

Investment Section



Pittsburgh

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COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

ALAN H. VAN NOORD, CFA
Chief Investment Officer

Investment Overview

Authority

The PSERS Board of Trustees (Board) has the responsibility to invest funds of the System in accordance with guidelines and limitations set forth in the Code and other applicable state law. Act 29 of 1994 authorizes the Board to invest the funds of the System using the "prudent person" standard which allows the Board to consider the probable safety of investments, avoid speculative investments, and invest as people of prudence, discretion, and intelligence would manage their own affairs.

Policy and Objectives

The Board is responsible for the formulation of investment policy for the System. The overall investment objectives of the System are to: (i) preserve capital in real terms; (ii) maximize total returns while limiting the risk of volatility through diversification; (iii) achieve returns in excess of the policy index (the policy index is a custom index created based on the Board established asset allocation structure to generate a return that supports the growth of the projected actuarial liabilities of the System); and (iv) provide sufficient liquidity to meet the current operating needs of the System. To achieve these objectives, the Board meets at least once per year to establish an overall asset allocation plan and investment policies for the System. Implementation of the investment policies is accomplished through external investment management firms who act as agents for the System and through internal investment managers. The Board also retains various investment consultants to assist with the formulation and implementation of investment policy.

Operations

The Board provides oversight of investment activities through the Finance Committee that makes recommendations to the Board. The Finance Committee generally conducts eight meetings per year and may meet more frequently as needed. Investment Office staff, as well as outside investment advisors, internal investment managers, and Investment Accounting office staff, assist the Board in achieving investment objectives and monitoring compliance with investment policy. For the fiscal year ended June 30, 2003, Wilshire Associates Incorporated (Wilshire) served as the overall investment consultant to assist the Board in formalizing investment objectives, establishing an asset allocation plan, conducting investment advisor searches, reviewing performance, and commenting on compliance with investment policy. In addition, the Board utilized Russell Real Estate Advisors as a real estate consultant and Portfolio Advisors, LLC as an alternative investment consultant. Alternative investments generally consist of investments in private debt, private equity, and venture capital limited partnerships. Investment Office staff implements the investment decisions within the stated policy regarding asset allocation, security selection, or other objectives directed by the Board.

The Board employs both external investment management firms and internal investment managers to manage the investment portfolio of the System. At year end, 26 external investment management firms were managing \$21.7 billion in assets of the System, \$15.4 billion in assets were managed by the System's internal investment managers, and the remaining \$6.6 billion in assets were managed by numerous developmental, alternative investment, and real estate managers. The performance of each external investment management firm and each internal manager is monitored annually against a pre-established benchmark as well as the performance of their peers.

Asset Allocation

The Board reviews the long-term asset allocation targets of the System at least annually, usually in the calendar first quarter. In establishing the asset allocation plan, the Board will consult with its actuary, consultants, Investment Office staff, and other sources of information it deems appropriate in formulating this plan. The purpose of the asset allocation plan is to meet the long-term financial needs and investment objectives of the System.

The long-term target allocation for FY 2003 included an equity target allocation of **60.00%** consisting of publicly traded stocks. Specific targets have been established for U.S. equity exposure (42.00%) and diversified international equity exposure (18.00%). Within the U.S. equity target, the portfolios are diversified between large and small cap managers and growth and value managers. The international equity exposure includes both developed and emerging markets portfolios.

The fixed income target allocation of **22.00%** consisted of U.S. fixed income exposure (14.30%), specialty fixed income exposure (3.30%), and global fixed income exposure (4.40%). Within these categories, all sectors of the bond market are represented. Specialty fixed income includes high yield and mortgage-backed portfolios.

The real estate target allocation of **7.00%** consists primarily of opportunistic limited partnerships and publicly traded real estate investment trusts (REITs).

Alternative investments have a target of **11.00%**. The primary vehicle used to invest funds in this asset class is the limited partnership. The partnerships are established by individual management groups that have been selected by the System for the purpose of investing in and managing private equity and unlisted subordinated debt positions on behalf of PSERS and other limited partners.

Finally, unallocated cash of the System has an asset allocation target of 0% since cash historically represents the lowest returning asset class over time.

Investment Results

As of June 30, 2003, the fair value of the investment portfolio was \$43.7 billion. The fair value decreased approximately \$0.7 billion from last year's value. This decrease came primarily from benefit payments in excess of employee and employer contributions (\$2.1 billion) which were partially offset by net investment income (\$1.0 billion) and net changes in other investment assets and liabilities (\$0.4 billion). The investment portfolio, as invested, was composed of 62.50% of common and preferred stocks (equity), 23.10% of fixed income investments, 5.90% real estate, and 8.50% of alternative investments at June 30, 2003. The table on page 65 illustrates a more detailed description of the investment portfolio's asset classes in dollars and as a percent of the total investment portfolio.

This past fiscal year has been marked early by extreme market pessimism and fear that eased towards the end of the fiscal year. The financial markets had to contend with increasing jobless claims, a higher unemployment rate, fears of deflation, lower industrial production, a war in Iraq, and the Severe Acute Respiratory Syndrome (SARS) epidemic in the Far East and Canada. These fears led to lower consumer confidence and kept investors nervous about an economic recovery in the U.S. The monetary authorities in the U.S. and abroad; however, have provided record amounts of monetary stimulus to the global economy. In the U.S., the Federal Reserve cut the Federal Funds rate twice during this past fiscal year, lowering the rate from 1.75% to 1.00%. The lower interest rates allowed consumers to refinance their mortgages in record numbers during the fiscal year which provided additional spending power for consumers through cash out of equity, reduced mortgage payments, or both. In addition, a massive fiscal stimulus package in the U.S. was also passed during the latter half of the fiscal year. All of this monetary and fiscal-policy stimulation has driven economic growth expectations up which fueled a significant rally in the stock markets worldwide during the quarter ended June 30, 2003.

The System's returns for the fiscal year were driven by strong fixed income markets as well as modestly accretive returns from the real estate investments. In the U.S., the Lehman Aggregate Index, a domestic bond index, was up 10.40%, driven by the reduction of interest rates by the Federal Reserve and concerns about deflation that led to a significant rally in bond prices. This rally was evidenced by the yield, which moves in the opposite direction of price, on the ten-year Treasury note falling to 3.51% as of June 30, 2003 from 4.80% at June 30, 2002. In the corporate bond market, credit spreads tightened significantly during the fiscal year which lead to a strong rally in the high yield bond market as evidenced by the 20.78% return in the Credit Suisse First Boston High Yield Bond Index during the fiscal year. In the global markets, the returns generated from the drop in interest rates were magnified by weakness in the U.S. dollar versus other foreign currencies. The Lehman Global Aggregate Index, a global bond index, was up 15.97% for the fiscal year.

Strong returns in the System's bond portfolios were offset by weakness in both the domestic and international equity portfolios as well as in alternative investments. The U.S. stock market, as measured by the Wilshire 5000 Index, generated an annualized return of 1.28% for the fiscal year ended June 30, 2003. The international stock market, as measured by the Morgan Stanley Capital International (MSCI) All Country World Free Ex. U.S. Index, generated an annualized return of (4.19)% for the fiscal year ended June 30, 2003.

As a result of the strong returns from the bond portfolios, the System was able to generate a total return of 2.74% for the one-year period ended June 30, 2003. Annualized returns for the three- and five-year periods ending June 30, 2003 were (3.39)% and 2.57%, respectively.

Wilshire calculates the total investment return of the System as well as the performance of each external investment management firm and each internal investment manager employed by the Board to invest the System's assets. All performance measurement calculations are conducted in accordance with the presentation standards of the Association of Investment Management and Research.

The following table provides the System's total investment return for each major asset class and the total portfolio, including, where applicable and available, respective benchmark indices used by asset class and median performance by asset class:

	Annualized Total Returns (%) Net of Fees Ending June 30, 2003		
	1 Year	3 Years	5 Years
PSERS TOTAL PORTFOLIO	2.74	(3.39)	2.57
Median Public Defined Benefit Plan (DBP) Fund Universe (Wilshire Database)	3.84	(2.93)	2.52
PSERS DOMESTIC STOCK PORTFOLIOS	(0.30)	(6.53)	1.16
Wilshire 5000 Index	1.28	(10.58)	(1.30)
Median Public DBP Fund Universe - Domestic Equities (Wilshire Database)	0.56	(9.74)	(0.92)
PSERS INTERNATIONAL STOCK PORTFOLIOS	(4.76)	(11.44)	(1.47)
MSCI All-Country World Index Free Ex. U.S.	(4.19)	(12.58)	(2.87)
Median Public DBP Fund Universe - International Equities (Wilshire Database)	(5.76)	(12.46)	(2.44)
PSERS DOMESTIC FIXED INCOME PORTFOLIOS	13.05	10.01	7.42
Lehman Aggregate Index	10.40	10.08	7.54
Median Public DBP Fund Universe - Domestic Bonds (Wilshire Database)	12.09	9.63	7.21
PSERS GLOBAL FIXED INCOME PORTFOLIOS	17.36	9.50	6.26
Lehman Global Aggregate Index	15.97	8.73	6.47
Median Public DBP Fund Universe - Global Bonds (Wilshire Database)	20.13	7.72	5.78
PSERS REAL ESTATE*	5.58	8.86	8.71
NCREIF Index**	7.16	8.55	10.24
Median Public DBP Fund Universe - Real Estate (Wilshire Database)	5.61	9.59	8.64
PSERS ALTERNATIVE INVESTMENTS ***	(0.88)	(6.06)	0.26

* Returns reported on a one-quarter lag, except for publicly traded REIT investments

** Returns presented are on a one-quarter lag

*** Internal rate of return, reported on a one-quarter lag, for private debt, private equity and venture capital investments

The System also is involved in a securities lending program administered by Mellon Bank N.A. This program provides incremental income to the System by lending securities in the System's portfolio to securities dealers in exchange for either cash collateral, which can be reinvested to generate income, or non-cash collateral plus a cash fee. This program generated approximately \$15.0 million in additional net income during the year.

Accomplishments

During the fiscal year ended June 30, 2003, the System increased the amount of money managed internally by \$1.7 billion. This was accomplished through asset allocation changes that reallocated money from external investment advisors. The end result is that this change saves the System millions of dollars per year in management fees while at the same time not adversely affecting the performance of the investment portfolio. The System has very capable investment professionals on staff who have produced excellent relative returns over the years.

In addition, on August 1, 2002, the System entered into a contract with Financial Control Systems, Inc. (FCS) to provide a comprehensive, multi-currency investment accounting system, and reconciliation and technology services to the System. Over the next two to three years, the System's staff and FCS will implement an independent accounting book of record for the System's investment transactions. Currently, the System relies on the custodian bank and third-party service providers for the accounting of its investment activity and investment analytics.

Summary

Overall, the System generated positive returns during the fiscal year ended June 30, 2003 for the first time in three years. Positive returns in the bond and real estate portfolios more than offset the negative returns generated by the equity portfolios. While the System was unable to achieve its targeted actuarial rate of return during the fiscal year ended June 30, 2003, we believe that the System's asset allocation is structured to generate a long-term return that supports the growth of the projected actuarial liabilities of the System for years to come. In addition, we are starting to see **the effects of the massive monetary and fiscal-policy stimulus in the economy** which should lead to a more positive investment environment for equities, and the System as a whole, during the upcoming fiscal year.



Alan H. Van Noord, CFA
Chief Investment Officer

Portfolio Summary Statistics
Asset Allocation
As of June 30, 2003
(Dollar Amounts in Thousands)

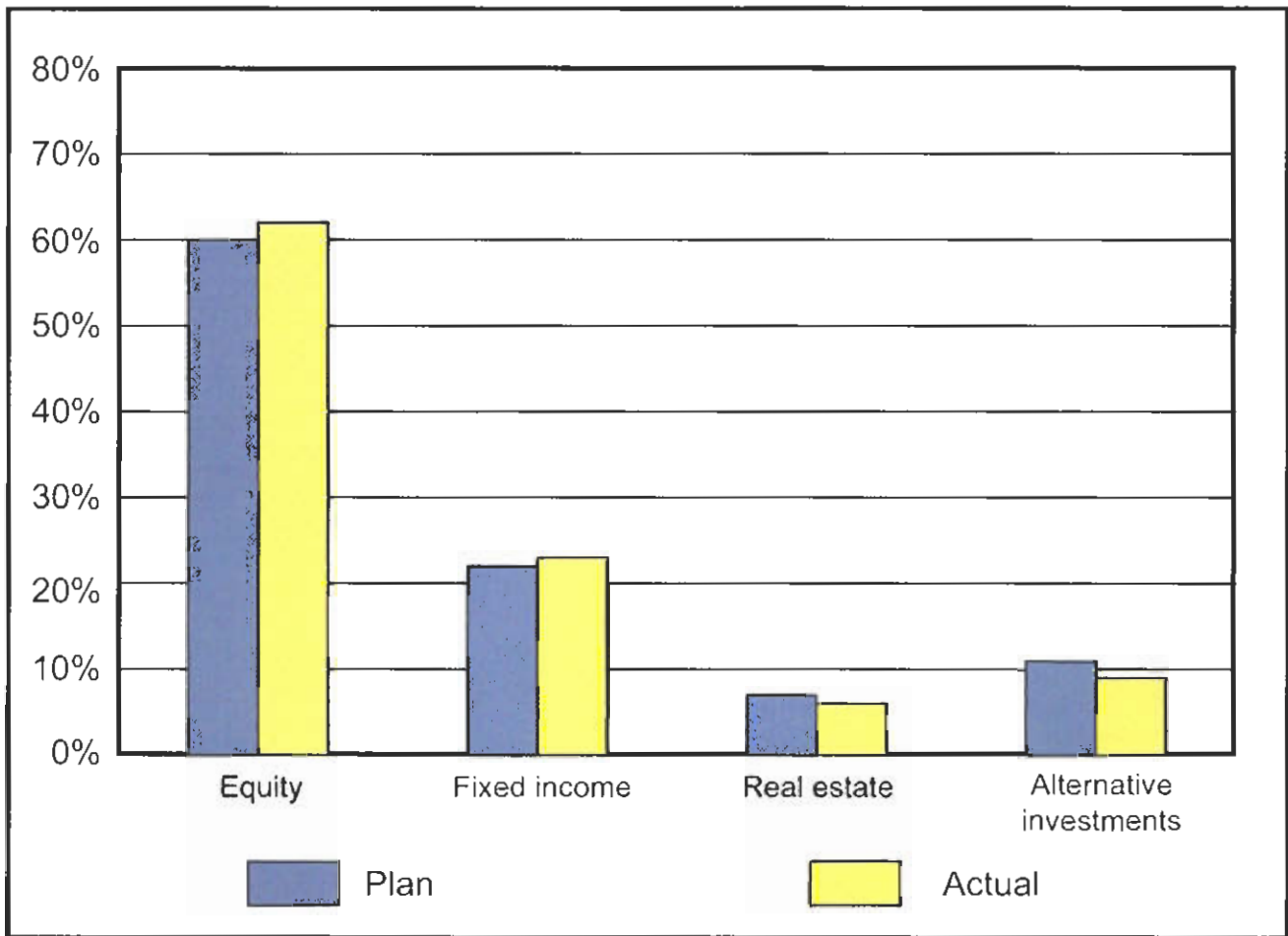
	Fair Value (\$)	% Fair Value
Pension investments		
Common and preferred stock (Equity):		
Domestic common and preferred stock	\$ 15,737,452	36.2%
Collective trust fund	539,600	1.2%
International common stock	7,491,273	17.2%
Subtotal per Statement of Plan Net Assets	23,768,325	54.6%
Short-term *	420,477	1.0%
Enhanced S&P 500 Index *	3,650,746	8.3%
Publicly traded REITs *	(617,389)	(1.4%)
Total Common and preferred stock - Asset Allocation Basis	27,222,159	62.5%
Fixed income:		
Domestic mortgage-backed securities	5,745,057	13.2%
U.S. government and agency obligations	1,013,771	2.3%
Domestic corporate and taxable municipal bonds	3,519,398	8.1%
Miscellaneous domestic fixed income	325,203	0.7%
Collective trust fund	380,408	0.9%
International fixed income	1,389,093	3.2%
Subtotal per Statement of Plan Net Assets	12,372,930	28.4%
Short-term *	1,324,904	3.0%
Enhanced S&P 500 Index *	(3,650,746)	(8.3%)
Total Fixed income - Asset Allocation Basis	10,047,088	23.1%
Real estate:		
Equity real estate	1,511,803	3.5%
Real estate owned	422,353	1.0%
Subtotal per Statement of Plan Net Assets	1,934,156	4.5%
Publicly traded REITs *	617,389	1.4%
Total Real estate - Asset Allocation Basis	2,551,545	5.9%
Alternative investments:		
Private equity	2,392,040	5.5%
Private debt	1,153,106	2.6%
Venture capital	191,626	0.4%
Total Alternative investments - Asset Allocation Basis	3,736,772	8.5%
Pension investments - Asset Allocation Basis	\$ 43,557,564	100.0%
Postemployment Healthcare short-term investments	\$ 162,440	100.0%

* - For asset allocation purposes, Short-term investments are included with the asset class of the investment manager which holds them, Publicly traded REIT portfolios are reclassified from Common and preferred stock (Equity) to Real estate, and Enhanced S&P 500 Index portfolios are reclassified from Fixed income to Common and preferred stock (Equity). See the table and graph which follow.

Comparison of Actual Portfolio Distribution

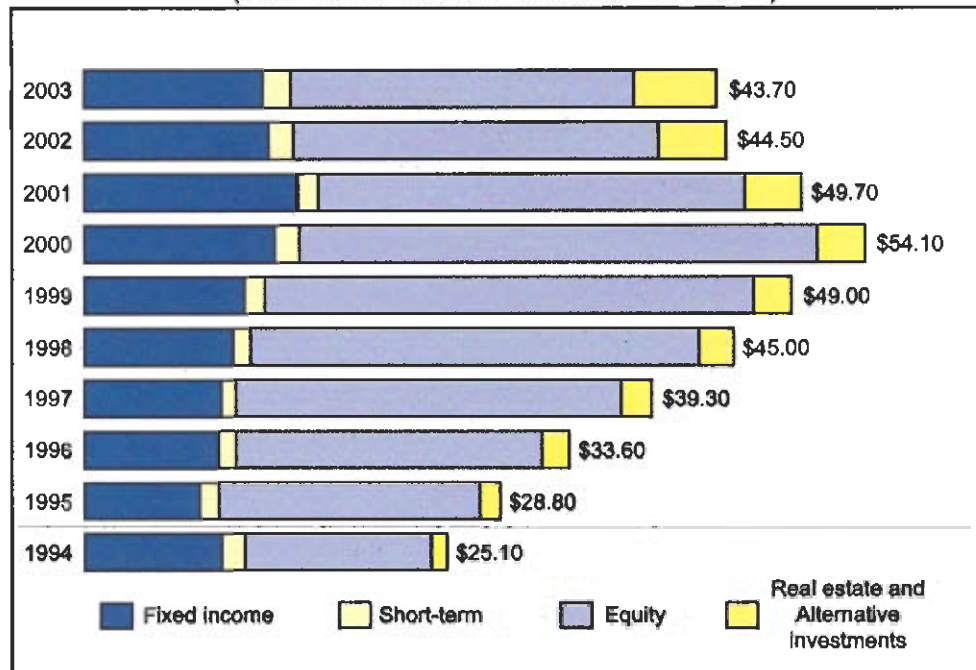
to Asset Allocation Plan As of June 30, 2003

Asset Category	Plan	Actual
Common and preferred stock (Equity)	60%	62%
Fixed income	22%	23%
Real estate	7%	6%
Alternative investments	11%	9%
Total	100%	100%



Portfolio Distribution * 10 Year Trend

(Fair Value - Dollar Amounts in Billions)



* Data for years after 1994 includes effects of GASB Statement No. 25.

The following lists of portfolio detail statistics present the ten largest holdings by descending order of fair value for the largest asset classes. Information on the complete holdings of the System is available by writing to the Public School Employees' Retirement System, Office of Financial Management, P O 125, Harrisburg, PA 17108.

Portfolio Detail Statistics as of June 30, 2003

Domestic common and preferred stock

10 Largest Holdings in Descending Order by Fair Value

(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value (\$)
Microsoft Corporation	12,491	320,279
Pfizer Inc.	9,207	314,409
General Electric Company	9,653	276,861
Citigroup Inc.	6,025	257,858
Security Capital Preferred Growth	9,674	253,738
Wal-Mart Stores, Inc.	4,504	241,739
Exxon Mobil Corporation	6,410	230,192
Intel Corporation	8,193	170,493
American International Group, Inc.	2,974	164,095
Johnson & Johnson	3,046	157,503
Total of 10 Largest Holdings		2,387,167
Total System Holdings - Domestic common and preferred stock		15,737,452

Portfolio Detail Statistics as of June 30, 2003

International common stock

10 Largest Holdings in Descending Order by Fair Value

(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value (\$)
Vodafone Group PLC	97,828	191,599
Royal Bank of Scotland	4,580	128,468
Novartis AG	3,233	127,924
Nokia OYJ	6,914	113,782
Glaxosmithkline PLC	4,560	92,027
Total SA	604	91,236
ENI SpA	5,948	89,963
Astrazeneca PLC	2,149	86,607
Canon, Inc.	1,544	70,851
Samsung Electronics Company Ltd.	255	64,904
Total of 10 Largest Holdings		1,057,361
Total System Holdings - International common stock		7,491,273

Portfolio Detail Statistics as of June 30, 2003

Domestic and international fixed income

10 Largest Holdings in Descending Order by Fair Value

(Dollar Amounts and Shares in Thousands)

Description	Maturity Date	Interest Rate (%)	Par Value(\$) or No. of Shares	Fair Value (\$)
Scudder High Income Plus Fund	-	-	11,782	85,773
U.S. Treasury Bonds	02/15/26	6.000	70,650	84,471
FHLMC Pool #E9-6459	05/01/18	5.000	79,704	82,460
U.S. Treasury Notes	04/30/05	1.625	65,506	65,958
PIMCO Funds International Portfolio	-	-	8,197	61,393
U.S. Treasury - Inflation Index	01/15/08	3.625	52,907	59,347
GNMA Pool #0003362	03/20/33	6.000	54,790	57,301
GNMA Pool #0609371	03/15/33	6.000	51,846	54,465
Federal National Mortgage Association	10/09/19	0.000	118,000	49,129
U.S. Treasury - Inflation Index	01/15/11	3.500	42,139	47,880
Total of 10 Largest Holdings				648,177
Total System Holdings - Domestic and international fixed income				12,372,930

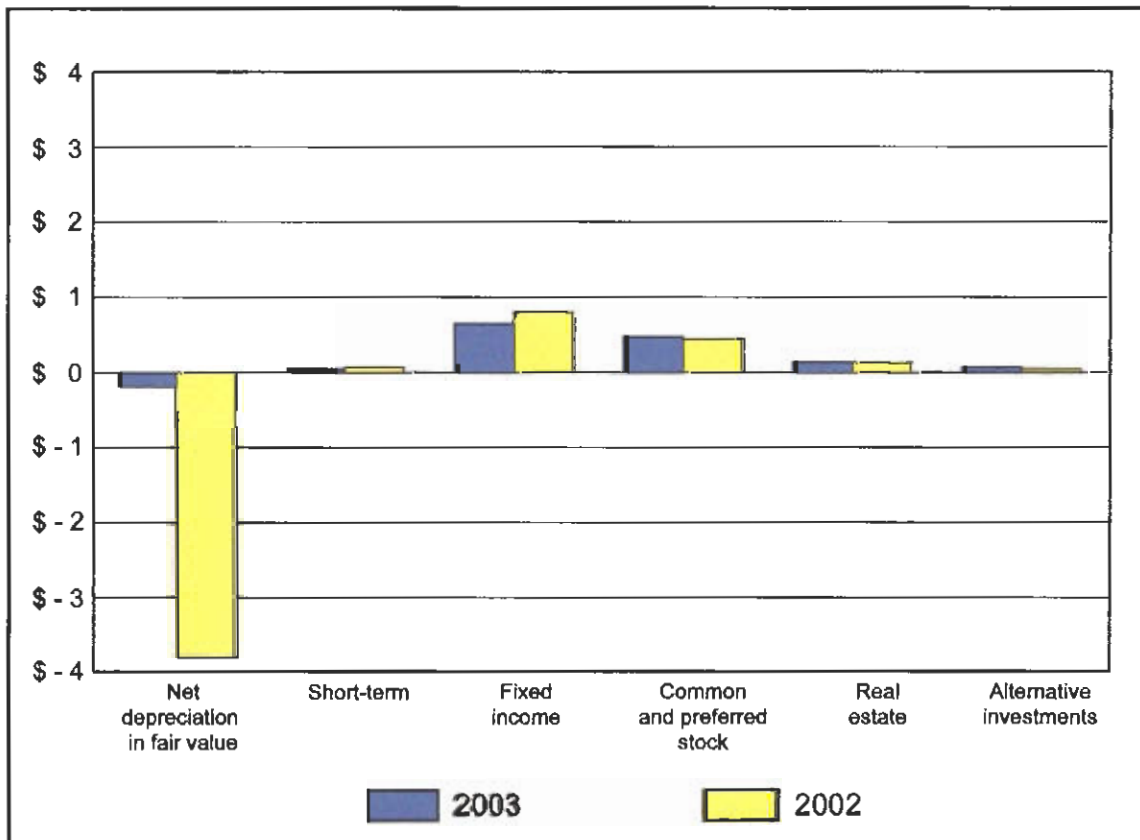
Portfolio Detail Statistics as of June 30, 2003
Postemployment Healthcare short-term investments
10 Largest Holdings in Descending Order by Fair Value
(Dollar Amounts in Thousands)

Description	Maturity Date	Interest Rate (%)	Par Value (\$)	Fair Value (\$)
PA Treasury Short-Term Investment Fund	Various	Various	57,585	57,585
M & T Bank Repurchase Agreement	07/01/03	0.786	15,000	15,000
M & T Bank Repurchase Agreement	07/01/03	0.875	14,449	14,449
FHLMC Multiclass 2103 Class TC	11/15/23	6.000	3,860	3,875
FHLMC Multiclass 2555 Class A	09/15/07	4.250	3,571	3,584
Honda Auto Owner Trust 2001-2 Class A4	10/18/06	5.090	3,005	3,095
FNMA Guaranteed REMIC 1993-251 Class VC	03/25/10	6.500	3,000	3,005
FHLMC Multiclass 2098 Class VA	10/15/05	6.000	2,812	2,929
FHLMC Multiclass 1584 Class HA	11/15/21	3.500	2,440	2,446
FHLMC Multiclass 1609 Class GB	02/15/22	6.500	2,345	2,366
Total of 10 Largest Holdings				108,334
Total System Holdings - Postemployment Healthcare short-term investments				162,440

Comparison of Investment Activity Income (Loss) For Fiscal Years Ended June 30, 2003 and 2002 (Dollar Amounts in Thousands)

Investing Activities	2003	2002
Net depreciation in fair value of investments	\$ (172,506)	\$ (3,826,705)
Short-term	30,178	46,862
Fixed income	655,861	806,373
Common and preferred stock	480,735	446,784
Real estate	139,267	131,890
Alternative investments	52,956	18,294
Total investment activity income (loss)	\$ 1,186,491	\$ (2,376,502)

(Dollar Amounts in Billions)



Brokers' fees on equity investment transactions for the fiscal year ended June 30, 2003 were \$23.4 million. The System has commission recapture contracts with several brokers. These contracts generally stipulate that the brokers rebate a percentage of commissions earned on investment transactions directly to the System. During the fiscal year ended June 30, 2003, the System earned \$3.1 million of benefits resulting from a commissions recapture program. A list of the brokers receiving fees in excess of \$100,000 during the fiscal year follows.

Summary Schedule of Brokers' Fees
(Cumulative Fiscal Year Amounts Exceeding \$100,000)
Fiscal Year Ended June 30, 2003

Broker Name	Fees Paid (\$)	Broker Name	Fees Paid (\$)
Bear, Stearns and Company	2,905,205	Cantor, Fitzgerald & Company	356,455
Morgan Stanley and Company	2,075,408	Dresdner Kleinwort Wasserstein	323,558
Goldman Sachs and Company	1,609,069	Weeden and Company	269,526
UBS Warburg	1,342,697	HSBC Securities	254,712
Merrill Lynch	1,319,090	Union Bank	245,521
Lehman Brothers	1,180,336	Credit Lyonnais Securities	203,562
J. P. Morgan, Inc.	1,079,574	Jefferies and Company Inc.	182,900
Credit Suisse First Boston	828,576	Instinet Corp.	156,769
Deutsche Bank	946,644	SG Securities	142,245
Citigroup	733,591	ING Barings	134,344
Lynch, Jones & Ryan	658,178	Nomura Securities International	126,213
Execution Services Ltd.	595,519	Pictet	121,731
Jones & Associates	527,002	Banco Bilbao Vizcaya	119,315
Investment Technology Group	455,050	Legg Mason Wood Walker	116,680
Knight Securities	449,767	Wheat, First Securities, Inc.	106,013
Tradition Asiel Securities Inc.	437,613	Hoare Govett Ltd.	104,745

Professional Consultants External Investment Advisors



Concentrated Domestic Large Cap Equity

- Alliance Capital Management, LP
- Delaware Investment Advisors
- MacKay-Shields Financial Corporation



Domestic Enhanced Equity Index

- Acorn Derivatives Management Corp.
- Pacific Investment Management Company
- Smith Breeden Associates, Inc.



Domestic Small Cap Equity

- The Boston Company Asset Management, LLC
- Duncan-Hurst Capital Management, Inc.
- Emerald Advisors, Inc.
- First Pacific Advisors, Inc.
- MacKay-Shields Financial Corporation
- Mellon Equity Associates
- NorthPointe Capital
- Wellington Management Company, LLP



Publicly Traded REIT

- Morgan Stanley Investment Management, Inc.
- Security Capital Global Capital Management Group, Inc.



International Large Cap Equity

- Baillie Gifford Overseas Ltd.
- Bank of Ireland Asset Management
- The Boston Company Asset Management, LLC
- Capital Guardian Trust Company
- Marathon Asset Management Limited
- Martin Currie, Inc.
- Mercator Asset Management, LP
- Putnam Advisory Company, Inc.



International Emerging Market Equity

- The Boston Company Asset Management, LLC
- Templeton Investment Counsel, Inc.

Professional Consultants (Continued)



Domestic Fixed Income

- BlackRock Financial Management, Inc.
- Deutsche Asset Management, Inc.



Specialty Fixed Income

- MacKay-Shields Financial Corporation
- W.R. Huff Asset Management Company, LLC
- Wellington Management Company, LLP



Global Fixed Income

- Deutsche Asset Management
- Fischer Francis Trees & Watts, Inc.
- Rogge Global Partners



Real Estate

- Berwind Property Group, Inc.
- Carlyle Group (The)
- Charter Oak Advisors, Inc.
- Credit Suisse First Boston Advisory Partners, LLC
- Fortress Investment Fund, LP
- GF Management, Inc.
- Goldman Sachs Asset Management
- L&B Realty Advisors
- LaSalle Investment Management, Inc.
- Laureate Capital, LLC
- Lazard Freres Real Estate Investors, LLC
- Legg Mason Real Estate Services
- Lehman Brothers
- Lubert-Adler Partners
- Morgan Stanley Investment Management, Inc.
- Paladin Realty Partners, LLC
- Peabody Group (The)
- Prudential Agricultural Group
- RREEF America, LLC
- Security Capital Global Capital Management Group, Inc.
- Stockbridge Capital Group, LLC
- UBS Brinson Realty Investors, LLC
- Westbrook Partners, LLC

Professional Consultants (Continued)



Private Equity

- ABS Capital Partners
- BG Media Investors
- Bastion Capital Corporation
- Bear Stearns Merchant Banking Partners II, LP
- Blue Point Capital Partners, LLC
- Bridgepoint Capital Limited
- Bruckmann, Rosser, Sherrill & Company, Inc.
- Clarity Partners, LP
- Credit Suisse First Boston Advisory Partners, LLC
- Deutsche Asset Management, Inc.
- Dubin Clark & Company, Inc.
- Goldman Sachs Asset Management
- Gordon Management, Inc.
- Graham Partners Investments, LP
- Greenwich Street Capital Partners
- Halifax Group (The)
- Heritage Partners, Inc.
- Houlihan, Lokey, Howard & Zukin Investment Fund
- ING Barings
- KRG Capital Partners, LLC
- Landmark Advisors, Inc.
- Lehman Brothers
- Leonard Green & Partners, Inc.
- Lexington Capital Partners, Inc.
- Lindsay, Goldberg & Bessemer, LP
- Morgan Stanley Investment Management, Inc.
- New Mountain Capital, LLC
- New York Life Capital Partners, LP
- PAI Management
- PNC Equity Management Corp.
- Palladium Equity Partners II, LLC
- Perseus-Soros BioPharmaceutical Fund, LP
- Quadrangle Capital Partners, LP
- SC Partners, LP
- SCP Private Equity Partners, LP
- TPG Partners, LP
- Wasserstein & Co.
- Wicks Communications & Media Partners, LP
- Willis Stein & Partners

Professional Consultants (Continued)



Venture Capital

- Adams Capital Management, Inc.
- Apax Partners
- Cross Atlantic Capital Partners, Inc.
- Edison Venture Funds

Franklin Capital Associates III, LP

- Grotech Capital Group, Inc.
- Jefferson Partners
- KBL Healthcare Ventures, LP
- Keystone Venture Capital
- LLR Equity Partners, LP
- Landmark Advisors, Inc.
- Mid-Atlantic Venture Funds
- Pennsylvania Early Stage Partners, LP
- Philadelphia Ventures, Inc.
- Quaker BioVentures Capital, LP
- Spectrum Equity Partners
- StarVest Management, Inc.
- Sterling Venture Partners, LLC
- TDH III, LP
- Technology Leaders, LP



Private Debt

- ARCap REIT, Inc.
- Avenue Capital Management, LLC
- Cerberus Institutional Associates, LLC
- Gleacher & Co., LLC
- Greenwich Street Capital Partners
- Legg Mason Real Estate Capital, Inc.



Developmental Fund

- Charter Financial Group, Inc.
- Connors Investor Services, Inc.
- EDMP, Inc.
- Hanseatic Management Services, Inc.
- John Hsu Capital Group, Inc.
- Longwood Investment Advisors, Inc.
- Palladium Capital Management
- Piedra Capital, Inc.
- Roll & Ross Asset Management, LP
- Smithbridge Asset Management, Inc.
- Snow Capital Management, LP
- Tanaka Capital Management, Inc.
- Tucker Hargrove Management, Inc.
- West Chester Capital Advisors

Professional Consultants (Continued)



**Investment Accounting Application
Service Provider**

- Financial Control Systems, Inc.



Custodian and Securities Lending Agent

- Mellon Bank N.A.



Investment Evaluator

- Wilshire Associates Inc.



Real Estate Consultant

- Russell Real Estate Advisors



Alternative Investment Consultant

- Portfolio Advisors, LLC



Proxy Voting Agent

- Institutional Shareholder Services