \$101 million.

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

Management

The Bond Fund invests in the same pool of managers of the Combined Funds Core/Core Plus Bond Program. The Bond Fund retains active managers with a core and a core plus focus.

The Core Bond segment of the Fund invests in high quality fixed income securities across all sectors of the market. The Core Plus Bond segment also invests in high quality fixed income and is given additional flexibility in its active risk budget.

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

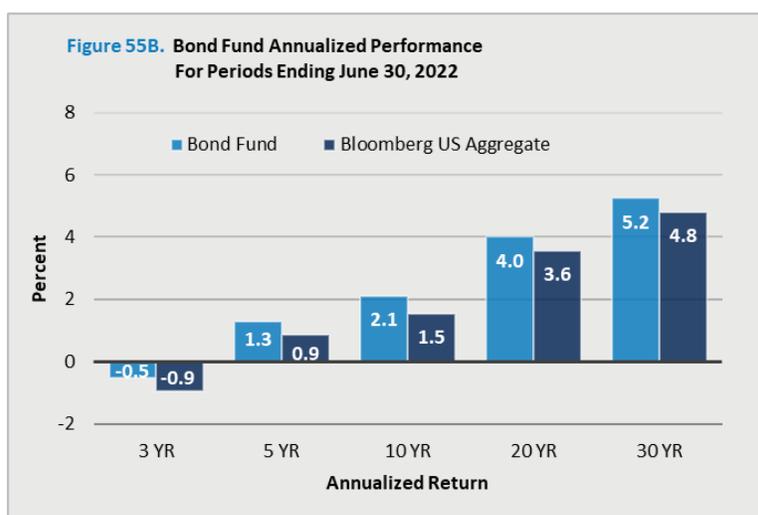
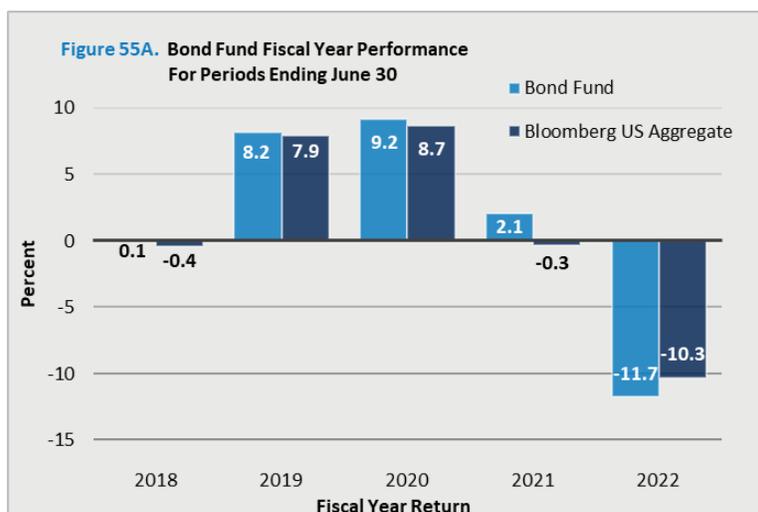
Performance

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

- **Total Fund.** The Fund is expected to exceed the returns of the Bloomberg Barclays U.S. Aggregate Bond Index.
- **Individual Manager.** Performance objectives for the individual managers are described on pages 59-60 of this report.

For fiscal year 2022, the Bond Fund produced a return of -11.7%, which was 1.4 percentage points lower than the benchmark. Underperformance was driven by an overweight to duration, or interest rate risk, which hurt relative performance as interest rates rose sharply over the fiscal year. For the most recent ten-year period, the Fund exceeded its benchmark by 0.6 percentage point per annum.

Historical performance results for this Fund are shown below in Figures 55A and 55B.



SIF Investment Vehicle Investment Option - Volunteer Firefighter Account

Volunteer Firefighter Account

Statewide Volunteer Firefighter Retirement Plan

[Minnesota Statutes, Chapter 353G](#) creates a statewide, voluntary plan for local relief associations. The Plan was established January 1, 2010. Local entities may choose to join the statewide plan which is administered by Public Employees Retirement Association (PERA). Assets of the Plan are invested in the Volunteer Firefighter Account. Participation in the Plan is effective on December 31 of each year. The SBI must evaluate the assets of each local entity that seeks to join the Plan. In January of 2022, eleven volunteer fire relief plans joined the Statewide Volunteer Firefighter (SVF) Retirement Plan, transferring approximate \$4.8 million to the SBI for investment. At the close of fiscal year 2022, 205 volunteer fire relief plans, representing over \$132.3 million in assets, were in the SVF Plan.

Objective

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

The SBI invests the Account in a balanced portfolio using the following allocations: U.S. Equity Index Fund 35%, Broad International Equity Fund 15%,

Bond Fund 45%, and Money Market Fund 5%.

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

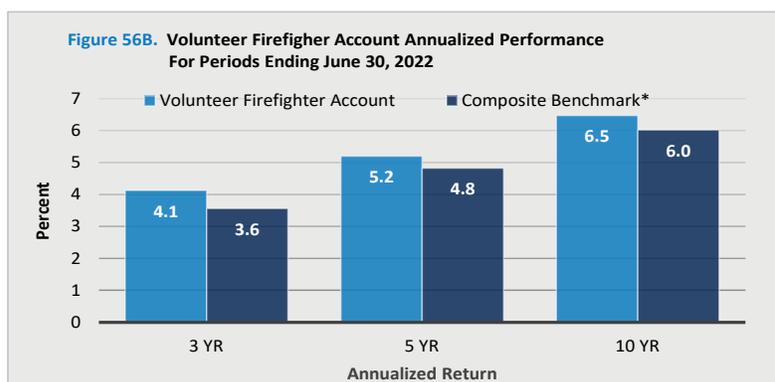
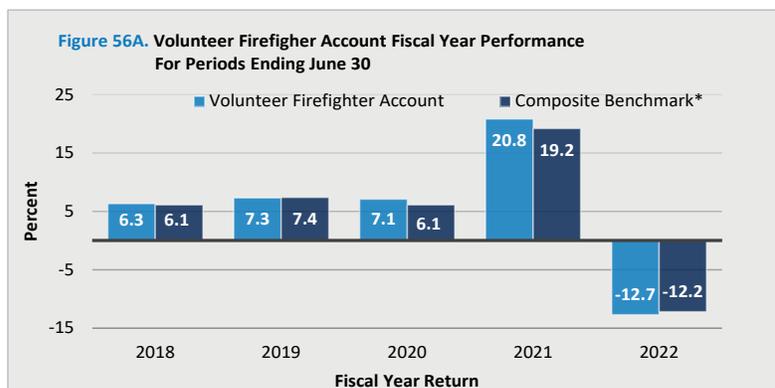
Management

The Account's investment management structure combines active and passive management. 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 segment invests in the Core/Core Plus Bond Program used by the Combined Funds.

Performance

As with other SBI funds which utilize a multi-manager investment structure, the Board evaluates the performance of the Volunteer Firefighter Account on two levels: total account and by individual manager. The Account provided a return of -12.7% for fiscal year ending June 30, 2022, underperforming its composite benchmark by 0.4 percentage point. Over the most recent ten year period, the Plan exceeded its benchmark by 0.5 percentage point per annum. Figures 56A and 56B 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.

SIF Investment Vehicle

Investment Option - Money Market Fund

Money Market Fund

Objective

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

The Money Market Fund is available in both the SIF and Mutual Fund Investment Platforms. As of June 30, 2022, there was \$635.3 million invested in the Money Market Fund. This amount does not include the cash balances from the Balanced Fund and the Volunteer Firefighter Account, which are reported in their respective Funds.

Figure 57 provides the composition of the plans invested in the Money Market Fund as of June 30, 2022.

Management

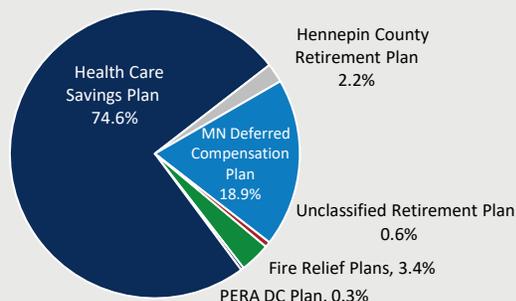
The Money Market Fund uses the same cash manager as the Combined Funds, which is State Street Global Advisors.

Performance

The Money Market Fund is expected to produce returns competitive with those available from short-term debt securities. For fiscal year 2022, the Money Market Fund generated a return of 0.3%, which slightly outperformed its benchmark. Over the most recent ten-year period, the Fund outperformed its target by 0.1 percentage point.

Historical performance results for the Fund are shown in Figures 58A and 58B.

Figure 57. Composition of Money Market Fund by Plan as of June 30, 2022



Allocation of Money Market Fund Assets by Plan as of June 30, 2022

Plan Sponsor	Investment Platform	Market Value (\$ in 000's)
Fire Relief Plans	SIF	\$21,691.6
PERA DC Plan	SIF	2,103.9
Health Care Savings Plan	Mutual Fund	474,173.5
Hennepin County Retirement Plan	Mutual Fund	13,691.5
MN Deferred Compensation Plan	Mutual Fund	119,825.5
Unclassified Retirement Plan	Mutual Fund	3,804.2
Total Money Market Assets		\$635,290.2

Figure 58A. Money Market Fund Fiscal Year Performance For Periods Ending June 30

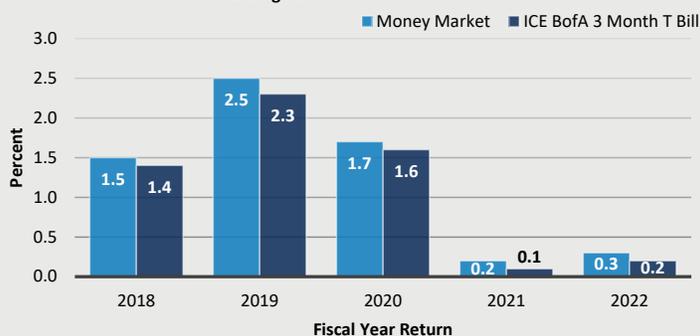


Figure 58B. Money Market Fund Annualized Performance For Periods Ending June 30, 2022



SIF Investment Vehicle

Investment Option - Stable Value Fund

Stable Value Fund

Objective

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

At the end of fiscal year 2022, the total market value of the Stable Value Fund was approximately \$1.7 billion. Figure 59 provides the composition of the plans invested in the Stable Value Fund as of June 30, 2022.

Management

The Stable Value Fund is managed by Galliard Capital Management, a wholly-owned subsidiary of Allspring Global Investments.

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

The underlying fixed income portfolio invests in a well-diversified portfolio of U.S. dollar denominated, investment grade fixed income securities.

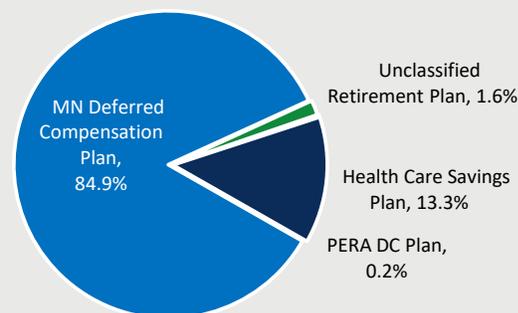
Performance

Performance reflects the blended crediting rates from all investments in the fund. The Stable Value Fund is expected to exceed the returns of its

benchmark, the 3-year Constant Maturity Treasury plus 45 basis points. During fiscal year 2022, the Stable Value Fund provided a return of 1.8%, an underperformance of

0.1 percentage point below its benchmark. Figures 60A and 60B provides the historical performance results for the Stable Value Fund.

Figure 59. Composition of Stable Value Fund Participants as of June 30, 2022



Allocation of Stable Value Fund Assets by Plan as of June 30, 2022

Plan Sponsor	Investment Platform	Market Value (\$ in 000's)
PERA DC Plan	SIF	\$4,163.0
Health Care Savings Plan	Mutual Fund	232,052.7
MN Deferred Compensation Plan	Mutual Fund	1,481,351.7
Unclassified Retirement Plan	Mutual Fund	27,221.4
Total Stable Value Assets		\$1,744,788.8

Figure 60A. Stable Value Fund Fiscal Year Performance For Periods Ending June 30



Figure 60B. Stable Value Fund Annualized Performance For Periods Ending June 30, 2022



PARTICIPANT DIRECTED INVESTMENT PROGRAM

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Participant Directed Investment Program Investment Program Overview

The Participant Directed Investment Program (PDIP) consists of retirement or other tax advantaged savings plans where the participant is responsible for making their own investment decisions. As of June 30, 2022, just under \$12.4 billion was invested with the various investment platforms offered in PDIP.

Overview

The Participant Directed Investment Program (PDIP) provides investment options for a variety of retirement and tax advantaged savings plans. Investment goals among the participants will vary. In order to meet the variety of goals, participants may allocate their investments among one or more of the eligible investment options offered within the SIF Investment Platform, utilized by the PERA DC Plan; and the Mutual Fund Investment Platform, utilized by the remaining plans in the PDIP program. Eligible investment options depend on the statutory requirements, operational limitations, and other regulations and rules established for the participating organization.

Investment Objective

The SBI's investment objective for the PDIP platform is to provide quality investment options at a low cost to help participants meet their savings goals. Participants in this program are responsible for their own asset allocation and investment decisions.

Participating Plans

Legislative approval is required for the SBI to invest the assets of any plan. The SBI does not administer plan assets. Figure 61 provides the composition of the plans in PDIP.

A brief summary of eligible entities and participating plans that invest in PDIP are as follows:

Health Care Savings Plan

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

The HCSP is available to all public employees in the state of Minnesota. As specified in [Minnesota Statutes, Section 356.645](#) the SBI is responsible for determining the investment options for this plan.

Participants in this Plan invest in the following investment vehicles:

- Mutual Funds
- Stable Value Fund
- Money Market Fund

Unless participants direct otherwise, the default investment option is the Money Market Fund.

The Plan is administered by the Minnesota State Retirement System (MSRS) who has contracted with Empower as the record keeper.

As of June 30, 2022, approximately \$1.6 billion was invested in the Health Care Savings Plan.

Hennepin County Supplemental Retirement Plan

The Hennepin County Supplemental Retirement Plan is governed under [Minnesota Statutes, 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 prior to April 14, 1982.

Participants in this Plan invest in the following vehicles:

- Mutual Funds
- Money Market Fund

Figure 61. Participant Directed Investment Plan Assets as of June 30, 2022

Plans	Market Value (\$ in 000's)
Health Care Savings Plan	\$1,577,532.0
Hennepin County Supplemental Retirement Plan	156,217.8
Minnesota Deferred Compensation Plan	8,480,510.3
PERA Defined Contribution Plan	82,593.6
Unclassified State Employees Retirement Plan	334,621.7
Minnesota Achieving a Better Life Experience (ABLE) Plan	27,378.5
Minnesota College Savings Plan	1,708,677.3
Total Participant Directed Investment Plan Assets	\$12,367,531.1

Participant Directed Investment Program Investment Program Overview

The Hennepin County Supplemental Retirement Fund is a closed plan. The investment default option was the SIF Bond Fund.

The Plan is administered by MSRS who has contracted with Empower as the record keeper.

As of June 30, 2022, approximately \$156.2 million was invested in the Hennepin County Supplemental Retirement Plan.

Minnesota Deferred Compensation Plan

The Minnesota Deferred Compensation Plan (MNDCCP) 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.

Participants in this Plan have the option to invest in the following vehicles:

- Mutual Funds
- Target Date Fund, known as the MN Target Retirement Fund
- Stable Value Fund
- Money Market Fund
- Brokerage Window

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

The Plan is administered by MSRS who has contracted with Empower as the record keeper.

As of June 30, 2022, participants invested a total of \$8.5 billion in the Minnesota Deferred Compensation Plan.

Public Employees Retirement Association Defined

Contribution (PERA DC) Plan

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

Participants in this Plan invest in the Supplemental Investment Fund (SIF) platform which include the following:

- SIF Asset Class Pools
- Stable Value Fund
- Money Market Fund

Unless participants direct otherwise, the default investment option is the SIF Balanced Fund.

PERA is the administrator for the Plan and the SBI provides reports showing annual returns and market value of all SIF investment options.

As of June 30, 2022, participants invested \$82.6 million in the PERA DC Plan.

Unclassified Retirement Plan

The Unclassified Retirement Plan was established under [Minnesota Statutes, Chapter 352D](#) and satisfies the requirements of section 401(a) of the Internal Revenue Code. The Unclassified Retirement Plan is available to specified Minnesota employees in unclassified positions.

Participants in this Plan invest in the following vehicles:

- Mutual Funds
- Target Date Fund, known as the MN Target Retirement Fund
- Stable Value Fund
- Money Market Fund

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

The Plan is administered by MSRS who has contracted with Empower as the record keeper.

As of June 30, 2022, there was over \$334.6 million invested in the Unclassified Retirement Plan.

Minnesota College Savings Plan (529 Plan)

The Minnesota Legislature authorized establishment of the Minnesota College Savings Plan under [Minnesota Statutes, Chapter 136G](#) in 1997 and in 2001 the tax advantaged savings plan was launched. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan. The SBI and OHE have contracted jointly with TIAA-CREF Tuition Financing, Inc. (TFI) to provide administrative, marketing, communication, record keeping and investment management services.

A summary of the investment options in this Plan begins on page 127.

Participant Directed Investment Program Investment Program Overview

As of June 30, 2022, there was approximately \$1.7 billion in assets invested in the Minnesota College Savings Plan.

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

Minnesota ABLE (Achieving a Better Life Experience) Plan

The Minnesota ABLE Plan was established in 2015 under [Minnesota Statutes, Chapter 256Q](#). The Plan is allowed under section 529A of the Internal Revenue Code to encourage and assist individuals to save for qualified disability related expenses in a tax-advantaged savings plan without jeopardizing eligibility for other benefits.

The SBI is responsible for the investment oversight and the Commissioner of the Department of Human Services (DHS) is responsible for the administration of the Plan. The SBI and DHS have contracted jointly with Ascensus to provide record keeping, administrative and investment management services.

In 2017, the State of Minnesota joined the National ABLE Alliance Program, which allowed states across the nation to enter an interstate consortium so that the Plan would have scale so that it would benefit from lower fees and operational efficiencies.

Information on the Minnesota ABLE Plan, including the list of states that sponsor an ABLE

Plan in the program can be found under www.savewithable.com.

A summary of the investment options in this Plan is found on page 130.

As of June 30, 2022, there was approximately \$27.4 million invested in the Minnesota ABLE Plan.

Investment Vehicles

The investment vehicles offered in PDIP are described in more detail in the respective sections of the annual report.

Figure 62 provides a grid of the vehicles available to the participating entities.

Figure 62. Investment Vehicles available to Eligible Plans in the Participant Directed Investment Program

Plans	Mutual Funds	Supplemental Investment Fund			Third-Party Program Manager
		SIF Asset Class Pools	Money Market Fund	Stable Value Fund	
Health Care Savings Plan	✓		✓	✓	
Hennepin County Supplemental Retirement Plan	✓		✓		
Minnesota Deferred Compensation Plan	✓		✓	✓	
PERA Defined Contribution Plan		✓	✓	✓	
Unclassified Employees Retirement Plan	✓		✓	✓	
Minnesota ABLE Plan					✓
Minnesota College Savings Plan					✓

Participant Directed Investment Program Investment Vehicles

The Participant Directed Investment Program (PDIP) provides a variety of investment vehicles to state and local public employees for their retirement or other tax-advantaged savings plans and to individuals and families in the State Sponsored Savings Plans.

Program Structure

The investment platforms used by PDIP participants include the Supplemental Investment Fund (SIF) line-up, Mutual Fund line-up, and the mutual fund line-up provided by a third party program manager used by the State Sponsored Savings Plan.

Over \$9.3 billion of PDIP assets are invested in the Mutual Fund investment platform.

Historical performance results for the Mutual Fund investment platform for periods ending June 30, 2022, are provided on page 125 in Figure 63.

A description of the investment approach for the mutual fund and target date fund investment options is included in the **Manager Summaries** section on pages 131-134.

Information and performance results for the two state sponsored savings plans, the Minnesota College Savings Plan and the Minnesota ABLE Plan, begin on page 129 and 130, respectively.

Mutual Fund Investment Vehicles

Actively Managed Options

The platform offers a range of actively managed options that allows participants the flexibility to create an investment program to meet their needs.

– Large-Cap Equity

This option is a concentrated portfolio of high quality stocks that

generally offer current dividends. The fund performance is measured against the S&P U.S. Dividend Growers Index. From February 2010 until September 2021, the fund used the NASDAQ U.S. Dividend Achievers Select Index. The fund currently offered is the Vanguard Dividend Growth Fund.

– Small-Cap Equity

This option invests primarily in companies with small market capitalizations. The fund is expected to outperform the Russell 2000 over time. T. Rowe Price Small-Cap Stock Fund is the fund currently offered.

– Bond Fund

This option invests primarily in investment grade securities in the U.S. bond market. The fund is expected to outperform the Bloomberg Barclays U.S. Aggregate Bond Index over time. The fund currently offered is the Dodge & Cox Income Fund.

– International Equity Commingled Investment Trust (CIT)

This option invests primarily in stocks of companies in developed countries located outside the U.S. The fund is expected to outperform the Morgan Stanley Capital International (MSCI) Index of Europe, Australasia and the Far East (EAFE) over time. The fund currently

offered is the Fidelity Diversified International Fund.

Passively Managed Options

The plan offers a range of passively managed options that allows participants the flexibility to create a lower cost investment program to meet their needs.

– All-Cap Equity

This option is a passive domestic equity portfolio that tracks the CRSP U.S. Stock Market. The fund currently offered is the Vanguard Total U.S. Stock Index Fund.

– Large-Cap Equity

This option is a passive domestic stock portfolio that tracks the S&P 500. The fund currently offered is the Vanguard Institutional Index Plus Fund.

– Mid-Cap Equity

This option invests in companies with medium market capitalizations that track the CRSP U.S. Mid-Cap Index. The fund currently offered is the Vanguard Mid-Capitalization Index Institutional Fund.

– Balanced Fund

This option is a mix of stocks and bonds. The fund is expected to track a weighted benchmark of 60% CRSP U.S. Total Market Index and 40% Bloomberg U.S. Aggregate Bond Index. The fund currently offered is the Vanguard Balanced Index Fund.

Participant Directed Investment Program Investment Vehicles

– **Bond Fund**

This option invests in a broad range of U.S. fixed income securities. The fund is expected to track the performance of the Bloomberg U.S. Aggregate Bond Index. The fund currently offered is the

Vanguard Total Bond Market Index Fund.

– **International Equity**

This option invests in international equities and is expected to track the FTSE Global All Cap ex U.S. Index, an index designed to measure

equity market performance in developed and emerging markets, excluding the United States. The fund currently offered is the Vanguard Total International Stock Index Fund.

Figure 63. Mutual Fund Investment Platform¹ as of June 30, 2022

Fund/Benchmark	Annualized Returns ²						Market Value ³ (\$ in 000's)	Option Since
	1 Year		3 Years		5 Years			
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
Active Management								
Vanguard Dividend Growth <i>Dividend Growth Spliced Index⁴</i>	0.0	-5.6	10.4	9.6	12.1	11.3	\$897,507.9	10/2016
T. Rowe Price Small Cap Stock Fund <i>Russell 2000</i>	-23.2	-25.2	5.7	4.2	9.2	5.2	804,050.1	4/2000
Fidelity Diversified International Fund <i>MSCI EAFE Net Div</i>	-22.6	-17.8	3.0	1.1	3.5	2.2	288,680.4	7/1999
Dodge & Cox Income Fund <i>Bloomberg U.S. Aggregate</i>	-10.0	-10.3	0.3	-0.9	1.7	0.9	287,691.1	7/1999
Stable Value Fund ⁵ <i>3 year Constant Maturity Treasury + 45 bps</i>	1.8	1.9	2.2	1.4	1.2	1.1	1,739,567.8	11/1994
Money Market Fund ⁶ <i>Three Month T-Bill Benchmark</i>	0.3	0.2	0.7	0.6	1.2	1.1	602,472.5	7/1986
Passive Management								
Vanguard Total U.S. Stock Index Fund <i>CRSP U.S. Total Stock Market</i>	-14.2	-14.2	9.7	9.6	NA	NA	608,335.5	7/2019
Vanguard Institutional Index Plus Fund <i>S&P 500</i>	-10.6	-10.6	10.6	10.6	11.3	11.3	1,532,803.4	7/1999
Vanguard Mid Cap Fund <i>CRSP U.S. Mid Cap Benchmark</i>	-16.0	-16.0	7.2	7.2	8.3	8.3	638,822.1	1/2004
Vanguard Total Intl Stock Index <i>FTSE Global All Cap ex U.S.</i>	-18.9	-19.4	2.0	1.8	2.8	2.6	308,995.1	7/2011
Vanguard Balanced Fund <i>Composite Benchmark</i>	-12.5	-12.5	5.7	5.7	6.9	7.0	1,266,548.7	12/2003
Vanguard Total Bond Fund <i>Bloomberg U.S. Aggregate</i>	-10.5	-10.3	-0.9	-0.9	0.8	0.9	322,254.5	12/2003
Brokerage Window								
Ameritrade Self Directed							75,827.5	
Total Assets in Mutual Fund Platform¹							\$9,373,556.5	
¹ Includes Mutual Funds, CIT, Stable Value Fund and Money Market Fund.								
² Returns are net of Investment Fees and before MSRS Administrative fees.								
³ Market Value of SBI participation in Fund.								
⁴ 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.								
⁵ Market Value reported does not include PERA DC Plan assets. In aggregate, assets in the Stable Value Fund are \$1,744.8 million as of June 30, 2022.								
⁶ Market Value reported does not include the Fire Relief Plans + Other Retirement Plans and PERA DC Plan. In aggregate, assets in Money Market Fund are \$635.3 million as of June 30, 2022.								

Participant Directed Investment Program Investment Vehicles

Minnesota Target Retirement Fund

The Minnesota Target Retirement Fund offers a range of target date funds, which are diversified options with allocations that change over time to reduce risk and become more conservative as the target retirement date approaches.

This fund is managed by State Street Global Advisors.

Glidepath Construction

The target date funds glide path gradually shifts the asset allocation to specific targets at different stages in a participant's life cycle. The Minnesota Target Date Retirement Fund glide path features investment solutions to provide the participant with opportunities

for growth, diversification, capital preservation and, ultimately, real income replacement at retirement.

Underlying Passive Funds in Glidepath

The underlying funds are passively managed in index funds. Over time, the Minnesota Target Retirement Fund will allocate assets across the following underlying strategies:

- **U.S. Large Cap:** invests in the S&P 500 Index for wealth accumulation.
- **U.S. Small/Mid Cap Equity:** invests in the Russell Small Cap Completeness Index for diversification and wealth accumulation.
- **Non-U.S. Developed/ Emerging Equity:** invests in the MSCI ACWI ex-US IMI Index for wealth accumulation and diversification.

- **Global Real Estate:** invests in the Global Real Estate Securities Index for Income, diversification, and inflation protection.
- **Core Aggregate Bonds:** invests in the U.S. Aggregate Bond Index for income, and to balance volatility risk.
- **Long-Term Governmental Bonds:** invests in Long U.S. Government Bond Index for diversification and matches duration to longer term liabilities for younger participants.
- **Intermediate Inflation-Protected Bonds:** invests in 1-10 year U.S. Treasury Inflation Protected Securities (TIPS) for income, inflation protection, volatility risk protection and to mitigate interest rate risk for older participants.
- **High Yield Bonds:** invests in U.S. High Yield Very Liquid diversification, and to mitigate longevity risk.
- **Short-Term Bonds:** invests in U.S. Short-Term Government/Credit Bond Index invest for income, volatility risk protection and mitigate interest rate risk for older participants.
- **Commodities:** invests in Bloomberg Roll Select Commodities Index Strategy for diversification and inflation protection.

Performance results for the target date fund option for periods ending June 30, 2022 is shown in Figure 64.

Figure 64. Minnesota Target Retirement Fund Performance
For Periods Ending June 30, 2022

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	-8.1	-8.1	3.4	3.3	4.0	4.0	\$217,065.2	7/2011
2025 Fund	-9.1	-9.1	4.2	4.2	5.0	5.0	215,091.5	7/2011
2030 Fund	-12.0	-12.0	4.9	4.9	5.7	5.7	186,904.6	7/2011
2035 Fund	-14.6	-14.7	5.0	4.9	5.9	5.9	143,662.3	7/2011
2040 Fund	-15.7	-15.7	5.2	5.2	6.2	6.2	112,707.0	7/2011
2045 Fund	-16.3	-16.3	5.4	5.4	6.4	6.4	104,615.0	7/2011
2050 Fund	-16.9	-17.0	5.7	5.6	6.6	6.6	87,417.8	7/2011
2055 Fund	-17.5	-17.5	5.7	5.7	6.6	6.6	56,482.6	7/2011
2060 Fund	-17.5	-17.5	5.7	5.7	6.6	6.6	44,502.8	7/2011
2065 Fund	-17.5	-17.5	NA	NA	NA	NA	4,508.1	4/2020
Total MN Target Retirement Funds							\$1,172,956.9	

¹ Returns are net of Investment Fees and before MSRS Administrative fees. The benchmark return for each fund is an aggregate of SSGA's underlying index fund return weighted by its target asset allocation.

² Market Value of SBI participation in Fund.

Participant Directed Investment Program

State Sponsored Savings Program: Minnesota College Savings Plan

The Minnesota College Savings Plan is an education savings plan designed to help families save for future college costs. It is established under the provisions of the Internal Revenue Code Section 529, which authorizes these types of savings plans to help families meet the costs of qualified colleges nationwide. On June 30, 2022, the market value of the Plan was approximately \$1.7 billion.

Program Structure

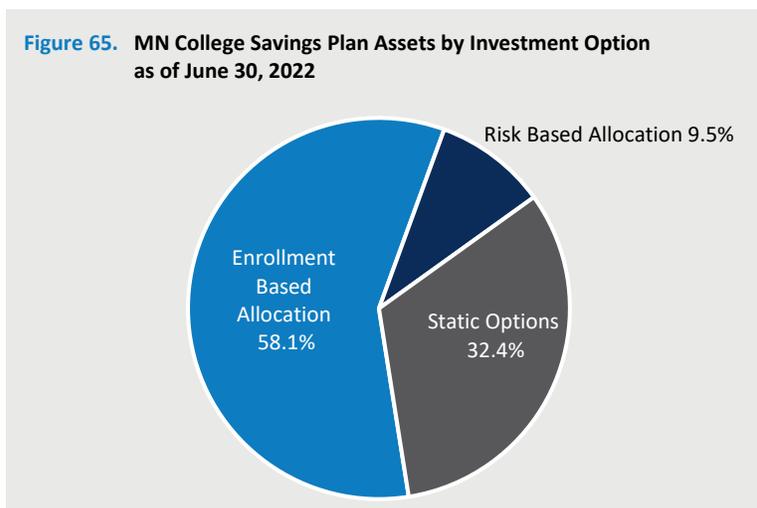
The Minnesota Legislature authorized establishment of the Minnesota College Savings Plan in 1997 and in 2001 the Plan was launched. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan. The SBI and OHE have contracted jointly with TIAA-CREF Tuition Financing, Inc. (TFI) to provide administrative, marketing, communication, recordkeeping and investment management services.

Objective

The objective of the Plan is to be competitive in the market place by providing quality investment options with low fees to its participants. The Plan is a direct-sold plan (i.e. may be purchased directly without an investment advisor) and offers nine Enrollment-Based Managed Allocation Options, three Risk-Based Allocation Options and eight Static Investment Options. The Plan has both active and passive management through TIAA's mutual funds. While all options are priced daily, participants may re-allocate their investment twice per calendar year.

The distribution of assets in the Minnesota College Savings Plan investment options as of June 30, 2022, is shown in Figure 65.

Figure 65. MN College Savings Plan Assets by Investment Option as of June 30, 2022



Enrollment-Based Managed Allocation Option

These investment options seek to align the investment objective and level of risk to the investment horizon by taking into account the beneficiary's number of years before the beneficiary is expected to enter college. Depending on the length of time until the beneficiary is expected to attend school, the assets contributed to this option are placed in one of ten enrollment options.

As the beneficiary progresses towards college, the assets transition to a more conservative allocation. The enrollment options for younger beneficiaries seek a favorable long-term return by investing at a higher level of risk but greater potential for higher returns than more conservative investments. As a beneficiary nears college age, the age bands allocate less to equity and real estate and

more to fixed-income and money market securities to preserve capital.

Risk-Based Allocation Option

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

- The **aggressive option** seeks to generate a favorable long-term return by investing in mutual funds that invest primarily in equity securities and, to a lesser extent, invest in debt securities.
- Approximately 48% of the fund is allocated to U.S. equity securities; 19% to developed international equities; 5% to emerging markets equities; 8% real estate securities; 14% to

Participant Directed Investment Program

State Sponsored Savings Program: Minnesota College Savings Plan

public, investment-grade, taxable debt securities denominated in U.S. dollars; 4% to inflation-linked bonds and 2% to high yielding debt securities.

- The **moderate option** seeks to provide moderate growth by investing in a balanced mix of domestic and foreign equity securities, fixed income and real estate-related securities. Approximately 36% of the fund is allocated to U.S. equity securities; 14% to developed international equities; 4% to emerging markets equities; 6% real estate securities; 28% to public, investment-grade, taxable debt securities denominated in U.S. dollars; 8% to inflation-linked bonds and 4% to high yielding debt securities.
- The **conservative allocation option** seeks to provide a conservative to moderate total return by investing in mutual funds that invest primarily in debt securities and, to a lesser extent, invests in equity securities. This option also invests in a funding agreement. Approximately 18% of the fund is allocated to U.S. equity securities; 7% to developed international equities; 2% to emerging markets equities; 3% real estate securities; 32% to public, investment-grade, taxable debt securities denominated in U.S. dollars; 9% to inflation-linked bonds; 4% to high yielding debt securities and 25% in a funding agreement issued by TIAA-CREF Life (see the Principal Plus Interest Option in Figure 66 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 portfolio based on their risk and return profile.

- **International Equity Index Option**
This investment option seeks to provide a favorable long-term total return, mainly through capital appreciation. Approximately 80% of the fund is allocated to equity securities of issuers located in developed markets and 20% is allocated to equity securities of issuers located in emerging markets.
- **U.S. and International Equity Option**
This investment option seeks to provide a favorable long-term total return, mainly from capital appreciation, by allocating primarily to a blend of equity and real estate-related securities. Approximately 60% of the fund is allocated to U.S. equity securities, 24% to equity issuers located in developed markets, 6% to equity securities of issuers located in emerging markets and 10% to real estate-related securities.
- **U.S. Large Cap Equity Option**
This investment option seeks to provide a favorable long-term total return mainly from capital appreciation. All assets of the fund are invested in an S&P 500 index fund.
- **Active Social Choice Equity Option**
This investment option seeks to provide a favorable long-term total return mainly from capital appreciation. The fund's evaluation process

favors companies with leadership in 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 controversial business activities. Approximately half of the companies evaluated make it to the ESG Eligible Universe.

- **Equity and Interest Accumulation Option**
This investment seeks to provide a moderate long-term total return. Approximately half of its assets are invested in an equity index fund and the other half in a funding agreement.
- **100% Fixed-Income Option**
This investment option seeks to provide preservation of capital along with a moderate rate of return through a diversified mix of fixed income investments. Approximately 70% of the fund is allocated to public, investment-grade, taxable bonds denominated in U.S. dollars, 20% to inflation-linked bonds and 10% to a high yield fund.
- **Money Market Option**
This investment option seeks to provide current income consistent with preserving capital. The money market option converted to a "governmental money market fund" in October 2016. As a result, the Fund is limited to U.S. Government securities and will invest at least 99.5% of its total assets in cash,

Participant Directed Investment Program

State Sponsored Savings Program: 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 guaranteed rate of interest.

Historical performance as of June 30, 2022, is shown below in Figure 66.

Figure 66. Minnesota College Savings Plan Performance for Periods Ending June 30, 2022

Investment Options	Annualized Returns ¹						Market Value ² (\$ In 000's)	Option Since ³
	1 Year		3 Years		5 Years			
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %		
Enrollment-Based Options								
In School Enrollment	-4.1	-4.6	-	-	-	-	\$266,329.0	10/2019
2022/2023 Enrollment	-4.8	-5.3	-	-	-	-	181,291.9	10/2019
2024/2025 Enrollment	-7.2	-7.5	-	-	-	-	153,887.4	10/2019
2026/2027 Enrollment	-9.1	-9.4	-	-	-	-	110,018.4	10/2019
2028/2029 Enrollment	-10.4	-10.6	-	-	-	-	78,685.9	10/2019
2030/2031 Enrollment	-11.5	-11.6	-	-	-	-	61,871.8	10/2019
2032/2033 Enrollment	12.2	-12.4	-	-	-	-	44,640.7	10/2019
2034/2035 Enrollment	-12.5	-12.7	-	-	-	-	50,897.4	10/2019
2036/2037 Enrollment	-12.7	-13.0	-	-	-	-	52,725.0	10/2019
2038/2039 Enrollment	-12.8	-13.2	-	-	-	-	8,541.4	6/2021
Risk-Based Allocation Options								
Aggressive Allocation	-13.0	-13.1	5.7	5.5	6.7	6.6	67,187.1	8/2014
Moderate Allocation	-11.8	-11.9	4.6	4.3	5.5	5.4	85,801.5	8/2007
Conservative Allocation	-7.7	-8.0	2.7	2.5	3.6	3.5	16,255.2	8/2014
Static Options								
International Equity Index	-18.1	-19.3	1.5	1.1	2.4	2.3	8,129.9	6/2013
U.S. and International Equity	-14.4	-14.4	6.9	6.6	7.8	7.6	268,372.1	10/2001
U.S Large-Cap Equity	-10.7	-10.6	10.4	10.6	11.1	11.3	84,084.2	8/2014
Social Choice Equity Fund	-14.5	-13.9	-	-	-	-	675.8	6/2021
Equity and Interest Accumulation	-6.3	-6.7	6.0	5.6	6.3	6.2	7,509.3	8/2014
100% Fixed-Income	-8.3	-8.4	-0.1	0.1	1.3	1.5	17,717.7	8/2007
Money Market	0.1	0.1	0.5	0.4	0.9	0.8	14,197.3	11/2007
Principal Plus Interest ⁴	1.2	0.2	1.6	0.6	1.7	1.1	129,858.2	10/2001
Total Minnesota College Saving Plan							\$1,708,677.3	
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 8/31/2022 is 1.10%; from 9/1/2020 until 8/31/2021 the crediting rate was 1.50%. Assets from the MN 529 Plan Matching Grant Program are allocated to the Principal Plus Interest option.								

Participant Directed Investment Program State Sponsored Savings Program: Minnesota ABLE Plan

The Minnesota ABLE Plan (Achieving a Better Life Experience) is a tax advantaged savings plan designed to help families set aside funds for eligible disability expenses under Section 529A of the Internal Revenue Code. On June 30, 2022, the market value of the Plan was approximately \$27.4 million.

Program Structure

The Minnesota ABLE Plan (Achieving a Better Life Experience) was established to encourage and assist individuals and families to save for the purpose of supporting individuals with disabilities to maintain health, independence, and quality of life. The SBI is responsible for the investment oversight and the Commissioner of the Minnesota Department of Human Services (DHS) is responsible for the overall administration of the Plan. The SBI and DHS have contracted jointly with Ascensus to provide administrative, recordkeeping and investment management services.

Minnesota is one of 18 states in the National ABLE Alliance Program, which is a coalition of States that has partnered to share a Program and Program Manager, while maintaining Member State independence.

Historical performance as of June 30, 2022, is shown in Figure 67.

Objective

The objective of the Plan is to provide multiple financial options at a low cost. There are seven investment options available, six are Target Risk-Based Options and one is a Checking Account Option. Each of the six Target Risk-Based Options seek to meet a specific investment goal and risk tolerance by investing in

multiple underlying investment funds.

Aggressive Option

The aggressive option seeks to provide long-term capital appreciation with very low income potential. This option has a mixed allocation of 90% stocks and 10% bonds.

Moderately Aggressive Option

The moderately aggressive option seeks to provide long-term capital appreciation with low income potential. The investments are allocated 75% in stocks and 25% in bonds.

Growth Option

The growth option seeks to provide capital appreciation and low current income. The investments are allocated 60% stocks and 40% bonds.

Moderate Option

The moderate option seeks to provide capital appreciation and secondarily provide moderate

current income. The investments are allocated 45% stocks and 55% in bonds.

Moderately Conservative Option

The moderately conservative option seeks to provide moderate current income and low capital appreciation. The investments are allocated 30% stocks, 45% bonds, and 25% cash.

Conservative Option

The conservative option seeks to provide substantial capital preservation, limited current income and very low capital appreciation. The investments are allocated 10% stocks, 30% bonds and 60% cash.

Checking Account Option

The Checking Account Option seeks to provide preservation of principal. It invests 100% of its assets in an FDIC-insured checking account.

Figure 67. Minnesota ABLE Plan Performance for Periods Ending June 30, 2022

Investment Options	Annualized Returns ¹				Market Value ² (\$ In 000's)	Option Since
	1 Year		3 Years			
	Actual	Bmk	Actual	Bmk		
Multi-Asset Class Fund Allocation Options						
Aggressive Allocation	-17.0	-17.2	5.2	5.3	\$1,996.3	12/2016
Moderately Aggressive Allocation	-15.1	-15.2	4.6	4.8	2,297.2	12/2016
Growth Allocation	-13.2	-13.2	4.0	4.1	3,441.6	12/2016
Moderate Allocation	-11.1	-11.2	3.3	3.4	3,080.8	12/2016
Moderately Conservative Allocation	-7.8	-7.9	2.5	2.6	3,101.1	12/2016
Conservative Allocation	-3.3	-3.4	1.4	1.3	4,986.4	12/2016
Liquid Option						
Checking Option					8,475.1	3/2017
Total Minnesota ABLE Plan					\$27,378.5	

¹Returns are net of Total Fund Expense. Benchmark of the multi-asset class funds represent the aggregate of the underlying funds weighted by the target asset allocation.

²Market value of SBI participation in fund.

PDIP Mutual Fund Investment Platform

Mutual Funds and Target Date Fund – Investment Manager Summaries

Mutual Fund Investment Platform

Actively Managed Funds

Dodge & Cox Income Fund

Product Name:	Fixed Income	Benchmark:	Bloomberg U.S. Aggregate Bond Index
Added to Platform:	July 1999	Investment Style:	Active Core
Firm Assets (6/30/22):	\$326.9 billion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$87.7 billion	Investment Process:	Bottom-up
Product Location:	San Francisco, CA	Expected # of Holdings:	1,190

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

Product Name:	International Equity	Benchmark:	MSCI EAFE Index
Added to Platform:	July 1999	Investment Style:	Large-Cap, Developed Countries
Firm Assets (6/30/22):	\$3.7 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$5.8 billion	Investment Process:	Bottom-up
Product Location:	Boston, MA	Expected # of Holdings:	150

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

Product Name:	Small-Cap Equity	Benchmark:	Russell 2000
Added to Platform:	April 2000	Investment Style:	Core
Firm Assets (6/30/22):	\$1.3 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$3.8 billion	Investment Process:	Bottom-up
Product Location:	Baltimore, MD	Expected # of Holdings:	290

The fund seeks to provide long-term capital growth by investing primarily in stocks of small companies. The fund will normally invest at least 80% of its net assets (including any borrowings for investment purposes) in stocks of small companies. The fund defines a small company as one whose market capitalization falls within or below the current range of companies in either the Russell 2000 Index or the S&P Small-Cap 600 Index. When choosing stocks, the fund manager generally looks for one or more of the following characteristics: capable management, attractive business niches, pricing flexibility, sound financial and accounting practices, a potential or demonstrated ability to grow earnings, revenues, and cash flow consistently, and the potential for a catalyst (such as increased investor attention, asset sales, strong business prospects, or a change in management) to cause the stock's price to rise. In September 2016 the T. Rowe Price Institutional Small-Cap Stock Fund replaced the retail mutual fund vehicle.

PDIP Mutual Fund Investment Platform Mutual Funds and Target Date Fund – Investment Manager Summaries

Actively Managed Funds

Vanguard Dividend Growth Fund

Product Name:	Domestic Equity	Benchmark:	Dividend Growth Spliced Index
Added to Platform:	October 2016	Investment Style:	Large-Cap, High Dividend Yield
Firm Assets (6/30/22):	\$7.0 trillion	Fundamental/Quant:	Fundamental
Product Assets (6/30/22):	\$50.4 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.

Passively Managed Funds

Vanguard Institutional Index Fund Institutional Plus

Product Name:	Large-Cap Domestic Equity	Benchmark:	S&P 500 Index
Added to Platform:	July 1999	Investment Style:	Core
Firm Assets (6/30/22):	\$7.0 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$236.8 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

Product Name:	Mid-Cap Domestic Equity	Benchmark:	CRSP U.S. Mid-Cap Index
Added to Platform:	January 2004	Investment Style:	Core
Firm Assets (6/30/22):	\$7.0 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$131.6 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	377

The fund is passively managed to track the performance of the CRSP U.S. Mid-Cap Index, a broadly diversified index of stocks of medium-size U.S. companies. The fund attempts to replicate the target index by investing all, or substantially all, of its assets in the stocks that make up the index, holding each stock in approximately the same proportion as its weighting in the index.

PDIP Mutual Fund Investment Platform Mutual Funds and Target Date Fund – Investment Manager Summaries

Passively Managed Funds

Vanguard Balanced Index Fund Institutional

Product Name:	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 (6/30/22):	\$7.0 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$49.1 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	3,591 stock holdings 8,979 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

Product Name:	Fixed Income	Benchmark:	Bloomberg U.S. Aggregate Float Adjusted Bond Index
Added to Platform:	December 2003	Investment Style:	Core
Firm Assets (6/30/22):	\$7.0 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$281.6 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	10,123

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

Product Name:	International Equity	Benchmark:	FTSE Global All Cap ex US Index
Added to Platform:	July 2011	Investment Style:	Core
Firm Assets (6/30/22):	\$7.0 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$337.9 billion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	7,843

The fund is passively managed to track the returns of the FTSE Global All Cap ex U.S. Index, a free-float-adjusted market-capitalization-weighted index designed to measure equity market performance in developed markets and emerging markets, excluding the U.S. The fund invests in small, mid and large cap stocks in the market index and includes more than 5,300 stocks of companies located in 46 countries. The fund invests substantially all of its assets in the common stocks included in its target index. Fund assets are allocated based on each regions weighting in the index.

PDIP Mutual Fund Investment Platform Mutual Funds and Target Date Fund – Investment Manager Summaries

Passively Managed Funds

Vanguard Total Stock Market Index Institutional Plus

Product Name:	All Cap Domestic Equity	Benchmark:	CRSP U.S. Total Market Index
Added to Platform:	July 2019	Investment Style:	Core
Firm Assets (6/30/22):	\$7.0 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$1.1 trillion	Investment Process:	Passive
Product Location:	Malvern, PA	Expected # of Holdings:	4,098

The passively managed fund tracks the performance of its benchmark, the CRSP U.S. Total Market Index, which measures the investment return of the overall stock market. The manager uses an index sampling technique to invest in large-, mid-, small and micro-cap U.S. companies diversified across growth and value styles. The key characteristics of the portfolio, in aggregate, will approximate the full index in terms of industry weightings and market capitalization, as well as certain financial measures, such as price/earnings and dividend yield.

Target Date Fund

Minnesota Target Retirement Funds

State Street Global Advisors

Product Name:	Diversified Portfolio that glides the allocation according to participants retirement age	Benchmark:	11 Asset Classes
Added to Platform:	July 2011	Investment Style:	Target Date Funds
Firm Assets (6/30/22):	\$3.5 trillion	Fundamental/Quant:	N.A.
Product Assets (6/30/22):	\$99.1 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.

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Non-Retirement Funds Investment Program Overview

The Non-Retirement Program is managed by the SBI for designated trust funds, Other Postemployment Benefit (OPEB) trusts, and programs created by the Minnesota Constitution and Legislature. On June 30, 2022, the market value of all Non-Retirement Assets managed by the SBI was just under \$4.7 billion.

Overview

The SBI established the various Non-Retirement Funds to provide certain Minnesota public sector entities the opportunity to invest in a U.S. Equity Fund, a U.S. Bond Fund, or a Money Market Fund to facilitate the achievement of its investment objectives. The funds are available to those non-retirement entities that are authorized to invest in these asset classes with the SBI. Currently, all or some of these options are available to designated trust funds, OPEB trusts, Qualifying Governmental Entities, and other state and public sector entities.

Investment Options

There are three Non-Retirement Fund investment options for eligible participating entities and each one offers different advantages and risks. In addition to these options, the Assigned Risk Plan and Met Council have fixed income portfolios that are specific to their needs.

Figure 68 provides the listing of Non-Retirement Fund investment vehicles with market values as of June 30, 2022.

Participating Entities

The participating entities of the Non-Retirement Program are identified either as Trusts, OPEBs, or Qualifying Governmental Entities.

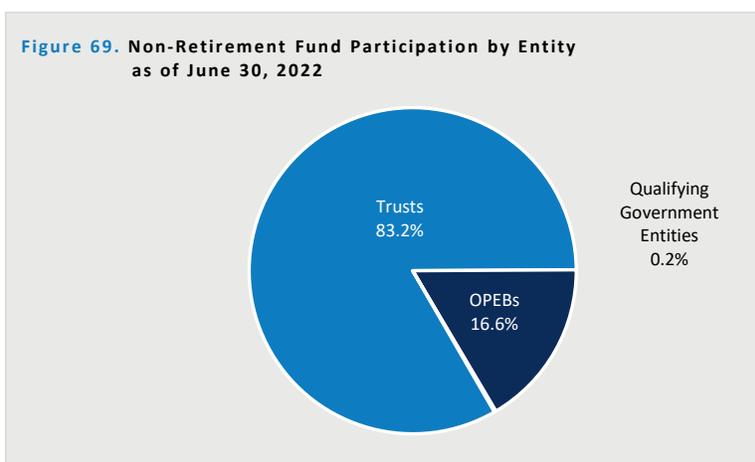
Figure 69 provides the composition of assets by participating entity.

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

Figures 70-72, on the next page, provide a breakdown of the participating entities within the Non-Retirement Program.

Figure 68. Non-Retirement Fund Assets by Investment Option as of June 30, 2022

Investment Option	Market Value (\$ in 000's)	% of Assets
Non-Retirement Equity Fund	\$2,726,163.9	58.5%
Non-Retirement Bond Fund	1,530,112.3	32.9%
Non-Retirement Money Market Fund	99,598.0	2.1%
Assigned Risk Plan Intermediate Govt. Bond Fund	203,470.2	4.4%
Met Council Ladder Fixed Income Portfolio	97,060.2	2.1%
Total Non-Retirement Assets	\$4,656,404.5	100.0%



Non-Retirement Fund Participation by Entity as of June 30, 2022

Participating Entity	Market Value (\$ in 000's)	% of Assets
Trusts	\$3,876,203.4	83.2%
OPEBs (Other Post Employment Benefit)	772,940.4	16.6%
Qualifying Government Entities	7,260.6	0.2%
Total Non-Retirement Assets	\$4,656,404.5	100.0%

Non-Retirement Funds Investment Program Overview

Investment Management

Non-Retirement Equity Fund

The equity segment is passively managed by Mellon Investments Corporation and tracks the performance of the S&P 500 Index.

The Non-Retirement Equity Fund summary is provided on page 139.

Non-Retirement Bond Fund

The fixed income segment is actively managed by Prudential Global Investment Management (PGIM) to add incremental value through sector, security and yield curve decisions.

The Non-Retirement Bond Fund summary is provided on page 140.

Non-Retirement Money Market Fund

The Money Market Fund provides safety of principal by investing in high-quality short-term money market securities. This Fund is managed by State Street Global Advisors.

The Fund summary is provided on page 141.

Assigned Risk Plan Fixed Income Portfolio

The Assigned Risk Plan fixed income portfolio is actively managed by RBC Global Asset Management to provide cash for the payment of worker compensation claims.

The Fund summary for this portfolio is provided on page 142.

Figure 70. Participating Trust Accounts as of June 30, 2022

Participating Trust Funds	Market Value (\$ in 000's)	% of Assets
Assigned Risk Plan	\$255,123.2	6.6%
Closed Landfill Investment Fund	116,113.7	3.0%
Environmental Trust Fund	1,448,074.8	37.4%
Permanent School Fund	1,743,213.5	45.0%
Other Trusts ¹	313,678.3	8.1%
Total	\$3,876,203.4	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, and Winona State.

Figure 71. Participating OPEB Accounts as of June 30, 2022

Participating OPEB Accounts	Market Value (\$ in 000's)	% of Assets
Anoka County (Irrevocable)	\$83,782.1	10.8%
Duluth	81,913.1	10.6%
Metropolitan Council	306,873.9	39.7%
Ramsey County (Irrevocable)	100,880.0	13.1%
Washington County	81,508.0	10.5%
Other OPEBs ¹	117,983.4	15.3%
Total	\$772,940.4	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 72. Participating Qualifying Governmental Accounts as of June 30, 2022

Qualifying Governmental Account	Market Value (\$ in 000's)	% of Assets
Minnesota Counties Intergovernmental Trust	\$2,615.7	36.0%
City of Woodbury	\$4,644.9	64.0%
Total	\$7,260.6	100.0%

Non-Retirement Program

Investment Vehicle: Non-Retirement Equity Fund

Non-Retirement Equity Fund

The Non-Retirement Equity Fund provides domestic equity exposure to entities with authority to use this investment vehicle. The types of entities that invest in the Non-Retirement Equity Fund include state and other trust funds, OPEB accounts, and Qualifying Governmental Entities.

As of June 30, 2022 the Non-Retirement Equity Fund had a market value of \$2.7 billion.

Investment Objectives

The investment objective of the Non-Retirement Equity Fund is to track the S&P 500 index, a large capitalization domestic equity benchmark. The portfolio is expected to have a realized active risk level relative to the benchmark of 0.2 or less, where active risk is the annualized standard deviation of the Manager's excess returns relative to the benchmark. Over time, the annual return shortfall relative to the benchmark, due to fees and trading expenses, should be no more than 0.1%.

Asset Allocation

As a passively managed portfolio, this fund will closely track the benchmark sector and will provide 100% domestic equity exposure.

Investment Management

In 2017, Mellon Investments Corporation was hired to manage the fund. Prior to Mellon, the fund was managed internally by SBI staff.

The strategy replicates the S&P 500 by owning all of the names in the index at the weightings assigned by the index.

To maintain appropriate liquidity for daily cash flows, some cash is held in the portfolio and is equitized by using S&P 500 futures contracts.

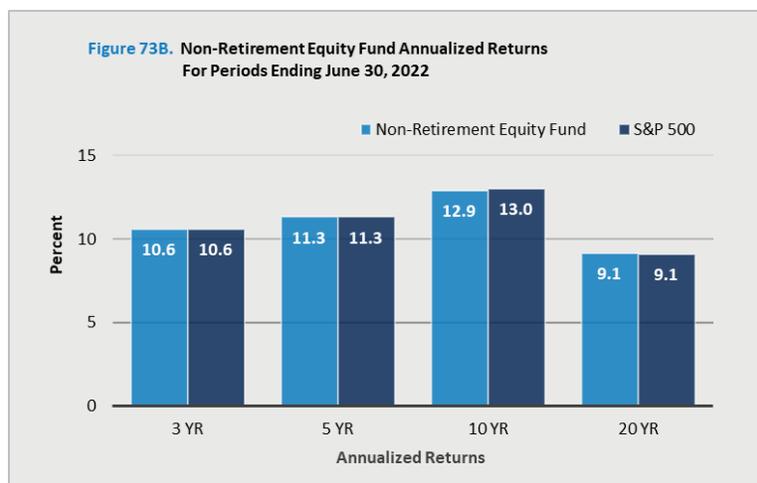
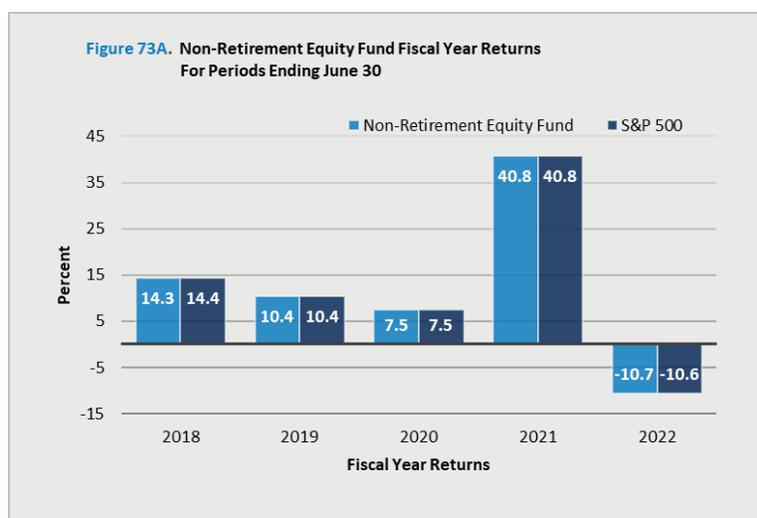
Mellon Investments Corporation is required to adhere to the SBI's investment guidelines in managing the account.

Investment Performance

The SBI measures the Non-Retirement Equity Fund against the S&P 500 Index.

The Non-Retirement Equity Fund matched its benchmark, for all time-periods listed, except for fiscal years 2018 and 2022 where the fund slightly underperformed.

Historical performance results are shown below in Figures 73A and 73B.



Non-Retirement Program

Investment Vehicle: Non-Retirement Bond Fund

Non-Retirement Bond Fund

The Non-Retirement Bond Fund is an investment vehicle to generate income and preserve capital. This Fund is available to state and other trust funds and to OPEB accounts.

As of June 30, 2022 the Non-Retirement Bond Fund had a market value of \$1.5 billion.

Investment Objectives

The investment objectives for the Non-Retirement Bond Fund are to deliver cumulative returns in excess of its benchmark, the Bloomberg U.S. Aggregate Bond Index, and to manage the level and composition of active risk in the portfolio relative to this benchmark. The U.S. Aggregate Bond Index is a broad-based index of investment grade, U.S. dollar denominated, fixed rate taxable bonds.

Asset Allocation

As an actively managed bond fund, the sector allocation will deviate from the benchmark composition. As of June 30, 2022, the Non-Retirement Bond Fund had a higher allocation in corporate debt securities and Structured Products and less exposure to U.S. Government and Mortgage bonds relative to its benchmark, the Bloomberg U.S. Aggregate.

Investment Management

In 2017, Prudential Global Investment Management (PGIM) was hired to manage the fund. Prior to PGIM, the fund was managed internally by SBI staff. PGIM is required to adhere to the SBI's investment guidelines in managing the

account. These guidelines give PGIM the flexibility to actively manage the portfolio through duration, yield curve, sector and security selection decisions, while maintaining a maximum five-year active risk level of 1.5, where active risk is the annualized standard deviation of the Manager's excess returns relative to the benchmark. PGIM is required to maintain the duration of the portfolio within +/- one year of the index duration. The Fund primarily invests in U.S. government, corporate, mortgage and structured securities.

Current Positioning

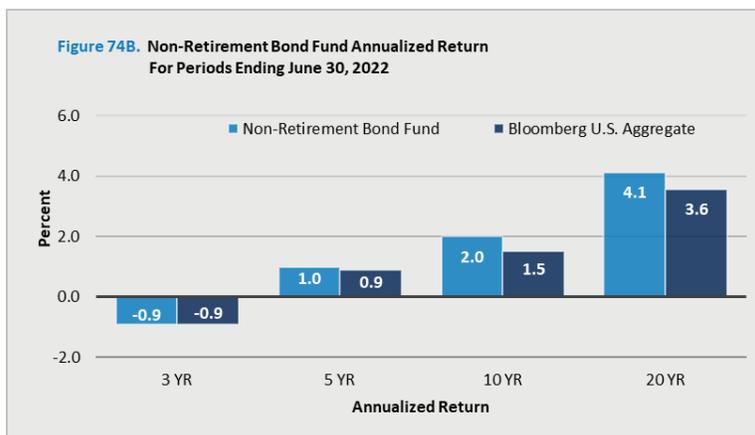
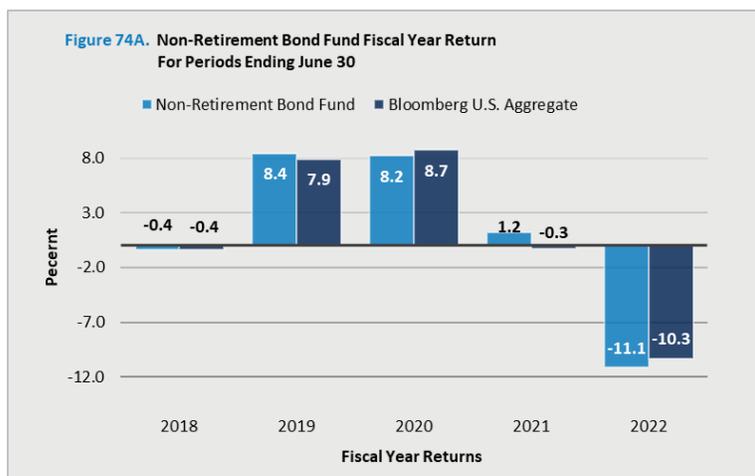
PGIM has portfolio duration positioned similar to the benchmark with an effective

duration of 6.6 years. The portfolio had an effective yield of 4.1% versus the benchmark 3.7% as of June 30, 2022.

Investment Performance

For fiscal year 2022, the Non-Retirement Bond Fund underperformed its benchmark. Results for longer time-periods show the Fund outperforming its composite index over the ten and twenty-year time periods ending June 30, 2022.

Historical performance results are shown below in Figures 74A and 74B.



Non-Retirement Program

Investment Vehicle: Non-Retirement Money Market Fund

Non-Retirement Money Market Fund

The Non-Retirement Money Market Fund is an investment vehicle that provides high quality short-term cash exposure to entities that have received authority to use this fund. The types of entities that invest in the Fund include state and other trust funds and OPEB accounts.

As of June 30, 2022 the Non-Retirement Money Market Fund had a market value of \$99.6 million.

Investment Objectives

The objective of the Non-Retirement Money Market Fund is to provide safety of principal by investing in high quality, short-term securities. The return of the fund is based on the interest income generated by the fund's investments.

Asset Allocation

The fund invests in high quality short-term money market securities.

At the end of the fiscal year, the Non-Retirement Fund Money Market Fund had a current average yield of 1.47% and a weighted average maturity of 19.4 days.

Investment Management

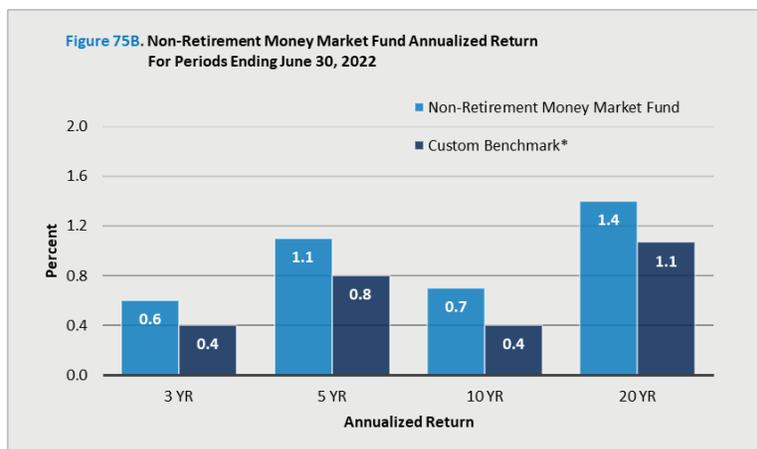
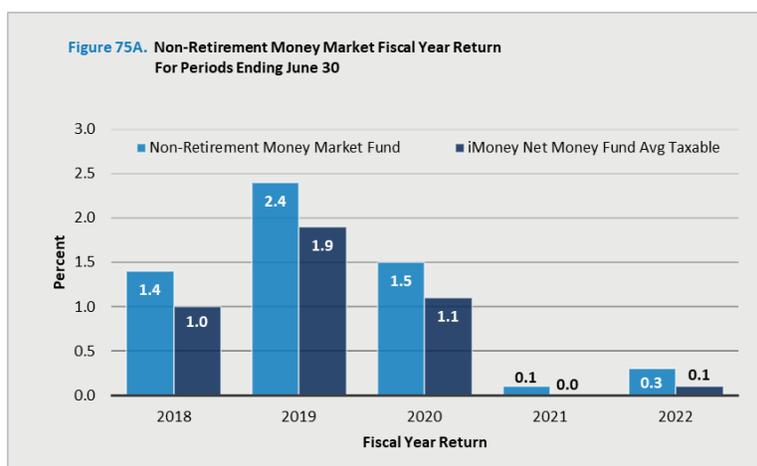
The Non-Retirement Money Market Fund is managed by State Street Global Advisors (SSGA). SSGA provides short-term investment management for a substantial portion of the Board's cash reserves.

Investment Performance

The SBI measures the Non-Retirement Money Market Fund against the iMoneyNet All Taxable Money Fund Average.

As of June 30, 2022, the Non-Retirement Money Market Fund outperformed its benchmark for all time-periods listed.

Historical performance for the Non-Retirement Money Market Fund is provided below in Figures 75A and 75B.



*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 / Assigned Risk Plan Investment Vehicle: Fixed Income Portfolio

Assigned Risk Plan Fixed Income Portfolio

The Assigned Risk Plan fixed income portfolio is benchmarked to the Bloomberg Barclays Intermediate Government Index, which consists of high quality, U.S. dollar denominated, fixed rate taxable bonds.

As of June 30, 2022, the Assigned Risk Plan fixed income portfolio had \$203.5 million.

Investment Objectives

The main objective for the fixed income portfolio is to provide cash for the payment of workers compensation claims on the required dates. Because of the uncertainty of premium and liability cash flows, the fund is invested in a conservative portfolio of investment grade debt securities.

Investment Management

RBC Global Asset Management has managed the fixed income portfolio for the Assigned Risk Plan since July 1991. The primary focus for portfolio construction is with security selection and secondarily on sector analysis.

RBC Global Asset Management is required to adhere to the SBI's investment guidelines in managing the account. These guidelines allow RBC Global Asset Management to actively manage the portfolio through duration, yield curve, sector and security selection while closely tracking its benchmark.

Asset Allocation

As an actively managed bond portfolio the sector allocation will deviate from the benchmark composition.

As of June 30, 2022, the Assigned Risk Plan fixed income portfolio had a higher allocation in Government Related and Agency Securitized bonds and less exposure to U.S. Treasury bonds relative to the benchmark.

Current Positioning

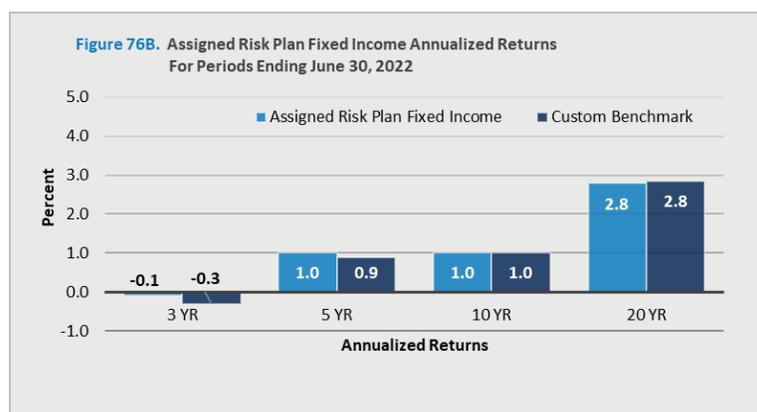
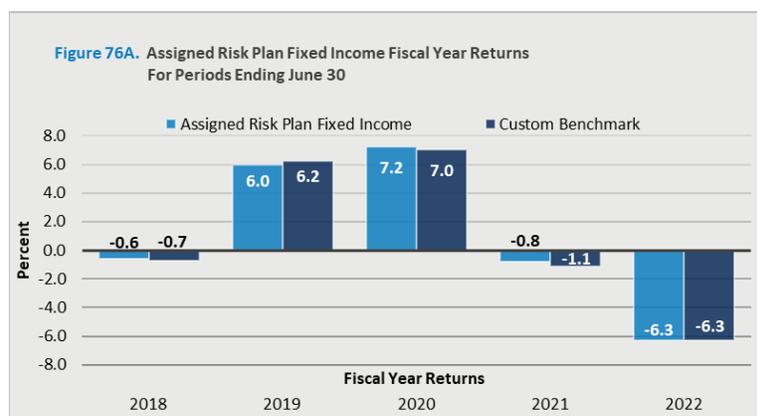
The portfolio effective duration matched the benchmark of 3.82 years. The portfolio earned a higher market yield of 0.40% compared to the benchmark market yield of 0.32% and has similar average credit quality of AAA.

Investment Performance

Performance is measured to the Bloomberg Intermediate Government Index return since June 2011. Prior to that, performance was measured to a custom benchmark using target weights to indices with different maturities.

For fiscal year 2022, the Assigned Risk Plan fixed income portfolio matched the benchmark return. Results for longer time-periods show the Fund matched its composite index over the ten and twenty year time-period ending June 30, 2022.

Historical performance results for the Assigned Risk Plan fixed income portfolio are shown in Figures 76A and 76B.



Non-Retirement Account Permanent School Fund

Permanent School Fund

Overview

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, 2022 the market value of the Fund was \$1.7 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 portfolio quality and liquidity.

Investment Constraints

The Fund's investment objectives are influenced by the legal provisions under which its investments must be managed. These provisions require that the Fund's principal remain inviolate. Any net realized capital gains from stock or bond investments must be added to the principal. Moreover, if the Fund realizes net capital losses, these losses must be offset against interest and dividend income before such income can be distributed. Finally, all interest and dividend income must be distributed in the year in which it is earned.

Asset Allocation

In order to produce a growing level of spendable income, the Fund has exposure to equities.

The current long-term asset allocation targets for the Fund are:

Domestic Equity	50%
Domestic Bonds	48%
Cash	2%

Prior to fiscal year 1998, the Permanent School Fund had been invested entirely in fixed income securities for more than a decade. While this asset allocation maximized current income, it limited the long-term growth of the Fund and caused the income stream to lose value in inflation adjusted terms, over time.

To solve both issues, a proposal to introduce equities to the Fund's asset mix was presented during fiscal year 1997. Since this modification would reduce short-term income and have

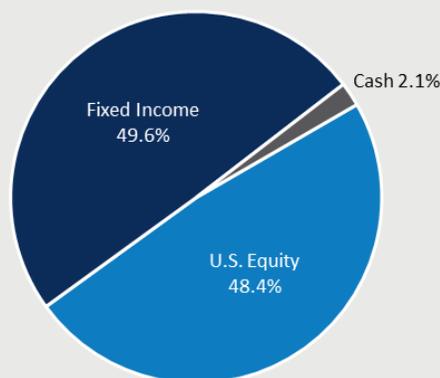
budgetary implications for the state, the consent of the executive and legislative branches was necessary. It was favorably received by the Minnesota Legislature and incorporated into the K-12 education finance bill. As a result, the Fund allocation was shifted in July 1997.

Figure 77 presents the actual asset mix of the Permanent School Fund at the end of fiscal year 2022.

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 139-141.

Figure 77. Permanent School Fund Asset Mix as of June 30, 2022



Non-Retirement Account Permanent School Fund

Investment Performance

During the fiscal year, the *equity* segment of the Permanent School Fund matched its benchmark, the S&P 500.

The *bond* segment underperformed its benchmark, the Bloomberg U.S. Aggregate, by 0.8 percentage points during the current fiscal year.

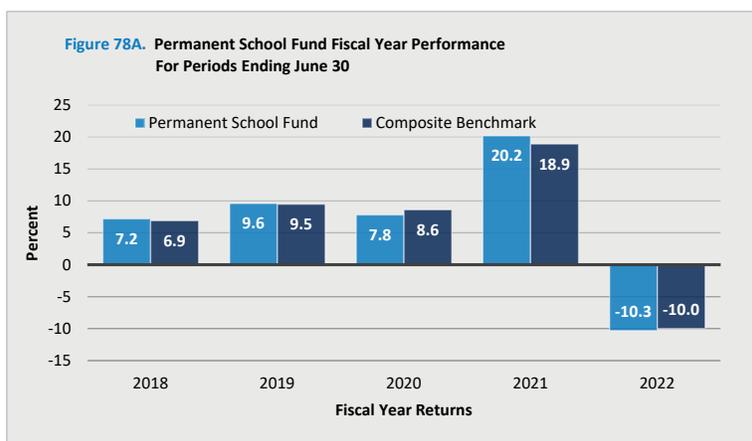
The *cash* segment outperformed its benchmark, the iMoneyNet All Taxable Fund, by 0.1 percentage point during the fiscal year.

Overall, the Permanent School Fund provided a return of -10.3% for fiscal year 2022, underperforming its composite index by 0.3 percentage points. Results for longer time-periods show the Fund outperforming its composite index over the ten- and twenty-year time periods ending June 30, 2022.

Historical performance results for the total Fund and each of the asset class segments are provided in Figure 78A and Figure 78B.

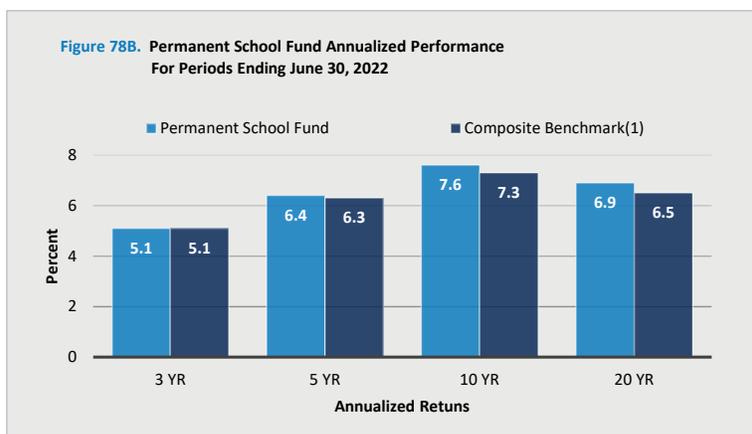
Spendable income generated by the portfolio over the last five fiscal years is shown below:

Fiscal Year	Millions
2018	\$33
2019	\$36
2020	\$39
2021	\$36
2022	\$36



	Fiscal Year End Return (%)				
	2018	2019	2020	2021	2022
Permanent School Fund Total	7.2	9.6	7.8	20.2	-10.3
Composite Benchmark ¹	6.9	9.5	8.6	18.9	-10.0
U.S. Equity Segment	14.3	10.4	7.5	40.8	-10.6
S&P 500	14.4	10.4	7.5	40.8	-10.6
Bond Segment	-0.3	8.4	8.2	1.2	-11.1
Bloomberg Agg	-0.4	7.9	8.7	-0.3	-10.3
Cash Segment	1.4	2.4	1.5	0.1	0.2
iMoney Net All Taxable Fund	1.0	1.9	1.1	0.0	0.1

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%.



	Annualized Returns (%) as of June 30, 2022			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Permanent School Fund Total	5.1	6.4	7.6	6.9
Composite Benchmark ¹	5.1	6.3	7.3	6.5
U.S. Equity Segment	10.6	11.3	12.9	9.1
S&P 500	10.6	11.3	12.9	9.1
Bond Segment	-0.9	1.0	2.0	4.1
Bloomberg Agg	-0.9	0.9	1.5	3.6
Cash Segment	0.6	1.1	0.7	1.4
Custom Benchmark ²	0.4	0.4	0.8	1.1

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 Account Environmental and Natural Resources Trust Fund

Environmental and Natural Resources Trust Fund

Overview

The Environmental and Natural Resources Trust Fund (known as Environmental Trust Fund) was established in 1988 by the Minnesota Legislature to provide a long-term, consistent and stable source of funding for activities that protect and enhance the environment. By statute, the SBI invests 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, 2022 the market value of the Fund was \$1.45 billion.

Investment Objective

The Environmental Trust Fund's investment objective is long-term growth in order to produce a growing level of funding within the constraints of maintaining adequate portfolio liquidity.

A constitutional amendment passed in November 1998 continues the mandate that 40% of the net proceeds from the state lottery be credited to the Fund through 2025.

The amendment provides for spending 5.5% of the Fund's market value annually. The amendment eliminated certain accounting restrictions on capital gains and losses as well as the provision that the principal must remain inviolate.

Asset Allocation

After the constitutional amendment was adopted in November 1998, SBI staff worked with the Legislative Citizen Commission on Minnesota Resources to establish an asset allocation policy that is consistent with the Commission's goals for spending and growth of the Fund. The Fund allocation is positioned for an appropriate long-term growth potential to meet the Fund's objective to produce a growing level of funding.

The current long-term asset allocation targets for the Fund are:

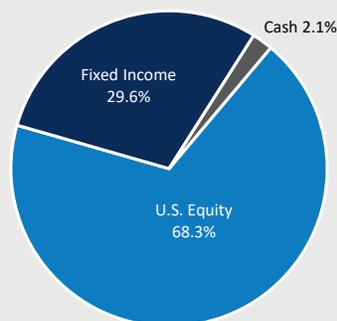
Domestic Equity	70%
Domestic Bonds	28%
Cash	2%

Figure 79 presents the actual asset mix of the Fund at the end of fiscal year 2022.

Investment Management

The Environmental Trust Fund is invested in the Non-Retirement Equity, Bond and Money Market Funds. Fund Summaries are provided on pages 139-141.

Figure 79. Environmental Trust Fund Asset Mix as of June 30, 2022



Non-Retirement Account Environmental Trust Fund

Investment Performance

During the fiscal year, the *equity* segment matched its benchmark, the S&P 500, for the fiscal year.

The *bond* segment underperformed its benchmark, the Bloomberg U.S. Aggregate Index, by 0.8 percentage points during the fiscal year.

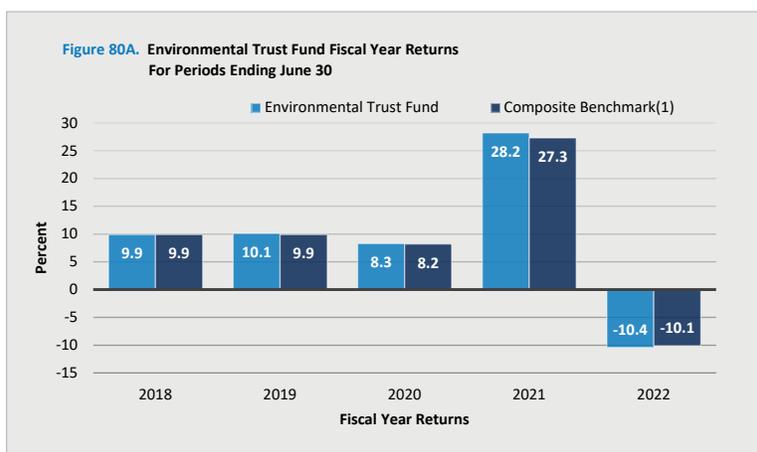
The *cash* segment outperformed its benchmark, the iMoneyNet All Taxable Money Fund Average by 0.1 percentage point during the fiscal year.

Overall, the Environmental Trust Fund provided a return of -10.4% for fiscal year 2022, which underperformed its composite index by 0.3 percentage point during the fiscal year. Results for a longer time-periods, show the Fund outperforming its composite index over the ten- and twenty-year time periods ending June 30, 2022.

Historical performance results for the total Fund and each of the asset class segments are presented in Figures 80A and 80B.

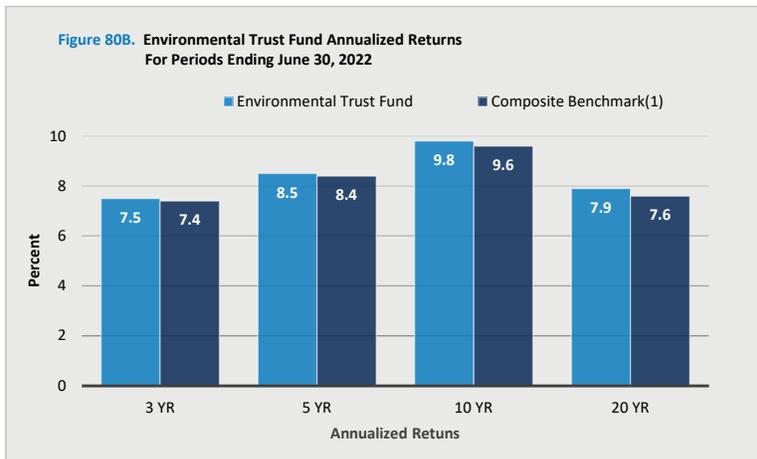
Spendable income generated by the Fund over the last five fiscal years is shown below:

Fiscal Year	Millions
2018	\$51
2019	\$51
2020	\$61
2021	\$61
2022	\$71



	Fiscal Year End Return (%)				
	2018	2019	2020	2021	2022
Environmental Trust Fund Total	9.9	10.1	8.3	28.2	-10.4
Composite Benchmark ¹	9.9	9.9	8.2	27.3	-10.1
Equity Segment	14.3	10.4	7.5	40.8	-10.6
S&P 500	14.4	10.4	7.5	40.8	-10.6
Bond Segment	-0.3	8.4	8.2	1.2	-11.1
Bloomberg Agg	-0.4	7.9	8.7	-0.3	-10.3
Cash Segment	1.4	2.4	1.5	0.1	0.2
iMoney Net All Taxable Fund	1.0	1.9	1.1	0.0	0.1

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%.



	Annualized Returns (%) as of June 30, 2022			
	3 Yr.	5 Yr.	10 Yr.	20 Yr.
Environmental Trust Fund Total	7.5	8.5	9.8	7.9
Composite Benchmark ¹	7.4	8.4	9.6	7.6
Equity Segment	10.6	11.3	12.9	9.1
S&P 500	10.6	11.3	13.0	9.1
Bond Segment	-0.9	1.0	2.0	4.1
Bloomberg Agg	-0.9	0.9	1.5	3.6
Cash Segment	0.6	1.1	0.7	1.4
Custom Benchmark ²	0.4	0.4	0.8	1.1

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 Account Closed Landfill Investment Fund

Closed Landfill Investment Fund

Overview

The Closed Landfill Investment Fund is a trust fund created by the Minnesota Legislature to invest money to pay for the long-term costs of maintaining the integrity of landfills in Minnesota once they are closed.

As of June 30, 2022 the Fund market value was \$116.1 million.

Investment Objective

The investment objective of the Closed Landfill Investment Fund is to increase the market value of the Fund and to reduce volatility in order to meet future expenditure needs.

Asset Allocation

Equities provide the potential for capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

The current long-term asset allocation targets for the Fund are:

Domestic Equity	70%
Domestic Bonds	30%

Prior to September of 2014, the Closed Landfill Investment Fund had been invested entirely in domestic equity. While this asset class maximized long-term growth opportunities, it did not allocate any assets for capital protection.

Investment Management

The Closed Landfill Investment Fund is invested in the Non-Retirement Equity and Bond Funds. Fund Summaries are provided on pages 139-141.

Investment Performance

During the fiscal year, the *equity* segment of the Closed Landfill Investment Fund matched its benchmark, the S&P 500.

The *bond* segment underperformed its benchmark, the Bloomberg U.S. Aggregate, by 0.8 percentage points during the current fiscal year.

Overall, the Closed Landfill Investment Fund returned -10.4% during the 2022 fiscal

year, underperforming its composite index by 0.1 percentage point. For the ten and twenty-year time-periods, the Fund matched and outperformed its composite benchmark, respectively.

Historical performance results for the total Fund and each asset class segment are shown in Figures 81A and 81B.

Figure 81A. Closed Landfill Investment Fund Fiscal Year Performance For Periods Ending June 30



Figure 81B. Closed Landfill Investment Fund Annualized Performance For Periods Ending June 30, 2022



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 Account Assigned Risk Plan

Assigned Risk Plan

Overview

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 either periodically or in lump sum.

As of June 30, 2022 the market value for the Fund was \$255.1 million.

Investment Objectives

The SBI recognizes that the Assigned Risk Plan has limited tolerance for risk due to erratic cash flows, no allowance for surplus, and generally short duration liabilities.

Therefore, the SBI has established two investment objectives for the Plan:

- To minimize mismatch between assets and liabilities.
- To provide sufficient liquidity (cash) for payment of on-going claims and operating expenses.

Performance relative to these objectives is measured against a composite index that reflects the asset allocation of the portfolio.

Asset Allocation

The SBI believes that due to the uncertainty of premium and liability cash flows, the Plan should be invested very conservatively.

The fixed income portfolio is invested to fund the shorter-term liabilities (less than 10 years) and the equity segment is invested to fund the longer-term liabilities. The result is a high fixed income allocation, which minimizes the possibility of a future fund deficit. The smaller equity exposure provides higher expected returns and hedges some of the inflation risk associated with the future liability stream.

The current long-term asset allocation targets for the Plan are as follows:

Domestic Equity	20%
Domestic Bonds	80%

The asset allocation may fluctuate in response to changes in the liability stream projected by the Plan's actuary and further analysis by the SBI staff.

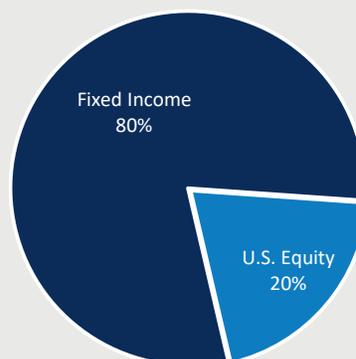
Figure 82 presents the asset mix of the Assigned Risk Plan at the end of fiscal year 2022.

Investment Management

The *equity segment* is managed by Mellon Investments Corporation in the Non-Retirement Equity Fund to fund the longer-term liabilities of the Plan. More detail on the Non-Retirement Equity Fund is provided on page 139.

The *bond segment* is managed by RBC Global Asset Management using a fundamental approach, with a focus primarily on security selection and secondarily on sector analysis. More information on the Assigned Risk Plan fixed income portfolio is provided on page 142.

Figure 82. Assigned Risk Plan Asset Mix as of June 30, 2022



Non-Retirement Account Assigned Risk Plan

Investment Performance

Due to the focus on liability matching, the Assigned Risk Plan's investment portfolio is conservatively structured. While active management is utilized in the fixed income portfolio, return enhancement plays a secondary role.

The Assigned Risk Plan is measured against a composite index which is weighted to reflect the asset allocation of the Plan:

- The target for the equity component is the S&P 500.
- The target for the fixed income component is a custom benchmark which reflects the duration target established for the bond segment (approximately three years).

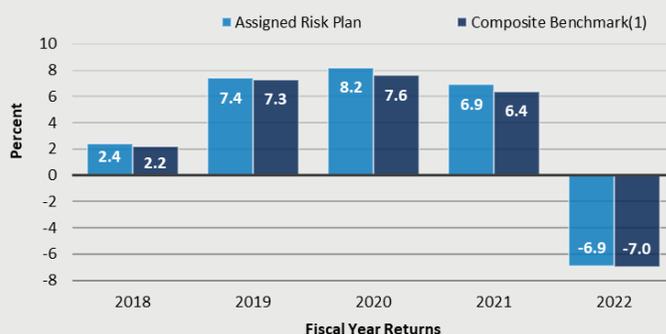
The **equity** segment matched the benchmark, the S&P 500, with a -10.6% return at fiscal year-end 2022.

The **bond** segment matched its benchmark, the Bloomberg U.S. Intermediate Government Index, with a -6.3% return, for fiscal year-end 2022.

Overall, the Assigned Risk Plan provided a return of -6.9% for fiscal year 2022, which was 0.1 percentage point above the composite index. For longer time-periods, the ten-year outperformed and the twenty year matched the composite benchmark return as of June 30, 2022.

Historical performance results are provided in Figures 83A and 83B.

Figure 83A. Assigned Risk Plan Total Fiscal Year Performance For Periods Ending June 30



	Fiscal Year End Return (%)				
	2018	2019	2020	2021	2022
Assigned Risk Plan Total	2.4	7.4	8.2	6.9	-6.9
Composite Benchmark ¹	2.4	2.2	7.3	7.6	-7.0
Stock Segment	19.6	14.3	10.4	7.5	-10.6
S&P 500	17.9	14.4	10.4	7.5	-10.6
Bond Segment	-1.1	-0.6	6.0	7.2	-6.3
Benchmark ²	-1.2	-0.7	6.2	7.0	-6.3

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 Trsy/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 83B. Assigned Risk Plan Total Annualized Performance For Periods Ending June 30, 2022



	Annualized Returns (%) as of June 30, 2022			
	3 Yr.	5Yr.	10 Yr.	20 Yr.
Assigned Risk Plan Total	2.5	3.4	3.7	4.3
Composite Benchmark ¹	2.1	3.1	3.4	4.3
Stock Segment	10.6	11.3	12.8	8.7
S&P 500	10.6	11.3	13.0	9.1
Bond Segment	-0.1	1.0	1.1	2.8
Benchmark ²	-0.3	0.9	1.0	2.8

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 Trsy/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 Account Other Postemployment Benefits (OPEB)

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 health benefits.

If PERA is chosen by the local unit, assets of that unit's account are invested by the SBI.

As of June 30, 2022 the total market value of the OPEB accounts was \$772.9 million.

Investment Options

There are three Non-Retirement investment options available to local OPEB trusts: an Equity, Bond, and a Money Market Fund. Fund summaries are provided on pages 139-141.

Asset Allocation

The SBI does not determine the asset allocation policy for these assets.

Participating Entities

As of June 30, 2022, there were 23 entities with OPEB investment accounts invested by the SBI.

Duluth OPEB

The SBI is required to report the returns provided on assets invested by the City of Duluth for this purpose. The City of Duluth made its first investment with the SBI in July 2007.

As of June 30, 2022, the market value of the Duluth OPEB Fund was \$81.9 million.

Investment Performance

Overall, the Duluth OPEB portfolio provided a return of -10.7% which outperformed a composite index that represents the benchmark returns for the portfolio asset mix as of June 30, 2022.

The **equity** segment matched the benchmark, the S&P 500, with a -10.6% return during the fiscal year 2022.

The **bond** segment returned -11.1% for the fiscal year, which underperformed its benchmark, the Bloomberg U.S. Aggregate.

Historical annualized performance results as of June 30, 2022, are provided in Figure 84.

Figure 84. Duluth OPEB Performance for Periods Ending June 30, 2022

	Annualized Returns (%)		
	1 Yr.	3 Yr.	5 Yr.
Duluth OPEB	-10.7	7.7	8.6
Composite Benchmark ¹	-10.4	7.4	8.4
U.S. Equity Segment	-10.6	10.6	11.3
S&P 500	-10.6	10.6	11.3
Bond Segment	-11.1	-0.9	1.0
Bloomberg U.S. Aggregate	-10.3	-0.9	0.9

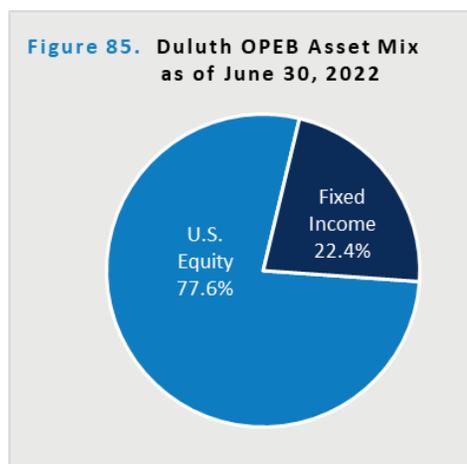
¹ Represents the aggregate returns of a target allocation to 70% S&P 500 and 30% Bloomberg U.S. Aggregate.

Asset Allocation

Duluth is responsible for the asset allocation decision in this account and as of June 30, 2022, the asset allocation was the following:

Domestic Equities 78%
Domestic Bonds 22%

Figure 85 presents the asset mix of the Duluth OPEB as of June 30, 2022.



Non-Retirement Account Qualifying Governmental Entities

Qualifying Governmental Entities

Overview

Under the provisions of [Minnesota Statutes, Section 118A.09](#), primarily counties and cities who meet the criteria provided within statute may invest in the Non-Retirement Equity Fund. Statute also authorizes certain self-insurance pools to invest with the SBI.

As of June 30, 2022 the total market value of the Qualifying Governmental investment account was \$7.3 million.

Investment Option

At this time, only the Non-Retirement Equity Fund is available as an investment option to Qualifying Governmental Entities.

The Non-Retirement Equity Fund is a passively managed portfolio to the S&P 500 Index in a separately managed account. More detail on the Non-Retirement Equity Fund is provided on page 139.

Participating Entities

As of June 30, 2022, there were two Qualifying Governmental investment accounts invested with the SBI.

Plan Administrator

The Public Employees Retirement Association (PERA) administers the accounts for Qualifying Governmental Entities. Each entity must maintain a Long-Term Equity Investment Account Agreement with PERA in order to invest through the SBI.

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STATE CASH ACCOUNTS

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Other State Cash Accounts 156

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State Cash Accounts

Investment Program Overview and Investment Vehicles

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 money market returns. On June 30, 2022, the total market value of the cash accounts internally managed by the SBI was \$25.6 billion.

State Cash Accounts

State Cash Account assets represent funds invested in the Invested Treasurer's Cash (ITC) Pool and in Other State Cash Accounts. State agencies with differing investment objectives, strategies, and time horizons, are not invested in the ITC Pool and are invested in a separate account.

Investment Objectives

The investment objectives for investing state cash accounts are to preserve capital, to meet the state's cash needs without the forced sale of securities at a loss, and to provide a level of current income consistent with the goal of preserving capital.

Investment Management

All State Cash Accounts are managed internally by SBI investment staff.

Invested Treasurer's Cash Pool

The majority of the State Cash Accounts are invested in a short-term pooled fund referred to as the Invested Treasurer's Cash Pool (ITC). ITC assets represent \$25.5 billion, or 99.7% of State Cash Account assets as of June 30, 2022. This pool contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury.

Figure 86. Invested Treasurer's Cash Fund Distribution as of June 30, 2022

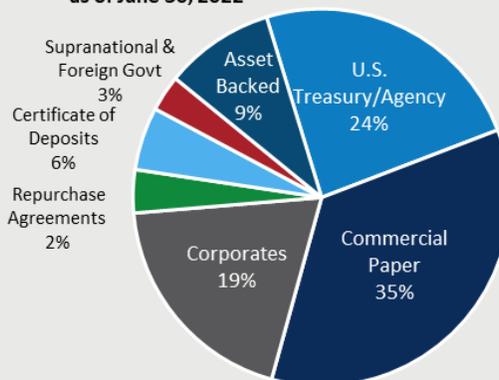


Figure 87A. Invested Treasurer's Cash Pool Fiscal Year Performance For Periods Ending June 30

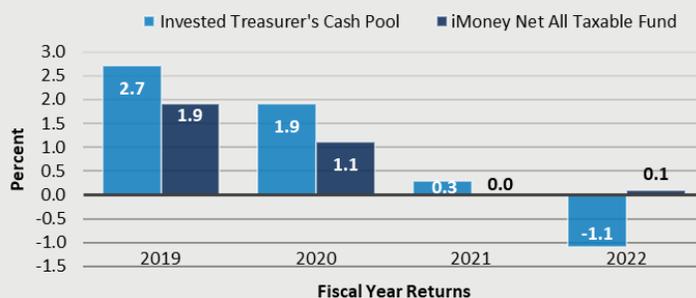
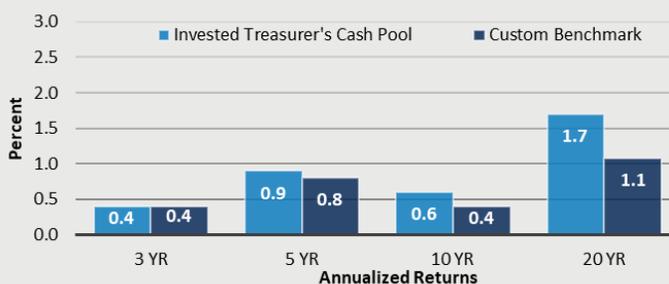


Figure 87B. Invested Treasurer's Cash Pool Annualized Performance For Periods Ending June 30, 2022



*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.

State Cash Accounts

Investment Program Overview and Investment Vehicles

Asset Allocation

The ITC portfolio is constructed to generate current income while preserving capital by investing in high quality, liquid, short-term investments. These include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, short-term corporates, and certificates of deposit. The composition of the Pool as of June 30, 2022 is shown in Figure 86 on the previous page.

At the end of the fiscal year, the Pool had a current yield of 1.10% and a weighted average maturity of 151.5 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 87A and Figure 87B on the previous page. For fiscal year 2022, the ITC Pool outperformed its benchmark by 0.2 percentage point and outperformed for all time-periods listed.

Other State Cash Accounts

Approximately \$89.5 million of assets are in Other State Cash Accounts, which are for separately managed dedicated accounts with different legal restrictions. These agencies direct the investments or provide the SBI with investment guidelines and the SBI executes on their behalf. The majority of these assets are related to state

or state agency debt issuance including debt service reserves and proceeds.

Excess Debt Reserve

The SBI manages excess debt reserve accounts separate from the ITC Pool in order to align with requirements related to the issuance of general obligation bonds.

When the full faith and credit of the state has been pledged for the payment of the state's bonds, the Minnesota Constitution and Statutes require the state to have on hand by December 1 of each year, an amount sufficient to pay principal and interest on the State's general obligation debt for the next nineteen months. The Internal Revenue Code establishes rules surrounding debt issuance, debt service, and yield management.

The SBI complies with these rules by splitting the nineteen months of funds set aside for debt service into two accounts:

- A "bona fide debt service account" to comply with federal regulations; and
- An "excess reserve account," to comply with the Minnesota Constitution and statutes.

The primary investments used for the reserve accounts are U.S. Treasuries and municipal bonds.

As of fiscal year end 2022, the SBI had \$89.5 million invested in the Excess Debt Service Reserve.

Minnesota Public Facilities Authority

The SBI additionally invests assets on behalf of and at the direction of the Minnesota Public Facilities Authority.

As of June 30, 2022, 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 cash account with the SBI.

As of June 30, 2022, the SBI did not invest any assets on behalf of the Housing Finance Authority.



FINANCIAL REPORTS

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Financial Reports

NOTES TO THE FINANCIAL SCHEDULES - JUNE 30, 2022

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). Combined Fund 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 161-168.

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 on 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, 2022

	Stable Value Fund	Money Market Fund	Bond Fund	Balanced Fund	U.S. Equity Index Fund	U.S. Equity Actively Managed Fund	Broad International Stock Fund	Volunteer Fire Fighter Account	Total Supplemental Investment Fund
Assets									
Short-Term Investments									
Stable Value Fixed Interest	\$ 1,744,789								\$ 1,744,789
Money Fund		635,290		5,025				6,730	647,045
Fixed Income Investments									
Bond Pool			101,045	34,357				61,303	196,705
Equity Investments									
Domestic Stock Pool				58,193	351,755	75,900		44,680	530,528
International Stock Pool							127,003	19,542	146,545
Net Supplemental Position Assets Held in Trust	\$ 1,744,789	\$ 635,290	\$ 101,045	\$ 97,575	\$ 351,755	\$ 75,900	\$ 127,003	\$ 132,255	\$ 3,265,612

Unaudited

Retirement Plans – Supplemental Investment Accounts

Schedule of Changes in Net Assets (Amounts in 000's) – As of June 30, 2022

	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	\$ 3,425	\$ 24,833	\$ (3,556)	\$ (167)	\$ (14,302)	\$ (1,375)	\$ (2,566)	\$ 133	\$ 6,425
Net Increase in Fair Value of Investments	31,148	-	(13,700)	(13,745)	(58,154)	(15,804)	(27,911)	(19,453)	(117,619)
Total Investment Income (Loss)	\$ 34,573	\$ 24,833	\$ (17,256)	\$ (13,912)	\$ (72,456)	\$ (17,179)	\$ (30,477)	\$ (19,320)	\$ (111,194)
Expenses									
Administrative Expenses	\$ (106)	\$ (38)	\$ (7)	\$ (7)	\$ (27)	\$ (6)	\$ (9)	\$ (160)	\$ (360)
Investment Expenses	(3,319)	\$ 0	(117)	(42)	(18)	(206)	(433)	(133)	(4,268)
Total Expenses	\$ (3,425)	\$ (38)	\$ (124)	\$ (49)	\$ (45)	\$ (212)	\$ (442)	\$ (293)	\$ (4,628)
Net Income - Supplemental Investments	\$ 31,148	\$ 24,795	\$ (17,380)	\$ (13,961)	\$ (72,501)	\$ (17,391)	\$ (30,919)	\$ (19,613)	\$ (115,822)
Participant Transactions									
Additions	\$ 106,311	\$ 102,934	\$ 1,561	\$ 4,595	\$ 1,378	\$ 1,423	\$ 5,576	\$ 12,028	\$ 235,806
Withdrawals	(96,875)	(71,490)	(2,329)	(7,622)	(37,267)	(3,966)	(7,899)	(5,296)	(232,744)
Net Participant Transactions	\$ 9,436	\$ 31,444	\$ (768)	\$ (3,027)	\$ (35,889)	\$ (2,543)	\$ (2,323)	\$ 6,732	\$ 3,062
Total Change in Assets	\$ 40,584	\$ 56,239	\$ (18,148)	\$ (16,988)	\$ (108,390)	\$ (19,934)	\$ (33,242)	\$ (12,881)	\$ (112,760)
Net Supplemental Investment Assets Held in Trust									
Beginning of Fiscal Year	1,704,205	579,051	119,193	114,563	460,144	95,834	160,245	145,137	3,378,372
End of Fiscal Year	\$ 1,744,789	\$ 635,290	\$ 101,045	\$ 97,575	\$ 351,754	\$ 75,900	\$ 127,003	\$ 132,256	\$ 3,265,612

Unaudited

Financial Reports

Retirement Plans Participation – As of June 30, 2022

Retirement Plan Participation

Total Plan Participation (Amounts in 000's) – As of June 30, 2022

	Domestic Equity	International Equity	Global Equity	Fixed Income	Cash	Private Markets	Private Markets	Stable Value Fund	Total
Retirement Plans Participation									
Combined Funds	\$ 26,807,970	\$ 12,040,507	\$ 844,223	\$ 18,654,061	\$ 1,529,235	\$ 20,454,814	\$ 989,055	\$ -	\$ 81,319,866
Fire Relief + Other Public Retirement Plans	477,976	142,985	-	178,664	31,274	-	-	-	830,898
Participant Directed Investment Program	52,553	3,559	-	18,041	615,772	-	-	1,744,789	2,434,714
Total Plan Participation	\$ 27,338,499	\$ 12,187,052	\$ 844,223	\$ 18,850,766	\$ 2,176,281	\$ 20,454,814	\$ 989,055	\$ 1,744,789	\$ 84,585,478

Retirement Plans

Combined Funds Plan Participation (Amounts in 000's) – As of June 30, 2022

	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	\$ 5,205,399	\$ 2,337,979	\$ 164,281	\$ 834,403	\$ 762,535	\$ 1,492,377	\$ 534,138	\$ 286,299	\$ 3,971,835	\$ 192,520	\$ 15,781,766
Correctional Employees Retirement Fund	486,221	218,420	14,665	77,952	68,246	139,422	49,901	28,083	371,058	17,031	1,470,999
Highway Patrolmen's Retirement Fund	290,138	130,313	8,990	46,507	41,745	83,181	29,771	17,256	221,379	10,501	879,782
Judges Retirement Fund	83,458	37,479	2,618	13,376	12,157	23,924	8,563	5,225	63,671	3,060	253,531
PERA General Employee Retirement Fund	8,580,025	3,853,977	268,977	1,375,449	1,249,546	2,460,068	880,485	467,297	6,547,264	314,826	25,997,915
Public Employee Correctional Fund	323,582	145,410	9,540	51,895	44,505	92,818	33,221	15,710	247,027	11,023	974,730
Public Employee Police & Fire Fund	3,435,125	1,543,011	107,165	550,687	497,760	984,934	352,519	188,466	2,621,319	125,288	10,406,274
Teacher's Retirement Fund	8,404,022	3,773,918	267,987	1,346,877	1,243,939	2,408,965	862,195	520,898	6,411,262	314,806	25,554,869
Total Combined Funds Assets	\$ 26,807,970	\$ 12,040,507	\$ 844,223	\$ 4,297,147	\$ 3,920,433	\$ 7,685,690	\$ 2,750,791	\$ 1,529,235	\$ 20,454,814	\$ 989,055	\$ 81,319,866

Retirement Plans – Supplemental Investment Fund Investments

Fire Relief Plans + Other Public Retirement Plans Participation – As of June 30, 2022

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Ada	\$ 152,035	\$ 55,974	\$ 68,775	\$ 109,279	\$ 386,062
Almelund	438,324		101,828	304,686	844,838
Amboy	198,428		17,011		215,439
Argyle	230,501		40,165	5,874	276,540
Arrowhead	138,331		31,972	1,572	171,875
Askov	127,577		25,345	3,707	156,628
Audubon	377,440		305,377	26,856	709,673
Austin	1,409,066		248,737	36,378	1,694,181
Avon	139,053				139,053
Backus	39,848				39,848
Bagley	156,091		79,488	7,608	243,186
Balsam	536,231		122,510	17,917	676,658
Battle Lake	462,394		272,991	39,925	775,311
Beardsley	233,323	45,925	55,021	296	334,565
Beaver Creek	64,481		23,767		88,248
Bemidji	2,064,282	649,294	937,539	19,714	3,670,831
Bertha	283,148		58,995	8,628	350,771
Bigfork	412,823	23,239	10,874	1,590	448,526
Bird Island	186,968		35,750	5,228	227,946

Financial Reports

Retirement Plans Participation – As of June 30, 2022

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Blackduck	\$ 26,551	\$ 39,699			\$ 66,250
Blooming Prairie	225,200		132,080	46,588	403,868
Bloomington	65,927,147	22,106,365	78,035,168		166,068,679
Boyd	60,198		12,434	1,818	74,451
Brooten	8,928			486,006	494,934
Buffalo Fire	271,836		18,783	18,793	309,411
Buffalo Lake	529,132		93,541	13,681	636,354
Carlton	288,172	30,127	63,841	3,109	385,250
Ceylon	387,462		52,183	7,632	447,277
Cherry	389,921		51,539	7,538	448,997
Chisago City	857,135	216,992	163,233	65,143	1,302,502
Chokio	169,564	41,145	100,108	14,641	325,458
Clarissa	117,268		41,862		159,129
Clarkfield	217,687		138,454	13,299	369,441
Clear Lake	372,774		61,375	490,584	924,733
Cloquet (Perch Lake)	615,311	40,558	282,584	6,757	945,211
Columbia Heights	2,540,825		527,466		3,068,291
Coon Rapids	1,649,064		2,136,259	142,388	3,927,712
Courtland	33,327		19,676	6,120	59,123
Cyrus	111,589	17,830	33,723		163,142
Dakota	203,495		104,037	7,973	315,505
Dawson	345,750		145,570	21,290	512,610
Dayton Fire	268,544		41,404	22,440	332,388
Deer Creek	88,039	13,968	29,310	300,972	432,288
Dover	285,138	47,100	89,072	27,916	449,226
East Grand Forks	790,821		466,889	68,283	1,325,993
Edgerton	674,807		178,128	26,051	878,987
Elbow Lake	409,166	36,168	97,582	14,448	557,364
Excelsior	3,448,729	1,647,257	2,041,980		7,137,966
Eyota	132,203		153,593	147,949	433,744
Fairmont	1,025,640		605,523	88,559	1,719,723
Fergus Falls	1,688,252	118,560	1,197,556	40,481	3,044,850
Forest Lake	219,249		94,810	13,866	327,926
Franklin	486,893				486,893
Ghent	60,117	7,787	8,654		76,559
Glencoe	496,131				496,131
Glenville	195,430	62,114	77,120	3,657	338,321
Glenwood	783,456		251,276	17,091	1,051,823
Golden Valley	3,284,184	515,943	794,649	79,389	4,674,165
Gonvick	190,709		36,189	5,293	232,190
Good Thunder	489,010		83,480	12,209	584,699
Goodland	71,610		7,534	1,102	80,246
Grand Meadow	476,083		88,671	9,476	574,230
Grey Eagle	192,851	49,002	113,857	16,652	372,361
Hackensack	268,212	168,597	258,911	23,159	718,879
Hanover Regular	468,664		587,420	40,467	1,096,550
Hanska	195,670		105,864	11,485	313,019
Harmony	173,397	35,660	36,470	65,510	311,037
Hawley	215,682			128	215,810
Hayward	134,194	37,567	19,946	477,266	668,973
Hector	661,876		390,762	57,150	1,109,788
Herman	190,386	30,420	38,120		258,926
Hokah	83,751		30,830	11,737	126,318
Holdingford	82,917		9,444	1,381	93,741

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Retirement Plans Participation – As of June 30, 2022

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Holland	\$178,408	\$103,292	\$70,579	\$3,139	\$355,418
Jacobson	163,984	44,212	26,471	11,117	245,784
Kandiyohi	471,090		106,162	8,253	585,505
Kelsey	65,963	33,757	29,702		129,423
Kerkhoven	234,763		68,642	3,924	307,328
Kilkenny	470,781		152,088	94,722	717,591
La Crescent	951,814		141,186	13,516	1,106,516
La Salle	101,277		10,203	1,492	112,973
Lafayette	528,365	61,830	130,772	17,077	738,044
Lake City	589,484		338,595	47,857	975,936
Lakeville	7,239,097	488,512	1,194,931		8,922,540
Lewiston	411,541		76,329	11,163	499,033
Littlefork	507,787		123,040	17,995	648,822
Long Lake	1,452,912		857,779	125,451	2,436,142
Lonsdale	617,512	140,085	72,431	26,209	856,238
Lowry	202,325				202,325
Lyle	211,841	3,402	32,142	4,564	251,949
Lyle Special				7,408	7,408
Mable	79,607	21,790	30,730	28,877	161,004
Madison	429,489		54,825	34,323	518,636
Madison Lake	33,409	8,423	7,667	1,121	50,620
Maple Hill	246,191		200,230	21,257	467,679
Mapleton	95,048		27,846	1,559	124,454
Mapleview	226,001	38,954	96,281	6,494	367,730
Marietta	221,960		142,978	6,498	371,436
Marine St. Croix	287,926		169,988	187,896	645,810
Maynard	98,863		58,367	8,536	165,767
McDavitt	253,690	15,156	51,320	6,035	326,202
McGrath	44,457		24,781	1,747	70,985
McIntosh	210,109		21,323	13,498	244,930
Medford	665,748	58,745	126,606	3,740	854,839
Medicine Lake	718,521	239,666	180,038		1,138,225
Menahga	173,803		277,369	15,007	466,180
Mendota Heights	2,047,590	285,831	1,013,407	222,704	3,569,532
Milan	254,754		60,952	5,174	320,880
Minneota	153,177	16,544	60,422	4,560	234,704
Minnetonka	6,915,189	1,036,381	4,753,789	597,091	13,302,450
Mission Twp	323,711		191,115	27,951	542,777
Morristown	573,152		133,911	720,004	1,427,067
Murdock	108,836	15,534	12,518	1,831	138,719
Myrtle	153,632		90,702	66,905	311,239
Nassau	321,886	37,332	73,025	2,451	434,695
New Brighton	3,028,840		1,560,872		4,589,712
New Ulm	769,302				769,302
New York Mills	124,166		73,306	10,721	208,193
Nicollet	707,403	210,197	159,087	31,234	1,107,920
Nodine	240,723	25,136	46,228	73,838	385,925
North Branch	283,583	33,706	29,389	4,298	350,976
Northfield	3,412,441	722,541	615,152	1,744,083	6,494,216
Northrop	245,211		42,807	6,261	294,279
Onamia	103,749		26,714	241,039	371,502
Ormsby	27,033	11,637	5,018	734	44,422
Oronoco	315,788		95,449	7,452	418,689
Pequot Lakes	1,163,063		371,957	31,675	1,566,695

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Retirement Plans Participation – As of June 30, 2022

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Fire Relief Plans					
Pine Island	\$ 883,204		\$ 417,185	\$ 39,301	\$ 1,339,690
Pipestone	511,920		93,180	13,628	618,728
Plymouth	2,396,428	1,183,076	2,151,038	241,343	5,971,885
Randolph	954,682	72,903	196,049	28,672	1,252,306
Red Lake Falls Regular	131,089		68,714	10,049	209,852
Red Lake Falls Special		9,987			9,987
Redwood Falls			56,858		56,858
Renville	319,953		113,286	6,583	439,822
Robbinsdale	1,415,619	122,307	197,241	699,066	2,434,233
Rose Creek	78,329	5,615	8,905	1,302	94,152
Roseau	3,762				3,762
Rosemount	2,186,242		449,085	799,382	3,434,709
Roseville	9,489,969		3,488,096		12,978,066
Ruthton	204,341		23,636	32,490	260,467
Saint Clair	1,220,068		184,494	16,716	1,421,278
Saint Peter	720,878	142,801	24,014	3,421	891,113
Sandstone	159,905		120,923	13,807	294,635
Savage	1,869,771		1,103,886	161,445	3,135,103
Sherburn	520,300		116,236	17,000	653,535
Silver Bay	599,909	424	88,057	12,878	701,268
Starbuck	379,866	12,085	43,949	6,428	442,328
Stewart	247,021		69,090	10,104	326,215
Sturgeon Lake	136,010		9,632		145,642
Tofte	292,849		56,007	8,191	357,047
Truman	342,907		64,881	2,954	410,742
Two Harbors	489,291	84,473	223,173	28,125	825,062
Tyler	296,635		175,129	25,613	497,378
Verndale	65,581				65,581
Viking Fire	96,789	12,180	15,928	3,738	128,635
Warroad Area	483,187		285,267	41,721	810,174
Watkins Fire	442,190	76,304	65,882	15,032	599,408
Williams	252,447		77,397	11,319	341,163
Willow River	229,951		8,755		238,706
Woodbury				13,934,534	13,934,534
Woodstock	239,996		28,977	4,005	272,979
Wykoff	99,987		59,031	8,633	167,651
Wyoming	393,961		314,533	25,191	733,685
Zumbro Falls	86,542	7,481	60,135	263,069	417,227
Total Fire Relief Plans	\$ 168,929,069	\$ 31,419,594	\$ 117,360,971	\$ 24,542,959	\$ 342,252,594

Public Retirement Plan					
St. Paul Teacher's Retirement Fund	\$ 264,366,394	\$ 92,024,022	\$ -	\$ -	\$ 356,390,415

Statewide Volunteer Firefighter Plan					
Aitkin Fire	\$ 399,074	\$ 174,542	\$ 547,543	\$ 60,116	\$ 1,181,275
Alaska	65,277	28,550	89,562	9,833	193,222
Albert Lea	231,098	101,075	317,075	34,812	684,061
Alborn	56,043	24,512	76,893	8,442	165,891
Alden	86,005	37,616	118,001	12,956	254,577
Ashby	221,397	96,832	303,764	33,351	655,344
Aurora	118,113	51,659	162,055	17,792	349,620
Barnum	154,407	67,533	211,852	23,260	457,052
Barrett	77,630	33,953	106,512	11,694	229,789

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Retirement Plans Participation – As of June 30, 2022

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Bearville	\$ 2,075	\$ 907	\$ 2,847	\$ 313	\$ 6,141
Belview	95,255	41,662	130,694	14,349	281,960
Benson	198,728	86,917	272,662	29,936	588,243
Biwabik Fire	98,984	43,292	135,809	14,911	292,997
Biwabik Township	107,496	47,015	147,488	16,193	318,193
Blomkest	115,563	50,543	158,556	17,408	342,070
Braham	183,267	80,155	251,449	27,607	542,479
Brandon	144,758	63,312	198,612	21,806	428,488
Breitung	160,310	70,114	219,951	24,149	474,524
Bricelyn	140,664	61,522	192,996	21,189	416,371
Brimson	58,924	25,771	80,845	8,876	174,417
Brook Park	113,872	49,804	156,236	17,153	337,064
Browerville	128,705	56,291	176,587	19,388	380,972
Brownsville	112,880	49,370	154,875	17,004	334,128
Buyck	55,929	24,462	76,737	8,425	165,553
Cambridge Fire	402,788	176,166	552,639	60,675	1,192,268
Canby	246,054	107,616	337,594	37,065	728,329
Canosia	165,157	72,235	226,602	24,879	488,873
Canton	42,257	18,482	57,979	6,366	125,084
Carsonville	128,595	56,244	176,437	19,371	380,648
Center City	167,699	73,346	230,089	25,262	496,396
Central Lakes	35,763	15,642	49,068	5,387	105,860
Chatfield	149,965	65,590	205,757	22,591	443,903
Clarks Grove	89,134	38,984	122,294	13,427	263,839
Clifton	233,034	101,922	319,731	35,104	689,792
Colvill	52,389	22,913	71,880	7,892	155,074
Colvin	51,216	22,400	70,270	7,715	151,600
Cosmos	134,575	58,859	184,642	20,272	398,348
Cottage Grove	1,146,614	501,492	1,573,193	172,725	3,394,024
Cotton	133,268	58,287	182,849	20,075	394,480
Cottonwood	213,299	93,290	292,654	32,131	631,374
Crane Lake	79,346	34,703	108,866	11,953	234,868
Crookston	339,912	148,667	466,371	51,204	1,006,153
Culver	52,787	23,088	72,426	7,952	156,253
Dalbo Fire Department	161,587	70,673	221,703	24,341	478,304
De Graff	32,482	14,207	44,566	4,893	96,148
Delavan	103,245	45,156	141,656	15,553	305,609
Dent	140,518	61,458	192,796	21,168	415,940
Dunnell Lake	53,475	23,388	73,370	8,055	158,289
Eagle's Nest	24,195	10,582	33,196	3,645	71,618
Echo Fire	108,112	47,285	148,334	16,286	320,017
Elbow Tulaby	44,621	19,516	61,221	6,722	132,079
Elgin	168,000	73,478	230,502	25,307	497,287
Ellsburg	61,558	26,924	84,460	9,273	182,215
Ellsworth	96,753	42,317	132,748	14,575	286,393
Elmore	107,570	47,048	147,590	16,204	318,412
Ely	227,609	99,549	312,288	34,287	673,733
Embarrass	114,798	50,209	157,506	17,293	339,806
Emmons	182,124	79,655	249,881	27,435	539,095
Evansville	91,910	40,198	126,104	13,845	272,057
Evergreen	24,909	10,894	34,175	3,752	73,730
Fairfax	187,200	81,875	256,845	28,200	554,120
Federal Dam	67,701	29,610	92,889	10,198	200,399
Finlayson	88,636	38,767	121,612	13,352	262,367

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Retirement Plans Participation – As of June 30, 2022

	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Forada	\$ 235,877	\$ 103,165	\$ 323,631	\$ 35,532	\$ 698,205
Foxhome	10,443	4,568	14,328	1,573	30,912
Fredenberg	106,766	46,696	146,486	16,083	316,030
French	79,097	34,594	108,524	11,915	234,130
Frost	103,546	45,288	142,069	15,598	306,501
Garvin	55,922	24,459	76,727	8,424	165,532
Gaylord	150,688	65,906	206,750	22,700	446,044
Geneva	105,878	46,307	145,268	15,949	313,402
Gilbert	109,195	47,758	149,819	16,449	323,222
Gnesen	127,019	55,554	174,274	19,134	375,981
Goodview Fire	192,228	84,074	263,743	28,957	569,001
Grand Lake	200,236	87,577	274,731	30,163	592,708
Grand Marais	148,837	65,097	204,210	22,421	440,564
Granite Falls	190,814	83,456	261,803	28,744	564,816
Greenwood	265,523	116,131	364,307	39,998	785,959
Hamburg	169,042	73,933	231,931	25,464	500,371
Hanley Falls	62,782	27,459	86,139	9,457	185,837
Hardwick	80,174	35,066	110,002	12,077	237,319
Harris	37,041	16,201	50,822	5,580	109,644
Hayfield	229,583	100,412	314,995	34,584	679,574
Henning	179,871	78,670	246,789	27,096	532,425
Hermantown	758,276	331,646	1,040,381	114,226	2,244,528
Hewitt	72,322	31,631	99,228	10,894	214,075
Hill City	100,865	44,115	138,390	15,194	298,565
Hills	113,486	49,635	155,707	17,095	335,923
Hinckley	218,205	95,436	299,384	32,870	645,895
Hitterdal	110,418	48,293	151,497	16,633	326,841
Hollandale	63,145	27,618	86,637	9,512	186,912
Houston	189,645	82,945	260,200	28,568	561,357
Hovland Fire Department	83,468	36,506	114,521	12,573	247,068
Hoyt Lakes	127,254	55,657	174,597	19,169	376,677
Industrial Township	141,834	62,034	194,601	21,366	419,834
International Falls	306,779	134,176	420,912	46,213	908,080
Isanti	983,855	430,307	1,349,882	148,207	2,912,250
Kelliher	102,792	44,958	141,034	15,484	304,268
Kerrick	20,921	9,150	28,704	3,152	61,927
Kettle River	62,992	27,551	86,428	9,489	186,460
Kiester	78,988	34,547	108,374	11,899	233,807
Lake Bronson	92,418	40,421	126,801	13,922	273,563
Lake Kabetogama	102,685	44,911	140,887	15,468	303,951
Lake Lillian	50,782	22,210	69,674	7,650	150,316
Lakeland	174,348	76,254	239,211	26,264	516,076
Lakewood	107,611	47,066	147,646	16,210	318,533
Lancaster	79,097	34,595	108,524	11,915	234,131
Leaf Valley	127,712	55,857	175,225	19,238	378,033
Leroy	91,995	40,236	126,220	13,858	272,309
Lester Prairie	189,414	82,843	259,882	28,533	560,672
LeSueur	357,084	156,177	489,932	53,791	1,056,984
Lexington	201,863	88,288	276,962	30,408	597,521
Lino Lakes Fire	295,930	129,430	406,027	44,579	875,966
Linwood	268,558	117,459	368,471	40,455	794,944
Lutsen	105,613	46,192	144,904	15,909	312,618
Lynd	45,518	19,908	62,452	6,857	134,734
Mahtomedi	695,728	304,289	954,562	104,804	2,059,383

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	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Mahtowa	\$ 120,732	\$ 52,804	\$ 165,648	\$ 18,187	\$ 357,370
Makinen	33,273	14,553	45,652	5,012	98,490
Manchester	95,112	41,599	130,497	14,328	281,537
Mantorville	192,577	84,227	264,222	29,010	570,035
Mayer	331,166	144,841	454,371	49,886	980,264
McGregor	364,627	159,476	500,281	54,927	1,079,312
McKinley	57,030	24,943	78,246	8,591	168,810
Melrose	208,571	91,222	286,166	31,419	617,378
Middle River	88,750	38,816	121,768	13,369	262,703
Milaca	294,644	128,868	404,262	44,385	872,159
Miltona	131,936	57,704	181,020	19,875	390,535
Minnesota City	11,208	4,902	15,378	1,688	33,176
Montrose	454,222	198,662	623,209	68,424	1,344,517
Morse-Fall Lake	253,857	111,029	348,301	38,241	751,427
Mountain Iron	167,962	73,461	230,449	25,302	497,173
NE Sherburne	242,161	105,914	332,254	36,479	716,808
New Germany	264,281	115,588	362,602	39,811	782,282
Newfolden	78,849	34,486	108,183	11,878	233,395
Normanna	40,527	17,725	55,605	6,105	119,963
North Star	42,693	18,672	58,576	6,431	126,372
Northhome	56,484	24,704	77,499	8,509	167,196
Northland Fire	40,849	17,866	56,046	6,153	120,913
Norwood-Young America	237,370	103,818	325,680	35,757	702,625
Nowthen	2,260	989	3,101	340	6,690
Oak Grove	549,164	240,187	753,471	82,725	1,625,547
Oakdale	1,183,578	517,659	1,623,910	178,293	3,503,439
Ogema	14,848	6,494	20,372	2,237	43,951
Ogilvie	134,859	58,983	185,031	20,315	399,189
Osakis	300,009	131,214	411,622	45,193	888,039
Ottertail	225,551	98,649	309,463	33,977	667,640
Palisade	103,646	45,331	142,205	15,613	306,795
Palo	154,942	67,767	212,586	23,340	458,636
Parkers Prairie	153,032	66,931	209,965	23,052	452,980
Pennock	165,413	72,346	226,952	24,918	489,629
Pequaywan Lake	49,798	21,780	68,325	7,502	147,406
Pickwick Fire	22,680	9,920	31,118	3,416	67,134
Pike Sandy Britt	128,856	56,357	176,794	19,411	381,418
Plato Fire	158,294	69,233	217,184	23,845	468,556
Porter	203,875	89,168	279,723	30,711	603,478
Princeton	664,263	290,527	911,391	100,064	1,966,245
Raymond	158,236	69,207	217,106	23,837	468,386
Remer	124,092	54,274	170,259	18,693	367,318
Rice Lake	177,680	77,712	243,784	26,766	525,941
Russell	94,528	41,343	129,695	14,240	279,806
Sabin Elmwood Fire	168,988	73,910	231,858	25,456	500,212
Sacred Heart	76,231	33,341	104,591	11,483	225,646
Saint Francis	339,012	148,273	465,137	51,068	1,003,491
Saint Leo Fire	100,438	43,928	137,804	15,130	297,300
Saint Paul Park	328,861	143,833	451,208	49,539	973,441
Scandia	272,524	119,193	373,912	41,053	806,682
Scandia Valley	175,842	76,908	241,261	26,489	520,500
Schroeder	86,319	37,753	118,432	13,003	255,507
Shafer	125,680	54,969	172,438	18,932	372,019
Shevlin	145,200	63,506	199,219	21,873	429,798

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	Domestic Equity	International Equity	Fixed Income	Cash	Total
Statewide Volunteer Firefighter Plan					
Silver Lake	\$ 128,478	\$ 56,192	\$ 176,276	\$ 19,354	\$ 380,299
Solway (Main)	70,700	30,922	97,002	10,650	209,274
Solway(Cloquet)	125,952	55,087	172,811	18,973	372,823
Spring Grove	106,613	46,629	146,276	16,060	315,578
Spring Lake Park	6,719,868	2,939,055	9,219,890	1,012,273	19,891,085
St Anthony	393,150	171,951	539,416	59,224	1,163,742
Stacy Lent	252,066	110,246	345,843	37,971	746,126
Stephen	148,775	65,069	204,124	22,411	440,380
Sunburg	104,733	45,807	143,697	15,777	310,014
Taylors Falls	118,513	51,834	162,604	17,853	350,803
Toivola	72,849	31,862	99,951	10,974	215,635
Tower	93,053	40,698	127,672	14,017	275,441
Twin Valley	114,171	49,935	156,646	17,199	337,950
Ulen	138,123	60,410	189,509	20,807	408,849
Underwood	151,217	66,137	207,474	22,779	447,607
Vadnais Heights	618,364	270,453	848,416	93,150	1,830,382
Vermilion Lake	112,884	49,372	154,881	17,005	334,141
Vesta	70,830	30,979	97,181	10,670	209,658
Victoria	527,673	230,787	723,986	79,488	1,561,934
Vining	61,436	26,870	84,293	9,255	181,854
Waconia	651,926	285,131	894,464	98,205	1,929,726
Waite Park	286,985	125,518	393,753	43,231	849,487
Wanda	63,212	27,647	86,729	9,522	187,110
Warba - Feeley - Sago	108,590	47,494	148,990	16,358	321,432
Watertown	483,156	211,317	662,907	72,782	1,430,162
Wells	216,785	94,815	297,437	32,656	641,693
West Concord	127,638	55,825	175,124	19,227	377,813
White Bear Lake	2,369,961	1,036,545	3,251,668	357,008	7,015,182
Willmar	567,939	248,398	779,232	85,554	1,681,123
Winnebago	250,444	109,536	343,617	37,727	741,324
Winthrop	255,522	111,757	350,585	38,492	756,355
Wolf Lake	118,241	51,715	162,230	17,812	349,997
Wood Lake	92,209	40,329	126,514	13,890	272,942
Wrenshall	121,088	52,960	166,137	18,241	358,425
Total Statewide Volunteer Firefighter Assets	\$ 44,680,188	\$ 19,541,686	\$ 61,302,756	\$ 6,730,570	\$ 132,255,200
Total Fire Relief + Other Public Retirement Plans	\$ 477,975,651	\$ 142,985,302	\$ 178,663,728	\$ 31,273,529	\$ 830,898,210

	Stable Value Fund	Domestic Equity	International Equity	Fixed Income	Cash	Total
Participant Directed Investment Program (PDIP) Plan Participation						
MSRS - Empower	\$ 1,740,625,801	\$ -	\$ -	\$ -	\$ 611,494,742	\$ 2,352,120,542
Pera DCP	4,163,000	52,553,317	3,559,244	18,040,846	4,277,181	82,593,588
Total PDIP Participation	\$ 1,744,788,801	\$ 52,553,317	\$ 3,559,244	\$ 18,040,846	\$ 615,771,923	\$ 2,434,714,130
Total Supplemental Investment Fund	\$ 1,744,788,801	\$ 530,528,968	\$ 146,544,546	\$ 196,704,573	\$ 647,045,452	\$ 3,265,612,339

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, 2022

	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			\$ 51,653,000	\$ 203,470,152		\$ 255,123,153
Closed Landfill		34,430,568	81,683,167			116,113,735
Environmental Trust	30,570,937	428,007,407	989,496,427			1,448,074,771
Permanent School	36,442,202	863,804,612	842,966,690			1,743,213,504
Other Trusts:						
Center for Rural Policy and Development	\$ 90,284	\$ 1,176,337	\$ 526,070			\$ 1,792,691
Duluth Community Investment Trust	6	6,177,835	20,513,715			26,691,556
Emergency Med SVC	98,979	706,185	1,224,330			2,029,494
Ethel Currey		604,320	1,082,536			1,686,855
Iron Range Resources		82,414,443	110,451,917			192,866,359
Life Time Fish & Wild Life	874,793	11,944,222	29,023,719			41,842,735
Metro Landfill Contingency Action		4,761,075	10,573,885			15,334,960
Mitigation Easement Stewardship		319,021	695,426			1,014,447
Natural Resources Conservation		762,538	1,676,027			2,438,565
Saint Louis County Environmental		10,879,958	11,899,945			22,779,903
Water & Soil Conservation Easement		1,646,357	3,438,059			5,084,417
Winona State		37,685	78,614			116,299
Total Trust Fund Assets	\$ 68,077,201	\$ 1,447,672,564	\$ 2,156,983,527	\$ 203,470,152	\$ -	\$ 3,876,203,444
Qualifying Governmental Entities						
City of Woodbury			\$ 4,644,915			\$ 4,644,915
Minnesota Counties Intergovernmental Trust			2,615,733			2,615,733
Total Qualifying Governmental Assets			\$ 7,260,648			\$ 7,260,648
Other Post Employment Benefit Plans (OPEB)						
Anoka County (Irrevocable)			\$ 83,782,063			\$ 83,782,063
Carver County		3,154,381	8,386,668			11,541,049
City of Eagan			23,416,640			23,416,640
City of Virginia			2,450,852			2,450,852
Crosby-Ironton ISD#182	83,955	2,059	4,277,541			4,363,556
Duluth		18,334,939	63,578,160			81,913,100
Fillmore Central Schools #2198	315,308					315,308
Foley ISD#51		760,529	1,782,029			2,542,558
Hastings ISD#200	5,482,908					5,482,908
Kingsland ISD#2137			355,741			355,741
Mendota Hgts Eg WSP#197	68,262	5,945,856				6,014,118
Metro Mosquito Control District		33,289	4,538,224			4,571,514
Metropolitan Council	9,210,875		200,602,859		97,060,150	306,873,885
Mounds View ISD#621	8,821,985	7,058,416	10,148,512			26,028,913
Mt. Iron-Buhl District #712		1,729,775				1,729,775
Ogilvie ISD#333	32,830					32,830
Port Authority of the City of St. Paul	154,223	395,605	77,711			627,539
Ramsey County	7,170,219	16,242,580	77,467,223			100,880,022
Roseville District#623		\$7,075,003	0			7,075,003
Scott County		9,546,812	11,138,869			20,685,681
Staples Motley #2170	25,995	525,082	44,025			595,102
Washington County		11,635,407	69,872,599			81,508,006
Yellow Medicine ISD#2190	154,275					154,275
Total OPEB Assets	\$ 31,520,836	\$ 82,439,735	\$ 561,919,717	\$ -	\$ 97,060,150	\$ 772,940,438
Non-Retirement Plan Participation	\$ 99,598,038	\$ 1,530,112,298	\$ 2,726,163,892	\$ 203,470,152	\$ 97,060,150	\$ 4,656,404,530

Financial Reports
Investment Manager Fees – Total Payments for Fiscal Year 2022

Investment Manager Name	
Domestic Equity Active Managers	
ArrowMark Colorado Holdings, LLC	\$ 1,386,522
Barrow, Hanley, Mewhinney & Strauss, LLC	1,179,163
Goldman Sachs Asset Management, L.P.	1,770,887
Hood River Capital Management, LLC	1,892,710
Hotchkis and Wiley Capital Management, LLC	1,577,062
LSV Asset Management	1,026,317
Martingale Asset Management, L.P.	869,414
Peregrine Capital Management	1,712,738
Rice Hall James & Associates, LLC	1,469,678
Sands Capital Management, LLC	1,830,514
Wellington Management Company LLP	1,558,269
Winslow Capital Management, LLC	650,885
Zevenbergen Capital Investments LLC	1,199,606
Domestic Equity Semi-Passive Managers	
BlackRock Institutional Trust Company, N.A.	1,589,420
J.P. Morgan Investment Management Inc.	1,619,749
Domestic Equity Passive Manager	
BlackRock Institutional Trust Company, N.A. (Passive R3000)	43,378
BlackRock Institutional Trust Company, N.A. (Passive R2000)	5,512
BlackRock Institutional Trust Company, N.A. (Passive R1000)	917,950
Fixed Income Core/Core Plus Managers	
BlackRock Financial Management, Inc.	657,501
Dodge & Cox	1,108,427
Goldman Sachs Asset Management	983,190
Neuberger Berman Investment Advisers LLC	1,057,349
Western Asset Management Company	1,218,192
Fixed Income Return Seeking Managers	
Ashmore Investment Management Limited	1,309,012
Ashmore Investment Management Limited	4,945
BlackRock Financial Management, Inc.	1,892,561
Columbia Threadneedle Investments	1,349,545
KKR Credit Advisors (US) LLC	849,351
Oaktree Capital Management, L.P.	882,323
Payden & Rygel	1,043,860
Prudential Global Investment Management, Inc. (PGIM)	987,706
Pacific Investment Management Company LLC (PIMCO)	1,918,036
TCW Asset Management Company, LLC	948,625
Treasury Portfolio Managers	
BlackRock Financial Management, Inc.	\$ 1,217,302
Goldman Sachs Asset Management	1,341,056
Neuberger Berman Investment Advisers LLC	1,206,250
Laddered Bond Managers	
Goldman Sachs Asset Management	472,665
Neuberger Berman Investment Advisers LLC	447,759

Financial Reports
Investment Manager Fees – Total Payments for Fiscal Year 2022

Investment Manager Name	
International Equity Active Developed Markets Managers	
AQR Capital Management, LLC	\$ 1,292,550
Acadian Asset Management LLC	1,524,018
Columbia Threadneedle Investments	1,299,874
Fidelity Institutional Asset Management LLC	1,343,177
J.P. Morgan Investment Management Inc.	1,341,130
Marathon Asset Management LLP	1,278,146
McKinley Capital Management, LLC	1,062,067
International Equity Passive Manager	
State Street Global Advisors (Developed Markets)	664,558
State Street Global Advisors (Emerging Markets)	507,238
International Equity Active Emerging Markets Managers	
Ashmore Investment Management Limited	4,945
Macquarie Investment Management Advisers	2,147,044
Martin Currie Inc.	2,388,091
Morgan Stanley Investment Management Inc.	3,444,930
Neuberger Berman Investment Advisers LLC	2,771,699
Pzena Investment Management, LLC	2,741,677
The Rock Creek Group, LLC	5,174,884
International Equity Active Opportunistic Strategies	
Earnest Partners (ACWI ex-US)	1,540,030
Earnest Partners LLC (China A Index)	1,534,649
Record Currency LLC (Currency Management)	6,924,298
Global Equity Managers	
Ariel Investments, LLC	1,792,069
Baillie Gifford Overseas Limited	1,374,256
Martin Currie Inc.	1,072,762
Private Markets--Uninvested Allocation	
BlackRock Institutional Trust Company, N.A.	170,685
NISA Investment Advisors, LLC	428,922
Stable Value Manager	
Galliard Capital Management, Inc. (1)	3,319,075
Assigned Risk Plan	
RBC Global Asset Management (U.S.) Inc.	213,649
Non-Retirement	
Mellon Investments Corporation	116,973
Prudential Global Investment Management, Inc. (PGIM)	1,514,338
State Street Global Advisors	25,100
Total Investment Manager Fees Paid	\$ 92,208,260
(1) Includes Investment Contract fees of \$2,511,834.78 charged by wrap providers.	

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2022

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
ABEL NOSER CORPORATION	\$ 4,762,308	\$ 3,175	\$ -	\$ -	\$ -
ABG SECURITIES AS (STOCKHOLM)	\$ 25,784	\$ 13	\$ -	\$ -	\$ -
ABN AMRO CLEARING BANK N.V.	\$ 5,894,996	\$ 5,912	\$ -	\$ -	\$ -
ABSA BANK LIMITED	\$ 316,132	\$ 158	\$ 436,316	\$ -	\$ -
ACADEMY SECURITIES INC	\$ 651,964	\$ 171	\$ -	\$ -	\$ 215,513,995
ALTACORP CAPITAL INC	\$ -	\$ -	\$ -	\$ -	\$ -
AMHERST PIERPONT SECURITIES LLC	\$ -	\$ -	\$ 110,648,425	\$ -	\$ 117,194,921
ANTARES HOLDINGS LP	\$ -	\$ -	\$ 153,230	\$ -	\$ -
APEX CLEARING CORPORATION	\$ 68,993	\$ 57	\$ -	\$ -	\$ -
ARQAAM SECURITIES LLC	\$ 949,594	\$ 1,895	\$ -	\$ -	\$ -
AUERBACH GRAYSON AND CO. INC.	\$ 3,288,253	\$ 1,765	\$ -	\$ -	\$ -
AUSTRALIA AND NEW ZEALAND BANKING GROUP	\$ -	\$ -	\$ 1,255,888	\$ -	\$ -
AUTREPAT-DIV RE	\$ 220,961	\$ 2,209	\$ -	\$ -	\$ -
B.RILEY & CO., LLC	\$ 20,814,915	\$ 15,894	\$ -	\$ -	\$ -
BANCA IMI SECURITIES CORP	\$ -	\$ -	\$ 207,268	\$ -	\$ -
BANCO BILBAO VIZCAYA	\$ -	\$ -	\$ 9,744,634	\$ -	\$ -
BANCO BRADESCO S.A.	\$ -	\$ -	\$ 837,319	\$ -	\$ -
BANCO CHASE MANHATTAN S.A.	\$ -	\$ -	\$ 8,623,716	\$ -	\$ -
BANCO CITIBANK SA	\$ -	\$ -	\$ 5,869,519	\$ -	\$ -
BANCO ITAU SA	\$ 6,591,874	\$ 11,220	\$ 4,210,610	\$ -	\$ -
BANCO PACTUAL S.A.	\$ 14,862,720	\$ 18,660	\$ -	\$ -	\$ -
BANCO SANTANDER S.A.	\$ 136,806	\$ 110	\$ 17,855,905	\$ -	\$ -
BANCOLOMBIA S.A.	\$ -	\$ -	\$ 240,743	\$ -	\$ -
BANCROFT CAPITAL LLC	\$ 192,816	\$ 74	\$ -	\$ -	\$ -
BANK MUSCAN AL AHLI ALOMANI	\$ -	\$ -	\$ 2,118	\$ -	\$ -
BANK OF AMERICA	\$ 115,373,408	\$ 170,226	\$ 904,173,728	\$ -	\$ -
BANK OF MONTREAL	\$ -	\$ -	\$ 1,453,514	\$ -	\$ 688,989,504
BANK OF NEW YORK	\$ 12,583,566	\$ -	\$ 132,366,353	\$ -	\$ 13,750,000
BANK OF NOVA SCOTIA	\$ 3,051,374	\$ 3,902	\$ 4,223,262	\$ -	\$ 28,500,000
BARCLAYS BANK	\$ -	\$ -	\$ 58,970,076	\$ -	\$ -
BARCLAYS CAPITAL	\$ 500,898,910	\$ 121,250	\$ 2,727,665,934	\$ -	\$ 6,121,860,509
BARRINGTON RESEARCH ASSOCIATES	\$ 870,884	\$ 6,727	\$ -	\$ -	\$ -
BBVA SECURITIES INC.	\$ -	\$ -	\$ 7,518,020	\$ -	\$ -
BCP SECURITIES LLC	\$ -	\$ -	\$ 46,800	\$ -	\$ -
BEAR STEARNS SPORE PTE LTD, SP	\$ -	\$ -	\$ 687,060	\$ -	\$ -
BERENBERG CAPITAL MARKETS LLC	\$ 2,269,949	\$ 1,576	\$ -	\$ -	\$ -
BERNSTEIN AUTONOMOUS LLP	\$ 20,620,192	\$ 8,079	\$ -	\$ -	\$ -
BETZOLD BERG & NUSSBAUM INC.	\$ -	\$ -	\$ 1,668,055	\$ -	\$ -
BLAYLOCK ROBERT VAN LLC	\$ 914,182	\$ 362	\$ -	\$ -	\$ -
BMO CAPITAL MARKETS	\$ 149,159,274	\$ 47,672	\$ 759,083,210	\$ -	\$ 2,131,434,909
BMO NESBITT BURNS INC	\$ 18,225,204	\$ 11,050	\$ -	\$ -	\$ -
BNKOFMONT,CHBRNCH/CM	\$ -	\$ -	\$ 1,888,487	\$ -	\$ 2,956,350
BNP PARIBAS	\$ 2,002,743,829	\$ 199,393	\$ 788,893,358	\$ -	\$ 48,042,928,599
BNY CAPITAL MARKETS, INC.	\$ -	\$ -	\$ 1,241,737	\$ -	\$ -
BNY MELLON	\$ -	\$ -	\$ 59,375,465	\$ -	\$ 21,599,934
BNY/STANDARD BANK LONDON LTD	\$ -	\$ -	\$ 1,533,365	\$ -	\$ -
BNY/SUNTRUST CAPITAL MARKETS	\$ -	\$ -	\$ 10,395,994	\$ -	\$ -
BOFA SECURITIES INC	\$ 1,623,929,734	\$ 322,529	\$ 8,857,203,638	\$ 269,910	\$ 44,312,677,009
BONY/TORONTO DOMINION SECURITIES INC	\$ -	\$ -	\$ 494,320,696	\$ -	\$ 2,104,972,677
BRADESCO S.A. CTVM	\$ 14,276,609	\$ 24,509	\$ 493,734	\$ -	\$ -
BRADESCO SECURITIES	\$ 168,434	\$ 38	\$ -	\$ -	\$ -
BREAN CAPITAL LLC	\$ -	\$ -	\$ 4,463,443	\$ -	\$ -
BRODCORT CAPITAL CORP	\$ 21,787,921	\$ 10,383	\$ -	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2022

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
BROWN BROTHERS HARRIMAN + CO	\$ -	\$ -	\$ 883,923	\$ -	\$ -
BROWNSTONE INVESTMENT GROUP LLC	\$ -	\$ -	\$ 900,810	\$ -	\$ -
BTG PACTUAL CASA DE BOLSA	\$ 666,034	\$ 1,141	\$ -	\$ -	\$ -
BTIG LLC	\$ 21,773,321	\$ 27,486	\$ 178,981	\$ -	\$ -
C.L. KING AND ASSOCIATES, INC.	\$ 270,971	\$ 346	\$ -	\$ -	\$ -
CABRERA CAPITAL MARKETS	\$ 518,753	\$ 64	\$ 293,988	\$ -	\$ -
CALYON SECURITIES (USA) INC.	\$ -	\$ -	\$ 5,196,525	\$ -	\$ -
CANACCORD GENUITY	\$ 13,780,323	\$ 11,003	\$ -	\$ -	\$ -
CANTOR FITZGERALD + CO	\$ 84,919,644	\$ 21,578	\$ 28,930,182	\$ -	\$ 46,325,000,000
CAP GUARDIAN BROKER	\$ 874,866	\$ 162	\$ -	\$ -	\$ -
CAPITAL INSTITUTIONAL SVCS INC EQUITIES	\$ 61,500,621	\$ 36,372	\$ -	\$ -	\$ -
CAPITAL SPONSORS INC	\$ -	\$ -	\$ 126	\$ 126	\$ -
CARNEGIE INVESTMENT BANK AB	\$ 13,403,383	\$ 15,962	\$ -	\$ -	\$ -
CASTLEOAK SECURITIES LP	\$ 639,411	\$ 40	\$ -	\$ -	\$ 2,099,761
CHINA INTERNATIONAL CAPITAL CO	\$ 10,321,975	\$ 9,808	\$ -	\$ -	\$ -
CHUBB SECURITIES	\$ -	\$ -	\$ -	\$ -	\$ -
CIBC WORLD MARKETS	\$ -	\$ -	\$ 1,371,283	\$ -	\$ 89,796,262
CIBC WORLD MKTS	\$ 25,388,471	\$ 7,589	\$ -	\$ -	\$ -
CIMB BANK BERHAD	\$ -	\$ -	\$ 1,428,934	\$ -	\$ -
CIMB-GK SECURITIES PTE.LTD.	\$ 262,514	\$ 79	\$ -	\$ -	\$ -
CITADEL DERIVATIVES GROUP LLC	\$ -	\$ -	\$ 65,606,784	\$ -	\$ -
CITADEL INVESTMENT GROUP, L.L.C.	\$ -	\$ -	\$ -	\$ -	\$ 49,983,913
CITADEL SECURITIES	\$ -	\$ -	\$ 1,252,278,210	\$ -	\$ 227,144,927
CITI	\$ -	\$ -	\$ 338,530	\$ -	\$ -
CITIBANK	\$ 28,214,344	\$ 4,549	\$ 57,987,610	\$ -	\$ 634,532,544
CITIGROUP	\$ 1,095,445,939	\$ 282,417	\$ 8,394,738,604	\$ 10,842	\$ 29,113,635,173
CITIZENS BANK	\$ -	\$ -	\$ 2,958,125	\$ -	\$ -
CL SECURITIES TAIWAN COMPANY LIMITED	\$ 14,928,666	\$ 6,972	\$ -	\$ -	\$ -
CLSA	\$ 88,253,428	\$ 35,416	\$ -	\$ -	\$ -
COMMERCIAL BANK OF QATAR, LTD.	\$ 95,353	\$ 238	\$ -	\$ -	\$ -
CORE PACIFIC SECURITIES INTL LIMITED	\$ 991,279	\$ 1,683	\$ -	\$ -	\$ -
CORMARK SECURITIES INC	\$ 270,641	\$ 234	\$ -	\$ -	\$ -
COWEN AND COMPANY, LLC	\$ 545,920,497	\$ 310,041	\$ -	\$ -	\$ -
CRAIG-HALLUM	\$ 17,701,087	\$ 22,954	\$ -	\$ -	\$ -
CREDIT AGRICOLE	\$ -	\$ -	\$ 48,883,220	\$ -	\$ 17,000,000
CREDIT AGRICOLE SECURITIES (USA) INC	\$ -	\$ -	\$ 8,338,658	\$ -	\$ -
CREDIT LYONNAIS SECURITIES(ASIA)	\$ 47,338,077	\$ 29,979	\$ -	\$ -	\$ -
CREDIT SUISSE	\$ 1,062,892,397	\$ 220,327	\$ 6,234,063,113	\$ 27,221	\$ 1,211,101,838
CS FIRST BOSTON (HONG KONG) LIMITED	\$ 26,450,323	\$ 22,374	\$ -	\$ -	\$ -
CSFB AUSTRALIA EQUITIES LTD	\$ 3,234,832	\$ 1,886	\$ -	\$ -	\$ -
D.A. DAVIDSON AND CO	\$ 768,634	\$ 1,646	\$ -	\$ -	\$ -
DAIWA	\$ 16,335,101	\$ 8,285	\$ 653,060,489	\$ -	\$ 455,315,019
DANSKE BANK A.S.	\$ 412,575	\$ 290	\$ -	\$ -	\$ -
DAVIDSON D.A. + COMPANY INC.	\$ 20,645,721	\$ 25,698	\$ 9,975	\$ -	\$ -
DAVY STOCKBROKERS	\$ 1,586,708	\$ 1,177	\$ -	\$ -	\$ -
DBS BANK LTD. SINGAPORE	\$ -	\$ -	\$ 435,740	\$ -	\$ -
DBTC AMERICA	\$ -	\$ -	\$ 9,552,901	\$ -	\$ -
DEPOSITORY TRUST COMPANY	\$ -	\$ -	\$ -	\$ -	\$ 49,990,750
DEUTSCHE ASSET MANAGEMENT	\$ -	\$ -	\$ 592,883	\$ -	\$ -
DEUTSCHE BANK	\$ 7,920,747	\$ 791	\$ 1,458,572,184	\$ 7	\$ 1,596,418,639
DEUTSCHE MORGAN GRENFELL INC.	\$ -	\$ -	\$ -	\$ -	\$ 21,455,000,000
DEUTSCHE WERTPAPIERSERVICE BANK AG	\$ -	\$ -	\$ 220,645	\$ -	\$ -
DNB MARKETS CUSTODY, A BUSINESS UNIT OF	\$ 93,500	\$ 94	\$ -	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2022

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
DOUGHERTY & COMPANY LLC	\$ 6,028,211	\$ 2,822	\$ -	\$ -	\$ -
DOWLING & PARTNERS	\$ 1,693,651	\$ 372	\$ -	\$ -	\$ -
DREXEL HAMILTON LLC	\$ 1,131,712	\$ 124	\$ -	\$ -	\$ -
DU PASQUIER + CO INC	\$ -	\$ -	\$ 662,803	\$ -	\$ -
DUNCAN WILLIAMS INC	\$ -	\$ -	\$ 7,985,338	\$ -	\$ -
ELECTRONIC BROKERAGE SYSTEMS, LLC	\$ 2,556,418	\$ 1,006	\$ -	\$ -	\$ -
ERSTE BANK BEFEKTETESI RT.	\$ 677,199	\$ 1,357	\$ -	\$ -	\$ -
ERSTE GROUP BANK AG	\$ -	\$ -	\$ 4,478,341	\$ -	\$ -
EUROCLEAR BANK	\$ 2,553,004	\$ 1,277	\$ 4,707,759	\$ -	\$ -
EUROMOBILIARE SIM S.P.A.	\$ 208,736	\$ 209	\$ -	\$ -	\$ -
EVERCORE GROUP L.L.C.	\$ 8,720,717	\$ 5,341	\$ -	\$ -	\$ -
EVERCORE ISI	\$ 50,686,704	\$ 36,856	\$ -	\$ -	\$ -
EXANE INC	\$ 266,573	\$ 746	\$ -	\$ -	\$ -
EXANE S.A.	\$ 9,143,857	\$ 4,972	\$ -	\$ -	\$ -
FEDERAL RESERVE BANK OF BOSTON			\$ 710,280,648	\$ -	\$ 59,499,570
FIDELITY CAPITAL MARKETS	\$ 161,951,959	\$ 11,273	\$ -	\$ -	\$ -
FIDELITY CLEARING CANADA	\$ 681,985	\$ 606	\$ -	\$ -	\$ -
FIRST ABU DHABI BANK PJSC	\$ -	\$ -	\$ 236,750	\$ -	\$ -
FIRST CLEARING, LLC	\$ -	\$ -	\$ 1,821,160	\$ -	\$ -
FIRST HORIZON BANK	\$ -	\$ -	\$ 240,841,298	\$ -	\$ -
FIRST TENNESSEE BANK BOND DIVISION	\$ -	\$ -	\$ 1,112,719	\$ -	\$ -
FIRST TENNESSEE SECURITIES CORP	\$ -	\$ -	\$ 1,651,168	\$ -	\$ -
FIRST UNION NATL BK CHARLOTTE	\$ 7,074,771	\$ 4,282	\$ -	\$ -	\$ -
FIRSTSTRAND BANK LIMITED LONDON BRANCH	\$ -	\$ -	\$ 268,482	\$ -	\$ -
FIS BROKERAGE & SECURITIES SERVICES LLC	\$ 5,334,615	\$ 1,424	\$ -	\$ -	\$ -
FLOW CORRETORA DE MERCADORIAS LTDA.	\$ 291,969	\$ 617	\$ -	\$ -	\$ -
FLOW TRADERS U.S. INSTITUTIONAL TRADING	\$ -	\$ -	\$ 12,448	\$ -	\$ -
FRANK RUSSELL SEC/BROADCORT CAP CLEARING	\$ 8,116,927	\$ 26,842	\$ -	\$ -	\$ -
FTN FINANCIAL SECURITIES	\$ -	\$ -	\$ 4,533,722	\$ -	\$ -
GMP SECURITIES, LLC	\$ -	\$ -	\$ 160,500	\$ -	\$ -
GOLDMAN SACHS	\$ 1,082,122,734	\$ 399,137	\$ 5,150,726,697	\$ 335,623	\$ 28,322,670,591
GOLUB CAPITAL	\$ -	\$ -	\$ 2,621,852	\$ -	\$ -
GORDON HASKETT CAPITAL CORP	\$ 1,854,321	\$ 5,964	\$ -	\$ -	\$ -
GUGGENHEIM	\$ 1,785,882	\$ 1,894	\$ -	\$ -	\$ -
GUZMAN + CO	\$ 13,629,451	\$ 1,455	\$ -	\$ -	\$ -
HANWHA SECURITIES SEOUL	\$ 6,110,297	\$ 3,151	\$ -	\$ -	\$ -
HARRIS TRUST + SAVINGS BANK CHICAGO	\$ -	\$ -	\$ 9,850,686	\$ 39,543	\$ -
HIBERNIA SOUTHCOAST CAPITAL INC	\$ 4,037,695	\$ 4,417	\$ -	\$ -	\$ -
HILLTOP SECURITIES INC	\$ 1,548,049	\$ 1,842	\$ 26,144,124	\$ -	\$ -
HONG KONG AND SHANGHAI BANKING CORP	\$ 4,653,020	\$ 3,776	\$ 1,498,343	\$ -	\$ -
HSBC	\$ 280,247,382	\$ 85,684	\$ 349,034,141	\$ -	\$ 34,751,862,000
HYUNDAI SECURITIES	\$ 8,532,458	\$ 5,403	\$ -	\$ -	\$ -
ICAP CORPORATES LLC	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
ICBC STANDARD BANK PLC	\$ -	\$ -	\$ 172,366	\$ -	\$ -
ICBCFS LLC	\$ -	\$ -	\$ 502,434,545	\$ -	\$ 2,362,346
IMPERIAL CAPITAL	\$ -	\$ -	\$ 1,828,288	\$ -	\$ -
INDUSTRIAL AND COMMERCIAL BANK OF CHINA	\$ -	\$ -	\$ 7,615,320	\$ -	\$ -
ING BANK NV	\$ -	\$ -	\$ 816,766	\$ -	\$ -
ING BARINGS CORP	\$ -	\$ -	\$ 605,380	\$ -	\$ -
INSTINET	\$ 716,857,307	\$ 224,909	\$ -	\$ -	\$ -
INTL FCSTONE FINANCIAL INC	\$ -	\$ -	\$ 94,382,486	\$ -	\$ -
INVESTMENT PLANNING INC	\$ -	\$ -	\$ 198,900	\$ -	\$ -
INVESTMENT TECHNOLOGY GROUP INC.	\$ 7,606,868	\$ 2,233	\$ -	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2022

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
IPOPEMA SECURITIES S.A.	\$ 215,074	\$ 536	\$ -	\$ -	\$ -
IS YATIRIM MENKUL DEGERLER AS	\$ 294,210	\$ 147	\$ -	\$ -	\$ -
ISI SALES CORPORATION	\$ -	\$ -	\$ 1,095,049	\$ -	\$ -
ITAU UNIBANCO S A	\$ -	\$ -	\$ 1,294,115	\$ -	\$ -
ITG	\$ 32,952,731	\$ 9,441	\$ -	\$ -	\$ -
JANE STREET EXECUTION SERVICES, LLC	\$ 997,907	\$ -	\$ 2,174,480	\$ -	\$ -
JANNEY MONTGOMERY SCOTT INC.	\$ 3,540,111	\$ 1,338	\$ 10,641,241	\$ -	\$ -
JEFFERIES & CO.	\$ 607,189,879	\$ 238,046	\$ 664,570,771	\$ 11,131	\$ 260,180,086
JMP SECURITIES	\$ 14,978,690	\$ 7,627	\$ -	\$ -	\$ -
JOH. BERENBERG, GOSSLER & CO. KG	\$ 39,785,707	\$ 30,561	\$ -	\$ -	\$ -
JONESTRADING INSTITUTIONAL SERVICES, LLC	\$ 19,059,347	\$ 13,423	\$ -	\$ -	\$ -
JP MORGAN	\$ 1,306,177,892	\$ 562,901	\$ 10,593,267,783	\$ 79,705	\$ 97,729,176,833
JUPITER SECURITIES SDN BHD	\$ 396,892	\$ 278	\$ -	\$ -	\$ -
KEEFE BRUYETTE + WOODS INC	\$ 16,769,127	\$ 15,569	\$ -	\$ -	\$ -
KEPLER CHEUVREUX	\$ 6,119,675	\$ 7,540	\$ -	\$ -	\$ -
KEYBANC CAPITAL MARKETS INC	\$ 28,465,469	\$ 24,209	\$ 2,512,600	\$ -	\$ -
KOREA INVESTMENT AND SECURITIES CO., LTD	\$ 30,208	\$ 76	\$ -	\$ -	\$ -
LADENBURG THALMAN + CO	\$ 902,064	\$ 724	\$ -	\$ -	\$ -
LARRAIN VIAL	\$ -	\$ -	\$ 862,882	\$ -	\$ -
LARRAIN VIAL COLOMBIA S.A. CDB	\$ -	\$ -	\$ 564,163	\$ -	\$ -
LEERINK PARTNERS LLC	\$ 7,929,728	\$ 7,444	\$ -	\$ -	\$ -
LIQUIDITY FINANCE LLP	\$ -	\$ -	\$ 23,169,076	\$ -	\$ -
LIQUIDNET	\$ 9,674,328	\$ 5,129	\$ -	\$ -	\$ -
LIQUIDNET INC	\$ 110,527,885	\$ 49,616	\$ -	\$ -	\$ -
LLOYDS TSB BANK PLC	\$ -	\$ -	\$ -	\$ -	\$ -
LOOP CAPITAL MARKETS	\$ 548,607,237	\$ 56,271	\$ 37,471,018	\$ -	\$ 1,894,591
LUMINEX TRADING AND ANALYTICS	\$ 9,620,114	\$ 614	\$ -	\$ -	\$ -
MACQUARIE BANK LIMITED	\$ 107,537,943	\$ 64,202	\$ 297,000	\$ -	\$ -
MANUFACTURERS AND TRADERS TRUST COMPANY	\$ -	\$ -	\$ 1,065,000	\$ -	\$ -
MARKETAXESS CORPORATION	\$ -	\$ -	\$ 595,436,262	\$ -	\$ -
MERRILL LYNCH	\$ 360,581,871	\$ 192,917	\$ 70,809,794	\$ -	\$ -
MILLENNIUM ADVISORS LLC	\$ -	\$ -	\$ 777,931	\$ -	\$ -
MIRAE ASSET	\$ 5,238,369	\$ 4,399	\$ -	\$ -	\$ -
MISCHLER FINANCIAL GROUP	\$ 27,537,819	\$ 7,359	\$ -	\$ -	\$ 50,000,000
MITSUBISHI UFJ SECURITIES	\$ 3,003,561	\$ 1,866	\$ 203,565,199	\$ -	\$ 491,402,010
MIZUHO CORP	\$ 32,103,583	\$ 19,866	\$ 1,176,918,500	\$ -	\$ 1,038,899,181
MKM PARTNERS LLC	\$ 5,785,343	\$ 8,108	\$ -	\$ -	\$ -
MONNESS, CRESPI, HARDT & CO. INC	\$ 586,131	\$ 164	\$ -	\$ -	\$ -
MORGAN GRENFELL INVT LDN	\$ -	\$ -	\$ -	\$ -	\$ -
MORGAN STANLEY	\$ 1,158,352,832	\$ 330,252	\$ 12,324,367,760	\$ 1,311	\$ 1,138,429,268
NATIONAL BANK FINANCIAL INC./CDS	\$ -	\$ -	\$ 784,725	\$ -	\$ -
NATIONAL BANK OF ABU DHABI	\$ -	\$ -	\$ 646,592	\$ -	\$ -
NATIONAL FINANCIAL SERVICES CORP	\$ 150,136,152	\$ 70,325	\$ 118,526,212	\$ -	\$ 2,000,000
NATIXIS	\$ -	\$ -	\$ 2,903,921	\$ -	\$ -
NATIXIS SECURITIES	\$ -	\$ -	\$ -	\$ -	\$ -
NBC CLEARING SERVICES INCORPORATED	\$ 14,502,710	\$ 3,403	\$ -	\$ -	\$ -
NEEDHAM AND COMPANY LLC	\$ 15,651,978	\$ 14,660	\$ -	\$ -	\$ -
NOMURA	\$ -	\$ -	\$ 1,483,897,964	\$ -	\$ 1,469,687,942
NOMURA BANK	\$ -	\$ -	\$ -	\$ -	\$ -
NORDEA BANK AB (PUBL), FINNISH BRANCH	\$ 1,184,926	\$ 1,164	\$ -	\$ -	\$ -
NORTH SOUTH CAPITAL LLC	\$ 833,600	\$ 415	\$ -	\$ -	\$ -
NORTHERN TRUST COMPANY, THE	\$ 307,068	\$ -	\$ 1,955,577	\$ -	\$ -
NORTHLAND SECURITIES INC.	\$ 2,992,248	\$ 3,316	\$ -	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2022

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
NUMIS SECURITIES LIMITED	\$ 2,140,704	\$ 730	\$ -	\$ -	\$ -
OAK INVESTMENT PARTNERS	\$ -	\$ -	\$ -	\$ -	\$ -
ODDO ET CIE	\$ 64,924	\$ 52	\$ -	\$ -	\$ -
OPPENHEIMER	\$ 68,847,602	\$ 55,703	\$ 9,759,916	\$ -	\$ -
OPTIVER VOF	\$ 621,890	\$ 372	\$ -	\$ -	\$ -
PAREL	\$ 16,299,804	\$ 9,024	\$ -	\$ -	\$ -
PENSERRA SECURITIES	\$ 49,712,108	\$ 21,199	\$ -	\$ -	\$ -
PERSHING LLC	\$ 634,166,357	\$ 145,393	\$ 3,776,936,981	\$ -	\$ 7,732,527,301
PIERPONT SECURITIES LLC	\$ -	\$ -	\$ 205,134	\$ -	\$ -
PIPER JAFFRAY	\$ 276,607,172	\$ 101,394	\$ -	\$ -	\$ -
R.W.PRESSPRICH & CO.	\$ -	\$ -	\$ 10,878,683	\$ -	\$ -
RAIFFEISEN ZENTRALBANK OESTERREICH AG	\$ -	\$ -	\$ 931,408	\$ -	\$ -
RAYMOND JAMES	\$ -	\$ -	\$ 9,503,060	\$ -	\$ -
RAYMOND JAMES LTD	\$ 104,728,323	\$ 39,306	\$ -	\$ -	\$ -
RBC	\$ 2,120,386,899	\$ 256,621	\$ 1,620,176,962	\$ 429	\$ 5,303,732,534
RBS SECURITIES INC.	\$ -	\$ -	\$ 35,991,308	\$ -	\$ 42,525,000,000
REDBURN (EUROPE) LIMITED	\$ 5,283,238	\$ 4,367	\$ -	\$ -	\$ -
RENAISSANCE SECURITIES (CYPRUS) LIMITED	\$ 58,973	\$ 71	\$ -	\$ -	\$ -
RENCAP SECURITIES INC	\$ 1,473,074	\$ 804	\$ -	\$ -	\$ -
RESOLUTE CAPITAL MARKETS	\$ -	\$ -	\$ 496,250	\$ -	\$ -
ROBERT W. BAIRD CO.INCORPORATED	\$ 67,185,321	\$ 57,633	\$ 54,487,777	\$ -	\$ -
ROSENBLATT SECURITIES INC.	\$ 404,447	\$ 726	\$ -	\$ -	\$ -
ROTH CAPITAL PARTNERS LLC	\$ 5,744,358	\$ 5,884	\$ -	\$ -	\$ -
ROYAL BANK OF CANADA	\$ 3,586,591	\$ 3,269	\$ 29,272,181	\$ -	\$ 125,000,000
ROYAL BANK OF SCOTLAND	\$ -	\$ -	\$ -	\$ -	\$ 27,313,000,000
SANDERS MORRIS HARRIS	\$ 2,206,498	\$ 657	\$ -	\$ -	\$ -
SANFORD C BERNSTEIN CO LLC	\$ 142,039,591	\$ 64,757	\$ -	\$ -	\$ -
SANTANDER INVESTMENT SECURITIES INC	\$ 12,684,168	\$ 12,869	\$ 3,773,883	\$ -	\$ -
SANYO SECURITIES OF AMERICA (CLS 443)	\$ -	\$ -	\$ 2,280,000	\$ -	\$ -
SCOTIA CAPITAL INC	\$ 63,996,289	\$ 12,103	\$ 240,307,716	\$ -	\$ -
SCOTIABANK	\$ 5,757	\$ 11	\$ 1,626,838	\$ -	\$ -
SEAPORT GROUP SECURITIES LLC	\$ 10,043,047	\$ 5,865	\$ 1,069,145	\$ -	\$ -
SG AMERICAS SECURITIES LLC	\$ 14,240,523	\$ 6,263	\$ 629,838,394	\$ -	\$ 781,762,711
SG SECURITIES	\$ 26,573,313	\$ 6,780	\$ -	\$ -	\$ -
SHENYIN WANGUO SECURITIES (HK) LTD	\$ 120,140	\$ 205	\$ -	\$ -	\$ -
SKANDINAVISKA ENSKILDA BANKEN	\$ 5,048,761	\$ 7,440	\$ -	\$ -	\$ -
SMBC NIKKO SECURITIES	\$ 8,430,265	\$ 4,832	\$ 1,082,632	\$ -	\$ -
SOCIETE GENERALE	\$ 43,528,103	\$ 4,447	\$ 1,074,262	\$ -	\$ -
STANDARD CHARTERED BANK	\$ -	\$ -	\$ 8,285,740	\$ -	\$ -
STATE STREET BANK AND TRUST	\$ 520,195,192	\$ 38,753	\$ 98,949,556	\$ -	\$ 13,469,941,088
STEPHENS INC	\$ 26,033,817	\$ 27,175	\$ 1,375,548	\$ -	\$ -
STIFEL NICOLAUS	\$ 47,677,322	\$ 42,699	\$ 87,730,437	\$ -	\$ -
STONEX FINANCIAL INC.	\$ 371,635	\$ 474	\$ -	\$ -	\$ -
STRATEGAS SECURITIES LLC	\$ 1,124,277	\$ 1,184	\$ -	\$ -	\$ -
SUMRIDGE PARTNERS LLC	\$ -	\$ -	\$ 1,328,212	\$ -	\$ -
SUNTRUST BANK	\$ 21,352,198	\$ 25,021	\$ 1,524,340	\$ -	\$ -
TELSEY ADVISORY GROUP	\$ 5,485,438	\$ 9,319	\$ -	\$ -	\$ -
THE BANK OF NOVA SCOTIA, NEW YORK AGENCY	\$ -	\$ -	\$ -	\$ -	\$ 231,745,100
THE BENCHMARK COMPANY LLC	\$ 11,870	\$ 20	\$ -	\$ -	\$ -
THE HONGKONG AND SHANGHAI BANKING	\$ 2,592,748	\$ 4,621	\$ -	\$ -	\$ -
TORONTO DOMINION BANK	\$ 31,690,642	\$ 7,952	\$ 28,119,192	\$ -	\$ 25,576,267
TPCG FINANCIAL SERVICES S.A	\$ -	\$ -	\$ 309,343	\$ -	\$ -
TRUIST SECURITIES, INC.	\$ -	\$ -	\$ 15,138,539	\$ -	\$ -

Financial Reports

Investment Commission and Trading Volume

Commissions and Trading Volume By Broker for Fiscal Year 2022

	Stock Volume	Stock Commission	Bond Volume	Bond Commission	Short Term Volume
U.S. BANK N.A./CP	\$ -	\$ -	\$ -	\$ -	\$ 540,000,000
UBS	\$ 1,107,690,560	\$ 402,138	\$ 321,698,368	\$ -	\$ 113,509,110
UNICREDIT BANK AG (HYPOVEREINSBANK)	\$ -	\$ -	\$ 212,801	\$ -	\$ -
US BANCORP INVESTMENTS INC	\$ -	\$ -	\$ 196,653,474	\$ -	\$ -
VALEURS MOBILIERES DESJARDINS	\$ 409,270	\$ 159	\$ -	\$ -	\$ -
VIRTU AMERICAS	\$ 350,942,866	\$ 98,183	\$ -	\$ -	\$ -
VTB BANK EUROPE PLC	\$ -	\$ -	\$ 203,000	\$ -	\$ -
WEBSTER MARSH & CO	\$ -	\$ -	\$ -	\$ -	\$ -
WEDBUSH SECURITIES INC	\$ 21,064,335	\$ 19,169	\$ -	\$ -	\$ -
WELLS FARGO	\$ 1,695,027,774	\$ 167,154	\$ 31,105,453,147	\$ 62,128	\$ 1,185,291,655
WILLIAM BLAIR & COMPANY L.L.C	\$ 17,397,062	\$ 20,099	\$ -	\$ -	\$ -
WILLIAMS CAPITAL GROUP LP (THE)	\$ 844,708	\$ 580	\$ -	\$ -	\$ 341,390,636
WOOD AND COMPANY	\$ 481,327	\$ 542	\$ -	\$ -	\$ -
XP INVESTIMENTOS CCTVM SA	\$ 5,560,518	\$ 5,283	\$ -	\$ -	\$ -
YUANTA SECURITIES CO., LTD.	\$ 858,826	\$ 1,725	\$ -	\$ -	\$ -
Grand Total	\$ 22,349,187,228	\$ 6,392,611	\$105,947,506,914	\$ 837,976	\$ 470,036,938,052

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