Teachers Retirement Association of Minnesota



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State Board of Investment Letter

MINNESOTA STATE BOARD OF INVESTMENT

Investment Report: State Board of Investment

INVESTMENT AUTHORITY

The assets of the Teacher Retirement Association are invested along with the assets of the Public Employees Retirement Association and the Minnesota State Retirement System under the direction and authority of the State Board of Investment in accordance with Minnesota Statutes, Chapters 11A and 356A. The SBI includes Minnesota's governor, auditor, secretary of state and attorney general. The Legislature has established a 17 member Investment Advisory Council to advise the SBI and its staff on investment-related matters. TRA's executive director is a member of the Council.

INVESTMENT POLICY

Investment policy stipulates that the SBI will operate within standard investment practices of the prudent person. The SBI will exercise the judgment and care, under prevailing circumstances, which persons of prudence, discretion and intelligence exercise in the management of their own affairs. This work is not for speculation, but for investment, considering the probable safety of their capital, as well as the probable income to be derived from this activity (Minnesota Statutes, section 11A.09). The SBI is authorized to own government obligations, corporate obligations, various short-term obligations, corporate stocks, venture capital interests, mutual funds, resource investments and real estate interests subject to specific boundaries (Minnesota Statutes, Section 11A.24). Particularly, pension fund assets are to be invested for the exclusive benefit of the fund members (Minnesota Statutes, Section 356.001, subd. 1).

INVESTMENT ORJECTIVES

Pension fund assets are managed and accounted for separately in the SBI's Basic Funds and the Post Returnment investment Fund. The SBI reviews the performance of all the assets in each fund and as two funds combined.

TRA's pension contributions from employees and employers are invested in the SBI's Basic Funds. TRA does not own any underlying assets, but instead owns a share of the asset class pools of the Basic Funds. Since these assets normally accumulate in the Basic Funds for thirty or more years, SBI's objective is to take advantage of the long investment time horizon offered by public and private investments in order to meet its actuarial return target of 8.5 percent annually and ensure that sufficient funds are available to finance promised benefits at the time of retirement.



Anard Mambars

Covernor Tim Pawlenty

State Auditor
Patricle Anderson

Secretary of State

Alterney General Mike Hatch

Executive Director:

Howard J. Bicker

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An Equal Opportunity
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When a member retires, TRA transfers assets on hehalf of the member to the Minnesota Post Retirement Investment Fund (MPRIF). The assets of the MPRIF, which include the eight plans that participate in the Basic Fund and the Legislative and Survivors' Retirement Fund, finance monthly annuity payments paid to retirees. Monies in the MPRIF are generally invested samewhat more conservatively, but still heavily in equities, to take advantage of the 15-year to 20-year time horizon associated with the length of time a typical retiree can be expected to draw benefits. The actuarial return target for the MPRIF is 6 percent.

COMBINED FUNDS

The combined funds, while not existing under statute, represent the assets of the active and retired public employees who participate in the defined benefit plans of TRA, PERA, and MSRS. The SBI looks at the combined funds for comparison purposes only, since most public pension plans do not separate the assets of their active employees and retirees. The long-term objectives of the combined funds are to:

- Provide returns that are 3 to 5 percentage points greater than inflation over the latest 20-year period;
- Outperform a composite market index weighted in a manner that reflects the actual asset mix of the combined funds over the latest 10-year period.

As of June 30, 2004, the combined funds returned 8.1 percentage points above the Consumer Price Index over the last 20 years and outperformed the Composite Index by 0.2 percentage points over the past ten years.

INVESTMENT PRESENTATION

Data reported in the investment section of this comprehensive annual financial report is presented in conformance with the presentation standards of the Association for Investment Management and Research. Investment returns were prepared using a time-weighted rate of return methodology in accordance with those standards.

Respectfully submitted,

Howard Bicker Executive Director

Investment Summary

Prepared by TRA management with data obtained from the State Board of Investment's Fiscal Year 2004 Annual Report

The assets of the Minnesota Teachers Retirement Association (TRA) are invested under the direction and authority of the State Board of Investment (SBI). The investment portfolio for the active members of TRA has a fair value of approximately \$6.9 billion. In addition, TRA's share of the assets of the Minnesota Post Retirement Investment Fund (Post Fund), from which retiree benefits are paid, is approximately \$8.2 billion, at fair value.

The four-member SBI Board consists of Governor Tim Pawlenty (Chair), Secretary of State Mary Kiffmeyer, Attorney General Michael Hatch, and State Auditor, Patricia Anderson. Howard Bicker serves as SBI's Executive Director. The Legislature has established a 17-member Investment Advisory Council (IAC) to advise SBI and its staff on investment-related matters.

- SBI appoints ten members experienced in finance and investment. These members traditionally have come from the Minneapolis and Saint Paul corporate investment community.
- The Commissioner of Finance and the executive directors of TRA, the Minnesota State Retirement System and the Public Employees Retirement Association are permanent members of the Council.
- Two active employee representatives and one retiree representative are appointed to the Council by the Governor.

Investment Advisory Council

As of December 2004

Michael Troutman, Chair

Vice President, Investments Board of Pensions Evangelical Lutheran Church in America

Malcolm W. McDonald, Retired Vice Chair

Director and Corporate Secretary Space Center, Inc.

Frank Ahrens, II

Governor's Appointee Active Employee Representative

Gary Austin

Executive Director
Teachers Retirement Association

David Bergstrom

Executive Director
MN State Retirement System

John E. Bohan, Retired

Vice Pres., Pension Investments Grand Metropolitan-Pillsbury

Kerry Brick

Pension Investment Officer Cargill, Inc.

Douglas Gorence

Chief Investment Officer
U of M Foundation Investment
Advisors

Kenneth F. Gudorf

Chief Executive Officer Agio Capital Partners

Peggy Ingison

Commissioner
MN Department of Finance

Heather Johnston

Governor's Appointee Active Employee Representative

P. Jay Kiedrowski, Retired

Executive Vice President Wells Fargo & Company

Hon. Kenneth Maas

Governor's Appointee Retiree Representative

Judith W. Mares

Financial Consultant Mares Financial Consulting, Inc.

Gary R. Norstrem, Retired

Treasurer City of Saint Paul

Daralyn Peifer

Chief Investment Officer General Mills, Inc.

Mary Vanek

Executive Director
Public Employees Retirement
Assn.

Richards & Tierney, Inc. of Chicago are general consultants to SBI. Pension Consulting Alliance of Studio City, California, serves as a special project consultant. Investment performance methodology is reported in compliance with the mandatory requirements of the Association for Investment Management and Research (AIMR). All investments made by SBI are governed by the prudent person rule and other standards codified in Minnesota Statutes, Chapters 11A and 356A.

The Council has formed three committees organized around broad investment subjects relevant to SBI's decision-making: Asset Allocation, Stock and Bond Managers and Alternative Investments.

All proposed investment policies are reviewed by the appropriate Committee and the full Council before they are presented to SBI for action.

Basic Retirement Funds

Investment Objectives

The pension contributions of active TRA members are invested through the Basic Retirement Funds (Basic Funds) administered by SBI. SBI has one overriding responsibility with respect to its management of the Basic Funds: to ensure that sufficient funds are available to finance promised benefits at the time of retirement. All assets in the Basic Retirement Funds, including TRA, are managed externally by outside money management firms retained by contract.

The Basic Funds invest the pension contributions of most Minnesota public employees, including TRA members, during their working years. 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. In order to meet these projected pension costs, the Basic Funds must generate investment returns of at least 8.5 percent on an annualized basis over time.

Normally, pension assets will accumulate in the Basic Funds for thirty to forty years during an employee's years of active service. This provides the Basic Funds with a long investment time horizon and permits SBI to take advantage of long run return opportunities offered by common stocks and other equity investments in order to meet its actuarial return target.

SBI measures the performance of the Basic Funds relative to a composite of market indices that is weighted in a manner that reflects their long-term asset allocation policy. The Basic Funds are expected to exceed the composite index over a ten-year period. Performance is measured net of all fees and costs to assure that SBI's focus is on its true net return.

Asset Allocation

The allocation of assets among stocks, bonds, and alternative investments can have a dramatic impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio. Consequently, SBI has focused considerable attention on the selection of an appropriate long-term asset allocation policy for the Basic Funds. It should be noted that the unfunded allocation to alternative investments in the Basic Funds is held in domestic stocks until it is needed for investment. As a result, the actual amount invested in domestic stocks was above its long-term target.

During Fiscal Year 2004, the Board provisionally revised its long term asset allocation targets for the Basic Funds. Upon the Post Retirement Fund achieving its alternative investment target, the Basic Funds' allocation target may increase from 15 percent to 20 percent by decreasing the fixed income target from 24 percent to 19 percent. Additionally, the Basic Funds will invest in yield-oriented investments as part of its allocation to alternative investments.

Basic Funds Asset Mix				
June 30, 2004				
	Actual Mix	Policy Mix		
Domestic Stocks	48.0%	45.0%		
International Stocks	15.3%	15.0%		
Bonds	21.0%	24.0%		
Alternative Assets	12.7%	15.0%		
Unallocated Cash	3.0%	1.0%		
Total	100.0%	100.0%		

Total Return Vehicles

SBI invests the majority of the Basic Funds' assets in *common stocks* (both domestic and international). A large allocation is consistent with the investment time horizon of the Basic Funds and the advantageous long-term risk-return characteristics of common stocks. Including international stocks in the asset mix allows SBI to diversify its holdings across world markets and offers the opportunity to enhance returns and reduce the

risk/volatility of the total portfolio. The rationale underlying the inclusion of *private equity* alternative assets (e.g., venture capital) is similar.

SBI recognizes that this sizable policy allocation to common stock and private equity likely will produce more volatile portfolio returns than a more conservative policy focused on fixed income securities. It is understood that this policy may result in quarters or even years of disappointing results. Nevertheless, the long run return benefits of this policy are expected to compensate for the additional volatility.

Diversification Vehicles

Other asset classes are included in the Basic Funds both to provide some insulation 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. In periods of rapidly rising prices, these "hard" assets have appreciated in value at a rate at least equal to the inflation rate. Further, even under more normal financial conditions, such as low to moderate inflation, the returns on these assets are not highly correlated with common stocks. As a result, their inclusion in the Basic Funds serves to dampen return volatility.

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

Rate of Return Results

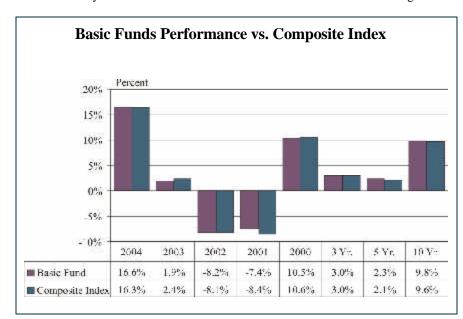
The Basic Funds produced a total rate of return for fiscal year 2004 of 16.6 percent. Over the last five years, the Basic Funds have generated an annualized return of 2.3 percent. The current fair value of the total Basic Funds is about \$18.8 billion. TRA's share of the fund is approximately 36.7 percent or \$6.9 billion.

As stated earlier, the Basic Funds are expected to exceed the return of a composite of market indices over a five-year period. Performance relative to this standard will measure two effects:

- The ability of the managers selected by SBI, in aggregate, to add value to the returns available from the broad capital markets.
- The impact of SBI's rebalancing activity. (SBI rebalances the total fund when market movements take the stock or bond segments above or below their long-term asset allocation targets. The policy

imposes a low risk discipline of buy low-sell high between asset classes on a total fund basis.)

For the ten-year period ending June 30, 2004, the Basic Funds out-performed the composite index by 0.2 percentage point annualized. The Fund exceeded the composite index by 0.2 percentage point over the last five years, and equalled the composite index over the most recent fiscal year. Actual returns relative to the total fund composite index over the last five years are shown in the graph on this page.



Post Retirement Fund

When a member retires, TRA transfers assets on behalf of the member to the Minnesota Post Retirement Investment Fund (Post Fund). The Post Fund includes the assets of retired public employees covered by nine statewide retirement plans: the eight plans which participate in the Basic Funds as well as the Legislative and Survivors Retirement Fund.

The assets of the Post Fund finance monthly annuity payments paid to retirees. On June 30, 2004, the Post Fund had a market value of about \$18.4 billion. TRA retirees' portion of this value is approximately \$8.2 billion or 44.6 percent. The Post Fund generated an investment return of 16.3 percent for fiscal year 2004.

All assets in the Post Retirement Fund are managed externally by outside money management firms retained by contract.

Investment Objectives

The investment time horizon of the Post Fund is 15-20 years and corresponds to the length of time a typical retiree can be expected to draw benefits. While this is shorter than the time horizon of the Basic Funds, it is still sufficiently long to allow SBI to take advantage of the long-run return opportunities offered by common stock in order to meet its actuarial return target as well as to finance retirement benefit increases.

SBI measures the performance of the Post Fund relative to a composite of market indices that is weighted in a manner that reflects its long-term asset allocation policy. The Post Fund is expected to exceed the composite index over a ten-year period. Performance is measured net of all fees and costs to assure that SBI's focus is on true net return.

Asset Allocation

The current long-term asset allocation policy and actual asset mix of the Post Fund at the end of fiscal year 2003 is presented in the following table. The asset allocation policy is under constant review. During Fiscal Year 2004, the SBI revised its long term asset allocation targets for the Post Fund. The allocation target for alternative investments was increased from 5 percent to

Post Fund Asset Mix June 30, 2004				
	Actual Mix	Policy Mix		
Domestic Stocks	51.4%	45.0%		
International Stocks	15.5	15.0		
Bonds	24.6	25.0		
Alternative Assets	4.3	12.0		
Unallocated Cash	4.2	3.0		
Total	100.0%	100.0%		

12 percent, while decreasing domestic equity from 50 percent to 45 percent and decreasing fixed income from 27 percent to 25 percent. Additionally, the Post Fund will invest in private equity, real estate, and resource investments as well as yield-oriented investments as part of its allocation to alternative investments.

The majority of the Post Fund's assets are invested in *common stocks* (both domestic and international). A large allocation is consistent with the moderately long time horizon of the Post Fund and the advantageous long-term, risk-return characteristics of common stocks. Including international stocks in the asset mix allows SBI to diversify its holdings across world markets and offers the opportunity to enhance returns and reduce the risk/volatility of the total portfolio.

SBI recognizes that this sizable allocation will be likely to produce more volatile portfolio returns than a more conservative policy focused on fixed income securities. It is understood that this policy may result in quarters or even years of disappointing results. Nevertheless, the long-run return benefits of this policy are expected to compensate for the additional volatility.

Other asset classes are included in the Post Fund both to provide some insulation against highly deflationary environments and to diversify the portfolio sufficiently to avoid excessive return volatility.

The *bonds* in the Post Fund act as a hedge against a deflationary economic environment. In the event of a major deflation, high quality fixed income assets, particularly long-term bonds, are expected to protect

principal and generate significant gains. And, under more normal financial conditions, bonds diversify the Post Fund, thereby controlling return volatility on a year-to-year basis.

Yield oriented alternative investments provide the opportunity for higher long term returns than those typically available from bonds yet still generate sufficient current income to be compatible with the objectives of the Post Fund. Typically, these investments (e.g., business loan participations, mortgage loan participations and income producing private placements) 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. As such, they will help reduce the volatility of the total portfolio but also should generate higher returns relative to more traditional bond investments.

Investment Management and Performance

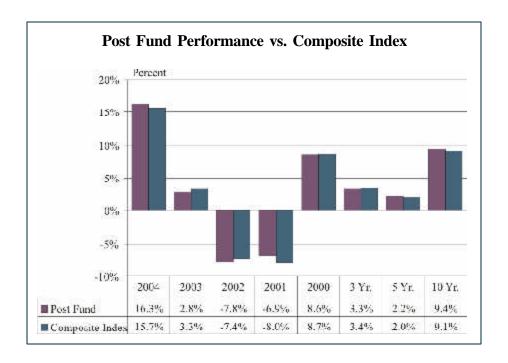
In order to gain greater operating efficiency, the Post Fund shares with the Basic Funds the same domestic stock, bond and international stock managers. The Post Fund is expected to exceed the return of a composite of market indices over a ten-year period. The Post Fund's performance exceeded its composite market index by 0.3 percentage point for the most recent ten year period since July 1, 1994. The fund exceeded the composite index over the last five years by 0.2 percentage point, and exceeded the composite index by 0.6 percentage point for the 2004 fiscal year.

Actual returns relative to the total fund composite index over the last five years are shown in the graph below.

Benefit Increase Formula

The retirement benefit increase formula of the Post Fund is based on a combination of two components:

an inflation Component. Each year, retirees receive an inflation-based adjustment equal to 100 percent of inflation, up to a maximum of 2.5 percent specified in statute. The inflation component is granted regardless of investment performance. The cap is necessary to maintain the actuarial soundness of the entire plan. It is the difference between the return assumption for the Basic funds (8.5 percent), and the return assumption for the Post Fund (6.0 percent).



Investment Component. Each year, retirees also receive an investment-based adjustment, provided net investment gains are above the amount needed to finance the Post Fund's 6 percent actuarial assumption and the inflation adjustment described previously. Investment gains and losses are spread over five years to smooth out the volatility of returns. In addition, all accumulated investment losses must be recovered before an investment-based adjustment is granted.

The Post Fund will provide a benefit increase of 2.50 percent for fiscal year 2004 payable January 1, 2005. As noted earlier, this increase is comprised of two components:

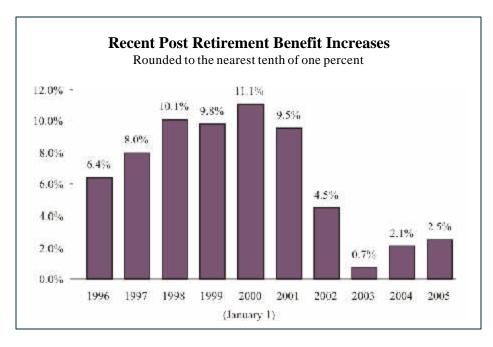
- Inflation component of 2.500 percent. The increase is the maximum allowable under Minnesota statute. The actual Consumer Price Index for wage earners (CPI-W) for the twelve months ending June 30, 2004, was 3.17 percent. (CPI-W is the same inflation index used to calculate increases in Social Security payments.)
- Investment component of 0.000 percent. Net investment returns over the five-year period (July 1, 1999 to June 30, 2004) were insufficient to cover the actuarial assumed rate of return and the inflation adjustment.

As of June 30, 2004, the Post Retirement Fund had total assets of about \$18.4 billion at fair value. Total liabilities (present value of expected future benefit payments to current benefit recipients) were approximately \$22.5 billion. The \$4.1 billion deficit must be recovered in full before an investment-based component will be paid. Consequently, until strong positive investment gains occur over an extended period of time to absorb existing losses, a positive investment component should not be expected.

Benefit increases granted for the past ten years are shown in the graph below.

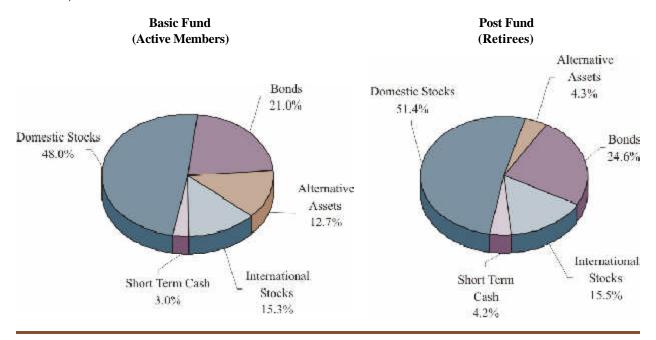
The Basic Funds and the Post Fund share many of the same stock and bond managers. This is accomplished by grouping managers together, by asset class, into several investment pools. The individual funds participate in the investment pools by purchasing units which function much like shares of a mutual fund.

This investment management structure allows SBI to gain greater operating efficiency within asset classes and to keep money management costs as low as possible for all participants. Further information on investment activity, management fees and commissions paid, and a listing of specific investments owned by the pooled accounts can be obtained from the Minnesota State Board of Investment, Suite 355, 60 Empire Drive, Saint Paul, MN 55103.



Teachers Retirement Fund Portfolio Distribution

June 30, 2004



Teachers Retirement Fund Performance of Asset Pools (Net of Fees)

June 30, 2004

	Rates of Return (Annualized)			
	FY 2004	3-Year	5-Year	10-Year
Domestic Stock Pool	20.3%	-0.3%	-1.9%	10.9%
Wilshire 5000 - Investable*	20.6%	0.2%	-1.7%	11.2%
Bond Pool	1.5%	6.7%	7.3%	7.7%
Lehman Aggregate	0.3%	6.4%	6.9%	7.4%
International Stock Pool	30.9%	4.5%	0.8%	5.0%
Composite Index	32.1%	4.5%	0.2%	3.7%
Alternative Assets (Real Estate, Private Equity,	16.6%	5.1%	9.2%	13.3%
Inflation (No Established Index for Alternative Assets)	3.3%	2.1%	2.7%	2.5%

All investment performance methodology is reported in compliance with the mandatory requirements of the Association for Investment Management and Research (AIMR).

Teachers Retirement Fund List of Largest Assets Held

June 30, 2004

Composite Holdings of Top Ten Equities

By Fair Value

Security	% of Portfolio	\$ Fair Value (Millions)
Citigroup Inc.	1.33%	\$ 197.9
General Elec Co.	1.17%	174.7
Microsoft Corp	1.16%	172.0
Exxon Mobil Corp	1.10%	163.3
Pfizer Inc.	1.05%	156.1
Intel Corp	0.83%	123.7
Johnson & Johnson	0.78%	116.0
Cisco Sys Inc.	0.75%	111.3
Bank Amer Corp	0.72%	107.2
American Intl Group Inc.	0.64%	95.1

Composite Holdings of Top Ten Bond Holdings

By Fair Value

Security	Coupon	\$ Fair Value (Millions)	% of Portfolio
UNITED STATES TREAS BDS	. 2.500%	\$56.6	0.38%
FNMA TBA JUL 30 SINGLE FAM	. 6.500%	54.7	0.37%
FNMA TBA JUL 30 SINGLE FAM	. 5.500%	50.6	0.34%
GNMA I TBA JUL 30 SINGLE FAM	. 6.000%	49.3	0.33%
FNMA TBA JUL 15 SINGLE FAM	. 5.000%	48.2	0.32%
FHLMC TBA JUL 30 GOLD SINGLE	. 6.500%	47.6	0.32%
FNMA TBA JUL 15 SINGLE FAM	. 5.500%	35.0	0.24%
UNITED STATES TREAS BDS	. 6.000%	30.7	0.21%
UNITED STATES TREAS BDS	. 8.125%	30.0	0.20%
UNITED STATES TREAS BDS	. 3.875%	27.6	0.19%

TRA's assets are commingled in various pooled investment accounts administered by the State Board of Investment (SBI). TRA does not own specific values of the underlying assets. The percentages and fair value shown are those attributable to the TRA Fund based on TRA's participation in the SBI's Basic Funds and Minnesota Post Retirement Investment Fund. Information on investment activity, a listing of specific investments owned by the pooled accounts and a schedule of fees and commissions can be obtained from SBI.

Summary of Investments*

As of June 30, 2004

	Book		Fair			
	Book Value	Total Book Value	% of Total	Fair Value	Total Fair Value	% of Total
Fixed Income Investments Fixed Income Pool	\$ 1,499,348,241			\$ 1,438,133,775		
Total Fixed Income Investments		\$ 1,499,348,241	21.50%		\$ 1,438,133,775	20.89%
Equity Investments						
External Indexed Equity Pool	\$ 1,017,360,301			\$ 1,075,031,910		
Global Equity Pool	1,004,219,407	•		1,045,215,535		
External Domestic Equity Pool	2,367,696,274	ļ		2,222,746,221		
Total Equity Investments		\$ 4,389,275,9822	62.92%		\$ 4,342,993,666	63.08%
Alternative Investments						
Alternative Investment Pool	\$ 878,620,671			\$ 895,285,360		
Total Alternative Investments		\$ 878,620,671	12.59%		\$ 895,285,360	13.00%
Short Term Investment						
Short Term Cash Equivalents	\$ 208,591,289			\$ 208,591,289		
Total Short Term Investment		\$ 208,591,289	2.99%		\$ 208,591,289	3.03%
Total Investments		\$ 6,975,836,183	100.00%		\$ 6,885,004,090	100.00%

^{*}Regular TRA Fund, does not include investments in the Minnesota Post Retirement Investment Fund.

General Information Regarding Investment of Funds

TRA's investments are made by SBI and external managers as prescribed by law, and are made only in such securities as are duly authorized legal investments in accordance with Minnesota Statutes, section 11A.24. State Street Bank and Trust of Boston acts as custodian of securities for the Basic Funds and the Post Fund. Wells Fargo, Saint Paul, Minnesota, is the current custodian of short term investments of SBI. Examination and verification of securities held by the custodians is performed periodically by the Minnesota Office of the Legislative Auditor.