

MINNESOTA STATE BOARD OF INVESTMENT

2016 Annual Report

Minnesota State Board of Investment

60 Empire Drive | Suite 355 | St. Paul, MN 55103

E-mail: minn.sbi@state.mn.us | Website: www.sbi.state.mn.us

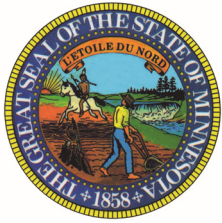


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This annual report can be accessed on our website at www.sbi.state.mn.us

MINNESOTA
STATE
BOARD OF
INVESTMENT



Board Members

Governor
Mark Dayton

State Auditor
Rebecca Otto

Secretary of State
Steve Simon

Attorney General
Lori Swanson

Executive Director

Mansco Perry

60 Empire Drive
Suite 355
St. Paul, MN 55103
(651) 296-3328
FAX (651) 296-9572
E-mail:
minn.sbi@state.mn.us
www.sbi.state.mn.us

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Employer*

December 2016

The Minnesota State Board of Investment (SBI) is pleased to present its report for the fiscal year ending June 30, 2016.

Investment Environment

Public equity markets were extremely disappointing during Fiscal Year 2016. Dismal macroeconomic factors were the primary cause for poor performance globally. Investor concerns regarding China's economic outlook, the lower interest rate environment promoted by central banks, and the continued decline in oil prices contributed to this challenging environment. During FY16, the U.S. equity markets returned 2.1% as measured by the Russell 3000 Index. International equity markets returned -10.2% for the fiscal year as measured by the Morgan Stanley Capital International (MSCI) All Country World Index excluding the United States net taxes on dividends (ACWI ex U.S.), which represents the developed and emerging international investments outside the U.S. The returns in the developed markets and emerging markets were disappointing. The British referendum rejecting membership of the European Union (Brexit) added to volatility in the last half of the fiscal year.

The U.S. bond market, as measured by the Barclays Capital Aggregate Bond Index, returned 6.0% for the fiscal year.

As we look forward, the investment environment remains challenging. We will endeavor to seek returns within appropriate levels of risk tolerance.

SBI Results for Fiscal Year 2016

Within this investment environment, the Combined Funds returned -0.1% during fiscal year 2016. Over the recent ten year period, the Funds generated an annualized return of 6.5%. (See page 8).

On June 30, 2016, assets under management totaled \$80.9 billion. This total is the aggregate of numerous pension funds, trust funds and cash accounts, each with different investment objectives. In establishing a comprehensive management program, the Board develops an investment strategy for each fund which reflects its unique requirements. **The primary purpose of this annual report is to communicate the investment goals, policies and performance of each fund managed by the Board.** Obtaining those results will sustain the financial condition of our clients. Through the investment programs presented in this report, the Minnesota State Board of Investment seeks to enhance the management and performance of the assets under its control.

Sincerely,

A handwritten signature in black ink that reads "Mansco Perry III".

Mansco Perry III
Executive Director and
Chief Investment Officer

State Board of Investment

Governor Mark Dayton, Chair
State Auditor Rebecca Otto
Secretary of State Steve Simon
State Attorney General Lori Swanson

Investment Advisory Council

The Legislature has established a seventeen member Investment Advisory Council (IAC) to advise the Board and its staff on investment-related matters.

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

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.

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

Two active employee representatives and one retiree representative are appointed to the Council by the Governor.

All proposed investment policies are reviewed by the IAC before they are presented to the Board for action.

Public Members

Jeffery Bailey, Chair
Sr. Director, Financial
Benefits & Analysis
Target Corporation

Kerry Brick
Manager, Pension Investments
Cargill, Inc.

Dennis Duerst
Director, Benefit Funds Investment
3M Company

Kim Faust
Vice President and Treasurer
Fairview Health Services

Susanna Gibbons
Director, Carlson Fixed Income
Fund
Carlson School of Management

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

Gary Martin
Chief Investment Officer
Macalester College

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

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

Shawn Wischmeier
Chief Investment Officer
Margaret A. Cargill Philanthropies

Permanent Members

Doug Anderson
Executive Director
Public Employees Retirement
Association

Erin Leonard
Executive Director
MN State Retirement System

Myron Frans
Commissioner
Minnesota Management & Budget

Laurie Fiori Hacking
Executive Director
Teachers Retirement Association

Employee and Retirement Representative

Denise Anderson
Governor's Appointee
Active Employee Representative

Peggy Ingison
Governor's Appointee
Active Employee Representative

Elaine Voss
Governor's Appointee
Retiree Representative

As of December 2016

Staff, Consultants & Custodians

Mansco Perry III
Charlene Olson

Executive Director and Chief Investment Officer
Executive Assistant

Senior Leadership Team

LeaAnn M. Stagg
Assistant Executive Director
and Chief Operating Officer

Paul T. Anderson
Director, Investment
Administration

Andrew Krech
Director,
Private Markets

Michael J. Menssen
Director,
Debt Management

John Mulé
Manager,
Legal & Legislative Policy

Investment Staff

Patricia Ammann
Investment Officer,
Private Markets

Nathan Blumenshine
Investment Analyst,
Private Markets

Cassandra Boll
Investment Officer,
Private Markets

Tammy Brusehaver
Investment Officer,
Public Equity

Stephanie Gleeson
Investment Officer,
Public Equity

Inma Conde Goldman
Investment Officer,
Public Equity

Aaron D. Griga
Investment Officer,
Fixed Income

Steven P. Kuettel
Investment Officer,
Cash Management

Jonathan Stacy
Investment Officer,
Private Markets

Administrative Staff

Shirley Baribeau
Project Team Leader

Julie Grill
Accounting Officer,
Intermediate

Kailee Kemp
Account Clerk, Senior

Kathy Leisz
Information Technology
Specialist 2

Melissa Mader
Office Administrative Specialist,
Intermediate

Wendy Murphy
Accounting Officer, Senior

William J. Nicol
Accounting Director

Kelly Nordstrom
Office Administrative Specialist

Iryna Shafir
Accounting Officer, Senior

Consultants

General Consultant
Callan Associates Inc.
Chicago, Illinois

Special Projects Consultant
Pension Consulting Alliance
Portland, Oregon

Custodian Banks

Retirement and Trust Funds
State Street Bank & Trust Co.
Boston, Massachusetts

State Cash Accounts
Wells Fargo & Company
St. Paul, Minnesota

As of December 2016

The Minnesota State Board of Investment is responsible for the investment management of various retirement funds, trust funds and cash accounts. On June 30, 2016, the market value of all assets was \$80.9 billion.

Constitutional and Statutory Authority

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

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

The Board, its staff, and the Investment Advisory Council have conducted detailed analyses that address investment objectives, asset allocation policy and management structure of each of the funds under the SBI’s control. The studies guide the on-going management of these funds and are updated periodically.

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 www.sbi.state.mn.us.** Asset Listings are updated semi-annually as the new data becomes available.

Funds Under Management

**Market Value
June 30, 2016***

Retirement Funds

\$65.5 billion

Combined Funds

\$57.8 billion

The Combined Funds represent the assets for both the active and retired public employees in ten statewide retirement plans:

Teachers Retirement Fund	\$19.4 billion
PERA General Employees Retirement Fund	18.0 billion
Public Employees Police and Fire Fund	7.1 billion
Public Employees Correctional Fund	508 million
State Employees Retirement Fund	11.2 billion
Correctional Employees Fund	897 million
Highway Patrol Retirement Fund	628 million
Judges Retirement Fund	165 million

State Deferred Compensation Plan

\$5.8 billion

The State Deferred Compensation Plan provides public employees with a tax-sheltered retirement savings program that is a supplemental plan to their primary retirement plan.

Supplemental Investment Fund (SIF)

\$1.9 billion

The Supplemental Investment Fund includes assets of the unclassified state employees retirement plan, a defined benefit plan, other defined contribution retirement plans, a healthcare savings plan, and various retirement programs for local firefighters. Participating plans use one or more of the eight accounts which have different investment objectives designed to meet a wide range of needs and objectives.

Note: There are two investment options from the Supplemental Investment Fund (SIF) program that are also offered in the \$5.8 billion State Deferred Compensation Plan. To avoid double counting these assets, the \$1.4 billion of State Deferred Compensation dollars invested in these SIF portfolios are not included in the amounts below.

Balanced Fund (Previously Income Share Acct.)	stocks and bonds	\$375 million
U.S. Stock Index Fund (Previously, Common Stock Index Acct.)	passively managed stocks	481 million
U.S. Stock Actively Managed Fund (Previously, Growth Share Acct.)	actively managed stocks	209 million
Bond Fund (Previously, Bond Market Acct.)	actively managed bonds	143 million
Broad International Stock Fund (Previously, Int'l Share Acct.)	non-U.S. stocks	166 million
Stable Value Fund (Previously, Fixed Interest Acct.)	stable value investments	206 million
Money Market Fund (Previously, Money Market Acct.)	short-term debt securities	303 million
Volunteer Firefighter Account	stocks and bonds	54 million

Funds Under Management

**Market Value
June 30, 2016***

Non-Retirement Funds

\$15.4 billion

Assigned Risk Plan

\$309 million

The Minnesota Workers Compensation Assigned Risk Plan provides worker compensation insurance for companies unable to obtain coverage through private carriers.

Closed Landfill Investment Fund

\$72 million

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

Environmental Trust Fund

\$924 million

The Environmental Trust Fund is a trust established for the protection and enhancement of Minnesota's environment. It is funded with a portion of the proceeds from the state's lottery.

Minnesota College Savings Plan

\$1.2 billion

The Minnesota College Savings Plan is an education savings plan designed to help families set aside funds for future college costs. It is established under the provisions of the Internal Revenue Code Section 529, which authorized these types of savings plans to help families meet the costs of qualified colleges nationwide.

Miscellaneous State Accounts

\$160 million

Miscellaneous Trust Accounts

\$161 million

Other Postemployment Benefits Accounts (OPEBs)

\$523 million

These accounts are the assets set aside by local units of government for the payment of retiree benefits trusted by the Public Employees Retirement Association.

Permanent School Fund

\$1.2 billion

The Permanent School Fund is a trust established for the benefit of Minnesota public schools.

State Cash Accounts

\$10.8 billion

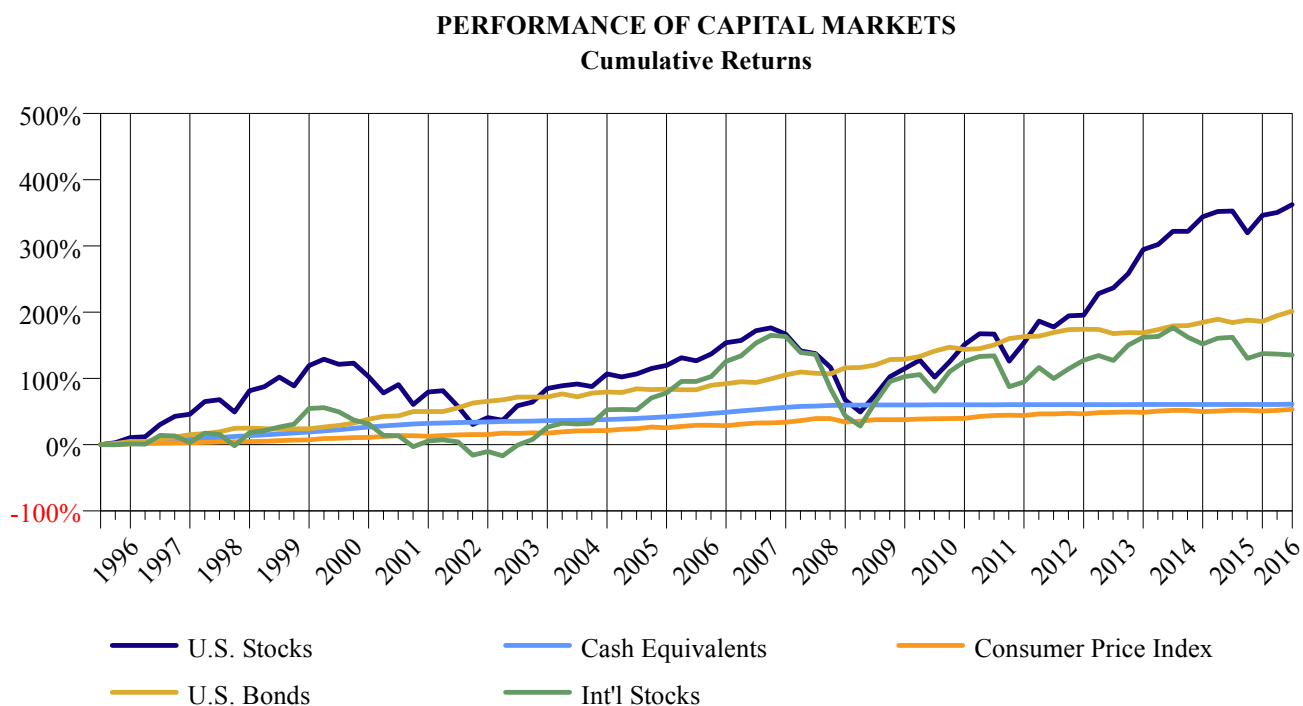
These accounts are the cash balances of state government funds including the General Fund, transportation funds, and miscellaneous cash accounts. Assets are invested through the Invested Treasurers Cash Pool in high quality, liquid, debt securities.

Total Assets Invested by SBI

\$80.9 billion

* Totals may not add due to rounding.

Figure 1.



Periods Ending June 30, 2016

	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Domestic Equity				
Russell 3000	2.1%	11.1%	11.6%	7.4%
Domestic Fixed Income				
Barclays Capital Aggregate ⁽¹⁾	6.0	4.1	3.8	5.1
3 month U.S. Treasury Bills	0.2	0.1	0.1	1.0
International Equity				
MSCI ACWI ex USA (net)	-10.2	1.2	0.1	1.9
Inflation Measure				
Consumer Price Index CPI-U ⁽²⁾	1.0	1.1	1.3	1.7

(1) Barclays Capital Aggregate Bond index. Includes governments, corporates and mortgages.

(2) Consumer Price Index (CPI) for all urban consumers, also known as CPI-U.

Combined Funds

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, 2016, the Combined Funds had a market value of \$ 57.8 billion.

Background

The Combined Funds consist of the assets of active employees and retired members of ten different retirement funds. The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies.

Figure 2 identifies the ten different retirement funds which comprise the Combined Funds.

Investment Objectives

One overriding responsibility of the State Board of Investment (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. For TRA, the investment rate is a select and ultimate of at least 8.0% on an annualized basis for the period July 1, 2012 through June 30, 2017 and 8.5% thereafter. MSRS and PERA must generate investment returns of at least 8.0% on an annualized basis.

Time Horizon

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

Asset Allocation

The allocation of assets among stocks, bonds, alternative investments (alternative investments include private equity, real estate, resource, and yield-oriented) and cash has a dramatic impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio.

As illustrated in Figure 1, historical evidence indicates that common stocks will provide the greatest opportunity to maximize investment returns

Figure 2. Composition of Combined Funds as of June 30, 2016

Teachers Retirement Association (TRA)	33.5%
Public Employees Retirement Association (PERA)	
Public Employees Retirement Fund	29.76%
Public Employees Police and Fire Fund	12.26
Public Employees Correctional Fund	0.88
Minneapolis Employees Retirement Plan	1.30
Total PERA	44.2
Minnesota State Retirement System (MSRS)	
State Employees Retirement Fund	19.34
Correctional Employees Fund	1.55
Highway Patrol Retirement Fund	1.09
Legislative Retirement Fund	0.00
Judges Retirement Fund	0.29
Total MSRS	22.3
Funds Total*	100.0%

* Total may not add due to rounding.

Combined Funds

over the long-term. As a result, the Board has chosen to incorporate a large commitment to common stocks in the asset allocation policy for the retirement funds. In order to limit the short run volatility of returns exhibited by common stocks, the Board includes other asset classes such as bonds, real estate, resource funds and yield-oriented 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 policy asset allocation of the Combined Funds, in effect thru Fiscal Year 2016, that was approved by the Board in December 2008 and reaffirmed each fiscal year thereafter is as follows:

Domestic Stocks	45%
International Stocks	15
Bonds	18
Alternative Assets	20
Unallocated Cash	<u>2</u>
Total	100%

The unfunded allocation to alternative investments is held in bonds until it is needed for investment. As a result, the actual amount invested in bonds at any time can be above the target allocation.

Figure 3 presents the actual asset mix of the Combined Funds at the end of fiscal year 2016.

Historical asset mix data are displayed in Figure 4.

Asset Mix Compared to Other Pension Funds

The Board finds it instructive to review asset mix and performance of the Combined Funds relative to other pension fund investors. The comparison universe used by the SBI is the Master Trust portion of the Trust Universe Comparison Service (TUCS). This universe contains information on public and corporate pension and trust funds with over \$1 billion with a diversified asset mix.

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, 2016 are also displayed in Figure 3.

The Combined Funds were overweighted in domestic equities, international equities, private markets and bonds

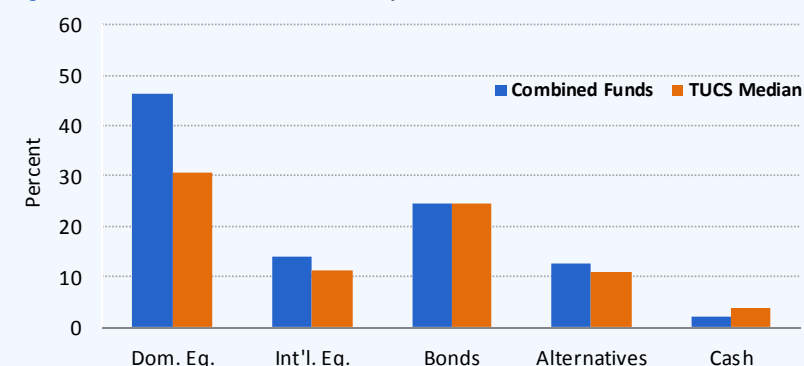
relative to the median allocation in TUCS, and were underweighted in cash.

Total Return Vehicles

The SBI invests the majority of the Combined Funds' assets in **common stocks** (both domestic and international.) A large allocation is consistent with the investment time horizon of the Combined Funds and the advantageous long-term risk-return characteristics of common stocks. Including international stocks 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 markets** is similar.

The Board recognizes that this sizable policy allocation to common stock and private markets likely will produce more volatile portfolio returns

Figure 3. Combined Funds Asset Mix Comparison as of June 30, 2016



	Combined Funds ⁽¹⁾	Median Allocation in TUCS ⁽²⁾
Domestic Equity	46.4%	30.7%
International Equity	14.0	11.3
Bonds	24.7	24.4
Alternatives ⁽³⁾	12.8	11.1
Cash	2.1	3.8

(1) May not add to 100% due to rounding.

(2) Represents the median allocation by asset class, and does not add to 100%.

(3) TUCS may include assets other than alternatives.

Combined Funds

than a more conservative policy focused on fixed income securities. It is understood that this policy may result in quarters or even years of disappointing results. Nevertheless, the long run return benefits of this policy are expected to compensate for the additional volatility.

Diversification Vehicles

The Board includes other asset classes in the Combined Funds to provide some protection against highly inflationary or deflationary environments and to diversify the portfolio sufficiently to avoid excessive return volatility.

Real Estate and **resource** (oil and gas) 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.

The allocation to **bonds** acts as a hedge against a deflationary economic environment. In the event of substantial deflation, high quality fixed income assets are expected to protect principal and generate significant capital gains. Bonds, like real estate and resource funds, under normal financial conditions, help to diversify the Combined Funds, thereby controlling return volatility.

Yield-oriented alternative investments provide the opportunity for higher long term returns than those typically available from bonds, yet still generate sufficient current income. Typically, these investments (e.g., subordinated

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

Investment Management

All assets in the Combined Funds are managed externally by investment management firms retained by contract. More information on the structure, management and performance of the various investment pools is included in the **Investment Pool** section of this report.

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 3 to 5 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.

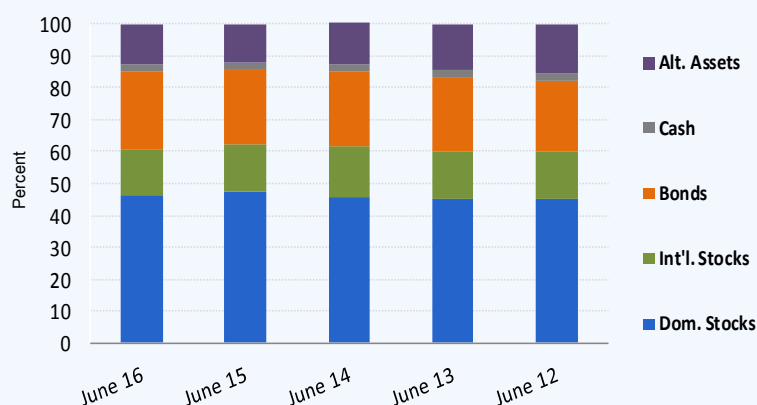
Performance is reported net of all fees and costs to assure that the Board's focus is on true net return.

Investment Results

Comparison to Inflation

Over the last twenty years, the Combined Funds exceeded inflation by 5.3 percentage points. Historical results compared to inflation are shown in Figure 5.

Figure 4. Combined Funds Historical Asset Mix Fiscal Year 2012-2016



Combined Funds

Comparison to Market Returns

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

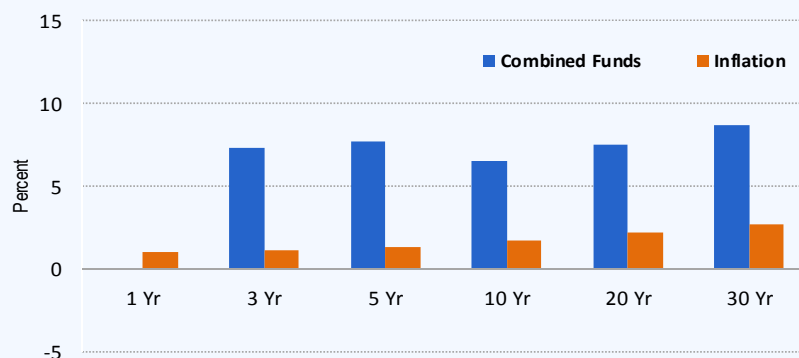
- The ability of the managers selected by the SBI, in aggregate, to add value to the returns available from the broad capital markets.
- The impact of the SBI's rebalancing activity. The SBI rebalances the total Fund when market movements take the stock (domestic and international), bond, or cash segments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

Performance results and a breakdown of the composite index are shown in Figures 6 and 7. The Combined Funds exceeded the composite index over the last ten years by 0.2 percentage point and, therefore, met the stated performance goal. The Funds exceeded the composite index over the last five years and underperformed over the most recent fiscal year. These results are largely a measure of value added or lost from active management after all fees and expenses have been taken into consideration.

Comparison to Other Funds

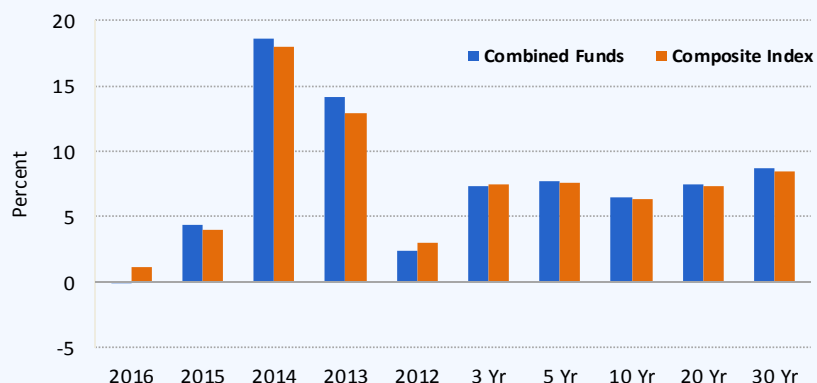
While the SBI is concerned with how its returns compare to other pension investors, universe comparison data should be used with great care. There are two

Figure 5. Combined Funds Performance vs. Inflation For Periods Ending June 30, 2016



	Annualized					
	1 Yr.	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	-0.1%	7.3%	7.7%	6.5%	7.5%	8.7%
Inflation	1.0	1.1	1.3	1.7	2.2	2.7

Figure 6. Combined Funds Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012
Combined Funds	-0.1%	4.4%	18.6%	14.2%	2.4%
Composite Index	1.1	4.0	18.0	12.9	3.0

	Annualized				
	3 Yr.	5 Yr.	10 Yr.	20 Yr.	30 Yr.
Combined Funds	7.3%	7.7%	6.5%	7.5%	8.7%
Composite Index	7.4	7.6	6.3	7.3	8.5

Combined Funds

primary reasons why such comparisons will provide an “apples-to-oranges” look at performance:

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

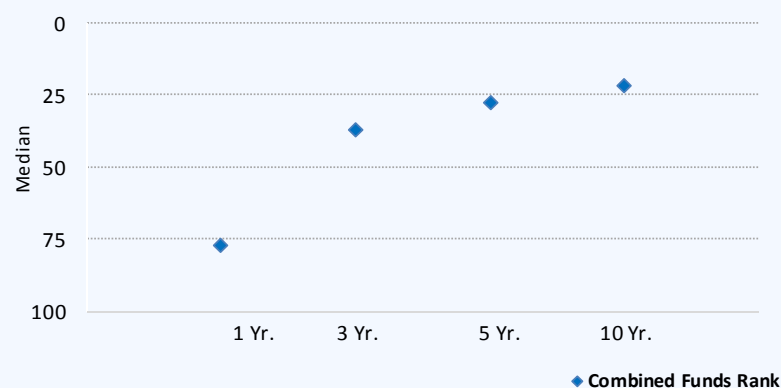
With these considerations in mind, the performance of the Combined Funds compared to other public and corporate pension funds with over \$1 billion in assets in the Master Trust portion of TUCS is displayed in Figure 8. It shows that the Combined Funds have ranked above the median over the last three, five and ten year periods.

Figure 7. Composite Index for Period Ending June 30, 2016

Asset Class	Market Index	Composite Index Wts. *
Domestic Stocks	Russell 3000	45.0%
Int'l Stocks	MSCI ACWI ex USA (net)	15.0
Domestic Bonds	Barclays Capital Aggregate	25.4
Alternative Investments	Alternative Investments	12.6
Unallocated Cash	3 Month T-Bills	2.0
Total		100.0%

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

Figure 8. Combined Funds Performance Compared to Other Pension Funds for Periods Ending June 30, 2016



	1 Yr.	3 Yr.	Annualized 5 Yr.	10 Yr.
Combined Funds	77th	37th	28th	22nd
Percentile Rank in TUCS*				

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

To gain greater operating efficiency, external managers are grouped into several “Investment Pools” which are segregated by asset class. The various retirement funds participate in one or more of the pools corresponding to their individual asset allocation strategies.

The Combined Funds and Supplemental Investment Fund (SIF) share many of the same stock and bond managers. This sharing is accomplished by grouping managers by asset class into several Investment Pools. The individual funds participate in the Investment Pools by purchasing units which function much like shares of a mutual fund.

This investment management structure allows the SBI to gain greater operating efficiency within asset classes and to keep management costs as low as possible for all participants.

Domestic Stock Pool

The Domestic Stock Pool is used by the Combined Funds and the Supplemental Investment Fund U.S. Stock Actively Managed Fund, U.S. Stock Index Fund, and the stock portions of the Balanced Fund and Volunteer Firefighter Account.

The following are the dollar values as of June 30, 2016 of each fund’s participation in the Pool:

Combined Funds (active, passive and semi-passive)	\$26.8 billion
U.S. Stock Active (active and semi-passive)	\$208.8 million

U.S. Stock Index (passive)	\$481.4 million
Stock portion of the Balanced Fund (passive)	\$225.4 million
Volunteer Firefighter Account (active and passive)	\$19.0 million

Management Structure

The SBI uses three styles of management to invest the assets of the Domestic Stock Pool:

- **Active Management.** The target has been to have less than half the portfolio actively managed. At the end of fiscal year 2016, approximately 27% of the Domestic Stock Pool was actively managed by a group of 15 external investment managers. The assets allocated to each of the managers ranged in size from approximately \$220 million to \$850 million.
- **Semi-Passive Management.** The target has been to have less than half the portfolio semi-passively managed. At the end of fiscal year 2016, approximately 38% of the Domestic Stock Pool was managed by a group of four semi-passive external investment managers with portfolios ranging from \$2.4 billion to \$2.9 billion.

- **Passive Management.** The target has been to have at least a quarter of the portfolio passively managed. At the end of fiscal year 2016, approximately 35% of the Stock Pool was managed passively by a single manager with a portfolio of \$9.6 billion.

The goal of the Domestic Stock Pool is to outperform the asset class target, the Russell 3000 Index, over time. The Russell 3000 Index can be segmented into sub-indexes or Russell style indexes.

Assets of the Pool are allocated based on the Russell style indexes in proportion to the style weighting within the Russell 3000. Assets within each style are then allocated to managers within the designated style. This allocation is done to minimize the style bias within the Pool.

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

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

The **passive manager** in the Domestic Stock Pool manages its portfolio to consistently and inexpensively track the Russell 3000 index.

A description of each domestic stock manager's investment approach is included in the **Investment Manager Summaries** section beginning on Page 56.

FY 2016 Changes

During fiscal year 2016, no changes were made to the manager structure.

Investment Performance

A comprehensive monitoring system has been established to ensure that the many elements of the Domestic Stock Pool conform to the SBI's investment policies. Published performance benchmarks are used for each domestic stock manager. These benchmarks enable the SBI to evaluate the managers' results, both individually and in aggregate, with respect to risk incurred and returns achieved. Two primary long-term **risk objectives** have been established for the domestic stock managers:

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

each active domestic stock manager may hold a more concentrated portfolio, appropriate for the particular investment strategy and style.

The domestic stock managers successfully fulfilled their long-term risk objectives during fiscal year 2016. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained levels of diversification that were appropriate for their respective active, semi-passive and passive approaches.

The Board's **return objectives** for active and semi-passive stock managers are measured against the published Russell style 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.

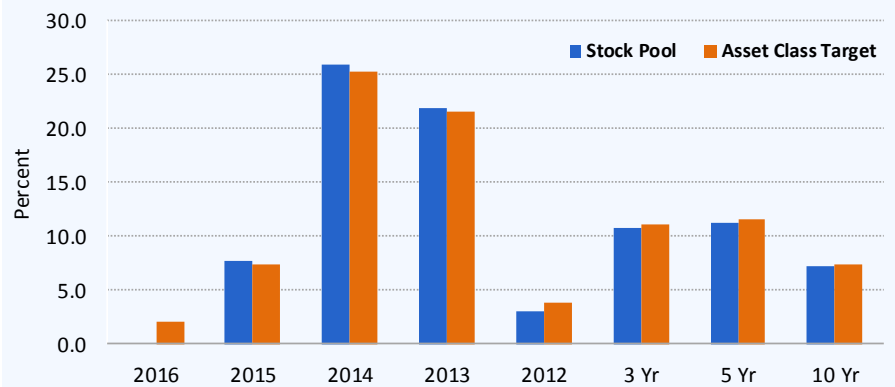
In aggregate, the Domestic Stock Pool trailed the Russell 3000 Index by 2.1 percentage points for the fiscal year. The active manager group and the semi-passive manager group both underperformed their respective benchmarks. The passive manager exceeded the one year benchmark by 0.1 percentage point.

Relative to the aggregate benchmark, the underperformance of the active manager group was due to overall stock selection, especially in the Financial Services and Consumer Discretionary sectors. The semi-passive managers were impacted by overall stock selection, particularly in the Consumer Staples sector.

Investment Pools

Figure 9 provides details of the historical performance of the entire pool. Manager performance relative to the respective benchmarks for the fiscal year end was mixed. Three of 15 active managers outperformed their assigned benchmarks, while twelve managers underperformed. All four of the semi-passive managers underperformed the Russell 1000. The passive manager exceeded the Russell 3000 index by 0.1 percentage point. Individual manager performance for fiscal year 2016 is shown in Figure 10. Aggregate portfolio sector characteristics are shown in Figure 11.

Figure 9. Domestic Stock Pool Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
						3 Yr.	5 Yr.	10 Yr.
Stock Pool	0.0%	7.7%	25.9%	21.9%	3.1%	10.7%	11.2%	7.2%
Asset Class Target*	2.1	7.3	25.2	21.5	3.8	11.1	11.6	7.4

* Reflects the Russell 3000 since 10/1/2003; the Wilshire 5000 Investable from 7/1/1999 thru 9/30/03.

Figure 10. Domestic Stock Manager Performance for Periods Ending June 30, 2016

	1 Year		3 Years		5 Years		Market Value
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	(\$ in millions)
Active Managers							
Large Cap Growth (Russell 1000 Growth)							
INTECH	5.4	3.0	14.0	13.1	12.3	12.3	642.5
Jacobs Levy Equity Mgmt.	2.1	3.0	13.4	13.1	12.1	12.3	724.1
Sands Capital Mgmt.	-7.7	3.0	9.9	13.1	11.2	12.3	646.5
Winslow Capital Mgmt.	-2.2	3.0	11.9	13.1	10.4	12.3	313.5
Zevenbergen Capital	-13.6	3.0	8.5	13.1	7.5	12.3	575.6
Large Cap Value (Russell 1000 Value)							
Barrow, Hanley	-0.1	2.9	9.7	9.9	10.7	11.4	843.4
Earnest Partners	-2.8	2.9	9.2	9.9	8.9	11.4	559.6
LSV Asset Mgmt.	-2.8	2.9	10.0	9.9	12.1	11.4	833.4
Systematic Financial Mgmt.	-8.8	2.9	6.3	9.9	7.4	11.4	711.1
Small Cap Growth (Russell 2000 Growth)							
McKinley Capital	-10.7	-10.8	9.3	7.7	10.3	8.5	384.5
Next Century Growth	-17.6	-10.8	2.1	7.7	2.9	8.5	347.1
Small Cap Value (Russell 2000 Value)							
Goldman Sachs	-2.9	-2.6	8.7	6.4	10.5	8.1	273.5
Hotchkis & Wiley	-15.6	-2.6	5.9	6.4	8.5	8.1	224.6
Martingale Asset Mgmt.	-0.6	-2.6	10.0	6.4	11.3	8.1	222.9
Peregrine Capital Mgmt.	-7.8	-2.6	5.4	6.4	8.0	8.1	339.6
Semi-Passive Managers (Russell 1000)							
BlackRock Institutional	1.9	2.9	11.6	11.5	12.5	11.9	2,594.5
INTECH	2.2	2.9	10.7	11.5	11.4	11.9	2,353.8
J.P. Morgan Investment Mgmt.	2.4	2.9	11.8	11.5	12.3	11.9	2,977.2
Mellon Capital Mgmt.	0.7	2.9	11.0	11.5	12.2	11.9	2,524.5
Passive Manager (Russell 3000)							
BlackRock Institutional	2.2	2.1	11.2	11.1	11.6	11.6	9,659.5
Aggregate Domestic Stock Pool⁽¹⁾	0.0	2.1	10.7	11.1	11.2	11.6	27,751.7
Asset Class Target							
Russell 3000		2.1		11.1		11.6	

(1) Aggregate includes the performance of terminated managers.

Figure 11. Domestic Stock Pool Allocations Russell Global (US) Sector Weights for Period Ending June 30, 2016

Russell Sector	Active Managers %	Semi-Passive Managers %	Passive Manager %	Aggregate Domestic Stock Pool %	Benchmarks Russell 1000 %	Russell 3000 %
Consumer Discretionary	15.9	15.6	14.2	15.2	14.6	14.5
Consumer Staples	3.0	8.2	8.0	6.7	8.6	8.2
Energy	4.8	6.0	6.4	5.8	6.9	6.5
Financial Services	21.1	19.3	19.2	19.8	19.0	19.6
Health Care	15.9	14.3	13.6	14.5	13.9	14.0
Materials and Processing	3.9	3.9	3.8	3.9	3.6	3.9
Producer Durables	10.1	10.4	10.8	10.5	10.9	11.0
Technology	16.4	15.8	16.1	16.0	16.6	16.4
Utilities	3.5	5.4	5.7	5.0	5.9	5.9
Cash	1.9	0.4	1.0	1.0	N/A	N/A
Unassigned*	3.5	0.7	1.2	1.6	N/A	N/A
Assigned Benchmark:	Russell 3000	Russell 1000	Russell 3000	Russell 3000		

* Holdings not included in benchmark.

Bond Pool

The Bond Pool is used by the Combined Funds, the Supplemental Investment Fund Bond Fund and the bond portion of the Volunteer Firefighter Account.

The following are the dollar values as of June 30, 2016 of each fund's participation in the Pool:

Combined Funds (active)	\$14.3 billion
Bond Fund (active)	\$143.4 million
Volunteer Firefighter Account (active and passive)	\$24.9 million

Investment Management

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

- **Active Management.** The target has been to have no more than half of the Bond Pool managed actively. At the end of fiscal year 2016, approximately 50% of the Bond Pool was actively managed by five external investment managers with portfolios ranging in size from \$1.1 billion to \$1.8 billion.
- **Semi-Passive Management.** The target has been to have at least half of the assets of the Bond Pool managed semi-passively. At the end of fiscal year 2016, approximately 50% of the bond segment was invested by three managers with portfolios of \$2.1 to \$2.7 billion each.

The group of **active** bond managers is retained for its blend of investment styles. Each active manager has the goal of outperforming the Barclays Capital Aggregate Bond Index by focusing on high quality fixed income securities across all sectors of the market. The managers vary, however, in the emphasis they place on interest rate anticipation (duration) and in the manner in which they approach security selection and sector weighting decisions. In keeping with the objective of utilizing the Bond Pool as a deflation hedge, the active managers are restricted regarding the duration of their portfolios. This requirement is designed to prevent the dilution of the deflation hedge of the total pool due to an excessively short duration position. In addition, the duration restriction helps to avoid extreme variability in total returns relative to the benchmark. The SBI constrains the duration range of the active managers' portfolios to a band of plus or minus two years around the duration of the Barclays Capital Aggregate. The active bond managers focus on high quality (BBB or better) rated bonds. Four managers have been granted authority to invest a limited portion of their portfolios in BB and B rated dollar denominated debt and three have been given authority to invest in investment grade non-dollar denominated issues. The managers use this additional authority on a tactical basis.

The goal of the **semi-passive** managers is to add incremental value relative to the Barclays Capital Aggregate Bond Index through superior bond selection and sector allocation rather than through interest rate exposure. Semi-passive managers'

portfolios are constrained to plus or minus 0.2 years around the duration of the Barclays Capital Aggregate. One manager has been granted authority to invest a limited portion of its portfolio in BB and B rated dollar denominated debt and in investment grade non-dollar denominated issues. The manager uses this additional authority on a tactical basis.

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

FY 2016 Changes

There were no changes to the bond program in fiscal year 2016.

Investment Performance

The SBI constrains the **risk** of the active bond managers' portfolios to ensure that they fulfill their deflation hedge and total fund diversification roles. As noted earlier, the managers are restricted in terms of the duration of their portfolios and the quality of their fixed income investments. The active and semi-passive bond managers successfully fulfilled their long-term risk objectives during fiscal year 2016. The managers constructed portfolios consistent with stated investment approaches and maintained appropriate levels of quality and duration.

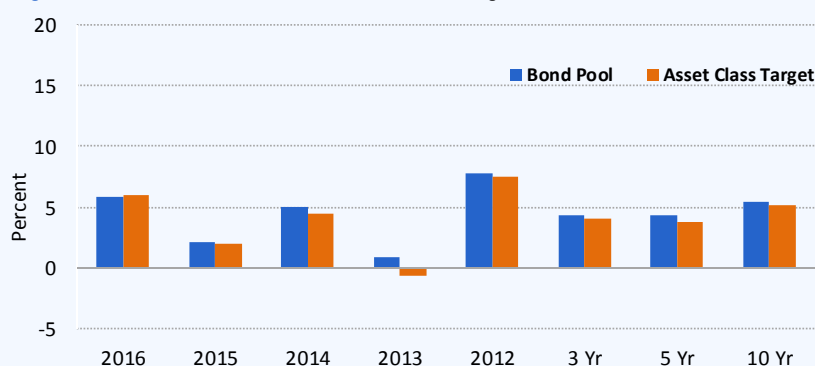
The **returns** of each of the bond managers are compared to the Barclays Capital Aggregate. Individual managers are expected to exceed the target, net of fees, on an annualized basis. In total, the pool underperformed the Barclays Capital Aggregate by 0.1 percentage point for the recent fiscal year. Relative to the

Investment Pools

benchmark, the pool benefited from overweight positions in duration, MBS, CMBS, and ABS sectors, and security selection in corporates. Performance over the long-term is satisfactory. The pool outperformed the asset class target by 0.3 percentage point over the ten year period ending June 30, 2016. Two of the five active managers outperformed the benchmark while three underperformed for the fiscal year. All semi-passive managers outperformed the benchmark for the fiscal year.

Figure 12 shows historical performance for the entire pool. Individual manager performance is shown in Figure 13. Aggregate portfolio sector and portfolio characteristics are shown in Figure 14.

Figure 12. Bond Pool Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
Bond Pool	5.9%	2.1%	5.0%	0.8%	7.8%	4.3%	4.3%	5.4%
Asset Class Target*	6.0	1.9	4.4	-0.7	7.5	4.1	3.8	5.1

* The Bond Pool asset class target has been the Barclays Capital Aggregate Bond Index since July 1994.

Figure 13. Bond Manager Performance for Periods Ending June 30, 2016

	1 Year		3 Years		5 Years		Market Value
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	(\$ in millions)
Active Managers							
Aberdeen Asset Mgmt.	6.2	6.0	4.6	4.1	4.7	3.8	1,185.4
Columbia Mgmt.	5.7	6.0	4.4	4.1	4.5	3.8	1,138.1
Dodge & Cox Investment Mgmt.	4.8	6.0	4.3	4.1	4.4	3.8	1,604.2
PIMCO	5.2	6.0	3.9	4.1	4.2	3.8	1,563.2
Western Asset Mgmt.	6.6	6.0	4.9	4.1	4.8	3.8	1,797.3
Semi-Passive Managers							
BlackRock Financial Mgmt.	6.1	6.0	4.3	4.1	4.1	3.8	2,069.5
Goldman Sachs Asset Mgmt.	6.1	6.0	4.3	4.1	4.2	3.8	2,482.6
Neuberger Investment Mgmt.	6.2	6.0	4.3	4.1	4.0	3.8	2,737.9
Aggregate Bond Pool⁽¹⁾	5.9	6.0	4.3	4.1	4.3	3.8	14,578.2
Asset Class Target							
Barclays Capital Aggregate		6.0		4.1		3.8	

(1) Aggregate includes the performance of terminated managers.

Figure 14. Bond Pool Sector Weights and Portfolio Characteristics for Period Ending June 30, 2016

	Active Managers %	Semi-Passive Managers %	Aggregate Bond Pool %	Barclays Capital Benchmark %
Treasury	19.3	28.7	24.2	36.2
Government-Related	0.5	2.5	1.9	3.2
Corporate	37.2	30.2	34.4	26.0
U.S. Mortgage	30.0	27.9	28.2	27.7
Commercial Mortgage	4.9	4.9	4.9	1.7
Asset Backed	6.1	4.7	5.4	0.5
Municipal	2.0	0.2	1.0	0.9
Other	0.9	0.9	0.9	3.8

Note: May not equal 100% due to rounding.

	Active Managers %	Semi-Passive Managers %	Aggregate Bond Pool %	Barclays Capital Benchmark %
Average Quality	A	A+	A	AA-
Average Yield to Maturity	2.41	2.03	2.21	1.81
Effective Duration*	5.29	5.32	5.29	5.35
Weighted Average Life**	8.0 Yrs.	7.52	7.68	7.52 Yrs.

* 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.

** 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.

International Stock Pool

The International Stock Pool is used by the Combined Funds, the Broad International Stock Fund and the international portion of the Volunteer Firefighter Account in the Supplemental Investment Fund.

The following are the dollar values as of June 30, 2016 of each fund's participation in the International Stock Pool:

Combined Funds (mixed)	\$8.1 billion
Broad Int'l Stock Fund (mixed)	\$166 million
Volunteer Firefighter Account (active and passive)	\$8 million

Management Structure

Currently, the SBI uses three styles of management to invest the assets of the International Stock Pool:

- **Active Management.** The target has been to have at least one-third of the International Stock Pool managed actively. At the end of fiscal year 2016, approximately 44% of the Pool was actively managed by a group of eight external managers with portfolios ranging in size from \$264 million to over \$746 million. Six of these managers manage portfolios in the developed markets and two manage portfolios in the emerging markets.
- **Semi-Passive Management.** The target has been to have no more than 33% of the International Stock Pool

managed semi-passively. At the end of fiscal year 2016, 13% of the Pool was semi-passively managed by a group of three external managers with portfolios ranging in size from \$280 million to \$471 million.

- **Passive Management.** The target has been to have at least 25% of the International Stock Pool managed passively. At the end of fiscal year 2016, approximately 43% of the International Stock Pool was passively managed by a single manager in two separate portfolios, one a developed markets equity index account and the other an emerging markets equity index account, with \$3.3 billion and \$267 million respectively.

The goal of the International Stock Pool is to outperform the asset class target, which is the MSCI ACWI ex USA Index (net). The SBI uses the market capitalization weights of the developed and emerging markets as they are represented in the pool's benchmark index as target weights for the developed and emerging markets within the International Stock Pool. At the end of fiscal year 2016, 80% of the International Stock Pool was invested in the developed markets and 20% was invested in the emerging markets.

Six of the eight **active** managers and the three **semi-passive** 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 USA Index (net) over time. These managers address currency management as

part of their investment process. Their views on currency may be factored into their country and security selection, or 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.

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

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

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

FY 2016 Changes

During fiscal year 2016, there were no changes to the International Stock Pool.

Investment Performance

Similar to the Domestic Stock Pool, two long-term **risk objectives** have been established for the international equity managers:

- **Investment Approach.** Each manager (active, semi-passive or passive) is expected to hold a portfolio that is consistent with the

manager's stated investment approach.

- **Diversification.** While the index manager is expected to hold a well-diversified portfolio which closely tracks its target index and the semi-passive managers are expected to hold risk-adjusted portfolios which modestly outperform the index, each active manager is expected to hold a portfolio which represents its best ideas for outperforming the index.

The international stock managers successfully fulfilled their long-term risk objectives during fiscal year 2016. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification.

The Board's *return objectives* for the International Stock Program are stated relative to the Morgan Stanley Capital International (MSCI) Standard indices which includes large and mid-capitalization stocks.

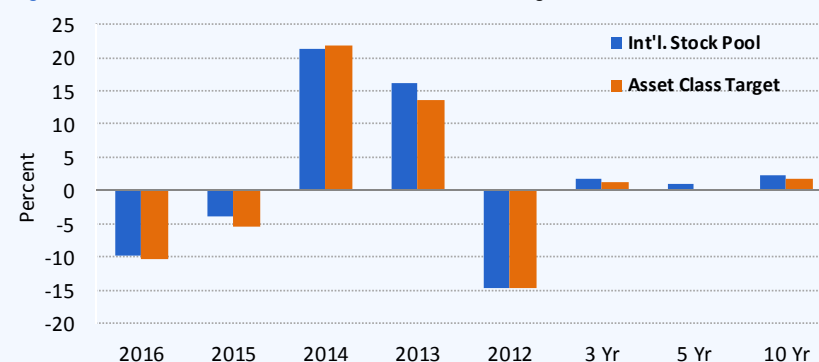
The indices are capitalization weighted and measured in U.S. dollar terms, with currencies unhedged. Individual active managers are expected to exceed their benchmark by an amount appropriate for their level of active risk. The active risk level varies by manager and is influenced by the manager's stated strategy and style. Performance results for the International Stock Pool are shown in Figure 15. In aggregate, performance over the last ten year period exceeded the benchmark by 0.5 percentage point and performance over the last five year period exceeded

the benchmark by 0.8 percentage point. The Pool outperformed the target by 0.5 percentage point for the fiscal year.

Individual manager performance during fiscal year 2016 is shown in Figure 16. Three out of six active developed market managers outperformed the benchmark over the year. One active emerging markets manager outperformed and one underperformed their benchmark. Two of the three semi-passive developed market managers underperformed, while one outperformed over the year. Finally the developed markets passively managed portion of the program exceeded the return of the MSCI World ex USA Index (net). The emerging markets passively managed portion of the program exceeded the return of the MSCI Emerging Markets Index (net).

The International Stock Pool's country weights are displayed in Figure 17.

Figure 15. Int'l. Stock Pool Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	3 Yr.	5 Yr.	10 Yr.
Int'l. Stock Pool	-9.7%	-3.8%	21.4%	16.1%	-14.7%	1.8%	0.9%	2.4%
Asset Class Target*	-10.2	-5.3	21.8	13.6	-14.6	1.2	0.1	1.9

* MSCI ACWI ex USA (net) since 10/1/03. Composite of EAFE-Free and Emerging Markets Free from 5/1/96 through 9/30/03.

Figure 16. International Manager Performance for Periods Ending June 30, 2016

	1 Year		3 Years		5 Years		Market Value
	Actual	Bmk	Actual	Bmk	Actual	Bmk	(\$ in millions)
	%	%	%	%	%	%	
Active Managers							
Developed Mkts (MSCI World ex USA net)							
Acadian Asset Mgmt.	-0.9	-9.8	6.4	1.9	4.4	1.2	375.2
Columbia Mgmt. Investment Advisers, LLC	-10.9	-9.8	2.7	1.9	2.7	1.2	331.5
J.P. Morgan Investment Mgmt. Co.	-13.4	-9.8	0.3	1.9	0.6	1.2	264.1
Marathon Asset Management	-8.1	-9.8	4.4	1.9	4.6	1.2	726.3
McKinley Capital Management	-13.2	-9.8	2.1	1.9	2.1	1.2	275.8
Pyramis Global Advisors Trust Co.	-8.6	-9.8	2.7	1.9	3.2	1.2	331.9
Semi-Passive Managers							
Developed Mkts (MSCI World ex USA net)							
AQR Capital Management	-8.6	-9.8	2.6	1.9	2.2	1.2	320.4
Pyramis Global Advisors Trust Co.	-11.8	-9.8	2.4	1.9	2.0	1.2	471.4
State Street Global Advisors	-12.4	-9.8	1.7	1.9	0.7	1.2	279.7
Active Managers							
Emerging Mkts (MSCI Emerging Markets net)							
Capital International, Inc.	-12.8	-12.1	-3.0	-1.6	-5.9	-3.8	619.5
Morgan Stanley Investment Mgmt.	-8.7	-12.1	-0.5	-1.6	-1.1	-3.8	745.8
Passive Managers							
Developed Mkts (MSCI World ex USA net)							
State Street Global Advisors	-9.3	-9.8	2.3	1.9	1.6	1.2	3,261.0
Passive Managers							
Emerging Mkts (MSCI Emerging Markets net)							
State Street Global Advisors	-11.6	-12.1	-1.3	-1.6	--	--	267.1
Aggregate International Stock Pool⁽¹⁾	-9.7	-10.2	1.8	1.2	0.9	0.1	8,269.5
Asset Class Target							
MSCI ACWI ex USA (net)		-10.2		1.2		0.1	

(1) Aggregate includes the performance of terminated managers.

Figure 17. International Stock Pool Aggregate Country Weights for Period Ending June 30, 2016

Country	Pool Weights* %	Benchmark Weights** %
Australia	4.6	5.1
Austria	0.3	0.1
Belgium	1.2	1.0
Brazil	1.4	1.6
Canada	6.2	6.8
Chile	0.2	0.3
China	1.2	5.8
Colombia	0.1	0.1
Czech Republic	0.1	0.0
Denmark	1.9	1.4
Egypt	0.0	0.0
Finland	1.0	0.7
France	6.2	6.8
Germany	6.0	6.1
Greece	0.0	0.1
Hong Kong	2.7	2.3
Hungary	0.0	0.1
India	2.1	1.9
Indonesia	0.7	0.6
Ireland	0.6	0.3
Israel	0.4	0.5
Italy	1.2	1.4
Japan	17.9	16.4
Korea	2.0	3.3
Malaysia	0.2	0.7
Mexico	1.1	0.9
Netherlands	3.3	2.2
New Zealand	0.2	0.1
Norway	0.5	0.5
Peru	0.1	0.1
Philippines	0.5	0.4
Poland	0.3	0.3
Portugal	0.2	0.1
Qatar	0.0	0.2
Russia	0.2	0.8
Singapore	0.8	1.0
South Africa	1.0	1.7
Spain	2.1	2.1
Sweden	1.9	2.0
Switzerland	6.5	6.5
Taiwan	1.8	2.7
Thailand	0.3	0.5
Turkey	0.3	0.3
United Arab Emirates	0.1	0.2
United Kingdom	13.5	13.8
USA	1.6	N/A
Non-Benchmark Countries	5.5	N/A
Miscellaneous Accounting Entries	0.1	N/A
Total***	100.0	100.0

* Grouped by country of incorporation. Source: State Street Bank.

** Benchmark is the MSCI ACWI ex USA Index (net). Source: Factset.

*** Totals may not add due to rounding.

Alternative Investment Pool

Like the stock and bond segments, alternative assets (real estate, private equity, resource funds and yield-oriented investments) are managed on a pooled basis.

Statutory Constraints

The statutory constraints for any alternative assets investment for the Combined Funds are as follows:

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

Management Structure

Given their long investment time horizon, the Combined Funds are especially well suited for alternative investments. Up to 20% of the market value of the Combined Funds is targeted for alternative investments. Market value plus unfunded commitments may be up to 35% of the total market value of the Combined Funds. A breakdown of the Pool by segment is shown in Figure 18. The SBI does not establish an allocation target for each segment. As of June 30, 2016, the market value of current alternative investments was \$7.3 billion, or 12.8% of the Combined Funds.

Descriptions of each of the alternative investments are included in the **Investment Manager Summaries** section beginning on Page 70.

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 2016, the SBI approved and closed on commitments with TA Realty, Rockwood Capital Partners, Rockpoint Group, and Angelo Gordon & Co. The SBI will continue to review real estate managers for possible inclusion in the pool.

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 2016, the SBI approved and closed on commitments with Warburg Pincus, Summit Partners, Brookfield Asset Management, Thomas H. Lee Partners, TPG Capital Advisors, Blackstone Capital Partners, Carlyle

Strategic Partners, Kohlberg Kravis Roberts, Advent International, Madison Dearborn Capital Partners, Apax Partners, IK Partners and Strategic Partners. The SBI will continue to review and add new private equity investments as attractive opportunities are identified.

Resource Funds

The strategy for resource investments is to establish and maintain a portfolio of resource investment vehicles that provide an inflation hedge and additional diversification. Resource investments will include oil and gas investments and energy service industry investments that are diversified by geographic area as well as by type.

Resource investments are selected based on the manager's experience, investment strategy and performance history. During fiscal year 2016, the SBI approved and closed on commitments with EnerVest and The Energy & Minerals Group. The SBI will continue to review resource investments for possible inclusion in the pool.

Yield-Oriented

The strategy for yield-oriented investments is to target funds that typically provide a current return and may have an equity component. Structures such as subordinated debt investments and mezzanine investments are typical yield-oriented investments. Managers are selected based on the manager's performance, experience and investment strategy. During fiscal year 2016, the SBI approved and closed on commitments with Audax Management Company, LBC Credit Management and Merit Capital Partners. The SBI will continue to review yield-oriented

Investment Pools

investment opportunities for inclusion in the pool.

Investment Performance

The SBI reviews performance of its alternative investments relative to inflation, as measured by changes in the Consumer Price Index (CPI). The Alternative Investment Pool provided a positive contribution to overall fund performance for the Combined Funds. The Pool provided a 0.2% return in fiscal year 2016 and has provided a 9.6% return annualized over the past ten years. Performance of the Alternative Investment Pool is shown in Figure 19 for the period ending June 30, 2016.

At this time, benchmarks have not been established for the alternative investment fund managers. The long-term nature of these investments and the lack of comprehensive data on the returns provided by the alternative investment markets preclude comprehensive performance evaluation. In the future, as markets for these asset classes become more institutionalized, the SBI hopes to integrate appropriate performance standards for these assets into its performance analysis. A listing of individual investment funds can be found in the **Investment Manager Summaries** section.

Figure 18. Alternative Investment Asset Mix as of June 30, 2016

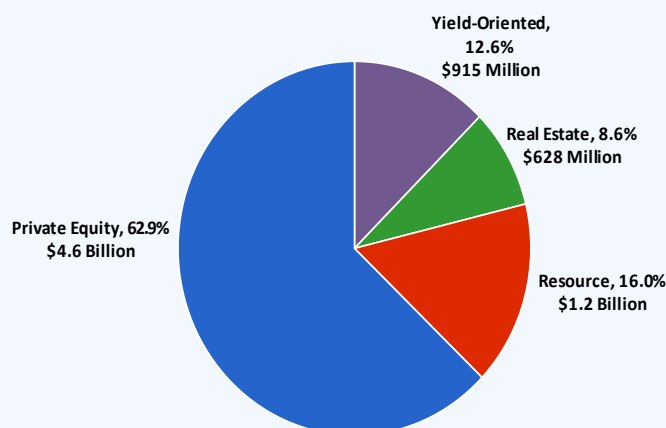
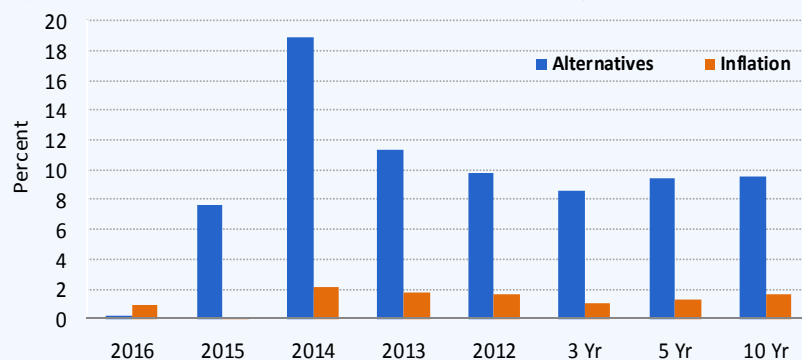


Figure 19. Alternative Investment Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
Alt. Investments	0.2%	7.6%	18.9%	11.3%	9.8%	8.6%	9.4%	9.6%
Inflation	1.0	0.1	2.1	1.8	1.7	1.1	1.3	1.7

Supplemental Investment Fund (SIF)

The Supplemental Investment Fund program is an investment program that offers a range of investment options to state and local public employees. The program serves individuals who participate in defined contribution or supplemental retirement savings plans and many local volunteer fire relief associations. On June 30, 2016, the market value of the entire Fund was \$1.9 billion.

The Supplemental Investment Fund (SIF) program provides investment vehicles for a variety of retirement plans. It provides some or all of the investment options for the Unclassified Employees Retirement Plan, Public Employees Defined Contribution Plan, Hennepin County Supplemental Retirement Plan, Health Care Savings Plan and the St. Paul Teachers Retirement Fund Association. The State Deferred Compensation Plan uses two of the SIF investment options, the Stable Value Fund and the Money Market Fund, for its participants. (Please note that in this report the value of the State Deferred Compensation Plan's SIF investments are included only in the Deferred Compensation Plan market values.) All Funds in the SIF program, except the Stable Value Fund, are available to local volunteer fire relief associations who invest their assets with the SBI.

The Volunteer Firefighter Account is available only for those local firefighter entities that participate in the Statewide Volunteer Firefighter Plan administered by PERA. Local entities that participate in this Plan must have all their assets invested in the Volunteer Firefighter Account.

Fund Structure

Investment goals among the SIF's many participants are varied. In order to meet the variety of goals, the Supplemental Investment Fund is structured much like a family of mutual funds. Participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations. Participation in the SIF is accomplished through the purchase or sale of shares in each Fund.

Fund Management

The Supplemental Investment Fund program offers eight investment options which are shown in Figure 20. The objectives, asset allocation, management and performance of each Fund in the SIF program are explained in the following sections.

Share Values

A share value is established daily for each account in the SIF program, and participants buy or sell shares based on the most recent share value.

Figure 20. Accounts in the Supplemental Investment Fund

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

Supplemental Investment Fund (SIF)

In the Balanced Fund, the U.S. Stock Actively Managed Fund, the U.S. Stock Index Fund, the Broad International Stock Fund, the Bond Fund and Volunteer Firefighter Account shares are priced based on the market value of each Fund. Performance of these Funds is a function of the income and capital appreciation (or depreciation) generated by the securities in the Funds.

In the Stable Value Fund, shares are priced based on the blended crediting rate of the investments in the Fund. 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.

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

The distribution of assets by market value in the Supplemental Investment Fund as of June 30, 2016 is shown by Fund in Figure 21 and by Plan in Figure 22.

Figure 21. Composition by Fund as of June 30, 2016

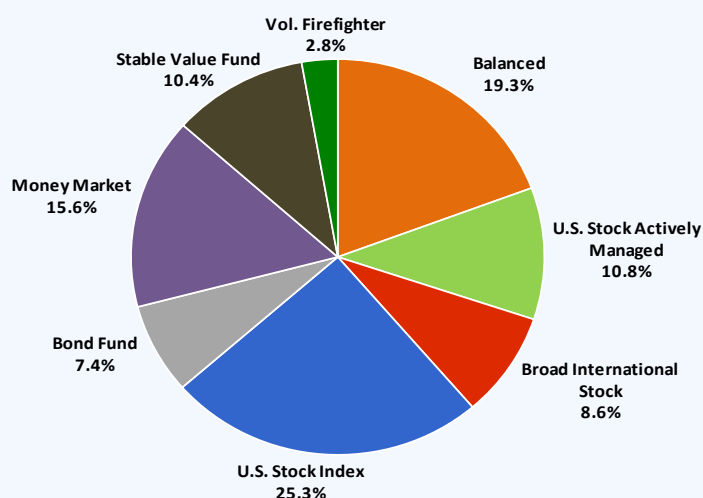
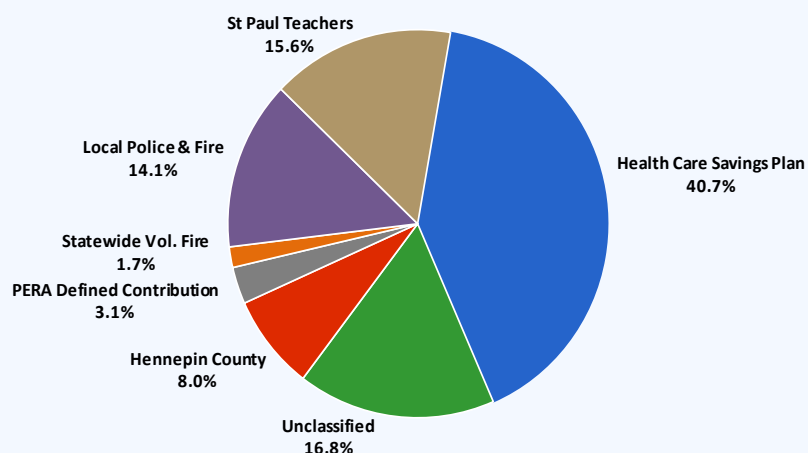


Figure 22. Participation by Plan as of June 30, 2016



Note: Does not include Deferred Compensation Plan assets in the SIF Stable Value Fund and Money Market Funds which are reported elsewhere in the Annual Report.

Supplemental Investment Fund (SIF)

Balanced Fund

Objective

The investment objectives of the Balanced Fund are 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 balanced portfolio of common stocks and fixed income securities with the following long-term asset mix: 60% domestic common stocks, 35% bonds, 5% cash equivalents.

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

At the close of fiscal year 2016, the value of the Balanced Fund was \$375 million.

Management

All the assets of the Balanced Fund are invested by external managers. The fixed income assets are invested in the Bond Fund, which includes active and semi-passive external investment managers retained by the SBI. The common stock segment is managed externally as part of a passively managed index portfolio of the Domestic Stock Pool designed to track the returns of the Russell 3000 Index. The manager for this portion of the Fund is BlackRock Institutional Trust

Company The cash portion of the Fund is actively managed by State Street Global Advisors.

Performance

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

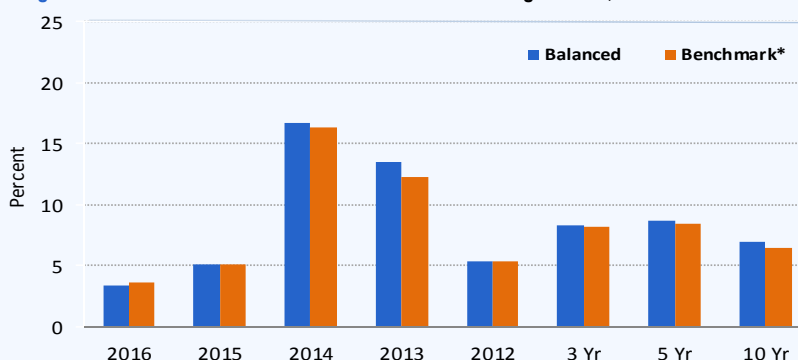
— **Total Fund.** The Balanced Fund is expected to exceed the returns of a composite of market indices weighted in the same proportion as its long-term asset allocation.

— **Individual Manager.** The passive stock manager is expected to closely track the performance of the Russell 3000. The group of external bond managers for the Fund are expected to exceed the performance of the Barclays Capital Aggregate Bond Index.

The cash manager for the Fund is expected to exceed the performance of 3 month U.S. Treasury bills.

The Balanced Fund provided a return of 3.4% for fiscal year 2016, slightly underperforming its benchmark. Over the most recent ten years, the Balanced Fund exceeded its benchmark by 0.5 percentage point. Figure 23 shows a history of performance results.

Figure 23. Balance Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	3 Yr.	5 Yr.	10 Yr.
Balanced	3.4%	5.1%	16.7%	13.5%	5.3%	8.3%	8.7%	6.9%
Benchmark*	3.6	5.1	16.3	12.2	5.4	8.2	8.4	6.4

* 60% Russell 3000/35% Barclays Capital Aggregate Bond Index/5% T-Bills Composite since 10/1/03.

Supplemental Investment Fund (SIF)

U.S. Stock Actively Managed Fund

Objective

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

At the close of fiscal year 2016, the value of the Fund was \$209 million.

Management

The assets of the U.S. Stock Actively Managed Fund are invested by the external active and semi-passive domestic equity managers used by the Combined Funds in the Domestic Stock Pool. 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.

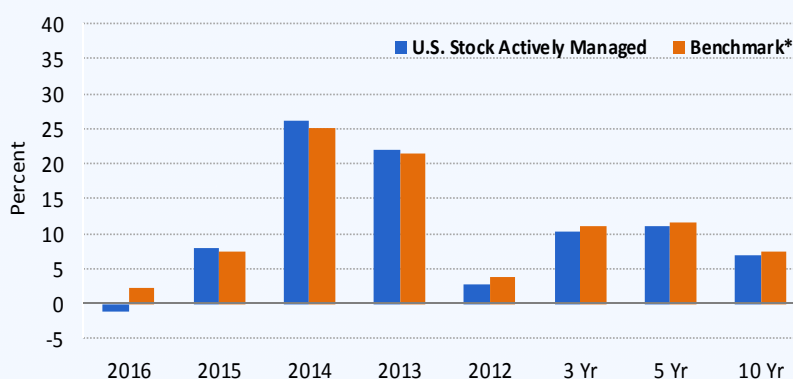
Performance

As with the Balanced Fund, the Board evaluates the performance of the U.S. Stock Actively Managed Fund on two levels:

- **Total Fund.** The U.S. Stock Actively Managed Fund is expected to exceed the returns of the Russell 3000 Index.
- **Individual Manager.** Performance objectives for the individual managers are described in the **Investment Pools** section of this report.

The U.S. Stock Actively Managed Fund provided a return of -1.1% for the fiscal year, underperforming its benchmark. Over the last ten year period, the Fund trailed its benchmark by 0.4 percentage point. See the discussion in the Investment Pools section concerning the Domestic Stock Pool for performance information on the managers used by this Fund. A history of performance results is shown in Figure 24.

Figure 24. U.S. Stock Actively Managed Fund Performance For Periods Ending June 30, 2016



	Annualized							
	2016	2015	2014	2013	2012	3 Yr.	5 Yr.	10 Yr.
U.S. Stock	-1.1%	7.9%	26.1%	22.1%	2.7%	10.4%	11.0%	7.0%
Benchmark*	2.1	7.3	25.2	21.5	3.8	11.1	11.6	7.4

* Russell 3000 since 10/1/03.

Supplemental Investment Fund (SIF)

U.S. Stock Index Fund

Objective

The investment objective of the U.S. Stock 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 stocks.

At the end of fiscal year 2016, the Fund had a market value of \$481 million.

Management

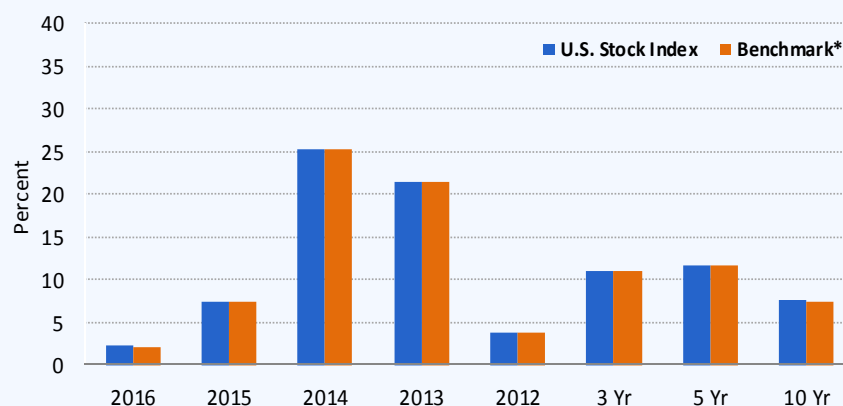
The Fund participates in the passive portfolio of the Domestic Stock Pool which is managed by BlackRock Institutional Trust Company.

Performance

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

As expected, the U.S. Stock Index Fund tracked the Russell 3000 Index for the fiscal year and closely tracked over longer periods as shown in Figure 25.

Figure 25. U.S. Stock Index Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
U.S. Stock Index	2.2%	7.3%	25.2%	21.5%	3.8%	3 Yr.	5 Yr.	10 Yr.
Benchmark*	2.1	7.3	25.2	21.5	3.8	11.1	11.6	7.4

* Russell 3000 since 10/1/03.

Supplemental Investment Fund (SIF)

Broad International Stock Fund

Objective

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

Typically, a majority of the Fund is invested in the largest international stock markets (United Kingdom, Japan, Canada, France, Germany, and Switzerland). A large share is invested in other well established markets in Europe and the Pacific region. In addition, at the end of fiscal year 2016, approximately twenty-two percent of the Fund was invested in developing countries or emerging markets around the world, including those in Latin America, Asia, Eastern Europe, the Middle East and Africa.

At the end of fiscal year 2016, the Fund had a market value of \$166 million.

Management

The structure of the Broad International Stock Fund combines active, semi-passive, and passive management. The Fund has several actively managed portfolios that invest portfolios in both developed and emerging markets. These managers use a variety of investment styles and approaches to buy and sell stocks in an attempt to maximize market value. The passively managed portfolios objective is to approximate the returns of the international markets in both the developed and emerging markets. The semi-passive dates add incremental value over the index return by investing in broadly diversified portfolios of stocks in the developed and

emerging markets. Overall, the Fund is designed to consistently track the return of the MSCI ACWI ex USA Index (net), a developed and emerging markets index. The Fund uses the same managers used by the Combined Funds in the International Stock Pool.

Performance

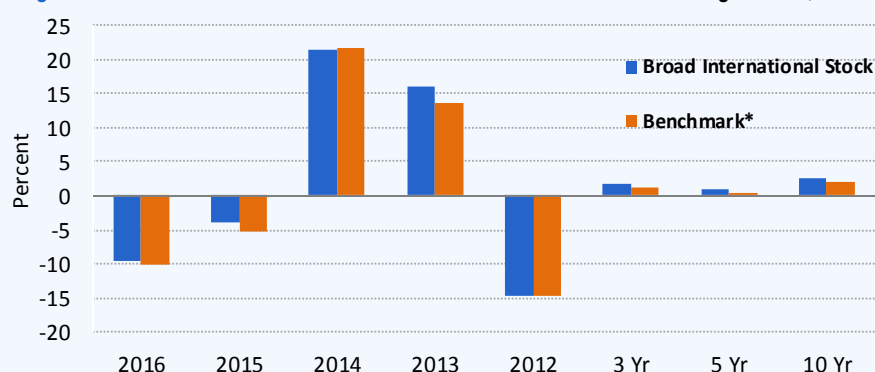
The Board evaluates the performance of the Broad International Stock Fund on two levels:

- **Total Fund.** The Broad International Stock 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 in the **Investment Pools** section of this report.

During fiscal year 2016, the Broad International Stock Fund, with a return of -9.7%, outperformed the MSCI ACWI ex USA Index (net) by 0.5 percentage point. Over the most recent ten year period, the Broad International Stock Fund exceeded its benchmark by 0.6 percentage point.

See the discussion on performance of the international managers in the Investment Pools section of this report. A history of performance results is shown in Figure 26.

Figure 26. Broad International Stock Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	3 Yr.	5 Yr.	10 Yr.
Broad International	-9.7%	-3.8%	21.4%	16.1%	-14.7%	1.8%	0.9%	2.5%
Benchmark*	-10.2	-5.3	21.8	13.6	-14.6	1.2	0.1	1.9

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

Supplemental Investment Fund (SIF)

Bond Fund

Objective

The objective of the Bond Fund is to earn returns from fixed income securities. The Fund is invested primarily in investment-grade government bonds, corporate bonds and mortgage securities with intermediate to long maturities. A small portion of the Fund, not to exceed ten percent, is invested in below investment grade and non-U.S. securities.

At the end of fiscal year 2016, the market value of the Account was \$143 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 Bond Pool used by the Combined Funds. The Bond Pool retains both active and semi-passive managers.

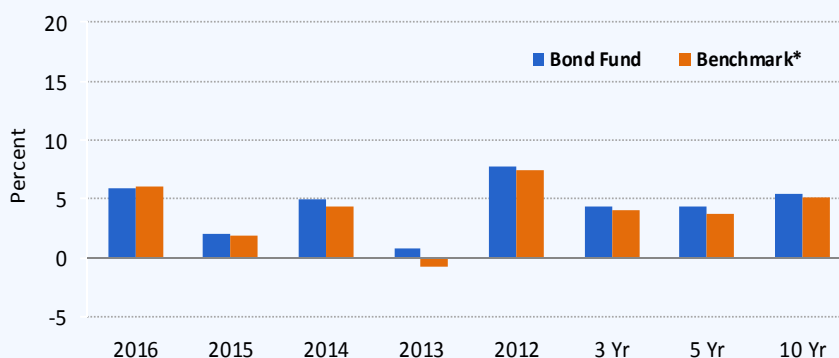
Performance

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

- **Total Fund.** The Fund is expected to exceed the returns of the Barclays Capital Aggregate Bond Index.
- **Individual Manager.** Performance objectives for the individual managers are described in the **Investment Pools** section of this report.

For fiscal year 2016, the Bond Fund produced a return of 5.9%, which was 0.1 percentage point below the Barclays Capital Aggregate benchmark. For the most recent ten year period, the Fund exceeded its benchmark by 0.3 percentage point. See the discussion regarding bond manager performance in the Investment Pools section. A history of performance results is shown in Figure 27.

Figure 27. Bond Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
						3 Yr.	5 Yr.	10 Yr.
Bond Fund	5.9%	2.1%	5.0%	0.8%	7.8%	4.3%	4.3%	5.4%
Barclays Cap. Agg.	6.0	1.9	4.4	-0.7	7.5	4.1	3.8	5.1

Supplemental Investment Fund (SIF)

Money Market Fund

Objective

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

At the end of fiscal year 2016, the Money Market Fund had a market value of \$303 million.

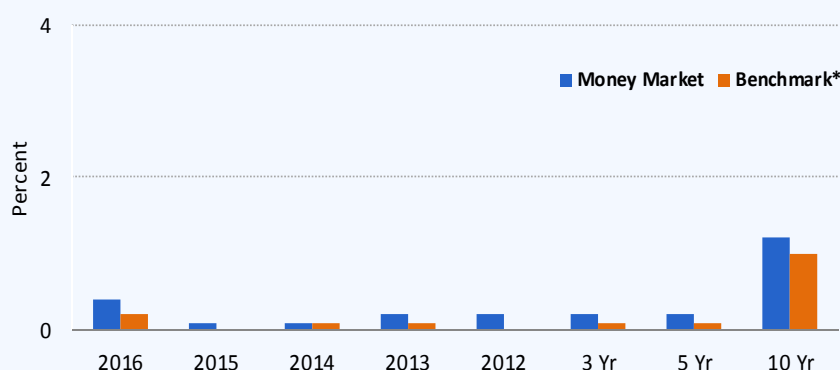
Management

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

Performance

The Fund is expected to produce returns competitive with those available from short-term debt securities. For fiscal year 2016, the Money Market Fund generated a return of 0.4%, which was 0.2 percentage point above the 3 month U.S. Treasury Bills. Over the most recent ten year period, the Fund exceeded its target by 0.2 percentage point. A history of performance results is shown in Figure 28.

Figure 28. Money Market Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
	2016	2015	2014	2013	2012	3 Yr.	5 Yr.	10 Yr.
Money Market	0.4%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	1.2%
3 Month T-Bills	0.2	0.0	0.1	0.1	0.0	0.1	0.1	1.0

Supplemental Investment Fund (SIF)

Stable Value Fund

Objective

The investment objectives of the Stable Value Fund are to protect investors from loss of their original investment and to provide competitive interest earnings using somewhat longer-term investments than typically found in a money market fund.

At the end of fiscal year 2016, the Account totaled \$206 million, excluding Deferred Compensation Plan participation.

Management

The assets in the Fund are invested primarily in well-diversified portfolios of high-quality investment grade fixed income securities. The Fund also invests in investment contracts issued by banks and insurance companies, including non-U.S. financial institutions that provide principal protection for the diversified bond portfolios regardless of daily market value changes. Instruments in the Fund typically have maturities of two to four years. Performance reflects the blended interest yield available from all investments in the pool along with any cash held for liquidity purposes.

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

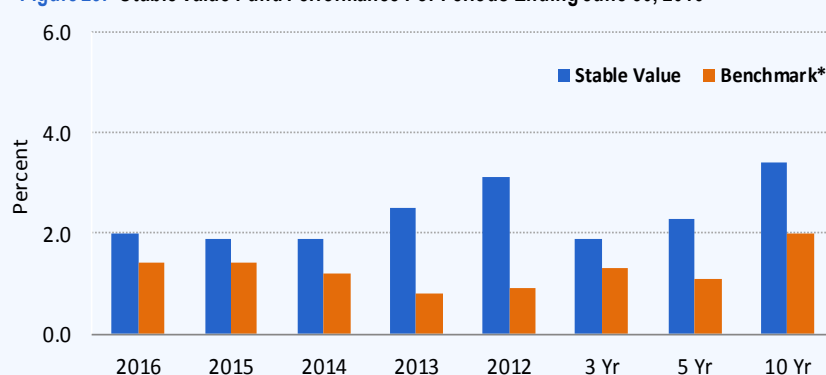
Figure 29 shows a history of the Fund's performance results.

Performance

The Stable Value Fund is expected to exceed the returns of its custom benchmark, the 3-year Constant Maturity Treasury plus 45 basis points (0.45%).

During fiscal year 2016, the Stable Value Fund provided a return of 2.0%, which was 0.6 percentage point above its benchmark. Over the most recent ten year period, the Stable Value Fund exceeded its benchmark by 1.4 percentage points.

Figure 29. Stable Value Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
Stable Value	2.0%	1.9%	1.9%	2.5%	3.1%	1.9%	2.3%	3.4%
Benchmark*	1.4	1.4	1.2	0.8	0.9	1.3	1.1	2.0

* 3-Year Constant Maturity Treasury plus 45 basis points.

Supplemental Investment Fund (SIF)

Statewide Volunteer Firefighter Retirement Plan

Minnesota Statutes, Chapter 353G creates a statewide voluntary plan for local relief associations. Local entities may choose to join the statewide plan which is trustee by PERA. Investments of the plan are invested in the Supplemental Investment Fund Volunteer Firefighter Plan. Participation in the plan is effective on December 31 of a given year. The SBI must evaluate the assets of each local entity that seeks to join the plan. In 2016, 20 local entities joined the plan, transferring over \$20 million to the SBI for investment. At the close of fiscal year 2016, 111 local fire entities, representing \$54 million in assets, were in the Plan.

Objective

The investment objective of the Volunteer Firefighter Plan 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 Plan in a balanced portfolio of domestic common stocks, international stocks and fixed income securities with the following long-term asset mix: 35% domestic stocks, 15% international stocks, 45% fixed income, 5% cash equivalents.

Domestic stocks provide the potential for significant long-term capital appreciation,

international stocks provide similar potential and a measure of diversification, and bonds provide both a hedge against deflation and the diversification needed to limit excessive portfolio return volatility.

Management

The Plan's investment management structure combines active and passive management used by the Combined Funds. The domestic stock segment is managed as part of the passively managed index fund within the Domestic Stock Pool designed to track the returns of the Russell 3000 Index. The international stock segment invests in the International Stock Pool which uses a combination of active, semi-passive and passive management to invest across a broad range of developed and emerging markets. The bond segment invests in the Bond Pool used by the Combined Funds. The Bond

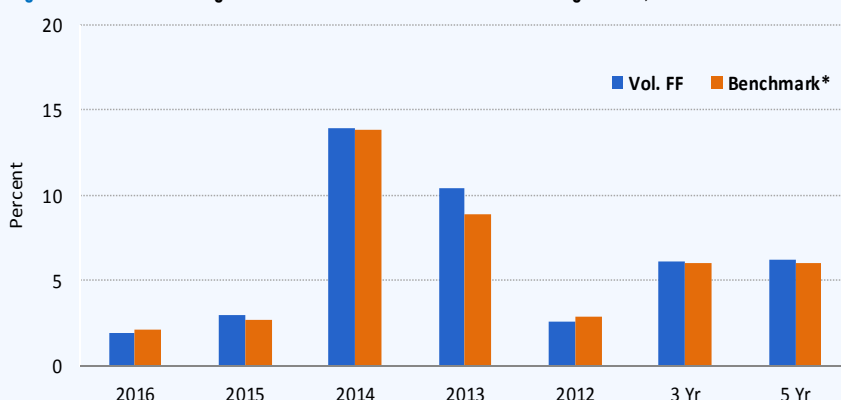
Pool retains both active and semi-passive managers.

Performance

As with other SBI funds which utilize a multi-manager investment structure, the Board evaluates the performance of the Volunteer Firefighter Plan on two levels:

- **Total Account.** The Volunteer Firefighter Account is expected to exceed the returns of a composite of market indices weighted in the same proportion as its long-term asset allocation.
- **Individual Manager.** The passive domestic stock and passive international stock managers are expected to closely track the performance of their respective benchmarks. The performance objectives of the individual

Figure 30. Volunteer Firefighter Account Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized 3 Yr.	5 Yr.
Volunteer Firefighter	1.9%	3.0%	13.9%	10.4%	2.6%	6.1%	6.2%
Benchmark*	2.1	2.7	13.8	8.9	2.9	6.0	6.0

* 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Barclays Capital Aggregate, 5% 3 month T-Bills.

international equity and bond managers are described in their respective sections of this report.

The Statewide Volunteer Firefighter Plan was established January 1, 2010. The Plan provided a return of 1.9% for the year ending June 30, 2016 and underperformed its composite benchmark by 0.2 percentage point. Over the most recent five year period, the Plan exceeded its benchmark by 0.2 percentage point.

Figure 30 shows a history of the Account's performance results.

Local Fire Fund Activity

Volunteer Fire Plans Investment

Volunteer firefighter retirement plans that are not eligible to be consolidated with PERA may invest their assets with the SBI through the Supplemental Investment Fund (SIF). There are more than 630 local volunteer firefighter plans with investment authority that could participate in SIF. As of the end of fiscal year 2016, there were 184 plans participating in the SIF with \$280 million in assets.

Local Plan Performance Reports

The SBI provides participating local plans with reports showing annual returns and market value for all SIF Funds in compliance with *Minnesota Statutes*, Chapter 356. The local plans are responsible for providing their specific data to the Office of the State Auditor.

The State Deferred Compensation Plan (Plan) provides public employees with a tax-sheltered retirement savings program that is a supplemental plan to their primary retirement plan. (In most cases, the primary plan is TRA, PERA, or MSRS.) On June 30, 2016 the market value of the State Deferred Compensation Plan was \$5.8 billion.

Program Structure

The State Deferred Compensation Plan offers plan participants three sets of investment options. The first is a set of four actively managed mutual funds, five passively managed mutual funds, a Money Market Fund, and a Stable Value Fund. The second is a set of target date funds called Minnesota Target Retirement Funds. The third is a self-directed brokerage account window which offers thousands of mutual funds. The SBI has no direct management responsibilities for funds within the self-directed brokerage account window.

Actively Managed Options

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

- **Large-Cap Equity**

This option is a concentrated portfolio of large cap stocks. The fund is expected to outperform the S&P 500 over time. Currently, Janus Twenty is the mutual fund offered.

- **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 Barclays Capital Aggregate over time. The fund currently offered is the Dodge & Cox Income Fund.

- **International Equity**

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

- **Money Market Fund**

This option invests in high quality short-term debt instruments and is expected to outperform the return on three month U.S. Treasury bills. This option is the SIF Money Market Fund invested by State Street Global Advisors (SSgA.)

- **Stable Value Fund**

This option is invested in the SIF Stable Value Fund which is a well-diversified portfolio of high-quality fixed income securities with strong credit ratings. The option also invests in contracts issued by highly rated insurance companies and banks which are structured to provide

principal protection for the option's diversified bond portfolios, regardless of daily market changes.

The option is expected to outperform the return of the three year Constant Maturity Treasury plus 45 basis points (0.45%), over time. Currently, Galliard Capital Management, Inc. manages the option.

Passively Managed Options

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

- **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.

State Deferred Compensation 457b Plan

- **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% Barclays Capital Aggregate Bond Index. The fund currently offered is the Vanguard Balanced Index Fund.

- **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 Barclays Capital 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.

Minnesota Target Retirement Funds

The plan 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. The funds are currently offered by State Street Global Advisors (SSgA.)

Performance results for the mutual fund investment options for fiscal year 2016 are shown in Figure 31. Performance results for the target date fund option for fiscal year 2016 are shown in Figure 32.

Figure 31. State Deferred Compensation Plan (457b Plan) for Periods Ending June 30, 2016

Fund/Benchmark	RETURNS ⁽¹⁾						Market Value ⁽²⁾ (\$ in millions)
	1 Year Actual %	Bmk %	3 Years Actual %	Bmk %	5 Years Actual %	Bmk %	
Actively Managed							
Janus Twenty (S&P 500)	0.7	4.0	11.1	11.7	10.4	12.1	522.6
T. Rowe Price Small-Cap (Russell 2000)	-2.3	-6.7	8.6	7.1	10.0	8.4	567.9
Fidelity Diversified Int'l. (MSCI EAFE)	-10.0	-10.2	4.2	2.1	3.4	1.7	270.6
Dodge & Cox Income Fund (Barclays Capital Aggregate)	4.4	6.0	4.0	4.1	4.0	3.8	212.2
SIF Money Market (3 Month T-Bills)	0.4	0.2	0.2	0.1	0.2	0.1	62.9
SIF Stable Value (3 year Constant Maturity Treas. +45 basis points)	2.0	1.4	1.9	1.3	2.3	1.1	1,338.7
Passively Managed							
Vanguard Institutional Index (S&P 500)	4.0	4.0	11.7	11.7	12.1	12.1	995.8
Vanguard Mid-Cap Index (CRSP US Mid-Cap)	-0.9	-0.9	10.8	10.8	10.6	10.7	429.6
Vanguard Total Int'l Stock Index (FTSE Global All Cap ex US)	-9.1	-9.2	2.1	2.2	0.6	0.7	136.5
Vanguard Balanced Index Inst. (60% CRSP US Total Market, 40% Barclays Capital Aggregate)	4.0	3.9	8.4	8.4	8.6	8.6	698.0
Vanguard Tot. Bond Market Index (Barclays Capital Aggregate)	6.1	6.0	4.0	4.1	3.7	3.8	202.1

(1) Returns are reported net of fund operating expenses, but do not include the MSRS administrative fee.

(2) Market value of SBI participation in fund.

State Deferred Compensation 457b Plan

Figure 32. State Deferred Compensation Plan (457b Plan) for Periods Ending June 30, 2016

	RETURNS ⁽¹⁾				Market Value ⁽³⁾ (\$ in millions)
	1 Year		3 Years		
	Actual %	Bmk ⁽²⁾ %	Actual %	Bmk ⁽²⁾ %	
MN Target Retirement Funds					
Income Fund	1.9	1.9	3.8	3.8	67.4
2020 Fund	1.7	1.6	5.1	5.1	79.5
2025 Fund	1.3	1.2	6.0	6.0	67.2
2030 Fund	0.9	0.7	6.6	6.6	43.1
2035 Fund	0.4	0.2	6.9	6.9	33.0
2040 Fund	-0.2	-0.4	7.0	7.0	21.1
2045 Fund	-0.8	-1.0	7.1	7.1	16.9
2050 Fund	-1.1	-1.3	7.0	7.0	11.7
2055 Fund	-1.1	-1.3	7.0	7.0	5.7
2060 Fund	-1.1	-1.3	7.0	7.0	5.2
SSgA Index Funds					
S&P 500 Index Fund (S&P 500)	4.0	4.0	11.6	11.7	
Russell Small/Mid Cap Index Fund (Russell Small Cap Completeness Index)	-5.2	-5.2	8.6	8.6	
DJ-UBS Roll Select Commodity Index Fund (DJ-UBS Roll Select Commodity Index)	-10.4	-10.4	-9.0	-8.9	
Global All Cap Equity ex US Index Fund (MSCI ACWI ex USA IMI)	-8.8	-9.6	2.1	1.7	
Global Real Estate Securities Index Fund (FTSE EPRA/NAREIT Dev Liquid)	12.3	11.1	8.5	7.6	
Long Government Bond Index Fund (Barclays Capital Long Government)	19.0	19.0	10.4	10.4	
Bond Index Fund (Barclays Capital Aggregate)	6.0	6.0	4.1	4.1	
Inflation Protection Bond Index Fund (Barclays Capital U.S. TIPS)	4.3	4.4	2.3	2.3	
High Yield Bond Index Fund (Barclays Capital U.S. High Yield Very Liquid)	0.8	0.9	3.8	3.8	
U.S. Short-Term Govt/Credit Index Fund (Barclays Capital 1-3 Yr. Govt/Credit)	1.6	1.6	1.2	1.2	

(1) Returns are reported net of fund operating expenses, but do not include the MSRS administrative fee.

(2) Managed by SSgA, each Fund benchmark is the aggregate of the returns of the Fund's underlying index funds weighted by the Fund's asset allocation.

(3) Market value of SBI participation in fund.

The Minnesota College Savings Plan is an education savings plan designed to help families set aside funds for future college costs. It is established under the provisions of the Internal Revenue Code Section 529, which authorized these types of savings plans to help families meet the costs of qualified colleges nationwide. On June 30, 2016, the market value of the Plan was just under \$1.2 billion.

Program Structure

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

Objective

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

Age Based Managed Allocation Option

This investment option seeks to align the investment objective and level of risk to the

investment horizon by taking into account the beneficiary's age and the number of years before the beneficiary turns 18 and is expected to enter college. Depending on the beneficiary's age, the assets contributed to this option are placed in one of six age bands. As the beneficiary ages, assets are moved from one age band to the next. The age bands for younger beneficiaries seek a favorable long-term return by investing in a high 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 or 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 less extend invest in debt securities. Approximately 48% of the fund is allocated to U.S. equity securities; 19% to developed international equities; 5% to emerging markets equities; 8% real estate securities; 14% to public, investment-grade,

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

The moderate option seeks to provide a favorable long-term total return by allocating to 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 less extend invest in equity securities. This option also invest 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 for further detail on the funding agreement).

Static Options

- **International Equity Index Option**

This Investment Option seeks to provide a favorable long-term total return, mainly through capital appreciation. Approximately 80% of the fund is allocated to equity securities of issuers located in developed markets and 20% is allocated to equity securities of issuers located in emerging markets.

- **U.S. and International Equity Option**

This investment option seeks to provide a favorable long-term total return, mainly from capital appreciation, by allocating primarily in 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 and 6% to equity securities of issuers located in emerging markets and 10% to real estate-related securities.

- **U.S. Large Cap Equity Option**

This investment option seeks to provide a favorable long-term total return mainly from capital appreciation. All assets of the fund are invested in an S&P 500 index fund.

- **Equity and Interest Accumulation Option**

This investment seeks to provide a moderate long-term total return. Approximately

half of its assets are invested in an equity index fund and the other half in a funding agreement.

- **100% Fixed-Income Option**

This investment option seeks to provide preservation of capital along with a moderate rate of return through a diversified mix of fixed income investments.

Approximately 70% of the fund is allocated to public, investment-grade, taxable bonds denominated in U.S. dollars, and 20% to inflation-linked bonds and 10% is allocated to a high yield fund.

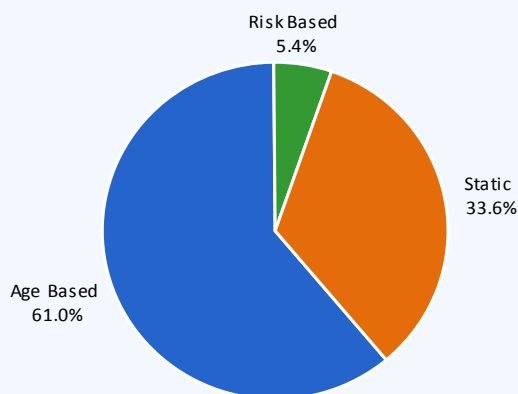
- **Money Market Option**

This investment option seeks to provide high current income consistent with preserving capital. All assets of the fund are invested in high-quality, short-term money market instruments of both domestic and foreign issuers.

- **Principal Plus Interest Option**

This investment option seeks to preserve capital and provide a stable return. The contributions into this investment option are invested in a Funding Agreement issued by TIAA-CREF Life. The Funding Agreement provides for a return of principal plus a guaranteed rate of interest and allows for the possibility that additional interest may be credited as declared periodically by TIAA-CREF Life. As of June 30, 2016, the Minnesota College Savings Plan distribution of assets is shown in Figure 33 and performance is shown in Figure 34.

Figure 33. MN College Savings Plan Assets by Investment Option as of June 30, 2016



Minnesota State College Savings Plan

Figure 34. Minnesota State College Savings Plan (529 Plan) for Periods Ending June 30, 2016

	RETURNS ⁽¹⁾				Market Value ⁽³⁾ (\$ in millions)
	1 Year		3 Year		
	Actual %	Bmk ⁽²⁾ %	Actual %	Bmk ⁽²⁾ %	
Age Based Managed Allocation Option					
Age Band 0-4Years	1.1	1.3	--	--	\$24.3
Age Band 5-8 Years	1.6	1.8	--	--	72.2
Age Band 9-10 Years	2.1	2.3	--	--	72.7
Age Band 11-12 Years	2.4	2.6	--	--	103.1
Age Band 13-14 Years	2.5	2.8	--	--	130.5
Age Band 15 Years	2.5	2.6	--	--	62.4
Age Band 16 Years	2.5	2.3	--	--	62.3
Age Band 17 Years	2.3	2.0	--	--	64.8
Ages 18 Years and Over	2.2	1.7	--	--	151.4
Risk Based Allocation Option					
Aggressive Allocation	1.0	1.3	--	--	9.4
Moderate Allocation	2.0	2.3	6.3	6.6	53.4
Conservative Allocation	2.5	2.6	--	--	3.4
Static Options					
International Equity Index	-10.2	-10.7	1.4	1.3	2.3
U.S. and International Equity	0.3	0.2	8.3	8.5	269.8
U.S. Large Cap Equity	3.7	4.0	--	--	8.8
Equity and Interest Accumulation	1.6	1.4	--	--	1.1
100% Fixed-Income	4.8	5.0	3.1	3.5	11.5
Money Market	0.0	0.1	0.0	0.0	8.2
Principal Plus Interest ⁽⁴⁾	1.4	0.1	1.3	0.1	107.9
TIAA-CREF Index Funds					
T-C Equity Index Fund	2.1	2.1	11.1	11.1	
Russell 3000 Index					
T-C International Equity Index Fund*	-9.6	-10.2	2.4	2.1	
MSCI EAFE Index					
T-C Real Estate Securities Fund	19.4	23.6	12.8	13.3	
FTSE NAREIT Index					
T-C Emerging Markets Equity Index Fund	-11.5	-11.7	-1.3	-1.2	
MSCI Emerging Markets Index					
T-C Bonds Index Fund	6.0	6.0	4.0	4.1	
Barclays Capital U.S. Agg. Index					
T-C Money Market Fund	0.2	0.3	0.1	0.2	
iMoneyNet Average All Taxable					
T-C Short-Term Bond Fund	3.2	4.4	1.7	2.3	
Barclays Capital U.S. TIPS Index					
T-C High-Yield	0.9	3.8	3.9	4.3	
BOFAML High Yield BB/B Cash Day Index					
T-C S&P 500 Index	3.9	4.0	11.6	11.7	
S&P 500 Index					

(1) Returns are reported net of investment management fees, Program Management Fees and State Administrative Fees.

(2) Each Fund benchmark is the aggregate of the returns of the Fund's underlying index funds weighted by the Fund's asset allocation. The returns of the underlying index funds managed by TIAA-CREF are listed below.

(3) Market value of SBI participation in fund.

(4) The credit rating of 1.45% for the underlying Funding Agreement is guaranteed through 8/31/17.

Assigned Risk Plan

The Minnesota Workers Compensation Assigned Risk Plan was established in 1983 to provide workers' compensation coverage to Minnesota employers rejected by a private insurance carrier. On June 30, 2016, the market value of the Plan's portfolio was \$309 million.

The Assigned Risk Plan operates as a non-profit, tax-exempt entity and is administered by the Department of Commerce. The Plan provides disability income, medical expenses, retraining expenses and death benefits with payments being made either periodically or in lump sum.

Investment Objectives

The SBI recognizes that the Assigned Risk Plan has limited tolerance for risk due to erratic cash flows, no allowance for surplus, and generally short duration liabilities.

Therefore, the SBI has established two investment objectives for the Plan:

- To minimize mismatch between assets and liabilities.
- To provide sufficient liquidity (cash) for payment of on-going claims and operating expenses.

Performance relative to these objectives is measured against a composite index that reflects the asset allocation of the portfolio.

Asset Allocation

The SBI believes that due to the uncertainty of premium and liability cash flows, the Plan should be invested very conservatively.

The **bond** segment is invested to fund the shorter-term liabilities (less than 10 years) and the common stock 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 **stock** exposure provides higher expected returns and hedges some of the inflation risk associated with the liability stream.

The current long term asset allocation targets for the Plan are as follows:

Domestic Stocks	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 35 presents the actual asset mix of the Assigned Risk Plan at the end of fiscal year 2016.

Investment Management

RBC Global Asset Management (U.S.) manages the bond segment of the Assigned Risk Plan, and GE Asset Management manages the equity segment of the Plan.

Bond Segment

The bond segment is designed to fund the shorter-term liabilities of the Plan with a target duration of about three years. The

segment is actively managed to add incremental value through sector, and security decisions.

Stock Segment

The stock segment is structured to fund the longer-term liabilities of the Plan. Currently, the equity segment is managed with a broadly diversified portfolio of high quality, large capitalization companies.

Investment Performance

Due to the focus on liability matching, the Assigned Risk Plan's investment portfolio is conservatively structured. While active management is utilized, 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 fixed income component is a custom benchmark which reflects the duration target established for the bond segment (approximately three years).
- The target for the equity component is the S&P 500.

During fiscal year 2016, the **bond** segment outperformed its benchmark by 0.1%. The **stock** segment underperformed its benchmark by 5.1 percentage points.

Assigned Risk Plan

Overall, the Assigned Risk Plan provided a return of 3.1% for fiscal year 2016, below the composite index by 1.0 percentage point. For the most recent three year and five year periods, the Plan underperformed its composite index by 0.3 and 0.1 percentage point respectively. For the ten year period, the portfolio underperformed by 0.2 percentage point.

Historical performance results are presented in Figure 36.

Figure 35. Assigned Risk Plan Asset Mix as of June 30, 2016

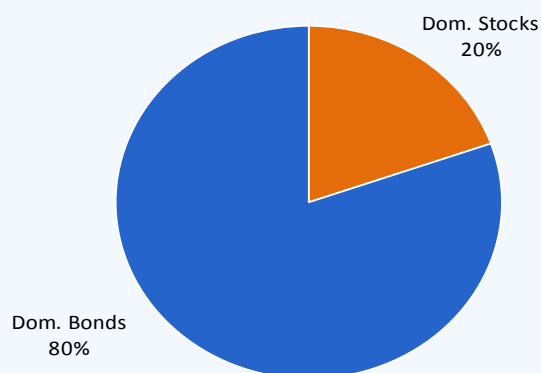
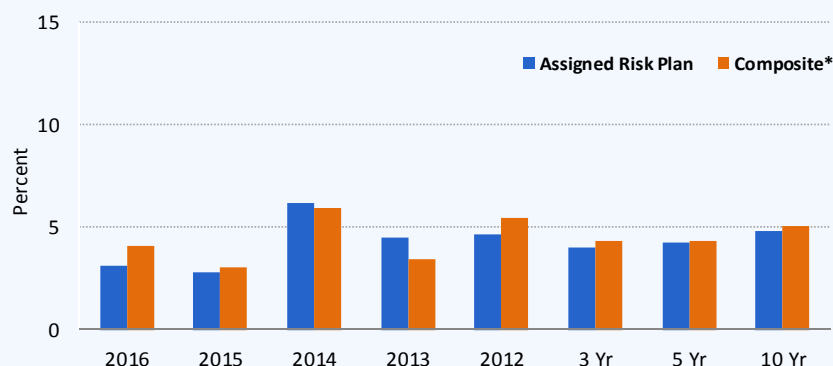


Figure 36. Assigned Risk Plan Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
						3 Yr.	5 Yr.	10 Yr.
Total Fund	3.1%	2.8%	6.2%	4.5%	4.6%	4.0%	4.2%	4.8%
Composite Index*	4.1	3.0	5.9	3.4	5.4	4.3	4.3	5.0
Stock Segment	-1.1	6.7	25.3	23.2	2.3	9.7	10.7	7.2
S&P 500	4.0	7.4	24.6	20.6	5.4	11.7	12.1	7.4
Bond Segment	4.0	1.7	1.5	-0.5	4.6	2.4	2.2	3.9
Benchmark	3.9	1.8	1.5	-0.6	5.0	2.4	2.3	4.1

* Weighted 20% stocks, 80% bonds.

Internal Stock Index Pool

The State Board of Investment manages the Internal Stock Index Pool that is used by various state trust funds such as the Permanent School Fund, Environmental Trust Fund, and Closed Landfill Investment Fund. On June 30, 2016, the total market value of the Internal Stock Index Pool was \$1.8 billion.

The Internal Stock Index Pool is an investment vehicle that provides domestic equity exposure to entities that have received authority to use this pool. The types of entities that invest in the pool include State and other Trust funds, OPEB funds, and endowment funds.

Investment Objectives

The investment objective of the Internal Stock Index Pool is to track the S&P 500 index. The portfolio is expected to have a realized active risk level relative to the benchmark of 0.20 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

The purpose of the pool is to provide domestic equity exposure so the asset allocation is 100% domestic equity.

Investment Management

The Internal Stock Index Pool is managed by the SBI investment 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, cash is held in the portfolio and

equitized by using S&P 500 futures contracts.

Investment Performance

The SBI measures the Internal Stock Index Pool against the S&P 500 Index.

For fiscal year 2016, the Internal Stock Index Pool matched its benchmark, the S&P 500 Index. Performance results are shown in Figure 37.

Figure 37. Internal Stock Index Pool Performance for Periods Ending June 30, 2016

	1 Yr.	Annualized		
		3 Yr.	5 Yr.	10 Yr.
Internal Stock Index*	4.0%	11.7%	12.1%	7.5%
S&P 500 Index	4.0	11.7	12.1	7.4

* Actual returns are calculated net of fees.

Internal Bond Pool

The State Board of Investment internally manages the Fixed Income segment of the non-retirement pool that is used by various state trust funds such as the Permanent School Fund, Environmental Trust Fund, and Closed Landfill Investment Fund. On June 30, 2016, the total market value of the Internal Bond Pool was \$1.0 billion.

Investment Objectives

The investment objectives for the Internal Bond Pool are to deliver cumulative returns in excess of the Barclays Capital Aggregate Bond Index, and to manage the level and composition of active risk in the portfolio relative to this benchmark.

Asset Allocation

The composition of the pool as of June 30, 2016 is shown in Figure 38. At the end of fiscal year 2016, the Pool had an effective duration of 5.0 years vs. the benchmark duration of 5.4 years and a yield to maturity of 2.1% vs. the benchmark yield to maturity of 1.8%.

Investment Management

Staff is required to adhere to investment guidelines in managing the account. These guidelines give the investment staff 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. Staff 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 and mortgage securities.

Current Positioning

Characteristics of the portfolio as of June 30, 2016 are shown in Figure 39. Staff currently has the portfolio duration positioned roughly a quarter year less than the benchmark in anticipation of rising interest rates, and is maintaining an overweight to corporates to capture tightening credit spreads.

Investment Performance

The benchmark for the Internal Bond Pool is the Barclays Capital Aggregate Index, a broad-based index of investment grade, U.S. dollar denominated, fixed rate taxable bonds. For fiscal year 2016, the Internal Bond Pool underperformed its benchmark for the one year time period, and outperformed all other periods. Historical performance results are presented in Figure 40.

Figure 38. Internal Bond Pool Distribution as of June 30, 2016

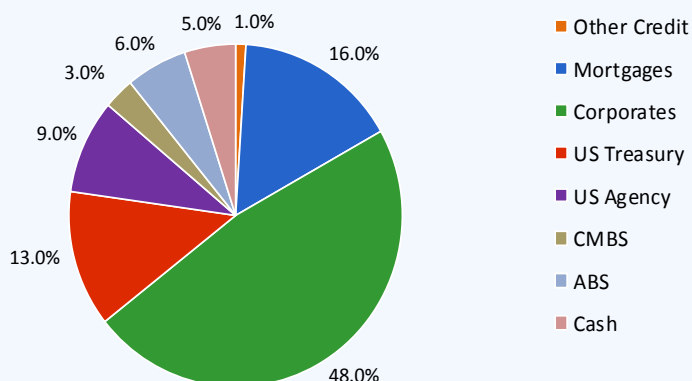


Figure 39. Fixed Income Characteristics for Period Ending June 30, 2016

	Internal Pool	Benchmark
Effective Duration	5.03	5.35
Convexity	0.55	0.05
Coupon Rate	3.22	3.22
Yield to Maturity	2.13	1.81
Option Adjusted Spread	112	68
Rating – Moody's	Baa1	A2

Figure 40. Internal Bond Pool Performance for Periods Ending June 30, 2016

	1 Yr.	3 Yr.	5 Yr.	10 Yr.
Fixed Income Internal Trust	5.7%	4.4%	4.2%	5.6%
FI Internal Trust Benchmark	6.0%	4.1%	3.8%	5.1%

Closed Landfill Investment Fund

The Closed Landfill Investment Fund is a trust fund created by the Minnesota Legislature to invest money to pay for the long-term costs of maintaining the integrity of landfills in Minnesota once they are closed. On June 30, 2016 the market value of the Fund was \$72 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 to meet future expenditures.

Asset Allocation

The Fund is invested in a balanced portfolio of common stocks (70%) and bonds (30%). Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification. Figure 41 presents the actual asset mix of the Closed Landfill Investment Fund at the end of fiscal year 2016.

Investment Management

SBI staff manage all assets of the Fund. The bond segment is actively managed to add incremental value through sector, security and yield curve decisions (see page 44). The stock segment is managed to passively track the performance of the S&P 500 (see page 43).

Investment Performance

For fiscal year 2016, the Fund underperformed its composite benchmark by 0.3 percentage point. The fund underperformed its composite index by 0.1 percentage point for the three and five year periods but matched the index for 10 years. Performance results are shown in Figure 42.

Figure 41. Closed Landfill Investment Fund Asset Mix as of June 30, 2016

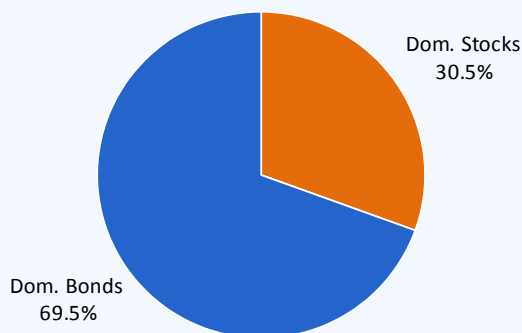
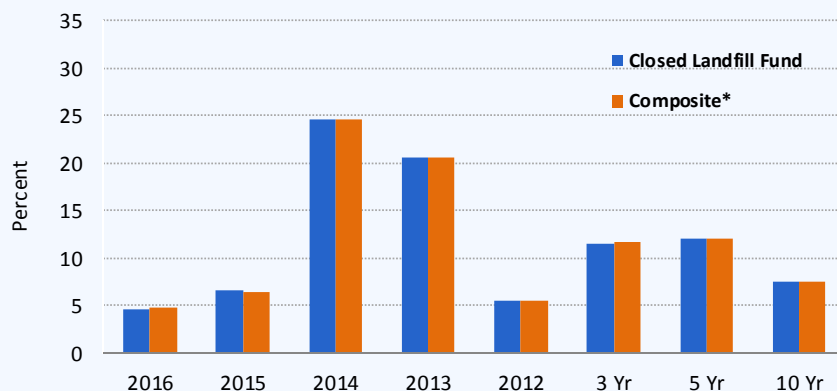


Figure 42. Closed Landfill Investment Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
Total Fund	4.5%	6.6%	24.5%	20.5%	5.5%	3 Yr.	5 Yr.	10 Yr.
Composite Index*	4.8	6.4	24.6	20.6	5.4	11.6	12.1	7.4

* 70% S&P 500/30% Barclays Capital Aggregate.

The Permanent School Fund is a trust fund created by the Minnesota State Constitution and is designated as a long-term source of revenue for public schools. Proceeds from land sales, mining royalties, timber sales, lake shore and other leases are invested in the Fund. Income generated by the Fund's assets is appropriated directly to school districts. On June 30, 2016, the market value of the Fund was \$1.2 billion.

Investment Objective

The State Board of Investment invests the Permanent School Fund to produce a growing level of spendable income, 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 is invested to grow over time, and, therefore, has exposure to equities. The current asset allocation is 50% stock/48% fixed income/2% cash.

Prior to fiscal year 1998, the Permanent School Fund had been invested entirely in fixed income securities for more than a decade. While this asset allocation maximized current

income, it limited the long term growth of the Fund and caused the income stream to lose value in inflation adjusted terms, over time.

To solve both issues, a proposal to introduce equities to the Fund's asset mix was presented during fiscal year 1997. Since this modification would reduce short term income and have budgetary implications for the state, the consent of the executive and legislative branches was necessary. It was favorably received by the Legislature and incorporated into the K-12 education finance bill. As a result, the Fund allocation was shifted to a 50% stock/48% fixed income/2% cash allocation during July 1997.

Figure 43 presents the actual asset mix of the Permanent School Fund at the end of fiscal year 2016.

Investment Management

SBI staff internally manages all assets of the Permanent School Fund. Given the unique constraints of the Fund, management by SBI staff is considered to be the most cost effective option at this time.

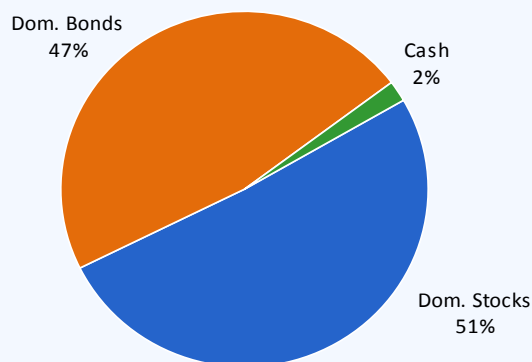
Stock Segment

The stock segment of the Fund is passively managed to track the performance of the S&P 500 (see page 43).

Bond Segment

The bond segment is actively managed to add incremental value through sector, security and yield curve decisions, and its performance is measured against the Barclays Capital Aggregate Bond Index (see page 44).

Figure 43. Permanent School Fund Asset Mix as of June 30, 2016



Permanent School Fund

Investment Performance

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

The *bond* segment underperformed its benchmark by 0.3 percentage point during the current fiscal year, primarily due to an overweight to the corporate sector and a short duration position relative to the benchmark.

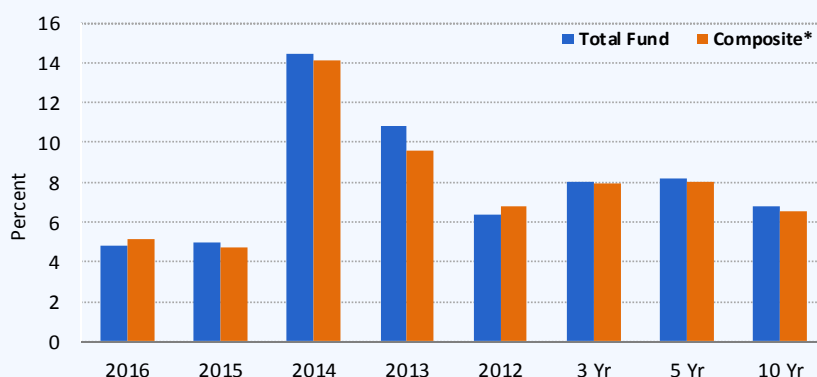
Overall, the Permanent School Fund provided a return of 4.8% for fiscal year 2016, underperforming its composite index by 0.3 percentage point. The Fund outperformed its composite index over the most recent three, five and ten year periods due to the incremental value added by bonds.

Total account performance results for the last three, five and ten years are shown in Figure 44.

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

<u>Fiscal Year</u>	<u>Millions</u>
2012	\$24
2013	\$25
2014	\$24
2015	\$26
2016	\$28

Figure 44. Permanent School Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
						3 Yr.	5 Yr.	10 Yr.
Total Fund	4.8%	5.0%	14.4%	10.8%	6.4%	8.0%	8.2%	6.8%
Composite*	5.1	4.7	14.1	9.6	6.8	7.9	8.0	6.5
Stock Segment	4.0	7.5	24.5	20.5	5.5	11.7	12.1	7.5
S&P 500	4.0	7.4	24.6	20.6	5.4	11.7	12.1	7.4
Bond Segment	5.7	2.5	5.0	1.4	6.5	4.4	4.2	5.6
Barclays Agg.	6.0	1.9	4.4	-0.7	7.5	4.1	3.8	5.1

* 50% S&P 500/ 48% Barclays Capital Aggregate/ 2% 3 Month T-Bills.

The Environmental Trust Fund was established in 1988 by the Minnesota Legislature to provide a long-term, consistent and stable source of funding for activities that protect and enhance the environment. On June 30, 2016, the market value of the Fund was \$924 million.

By statute, the State Board of Investment invests the assets of the Environmental Trust Fund. The Legislature funds environmental projects from a portion of the market value of the Fund.

Investment Objective

The Environmental Trust Fund's investment objective is long-term growth in order to produce a growing level of spending within the constraints of maintaining adequate portfolio quality and 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 accounting restrictions on capital gains and losses and the provision that the principal must remain inviolate.

Asset Allocation

After the constitutional amendment was adopted in November 1998, SBI staff worked with the Legislative Citizen Commission on Minnesota Resources to establish an asset allocation policy that is consistent with the Commission's goals for spending and growth of the Fund. The allocation positions the Fund for the best long-term growth potential while meeting

the objective of the Fund to produce a growing level of spending.

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

Domestic Stocks	70%
Domestic Bonds	28%
Cash	2%

Figure 45 presents the actual asset mix of the Fund at the end of fiscal year 2016.

Investment Management

SBI staff internally manages all assets of the Environmental Trust Fund. Management by SBI staff is considered to be the most cost effective option at this time.

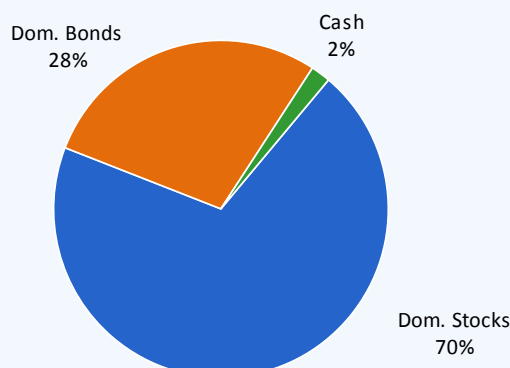
Stock Segment

The stock segment of the Fund is passively managed to track the performance of the S&P 500 (see page 43).

Bond Segment

The bond segment is actively managed to add incremental value through sector, security and yield curve decisions, and its performance is measured against the Barclays Capital Aggregate Bond Index (see page 44).

Figure 45. Environmental Trust Fund Asset Mix as of June 30, 2016



Environmental Trust Fund

Investment Performance

During the fiscal year, the *stock* segment tracked its benchmark.

The *bond* segment underperformed its benchmark by 0.3 percentage points during the fiscal year, primarily due to the overweight to the corporate sector and a short duration position relative to the benchmark.

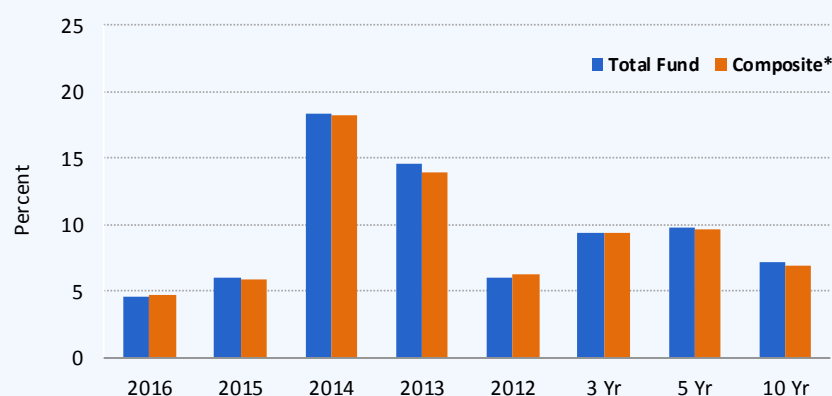
Overall, the Environmental Trust Fund provided a return of 4.5% for fiscal year 2016 and underperformed its composite index by 0.2 percentage point. The Fund tracked its composite index over the three year time period and outperformed over the five and ten year time periods.

Performance results are presented in Figure 46.

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

<u>Fiscal Year</u>	<u>Millions</u>
2012	\$25
2013	\$25
2014	\$34
2015	\$34
2016	\$46

Figure 46. Environmental Trust Fund Performance For Periods Ending June 30, 2016



	2016	2015	2014	2013	2012	Annualized		
						3 Yr.	5 Yr.	10 Yr.
Total Fund	4.5%	6.0%	18.3%	14.6%	6.0%	9.4%	9.7%	7.2%
Composite*	4.7	5.8	18.2	13.9	6.3	9.4	9.6	6.9
Stock Segment	4.0	7.5	24.5	20.5	5.5	11.7	12.1	7.5
S&P 500	4.0	7.4	24.6	20.6	5.4	11.7	12.1	7.4
Bond Segment	5.7	2.5	5.0	1.4	6.5	4.4	4.2	5.6
Barclays Agg.	6.0	1.9	4.4	-0.7	7.5	4.1	3.8	5.1

* Weighted 70% S&P 500/ 28% Barclays Capital Aggregate/ and 2% 3 month T-Bill.

Other Postemployment Benefits Accounts (OPEBs)

These accounts are the assets set aside by local units of government for the payment of retiree benefits trusted by the Public Employees Retirement Association. On June 30, 2016, the total market value of these accounts was \$523 million.

Under the provisions of *Minnesota Statutes*, Section 471.6175, local units of government, including school districts, may choose PERA as trustee to administer postemployment health benefits. Assets of these accounts are invested by the SBI in the internally managed investment pools (see pages 43 and 44).

As of June 30, 2016, there were 22 entities with OPEB investment accounts invested by the SBI. In total, these accounts represented \$502 million. Staff anticipates that the number of these accounts will increase in the future.

Duluth OPEB

The SBI is required to report the returns provided on assets invested by the City of Duluth for this purpose. Duluth made its first investment with the SBI July 2007. As of June 30, 2016, returns for Duluth were as follows:

	<u>1 Yr.</u>	<u>3 Yr.</u>	<u>5 Yr.</u>
Equities	4.0%	11.7%	12.1%
Fixed Income	<u>5.7</u>	<u>4.4</u>	<u>4.2</u>
Total	4.5%	9.3%	9.4%

Duluth is responsible for the asset allocation decisions in this account and as of June 30, 2016, the asset allocation was the following:

	<u>Actual Asset Mix</u>
Equities	69.5%
Fixed Income	<u>30.5</u>
Total	100.0%

Cash Management and Related Programs

The State Board of Investment manages the cash balances of more than 400 state agency accounts with the objectives of preserving capital and providing competitive money market returns. On June 30, 2016, the total market value of these accounts was \$10.8 billion.

Invested Treasurer's Cash (ITC)

Most of the cash accounts are invested in a short-term pooled fund referred to as the Invested Treasurer's Cash Pool. It contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury.

Approximately \$161 million of assets are in separately managed dedicated accounts because of special legal restrictions. The vast majority of these assets are related to state or state agency debt issuance including debt service reserves and proceeds.

Investment Objectives

The investment objectives for investing the 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.

Asset Allocation

The SBI generates current income while preserving capital by investing all cash accounts in high quality, liquid, short-term investments. These include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, short term corporates, and certificates of deposit. The composition of the Pool as of June 30, 2016 is shown in

Figure 47. At the end of the fiscal year, the Pool had a current yield of 0.74% and a weighted average maturity of 274 days.

Investment Management

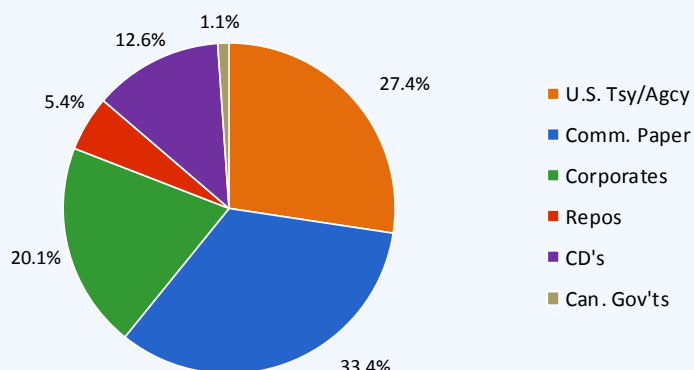
All state cash accounts are managed by SBI investment staff, and most of the assets of the cash accounts are invested in the Invested Treasurer's Cash Pool.

Investment Performance

The SBI measures the performance of the Invested Treasurer's Cash Pool against a benchmark which reflects the maturity structure of the pool.

For fiscal year 2016, the Treasurer's Cash Pool outperformed its benchmark, the IMoneyNet's All Taxable Money Fund Index, by 0.6 percentage point. Performance results are shown in Figure 48.

Figure 47. Invested Treasurer's Cash Fund Distribution as of June 30, 2016*



* Totals may not add due to rounding.

Figure 48. Invested Treasurer's Cash Pool Performance for Periods Ending June 30, 2016

	1 Yr.	Annualized		
		3 Yr.	5 Yr.	10 Yr.
Invested Treasurer's Cash Pool*	0.7%	0.6%	0.6%	1.7%
Custom Benchmark**	0.1	0.0	0.0	0.9
3 month T-Bills	0.2	0.1	0.1	0.9

* Actual returns are calculated net of fees.

** The Treasurer's Cash Pool is measured against the IMoneyNet, All Taxable Money Fund Report Average.

Securities Lending Program

The SBI participates in a securities lending program in which securities held by the SBI on behalf of the retirement systems are loaned to banks and security dealers for a daily fee. These loans are fully collateralized. Currently, the SBI's securities lending activity is undertaken by the SBI's master custodian bank, State Street Bank and Trust. State Street Bank generated additional income for the retirement systems of approximately \$37.4 million during fiscal year 2016.

Certificate of Deposit Program

The SBI manages a certificate of deposit (CD) program in which it purchases CD's from Minnesota financial institutions. The return SBI receives is based on CD rates quoted in the national market.

The SBI's Certificate of Deposit program provides a reliable source of capital to Minnesota financial institutions, regardless of size, many of which do not have access to the national CD market. The Board designed the program so that no single institution is favored in the allocation of assets. Only the cash reserves of the retirement funds are used in the program.

During fiscal year 2016, the SBI purchased \$336.1 million of CD's from all Minnesota financial institutions.

Securities Repurchase Program

The SBI created the Securities Repurchase Program to help meet the increased needs of some banks throughout the state.

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

The transactions are fully collateralized and range in size from \$100,000 to \$2 million per institution. For ease of administration, the program uses the same rates, offering dates and maturity dates as the SBI's CD program, and uses only the cash reserves of the retirement funds.

During fiscal year 2016, the SBI purchased \$35.9 million in repos from Minnesota financial institutions.

Excess Debt Reserve

The SBI manages excess debt reserve accounts separate from the ITC Pool in order to align with state regulations 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 Tax Return Act of 1986 and the 1986 Internal Revenue Code have established rules regarding how states and other local units of government issue debt, the amounts they can hold to pay debt service and more importantly, rules that govern the yields those funds may earn.

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.

Legislative Update

The 2016 Omnibus retirement bill was vetoed by Governor Dayton. This bill would have lowered the interest rate actuarial assumption to 8% for the Teachers' Retirement Plan (TRA) only; Public Employees Retirement Association (PERA) and Minnesota State Retirement System (MSRS) lowered their investment assumption in 2015. MSRS and TRA included language that would reduce the retiree cost-of-living adjustment for one year (calendar year 2017) to 1.75% and 1.0%, respectively. The intent was to lessen the funding deficiency until a more comprehensive plan could be adopted in the next legislative session. Also in this bill were changes to the retirement systems' actuarial assumptions on mortality, wage inflation and payroll growth to reflect recent experience study results.

During the 2016 regular session, the State Board of Investment (SBI) received legislative authority in Minnesota Statute 473.845 to invest the assets of the Metropolitan Landfill Contingency Action Trust (MLCAT). The account will be invested by SBI to maximize long-term gain and be administered by the Pollution Control Agency. At the June 2, 2016, meeting, the Board approved an asset allocation of 70% equities and 30% bond for investment in the SBI Internal Equity and Internal Bond Pools.

Sudan Issues

Minnesota Statutes, section 11A.243 concerns the SBI's investment in companies with

operations in Sudan. The law requires the SBI to make its best efforts to identify all "scrutinized companies" in which the SBI has direct or indirect holdings or could possibly have holdings in the future.

The SBI receives a list of companies from Empowering Responsible Investment (EIRIS) Conflict Risk Network. Staff sends a list of restricted Sudan companies to managers quarterly and has required divestment of holdings in compliance with the law. Staff reports to the Board each quarter on its actions to implement the law.

Iran Issues

Minnesota Statutes, section 11A.244, requires the SBI to take a series of steps to identify companies that do business in Iran, communicate with those companies, and divest stock and bonds over a specified period of time if the companies continue their business activities in Iran.

The SBI retains the firm Ideal Works (IW) Financial to provide a list of companies to implement the law. Staff sends a list of restricted Iran companies to managers quarterly and has required divestment of holdings in compliance with the law. Staff reports to the Board each quarter on its actions to implement the law.

Tobacco Issues

At its September 1998 meeting, the Board adopted a resolution that required each active and semi-passive equity manager to divest by September 2001 shares of any company which obtained more than 15% of its revenues

from the manufacture of consumer tobacco products. Staff notified each active and semi-passive equity manager of the policy.

At the close of fiscal year 2001, the SBI had divested from its active portfolios all shares of companies covered by its divestment resolution.

Shareholder Resolutions

In previous years, the SBI co-sponsored a number of tobacco related shareholder resolutions. The SBI did not co-sponsor a tobacco related resolution for the 2016 proxy season.

As a stockholder the State Board of Investment (SBI) is entitled to participate in corporate annual meetings through direct attendance or by casting its votes by proxy. Through proxy voting, the Board directs company representatives to vote its shares in a particular way on resolutions under consideration at annual meetings. These resolutions range from issues involving the election of corporate directors and ratification of auditors to matters such as merger proposals and corporate social responsibility issues. In effect, as a shareholder the SBI can participate in shaping corporate policies and practices.

The Board recognizes its fiduciary responsibility to cast votes on proxy issues. Except for the shares held by the international managers, the SBI does not delegate the duty to its external investment managers. Rather, the SBI actively votes all shares according to guidelines established by its Proxy Committee. The Board delegates proxy voting responsibilities to its Proxy Committee which is

comprised of a designee of each Board member. The four member Committee meets only if it has a quorum and casts votes on proxy issues based on a majority vote of those present. In the event that it reaches a tie vote or a quorum is not present, the Committee will cast a vote to abstain.

Proxy Voting Guidelines

The Committee has formulated guidelines by which it votes on a wide range of corporate governance and social responsibility issues. Each year the Proxy Committee reviews existing guidelines and determines which issues it will review on a case-by-case basis.

Corporate Governance Issues

The voting guidelines for major corporate governance issues are summarized below:

Routine Matters

In general, the SBI supports management on routine matters such as uncontested election of directors, selection of auditors, and limits on director and officer liability or increases in director and officer indemnification permitted under the laws of the state of incorporation.

Shareholder Rights Issues

In general, the SBI opposes proposals that would restrict shareholder ability to effect change. Such proposals include instituting super-majority requirements to ratify certain actions or events, creating classified boards, barring shareholders from participating in the determination of the rules governing the board's actions (e.g. quorum requirements and the duties of directors), prohibiting or limiting shareholder action by written consent, and granting certain

stockholders superior voting rights over other stockholders.

In general, the SBI supports proposals that preserve or enhance shareholder rights to effect change. Such proposals include requiring shareholder approval of poison pill plans, repealing classified boards, adopting secret balloting of proxy votes, reinstating cumulative voting, and adopting anti-greenmail provisions.

Executive Compensation

In general, the SBI supports efforts to have boards of directors comprised of a majority of independent directors, to have compensation committees made up entirely of independent directors, and to have executive compensation linked to a company's long-term performance.

Buyout Proposals

In general, the SBI supports friendly takeovers and management buyouts.

Special Cases

The Proxy Committee evaluates hostile takeovers, contested elections of directors, and re-capitalization plans on a case-by-case basis.

Social Responsibility Issues

The voting guidelines for major social responsibility issues are shown below:

Northern Ireland

The SBI supports resolutions that call for the adoption of the MacBride Principles as a means to encourage equal employment opportunities in Northern Ireland.

Tobacco and Liquor

In general, the SBI supports a variety of tobacco and liquor related resolutions including

those that call for corporations to limit their promotion of tobacco and liquor products and to report on their involvement in tobacco issues.

Environmental Protection

In general, the SBI supports resolutions that require a corporation to report or disclose to shareholders company efforts in the environmental arena.

Other Social Responsibility Issues

In general, the SBI supports proposals that require a company to report or disclose to shareholders company efforts concerning a variety of social responsibility issues. In the past, these reporting resolutions have included issues such as affirmative action programs, animal testing procedures and nuclear plant safety procedures.

Summary of FY 2016 Proxy Proposals

During fiscal year 2016 the SBI voted proxies for approximately 2,000 U.S. corporations.

As in past years, the issues on corporate ballots included a broad range of proposals in the corporate governance area, according to information provided by the proxy adviser firm Glass Lewis.

During the fifth year of advisory votes on executive compensation under the Dodd-Frank Act, investors endorsed a large majority of companies' pay programs, providing 90% support on average. Investors continued to support having such votes take place on an annual basis in the future. Other major corporate governance issues addressed by shareholder

proposals included declassification of boards, majority vote requirement for election of directors, and elimination of supermajority requirement proposals.

In the social responsibility area, increased disclosure on companies' lobbying activities and political contributions, environmental related proposals, and sustainability reporting were the major issues according to information provided by Glass Lewis.

Mandate on Northern Ireland

Requirements

The SBI is responsible for implementing certain statutory provisions concerning its investments in U.S. companies with operations in Northern Ireland. The statute requires the State Board of Investment (SBI) to:

- Annually compile a list of U.S. corporations with operations in Northern Ireland in which the SBI invests.
- Annually determine whether those corporations have taken affirmative action to eliminate religious or ethnic discrimination. The statute lists nine goals modeled after the MacBride Principles.
- Sponsor, co-sponsor and support resolutions that encourage U.S. companies to pursue affirmative action in Northern Ireland, where feasible.

The statute does not require the SBI to divest existing holdings in any companies and does not

restrict future investments by the SBI.

Implementation

The SBI uses the services of Ideal Works (IW) Financial to monitor corporate activity in Northern Ireland. In January 2016, the SBI held stocks or bonds in 147 of 163 corporations identified by IW Financial as having operations in Northern Ireland.

Shareholder Resolutions

The SBI did not file any shareholder resolutions for the 2016 proxy season regarding the MacBride Principles. Shareholder activity has been greatly reduced over the last several years due to many companies having signed the Principles.

Domestic Equity Program Managers

Active Managers

Large Cap Growth (Russell 1000 Growth)

INTECH Investment Management, LLC (INTECH)

Using a proprietary mathematical process, the investment strategy is designed to determine more efficient weightings of the securities within the Russell 1000 Growth Index, while reducing the risk of significant relative underperformance. INTECH does not forecast individual stock alphas, but uses natural relative stock price volatility and correlation characteristics to build a portfolio. Essentially, the firm adjusts the capitalization weights of the Russell 1000 Growth Index to potentially more efficient combinations. The investment process only uses securities in the Russell 1000 Growth Index and utilizes embedded risk controls aimed at mitigating portfolio risk, which include active-weight range limits around the benchmark holdings, a constraint on beta, and maximizing the information ratio. Once the target weights are determined, the portfolio is then rebalanced to those target proportions and re-optimized on a regular basis. The portfolio is continually evaluated to ensure that diversification and return characteristics are consistent with the investment objectives and underlying mathematical theorem. INTECH was retained by SBI as an active manager in January 2005.

Jacobs Levy Equity Management, Inc.

Jacobs Levy believes that the stock market is a complex system and that intensive modeling can identify market inefficiencies that offer opportunities for profitable active investment. Recognizing that good judgment is critical, the firm has developed a multidimensional investment approach that combines human insight and intuition, finance and behavioral theory, and leading-edge quantitative and statistical methods. The Jacobs Levy investment system is designed to be dynamic and forward-looking, which can help the process adjust to the market's changing environments and opportunities, and it relies on proprietary research for "disentangling" the market's complexity. The firm's proprietary systems have been engineered to be integrated across all investment functions, from security selection through portfolio construction, trading, performance attribution, and guideline compliance. Expected returns for each security in the investment universe are generated from numerous models and become the inputs for the proprietary portfolio optimizer. The optimizer is run daily with the objective of constructing portfolios that can provide consistent outperformance relative to the underlying benchmark, with controlled residual risk, or tracking error. Extensive automated data scrubbing and human fact checking are conducted daily. Risk, liquidity, trading costs, and investor guidelines are incorporated into the optimization process. Jacobs Levy was retained by the SBI as an active manager in January 2005.

Sands Capital Management, LLC

Sands invests in concentrated portfolios of high-quality, seasoned, growing businesses. Bottom-up, company-focused and long-term oriented research is the cornerstone of the investment process. To be considered as a potential holding, companies must demonstrate superior historical and projected sales and earnings growth; have the potential for wealth creation; and reside in growing sectors. The team then narrows the opportunity set by identifying potential leaders in attractive business spaces. The strategy focuses on six key investment criteria: 1) sustainable above average earnings growth; 2) leadership position in a promising business space; 3) significant competitive advantages or unique business franchise; 4) management with a clear mission and value added focus; 5) financial strength; and 6) rational valuation relative to the overall market and the company's business prospects. Sands was retained by the SBI as an active manager in January 2005.

Winslow Capital Management, LLC

Winslow believes that investing in quality large cap companies with above-average growth provides the best opportunity for achieving superior portfolio returns over the long term. The investment philosophy is founded on bottom up, fundamental research. The strategy identifies companies that can grow earnings above consensus expectations to build portfolios with forward weighted earnings growth in the range of 15-20% annually. A quantitative screen is employed

for factors such as revenue, earnings and cash flow growth, return on invested capital, earnings consistency, earnings revisions, low financial leverage and high free cash flow rates relative to net income.

Resulting companies are subjected to a qualitative assessment within the context of industry sectors. Detailed examination of income statements, cash flow and balance sheet projections is conducted, along with a judgment on the quality of management. Attractively valued stocks are chosen based on P/E relative to the benchmark, sector peers, the company's sustainable future growth rate and return on invested capital. Final portfolio construction includes diversification by economic sectors, earnings growth rates, price/earnings ratios and market capitalizations. Winslow was retained by the SBI as an active manager in January 2005.

Zevenbergen Capital Investments LLC

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

participation. Zevenbergen was retained by the SBI in April 1994.

Large Cap Value (Russell 1000 Value)

Barrow, Hanley, Mewhinney & Strauss, LLC (BHMS)

BHMS believes that markets are inefficient and can best be exploited through adherence to a value-oriented investment process dedicated to the selection of securities on a bottom-up basis. The overall portfolio will always reflect all three value characteristics: price/earnings and price/book ratios below the market and dividend yields above the market. The stocks must also be attractive according to the firm's dividend discount and relative return models. Analysts provide fundamental analysis in the final step of their investment process. BHMS was retained by the SBI in April 2004.

Earnest Partners, LLC

Earnest Partners utilizes a proprietary valuation and performance model, and rigorous fundamental review to identify stocks with the most attractive risk adjusted returns. They have identified six performance drivers – valuation measures, operating trends, market trends, growth measures, profitability measures and macroeconomic measures – and have done extensive research to determine which combination of performance drivers, or return patterns, precede outperformance for stocks in each sector. The firm's fundamental review generally includes conversations with the company's management team and industry specialists, a

review of the company's financial reports, analysis of industry and company-specific studies, as well as independent field research. They control risk using a statistical approach designed to measure and control the prospects of substantially underperforming the benchmark. The portfolio is diversified across industry groups. Earnest Partners was retained by the SBI in July 2000.

LSV Asset Management

LSV's philosophy is that superior long-term results can be achieved by systematically exploiting the judgmental biases and behavioral weaknesses that influence the decisions of many investors. They use quantitative techniques to rank securities based on fundamental measures of value, past performance, and indicators of near-term appreciation potential. Their risk control discipline limits the portfolio's industry and sector concentrations. LSV was retained by the SBI in April 2004.

Systematic Financial Management, L.P.

Systematic believes that stock prices follow earnings cycles and that superior portfolio returns are achievable by purchasing attractively valued stocks exhibiting positive earnings catalysts which are reflective of improving fundamentals. Systematic seeks to invest in companies trading at compelling valuations that are exceeding investor expectations, have increasing sales and improving margins, and are generating strong levels of free-cash flow. Their investment process involves a strong blend of quantitative screening and fundamental security analysis

coupled with a rigorous monitoring of all holdings. Systematic was retained by the SBI in April 2004.

Small Cap Growth (Russell 2000 Growth)

McKinley Capital Management, LLC

McKinley uses a quantitatively driven investment process to systematically search for and identify signs of accelerating growth. The primary model includes a risk-adjusted relative return measurement designed to identify inefficiently priced common stocks relative to the market while adjusting for risk. The candidates are then filtered and scrutinized for liquidity factors and earnings acceleration. The earnings model identifies securities with strong earnings acceleration. The qualitative review begins after the quantitative process has identified candidates for possible inclusion in the portfolio. The purpose of the qualitative analysis is to confirm that the earnings picture revealed through the quantitative analysis is both reasonable and sustainable. New ideas are taken from the quantitative screening process and confirmed through the qualitative review. McKinley was retained by the SBI in January 2004.

Next Century Growth Investors, LLC

Next Century Growth's (NCG) goal is to invest in the highest quality and fastest growing companies in America. They believe that growth opportunities exist regardless of the economic cycle. NCG uses fundamental analysis to identify companies that will surpass

consensus earnings estimates. Their investment process focuses on growth companies that have superior top line revenue growth (15% or greater), an expanding market opportunity, strong management, and are well poised to outperform the market. NCG believes in industry diversification; sector exposures are limited to twice the benchmark weighting and individual positions to five percent. NCG was retained by the SBI in July 2000.

Small Cap Value (Russell 2000 Value)

Goldman Sachs Asset Management, L.P.

Goldman Sachs manages a small cap value portfolio using a strong valuation discipline to purchase well-positioned, cash generating businesses run by shareholder-oriented management teams. Portfolio managers are organized by industry, and use industry-specific valuation measures to evaluate companies within their area. They decompose the historical financial reports, meet with management to evaluate their competitive position within the industry, and evaluate each company's valuation attractiveness relative to other comparable companies within the sector. Goldman Sachs was retained by the SBI in January 2004.

Hotchkis and Wiley Capital Management, LLC

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. Hotchkis and Wiley was retained by the SBI in January 2004.

Martingale Asset Management, L.P.

Martingale employs a systematic, quantitatively-driven investment approach that seeks to exploit behavioral biases. The process uses a 21 factor model, where the factors are fairly evenly distributed among the three broad buckets of value, growth, and quality, culminating in an alpha score for each stock in the viable universe. This score is then added to an industry rating, yielding an overall composite score for each stock. Value traps are avoided by favoring stocks with positive relative strength and earnings estimate revisions versus peers. Martingale builds a risk-aware portfolio of the highest ranked stocks by maintaining industry, sector, style, and size exposures that are similar to the benchmark. Martingale was retained by the SBI in January 2004.

Peregrine Capital Management

Peregrine's small cap value investment process begins with their proprietary valuation analysis, which is designed to identify the small cap value stocks most likely to outperform. The valuation analysis identifies the most underpriced securities on a sector-by-sector basis. The firm analyzes sixty fundamental

factors to identify the most relevant factors in each sector. The focus of the team's fundamental research is to determine if one or more of the style's "Value Buy Criteria" are present. These include resolvable short-term problems, unrecognized assets, take-over potential, fundamental undervaluation and catalysts for change. The portfolio is diversified and sector weights are aligned closely to the benchmark allowing stock selection to drive performance. Peregrine was retained by the SBI in July 2000.

Semi-Passive Managers

Semi-Passive Managers (Russell 1000)

BlackRock Institutional Trust Company, N.A. (formerly Barclays Global Investors)

BlackRock has a disciplined, rigorous and repeatable investment process incorporating a unique blend of bottom-up stock selection insights across relative value, earnings quality and sentiment while combining broader top-down thematic insights to generate risk controlled and consistent active returns. The relative value criteria assesses intrinsic value relative to market price. Earnings quality criteria help identify companies likely to sustain earnings growth and avoid negative surprises. Sentiment criteria help identify market participants' beliefs regarding valuation. The thematic criteria seeks to exploit opportunities from a collection of stocks that move together because they share a common exposure which is currently less obvious to the market. In

addition to insights, research is also emphasized in the continuous evolution of the strategy. For example, 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). The strategy seeks to minimize investment and operational risks not associated with adding value. Implementation costs are also considered when balancing return potential with risk profile of trades. The firm was retained by the SBI for semi-passive management in January 1995.

INTECH Investment Management, LLC (INTECH)

Using a proprietary mathematical process, the investment strategy is designed to determine more efficient weightings of the securities within the Russell 1000 benchmark. No specific sector or security selection decisions based on fundamentals are utilized. Risk parameters include: 1) maximize information ratio, 2) security positions limited to lesser of 1.0% or 8 times maximum index security weight, and 3) beta equal to or less than benchmark beta, and 4) constraining the weighted average capital distribution to be roughly equal to the capital distribution of the benchmark. Target security positions are established using a weekly optimization routine designed to build a portfolio that will outperform a passive benchmark over the long term. Rebalancing to target proportions occurs every six business days. INTECH was

retained by SBI as a semi-passive manager in April 2010.

J.P. Morgan Investment Management, Inc.

J.P. Morgan believes that superior stock selection is necessary to achieve excellent investment results. To accomplish this objective, they use fundamental research and a systematic valuation model. Analysts forecast earnings and dividends for the stock universe and enter these into a stock valuation model that calculates a dividend discount rate for each security. The stocks are ranked according to this valuation measure within their economic sectors. Stocks most undervalued are placed in the first quintile. The portfolio takes overweight positions in stocks in the first and second quintiles, while underweighting stocks in the fourth and fifth quintiles. In addition, the portfolio will closely approximate the sectors and style of the benchmark. The portfolio remains fully invested at all times. The firm was retained by the SBI in January 1995.

Mellon Capital Management Corporation

Mellon Capital employs a systematic investment approach that seeks to generate alpha through diversified sources of return. The quantitatively-inspired stock ranking model is based on three primary drivers: valuation, behavioral/momentum, and earnings stability factors. The final portfolio is composed of stocks with the highest rankings, while maintaining a similar risk profile to the benchmark in terms of sector, size, and style exposures. Mellon Capital

attempts to allocate most of the total risk level set by the client specifically to stock selection. The firm always remains fully invested. The SBI retained the firm as a semi-passive manager in January 1995.

Passive Manager

Passive Manager (R3000)

BlackRock Institutional Trust Company, N.A. (formerly Barclays Global Investors)

For the passive account, BlackRock seeks to minimize tracking error, transaction costs and investment and operational risks. The portfolio is managed against the asset class target (Russell 3000 index) using a proprietary optimization process that integrates a transaction cost model. The resulting portfolio closely matches the characteristics of the benchmark with less exposure to illiquid stocks. The firm was retained by the SBI for passive management in July 1995.

International Program Managers

Active Developed Markets Managers

Acadian Asset Management LLC

Acadian uses stock factors in an effort to predict how well each security in its universe of over 40,000 stocks will perform relative to its region/industry peer group and then ranks all securities by their relative attractiveness. Acadian also applies separate models to forecast peer group returns, in an effort to predict how well each stock's region/industry peer group will perform relative to world equities. The two forecasts are then combined to determine a world-relative return forecast for each stock in the allowable universe. The stock and peer group valuation models are customized to each market. At the individual stock level, Acadian uses a wide range of quantitative factors including valuation, earnings, size and price movements. At the peer group level, Acadian utilizes valuation, risk, growth and economic indicators. Acadian then uses a sophisticated portfolio optimization system to trade off the expected return of the stocks with such considerations as the client's benchmark index, desired level of risk, transaction cost estimates, available liquidity, and other requirements. Portfolios are normally fully invested, with a minimal amount of cash. Country and sector weights fall out of the bottom-up stock selection process, with overall portfolio risk control ensuring the desired level of diversification. The last step of the process is a careful review of optimized portfolios by the

investment team before trading, in an effort to ensure the portfolio meets the client's investment goals. Acadian was retained by the SBI in July 2005.

Columbia Threadneedle Investments

Columbia's objective is to focus on key forces of change in the markets and the companies that will benefit. They believe that a good understanding of the likely impact of these changes at a company level, complemented with an appreciation of the ability of management to exploit these changes, creates significant opportunities to pick winners and avoid losers. Companies are analyzed within a macroeconomic and global sector/thematic framework. "Top-down" views on macroeconomics and trends in global sectors combine with "bottom-up" company analysis along regional and global sector lines. Analysts propose a rating of A through to E for approximately 150 to 200 stocks in each region reflecting the expected performance on a 12-month view. Columbia was retained by the SBI in February 2000. In December 2003 Columbia acquired Threadneedle International LTD, a United Kingdom based asset manager to manage its international equity assets.

Fidelity Institutional Asset Management LLC (formerly Pyramis Global Advisors, LLC)

Fidelity's International Growth strategy is a core, growth-oriented strategy that provides diversified exposure to the developed international markets benchmark. The investment process combines active stock selection and regional asset

allocation. Four portfolio managers in London, Smithfield, Rhode Island, and Toronto construct regional sub-portfolios, selecting stocks based on Pyramis analysts' bottom-up research and their own judgment and expertise. The four regional portfolios are combined according to the policy determined by Pyramis' Asset Allocation Group (AAG). The AAG is comprised of senior investment professionals who base their decisions from micro-economic data derived from portfolio manager inputs, analysts' field research, and proprietary data on liquidity, market activity, and fund flows. Portfolio guidelines seek to ensure risk is commensurate with the performance target and to focus active risk on stock selection. Resulting portfolios typically contain between 200 to 250 holdings. Pyramis was retained by the SBI in July 2005.

J.P. Morgan Investment Management Inc.

J.P. Morgan's international equity process focuses on stock selection as the primary source of added value, seeking to build a portfolio diversified by both sector and region. Approximately 200 investors are based locally in regional markets, providing insights on 1300 companies. These regional teams manage regional equity portfolios, generating local market insights and conducting research on companies in an effort to identify the highest conviction stocks within their region. The highest conviction regional stocks are further analyzed by a team of London-based Global Sector Specialists who seek to identify global "industry winners", pinpointing well-managed, profitable companies that possess solid

financial positions, whose earnings are growing faster than their competitors yet whose stocks are trading at or below market multiples. Each global sector specialist ranks each of the stocks within his or her sector on a scale from A to D. These rankings will be based on a variety of factors including: the information gathered from the regional investment professionals and the global sector specialists own knowledge of industry dynamics and relative valuations. The final stage of the investment process rests with a team of senior portfolio managers, who are responsible for constructing risk controlled portfolios, capturing the best thinking of both the local and global teams. The emphasis is on delivering alpha through bottom-up stock picking. J.P. Morgan was retained by the SBI in July 2005.

Marathon Asset Management LLP

At the heart of Marathon's investment philosophy is the "capital cycle" approach to investment. This approach is based on the idea that the prospect of high returns will attract excessive capital (and hence competition), and vice versa. In addition, the assessment of how management responds to the forces of the capital cycle, particularly whether they curtail investment when returns have been poor - and how they are incentivized, are critical to the investment outcome. Given the contrarian and long-term nature of the capital cycle, the approach results in strong views versus the market and long holding periods (5 years plus). 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. Marathon was retained by the SBI in November 1993.

McKinley Capital Management, LLC

Using proprietary quantitative models, McKinley's investment process searches for and identifies 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. The primary model includes a risk-adjusted relative return measurement designed to identify inefficiently priced common stocks in U.S. dollars relative to the market while adjusting for risk. The remaining candidates then pass through liquidity and strength of earnings tests. The earnings tests identify securities with strong earnings acceleration. In the final portfolio construction process, McKinley examines a variety of qualitative factors which could ultimately impact earnings. These factors include a qualitative data check and street research analysis of economic factors, specific industry themes and company fundamentals. The final portfolio will hold between 50-75 stocks, providing diversification and risk control by issue, industry, sector and country. McKinley was retained by the SBI in July 2005.

Semi-Passive Developed Markets Managers

AQR Capital Management, LLC

AQR employs a disciplined quantitative approach emphasizing both top-down

country/currency allocation and bottom-up security selection decisions to generate excess returns. AQR's investment philosophy is based on the fundamental concepts of value and momentum. AQR's international equity product incorporates stock selection, country selection, and currency selection models as the primary alpha sources. Dynamic strategy allocation (between the three primary alpha sources) and style weighting are employed as secondary alpha sources. AQR was retained by the SBI in July 2005.

Fidelity Institutional Asset Management LLC (formerly Pyramis Global Advisors, LLC)

Fidelity's Select International strategy combines active stock selection with quantitative risk control to provide consistent excess returns above the benchmark index while minimizing relative volatility and risk. Pyramis' investment philosophy is based on the premise that international markets are semi-efficient and pricing anomalies exist. Research conducted by the firm's international equity analysts and portfolio managers provides the basis for stock selection and portfolio construction.

By combining five regional sub-portfolios in the U.K., Canada, Continental Europe, Japan, and the Pacific Basin ex Japan, the portfolio manager produces a portfolio made up of the best ideas of the firm's research analysts located throughout the world. Each regional portfolio is created so that stock selection is the largest contributor to active return while systematic, sector, and factor risks are

minimized. The portfolio manager uses a combination of proprietary and third-party optimization models to monitor and control risk within each regional module. Resulting portfolios typically contain between 275 to 325 holdings. Fidelity was retained by the SBI in July 2005.

State Street Global Advisors (SSgA)

The International Alpha Strategy seeks to create value through superior security selection. Stocks are quantitatively ranked by region according to those factors which have been shown to identify mispricing over a long term investment horizon: value, sentiment, earnings quality, and earnings growth. The strategy also incorporates an element to evaluate the macro environment for a portion of the model determined by prevailing market conditions in forming an intermediate term view of factors that will be successful. This element allows a disciplined approach seeking to be adaptive to the macroeconomic environment and respond to changing conditions. The stock scores derived from the combination of these viewpoints are translated into forecasts of stock outperformance. The regional portfolio managers review all suggestions in terms of selections and weightings. A separate process projects transaction costs for each stock. Proprietary portfolio construction software is then used to generate a recommended buy/sell list based on the tradeoff between expected outperformance and the trading costs. State Street Global Advisor's risk management process permits multiple and simultaneous risk penalties and

implies that, as industry, country and capitalization deviations become greater and greater, the incremental expected return from a stock must increase in order to compensate for the greater benchmark relative risk. The managers also impose country, sector, industry, and security specific bands relative to the benchmark as an additional risk management tool and manage other exposures such as capitalization, beta and yield to be similar to that of the underlying benchmark. The investment process creates core portfolios that provide clients with stringent risk control, the return of the asset class, and the benefit of active management. SSgA was retained by the SBI in July 2005.

Passive Developed Markets Managers

State Street Global Advisors

State Street uses a full replication strategy to construct the portfolio. Exchange-traded stock index futures, approved by the Commodity Futures Trading Commission, are also used to minimize tracking error and trade cash flows in order to minimize transactions costs. SSgA was retained by the SBI in October 1992.

Active Emerging Markets Managers

Capital International, Inc.

Capital International, Inc. has a long history of investing in emerging markets for its affiliate, Capital Guardian Trust Company, one of the Capital Group Companies. Capital is distinguished by its extensive commitment to fundamental research, with a large team of

experienced analysts focused on gathering in-depth information first-hand on markets and companies around the globe. This extensive research is applied using a security-by-security approach to portfolio construction and a unique method of portfolio management that has been in place for more than 40 years. Capital emphasizes long-term investments in companies and goes to great lengths to determine the difference between the fundamental value of a company and its price in the marketplace. This basic, fundamental approach is blended with macroeconomic and political judgments on the outlook for economies, industries, currencies and markets. A critical ingredient in this blending process is the recognition that the relative importance of each factor will vary from time to time, and none can be treated as being of paramount importance at all times. The account is divided among six portfolio managers and a research portfolio. The research portfolio is managed by a team of research analysts who select stocks within the sectors they cover. All portfolio managers are free to make their own decisions (within risk control limits) as to sector, quality emphasis, cash reserves, and issue selection. The SBI retained Capital International, Inc., in January 2001.

Morgan Stanley Investment Management Inc.

Morgan Stanley Investment Management is an emerging markets specialist. Their belief is that the emerging markets are a distinct asset class offering a diverse set of investment opportunities. As both macroeconomic and stock-

specific factors drive the emerging markets, Morgan Stanley integrates both top-down country allocation and bottom-up stock selection in order to produce superior performance over the medium to long term. Effective investment management requires a dedicated manager who utilizes a set of investment tools tailored to the return and risk potential of this asset class. Morgan Stanley's core investment style combines growth and value as both are potential drivers of performance in emerging markets investing. They believe that growth-oriented companies trading at attractive valuations offer the best return prospects in the emerging markets. Morgan Stanley Investment Management was retained by the SBI for emerging market management in January 2001.

Passive Emerging Markets Managers

State Street Global Advisors

State Street manages an emerging markets index portfolio designed to track the Morgan Stanley Capital International Emerging Markets index. State Street uses an optimized strategy to construct the portfolio. Exchange traded stock index futures, approved by the Commodity Futures Trading Commission, are also used to minimize tracking error, obtain exposure where local access is inaccessible, and trade cash flows in order to minimize transactions costs. SSgA was retained by the SBI in December 2011 for passive emerging markets management.

Fixed Income Program Managers

Active Managers

Aberdeen Asset Management Inc.

Aberdeen believes there are pricing inefficiencies inherent in bond markets and that diligent credit analysis, security structure evaluation, and relative value assessment can be used to exploit these inefficiencies. The firm generally avoids interest rate forecasting and sector rotation because they believe these strategies will not deliver consistent excess returns versus the benchmark over time. The firm's value added is derived primarily from individual security selection. Portfolio managers and analysts research bonds within their sector of expertise to determine the intrinsic value of each bond. The result is a portfolio that is constructed bond by bond. Sector weightings are a by-product of the bottom-up security selection. Aberdeen was retained by the SBI in February 2000.

Columbia Threadneedle Investments

Columbia 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 firm employs in-depth fundamental research and credit analysis combined with proprietary valuation disciplines to identify individual relative value opportunities across market sectors. The duration and maturity structure of the portfolio are managed using rigorous analysis centered on the firm's proprietary interest rate research. Columbia is committed to diversification of

sources of active risk in the portfolios it manages, and believes that proper diversification combined with consistent evaluation of risk-reward trade-offs leads to competitive risk-adjusted performance. Columbia was retained by the SBI in July 1993.

Dodge & Cox

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. When this fundamental research effort is combined with a disciplined program of risk analysis, the firm believes attractive returns are possible over the long-term. In seeking above average returns, Dodge & Cox emphasizes market sector and individual security selection, analyzes portfolio and individual security risk, and strives to build portfolios which have a higher yield than the broad bond market, and analyzes portfolio and individual security risk. Dodge & Cox was retained by the SBI in February 2000.

Pacific Investment Management Company, LLC (PIMCO)

PIMCO's investment approach seeks to provide consistent excess returns with similar risk relative to the benchmark over a business cycle. PIMCO's approach to investing has three key principles: diversified sources of value, a long-term orientation and bond selection from a broad universe. PIMCO relies on multiple sources of

value through the use of top-down and bottom-up strategies. PIMCO's investment process starts with an annual Secular Forum. The goal of the Secular Forum is to look beyond the current business cycle and determine how secular forces will play out over the next three to five years. Quarterly, PIMCO holds Economic Forums to evaluate global growth and inflation over the next six to twelve months. Following PIMCO's Secular and Economic Forums, the PIMCO Investment Committee (IC) works on a consensus basis to develop major strategies that serve as a model for all portfolios. The IC makes use of the top-down outlook provided by the Forums, PIMCO's Global Advisory Board (external committee of economic and policy experts), PIMCO's global economic strategists, and generalist portfolio managers as well as bottom-up input from the CIOs and specialists who each focus on their respective asset classes. The IC defines a set of target risk exposures for portfolios. Generalist portfolio managers collaborate with sector specialists, who perform in-depth research and recommend individual securities, for portfolio implementation. PIMCO was retained by the SBI in September 2008.

Western Asset Management Company

Western emphasizes the use of multiple strategies and active sector rotation and issue selection, while constraining overall interest rate risk relative to the benchmark. Multiple strategies are proportioned so that results do not depend on one or two opportunities, and no single adverse market event would have an overwhelming

effect. Western believes that this approach adds consistent value over time and can reduce volatility. Long term value investing is Western Asset's fundamental approach. In making their sector decision, the firm seeks out the greatest long-term value by analyzing all fixed income market sectors and their economic expectations. Individual issues are identified based on relative credit strength, liquidity, issue structure, event risk, covenant protection, and market valuation. Western will tactically trade the portfolio's overall duration within a stated band around the benchmark. Western was retained by the SBI in July 1984.

Semi-Passive Managers

BlackRock Financial Management, Inc.

BlackRock manages a semi-passive portfolio that closely tracks the Barclays Capital Aggregate Index. BlackRock employs a controlled-duration, relative value sector rotation and security selection approach, which can be described as active management with tighter duration, sector, and quality constraints. BlackRock seeks to add value through managing portfolio duration within a narrow band relative to the benchmark, relative value sector/sub-sector rotation and security selection, rigorous quantitative analysis of the valuation of each security and of the portfolio as a whole, intense credit analysis and review, and the judgment of experienced portfolio managers. Advanced risk analytics measure the potential impact of various sector and security strategies to ensure consistent risk-adjusted value is added. BlackRock was

retained by the SBI in April 1996.

Goldman Sachs Asset Management

Goldman manages a semi-passive portfolio that closely tracks the Barclays Capital Aggregate. Goldman manages the portfolio within a risk-controlled framework. The firm relies primarily on sector allocation and security selection strategies to generate incremental return relative to the benchmark. To a lesser degree, term structure and highly controlled interest rate anticipation strategies are also implemented. Portfolios are diversified among various sectors and individual securities. Goldman combines long-term strategic investments with short-term tactical trading opportunities. Strategic investments are based on fundamental and quantitative sector research and seek to optimize the long-term risk/return profile of portfolios. Tactical trades between sectors and securities within sectors are implemented to take advantage of short-term market anomalies. Goldman was retained by the SBI in July 1993.

Neuberger Berman Fixed Income LLC

Neuberger manages a semi-passive portfolio that closely tracks the Barclays Capital Aggregate. Neuberger's process relies on a combination of quantitative tools and active management judgment. Explicit quantification and management of risks are at the heart of their investment process. Neuberger's proprietary risk exposure analysis includes all relevant systemic factors, interest rate and spread-related,

that determine a bond's expected return with respect to changes in interest rates and spreads. Neuberger analyzes every bond in the index for all relevant factors, and capitalization weights the results to calculate index level risk exposures. For each interest rate factor, the portfolio is very closely matched to the index to ensure that the portfolio earns the same return as the index for any change in interest rates. For each spread factor, the portfolio can deviate slightly from the index as a means of seeking value-added. Risk is controlled by setting target active risk exposures that must fall within pre-established maximums. To control credit risk, corporate holdings are diversified across a large number of issues. Neuberger was retained by the SBI in July 1988.

Assigned Risk Plan Managers

GE Asset Management, Inc.

GE Asset Management manages the stock portfolio for the Assigned Risk Plan. Their strategy is to maintain a style-neutral position between value and growth stocks and focus on fundamental, bottom-up stock selection to add value. This strategy is accomplished by combining the expertise of three portfolio managers, each with different styles ranging from value to growth, supported by a staff of industry analysts. Each analyst is responsible for one or more industries and together provide analytical coverage across the full spectrum of industries. The three portfolios are combined to create a well-diversified portfolio while neutralizing the style bet. GE Asset Management was retained by the SBI in January 1995.

RBC Global Asset Management (U.S.)

RBC Global Asset Management (U.S.) Inc. ("RBC GAM-US") manages the fixed income portfolio for the Assigned Risk Plan. The main objective for the 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 conservatively and is benchmarked to the Barclays Intermediate Government Index. RBC GAM-US uses a fundamental approach in managing the portfolio, with a focus primarily on security selection and secondarily on sector analysis. RBC GAM-US has managed the bond portfolio since July 1991.

Stable Value Manager

Galliard Capital Management, Inc.

Galliard Capital Management manages the Stable Value Fund in the Supplemental Investment Fund. The Stable Value Fund is managed to protect principal and provide competitive interest rates using instruments somewhat longer than typically found in money market-type accounts. The manager invests the Account in well diversified portfolios of high quality investment grade fixed income securities. The manager invests cash flows to optimize yields. The manager also invests in investment contracts with U.S. financial institutions that provide principal protection for the fixed income portfolios regardless of daily market changes. To maintain necessary liquidity, the manager invests a portion of the portfolio in its Stable Return Fund and in cash equivalents. The Stable Return Fund is a large, daily priced fund consisting of a wide range of stable value instruments that is available to retirement plans of all sizes. The firm was retained by the SBI in November 1994.

Money Market Account

State Street Global Advisors

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

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

State Deferred Compensation Plan Managers

Dodge & Cox Income Fund

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 intermediate term, 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. The fund was retained by the SBI in July 1999.

Fidelity Diversified International Fund

The goal of this fund is capital appreciation by investing in securities of companies located outside the United States. The fund invests primarily in larger companies located in developed countries. The manager uses a bottom-up stock selection process based on the extensive fundamental research available from the company's many security analysts across the globe. The process seeks to invest in companies with durable earnings, strong competitive position, and improving profitability. Sector and country weightings are reviewed for risk control, preference is given to companies with strong balance sheets which tend to perform better in down markets. As part of the portfolio construction process and quarterly portfolio review, quantitative portfolio analysis is evaluated to examine risks exposures including style factors, sectors and geography. The fund does not employ currency hedging, to provide currency diversification to U.S. based investors. The fund was retained by the SBI in July 1999.

Janus Twenty Fund

The fund is an actively managed large cap equity option. The investment objective of this fund is long-term growth of capital from increases in the market value of the stocks it owns. The fund will concentrate its investments in holdings of about thirty common stocks. This non-diversified fund seeks to invest in companies that the portfolio manager believes have strong current financial positions and offer growth potential. The fund was retained by the SBI in July 1999 and was removed

from the investment line-up in August 2016.

T. Rowe Price Small Cap Stock Fund

The strategy of this fund is to invest primarily in small-cap stocks, those below the upper end of the Russell 2000 Index at time of purchase which are believed to offer either superior earnings growth or appear undervalued. The fund normally invests at least 80% of assets in equities traded in the U.S. over-the-counter market. The manager does not favor making big bets on any particular sector or any particular stock. The fund's combination of growth and value stocks offers investors relatively more stable performance compared to other small cap stock funds. The fund was retained by the SBI in July 1999.

Vanguard Institutional Index Plus Fund Plus

The passively managed fund tracks the S&P 500 index. This fund attempts to provide investment results, before fund expenses, that parallel the performance of the Standard & Poor's 500 index. The fund invests in all, or substantially all, of the stocks that make up the S&P 500 index in approximately the same proportions as they are represented in the index. The fund may use futures and options for temporary purposes, but generally remains fully invested in common stocks. The fund was retained by the SBI in July 1999.

Vanguard Mid-Capitalization Index Institutional Fund Plus

The fund is passively managed to track the performance of the CRSP US Mid Cap Index, an

index of stocks of medium-size U.S. companies. The manager holds positions in all companies in the index and uses futures and options for handling cash needs. The fund was retained by the SBI in January 2004.

Vanguard Balanced Index Fund Institutional

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 invested to track the returns of the CRSP US Total Market Index, which encompasses stocks of companies of all sizes and the bond portfolio invested to track the returns of the Barclays Capital Aggregate Bond index. The fund was retained by the SBI in December 2003.

Vanguard Total Bond Market Index Fund Institutional Plus

The fund is passively managed to track the performance of the Barclays Capital US 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 Barclays Capital Aggregate Bond Index. The fund was retained by the SBI in December 2003.

Vanguard Total International Stock Index Fund Plus

The fund is passively managed to track the returns of the FTSE

Global All Cap ex US 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. Fund assets are allocated based on each regions weighting in the index. The fund was retained by the SBI in December 2003.

Minnesota Target Retirement Funds

State Street Global Advisors

The MN Target Retirement Funds managed by State Street Global Advisors, 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.

Investment Manager Summaries

Alternative Investment Managers

Private Equity Managers

Adams Street Partners

Adams Street (formerly Brinson Partners) Global Secondary Fund 5 was formed in 2012. Fund 5 invests exclusively in secondary venture capital and 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. Adams Street Partners is based in Chicago, IL.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Global Secondary Fund 5	43,120,079	38,730,000	2012

Advent International

Advent International GPE VI, VII and VIII were formed for the purpose of investing primarily in buyout and recapitalization opportunities in upper middle-market companies in Europe and North America. Advent has regional headquarters in Boston and London. The funds were formed in 2008, 2012 and 2016, respectively.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Advent International GPE VI	39,180,060	1,299,995	2008
Advent International GPE VII	86,758,755	13,185,000	2012
Advent International GPE VIII	0	100,000,000	2016

Affinity Capital

Affinity Ventures Funds IV and V were formed to make 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. Affinity Capital is based in Minneapolis, MN.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Affinity Ventures IV	2,048,297	0	2004
Affinity Ventures V	2,419,110	500,000	2008

Apax Partners

Apax Partners VIII was formed in 2013 for the purpose of investing primarily in buyout and recapitalization opportunities in upper middle-market and large capitalization companies in Europe and North America. Apax is headquartered in London.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Apax VIII	193,892,095	41,124,415	2013

The Banc Funds Co.

Based in Chicago, IL, Banc Fund VII, Banc Fund VIII and Banc Fund IX invest primarily in sub-regional banks, across the U.S., which have demonstrated above average growth and are likely acquisition targets.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Banc Fund VII	45,241,785	0	2005
Banc Fund VIII	129,786,383	0	2008
Banc Fund IX	49,376,638	60,035,322	2014

Investment Manager Summaries

BlackRock

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

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
BlackRock Tempus Fund	1,168,233	0	2015

Blackstone Group

Blackstone Capital Partners Funds IV, V, VI and VII are limited partnerships which were formed in 2002, 2006, 2008 and 2015, respectively. Based in New York, the funds will invest in a variety of private equity transactions in North America and Europe.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Blackstone Capital Partners Fund IV	16,065,057	2,017,395	2002
Blackstone Capital Partners Fund V	47,767,976	8,616,043	2006
Blackstone Capital Partners Fund VI	94,172,816	20,092,175	2008
Blackstone Capital Partners Fund VII	0	130,000,000	2015

Blum Capital

Blum Strategic Partners II, Blum Strategic Partners III, and Blum Strategic Partners IV were organized in 2001, 2005 and 2007, respectively. Based in San Francisco, CA the funds will focus on value-oriented private and public equity investments located primarily in the U.S.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Blum Strategic Partners II	64,749	2,127,584	2001
Blum Strategic Partners III	0	471,064	2005
Blum Strategic Partners IV	0	5,896,033	2007

Brookfield Asset Management

Brookfield Capital Partners Fund IV was formed in 2015. Brookfield Asset Management is a global operator and asset manager of real assets related businesses. This fund will target investments in complex situations, out of favor sectors and companies that require operational changes. Brookfield Capital Partners is based in Toronto.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Brookfield Capital Partners Fund IV	23,795,676	76,807,554	2015

Carlyle Group

Carlyle Strategic Partners IV was formed in 2016. With offices in New York, London and Hong Kong, the fund will invest in middle-market companies experiencing financial, operational or cyclical distress.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Carlyle Strategic Partners IV	0	100,000,000	2016

Investment Manager Summaries

CarVal Investors

CVI Global Value Fund, Credit Value Funds I, II and III were formed in 2007, 2010, 2012, and 2015 respectively. The funds are based in Minneapolis 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
CVI Global Value Fund	41,140,637	10,000,000	2007
CVI Credit Value Fund I	75,346,317	5,000,000	2010
CVI Credit Value Fund II	171,569,434	7,500,000	2012
CVI Credit Value Fund A III	55,527,150	97,500,000	2015

Chicago Growth Partners (formerly William Blair)

Formed in 2001, 2005 and 2008 and based in Chicago, IL, the Chicago Growth Partners funds seek investments in a broad spectrum of private companies at various stages of corporate development.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
William Blair Capital Partners VII	3,834,938	1,650,000	2001
Chicago Growth Partners I	5,462,427	300,000	2005
Chicago Growth Partners II	56,476,803	2,036,374	2008

Court Square Capital

Court Square Capital Partners I, II and III were formed in 2001, 2006 and 2012, respectively, to make private equity investments in a diversified, global portfolio of companies. Court Square Capital is based in New York.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Court Square Capital Partners I	315,541	1,934,741	2001
Court Square Capital Partners II	80,206,908	17,968,871	2006
Court Square Capital Partners III	52,858,537	110,583,173	2012

Crescendo Ventures

Crescendo Venture Fund IV was organized in 2000. They have offices in Minneapolis, MN and Palo Alto, CA. The funds will pursue opportunistic venture capital investments throughout the U.S.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Crescendo Venture Fund IV	11,946,220	0	2000

CVC Capital Partners

CVC European Equity Partners V and Capital Partners VI are based in London and were formed in 2008 and 2013, respectively. CVC invests primarily in the European mid and large buyout markets, with investment opportunities available from a broad range of sectors and geographies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
CVC European Equity Partners V	58,396,136	4,325,455	2008
CVC Capital Partners VI	82,333,070	160,410,603	2013

Investment Manager Summaries

Diamond Castle Partners

Diamond Castle Partners IV, based in New York, was established in 2006 to make private equity investments primarily in the following sectors: energy and power, healthcare, media and telecom, and financial services.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Diamond Castle Partners IV	0	1,377,108	2006

DSV Management

DSV Partners IV limited partnership was formed in 1985. The firm has offices in Princeton, NJ. DSV focuses on start-up and early stage investments.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
DSV Partners IV	31,339	0	1985

Elevation Partners

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

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Elevation Partners	1,281,295	799,634	2005

Fox Paine and Company

Fox Paine Capital Fund II was formed in 2000. Based in Foster City, CA, the fund focuses on private equity investments in middle market operating businesses in a wide variety of industries.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Fox Paine Capital Fund II	3,958,216	11,953,212	2000

GTCR Golder Rauner

GTCR Golder Rauner Funds VI, IX, X and XI were formed in 1998, 2006, 2010 and 2013 are funds of a successor firm to the private equity firm of Golder, Thoma, Cressey and Rauner. The SBI has several investments with Golder, Thoma, Cressey and Rauner. Based in Chicago, IL the funds focus primarily on a wide variety of private equity investments in consolidating and fragmented industries.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
GTCR Fund VI	2,202,275	0	1998
GTCR Fund IX	7,163,406	5,460,067	2006
GTCR Fund X	70,352,709	10,751,396	2010
GTCR Fund XI	46,128,193	65,187,447	2013

Investment Manager Summaries

Goldman Sachs Capital Partners

GS Capital Partners 2000, GS Capital Partners V, and GS Capital Partners VI were formed in 2000, 2005 and 2007, respectively, by Goldman Sachs. Based in New York, the funds will focus on domestic and international investments in four areas: energy, telecommunications, broadband, and technology.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
GS Capital Partners 2000	1,978,830	0	2000
GS Capital Partners V	7,314,452	3,441,099	2005
GS Capital Partners VI	29,424,053	21,939,971	2007

Goldner Hawn Johnson and Morrison

GHJM Marathon Fund V was organized in 2004. Trailhead Fund was formed by this group in 2012. Based in Minneapolis, MN the funds will pursue primarily middle market private equity investments located in the Midwest and other parts of the U.S.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
GHJM Marathon Fund V	35,590	46,502	2004
GHJM Trailhead Fund	20,138,314	5,085,813	2012

HarbourVest

The HarbourVest funds were inherited from the Duluth Teachers Retirement Fund Administration in 2015. Based in Boston, MA, 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Dover Street VII Cayman Fund L.P.	1,131,553	127,500	2015
HarbortVest Intl PE Partners V-Cayman US	2,172,029	222,190	2015
HarbortVest Intl PE Partners VI-Cayman	3,210,362	933,198	2015
HarbortVest Partners VIII-Cayman Buyout	2,949,525	390,000	2015
HarbortVest Partners VIII-Cayman Venture	5,545,771	175,000	2015

Hellman and Friedman

Hellman and Friedman V, VI and VII were organized in 2004, 2007 and 2009. Based in San Francisco, CA the funds will pursue opportunistic private equity investments located in the U.S. and Europe.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Hellman and Friedman V	3,680,225	8,070,303	2004
Hellman and Friedman VI	40,423,942	5,824,073	2007
Hellman and Friedman VII	48,637,996	2,798,278	2009

IK Investment Partners

IK, based in London, makes 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. IK Fund VII was formed in 2013.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
IK Fund VII	170,725,370	10,388,622	2013

Investment Manager Summaries

Kohlberg, Kravis, Roberts & Co. (KKR)

KKR's Funds invest in large leveraged buyouts but may include other types of investments as well. The partnerships' portfolio companies are often mature, low technology companies with diversified operations. Kohlberg, Kravis, Roberts and Co. is based in New York.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
KKR Millennium Fund	27,340,125	0	2002
KKR 2006 Fund	117,918,693	4,820,615	2006
KKR Americas Fund XII	0	150,000,000	2016

Leonard Green & Partners (LGP)

LGP invests in middle-market companies in a variety of structured transactions. LGP typically makes investments in the retail, consumer & business services, and healthcare and distribution sectors. Green Equity Investors VI was formed in 2012 to continue this investment philosophy. LGP is based in Los Angeles, CA.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Green Equity Investors VI	160,968,287	58,597,364	2012

Lexington Capital Partners

Lexington Capital Partners VI, VII and VIII were formed in 2006, 2009 and 2014, respectively, for the purpose of making investments in established buyout, mezzanine and venture capital funds, primarily through secondary transactions. The funds are based in New York.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Lexington Capital Partners VI	29,882,735	1,634,703	2006
Lexington Capital Partners VII	101,493,168	42,978,366	2009
Lexington Capital Partners VIII	35,703,867	119,799,195	2014

Madison Dearborn Capital Partners

Madison Dearborn Capital Partners is a medium-sized private equity investment firm based in Chicago. Madison Dearborn Capital Partners VII was formed in 2015 to make buyout and growth equity investments in established middle and upper middle-market companies located primarily in the United States.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Madison Dearborn Capital Partners VII	8,266,759	91,052,265	2015

MHR Institutional Partners

MHR is a medium-sized private equity investment firm based in New York. MHR IV was formed in 2015 to invest in distressed companies with the goal of gaining influence or control of the company and creating value through the restructuring process and revenue growth.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
MHR Institutional Partners IV	10,361,610	63,750,000	2015

Investment Manager Summaries

Merced Capital (formerly EBF & Associates)

Based in Minneapolis, MN Merced Partners II, III and IV expect 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. Merced Partners II, III and IV were formed in 2006, 2010 and 2013, respectively.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Merced Partners II	8,336,856	0	2006
Merced Partners III	64,679,691	0	2010
Merced Partners IV	126,777,500	0	2013

Nordic Capital

Nordic Capital is based in Stockholm, Sweden and 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. Nordic Capital VIII was formed in 2013.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Nordic Capital VIII	87,327,112	80,538,576	2013

North Sky Capital

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

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
North Sky Capital LBO Fund III, LP	532,611	350,000	2015
North Sky Capital Venture Fund III, LP	710,638	106,250	2015

Oaktree Capital Management

Oaktree Capital Management is a global private equity firm based in Los Angeles. The Oaktree Principal Fund VI was formed in 2015 to invest in the debt or equity of companies experiencing a significant element of distress or dislocation or that are otherwise out of favor. Oaktree will seek to create control positions at attractive valuations which will allow for the maximization of value of the companies after control is obtained.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Oaktree Principal Fund VI	15,969,646	85,169,872	2015

Paine & Partners

Paine & Partners is a small private equity firm with offices in New York, Chicago and San Mateo. Paine & Partners IV was formed in 2014 to make control investments in companies involved in the global food and agribusiness sectors.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Paine & Partners Capital Fund IV	13,196,586	58,433,654	2014

Investment Manager Summaries

Permal Capital

Permal IV was inherited from the Duluth Teachers Retirement Fund Administration in 2015. Permal is a small investment firm based in New York. Permal IV was formed to purchase small portfolios of private equity investments on the secondary market.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Permal PE Opportunities IV, L.P.	2,850,798	1,090,000	2015

Permira

Permira performs buyouts of middle-market companies across geographies in Europe and North America. Permira typically makes investments in the retail, consumer & business services, healthcare and telecom, media and technology sectors. Permira V was formed in 2013 to continue this investment philosophy. Permira is based in London.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Permira V	133,609,384	41,743,924	2013

Public Pension Capital Management (PPC)

PPC 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 industrial, specialty chemical, food and healthcare sectors. PPC was formed in 2014 and is based in New York.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Public Pension Capital Fund	7,638,728	84,482,684	2014

RWI Ventures

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

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
RWI Ventures I	487,500	0	2006

Sightline Healthcare (Piper Jaffray)

Sightline Healthcare Funds III, and IV were organized in 1999 and 2003, respectively. Based in Minneapolis, MN, the funds will focus on a geographically diverse portfolio of healthcare venture capital investments.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Sightline Healthcare Fund IV	53,731	0	2003

Investment Manager Summaries

Silver Lake Partners

Silver Lake Partners II, III, and IV were formed in 2004, 2007, and 2012, respectively. With offices in New York and Menlo Park, CA the funds will focus primarily on large-scale private equity investing in technology companies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Silver Lake Partners II	20,433,483	11,771,953	2004
Silver Lake Partners III	60,319,148	15,442,553	2007
Silver Lake Partners IV	59,977,989	53,019,700	2012

Split Rock Partners

Split Rock Partners and Split Rock Partners II were formed in 2005 and 2008, respectively, by Split Rock Partners Management (formerly part of St. Paul Venture Capital). With offices in Minneapolis, MN and Menlo Park, CA the funds will focus on private equity investments in seed and early-stage healthcare and software companies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Split Rock Partners I	27,529,419	2,545,457	2005
Split Rock Partners II	39,041,926	2,435,000	2008

Strategic Partners (formerly Credit Suisse)

Strategic Partners II B, III B, III VC, IV B, IV VC, V, VI and VII were formed to invest 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. All of the funds are based in New York. In 2013, the Strategic Partners funds platform was sold to The Blackstone Group and is now wholly-owned by Blackstone.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Strategic Partners Fund II B	2,354,794	4,717,359	2003
Strategic Partners Fund III B	28,151,148	15,092,801	2005
Strategic Partners Fund III VC	7,225,296	1,255,264	2005
Strategic Partners Fund IV B	27,674,486	24,739,783	2008
Strategic Partners Fund IV VC	18,658,536	3,420,675	2008
Strategic Partners Fund V	54,156,082	43,254,682	2011
Strategic Partners Fund VI	92,486,998	83,196,290	2014
Strategic Partners Fund VII	3,000,000	147,000,000	2016

Summit Partners

Summit Ventures V, VIII and IX are limited partnerships formed in 1998, 2011 and 2015. Summit Partners focuses on profitable, expansion stage firms that have not yet received any venture backing. The majority of the partnership investments are in high tech firms. Investments are diversified by location and industry type. Summit Partners is based in Boston, MA.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Summit Ventures V	47,512	875,000	1998
Summit Ventures VIII	85,031,256	21,758,082	2011
Summit Partners Growth Equity IX	0	100,000,000	2015

Investment Manager Summaries

Thoma Cressey Bravo Equity Partners

Thoma Cressey Bravo is one of two successor firms to the private equity firm of Golder, Thoma, Cressey and Rauner. Thoma Cressey VI, VII and VIII were formed in 1998, 2000, and 2006. Based in Chicago, IL the funds focus primarily on a wide variety of private equity investments in consolidating and fragmented industries.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Thoma Cressey Fund VI	580,556	1,085,000	1998
Thoma Cressey Fund VII	8,194,315	0	2000
Thoma Cressey Fund VIII	60,595,964	770,000	2006

Thomas, McNerney & Partners

Thomas, McNerney & Partners is based in Connecticut with additional offices in Minneapolis and San Francisco. The Thomas, McNerney & Partners Fund I and Fund II were formed in 2003 and 2006 to make venture capital investments in all stages of development and across all sectors of the health care industry.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Thomas, McNerney & Partners Fund I	8,820,863	600,000	2003
Thomas, McNerney & Partners Fund II	27,407,587	3,875,000	2006

TPG

TPG Partners VII was formed in 2015 to invest in operating companies and create value through acquisitions and restructurings. TPG has 17 offices around the world, including Dallas, San Francisco, New York and London.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
TPG Partners VII	14,900,653	83,613,957	2015

T. Rowe Price

T. Rowe Price, a Baltimore-based money management firm, manages stock distributions from the SBI's alternative investment 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
T. Rowe Price	44,405,711	0	N/A

Varde Partners

Varde Fund IX, X and XI are limited partnerships formed in 2008, 2010 and 2013, respectively. Based in Minneapolis, MN the funds will invest in distressed and/or mispriced private and public investments.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Varde Fund IX	30,944,170	0	2008
Varde Fund X	167,170,043	0	2010
Varde Fund XI	241,006,400	0	2013

Investment Manager Summaries

Vestar Capital Partners

Vestar Capital Partners IV, V and VI are limited partnerships that were formed in 1999, 2006, and 2011, respectively. Based in New York, the funds invest primarily in a number of private middle market companies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Vestar Capital Partners IV	1,002,656	57,313	1999
Vestar Capital Partners V	53,803,903	186,556	2006
Vestar Capital Partners VI	68,718,538	45,926,794	2011

Warburg Pincus & Co.

Warburg Pincus is based in New York. These funds will invest private equity in a wide variety of businesses located domestically and abroad. The funds listed were formed in 1998, 2002, 2005, 2007, 2012 and 2016.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Warburg Pincus Equity Partners	1,349,813	0	1998
Warburg Pincus Private Equity Partners VIII	23,322,726	0	2002
Warburg Pincus Private Equity Partners IX	11,478,012	0	2005
Warburg Pincus Private Equity Partners X	73,525,947	0	2007
Warburg Pincus Private Equity Partners XI	194,358,907	26,000,000	2012
Warburg Pincus Private Equity Partners XII	8,420,242	121,830,000	2016

Wayzata Investment Partners

Wayzata Opportunities Funds I, II, and III were formed in 2005, 2007 and 2012, respectively, for the purpose of making investments in distressed securities where it can expect to exert significant influence on the restructuring process and potentially control the reorganized company. The Funds are based in Wayzata, MN.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Wayzata Opportunities Fund I	1,904,581	18,920,000	2005
Wayzata Opportunities Fund II	29,190,966	30,000,000	2007
Wayzata Opportunities Fund III	52,386,891	88,755,000	2012

Welsh, Carson, Anderson and Stowe

Welsh, Carson, Anderson and Stowe Funds VIII, IX, X, XI and XII were formed in 1998, 2000, 2005, 2008 and 2014. Based in New York, the funds focus on private equity investments in the healthcare and information services industries.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Welsh, Carson, Anderson and Stowe Fund VIII	151,498	0	1998
Welsh, Carson, Anderson and Stowe Fund IX	71,930	1,250,000	2000
Welsh, Carson, Anderson and Stowe Fund X	21,620,506	2,000,000	2005
Welsh, Carson, Anderson and Stowe Fund XI	64,520,633	3,150,104	2008
Welsh, Carson, Anderson and Stowe Fund XII	36,170,177	111,141,641	2014

Investment Manager Summaries

Real Estate Managers

Angelo, Gordon & Co.

AG Realty Fund IX was formed in 2015 to make opportunistic investments in commercial real estate. The majority of investments will be located in North America and up to 25% of exposure to Europe and Asia. Angelo, Gordon & Co. is headquartered in New York and has offices around the world.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
AG Realty Fund IX	22,000,000	78,000,000	2015

Blackstone Real Estate Partners

Based in New York, Blackstone Real Estate Partners V, VI, VII and VIII were formed in 2006, 2007, 2011 and 2015 to make real estate investments in a variety of sectors, geographic locations and business climates. Blackstone will consider investments in major urban office buildings, the lodging sector, distribution and warehousing centers, retail, and a variety of real estate operating companies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Blackstone Real Estate Partners V	57,098,379	4,174,052	2006
Blackstone Real Estate Partners VI	58,067,559	4,907,906	2007
Blackstone Real Estate Partners VII	102,200,236	17,790,521	2011
Blackstone Real Estate Partners VIII	58,387,953	94,775,931	2015

Colony Advisors

Colony Investors III is a closed-end commingled real estate fund managed by Colony Capital Inc. of Los Angeles, CA. The fund's strategy is to invest in undervalued equity and debt real estate-related assets.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Colony Investors III	5,177,800	0	1997

SilverPeak

Silverpeak Legacy Pension Partners II and III were formed in 2005 and 2007, respectively, 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Silverpeak Legacy Pension Partners II	12,673,666	7,898,904	2005
Silverpeak Legacy Pension Partners III	21,757,740	80,269,002	2007

Strategic Partners (formerly Credit Suisse)

Strategic Partners III RE and Strategic Partners IV RE were formed in 2005 and 2008, respectively, for the purpose of purchasing secondary interests of real estate funds. The funds will 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. Blackstone is based in New York.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
CSFB Strategic Partners III RE	5,719,657	9,006	2005
CS Strategic Partners IV RE	13,925,985	1,548,842	2008

Investment Manager Summaries

Rockpoint

Rockpoint Real Estate Fund V was formed in 2015 to invest in opportunistic real estate transactions in the United States. Rockpoint is headquartered in Boston and has offices in Dallas and San Francisco.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Rockpoint Real Estate Fund V	10,400,673	89,923,527	2015

TA Associates Realty

TA Realty Associates Funds VII, VIII, IX, X and XI are closed-end, commingled real estate funds managed by TA Associates Realty of Boston, MA. The funds invest in small to medium sized properties generally diversified by location and type. On-site management of properties is contracted to outside firms. The SBI committed to the funds in 2004, 2006, 2008, 2012 and 2015, respectively.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
TA Realty Associates Fund VII	474,976	0	2004
TA Realty Associates Fund VIII	57,278,241	0	2006
TA Realty Associates Fund IX	76,754,451	0	2008
TA Realty Associates Fund X	101,427,470	0	2012
TA Realty Associates Fund XI	24,421,650	75,000,000	2015

Resource Funds Managers

Apache Corporation

Apache Corporation is a Houston, TX based oil and gas company. Apache Acquisition Net Profits Interest is a private placement that was formed in 1986 to acquire a non-operating interest in the net profit generated by oil and gas properties acquired in 1986 from Occidental Petroleum Company. The fund will remain in effect throughout the producing life of the properties.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
1986 Net Profits Interest	442,830	0	1986

EIG Global Energy Partners (formerly TCW Asset Management Company)

Energy Partners XIV, XV and XVI were formed in 2007, 2010 and 2013 respectively, for the purpose of 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
EIG Energy Fund XIV	10,672,914	4,542,385	2007
EIG Energy Fund XV	97,124,854	6,322,679	2010
EIG Energy Fund XVI	62,649,597	109,730,852	2013

Investment Manager Summaries

EnCap Investments

EnCap Energy Capital Funds VII, VIII, IX, and X were formed in 2007, 2010, 2012 and 2015 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
EnCap Energy Capital Fund VII	10,087,065	4,385,431	2007
EnCap Energy Capital Fund VIII	36,698,958	15,976,786	2010
EnCap Energy Capital Fund IX	67,008,494	27,731,917	2012
EnCap Energy Capital Fund X	19,181,127	78,693,934	2015

Energy & Minerals Group (formerly known as NGP Midstream & Resources)

Based in Houston, TX, Energy & Minerals Group will 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. The funds were formed in 2007, 2011, 2014 and 2015.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
NGP Midstream & Resources	75,789,689	366,338	2007
Energy & Minerals Group II	116,932,899	12,790,265	2011
Energy & Minerals Group III	138,251,762	29,677,136	2014
Energy & Minerals Group IV	87,955,167	60,566,344	2015

Energy Capital Partners

Energy Capital specializes in building and managing energy infrastructure assets to achieve capital appreciation. Energy Capital is based in Short Hills, NJ. Fund II and III were formed in 2010 and 2013, respectively.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Energy Capital Partners II	46,860,207	32,024,037	2010
Energy Capital Partners III	48,683,638	145,810,069	2013

EnerVest Energy

EnerVest XIV was formed in 2015 to acquire, develop, operate and manage oil and gas properties. EnerVest is headquartered in Houston.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
EnerVest Energy Institutional Fund XIV	47,088,938	50,335,701	2015

First Reserve

The First Reserve funds were formed in 2003, 2006, 2008 and 2013, respectively, and are structured as limited partnerships. The general partner's long-term investment strategy is to create diversified portfolios of oil and gas and other energy-related investments. First Reserve is headquartered in Greenwich, CT.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
First Reserve X	505,822	0	2003
First Reserve XI	12,653,768	0	2006
First Reserve XII	49,746,415	5,983,588	2008
First Reserve XIII	17,608,228	170,171,756	2013

Investment Manager Summaries

Natural Gas Partners

Natural Gas Partners is based in Irving, TX and will focus primarily on the sectors of the energy industry that are related to the production and development of crude oil and natural gas in North America. Funds IX, X and XI were formed in 2007, 2011 and 2014, respectively.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Natural Gas Partners IX	30,372,806	2,302,742	2007
NGP Natural Resources X	85,367,642	18,672,326	2011
Natural Gas Capital Resources XI	29,143,543	118,574,000	2014

Sheridan Production Partners

Sheridan Production Partners I, II and III were formed in 2007, 2010 and 2014 respectively to 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. The Funds are headquartered in Houston, TX.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Sheridan Production Partners I	42,636,008	0	2007
Sheridan Production Partners II	24,023,030	0	2010
Sheridan Production Partners III-B	4,813,998	92,650,000	2014

Yield-Oriented Managers

Audax

Audax Mezzanine Fund III and IV were formed in 2010 and 2015. Based in New York, the funds expect to invest in a diversified portfolio of mezzanine securities, with a specific focus on the middle market.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Audax Mezzanine III	55,086,168	19,979,131	2010
Audax Mezzanine Fund IV	0	100,000,000	2015

Avenue Capital Partners

Avenue Capital is mid-sized global investment firm based in New York. Avenue Energy Opportunities was formed in 2015 to make investments in debt, equity and other obligations of North American energy and utility companies that are experiencing financial distress.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Avenue Energy Opportunities	74,872,526	10,973,402	2015

Citicorp Capital Investors

Citicorp Mezzanine Partners III is a limited partnership formed in 1999 by Citicorp Capital Investors Ltd. of New York. The Fund will invest in a broad range of transactions utilizing subordinated debt and equity securities.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Citicorp Mezzanine Partners III	11,534,804	0	1999

Investment Manager Summaries

Crescent Capital Group (formerly TCW/Crescent)

TCW/Crescent Mezzanine Partners III is a Los Angeles, CA based limited partnership formed in 2001. The Fund makes mezzanine investments including subordinated debt with equity participations primarily in profitable, middle market companies. Crescent Capital Group became formerly independent of TCW in 2011.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
TCW/Crescent Mezzanine Partners III	2,418,763	29,733,852	2001

Gold Hill Venture Lending Partners

Gold Hill Venture Lending and Gold Hill 2008 were formed in 2004 and 2008, respectively. The funds 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Gold Hill Venture Lending	960,856	0	2004
Gold Hill 2008	11,728,114	0	2008

Goldman Sachs Mezzanine Partners

GS Mezzanine Partners 2006 and V are limited partnerships formed in 2006 and 2007 respectively. 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
GS Mezzanine Partners 2006	11,169,895	13,858,563	2006
GS Mezzanine Partners V	12,895,410	60,803,216	2007

KKR

Based in New York, KKR is a large global investment firm with a variety of private equity investment products. KKR Lending Partners II was formed in 2015 to make investments primarily in the senior debt securities of middle-market US companies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
KKR Lending Partners II	25,774,508	49,248,419	2015

Merit Capital Partners (formerly William Blair Mezzanine Partners)

William Blair Mezzanine Capital Partners III, Merit Capital Partners IV, Merit Capital Partners V, and Merit Capital Partners VI are limited partnerships formed in 1999, 2004, 2009 and 2016. Based in Chicago, IL, the Funds 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
William Blair Mezzanine Capital Partners III	620,711	2,756,759	1999
Merit Capital Partners IV	35,035,547	4,821,429	2004
Merit Capital Partners V	56,168,656	4,579,592	2009
Merit Capital Partners VI	6,965,000	38,035,000	2016

Investment Manager Summaries

Merit Energy Company

Merit Energy Partners B, C, D, E, F, H and I were formed in 1996, 1998, 2000, 2003, 2005, 2011 and 2014, respectively. Based in Dallas, TX, the funds focus on resource investments in producing oil and gas properties.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Merit Energy Partners B	11,410,092	0	1996
Merit Energy Partners C	20,115,833	0	1998
Merit Energy Partners D	43,213,152	0	2000
Merit Energy Partners E	27,449,786	0	2003
Merit Energy Partners F	27,981,947	0	2005
Merit Energy Partners H	76,958,085	0	2011
Merit Energy Partners I	124,358,531	44,621,519	2014

Oaktree Capital Management

Oaktree Capital Management is a global private equity firm based in Los Angeles. The Oaktree Opportunities Funds X and Xb were formed in 2015 to invest in the debt or equity of companies during periods of financial distress. Oaktree Opportunities Fund Xb will only be invested if the management determines that the investment opportunity exists.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Oaktree Opportunities Fund X	7,949,093	42,500,000	2015
Oaktree Opportunities Fund Xb	0	100,000,000	2015

Pimco Bravo

The Pimco Bravo funds were inherited from the Duluth Teachers Retirement Fund Administration in 2015. Based in Newport Beach, CA, 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Pimco Bravo OnShore Feeder I	914,585	1,379,331	2015
Pimco Bravo OnShore Feeder II	5,502,414	0	2015

Portfolio Advisors (formerly DLJ/Credit Suisse)

DLJ Investment Partners II and III are limited partnerships formed in 1999 and 2006. Based in New York, the Funds will invest in a variety of securities, including subordinated debt with warrants, preferred stock with warrants, common stock or other securities, including interests in joint ventures. Credit Suisse sold the DLJ Investment Partners platform to Portfolio Advisors in 2013.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
DLJ Investment Partners II	80,537	0	1999
DLJ Investment Partners III	7,569,882	38,475,338	2006

Investment Manager Summaries

Prudential Capital Group

Prudential Capital Partners I, II, III, and IV were formed in 2001, 2005, 2009 and 2012, respectively. Based in Chicago, IL the Funds make mezzanine investments, typically including convertible debt, preferred stock and warrants, with a specific focus on middle market companies.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Prudential Capital Partners I	0	286,652	2001
Prudential Capital Partners II	6,265,580	3,218,268	2005
Prudential Capital Partners III	52,714,454	7,802,176	2009
Prudential Capital Partners IV	69,595,823	25,607,497	2012

Summit Partners

Summit Subordinated Debt Funds III and IV are limited partnerships formed in 2004 and 2007, respectively. Based in Boston, MA 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.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Summit Subordinated Debt Fund III	5,746,843	2,250,000	2004
Summit Subordinated Debt Fund IV	28,748,656	15,669,302	2007

TCW Asset Management

Based in Los Angeles, TCW is a large asset management firm that makes investments in public and private companies. TCW Direct Lending was formed in 2014 to pursue a strategy of originating and investing in loans to middle-market companies primarily in the United States.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
TCW Direct Lending LLC	32,541,333	63,002,762	2014

Windjammer Capital Investors

Windjammer Funds II, III and IV are limited partnerships formed in 2000, 2005 and 2012, respectively. Based in Newport Beach, CA the Funds provide subordinated debt and/or preferred stock accompanied by warrants or other forms of equity participation and, in certain instances, common stock to middle market companies. The Funds seek to generate both current income and substantial capital gains while limiting risk.

Fund	Market Value (\$)	Unfunded Commitment (\$)	Vintage Year
Windjammer Mezzanine & Equity Fund II	375,776	10,139,363	2000
Windjammer Senior Equity Fund III	18,626,107	13,380,380	2005
Windjammer Senior Equity Fund IV	41,460,516	50,351,563	2012

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock	Stock	Bond	Bond	Short Term
	\$ Volume	\$ Commission	\$ Volume	\$ Commission	\$ Volume
ABG SECURITIES AS (STOCKHOLM)	\$ 3,660,594	\$ 5,483	\$ -	\$ -	\$ -
ABG SECURITIES LIMITED	\$ 2,871,572	\$ 3,946	\$ -	\$ -	\$ -
ABLE NOSER	\$ 3,461,600	\$ 5,393	\$ -	\$ -	\$ -
ABN AMRO CLEARING BANK N.V.	\$ 861,904	\$ 1,295	\$ -	\$ -	\$ -
ACADEMY SECURITIES INC	\$ 3,988,102	\$ 1,609	\$ -	\$ -	\$ -
ADM INVESTOR SERVICES INTERNATIONAL LTD	\$ 537,518	\$ 322	\$ -	\$ -	\$ -
AISEL & CO	\$ 1,574	\$ -	\$ -	\$ -	\$ -
ALLEN & COMPANY LLC	\$ 13,653,093	\$ 3,585	\$ -	\$ -	\$ -
AMBIT CAPITAL PRIVATE LIMITED	\$ 3,021,604	\$ 6,038	\$ -	\$ -	\$ -
AMHERST PIERPONT SECURITIES LLC	\$ -	\$ -	\$ 176,798,177	\$ -	\$ -
ANCORA SECIRITIES INC	\$ 63,612	\$ 152	\$ -	\$ -	\$ -
AROS SECURITIES AB	\$ 1,026,531	\$ 709	\$ -	\$ -	\$ -
AUTONOMOUS	\$ 9,964,838	\$ 3,028	\$ -	\$ -	\$ -
AVONDALE PARTNERS LLC	\$ 11,052,198	\$ 13,555	\$ -	\$ -	\$ -
AXIS CAPITAL LIMITED	\$ 68,274	\$ 137	\$ -	\$ -	\$ -
B.RILEY & CO., LLC	\$ 4,497,626	\$ 4,491	\$ -	\$ -	\$ -
BANC OF AMERICA SECURITIES	\$ -	\$ -	\$ 5,121,431	\$ -	\$ -
BANCA IMI S.P.A.	\$ 181,204	\$ 218	\$ -	\$ -	\$ -
BANCO BILBAO VISCAYA	\$ -	\$ -	\$ 3,889,875	\$ -	\$ -
BANCO BILBAO VIZCAYA ARGENTARI	\$ 289,286	\$ 435	\$ -	\$ -	\$ -
BANCO ITAU SA	\$ 1,355,668	\$ 2,716	\$ -	\$ -	\$ -
BANCO PACTUAL S.A.	\$ 4,249,601	\$ 9,647	\$ -	\$ -	\$ -
BANCO SANTANDER CENTRAL HISPANO	\$ 6,983,668	\$ 14,902	\$ -	\$ -	\$ -
BANK J.VONTOBEL UND CO. AG	\$ 1,177,778	\$ 1,697	\$ -	\$ -	\$ -
BANK OF AMERICA INTL NY UNITED STATES	\$ -	\$ -	\$ -	\$ -	\$ -
BANK OF AMERICA SECURITIES LLC	\$ -	\$ -	\$ 14,473,720,397	\$ -	\$ 167,131,614
BANK OF AMERICA, NATIONAL ASSOCIATION	\$ -	\$ -	\$ 10,894,583	\$ -	\$ -
BANK OF MONTREAL CHICAGO	\$ -	\$ -	\$ 7,439,088	\$ -	\$ -
BANK OF MONTREAL	\$ -	\$ -	\$ 1,609,206	\$ -	\$ -
BANK OF NEW YORK (THE)/IPA	\$ -	\$ -	\$ 2,731,250	\$ -	\$ 23,000,000
BANK OF NEW YORK BRUSSELS	\$ 892,529	\$ 536	\$ -	\$ -	\$ -
BANK OF NEW YORK MELLON NATIXIS SECUR NA	\$ -	\$ -	\$ 48,325	\$ -	\$ -
BANK OF NEW YORK/BARCLAYS LONDON	\$ -	\$ -	\$ 11,129,188	\$ -	\$ -
BANK OF NOVA SCOTIA -	\$ -	\$ -	\$ 4,229,374	\$ -	\$ -
BANK OF NOVA SCOTIA - SCUSA	\$ 254,530	\$ 635	\$ -	\$ -	\$ -
BANK OF NOVA SCOTIA, NEW YORK/IPA	\$ -	\$ -	\$ -	\$ -	\$ 30,000,805
BANK OF NY/MELLON TRUST OF NEW ENGLAND	\$ -	\$ -	\$ 98,576,355	\$ -	\$ -
BANQUE NATIONALE DE PARIS, LON	\$ -	\$ -	\$ 4,332,427	\$ -	\$ -
BANQUE PARIBAS	\$ 427,232	\$ 192	\$ -	\$ -	\$ -
BARCLAYS BANK OF NEW YORK	\$ -	\$ -	\$ -	\$ -	\$ 51,001,618,000
BARCLAYS BANK PLC LONDON BRANCH	\$ -	\$ -	\$ 1,432,413	\$ -	\$ -
BARCLAYS BANK PLC	\$ -	\$ -	\$ 204,590	\$ -	\$ -
BARCLAYS CAPITAL BBPLC LONDON BRANCH	\$ -	\$ -	\$ 61,650	\$ -	\$ -
BARCLAYS CAPITAL INC.	\$ -	\$ -	\$ 8,793,196,038	\$ -	\$ 293,793,024
BARCLAYS CAPITAL INC./LE	\$ 260,682,135	\$ 49,617	\$ 107,452,942	\$ -	\$ -
BARCLAYS CAPITAL LE	\$ 354,460,723	\$ 103,737	\$ -	\$ -	\$ -
BARCLAYS CAPITAL SECURITES LIMITED	\$ 307,597	\$ 461	\$ -	\$ -	\$ -
BARCLAYS CAPITAL SECURITIES TAIWAN LTD	\$ 310,485	\$ 405	\$ -	\$ -	\$ -
BARCLAYS CAPITAL	\$ 29,601,943	\$ 33,735	\$ 6,081,962	\$ -	\$ 96,235,946
BARCLAYS SECURITIES (INDIA) PRIVATE LTD	\$ 1,690,925	\$ 3,448	\$ -	\$ -	\$ -
BATLIVALA+KARANI SECS INDIA PVT. LTD	\$ 42,449	\$ 85	\$ -	\$ -	\$ -
BB&T SECURITIES, LLC	\$ -	\$ -	\$ 17,248,972	\$ -	\$ -
BBVA/SECURITIES NY	\$ -	\$ -	\$ 5,925,123	\$ -	\$ -
BELL POTTER SECURITIES LIMITED	\$ 60,776	\$ 55	\$ -	\$ -	\$ -
BLOOMBERG TRADEBOOK EUROPE LIMITED	\$ 983,190	\$ 344	\$ -	\$ -	\$ -
BLOOMBERG TRADEBOOK LLC	\$ 43,730,016	\$ 21,662	\$ -	\$ -	\$ -
BMO CAPITAL MARKETS CORP BONDS	\$ -	\$ -	\$ 420,310,011	\$ -	\$ 21,845,273
BMO CAPITAL MARKETS	\$ 174,163,247	\$ 46,291	\$ -	\$ -	\$ -

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock \$ Volume	Stock \$ Commission	Bond \$ Volume	Bond \$ Commission	Short Term \$ Volume
BNP PARIBAS SECURITIES (ASIA) LTD.	\$ 7,175,863	\$ 10,365	\$ -	\$ -	\$ -
BNP PARIBAS SECURITIES BOND	\$ -	\$ -	\$ 415,686,526	\$ -	\$ -
BNP PARIBAS SECURITIES CORP	\$ -	\$ -	\$ -	\$ -	\$ 13,601,000,000
BNP PARIBAS SECURITIES CORP./FIXED INCOM	\$ -	\$ -	\$ 2,234,645,099	\$ -	\$ 16,887,128
BNP PARIBAS SECURITIES INDIA PRIVATE LIM	\$ 79,534	\$ 159	\$ -	\$ -	\$ -
BNP PARIBAS SECURITIES SERVICE	\$ 9,030,809	\$ 11,321	\$ -	\$ -	\$ -
BNP PARIBAS SECURITIES SERVICES AUSTR BR	\$ 1,219,481	\$ 1,219	\$ -	\$ -	\$ -
BNP PARIBAS SECURITIES SERVICES SA	\$ 8,322,240	\$ 6,795	\$ -	\$ -	\$ -
BNY BROKERAGE	\$ 2,099,221	\$ 1,515	\$ -	\$ -	\$ -
BNY CLEARING SERVICES LLC (BNY)	\$ -	\$ -	\$ -	\$ -	\$ 23,996,167
BNY CONVERGEX EXECUTION SOLUTIONS LLC	\$ 160,206,144	\$ 101,862	\$ -	\$ -	\$ -
BNY CONVERGEX LJR	\$ 268,831,212	\$ 304,710	\$ -	\$ -	\$ -
BNY MELLON/NOMURA INT'L PLC REPO	\$ -	\$ -	\$ 1,425,500	\$ -	\$ -
BNY/ITC DEALERS CLEARANCE SPECIAL	\$ -	\$ -	\$ 8,422,119	\$ -	\$ -
BNY/SUNTRUST CAPITAL MARKETS	\$ -	\$ -	\$ 20,381,232	\$ -	\$ -
BONY MELLON/SOC GEN	\$ -	\$ -	\$ 86,473,544	\$ -	\$ -
BONY/TORONTO DOMINION SECURITIES INC	\$ -	\$ -	\$ 740,177,367	\$ -	\$ 111,474,663
BRADESCO S.A. CTVM	\$ 321,749	\$ 642	\$ -	\$ -	\$ -
BREAN CAPITAL LLC	\$ 9,159,536	\$ 10,317	\$ -	\$ -	\$ -
BROADCORT CAPITAL CORP	\$ 19,526,722	\$ 13,626	\$ -	\$ -	\$ -
BROWN BROTHERS HARRIMAN + CO	\$ -	\$ -	\$ 14,918,022	\$ -	\$ -
BTG CAPITAL CORP	\$ 1,627,560	\$ 8,954	\$ -	\$ -	\$ -
BTIG, LLC	\$ 18,791,010	\$ 30,358	\$ -	\$ -	\$ -
BUCKINGHAM RESEARCH GROUP INC	\$ 17,557,757	\$ 13,260	\$ -	\$ -	\$ -
CALYON SECURITIES (USA) INC.	\$ -	\$ -	\$ 2,501,176	\$ -	\$ -
CANACCORD GENUITY CORP.	\$ 323,944	\$ 364	\$ -	\$ -	\$ -
CANACCORD GENUITY INC.	\$ 6,324,786	\$ 8,576	\$ -	\$ -	\$ -
CANADIAN IMPERIAL BANK OF COMMERCE	\$ 4,952,561	\$ 2,001	\$ -	\$ -	\$ -
CANTOR CLEARING SERVICES	\$ 7,036,520	\$ 3,945	\$ -	\$ -	\$ -
CANTOR FITZGERALD & CO / CASTLEOAK SEC	\$ 1,286,272	\$ 423	\$ -	\$ -	\$ -
CANTOR FITZGERALD + CO.	\$ 57,979,664	\$ 39,769	\$ 155,017,611	\$ -	\$ 15,450,178
CANTOR FITZGERALD EUROPE	\$ 2,379,777	\$ 2,132	\$ -	\$ -	\$ -
CANTOR FITZGERALD/CANTOR CLEARING SERV	\$ 15,113,426	\$ 5,544	\$ 135,920,837	\$ -	\$ 130,817,234
CAP GUARDIAN BROKER	\$ 477,894	\$ 382	\$ -	\$ -	\$ -
CAPITAL INSTITUTIONAL SVCS INC EQUITIES	\$ 707,967,055	\$ 637,695	\$ -	\$ -	\$ -
CARNEGIE A S	\$ 1,388,288	\$ 1,389	\$ -	\$ -	\$ -
CARNEGIE SECURITIES FINLAND	\$ 5,743,921	\$ 8,603	\$ -	\$ -	\$ -
CENKOS SECURITIES LTD	\$ 725,503	\$ -	\$ -	\$ -	\$ -
CHASE MANHATTAN FRANKFURT	\$ -	\$ -	\$ 7,650,039	\$ -	\$ -
CHEEVERS & CO. INC.	\$ 11,308,231	\$ 10,506	\$ -	\$ -	\$ -
CHINA INTERNATIONAL CAPITAL CO	\$ 8,125,141	\$ 8,879	\$ -	\$ -	\$ -
CIBC WORLD MARKETS CORP	\$ -	\$ -	\$ 3,098,435	\$ -	\$ 12,000,000
CIBC WORLD MKTS INC	\$ 25,061,608	\$ 7,723	\$ -	\$ -	\$ -
CIMB SECURITIES (HK) LTD.	\$ 1,202,502	\$ 2,564	\$ -	\$ -	\$ -
CIMB SECURITIES LIMITED	\$ 860,048	\$ 1,717	\$ -	\$ -	\$ -
CIMB SECURITIES LTD., KOREA BRANCH	\$ 3,703,081	\$ 7,397	\$ -	\$ -	\$ -
CIMB-GK SECURITIES PTE.LTD.	\$ 134,207	\$ 242	\$ -	\$ -	\$ -
CITATION GROUP	\$ 33,169,271	\$ 6,039	\$ -	\$ -	\$ -
CITIBANK CANADA	\$ 1,440,836	\$ 1,035	\$ -	\$ -	\$ -
CITIBANK N.A.	\$ -	\$ -	\$ 751,378,964	\$ -	\$ -
CITIBANK/CP/IPA	\$ -	\$ -	\$ -	\$ -	\$ 38,502,393
CITIGROUP GLBL MARKTET KOERA SECS LTD	\$ 8,644,088	\$ 16,861	\$ -	\$ -	\$ -
CITIGROUP GLOBAL MARKETS ASIA LTD	\$ 2,056,231	\$ 5,146	\$ -	\$ -	\$ -
CITIGROUP GLOBAL MARKETS AUSTRALIA PTY	\$ 3,114,640	\$ 3,115	\$ -	\$ -	\$ -
CITIGROUP GLOBAL MARKETS INC SALOMON BRO	\$ -	\$ -	\$ 8,403,753,536	\$ -	\$ 32,919,802,584
CITIGROUP GLOBAL MARKETS INC	\$ 739,521,247	\$ 238,441	\$ 20,538,059	\$ 3,197	\$ 71,470,978
CITIGROUP GLOBAL MARKETS INDIA	\$ 1,054,884	\$ 2,103	\$ -	\$ -	\$ -
CITIGROUP GLOBAL MARKETS LIMITED	\$ 99,102,347	\$ 107,834	\$ 20,619,175	\$ -	\$ -

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock \$ Volume	Stock \$ Commission	Bond \$ Volume	Bond \$ Commission	Short Term \$ Volume
CITIGROUP GLOBAL MARKETS TAIWAN	\$ 600,851	\$ 697	\$ -	\$ -	\$ -
CLEARSTREAM BANKING S.A.,LUXEMBOURG	\$ 319,778	\$ 480	\$ -	\$ -	\$ -
CLSA AUSTRALIA PTY LTD	\$ 9,097,587	\$ 10,435	\$ -	\$ -	\$ -
CLSA SECURITIES KOREA LTD.	\$ 5,297,900	\$ 7,680	\$ -	\$ -	\$ -
CLSA SECURITIES MALAYSIA SDN BHD	\$ 817,085	\$ 573	\$ -	\$ -	\$ -
CLSA SINGAPORE PTE LTD.	\$ 28,675,569	\$ 26,676	\$ -	\$ -	\$ -
COMPAGNIE ITALIANO MOB SPA	\$ -	\$ -	\$ -	\$ -	\$ -
COMPUTERSHARE INVESTOR SERVICES PLC	\$ 33,679	\$ -	\$ -	\$ -	\$ -
CONVERGEX EXECUTION SOLUTIONS LLC	\$ 118,934,708	\$ 100,513	\$ -	\$ -	\$ -
CONVERGEX LLC	\$ 144,790,355	\$ 131,433	\$ -	\$ -	\$ -
CORMARK SECURITIES INC	\$ 177,167	\$ 676	\$ -	\$ -	\$ -
CORNERSTONE MACRO LLC	\$ 1,314,701	\$ 340	\$ -	\$ -	\$ -
COWEN AND COMPANY, LLC	\$ 294,796,716	\$ 91,682	\$ -	\$ -	\$ -
CRAIG - HALLUM	\$ 16,102,190	\$ 19,267	\$ -	\$ -	\$ -
CREDIT AGRICOLE SECURITIES (USA) INC	\$ 429,747	\$ 340	\$ 101,811,105	\$ -	\$ -
CREDIT LYONNAIS SECURITIES (ASIA)	\$ 6,205,190	\$ 12,425	\$ -	\$ -	\$ -
CREDIT LYONNAIS SECURITIES (USA) INC	\$ 1,688,218	\$ 3,370	\$ -	\$ -	\$ -
CREDIT LYONNAIS SECURITIES INDIA	\$ 8,236,986	\$ 18,084	\$ -	\$ -	\$ -
CREDIT LYONNAIS SECURITIES(ASIA)	\$ 19,009,033	\$ 55,284	\$ -	\$ -	\$ -
CREDIT RESEARCH + TRADING LLC	\$ 19,066,222	\$ 18,232	\$ -	\$ -	\$ -
CREDIT SUISSE FIRST BOSTON (EUROPE)	\$ 10,857,906	\$ 10,045	\$ -	\$ -	\$ -
CREDIT SUISSE FIRST BOSTON SA CTVM	\$ 206,828	\$ 248	\$ -	\$ -	\$ -
CREDIT SUISSE FIRST BOSTON	\$ 4,445,797	\$ 3,670	\$ -	\$ -	\$ -
CREDIT SUISSE SECS INDIA PRIVATE LTD	\$ 16,665,658	\$ 17,663	\$ -	\$ -	\$ -
CREDIT SUISSE SECURITIES (EUROPE) LTD	\$ 133,308,891	\$ 151,253	\$ -	\$ -	\$ -
CREDIT SUISSE SECURITIES (USA) LLC	\$ 1,788,437,180	\$ 685,221	\$ 15,573,428,435	\$ -	\$ 6,123,748,150
CRT CAPITAL GROUP LLC	\$ -	\$ -	\$ 114,537,436	\$ -	\$ -
CS FIRST BOSTON (HONG KONG) LIMITED	\$ 41,967,445	\$ 49,320	\$ -	\$ -	\$ -
CSFB AUSTRALIA EQUITIES LTD	\$ 4,917,936	\$ 5,450	\$ -	\$ -	\$ -
CSI US INSTITUTIONAL DESK	\$ 17,577,772	\$ 16,006	\$ -	\$ -	\$ -
D CARNEGIE AG	\$ 3,801,274	\$ 5,431	\$ -	\$ -	\$ -
DAEWOO SECURITIES CO LTD	\$ 1,820,545	\$ 3,646	\$ -	\$ -	\$ -
DAIWA SBCM EUROPE	\$ 11,499,858	\$ 10,131	\$ -	\$ -	\$ -
DAIWA SECURITIES (HK) LTD.	\$ 17,371,087	\$ 14,206	\$ -	\$ -	\$ -
DAIWA SECURITIES AMERICA INC	\$ -	\$ -	\$ 194,739,322	\$ -	\$ 75,798,509
DANSKE BANK A.S.	\$ 942,858	\$ 809	\$ -	\$ -	\$ -
DAVIDSON D.A. + COMPANY INC.	\$ 25,149,811	\$ 48,003	\$ 228,627	\$ -	\$ -
DAVY STOCKBROKERS	\$ 3,531,389	\$ 3,185	\$ -	\$ -	\$ -
DBTC AMERICA/PNC BANK, N.A.-SECS.CO	\$ -	\$ -	\$ 1,985,485	\$ -	\$ -
DEPOSITORY TRUST COMPANY	\$ -	\$ -	\$ -	\$ -	\$ -
DEUTSCHE BANK AG FRANKFURT	\$ 1,095,158	\$ 1,640	\$ -	\$ -	\$ -
DEUTSCHE BANK AG LONDON	\$ 59,193,007	\$ 61,418	\$ -	\$ -	\$ -
DEUTSCHE BANK AG	\$ -	\$ -	\$ 12,084,309	\$ -	\$ -
DEUTSCHE BANK SECURITIES INC	\$ 1,258,045,150	\$ 421,515	\$ 4,268,946,194	\$ -	\$ 238,373,886
DEUTSCHE BANK SECURITIES, INC.	\$ -	\$ -	\$ 49,549,959	\$ -	\$ -
DEUTSCHE BANK TRUST CO	\$ -	\$ -	\$ 8,183,101	\$ -	\$ -
DEUTSCHE EQ IN PRVT LIM DB	\$ 5,539,392	\$ 7,500	\$ -	\$ -	\$ -
DEUTSCHE MORGAN GRENFELL SECS	\$ 2,095,126	\$ 3,511	\$ -	\$ -	\$ 21,319,510,000
DEUTSCHE SECURITIES ASIA LIMITED	\$ 34,281,379	\$ 55,991	\$ -	\$ -	\$ -
DNB NOR MARKETS CUSTODY DNB NORBANK ASA	\$ 1,305,670	\$ 784	\$ -	\$ -	\$ -
DOUGHERTY & COMPANY LLC	\$ 14,565,862	\$ 8,672	\$ -	\$ -	\$ -
DOUGHERTY COMPANY	\$ 9,122,033	\$ 6,313	\$ -	\$ -	\$ -
DOWLING &PARTNERS	\$ 4,502,341	\$ 1,890	\$ -	\$ -	\$ -
DREXEL HAMILTON LLC	\$ 17,674,439	\$ 6,193	\$ -	\$ -	\$ -
DSP MERRILL LYNCH LTD	\$ 5,627,675	\$ 7,925	\$ -	\$ -	\$ -
DUNCAN WILLIAMS INC	\$ -	\$ -	\$ 5,763,316	\$ -	\$ -
EDELWEISS SECURITIES PVT. LTD	\$ 202,810	\$ 404	\$ -	\$ -	\$ -
EFG EUROBANK SECURITIES S.A.	\$ 659,507	\$ 527	\$ -	\$ -	\$ -

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock \$ Volume	Stock \$ Commission	Bond \$ Volume	Bond \$ Commission	Short Term \$ Volume
EUROMOBILIARE SIM S.P.A.	\$ 218,348	\$ 131	\$ -	\$ -	\$ -
EXANE S.A.	\$ 54,341,096	\$ 67,903	\$ -	\$ -	\$ -
FBR CAPITAL MARKETS & CO.	\$ 5,733,326	\$ 6,651	\$ -	\$ -	\$ -
FEDERAL RESERVE BANK OF BOSTON	\$ -	\$ -	\$ 8,307,536	\$ -	\$ 24,996,500
FEDERATED U.S. GOVT SECS 2-5 (17A7)	\$ -	\$ -	\$ -	\$ -	\$ -
FIDELITY CAPITAL MARKETS	\$ 287,038,204	\$ 84,704	\$ -	\$ -	\$ -
FIDELITY CLEARING CANADA	\$ 3,723,213	\$ 6,279	\$ -	\$ -	\$ -
FINANCIAL BROKERAGE GROUP (FBG)	\$ 24,658	\$ 98	\$ -	\$ -	\$ -
FIRST ENERGY CAPITAL	\$ 765,753	\$ 1,036	\$ -	\$ -	\$ -
FIRST TENNESSEE BANK N A BOND DIVISION	\$ -	\$ -	\$ 14,147,883	\$ -	\$ 12,000,000
FIRST TENNESSEE SECURITIES CORP	\$ -	\$ -	\$ 24,720,026	\$ -	\$ -
FLOW CORRETORA DE MERCADORIAS LTDA.	\$ 20,619	\$ 41	\$ -	\$ -	\$ -
FRANKFURTSECS LTD	\$ -	\$ -	\$ -	\$ -	\$ -
FTN FINANCIAL SECURITIES	\$ -	\$ -	\$ 101,048,535	\$ -	\$ -
FUBON SECURITIES CO. LTD	\$ 776,594	\$ 1,550	\$ -	\$ -	\$ -
G TRADE SERVICES LLC, PAR FRANCE	\$ 86,294	\$ 138	\$ -	\$ -	\$ -
GMP SECURITIES LTD.	\$ 3,245,687	\$ 3,525	\$ -	\$ -	\$ -
GOLDMAN SACHS (ASIA) LLC	\$ 20,841,025	\$ 22,807	\$ -	\$ -	\$ -
GOLDMAN SACHS (INDIA)	\$ 4,151,057	\$ 6,824	\$ -	\$ -	\$ -
GOLDMAN SACHS (JAPAN) LTD.	\$ 179,327	\$ 108	\$ -	\$ -	\$ -
GOLDMAN SACHS + CO INTL.	\$ 4,967,957	\$ 1,987	\$ -	\$ -	\$ -
GOLDMAN SACHS + CO	\$ 1,300,699,266	\$ 528,720	\$ 8,004,555,518	\$ 411,150	\$ 188,400,304
GOLDMAN SACHS AND COMPANY	\$ 103,250	\$ 258	\$ -	\$ -	\$ -
GOLDMAN SACHS DO BRASIL CORRETORA	\$ 127,921	\$ 255	\$ -	\$ -	\$ -
GOLDMAN SACHS INTERNATIONAL	\$ 121,874,742	\$ 121,564	\$ 105,611,755	\$ -	\$ 49,982,500
GOODBODY STOCKBROKERS	\$ 5,577,918	\$ 4,170	\$ -	\$ -	\$ -
GREEN STREET ADVISORS	\$ 244,810	\$ 166	\$ -	\$ -	\$ -
GUGGENHEIM CAPITAL MARKETS LLC	\$ 699,718	\$ 559	\$ 8,348	\$ -	\$ -
GUGGENHEIM GLOBAL TRADING	\$ -	\$ -	\$ -	\$ -	\$ 11,988,140
GUGGENHEIM LIQUIDITY SERVICES, LLC	\$ -	\$ -	\$ -	\$ -	\$ 799,891
GUZMAN AND COMPANY	\$ 258,624,866	\$ 100,374	\$ -	\$ -	\$ -
HIBERNIA SOUTHCOAST CAPITAL INC	\$ 6,970,219	\$ 27,720	\$ -	\$ -	\$ -
HILLTOP SECURITIES INC	\$ -	\$ -	\$ 3,381,258	\$ -	\$ 6,517,607
HKS CORP(HELMUT K SHAW)	\$ -	\$ -	\$ -	\$ -	\$ -
HONGKONG AND SHANGHAI BANKING CORP	\$ 9,959,724	\$ 17,647	\$ -	\$ -	\$ -
HSBC BANK PLC	\$ 29,978,640	\$ 42,873	\$ -	\$ -	\$ -
HSBC BANK USA	\$ -	\$ -	\$ -	\$ -	\$ 13,496,000,000
HSBC BROKERAGE (USA) INC.	\$ 3,754,906	\$ 19,970	\$ -	\$ -	\$ -
HSBC SECURITIES (USA) INC.	\$ 8,515,360	\$ 10,442	\$ -	\$ -	\$ -
HSBC SECURITIES INC.	\$ -	\$ -	\$ 21,292,382	\$ -	\$ -
HUTCHINSON, SHOCKEY, ERLEY + CO	\$ -	\$ -	\$ 455,225	\$ -	\$ -
ICBC FINCL SVCS, EQUITY CLEARANCE	\$ 34,125,902	\$ 11,304	\$ -	\$ -	\$ -
ICBCFS LLC	\$ -	\$ -	\$ 52,268,763	\$ -	\$ 16,408,695
ICHIYOSHI SECURITIES CO.,LTD.	\$ 176,173	\$ 106	\$ -	\$ -	\$ -
IMPERIAL CAPITAL LLC	\$ 480,718	\$ 365	\$ 6,958,250	\$ -	\$ -
INDIA INFOLINE LTD	\$ 20,945,565	\$ 41,135	\$ -	\$ -	\$ -
INDUSTRIAL AND COMMERCIAL BANK OF CHINA	\$ -	\$ -	\$ 10,055,745	\$ -	\$ -
ING BANK N V	\$ 14,639	\$ 44	\$ -	\$ -	\$ -
INSTINET AUSTRALIA CLEARING SRVC PTY LTD	\$ 8,490,788	\$ 4,000	\$ -	\$ -	\$ -
INSTINET LLC	\$ 72,526,784	\$ 17,128	\$ -	\$ -	\$ -
INSTINET PACIFIC LIMITED	\$ 17,236,083	\$ 25,770	\$ -	\$ -	\$ -
INSTINET SINGAPORE SERVICES PT	\$ 539,944	\$ 285	\$ -	\$ -	\$ -
INSTINET	\$ 517,103,971	\$ 168,694	\$ -	\$ -	\$ -
INSTINET U.K. LTD	\$ 248,961,817	\$ 100,146	\$ -	\$ -	\$ -
INVERSORABURSATILES, S.A.	\$ 271,734	\$ 326	\$ -	\$ -	\$ -
INVESTEC BANK PLC	\$ 3,592,376	\$ 2,958	\$ -	\$ -	\$ -
INVESTMENT TECHNOLOGY GROUP INC.	\$ 1,162,344,017	\$ 245,820	\$ -	\$ -	\$ -
IPS BROKERAGE INC	\$ 94,033,259	\$ 218,543	\$ -	\$ -	\$ -

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock	Stock	Bond	Bond	Short Term
	\$ Volume	\$ Commission	\$ Volume	\$ Commission	\$ Volume
ISI GROUP INC	\$ 61,258,219	\$ 31,058	\$ -	\$ -	\$ -
ITG AUSTRALIA LTD.	\$ 28,232,641	\$ 11,978	\$ -	\$ -	\$ -
ITG CANADA	\$ 38,315,596	\$ 14,110	\$ -	\$ -	\$ -
ITG INC	\$ 1,366,381,356	\$ 86,517	\$ -	\$ -	\$ -
ITG SECURITIES (HK) LTD	\$ 6,568,950	\$ 2,697	\$ -	\$ -	\$ -
J P MORGAN CHASE/J P MORGAN INTL	\$ -	\$ -	\$ 11,175,374	\$ -	\$ -
J P MORGAN INDIA PRIVATE LTD	\$ 149,167	\$ 104	\$ -	\$ -	\$ -
J.P. MORGAN CLEARING CORP.	\$ 837,824,637	\$ 214,373	\$ 29,251,767	\$ -	\$ -
J.P. MORGAN SECURITIES INC.	\$ 1,266,707,957	\$ 534,114	\$ -	\$ -	\$ -
J.P. MORGAN SECURITIES LIMITED	\$ -	\$ -	\$ 271,295	\$ -	\$ -
J.P. MORGAN SECURITIES LLC	\$ 33,287	\$ 33,287	\$ 11,056,673,789	\$ 5,222	\$ 402,575,854
JANNEY MONTGOMERY, SCOTT INC	\$ -	\$ -	\$ 4,616,483	\$ -	\$ -
JARED MULCAY & COMPANY INC	\$ (1,071,762)	\$ (129)	\$ -	\$ -	\$ -
JEFFERIES + COMPANY INC	\$ 696,645,333	\$ 315,226	\$ 1,234,182,770	\$ -	\$ 124,269,611
JEFFERIES HONG KONG LIMITED	\$ 295,105	\$ 444	\$ -	\$ -	\$ -
JEFFERIES INDIA PRIVATE LIMITED	\$ 3,986,501	\$ 7,962	\$ -	\$ -	\$ -
JEFFERIES INTERNATIONAL LTD	\$ 7,003,026	\$ 7,177	\$ -	\$ -	\$ -
JMP SECURITIES	\$ 43,118,768	\$ 63,320	\$ -	\$ -	\$ -
JOH BERENBERG GOSSLER AND CO	\$ 24,516,626	\$ 28,082	\$ -	\$ -	\$ -
JONES & ASSOCIATES INC	\$ 70,552	\$ 49	\$ -	\$ -	\$ -
JONESTRADING INSTITUTIONAL SERVICES LLC	\$ 6,477,632	\$ 6,088	\$ -	\$ -	\$ -
JP MORGAN CHASE BANK/HSBCSI	\$ -	\$ -	\$ 735,901,196	\$ -	\$ 55,818,225
JP MORGAN SECURITIES AUSTRALIA LTD	\$ 7,006,517	\$ 8,535	\$ -	\$ -	\$ -
JP MORGAN SECURITIES PLC	\$ 110,039,692	\$ 110,584	\$ -	\$ -	\$ -
JP MORGAN	\$ -	\$ -	\$ -	\$ -	\$ 7,485,163,000
JPMCB/HSBC BANK PLC IB MAIN FL ACCOUNT	\$ -	\$ -	\$ 4,279,220	\$ -	\$ -
JPMORGAN CHASE BANK INTL FCSTO	\$ -	\$ -	\$ 51,435,398	\$ -	\$ -
JPMORGAN CHASE BANK N.A. LONDON	\$ 456,217	\$ 318	\$ -	\$ -	\$ -
JPMORGAN CHASE BANK	\$ 22,216	\$ 56	\$ 75,325,440	\$ -	\$ -
JPMORGAN CHASE BANK/CLEARANCE DEPT	\$ -	\$ -	\$ 4,358,054	\$ -	\$ -
JPMORGAN CHASE BANK/CORRESPONDENT CLR SV	\$ -	\$ -	\$ 3,367,893	\$ -	\$ -
JPMORGAN CHASE BANK/RBS SECURITIES INC.	\$ -	\$ -	\$ 546,381,759	\$ -	\$ 118,961,168
JPMORGAN SECURITIES(ASIA PACIFIC)LTD	\$ 54,172,301	\$ 76,973	\$ -	\$ -	\$ -
JPMORGAN/MUNI DEALER	\$ -	\$ -	\$ -	\$ -	\$ 25,000,000
KCG AMERICAS LLC	\$ 694,679,906	\$ 185,216	\$ -	\$ -	\$ -
KEEFE BRUYETTE + WOODS INC	\$ 19,802,540	\$ 26,928	\$ -	\$ -	\$ -
KEMPEN + CO N.V.	\$ 483,899	\$ 338	\$ -	\$ -	\$ -
KEPLER EQUITIES PARIS	\$ 7,054,570	\$ 8,747	\$ -	\$ -	\$ -
KEYBANC CAPITAL MARKETS INC	\$ 59,607,851	\$ 64,839	\$ 21,652,268	\$ -	\$ -
KGI SECURITIES CO LTD TAIWAN	\$ 511,506	\$ -	\$ -	\$ -	\$ -
KIM ENG SECS PTE LTD, SINGAPORE	\$ 1,139,188	\$ 2,313	\$ -	\$ -	\$ -
KIM ENG SECURITIES (HK) LTD.	\$ 88,511	\$ 222	\$ -	\$ -	\$ -
KING, CL,& ASSOCIATES, INC	\$ 38,046,117	\$ 22,601	\$ 8,754,271	\$ -	\$ -
KNIGHT EQUITY MARKETS L.P.	\$ 1,027,641,226	\$ 344,987	\$ -	\$ -	\$ -
KNIGHT SECURITIES INTERNATIONAL	\$ 1,165,551	\$ 873	\$ -	\$ -	\$ -
KOREA INVESTMENT AND SECURITIES CO., LTD	\$ 1,149,118	\$ 2,306	\$ -	\$ -	\$ -
KOTAK SECURITIES LTD	\$ 3,395,499	\$ 6,775	\$ -	\$ -	\$ -
LEERINK PARTNERS LLC	\$ 2,164,221	\$ 1,421	\$ -	\$ -	\$ -
LEHMAN BROTHERS INC	\$ -	\$ -	\$ -	\$ -	\$ 19,992,250
LIBERUM CAPITAL LIMITED	\$ 1,388,537	\$ 1,006	\$ -	\$ -	\$ -
LIQUIDNET ASIA LIMITED	\$ 3,353,546	\$ 3,918	\$ -	\$ -	\$ -
LIQUIDNET AUSTRALIA PTY LTD	\$ 584,174	\$ 585	\$ -	\$ -	\$ -
LIQUIDNET CANADA INC	\$ 3,964,073	\$ 2,816	\$ -	\$ -	\$ -
LIQUIDNET EUROPE LIMITED	\$ 3,042,585	\$ 1,913	\$ -	\$ -	\$ -
LIQUIDNET INC	\$ 1,196,963,729	\$ 527,984	\$ -	\$ -	\$ -
Longbow Securities LLC	\$ 20,190,276	\$ 29,231	\$ -	\$ -	\$ -
LOOP CAPITAL MARKETS	\$ 54,356,539	\$ 38,278	\$ -	\$ -	\$ 350,259,175
LUMINEX TRADING AND ANALYTICS LLC	\$ 8,963,569	\$ 2,163	\$ -	\$ -	\$ -

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock	Stock	Bond	Bond	Short Term
	\$ Volume	\$ Commission	\$ Volume	\$ Commission	\$ Volume
MACQUARIE BANK LIMITED	\$ 103,119,997	\$ 113,869	\$ -	\$ -	\$ -
MACQUARIE CAPITAL (EUROPE) LTD	\$ 958,653	\$ 1,152	\$ -	\$ -	\$ -
MACQUARIE SEC NZ LTD	\$ 906,538	\$ 606	\$ -	\$ -	\$ -
MACQUARIE SECURITIES (INDIA) PVT LTD	\$ 126,066	\$ 229	\$ -	\$ -	\$ -
MACQUARIE SECURITIES (SINGAPORE)	\$ 580,765	\$ 530	\$ -	\$ -	\$ -
MACQUARIE SECURITIES (USA) INC	\$ 18,433,060	\$ 28,470	\$ -	\$ -	\$ -
MACQUARIE SECURITIES LIMITED	\$ 237,275	\$ 474	\$ -	\$ -	\$ -
MACQUARIE SECURITIES LTD SEOUL	\$ 15,533,336	\$ 22,706	\$ -	\$ -	\$ -
MAINFIRST BANK DE	\$ 947,169	\$ 568	\$ -	\$ -	\$ -
MARKETAXESS CORP	\$ -	\$ -	\$ 4,843,389	\$ -	\$ -
MELLON BANK CAPITAL MARKETS INVEST ACCT	\$ -	\$ -	\$ 34,710,723	\$ -	\$ -
MELLON BANK NA	\$ -	\$ -	\$ 7,856,126	\$ -	\$ -
MERRILL LYNCH AND CO INC	\$ 84,459,596	\$ 113,319	\$ -	\$ -	\$ -
MERRILL LYNCH CANADA INC	\$ 4,333	\$ 4	\$ -	\$ -	\$ -
MERRILL LYNCH FAR EAST LTD	\$ 4,464,612	\$ 8,902	\$ -	\$ -	\$ -
MERRILL LYNCH INTERNATIONAL	\$ 425,137,290	\$ 299,607	\$ 876,125	\$ -	\$ -
MERRILL LYNCH PIERCE FENNER + SMITH INC	\$ 1,286,285,212	\$ 575,035	\$ 56,441,687	\$ 10,948	\$ 27,317,608,000
MERRILL LYNCH PROFESSIONAL CLEARING CORP	\$ 30,248,550	\$ 40,528	\$ 1,011,390	\$ -	\$ -
MERRILL LYNCH, PIERCE FENNER SMITH	\$ -	\$ -	\$ 31,475,777	\$ -	\$ -
MESIROW FINANCIAL INC.	\$ -	\$ -	\$ 596,794	\$ -	\$ -
MILLENNIUM ADVISORS LLC	\$ -	\$ -	\$ 12,649	\$ -	\$ -
MILLER TABAK ROBERTS SECS LLC	\$ -	\$ -	\$ 201,985	\$ -	\$ -
MITSUBISHI UFJ SECURITIES (USA)	\$ 1,506,744	\$ 1,807	\$ -	\$ -	\$ -
MITSUBISHI UFJ SECURITIES (USA), INC	\$ -	\$ -	\$ 48,948,929	\$ -	\$ -
MITSUBISHI UFJ SECURITIES INT PLC	\$ 13,326,814	\$ 14,664	\$ 17,023,062	\$ -	\$ -
MITSUBISHI UFJ SECURITIES	\$ -	\$ -	\$ 388,913	\$ -	\$ -
MIZUHO INTERNATIONAL PLC	\$ 11,655,159	\$ 12,464	\$ 24,385,980	\$ -	\$ -
MIZUHO SECURITIES ASIA LIMITED	\$ 7,483,024	\$ 8,706	\$ -	\$ -	\$ -
MIZUHO SECURITIES CO. LTD	\$ -	\$ -	\$ -	\$ -	\$ 9,996,153
MIZUHO SECURITIES USA INC	\$ 18,567,247	\$ 22,547	\$ 102,185,404	\$ -	\$ -
MIZUHO SECURITIES USA/FIXED INCOME	\$ -	\$ -	\$ 116,578,773	\$ -	\$ 226,473,361
MKM PARTNERS LLC	\$ 8,325,875	\$ 21,376	\$ -	\$ -	\$ -
MND PARTNERS	\$ 838,706	\$ 1,156	\$ -	\$ -	\$ -
MONTROSE SECURITIES EQUITIES	\$ 1,439,069	\$ 1,170	\$ -	\$ -	\$ -
MONUMENT SECURITIES LIMITED	\$ 732,288	\$ 438	\$ -	\$ -	\$ -
MORGAN STANLEY AND CO INC	\$ -	\$ -	\$ 982,275	\$ -	\$ -
MORGAN STANLEY AND CO INTL TAIPEI METRO	\$ 1,512,186	\$ 1,721	\$ -	\$ -	\$ -
MORGAN STANLEY AND CO. INTERNATIONAL	\$ 70,954,584	\$ 80,757	\$ -	\$ -	\$ -
MORGAN STANLEY CO INCORPORATED	\$ 1,074,298,330	\$ 308,199	\$ 8,954,677,766	\$ -	\$ 23,248,514
MORGAN STANLEY COMM. PAPER	\$ -	\$ -	\$ -	\$ -	\$ 3,325,506,000
MORGAN STANLEY DW INC.	\$ -	\$ -	\$ 5,108,594	\$ -	\$ -
MORGAN STANLEY INDIA COMPANY PVT LTD	\$ 2,118,213	\$ 5,260	\$ -	\$ -	\$ -
MOTILAL OSWAL SECURITIES LIMITED	\$ 4,134,287	\$ 8,088	\$ -	\$ -	\$ -
MURARILALSARAF	\$ 925,569	\$ 1,857	\$ -	\$ -	\$ -
NATIONAL FINANCIAL SERVICES CORP.	\$ 185,434,861	\$ 18,009	\$ 113,982,812	\$ -	\$ -
NATIXIS SECURITIES	\$ 164,380	\$ 134	\$ -	\$ -	\$ -
NBC CLEARING SERVICES INCORPORATED	\$ 1,105,133	\$ 851	\$ -	\$ -	\$ -
NBCN CLEARING INC.	\$ -	\$ -	\$ 5,558,860	\$ -	\$ -
NEEDHAM +COMPANY	\$ 4,608,017	\$ 9,370	\$ -	\$ -	\$ -
NEEDHAM AND COMPANY LLC	\$ 12,270,459	\$ 14,321	\$ -	\$ -	\$ -
NESBITT BURNS	\$ 6,609,433	\$ 7,209	\$ 105,889,043	\$ -	\$ -
NH INVESTMENT AND SECURITIES CO.,LTD	\$ 578,232	\$ -	\$ -	\$ -	\$ -
NMASI EQUITIES, SV, SA	\$ 323,123	\$ 323	\$ -	\$ -	\$ -
NOMURA FINANCIAL ADVISORY + SEC INDIA	\$ 5,076,677	\$ 8,539	\$ -	\$ -	\$ -
NOMURA SECURITIES INTERNATIONAL INC	\$ 13,718,111	\$ 16,458	\$ 1,258,691,370	\$ -	\$ 81,972,244
NOMURA SECURITIES INTL., FIXED INCOME	\$ -	\$ -	\$ 34,293,211	\$ -	\$ -
NOMURA SECURITIES/FIXED INCOME	\$ -	\$ -	\$ 2,410,287,296	\$ -	\$ 21,383,908
NORDEA BANK DENMARK A.S	\$ 375,120	\$ 225	\$ -	\$ -	\$ -

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock	Stock	Bond	Bond	Short Term
	\$ Volume	\$ Commission	\$ Volume	\$ Commission	\$ Volume
NORDEA BANK FINLAND PLC	\$ 1,052,767	\$ 710	\$ -	\$ -	\$ -
NORTHERN TRUST COMPANY, THE	\$ 333,500	\$ -	\$ 1,000,107	\$ -	\$ -
NORTHLAND SECURITIES INC.	\$ 4,428,915	\$ 3,710	\$ -	\$ -	\$ -
NUMIS SECURITIES INC.	\$ 3,239,814	\$ 4,842	\$ -	\$ -	\$ -
ODDO ET CIE	\$ 2,583,818	\$ 1,559	\$ -	\$ -	\$ -
OPPENHEIMER + CO. INC.	\$ 29,478,401	\$ 48,413	\$ 2,296,498	\$ -	\$ -
ORD MINNETT LIMITED	\$ 315,323	\$ 284	\$ -	\$ -	\$ -
PANMURE GORDON AND CO LTD	\$ 322,882	\$ 385	\$ -	\$ -	\$ -
PAREL	\$ 6,388,985	\$ 9,317	\$ -	\$ -	\$ -
PAVILION GLOBAL MARKETS LTD	\$ 4,764,504	\$ 2,401	\$ -	\$ -	\$ -
PEEL HUNTLLP	\$ 7,327	\$ 4	\$ -	\$ -	\$ -
PENSERRA SECURITIES	\$ 22,151,413	\$ 10,156	\$ -	\$ -	\$ -
PERSHING LIMITED	\$ 206,168	\$ 309	\$ -	\$ -	\$ -
PERSHING LLC	\$ 108,066,675	\$ 137,628	\$ 806,734,459	\$ -	\$ 239,375,437
PERSHING SECURITIES LIMITED	\$ 16,265,035	\$ 12,201	\$ -	\$ -	\$ -
PETERS AND CO LIMITED	\$ 117,131	\$ 323	\$ -	\$ -	\$ -
PIPER JAFFRAY	\$ 70,883,033	\$ 55,395	\$ 37,162,705	\$ -	\$ 18,882,864
R W PRESSPRICH + CO INC	\$ -	\$ -	\$ 1,390,933	\$ -	\$ -
RAYMOND JAMES AND ASSOCIATES INC	\$ 127,363,004	\$ 118,410	\$ -	\$ -	\$ -
RAYMOND JAMES LTD	\$ 552,214	\$ 567	\$ -	\$ -	\$ -
RAYMOND JAMES/FI	\$ -	\$ -	\$ 6,852,250	\$ -	\$ -
RBC CAPITAL MARKETS	\$ 322,807,390	\$ 140,720	\$ 2,700,841,555	\$ -	\$ 96,694,186
RBC DOMINION SECURITIES INC.	\$ 19,850,727	\$ 17,451	\$ -	\$ -	\$ -
RBS SECURITIES INC.	\$ -	\$ -	\$ 16,955,254	\$ -	\$ -
REDBURN PARTNERS LLP	\$ 17,089,705	\$ 23,337	\$ -	\$ -	\$ -
REDBURN	\$ 161,021	\$ 600	\$ -	\$ -	\$ -
RELIGARE CAPITAL MARKETS LTD	\$ 947,619	\$ 1,896	\$ -	\$ -	\$ -
RENAISSANCE CAPITAL LTD	\$ 157,985	\$ 315	\$ -	\$ -	\$ -
ROBERT VAN SECURITIES	\$ -	\$ -	\$ 2,499,775	\$ -	\$ 4,994,036
ROBERT W. BAIRD CO. INCORPORATE	\$ 67,866,923	\$ 109,048	\$ 32,448,873	\$ -	\$ -
ROSENBLATT SECURITIES LLC	\$ 666,983,704	\$ 284,680	\$ -	\$ -	\$ -
ROTH CAPITAL PARTNERS LLC	\$ 3,510,453	\$ 2,133	\$ -	\$ -	\$ -
ROYAL BANK OF CANADA (AUSTRALIA)	\$ 93,577	\$ 169	\$ -	\$ -	\$ -
ROYAL BANK OF CANADA EUROPE LTD	\$ 2,220,331	\$ 3,019	\$ -	\$ -	\$ -
ROYAL BANK OF SCOTLAND PLC	\$ -	\$ -	\$ -	\$ -	\$ 36,379,514,000
S.S. KANTILAL ISHWARLAL SECURITIES	\$ 581,849	\$ 1,166	\$ -	\$ -	\$ -
SAMSUNG SECURITIES CO LTD	\$ 2,483,915	\$ 4,982	\$ -	\$ -	\$ -
SANDLER ONEILL + PART LP	\$ 16,591,721	\$ 21,417	\$ -	\$ -	\$ -
SANFORD C. BERNSTEIN AND CO. LLC	\$ 33,049,486	\$ 21,895	\$ -	\$ -	\$ -
SANFORD C. BERNSTEIN LTD	\$ 33,747,683	\$ 18,898	\$ -	\$ -	\$ -
SANFORD CBERNSTEIN CO LLC	\$ 491,326,166	\$ 169,312	\$ -	\$ -	\$ -
SANTANDER CENTRAL HISPANO BOLSA	\$ 45,965	\$ 55	\$ -	\$ -	\$ -
SANTANDER INVESTMENT SECURITIES	\$ -	\$ -	\$ 358,250	\$ -	\$ -
SCOTIA CAPITAL (USA) INC	\$ 4,735,556	\$ 9,998	\$ 221,865,020	\$ -	\$ -
SCOTIA CAPITAL MKTS	\$ 15,937,405	\$ 7,851	\$ -	\$ -	\$ -
SEA PINES SECURITIES, INC.	\$ 21,145	\$ -	\$ -	\$ -	\$ -
SEAPORT GROUP SECURITIES, LLC	\$ -	\$ -	\$ 149,410	\$ -	\$ -
SEGA SYSTEM	\$ -	\$ -	\$ -	\$ -	\$ -
SG AMERICAS SECURITIES LLC	\$ 522,111,945	\$ 145,556	\$ 339,105,711	\$ -	\$ -
SG SECURITIES HK	\$ 21,947,859	\$ 17,808	\$ -	\$ -	\$ -
SIDOTI + COMPANY LLC	\$ 22,893,722	\$ 45,913	\$ -	\$ -	\$ -
SIGI MILAN	\$ -	\$ -	\$ -	\$ -	\$ -
SJ LEVINSON & SONS LLC	\$ 74,648,590	\$ 26,993	\$ -	\$ -	\$ -
SKANDINAVISKA ENSKILDA BANKEN	\$ 505,928	\$ 303	\$ -	\$ -	\$ -
SMBC NIKKO CAPITAL MARKETS LIMITED	\$ 10,813,902	\$ 11,375	\$ 9,631,002	\$ -	\$ -
SMBC NIKKO SECURITIES (HONK KONG) LTD	\$ 11,039,164	\$ 6,586	\$ -	\$ -	\$ -
SOCIETE GENERALE LONDON BRANCH	\$ 26,343,546	\$ 20,150	\$ -	\$ -	\$ -
SOCIETE GENERALE NY	\$ -	\$ -	\$ -	\$ -	\$ 29,746,214,000

Commissions and Trading Volume
By Broker for Fiscal Year 2016

	Stock \$ Volume	Stock \$ Commission	Bond \$ Volume	Bond \$ Commission	Short Term \$ Volume
SOCIETE SEQUANAISE DE BQE	\$ -	\$ -	\$ -	\$ -	\$ -
SPARBANKERNAS BK	\$ -	\$ -	\$ -	\$ -	\$ -
STANDARD BANK LONDON LIMITED	\$ 4,830,429	\$ 6,878	\$ -	\$ -	\$ -
STATE STREET BANK AND TRUST CO BOSTON	\$ 414,557	\$ 249	\$ 1,674,887	\$ -	\$ -
STATE STREET GLOBAL MARKETS	\$ 560,517,250	\$ 246,055	\$ 1,001,457	\$ -	\$ -
STEPHENS, INC.	\$ 50,769,013	\$ 58,694	\$ 10,824,298	\$ -	\$ -
STERNE AGEE & LEACH INC.	\$ 15,198,624	\$ 17,527	\$ -	\$ -	\$ -
STIFEL NICOLAUS + CO INC	\$ 358,342,050	\$ 163,221	\$ 122,435,738	\$ -	\$ -
STUART FRANKEL + CO INC	\$ 52,379	\$ 58	\$ -	\$ -	\$ -
SUMRIDGE PARTNERS LLC	\$ -	\$ -	\$ 280,657	\$ -	\$ -
SUNGARD BROKERAGE & SECURITIES SVCS LLC	\$ 32,553,981	\$ 3,019	\$ -	\$ -	\$ -
SUNTRUST CAPITAL MARKETS, INC.	\$ 53,233,371	\$ 68,880	\$ -	\$ -	\$ -
SUNTRUST ROBINSON HUMPHREY, INC.	\$ -	\$ -	\$ 43,547,572	\$ -	\$ -
SVENSKA HANDELSBANKEN	\$ 3,173,989	\$ 4,445	\$ -	\$ -	\$ -
TD WATERHOUSE CDA	\$ 2,490,864	\$ 3,154	\$ -	\$ -	\$ -
TELSEY ADVISORY GROUP LLC	\$ 17,226,691	\$ 25,633	\$ -	\$ -	\$ -
THE BANK OF NEW YORK/PREBON FINANCIAL PR	\$ -	\$ -	\$ -	\$ -	\$ 22,000,000
THE BANK OF NOVA SCOTIA, NEW YORK AGENCY	\$ -	\$ -	\$ 35,191,991	\$ -	\$ -
THE BANK OF NY/DBAG LONDON GLOBAL	\$ -	\$ -	\$ 14,376,986	\$ -	\$ -
THE HONGKONG AND SHANGHAI BANK	\$ 3,841,585	\$ 7,695	\$ -	\$ -	\$ -
THORNTON MANAGEMENT (ASIA) LTD	\$ -	\$ -	\$ -	\$ -	\$ -
TK SECURITIES INC.	\$ 97,317	\$ 34	\$ -	\$ -	\$ -
TOKYO MITSUBISHI INTERNATIONAL	\$ 570,966	\$ 285	\$ -	\$ -	\$ -
TORONTO DOMINION BANK	\$ 43,126	\$ 65	\$ -	\$ -	\$ -
UBS AG LONDON	\$ -	\$ -	\$ 2,422,599	\$ -	\$ -
UBS AG	\$ 54,225,204	\$ 57,884	\$ -	\$ -	\$ -
UBS FINANCIAL SERVICES INC	\$ -	\$ -	\$ 53,208,875	\$ -	\$ -
UBS LIMITED	\$ 131,637,765	\$ 98,733	\$ -	\$ -	\$ -
UBS SECURITIES ASIA LTD	\$ 49,117,029	\$ 55,271	\$ -	\$ -	\$ -
UBS SECURITIES CANADA INC	\$ 3,043,544	\$ 1,024	\$ -	\$ -	\$ -
UBS SECURITIES INDIA PRIVATE LTD	\$ 7,784,260	\$ 7,775	\$ -	\$ -	\$ -
UBS SECURITIES LLC	\$ 1,785,587,132	\$ 1,217,248	\$ 414,447,533	\$ -	\$ 236,193,869
UBS SECURITIES PTE.LTD	\$ 3,458,566	\$ 4,021	\$ -	\$ -	\$ -
UBS SECURITIES PTE.LTD., SEOUL	\$ 13,675,690	\$ 11,762	\$ -	\$ -	\$ -
UBS SECURITIES SINGAPORE PTE	\$ 166,510	\$ 367	\$ -	\$ -	\$ -
UBS WARBURG AUSTRALIA EQUITIES	\$ 11,638,957	\$ 11,619	\$ -	\$ -	\$ -
UBS WARBURG LLC CMO 652	\$ -	\$ -	\$ 1,093,493	\$ -	\$ -
UBS WARBURG LLC	\$ -	\$ -	\$ 7,965	\$ 7,965	\$ -
US BANCORP INVESTMENTS INC	\$ -	\$ -	\$ 56,728,480	\$ -	\$ -
WEDBUSH MORGAN SECURITIES INC	\$ 25,775,602	\$ 15,300	\$ -	\$ -	\$ -
WEEDEN + CO.	\$ 510,389,013	\$ 174,123	\$ -	\$ -	\$ -
WELLS FARGO BROKERAGE SERVICES, LLC	\$ -	\$ -	\$ 1,749,945	\$ -	\$ -
WELLS FARGO SECURITIES LLC	\$ 367,496,778	\$ 64,419	\$ 3,704,217,625	\$ -	\$ 58,290,670
WESTERN INTERNATIONAL SECURITIES	\$ 17,263,744	\$ 51,455	\$ -	\$ -	\$ -
WILLIAM BLAIR & COMPANY L.L.C	\$ 58,825,432	\$ 69,656	\$ 154,449	\$ -	\$ -
WILLIAMS CAPITAL GROUP LP (THE)	\$ 36,754,779	\$ 12,316	\$ -	\$ -	\$ -
WOOD AND COMPANY	\$ 507,101	\$ 1,517	\$ -	\$ -	\$ -
WOORI INVESTMENT SECURITIES	\$ 1,223,282	\$ 2,590	\$ -	\$ -	\$ -
YUANTA SECURITIES COMPANY LIMITED	\$ 1,784,227	\$ 3,556	\$ -	\$ -	\$ -
ZANNEX SECURITIES	\$ 642,567	\$ 772	\$ -	\$ -	\$ -
GRAND TOTAL	\$ 29,801,676,781	\$ 14,595,529	\$ 101,627,403,242	\$ 438,481	\$ 246,529,936,693

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NOTES TO THE FINANCIAL SCHEDULES

JUNE 30, 2016

Financial Report Background:

The State Board of Investment (SBI) is the investment management vehicle for numerous retirement and non-retirement funds. The funds are separated by legal requirements and grouped into four major investment types: the Retirement Funds, the Non-Retirement Funds, the Assigned Risk Plan, and Other Funds Under Management. The SBI's goal is to maximize returns for each investment type given the appropriate level of risk. For each investment type, the funds 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.

Retirement Funds: The Retirement Funds consist of funds administered by Teachers Retirement Association (TRA), Public Employees Retirement Association (PERA), Minnesota State Retirement System (MSRS), and Local Volunteer Fire Relief Associations. A list of plan participants is provided in a schedule beginning on page 104. Comprehensive Financial Reports are prepared by the respective agencies. These reports can be obtained by contacting TRA at (800) 657-3669, PERA at (800) 652-9026, MSRS at (800) 657-5757.

The Supplemental Investment Fund (SIF) is an investment option within the retirement funds that is available to various groups of participants according to state statute. SBI provides a financial schedule on the SIF as required by statute.

Non-Retirement Funds: The Non-Retirement Funds represent investment vehicles for Trusts and OPEBs. A listing of the Trusts and OPEBs is provided in the participation schedule on page 122. The Comprehensive Financial Reports for the OPEBs are prepared by PERA and are available by calling (800) 652-9026. The Comprehensive Financial Reports for the Trusts are prepared by Minnesota Management and Budget and are available by calling (800) 627-3529.

Assigned Risk Plan: The Assigned Risk Plan is a dedicated governmental fund for which the SBI is the investment vehicle for the assets made available for investment. The Comprehensive Financial Reports can be obtained from Minnesota Management and Budget by calling (800) 627-3529.

Other Funds Under Management: The Other Funds Under Management are the assets the State has made available for investment with SBI. The financial statement presented for the Other Funds represent the investment information at the State Board of Investment. The SBI grouped the financial information for the Other Funds into four major categories: Invested Treasurer's Cash, Debt Service, Housing Finance, and Public Facilities. The detailed financial statements, supporting schedules, and further breakdown of Debt Service, Housing Finance, and Public Facilities can be found in the State's Comprehensive Annual Financial Report available from Minnesota Management and Budget at (800) 627-3529.

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

Financial Reporting: The SBI reporting requirements changed under the legislation passed during the 2012 legislative session. References in *Minnesota Statutes*, Section 11A.07, subdivision 4 and 11A.14, subdivision 14 to fund and participant annual statements prepared in accordance with generally accepted accounting principles were deleted. These requirements were deemed redundant to statements prepared for the State of Minnesota's Comprehensive Financial Statements and those of PERA, MSRS, and TRA retirement systems.

As required by state statute the SBI has prepared schedules for the SIF, a schedule of participation for all pooled investments, and a schedule of external manager fees.

Authorized Investments: *Minnesota Statutes*, Section 11A.24 authorizes investments to obligations and stocks of the U.S. and Canadian governments, their agencies and their registered corporations; short-term obligations of specified high quality; international securities; participation as a limited partner in venture capital, real estate or resource equity investments; and participation in registered mutual funds.

Security Valuation: All securities are valued at fair value except for U.S. Government short-term securities and commercial paper, which are valued at fair value less accrued interest. Accrued short-term interest is recognized as income as part of "Short-Term Gain". For long-term fixed income securities, SBI uses the Financial Times Interactive Data Services valuation system. This service provides prices for both actively traded and privately placed bonds. For equity securities, SBI uses a valuation service provided by Reuters. The basis for determining the fair value of investments that are not based on market quotations may include audited financial statements, analysis of future cash flows, and independent appraisals.

Recognition of Security Transactions: Security transactions are accounted for as of the date the securities are purchased or sold.

Income Recognition: Pool dividend income is recorded on the ex-dividend date. Pool interest and dividend income are accrued monthly. Short-term interest is accrued monthly and is presented as "Accrued Short-Term Gain."

Amortization of Fixed Income Securities: Premiums and discounts on fixed income purchases are amortized over the remaining life of the security using the "Effective Interest Method."

State Board of Investment
Retirement Fund - Supplemental Investment Accounts
Schedule of Net Position
As of June 30, 2016
Amounts in (000)'s

	<u>Stable Value</u> <u>Fund</u>	<u>Money Market</u> <u>Fund</u>	<u>Bond Fund</u>
Assets			
Security Lending Collateral			\$ 16,300
Short Term Investments			
Stable Value Fixed Interest	\$ 1,544,597		
Money Fund		\$ 365,808	
Fixed Income Investments			
Bond Pool			143,378
Equity Investments			
Domestic Stock Pool			
International Stock Pool			
Total Investments	<u>\$ 1,544,597</u>	<u>\$ 365,808</u>	<u>\$ 143,378</u>
Total Supplemental Position Assets	<u>\$ 1,544,597</u>	<u>\$ 365,808</u>	<u>\$ 159,678</u>
Liabilities			
Accrued Investment Expense	\$ 931		\$ 33
Security Lending Collateral			16,300
Total Liabilities	<u>\$ 931</u>		<u>\$ 16,333</u>
Net Supplemental Position Assets			
Held in Trust	<u>\$ 1,543,666</u>	<u>\$ 365,808</u>	<u>\$ 143,345</u>

<u>Balanced</u> <u>Fund</u>	<u>U.S. Stock</u> <u>Index Fund</u>	<u>U.S. Stock</u> <u>Actively</u> <u>Managed Fund</u>	<u>Broad</u> <u>International</u> <u>Stock Fund</u>	<u>Volunteer</u> <u>Fire</u> <u>Fighter</u> <u>Account</u>	<u>Total</u> <u>Supplemental</u> <u>Investment</u> <u>Fund</u>
\$ 68,621	\$ 114,729	\$ 47,162	\$ 7,544	\$ 7,738	\$262,094
18,174				2,432	1,544,597 386,414
131,076				24,900	299,354
225,383	481,351	208,782		19,094	934,610
			166,328	7,843	174,171
\$374,633	\$ 481,351	\$ 208,782	\$ 166,328	\$ 54,269	\$ 3,339,146
\$ 443,254	\$ 596,080	\$ 255,944	\$ 173,872	\$ 62,007	\$ 3,601,240
\$ 35	\$ 12	\$ 86	\$ 118	\$ 12	\$ 1,227
68,621	114,729	47,162	7,544	7,738	262,094
\$ 68,656	\$ 114,741	\$ 47,248	\$ 7,662	\$ 7,750	\$ 263,321
\$ 374,598	\$ 481,339	\$ 208,696	\$ 166,210	\$ 54,257	\$ 3,337,919

State Board of Investment
Retirement Fund - Supplemental Investment Accounts
Schedule of Changes in Net Position
For the Fiscal Year Ended June 30, 2016
Amounts in (000)'s

	<u>Stable Value</u>	<u>Money Market</u>	
	<u>Fund</u>	<u>Fund</u>	<u>Bond Fund</u>
Investment Income			
Interest, Dividends and Other	\$ 3,866	\$ 1,844	\$ 707
Security Lending Gross Earnings			134
Less Borrower Rebates			(37)
Less Fees Paid to Agents			(24)
Security Lending Net Earnings			\$ 73
Net Increase in Fair Value of Investments	30,345		7,705
Total Investment Income (Loss)	\$ 34,211	\$ 1,844	\$ 8,485
Expenses			
Administrative Expenses	(119)	\$ (28)	\$ (10)
Investment Expenses	\$ (3,725)		(121)
Total Expenses	\$ (3,844)	\$ (28)	\$ (131)
Net Income - Supplemental Investments	\$ 30,367	\$ 1,816	\$ 8,354
Participant Transactions			
Additions	\$ 80,914	\$ 97,652	\$ 17,298
Withdrawals	(59,955)	(60,970)	(8,549)
Net Participant Transactions	\$ 20,959	\$ 36,682	\$ 8,749
Total Change in Assets	\$ 51,326	\$ 38,498	\$ 17,103
Net Supplemental Investment Assets Held in Trust:			
Beginning of Fiscal Year	1,492,340	327,310	126,242
End of Fiscal Year	\$ 1,543,666	\$ 365,808	\$ 143,345

<u>Balanced Fund</u>	<u>U.S. Stock Index Fund</u>	<u>U.S. Stock Actively Managed Fund</u>	<u>Broad International Stock Fund</u>	<u>Volunteer Fire Fighter Account</u>	<u>Total Supplemental Investment Fund</u>
\$ (255)	\$ (659)	\$ (560)	\$ 490	\$ 4	\$ 5,437
446	691	314	143	57	\$ 1,785
(100)	(141)	(64)	(6)	(12)	\$ (360)
(85)	(135)	(64)	(43)	(12)	\$ (363)
\$ 261	\$ 415	\$ 186	\$ 94	\$ 33	\$ 1,062
12,368	10,608	(2,701)	(18,455)	1,336	\$ 41,206
\$ 12,374	\$ 10,364	\$ (3,075)	\$ (17,871)	\$ 1,373	\$ 47,705
\$ (28)	\$ (37)	\$ (16)	\$ (13)	\$ (122)	\$ (373)
(139)	(45)	(416)	(471)	(41)	\$ (4,958)
\$ (167)	\$ (82)	\$ (432)	\$ (484)	\$ (163)	\$ (5,331)
\$ 12,207	\$ 10,282	\$ (3,507)	\$ (18,355)	\$ 1,210	\$ 42,374
\$ 25,403	\$ 27,373	\$ 14,029	\$ 9,531	\$ 22,606	\$ 294,806
(31,671)	(29,038)	(20,726)	(16,320)	(1,716)	\$ (228,945)
\$ (6,268)	\$ (1,665)	\$ (6,697)	\$ (6,789)	\$ 20,890	\$ 65,861
\$ 5,939	\$ 8,617	\$ (10,204)	\$ (25,144)	\$ 22,100	\$ 108,235
368,659	472,722	218,900	191,354	32,157	3,229,684
\$ 374,598	\$ 481,339	\$ 208,696	\$ 166,210	\$ 54,257	\$ 3,337,919

State Board of Investment
Retirement Plans Participation
As of June 30, 2016

	<u>Stable Value</u>	<u>Money Market</u>	
	<u>Fund</u>	<u>Fund</u>	<u>Bond Fund</u>
Combined Retirement Funds			
Correctional Employees Fund		\$ 20,927,700	\$ 220,909,901
Highway Patrol Retirement Fund		13,609,183	155,056,528
Judges Retirement Fund		4,407,337	40,575,783
Public Employees Correctional Fund		10,953,352	125,330,866
Public Employees Police and Fire Fund		142,996,806	1,751,552,303
PERA General Employees Retirement Fund		365,165,572	4,437,241,037
State Employees Retirement Fund		240,752,947	2,760,132,365
Teachers Retirement Fund		410,604,790	4,788,124,747
		<hr/>	<hr/>
		\$ 1,209,417,687	\$ 14,278,923,530
Fire Relief Funds & Other Plans			
Alaska		\$ 1,544	\$ 11,133
Albertville			45,611
Almelund		50,564	54,158
Amboy			11,073
Argyle		3,497	25,229
Arrowhead		1,310	29,234
Audubon		16,227	229,739
Austin		21,656	156,190
Avon			
Backus			
Bagley		6,308	78,982
Balsam		16,597	66,108
Beardsley		176	50,637
Beaver Creek			22,122
Benson		2,744	55,453
Bertha		5,136	37,045
Bigfork		947	6,828
Bird Island		3,993	28,797
Blackduck			
Blooming Prairie		2,851	69,480
Bloomington		10,178,002	39,819,133
Boyd		1,083	7,808
Bricelyn		18,861	136,030
Brimson		6,254	48,001
Brooklyn Park		202,279	1,458,899
Brooten			
Brownsville		12,422	38,807

Unaudited

<u>Alternative</u> <u>Investment Pool</u>	<u>U.S. Stock</u>	<u>Broad</u> <u>International</u> <u>Stock Fund</u>	<u>Total</u>
\$ 114,541,665	\$ 414,887,867	\$ 125,243,852	\$ 896,510,985
80,396,727	291,209,554	87,908,593	\$628,180,585
21,038,522	76,204,828	23,004,257	\$165,230,727
64,983,986	235,382,173	71,055,744	\$507,706,121
908,178,924	3,289,566,442	993,034,513	\$7,085,328,988
2,300,707,080	8,333,521,678	2,515,673,304	\$17,952,308,671
1,431,127,147	5,183,766,898	1,564,844,421	\$11,180,623,778
2,482,640,103	8,992,511,798	2,714,605,374	\$19,388,486,812
<u>\$ 7,403,614,154</u>	<u>\$ 26,817,051,238</u>	<u>\$ 8,095,370,058</u>	<u>\$ 57,804,376,667</u>

\$ 70,830	\$ 83,507
40,835	\$ 111,193
250,667	355,389
72,154	83,227
102,981	131,707
76,148	106,692
218,042	464,008
683,479	861,325
69,352	69,352
20,178	20,178
128,201	213,491
208,034	290,739
116,767	32,513
32,640	54,762
136,171	194,368
153,671	195,852
208,528	16,452
124,768	157,558
13,042	28,106
94,512	166,843
79,584,360	18,306,851
32,644	41,535
233,901	388,792
75,820	9,843
7,808,697	252,132
272,539	272,539
112,445	19,120

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
Buffalo Fire	\$	16,699	\$ 11,794
Buffalo Lake		8,409	60,652
Carlton		1,851	53,044
Ceylon		4,214	30,390
Chatfield		70,655	60,168
Cherry		4,627	33,372
Chisago City		25,092	181,122
Chokio		9,618	69,370
Clarissa			38,965
Clarkfield		7,917	101,386
Clear Lake		457,250	50,937
Cloquet (Perch Lake)		1,690	149,536
Columbia Heights			358,873
Coon Rapids		71,247	1,595,973
Cottage Grove		100,357	416,955
Cotton		1,135	36,260
Courtland		15,781	5,468
Cyrus			31,399
Dakota		3,327	72,644
Dawson		12,674	91,408
Dayton Fire		62,430	64,122
Deer Creek		4,182	30,159
Dover		29,933	82,513
East Grand Forks		52,225	376,662
Edgerton		13,360	96,355
Edina		37,119	1,659,913
Elbow Lake		7,578	54,653
Excelsior			1,468,748
Eyota		105,007	126,978
Fairmont		5,025	36,242
Fergus Falls		27,847	1,121,412
Forest Lake		14,974	107,998
Franklin			
Frost		1,502	10,834
Ghent			8,067
Glencoe			
Glenville		9,894	78,253
Glenwood		9,704	189,432
Golden Valley		47,260	759,215

Unaudited

<u>Alternative</u> <u>Investment Pool</u>		<u>Broad</u> <u>International</u> <u>Stock Fund</u>		<u>Total</u>
	\$		\$	
	139,648			168,141
	339,338			408,399
	148,925	\$ 21,329		225,149
	220,514			255,118
	210,405	17,601		358,829
	207,883			245,882
	570,763	135,468		912,445
	119,280	29,208		227,476
	58,464			97,429
	130,042			239,345
	187,971			696,158
	160,247	28,714		340,187
	1,142,802			1,501,675
	883,568			2,550,788
	1,329,334	213,557		2,060,203
	157,026	27,827		222,248
	9,402			30,651
	55,625	12,623		99,647
	100,096			176,067
	205,940			310,022
	295,353			421,905
	211,379			245,720
	160,584	37,692		310,722
	647,667			1,076,554
	333,308			443,023
	4,821,081			6,518,113
	199,398	21,723		283,352
	2,320,019	1,228,760		5,017,527
	120,305			352,290
	62,318			103,585
	1,049,896	83,590		2,282,745
	215,484			338,456
	214,831			214,831
	81,251			93,587
	30,431	5,513		44,011
	243,544			243,544
	147,768	54,311		290,226
	399,002			598,138
	1,768,979	365,269		2,940,723

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
Gonvick	\$	3,151	\$ 22,724
Good Thunder		7,213	52,023
Grand Meadow		5,641	63,034
Greenwood		10,638	142,598
Grey Eagle		9,913	71,494
Hackensack		10,121	132,925
Hanover Regular		22,363	377,461
Hanover Special		799	13,583
Hanska		10,804	20,625
Harmony		2,368	17,079
Hawley		178	
Hayward		8,867	63,953
Hector		32,450	234,043
Henning		2,904	90,210
Herman			35,513
Hills		326	2,351
Holdingford		822	5,930
Holland		1,869	59,230
Jacobson		9,139	16,622
Kabetogama			
Kandiyohi		5,321	104,431
Kelsey			19,230
Kerkhoven		3,260	86,495
Kiester			22,477
Kilkenny		5,585	40,277
Kimball		3,138	22,630
La Crescent		8,466	79,316
La Salle		888	6,407
Lafayette		8,936	69,490
Lake City		47,129	350,818
Lakeville			
Leroy		4,725	56,998
Lewiston		6,645	47,929
Littlefork		8,907	64,244
Lowry			
Lyle		3,183	22,959
Madison		4,183	30,158
Madison Lake		1,195	8,617
Maple Hill		8,808	98,532

Unaudited

<u>Alternative</u> <u>Investment Pool</u>		<u>Broad</u> <u>International</u> <u>Stock Fund</u>		<u>Total</u>
	\$		\$	
	102,620			128,495
	223,773			283,009
	252,657			321,332
	381,717			534,953
	122,933	\$ 34,777		239,117
	125,513	87,940		356,499
	277,337			677,161
	9,913			24,295
				31,429
	100,523	34,739		154,709
	109,178			109,356
	361,014	23,984		457,818
	402,433			668,926
	171,722			264,836
	94,904	21,537		151,954
	17,668	3,728		24,073
	43,590			50,342
	94,509	73,137		228,745
	87,049	31,301		144,111
	155,102			155,102
	271,391			381,143
	25,483	16,134		60,847
	167,030			256,785
	52,519			74,996
	312,789			358,651
	136,809			162,577
	548,781			636,563
	52,906			60,201
	239,504	18,791		336,721
	601,753			999,700
	4,348,628	381,638		4,730,266
	58,592			120,315
	221,010			275,584
	374,625			447,776
	102,453			102,453
	115,074	7,836		149,052
	196,886			231,227
	34,120	13,356		57,288
	109,234			216,574

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
Mapleton		\$ 1,840	\$ 13,270
Mapleview		3,866	76,226
Maplewood			752,264
Marietta		3,176	22,907
Marine St. Croix		120,533	123,803
Maynard		5,953	42,931
McDavitt		3,321	33,376
McGrath		1,040	19,456
McIntosh		1,856	13,390
Medford		1,789	105,179
Medicine Lake			248,271
Menahga		6,647	180,078
Mendota Heights		14,075	629,256
Milan		3,259	49,392
Minneota		2,715	46,832
MSRS Empower	\$ 1,540,591,233	364,463,373	187,172,942
Minnetonka		355,449	3,191,363
Morris		1	
Morristown		18,534	133,674
Morse-Fall Lake		8,733	37,942
Murdock		1,773	12,788
Myrtle		58,064	56,955
Nassau		1,251	28,964
New Brighton			1,272,690
New Germany		9,579	69,084
New Ulm			
New York Mills		6,385	46,047
Nicollet		14,440	75,520
Nodine		67,078	31,360
North Branch		2,559	18,454
Northfield		1,114,841	658,159
Northrop		4,065	29,317
Oronoco		2,767	19,960
Owatonna		149,006	392,636
Pequot Lakes		17,445	348,270
Pine Island		16,788	156,838
Pipestone		8,933	64,428
Pera DCP	4,005,390	3,764,836	13,243,215
Randolph		15,476	111,614

Unaudited

<u>Alternative</u>		<u>Broad</u>	
<u>Investment Pool</u>	<u>U.S. Stock</u>	<u>International</u>	<u>Total</u>
	\$		\$
	68,852		83,962
	139,077	\$ 27,578	246,747
	2,909,167	285,915	3,947,346
	124,882		150,965
	212,877		457,213
	73,820		122,704
	108,598	12,593	157,888
	24,784		45,280
	141,236		156,482
	293,044	32,141	432,153
	607,284	268,797	1,124,352
	82,434		269,159
	1,313,919	243,388	2,200,638
	149,843		202,494
	83,705	11,713	144,965
	525,022,778	62,394,346	2,679,644,672
	4,408,099	733,721	8,688,632
		24,715	24,716
	732,607		884,815
	169,744		216,419
	93,039	17,894	125,494
	97,933		212,952
	183,023	32,053	245,291
	2,508,397		3,781,087
	118,790		197,453
	389,557		389,557
	79,178		131,610
	349,261	106,895	546,116
	146,186	\$16,235	260,859
	148,609	23,863	193,485
	3,637,626		5,410,626
	140,531		173,913
	131,722	31,230	185,679
	719,470	252,472	1,513,584
	411,360		777,075
	369,919		543,545
	307,086		380,447
	34,728,119	2,526,388	58,267,948
	484,466	48,443	659,999

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u> <u>Fund</u>	<u>Money Market</u> <u>Fund</u>	<u>Bond Fund</u>
Red Lake Falls Regular		\$ 5,303	\$ 38,247
Red Lake Falls Special			
Redwood Falls			52,883
Renville		4,256	87,996
Robbinsdale		108,345	287,693
Rose Creek		775	5,592
Roseau			
Rosemount		665,780	299,264
Roseville			2,806,283
Ruthton		24,416	13,852
Sacred Heart			
Saint Clair		10,932	91,027
Saint Paul Teachers' Retirement Fund			
Saint Peter		2,036	15,502
Sandstone		507	3,658
Savage		95,974	692,198
Schroeder			171,944
Sherburn		21,281	153,489
Silver Bay		12,107	87,317
Solway (Main)		943	6,800
Solway(Cloquet)		5,713	179,548
Spring Grove		3,099	17,846
Starbuck		3,826	27,597
Stephen		2,262	16,313
Stewart		6,015	43,384
Sturgeon Lake			8,992
Tofte		4,483	32,330
Truman		3,082	63,883
Two Harbors		10,045	258,795
Tyler		10,483	75,608
Underwood			
Vadnais Heights		68,619	98,009
Vermilion Lake		10,721	77,325
Verndale			
Viking Fire			8,852
Warroad Area		21,700	213,696
Watkins Fire		16,949	72,014
Williams		8,905	64,227
Willow River			8,200

Unaudited

<u>Alternative</u> <u>Investment Pool</u>	<u>U.S. Stock</u>	<u>Broad</u> <u>International</u> <u>Stock Fund</u>	<u>Total</u>
\$	65,765	\$	109,315
		7,073	7,073
			52,883
	175,430		267,682
	1,250,732	117,202	1,763,972
	41,157	3,975	51,499
	1,847		1,847
	1,430,662		2,395,706
	6,558,303	535,568	9,900,154
	103,614		141,882
			0
	617,860		719,819
	191,503,219	75,039,743	266,542,962
	363,230	101,098	481,866
	6,291		10,456
	1,190,226		1,978,398
	22,476		194,420
	263,922		438,692
	426,580	22,297	548,301
	50,357		58,100
	70,845		256,106
	57,344	6,536	84,825
	199,796	8,556	239,775
	149,876		168,451
	140,464		189,863
	58,826		67,818
	164,168		200,981
	191,523		258,488
	335,920	125,394	730,154
	130,007		216,098
	20,402	4,645	25,047
	247,929		414,557
	132,959		221,005
	32,714		32,714
	22,635		31,487
	269,117		504,513
	270,215	60,019	419,197
	190,435		263,567
	106,418		114,618

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
Winnebago	\$	1,281	\$ 9,241
Woodbury		494,046	3,684,060
Woodstock		2,873	36,018
Wrenshall			61,818
Wykoff		5,141	37,080
Wyoming		11,324	195,081
Zumbro Falls		14,205	61,037
	<u>\$ 1,544,596,623</u>	<u>\$ 383,981,842</u>	<u>\$ 274,453,725</u>
PERA Voluntary Share			
Aitkin Fire	\$	38,368	\$ 392,856
Albert Lea		12,575	128,761
Alborn		9,836	100,707
Alden		10,452	107,014
Ashby		17,546	179,649
Aurora		8,652	88,585
Barnum		13,485	138,068
Belview		9,308	95,300
Biwabik		10,194	104,379
Blomkest		6,150	62,972
Brandon		12,728	130,319
Breitung		12,324	126,182
Brevator		8,798	90,085
Brook Park		10,148	103,902
Buyck		3,807	38,978
Cambridge Fire		28,079	287,498
Canby		21,047	215,506
Carsonville		9,303	95,249
Center City		16,422	168,147
Central Lakes		1,052	10,776
Clarks Grove		5,759	58,964
Clifton		17,175	175,853
Colvill		5,226	53,511
Crane Lake		6,241	63,906
Culver		3,000	30,713
Dalbo Fire Department		16,773	171,740
De Graff		1,801	18,442
Delavan		10,499	107,503
Dent		14,719	150,710
Eagle's Nest		689	7,053

Unaudited

<u>Alternative</u>		<u>Broad</u>		
<u>Investment Pool</u>	<u>U.S. Stock</u>	<u>International</u>	<u>Stock Fund</u>	<u>Total</u>
	\$ 35,116		\$ 45,638	
	4,561,851	\$ 1,451,778	10,191,735	
	137,682		176,573	
	50,779	12,129	124,726	
	63,759		105,980	
	140,439		346,844	
	206,953	19,839	302,034	
	\$ 915,515,884	\$ 166,328,079	\$ 3,284,876,153	
	\$ 301,244	\$ 123,743	\$ 856,211	
	98,734	40,558	280,628	
	77,222	31,721	219,486	
	82,059	33,708	233,233	
	137,756	56,587	391,538	
	67,927	27,903	193,067	
	105,871	43,489	300,913	
	73,077	30,018	207,703	
	80,039	32,878	227,490	
	48,287	19,835	137,244	
	99,929	41,048	284,024	
	96,757	39,745	275,008	
	69,078	28,375	196,336	
	79,672	32,727	226,449	
	29,888	12,277	84,950	
	220,455	90,557	626,589	
	165,251	67,881	469,685	
	73,037	30,002	207,591	
	128,936	52,963	366,468	
	8,263	3,394	23,485	
	45,214	18,573	128,510	
	134,845	55,391	383,264	
	41,033	16,855	116,625	
	49,004	20,129	139,280	
	23,551	9,674	66,938	
	131,691	54,095	374,299	
	14,141	5,809	40,193	
	82,434	33,862	234,298	
	115,565	47,471	328,465	
	5,408	2,222	15,372	

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
Echo Fire	\$	11,626	\$ 119,044
Elbow Tulaby		5,384	55,126
Ellsburg		4,529	46,375
Elmore		10,219	104,631
Ely		18,042	184,734
Embarrass		9,628	98,581
Emmons		16,311	167,009
Evergreen		891	9,121
Fairfax		14,301	146,430
Federal Dam		6,023	61,672
Forada		20,250	207,341
Fredenberg		9,693	99,246
Gilbert		10,305	105,513
Gnesen		11,994	122,805
Goodview Fire		21,643	221,604
Grand Lake		19,448	199,125
Grand Marais		16,500	168,947
Granite Falls		22,914	234,619
Hardwick		6,609	67,674
Hewitt		5,709	58,459
Hill City		8,232	84,285
Hollandale		6,070	62,149
Houston		18,587	190,315
Hovland Fire Department		7,218	73,901
Hoyt Lakes		13,433	137,537
Industrial Township		14,029	143,645
Isanti		99,860	1,022,471
Kelliher		9,964	102,017
Kettle River		7,297	74,716
Lake Bronson		7,228	74,009
Lakeland		14,040	143,752
Lester Prairie		16,154	165,404
LeSueur		45,878	469,744
Lexington		24,979	255,764
Linwood		31,949	327,128
Lutsen		11,317	115,874
Mahtowa		9,208	94,282
Manchester		7,049	72,170
Mayer		32,058	328,244

Unaudited

<u>Alternative</u>		<u>Broad</u>		
<u>Investment Pool</u>	<u>U.S. Stock</u>	<u>International</u>	<u>Stock Fund</u>	<u>Total</u>
	\$		\$	\$
	91,283		37,497	259,450
	42,271		17,364	120,145
	35,561		14,607	101,072
	80,231		32,957	228,038
	141,655		58,188	402,619
	75,592		31,051	214,852
	128,063		52,605	363,988
	6,994		2,873	19,879
	112,284		46,123	319,138
	47,290		19,426	134,411
	158,990		65,309	451,890
	76,102		31,261	216,302
	80,908		33,235	229,961
	94,168		38,682	267,649
	169,927		69,802	482,976
	152,690		62,721	433,984
	129,550		53,216	368,213
	179,907		73,901	511,341
	51,893		21,316	147,492
	44,827		18,414	127,409
	64,630		26,548	183,695
	47,656		19,576	135,451
	145,934		59,946	414,782
	56,668		23,278	161,065
	105,464		43,322	299,756
	110,148		45,246	313,068
	784,036		322,061	2,228,428
	78,227		32,134	222,342
	57,292		23,534	162,839
	56,751		23,312	161,300
	110,230		45,280	313,302
	126,833		52,100	360,491
	360,202		147,962	1,023,786
	196,121		80,561	557,425
	250,843		103,040	712,960
	88,853		36,498	252,542
	72,296		29,697	205,483
	55,341		22,732	157,292
	251,699		103,391	715,392

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
McKinley	\$	4,594	\$ 47,036
Melrose		21,211	217,179
Montrose		35,191	360,322
Mountain Iron		14,747	150,996
Normanna		2,990	30,613
North Star		3,057	31,303
Northhome		6,779	69,411
Northland Fire		4,766	48,798
Norwood-Young America		31,131	318,754
Oak Grove		59,431	608,515
Oakdale		116,800	1,195,916
Ogilvie		14,764	151,165
Osakis		31,204	319,503
Ottertail		20,384	208,711
Palisade		8,526	87,303
Palo		13,336	136,552
Parkers Prairie		15,527	158,985
Pennock		16,890	172,935
Pequaywan L.		3,972	40,671
Plato Fire		16,352	167,432
Porter		24,294	248,743
Raymond		12,657	129,595
Rice Lake		25,068	256,676
Sabin Elmwood Fire		14,111	144,482
Sacred Heart		6,015	61,590
Saint Leo Fire		8,721	89,294
Scandia		29,954	306,697
Scandia Valley		13,980	143,143
Shevlin		13,321	136,395
Silver Lake		14,381	147,243
Spring Lake Park		611,214	6,258,237
Sunburg		8,726	89,345
Tower		8,144	83,389
Twin Valley		12,108	123,975
Ulen		9,863	100,990
Victoria		43,504	445,437
Waconia		53,530	548,099
Waite Park		30,818	315,548
Warba - Feeley - Sago		7,901	80,897

Unaudited

<u>Alternative</u>		<u>Broad</u>		
<u>Investment Pool</u>	<u>U.S. Stock</u>	<u>International</u>	<u>Stock Fund</u>	<u>Total</u>
	\$		\$	\$
	36,068		14,816	102,514
	166,534		68,408	473,332
	276,297		113,496	785,306
	115,785		47,561	329,089
	23,474		9,642	66,719
	24,003		9,860	68,223
	53,225		21,863	151,278
	37,418		15,370	106,352
	244,422		100,402	694,709
	466,612		191,672	1,326,230
	917,035		376,694	2,606,445
	115,914		47,615	329,458
	244,996		100,638	696,341
	160,041		65,741	454,877
	66,944		27,499	190,272
	104,709		43,012	297,609
	121,911		50,078	346,501
	132,607		54,472	376,904
	31,186		12,811	88,640
	128,388		52,738	364,910
	190,737		78,350	542,124
	99,374		40,820	282,446
	196,820		80,849	559,413
	110,790		45,509	314,892
	47,228		19,400	134,233
	68,471		28,126	194,612
	235,177		96,604	668,432
	109,763		45,088	311,974
	104,588		42,962	297,266
	112,907		46,379	320,910
	4,798,847		1,971,241	13,639,539
	68,510		28,142	194,723
	63,943		26,266	181,742
	95,065		39,050	270,198
	77,440		31,810	220,103
	341,563		140,305	970,809
	420,285		172,642	1,194,556
	241,964		99,392	687,722
	62,032		25,481	176,311

Unaudited

**State Board of Investment
Retirement Plans Participation
As of June 30, 2016**

	<u>Stable Value</u>	<u>Money Market</u>	<u>Bond Fund</u>
	<u>Fund</u>	<u>Fund</u>	
Willmar	\$	57,569	\$ 589,455
Wolf Lake		8,849	90,604
Wright		6,808	69,710
	\$	2,431,913	\$ 24,900,435
Total Pool Participation	\$ 1,544,596,623	\$ 1,595,831,442	\$ 14,578,277,690

Unaudited

<u>Alternative</u>		<u>Broad</u>		
<u>Investment Pool</u>	<u>U.S. Stock</u>	<u>International</u>	<u>Stock Fund</u>	<u>Total</u>
	\$ 451,997	\$ 185,668	\$ 1,284,689	
	69,476	28,539	197,468	
	53,454	21,958	151,930	
	\$ 19,093,778	\$ 7,843,225	\$ 54,269,351	
\$ 7,403,614,154	\$ 27,751,660,900	\$ 8,269,541,362	\$ 61,143,522,171	

State Board of Investment
Non-Retirement Funds Participation Schedule
As of June 30, 2016
Amounts In (000)'s

	<u>Non-Retirement</u> <u>Cash Pool</u>	<u>Internal Bond</u> <u>Pool</u>	<u>Internal Equity</u> <u>Pool</u>	<u>Total Non-Retirement</u> <u>Pools</u>
Permanent School	\$ 23,208	\$ 574,135	\$ 622,098	\$ 1,219,441
Environmental Trust	\$ 17,821	\$ 261,127	\$ 645,204	\$ 924,152
Other Trusts:				
Closed Landfill		\$ 22,002	\$ 50,078	\$ 72,080
Duluth Community Investment Trust	\$ 465	5,821	13,449	19,735
Emergency Med SVC	76	555	1,030	1,661
Ethel Currey		569	855	1,424
Iron Range Resources		53,130	66,566	119,696
Life Time Fish & Wild Life	404	5,771	14,209	20,384
Saint Louis County Environmental		5,847	7,000	12,847
Winona State		2,337	2,982	5,319
	\$ 945	\$ 96,032	\$ 156,169	\$ 253,146
PERA OPEB:				
Anoka County (Irrevocable)			51,669	51,669
Anoka County (Revocable)			\$ 454	\$ 454
Carver County		\$ 736	3,617	4,353
City of Eagan			13,038	13,038
City of Virginia			1,005	1,005
Crosby-Ironton ISD#182	\$ 83	2	3,358	3,443
Duluth		14,118	32,116	46,234
Fillmore Central Schools #2198	345			345
Hastings ISD#200	1,193			1,193
Kingsland ISD#2137			221	221
Mendota Hgts Eg WSP#197	121	8,191		8,312
Metro Mosquito Control District		349	2,291	2,640
Metropolitan Council	1	25,000	190,367	215,368
Mounds View ISD#621	7,218	6,651	8,442	22,311
Mt. Iron-Buhl District #712		2,380		2,380
Ogilvie ISD#333	366			366
Ramsey County	6,764	15,305	38,478	60,547
Roseville District#623		11,537		11,537
Scott County			12,772	12,772
Staples Motley #2170	27	610	210	847
Washington County		10,453	33,336	43,789
Yellow Medicine ISD#2190	872			872
	\$ 16,990	\$ 95,332	\$ 391,374	\$ 503,696
Total Pool Participation	\$ 58,964	\$ 1,026,626	\$ 1,814,845	\$ 2,900,435

Unaudited

External Stock and Bond Managers' Fees

Total Payments for Fiscal Year 2016

Domestic Equity Active Managers

Barrow, Hanley, Mewhinney and Strauss, Inc.	\$ 1,507,538
Earnest Partners, LLC	983,879
Goldman Sachs Asset Management, L.P.	1,908,012
Hotchkis and Wiley Capital Management, LLC	1,893,247
INTECH Investment Management, LLC	1,793,969
Jacobs Levy Equity Management, Inc.	1,950,499
LSV Asset Management	2,426,771
Martingale Asset Management, L.P.	1,537,427
McKinley Capital Management, LLC	2,116,122
Next Century Growth Investors, LLC	1,978,833
Peregrine Capital Management	2,095,430
Sands Capital Management, LLC	1,776,950
Systematic Financial Management, L.P.	1,390,707
Winslow Capital Management, LLC	977,630
Zevenbergen Capital Investments, LLC	1,930,629

Domestic Equity Semi-Passive Managers

BlackRock Institutional Trust Company, N.A.	2,351,785
INTECH Investment Management, LLC	2,178,245
J.P. Morgan Investment Management, Inc.	2,823,451
Mellon Capital Management Corporation	2,361,352

Domestic Equity Passive Manager

BlackRock Institutional Trust Company, N.A.	925,272
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Fixed Income Active Managers

Aberdeen Asset Management, Inc.	1,827,607
Columbia Management Investment Advisers, LLC	1,185,432
Dodge & Cox	1,658,626
Pacific Investment Management Company, LLC (PIMCO)	3,391,505
Western Asset Management Company	1,541,794

Fixed Income Semi-Passive Managers

BlackRock Financial Management, Inc.	1,100,511
Goldman Sachs Asset Management	1,837,932
Neuberger Berman Fixed Income, LLC	789,171

External Stock and Bond Managers' Fees

Total Payments for Fiscal Year 2016

International Active Developed Markets Managers		
Acadian Asset Management, LLC	\$	1,490,983
Columbia Threadneedle Investments		1,112,917
JP Morgan Investment Management Inc.		1,075,792
Marathon Asset Management, LLP		2,380,348
McKinley Capital Management, LLC		1,217,072
Fidelity Institutional Asset Management, LLC		1,478,538
International Semi Passive Developed Markets Managers		
AQR Capital Management, LLC		1,534,252
Fidelity Institutional Asset Management, LLC		948,111
State Street Global Advisors		1,181,960
International Passive Developed Markets Manager		
State Street Global Advisors		564,730
International Active Emerging Markets Managers		
Capital International, Inc.		4,430,667
Morgan Stanley Investment Management Inc.		5,522,650
International Passive Emerging Markets Manager		
State Street Global Advisors		267,929
Supplemental Fixed Interest Account		
Galliard Capital Management, Inc.		3,725,025
Assigned Risk Plan		
GE Asset Management, Inc.		168,634
RBC Global Asset Management (U.S.)		240,112



Minnesota State Board of Investment
60 Empire Drive
Suite 355
St. Paul, MN 55103-3555
TEL (651) 296-3328
FAX (651) 296-9572
E-mail: minn.sbi@state.mn.us
www.sbi.state.mn.us