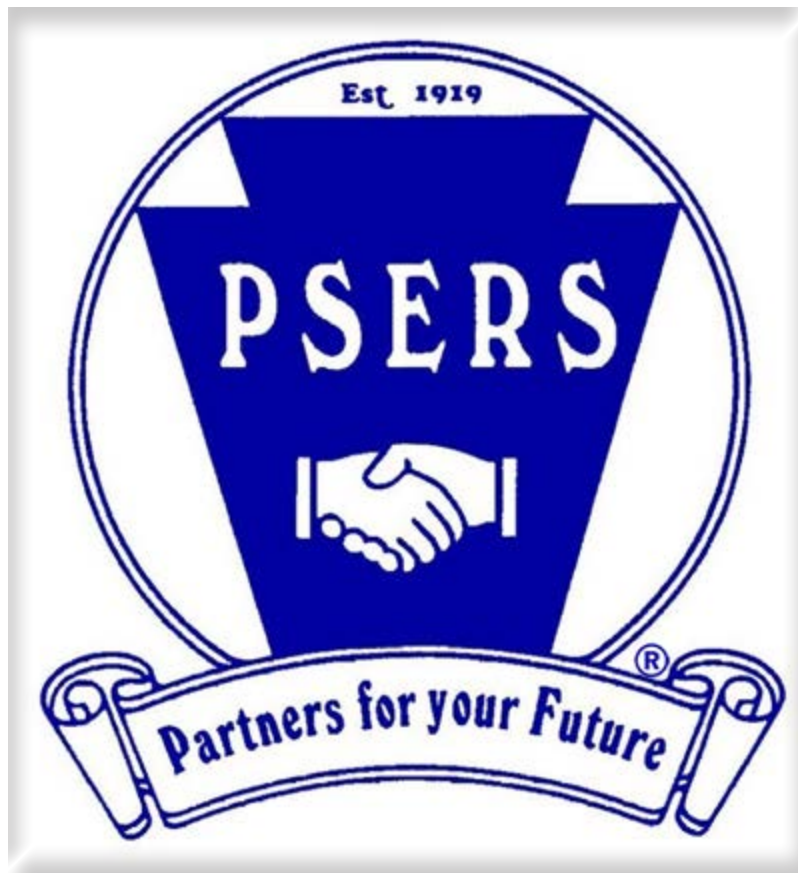
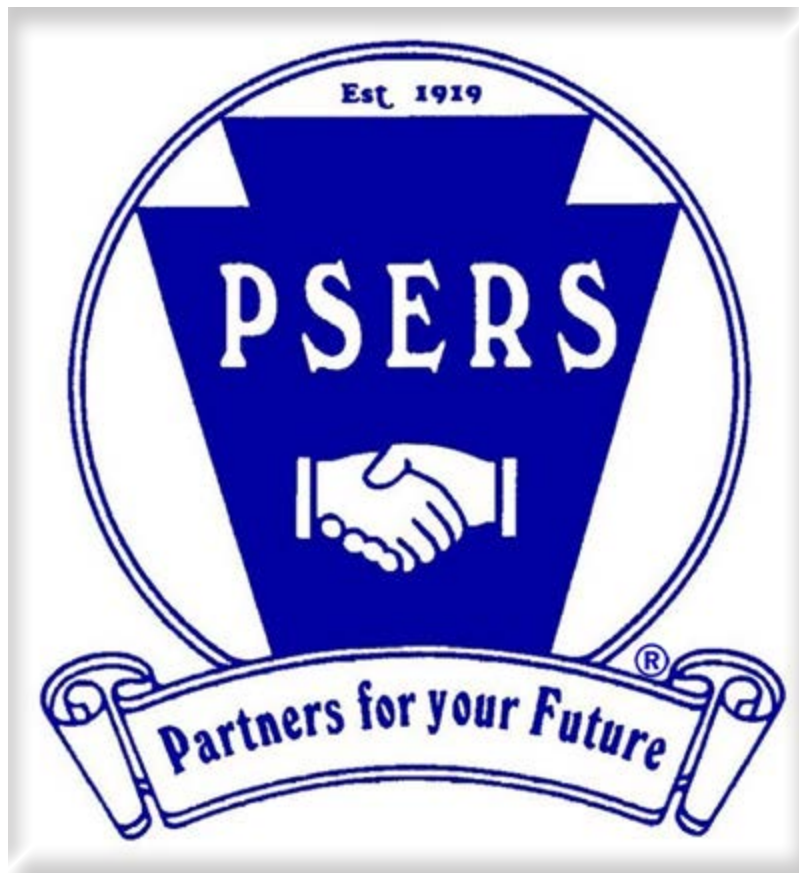


Section 3 - Investment Information





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Investment Policy

The Public School Employees' Retirement Board of Trustees (the Board) is responsible for, among other things, the formulation of an Investment Policy (the Policy) for the Public School Employees' Retirement System (the System). As articulated in the Public School Employees' Retirement Code 24 Pa. C.S. §8521(a), the Board and PSERS' Staff delegated with investment authority must act in a manner consistent with the Prudent Investor Standard, which requires "the exercise of that degree of judgment, skill and care under the circumstances then prevailing which persons of prudence, discretion and intelligence who are familiar with such matters exercise in the management of their own affairs not in regard to speculation, but in regard to the permanent disposition of the fund, considering the probable income to be derived therefrom as well as the probable safety of their capital." The Prudent Investor Standard recognizes modern portfolio theory and guides investment and management decisions respecting individual assets so that the trade-offs between risk and return for each asset are considered in the context of an overall investment strategy.

The System's Investment Policy Statement, Objectives, and Guidelines (the Policy), which is available at www.psers.state.pa.us, reflects the many implications of the Prudent Person Standard. The Board reviews the Policy at least annually, and may make more frequent changes as necessary. The Policy establishes clear criteria for the management of the assets by or on behalf of the Board. For example:

- The Board, PSERS' staff, investment consultants, and investment managers are assigned appropriate responsibilities and made to clearly understand the objectives and policies of the Board and the System;
- Allocation plans are prepared to guide the investment of the System's assets;
- Guidelines are established for each investment category so that asset quality, diversification, and return can be monitored;
- Investment managers are given guidance and limitations on the investment of the System's assets; and,
- The Board has created a meaningful basis for evaluating the investment performance of individual investment managers, as well as for evaluating overall success in meeting its objectives.

General Investment Objectives

The System seeks to provide benefits to its members through a carefully planned and well-executed investment program. The System has a return objective of meeting or exceeding the targeted actuarial rate of return of 7.5% over the long-term. The Policy also identifies the following general investment objectives and constraints:

Return Objectives

- The System has an overall return objective of meeting or exceeding the actuarial rate (currently 7.5%) over the long term;
- The assets of the System shall be invested to maximize the returns for the level of risk taken; and
- The System shall strive to achieve a return that exceeds the Policy Index.

Risk Objectives

- The assets of the System shall be diversified to minimize the risk of losses within any one asset class, investment type, industry or sector distribution, maturity date, or geographic location; and
- The System's assets shall be invested so that the probability of investment losses (as measured by the Policy Index) in excess of 15% in any one year is no greater than 2.5% (or two standard deviations below the expected return).

Constraints

- The System shall maintain adequate liquidity to meet required benefit payments to the System's beneficiaries;
- The System's assets shall be invested in a manner that is consistent with the System's long-term investment horizon; and,
- As a tax-exempt investor, the System's assets may be invested without distinction between returns generated from income and returns generated from capital gains.

Section 3 - Investment Information

Investment Performance Net of Fees

(for the period ended June 30, 2013) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
PSERS U.S. Equities	21.89	18.78	7.01	7.72
U.S. Equity Policy Index (1)	20.56	18.03	6.84	7.78
PSERS Non-U.S. Equities	16.08	9.56	2.42	10.43
Non-U.S. Equity Policy Index (2)	13.90	8.13	0.57	9.18
PSERS U.S. Fixed Income	2.56	8.17	8.75	6.91
U.S. Fixed Income Policy Index (3)	-0.50	6.03	7.87	6.05
PSERS Non-U.S. Developed Markets Fixed Income	-0.61	3.79	5.19	5.48
Barclays Global Aggregate GDP Weighted Index	-0.53	3.82	3.90	4.96
PSERS Emerging Markets Fixed Income	4.24	6.96	N/A	N/A
Barclays Emerging Markets 10% Country Cap Index	2.70	6.29	N/A	N/A
PSERS Commodities	-11.35	0.41	-10.05	N/A
Dow Jones-UBS Commodity Index	-8.00	-0.25	-11.61	N/A
PSERS Real Estate (4)	8.53	12.09	-6.36	6.66
Blended Real Estate Index (5)	9.74	12.37	2.72	8.75
PSERS Private Markets (4)	10.34	12.71	4.98	14.32
Thomson ONE Median Return, Vintage Year Weighted	5.66	7.69	3.22	6.11
PSERS Absolute Return	4.01	6.54	N/A	N/A
Absolute Return Policy Index (6)	7.50	7.67	N/A	N/A
PSERS Master Limited Partnerships	37.08	27.84	N/A	N/A
S&P MLP Index	29.49	21.38	N/A	N/A
PSERS Risk Parity	-4.26	N/A	N/A	N/A
Risk Parity Policy Index (7)	-2.68	N/A	N/A	N/A
PSERS Cash	0.22	0.26	N/A	N/A
Merrill Lynch U.S. Treasury Bill 0 - 3 Months Index	0.08	0.08	N/A	N/A
PSERS Total Fund (8)	7.96	10.36	2.50	7.72
Policy Index	5.68	8.13	1.99	6.33

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI All Country World (ACW) ex. USA Investable Market Index effective July 1, 2008; previously was the MSCI ACW ex. U.S. Index. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009; otherwise, the benchmark is unhedged.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (32.3%), Barclays Capital U.S. TIPS Index (Series -L) (30.8%), and Barclays Capital U.S. High Yield Index (36.9%) effective January 1, 2012. The weights to these indexes have varied in previous quarters. Prior to January 1, 2012, the Barclays Capital U.S. Universal Index was used in place of the Barclays Capital U.S. Aggregate Index.
4. Returns reported on a one-quarter lag, except for publicly traded real estate investments.
5. NTFI Index effective July 1, 2010. The NTFI Index is reported on a one-quarter lag. Between April 1, 2010 and June 30, 2010, the NCREIF Index was used. Previously, returns presented were a blend of the FTSE EPRA/NAREIT Global Real Estate Index and the NCREIF Index. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
6. Absolute Return started April 1, 2009. The assumed actuarial rate of return for the fund was 8.0% from July 1, 2009 through June 30, 2011. The rate changed to 7.5% beginning July 1, 2011.
7. Returns presented are a blend of the MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Dow Jones-UBS Commodity Index (Total Return) (15%); Dow Jones-UBS Gold Index (5%); and 3-Month LIBOR (-150%).
8. Over the past 25 years ended June 30, 2013, the Fund earned an annualized rate of return of 8.65 percent which remained above the Fund's assumed actuarial rate of return during that time period.

Section 3 - Investment Information

Investment Performance Net of Fees (for the period ended September 30, 2013) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	22.09	16.93	11.03	7.95
U.S. Equity Policy Index (1)	20.58	16.10	10.10	8.03
<i>PSERS Non-U.S. Equities</i>	16.39	6.74	8.76	10.29
Non-U.S. Equity Policy Index (2)	16.90	6.11	7.31	9.35
<i>PSERS U.S. Fixed Income</i>	-0.45	6.74	10.01	6.94
U.S. Fixed Income Policy Index (3)	-1.87	4.98	9.00	6.22
<i>PSERS Non-U.S. Developed Markets Fixed Income</i>	-1.61	2.21	6.98	5.68
Barclays Global Aggregate GDP Weighted Index	-0.72	2.81	5.63	5.23
<i>PSERS Emerging Markets Fixed Income</i>	-0.56	4.59	N/A	N/A
Barclays Emerging Markets 10% Country Cap Index	-0.83	2.70	N/A	N/A
<i>PSERS Commodities</i>	-15.98	-1.78	-2.67	N/A
Commodities Policy Index (4)	-12.63	-2.52	-4.91	N/A
<i>PSERS Real Estate (5)</i>	9.47	11.72	-5.11	6.25
Blended Real Estate Index (6)	10.71	12.40	3.59	8.73
<i>PSERS Private Markets (5)</i>	11.16	12.82	5.15	13.95
Thomson ONE Median Return, Vintage Year Weighted	7.44	8.37	3.57	6.21
<i>PSERS Absolute Return</i>	3.25	5.68	N/A	N/A
Absolute Return Policy Index (7)	7.50	7.62	N/A	N/A
<i>PSERS Master Limited Partnerships</i>	26.87	23.74	27.09	N/A
S&P MLP Index	18.42	16.92	23.02	N/A
<i>PSERS Risk Parity</i>	-5.99	N/A	N/A	N/A
Risk Parity Policy Index (8)	-3.20	N/A	N/A	N/A
<i>PSERS Cash</i>	0.23	0.25	N/A	N/A
Merrill Lynch U.S. Treasury Bill 0 - 3 Months Index	0.06	0.07	N/A	N/A
<i>PSERS Total Fund (9)</i>	6.99	8.94	5.53	7.54
Policy Index	5.55	7.00	4.79	6.29

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI All Country World (ACW) ex. USA Investable Market Index effective July 1, 2008; previously was the MSCI ACW ex. U.S. Index. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009; otherwise, the benchmark is unhedged.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (32.3%), Barclays Capital U.S. TIPS Index (Series -L) (30.8%), and Barclays Capital U.S. High Yield Index (36.9%) effective January 1, 2012. The weights to these indexes have varied in previous quarters. Prior to January 1, 2012, the Barclays Capital U.S. Universal Index was used in place of the Barclays Capital U.S. Aggregate Index.
4. Returns presented are a blend of the DJ/UBS Commodity Gold Index (33.3%) and the DJ/UBS Commodity Index (66.7%).
5. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
6. NTFI Index effective July 1, 2010. The NTFI Index is reported on a one-quarter lag. Between April 1, 2010 and June 30, 2010, the NCREIF Index was used. Previously, returns presented were a blend of the FTSE EPRA/NAREIT Global Real Estate Index and the NCREIF Index.
7. Absolute Return started April 1, 2009. The assumed actuarial rate of return for the fund was 8.0% from July 1, 2009 through June 30, 2011. The rate changed to 7.5% beginning July 1, 2011.
8. Returns presented are a blend of the MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Dow Jones-UBS Commodity Index (Total Return) (15%); Dow Jones-UBS Gold Index (5%); and 3-Month LIBOR (-150%).
9. Over the past 25 years ended September 30, 2013, the Fund earned an estimated annualized rate of return of 8.71 percent which remained above the Fund's assumed actuarial rate of return during that time period.



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Section 3 - Investment Information

Asset Allocation (as of December 31, 2013)

tion it deems appropriate in formulating this allocation. The purpose of the asset allocation is to meet the long-term financial needs and investment objectives of the System.

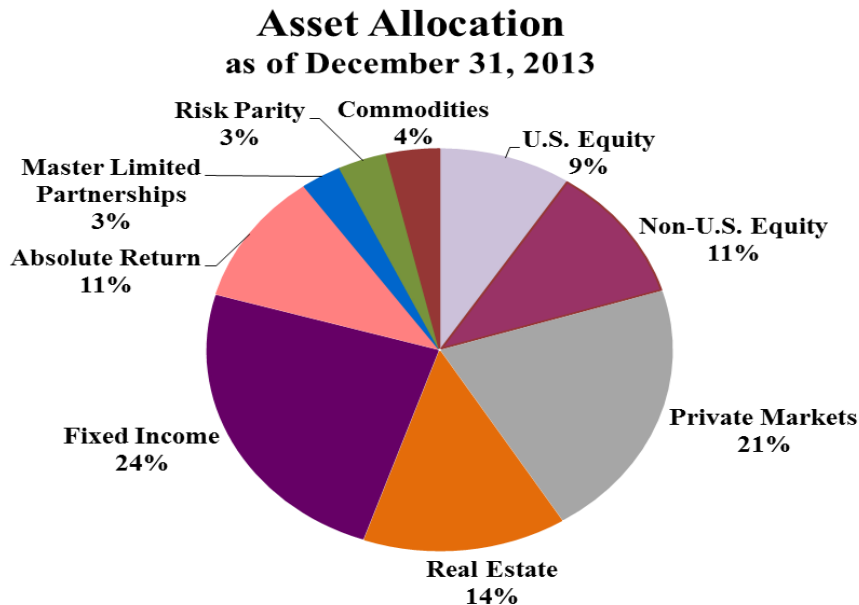
The Board reviews the long-term asset allocation targets of the System at least annually. In establishing the asset allocation plan, the Board will consult with its actuary, consultants, investment staff, and other sources of informa-

The following represents PSERS' asset allocation as of December 31, 2013 (unaudited):

Asset Class	Market Value (in millions)	Percentage of Total	Target Allocation %	Target Allocation Range
Global:				
U.S. Equity	\$ 4,554.7	9.2%	9.0%	± 5%
Non-U.S. Equity**	5,468.1	11.0	8.0	± 5
Private Markets	10,365.9	20.9	21.0	-
Real Estate	6,996.5	14.1	14.0	-
Fixed Income**	11,971.7 *	24.2	26.0	± 10
Absolute Return	5,288.2	10.7	10.0	± 4
Risk Parity**	1,397.8	2.8	4.0	± 4
Master Limited Partnerships	1,673.8	3.4	3.0	± 3
Commodities**	<u>1,822.2</u>	<u>3.7</u>	<u>5.0</u>	± 4
Totals	\$ 49,538.9	100.0%	100.0%	

* Cash is included in the Fixed Income asset class. Cash represents the total short-term investment fund (STIF) managed by PSERS in the PSERS Proprietary Fund. Cash is unitized and the managers in the various asset classes are allocated units of STIF. For purposes of this schedule, units of STIF are not included in the various asset classes. For example, a U.S. Equity manager may manage \$200 million, but if that manager has \$10 million in STIF, \$190 million would be included in U.S. Equity and \$10 million would be included in Cash.

**PSERS uses financing to achieve increased economic exposure to diversifying asset classes to manage the overall portfolio risk while maintaining an allocation designed to achieve the long-term return goals of the System. Increased economic exposure is generally achieved through the use of either derivative positions or higher volatility funds. As of December 31, 2013, PSERS had increased economic exposure of \$5.3 billion related to the following asset classes: Fixed Income (\$3.9 billion); Risk Parity (\$0.5 billion); Non-U.S. Equities (\$0.3 billion) and Commodities (\$0.6 billion). The target allocation to financing was netted against the following target allocations: Fixed Income (6%), Risk Parity (1%), Commodities (1%) and Non-U.S. Equities (1%).



Section 3 - Investment Information

Asset Allocation (as of December 31, 2013) (continued)

Number of Investment Managers and Portfolios

Public Market Asset Classes (ex. Real Estate)

PSERS' public market asset classes, excluding Real Estate, used 69 external investment managers who were responsible for 80 portfolios, and 10 internal portfolio managers who were responsible for 12 portfolios. There were 4 external public market investment managers with portfolios in multiple asset classes. A further breakdown of the external and internal portfolio managers is shown in the table below.

Private Markets and Real Estate

PSERS' private markets and real estate (public and private markets) asset classes used 121 active external general partners to invest in 268 limited partnership interests of various private market real estate, private debt, private equity, and venture capital funds. Additionally, PSERS internal staff manages a portfolio of privately-placed co-investment and secondary investments consisting of both private equity and real estate. PSERS has 2 internal real estate investment managers who are responsible for 1 public market real estate portfolio. Finally, PSERS had 5 external real estate asset managers who oversee the direct management of 5 separate real estate accounts.

Public Market Asset Classes (excluding Public Market Real Estate)

	Portfolio Managers	Portfolios/Accounts
<i>U.S. Equity Investments:</i>		
External*	5	5
Internal	1	3
<i>Non-U.S. Equity Investments:</i>		
External*	12	13
Internal	3	3
<i>Fixed Income Investments:</i>		
External*	26	34
Internal**	3	3
<i>Commodities:</i>		
External	5	5
Internal	1	1
<i>Master Limited Partnerships:</i>		
External	3	3
<i>Risk Parity:</i>		
External	2	2
Internal	1	1
<i>Absolute Return:</i>		
External*	15	16
<i>Cash:</i>		
Internal**	1	1
<i>Securities Lending:</i>		
External	1	2
<i>Total</i>	79	92
<i>Total External*</i>	69	80
<i>Total Internal</i>	10	12

*The Public Market Emerging Investment Manager Program consisted of 8 portfolio managers each managing a single portfolio.

There were 3 U.S. Equity, 2 Non-U.S. Equity, 2 Fixed Income portfolios, and 1 Absolute Return portfolio in the Program.

**PSERS managed \$241.5 million for the System's healthcare account.

**Summary of PSERS'
Equity Investments
(as of December 31, 2013)**

Public Market Global Equity Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies equity investments and balances equity management styles. PSERS contracts with external investment managers and hires internal portfolio managers to manage equity portfolios.

Policy

Equities are utilized by the Fund primarily because their expected large return premiums versus inflation will, if realized, help preserve and enhance the real value of the Fund over long periods of time. The Public Market Global Equity Exposure asset class is to be managed on a total return basis.

Equity investments shall consist almost entirely of publicly-traded securities listed on major world-wide stock exchanges or derivatives such as swaps or listed futures that replicate the performance of equity indexes such as the S&P 500 Index. Swaps and futures are employed by PSERS to equitize cash and portable alpha portfolios.

PSERS' Asset Allocation targets an eventual allocation of 17.0% of assets to Public Market Global Equity Exposure.

Market Value as of December 31, 2013:

- U.S.: \$4,554.7 million, or 9.2% of the Fund's total market value.
- Non-U.S.: \$5,468.1 million, or 11.0% of the Fund's total market value.
- Total: \$10,022.8 million, or 20.2% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with five external investment managers responsible for various U.S. Equity portfolios (including three Public Market Emerging Manager Program managers), and contracts with 12 external investment managers responsible for various Non-U.S. Equity portfolios (including two Public Market Emerging Investment Manager Program managers).

Number of Internal Portfolio Managers:

- U.S.: PSERS had one employees managing various U.S. Equity portfolios.
- Non-U.S.: PSERS had three employees managing two Non-U.S. Equity portfolios.

Types of Investment Portfolios at December 31, 2013:

- U.S.: 80.0% large capitalization stock strategies, 18.5% medium/small capitalization stock strategies, and 1.5% in micro capitalization stock strategies.
- 90.7% passively-managed portfolios and 9.3% actively-managed stock selection portfolios.
- 90.7% was managed by internal portfolio managers and 9.3% is managed by external investment managers.
- Non-U.S.: 75.7% large capitalization stock strategies, 13.9% small capitalization strategies, and 10.4% emerging market stock strategies.
- 47.3% passively-managed portfolios (managed internally) and 52.7% actively-managed portfolios (managed externally).

Section 3 - Investment Information

Summary of PSERS' U.S. Equity Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS S&P 400 Index Fund	\$ 230.6	5.1%	0.5%
PSERS S&P 500 Index Fund	3,641.5	80.0%	7.3%
PSERS S&P 600 Index Fund	252.3	5.5%	0.5%
Other	\$ 4.4	0.1%	0.0%
Total Passively Managed U.S. Equity	\$ 4,128.8	90.7%	8.3%
<i>Actively Managed Mid and Small Cap Portfolios</i>			
A.H. Lisanti Capital Growth, LLC	\$ 71.5	1.6%	0.2%
Conestoga Capital Advisors	74.6	1.6%	0.2%
First Pacific Advisors, Inc.	146.5	3.2%	0.3%
Opus Capital Management	63.8	1.4%	0.1%
Total Actively Managed Mid and Small Cap U.S. Equity	\$ 356.4	7.8%	0.8%
<i>Actively Managed MicroCap Portfolio</i>			
NorthPointe Capital, LLC	\$ 69.5	1.5%	0.1%
Total U.S. Equity	\$ 4,554.7	100.0%	9.2%

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Non-U.S. Equity Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Non-U. S. Equities	% of Total Fund
<u>Passively Managed Portfolios</u>			
PSERS ACWI x-US Index Fund	\$ 2,410.0	44.1%	4.8%
PSERS Emerging Markets Equity Index	176.5	<u>3.2%</u>	<u>0.4%</u>
Total Passively Managed Non-U.S. Equity	\$ 2,586.5	<u>47.3%</u>	<u>5.2%</u>
<u>Actively Managed Developed Large Cap Portfolios</u>			
Baillie Gifford Overseas Ltd.	\$ 549.2	10.0%	1.1%
BlackRock Financial Management, Inc.	512.6	9.4%	1.0%
John Hsu Capital Group, Inc.	71.8	1.3%	0.2%
Marathon Asset Management Limited	581.7	10.7%	1.2%
Pareto Investment Management, Ltd.	10.8 a	0.2%	0.0%
Other	<u>1.0</u>	<u>0.0%</u>	<u>0.0%</u>
Total Actively Managed Developed Large Cap Non-U.S. Equity	\$ 1,727.1	<u>31.6%</u>	<u>3.5%</u>
<u>Actively Managed Emerging Market Portfolios</u>			
Glovista Investments	\$ 31.4	0.6%	0.1%
Wasatch Advisors, Inc.	289.4	5.3%	0.6%
Westwood Global Investments	<u>74.4</u>	<u>1.3%</u>	<u>0.1%</u>
Total Actively Managed Emerging Market Non-U.S. Equity	\$ 395.2	<u>7.2%</u>	<u>0.8%</u>
<u>Actively Managed Developed Small Cap Portfolios</u>			
Acadian Asset Management	\$ 186.0	3.4%	0.3%
Batterymarch Financial Mgmt., Inc.	74.9	1.4%	0.2%
Oberweis Asset Management, Inc.	140.8	2.6%	0.3%
Pyramis Global Advisors	136.6	2.5%	0.3%
Wasatch Advisors, Inc.	<u>221.0</u>	<u>4.0%</u>	<u>0.4%</u>
Total Actively Managed Developed Small Cap Non-U.S. Equity	\$ 759.3	<u>13.9%</u>	<u>1.5%</u>
Total Non-U.S. Equity	\$ 5,468.1	<u>100.0%</u>	<u>11.0%</u>

a - The Market Value represents the cumulative net gain on unsettled foreign exchange contracts.

Numbers may not add due to rounding.

Summary of PSERS' Private Market Investments (as of December 31, 2013)

Private Market investments represent one of nine asset classes that PSERS uses to diversify the investments of the Fund. The primary vehicle used to invest funds in this asset class is the limited partnership. Individual management groups selected by PSERS form these partnerships for the purpose of investing in and managing private equity and unlisted-subordinated debt positions on behalf of PSERS and other limited partners. PSERS' Asset Allocation currently targets an allocation of 21.0% to Private Market investments. Private Market Investment sub-asset class explanations are as follows:

Private Equity involves investments in private companies which normally do not have technology risk associated with traditional venture capital investments. It has evolved to include the financing of more mature, profitable companies that do not have access to, or qualify for, public equity and debt funding. Private Equity strategies include:

- **Buyouts** - Investment strategy is to acquire the assets of a publicly or privately held company. A subset of this category is the leveraged buyout, where financing enables companies to be acquired through the use of borrowed funds. Typically, the assets of target companies serve as collateral for loans originated in the transaction.
- **Secondary Partnerships** - An investment strategy to acquire interests in established limited partnerships. Secondary investing can often be lucrative due to the fact that the partnerships are purchased at significant discounts to net asset value and the timing of the purchase frequently occurs as the acquired partnerships begin to realize profits.

Venture Capital is considered the financing of young, relatively small, rapidly growing companies. In traditional venture capital investments, companies have a 5-10 year investment horizon and develop technology for a particular market, such as pharmaceuticals, software, medical products, etc. Venture capital strategies are typically classified as follows:

- **Seed** - An investment strategy that involves companies that are still in the conceptual stage of growth. Seed stage investing involves product viability risk.
- **Early Stage** - An investment strategy involving financing portfolio companies for product development and initial marketing, manufacturing and sales activities. Typically, early stage

companies have been formed, but revenues have not been realized. Early stage investment involves risks associated with defining competitive markets, developing production and marketing channels.

- **Later Stage** - An investment strategy involving financing portfolio companies for rapid expansion. Risk at this stage revolves around capturing market share while increasing production and delivery capabilities and building sales volume.
- **Balanced** - An investment strategy including a variety of portfolio company development stages (Seed, Early, Later, etc.).

Private Debt involves investments in the secured and/or unsecured debt obligations of private and/or public companies. This debt is typically acquired through directly negotiated or competitively bid transactions. Owners of these debt instruments typically take either an active or passive role in the management of the firm. Private Debt strategies are typically classified as follows:

- **Mezzanine** - Investments in unsecured or junior debt securities with equity enhancements such as warrants or nominally priced equity.
- **Distressed Debt** - Investments in the debt obligations of under-performing companies that are in need of operating or financial restructuring, and are either in or out of bankruptcy.
- **Structured Products** - Investments in the debt tranche of a security that is generally leveraged and backed by a diversified pool of assets. Assets include bank debt, investment grade debt, non-investment grade debt, or mortgages.

PSERS Private Market Internal Program consists of co-investments made alongside of General Partners with whom PSERS has a strong relationship. These relationships aid in the generation of deal flow for investments and also serves as additional due diligence for the evaluation of General Partners. The investments have the potential for higher returns as they have low or no fees and no carry. This program also provides PSERS with the ability to buy secondary interests in funds from other Limited Partners usually at a discount to net asset value.

Policy

For the Private Market investments program, PSERS' long-term investment objective is to achieve a risk-adjusted total return, net of fees, that exceeds market returns for similar investments, or benchmark returns furnished by Thomson ONE on a vintage year weighted basis.

**Summary of
PSERS' Private Market Investments
(as of December 31, 2013)
(continued)**

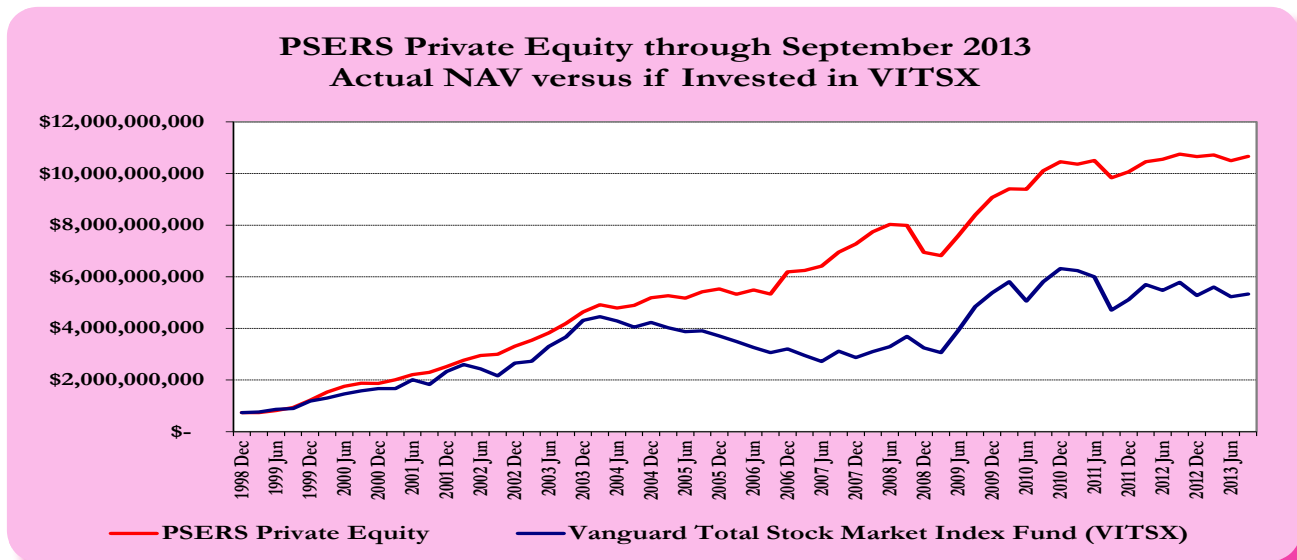
Public Equity vs. Private Equity

Arguments have been made that Private Equity is just an expensive form of investing in public equities and can be replicated by passively managed public equity indexes. While disagreeing with that statement, PSERS would strongly agree that Private Equity is not an asset class for individuals or smaller institutional investors. Individuals and small institutional investors typically lack the expertise, ability to diversify managers, and, most importantly, access to top quartile managers. A lack of access means that returns relative to passively managed public market indexes will most likely not justify the incremental costs associated with investing in this asset class. PSERS has enjoyed success in Private Equity due to having a strong, internal management team, excellent consulting relationships, and, most importantly, access to top quartile managers.

Why is Private Equity an area where potentially attractive excess returns can be achieved? The answer in a word is inefficiency. Private markets provide the opportunity to

negotiate and set a price between the owner of a business and the buyer/investor in a private fashion. There is a very large private economy that exists that is in need of operating expertise, capital to grow their business, an exit out of the family business where the next generation does not want to be involved, etc. In public market equities, there are thousands of buyers and sellers setting the prices of these securities every day with a significant amount of disclosure into the finances of these companies. No such mechanism exists in the private markets. Thus, private markets provide fertile grounds for investing.

PSERS has been investing in Private Equity since the mid 1980's. While this is an expensive asset class in which to invest, PSERS has had significant success. To measure this success, PSERS modeled what the returns would have been if, instead of investing in Private Equity, the cash that flows into/out of Private Equity investments were made into/out of a very low cost mutual fund that seeks to replicate the U.S. equity market. PSERS chose the Vanguard Total Stock Market Index Fund (VITSX) due to its low cost (currently 0.02%) and its success at closely matching the returns of the overall U.S. stock market. Below is a chart of the performance of PSERS Private Equity program versus the performance of the Vanguard Total Stock Market Index Fund from December 1998 through September 2013:



As illustrated above, PSERS has been able to generate in excess of \$5 billion in incremental value versus the passive, low cost index approach to equity investing.

Below are the more recent total returns for the past 10 years (through September 30, 2013) for PSERS Private Equity

Program, the Vanguard Total Stock Market Index Fund (VITSX), the Vanguard 500 Index Fund Admiral Shares (VFIAX), and PSERS Internally-Managed S&P 500 Index Portfolio (PSERS 500) (VITSX, VFIAX, and PSERS 500 with dividends reinvested):

	10 Year, Net of Fee Return
PSERS Private Equity Program	13.95%
Vanguard Total Stock Market Index (VITSX)	8.38%
Vanguard 500 Index Fund Admiral Shares (VFIAX)	7.55%
PSERS Internally-Managed S&P 500 Index Fund	7.89%

Section 3 - Investment Information

Summary of PSERS' Private Market Investments (as of December 31, 2013) (continued)

Market Value as of December 31, 2013: \$10,365.9 million, or 20.9% of the Fund's total market value. Sub-asset class market values (unaudited) and fund percentages were as follows:

	Total Commitment (in millions)	Market Value (in millions)	Percent Allocation to Total Fund
Private Equity	\$ 17,587.7	\$ 8,221.9	16.6%
Venture Capital	2,299.4	856.0	1.7
Private Debt	<u>4,370.8</u>	<u>1,288.0</u>	<u>2.6</u>
Totals	\$ <u>24,257.9</u>	\$ <u>10,365.9</u>	<u>20.9%</u>

An objective of PSERS' Private Market Investments Program is to maintain investment diversification by industry, geographic location, and investment strategy. Diversification levels as of December 31, 2013 are as follows:

Industry Diversification (by number of companies in each industry)

Secondary Funds	35.6%
Services	12.2%
Industrial	10.7%
Computer	8.1%
Financial	7.9%
Medical	6.9%
Communication	4.9%
Consumer	4.7%
Energy	3.5%
Transportation	2.8%
Real Estate	2.0%
Other	0.7%

Number of External Investment Managers: PSERS' Private Equity program has committed a total of \$17.6 billion to 112 partnerships through December 31, 2013. Seven of these partnerships are located in Pennsylvania. 33 of the 38 international investment partnerships are included within the private equity sector. The international investments serve to increase the diversification of this asset class while providing the opportunity of increasing total returns.

Geographical Diversity (by percentage of companies located in each state)

International	29.1%
New York	17.9%
California	12.5%
Texas	5.2%
Massachusetts	4.6%
Pennsylvania	3.6%
Illinois	2.6%
Connecticut	2.4%
New Jersey	2.2%
Florida	2.1%
North Carolina	1.6%
Virginia	1.4%
Maryland	1.4%
Ohio	1.3%
Other	12.1%

PSERS' Venture Capital program consists of 37 partnerships with committed capital totaling \$2.3 billion through December 31, 2013. A significant number of the venture capital partnerships, 17 out of 37, are located in Pennsylvania. One of the 38 international partnerships is included within the venture capital sector.

PSERS Private Debt program has committed \$4.4 billion to 27 partnerships through December 31, 2013. The Private Debt program was initiated in 2000 by re-allocating \$1.0 billion from the Fixed Income allocation to take advantage of the attractive market conditions within the mezzanine and distressed debt sectors. Three partnerships are located in Pennsylvania, and four of the 38 international partnerships are included within the private debt sector.

Number of In-House Co-Investments: PSERS' Private Market Internal Program consists of 11 investments with committed capital totaling \$142 million through December 31, 2013. PSERS's Private Market Internal Program was initiated in 2012 and consists of co-investments and secondary fund investments where PSERS is already a Limited Partner. One investment is located in Pennsylvania and five of the 11 investments are international.

Number of Internal Portfolio Managers: PSERS had three employees managing Private Market portfolios.

Section 3 - Investment Information

Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013)

Partnership Name Private Equity:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
ABS Capital Partners II	1996	\$ 40,000,000	\$ 39,291,287	\$ 45,555,324
Actis Emerging Markets 3, L.P.	2007	200,000,000	211,119,441	35,303,366
Actis Global 4, L.P.	2012	100,000,000	11,064,098	-
Allegheny New Mountain Partners, L.P.	2004	100,000,000	83,655,669	125,832,942
Apax Europe VII, L.P.	2007	275,780,000	284,114,792	71,664,745
Bain Capital Asia Fund II, L.P.	2012	100,000,000	28,500,000	-
Bain Capital Fund XI, L.P.	2013	100,000,000	-	-
Baring Asia Private Equity Fund III, L.P.	2005	122,500,000	139,970,425	270,221,946
Baring Asia Private Equity Fund IV, L.P.	2007	300,000,000	291,337,269	120,174,628
Baring Asia Private Equity Fund V, L.P.	2011	200,000,000	109,550,608	-
Blue Point Capital Partners (B), L.P.	2001	103,750,000	91,059,964	116,869,919
Blue Point Capital Partners II (B), L.P.	2007	100,000,000	92,083,252	82,695,172
Bridgepoint Capital II (Secondary)	1998	84,714,906	81,276,971	165,495,935
Bridgepoint Europe I	1998	79,622,624	75,089,014	134,601,685
Bridgepoint Europe II	2001	413,670,000	312,831,931	605,119,344
Bridgepoint Europe III A, L.P.	2005	275,780,000	249,204,188	140,160,786
Bridgepoint Europe IV, L.P.	2008	413,670,000	330,490,603	73,101,733
Capital International Private Equity Fund V L.P.	2007	200,000,000	196,590,136	117,613,976
Capital International Private Equity Fund VI, L.P.	2011	100,000,000	42,362,477	449,064
Catterton Growth Partners II, L.P.	2013	75,000,000	12,757,858	-
Catterton Growth Partners, L.P.	2008	75,000,000	79,917,702	34,411,211
Catterton Partners V, L.P.	2004	100,000,000	101,386,111	91,234,269
Catterton Partners VI, L.P.	2006	130,000,000	139,972,037	127,888,304
Catterton Partners VII, L.P.	2012	100,000,000	16,463,376	-
Cinven Fund (Fifth), L.P.	2011	137,890,000	27,265,685	1,007,065
Cinven Fund (Fourth), L.P.	2006	206,835,000	201,084,969	110,820,567
Clarity Partners L.P.	2000	203,590,000	204,759,024	113,660,697
Clarity PSERS II, L.P.	2008	17,386,250	12,113,244	562,500
Coller International Partners VI, L.P.	2011	100,000,000	35,395,470	687,836
Credit Suisse Equity Partners, L.P.	1998	137,172,500	114,692,730	27,777,502
Credit Suisse Int'l Equity Partners, L.P.	1997	83,000,000	76,663,757	95,804,666
Crestview Partners II (PF) LP	2008	200,000,000	193,449,741	76,429,352
Crestview Partners III, L.P.	2013	150,000,000	-	-
Crestview Partners, L.P.	2005	150,000,000	151,694,262	83,933,996
CVC Capital Partners Asia Pacific III, L.P.	2008	300,000,000	289,614,299	173,967,436
CVC European Equity Partners V (A), L.P.	2008	413,670,000	355,043,448	189,989,891
DCPF VI Oil and Gas Co-Investment Fund, L.P.	2013	25,000,000	1,108,122	-
Denham Commodity Partners Fund VI, L.P.	2011	75,000,000	20,933,703	-
DLJ Merchant Banking Partners III, L.P.	2000	300,000,000	309,320,130	603,077,209

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Section 3 - Investment Information

Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Dubin Clark Fund II, L.P.	2000	\$ 24,083,333	\$ 23,706,041	\$ 15,338,534
Edgewater Growth Capital Partners, L.P.	2001	59,196,500	59,196,500	71,788,545
Edgewater Private Equity Fund III, L.P.	1998	39,000,000	39,000,000	20,890,951
Evergreen Pacific Partners II, L.P.	2008	80,954,545	33,954,986	12,543,800
Evergreen Pacific Partners, L.P.	2005	50,000,000	36,648,066	5,000,213
First Reserve Fund XI, L.P.	2006	200,000,000	213,209,232	110,032,235
First Reserve Fund XII, L.P.	2008	250,000,000	239,499,020	48,570,446
Furman Selz Investors III L.P.	2000	100,000,000	95,025,051	202,950,790
GoldPoint Partners Co-Investment V, L.P.	2013	50,000,000	-	-
Graham Partners	1999	56,671,214	61,592,604	54,565,915
Greenwich Street Capital Partners II	1998	200,000,000	214,950,879	211,091,576
Halifax Capital Partners	1999	50,000,000	39,967,488	61,790,763
Headland Private Equity Fund 6 L.P., The	2008	200,000,000	159,329,053	30,893,705
HgCapital 7, L.P.	2013	124,245,000	10,805,064	-
Incline Equity Partners III (PSERS), L.P.	2011	65,000,000	12,141,452	985,244
Irving Place Capital Partners II L.P.	2000	300,000,000	282,383,236	452,646,924
Irving Place Capital Partners III L.P.	2006	150,000,000	135,664,278	33,831,266
Jefferies Capital Partners IV, L.P.	2005	100,000,000	95,120,543	101,617,044
KKR 2006 Fund L.P.	2006	300,000,000	287,765,330	186,440,153
KRG Capital Fund II (PA) L.P.	2001	100,000,000	79,647,554	115,274,688
KRG Capital Fund III, (PA) L.P.	2005	88,000,000	88,003,630	36,691,857
KRG Capital Fund IV L.P.	2007	300,000,000	265,059,119	117,304,394
Landmark Equity Partners III, L.P.	1993	27,085,010	27,085,010	76,288,593
Landmark Equity Partners IV, L.P.	1994	10,533,687	10,254,032	15,353,655
Landmark Equity Partners XIII, L.P.	2006	100,000,000	94,253,790	68,329,616
Landmark Equity Partners XIV, L.P.	2008	150,000,000	116,100,746	52,714,390
Landmark Mezzanine Partners	1995	75,000,000	59,171,340	106,589,453
Lexington Capital Partners I, L.P.	1996	50,000,000	49,613,120	62,882,209
Lindsay Goldberg & Bessemer L.P.	2002	300,000,000	312,768,185	699,748,264
Milestone Partners II, L.P.	2004	29,890,000	27,844,247	40,340,828
Milestone Partners III, L.P.	2008	60,000,000	54,001,300	15,437,447
Milestone Partners IV, L.P.	2011	70,000,000	23,975,493	373,792
Morgan Stanley Dean Witter Cap Ptrs IV, L.P.	1998	300,000,000	236,925,618	477,261,395
Morgan Stanley PE Asia Fund IV, L.P.	2013	100,000,000	12,722,464	-
Navis Asia Fund V, L.P.	2007	100,000,000	119,315,968	51,341,437
New Mountain Partners III L.P.	2007	300,000,000	289,418,861	100,041,347
New Mountain Partners IV, L.P.	2013	100,000,000	-	-
New Mountain Partners. L.P.	2000	192,509,033	161,036,343	224,742,581
New York Life Capital Partners I, L.P.	1999	200,000,000	204,822,623	223,323,031

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Section 3 - Investment Information

Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
New York Life Capital Partners II, L.P.	2001	\$ 200,000,000	\$ 194,476,197	\$ 500,363,284
New York Life Capital Partners III-A, L.P.	2005	200,000,000	206,973,107	68,051,165
New York Life Capital Partners IV-A, L.P.	2008	100,000,000	104,528,661	53,142,249
NGP Natural Resources X, L.P.	2012	100,000,000	45,960,018	689,818
Nordic Capital VII Beta L.P.	2008	206,835,000	189,261,003	32,085,091
Orchid Asia V, L.P.	2011	40,000,000	23,508,790	7,660,456
PAI Europe III, L.P.	2001	413,670,000	334,978,803	1,111,366,194
PAI Europe IV-B2, L.P.	2005	137,890,000	130,887,795	139,306,421
PAI Europe V, L.P.	2007	137,890,000	128,193,291	22,752,133
PAI Europe VI, L.P.	2013	137,890,000	-	-
Palladium Equity Partners II-A, L.P.	2000	57,750,000	62,275,148	73,347,939
Partners Group Secondary 2008, L.P.	2007	206,835,000	178,083,194	83,046,301
Partners Group Secondary 2011 (USD), L.P. Inc.	2011	100,000,000	23,505,829	1,126,000
Permira IV, L.P.	2006	172,362,500	160,992,055	83,988,427
Platinum Equity Capital Partners-A II, L.P.	2007	300,000,000	275,363,883	235,891,822
Platinum Equity Capital Partners-A III, L.P.	2012	200,000,000	42,776,951	21,899,316
Platinum Equity Capital Partners-A, L.P.	2004	125,000,000	97,387,205	234,322,699
PNC Equity Partners II, L.P.	2006	68,065,386	58,423,009	38,588,044
PNC Equity Partners, L.P.	2001	43,154,458	39,743,735	72,716,701
Providence Equity Partners VI, L.P.	2006	300,000,000	306,575,110	103,318,512
PSERS Private Market Internal Program	2012	56,293,106	35,656,913	8,356,887
PSERS Private Market Internal Program	2013	85,323,412	56,407,237	979,190
Quadrangle Capital Partners II, L.P.	2005	250,000,000	220,606,857	133,908,585
Quadrangle Capital Partners, L.P.	2001	270,422,415	225,388,018	344,814,578
StepStone International Investors III L.P.	2007	137,890,000	132,975,929	61,354,101
Sterling Capital Partners, L.P.	2002	75,000,000	84,218,317	145,571,890
Strategic Feeder, L.P.	2001	200,000,000	193,081,558	298,330,639
Strategic Partners Fund II, L.P.	2003	300,000,000	263,240,142	456,538,381
Strategic Partners Fund III-B, L.P.	2005	200,000,000	216,135,843	190,715,349
Strategic Partners Fund IV, L.P.	2008	100,000,000	92,160,070	78,231,120
Strategic Partners Fund V, L.P.	2011	150,000,000	91,066,635	28,167,459
TPG Partners V, L.P.	2006	250,000,000	261,401,532	103,800,894
TPG Partners VI, L.P.	2008	360,000,000	316,042,478	111,628,376
Trilantic Capital Partners IV L.P.	2007	76,752,676	75,297,192	62,674,485
Trilantic Capital Partners V (North America), L.P.	2013	100,000,000	17,558,434	53,344
U.S. Equity Partners II	2001	300,000,000	222,212,175	205,818,087
Wicks Communications and Media Partners, L.P.	1999	87,500,000	88,962,098	106,348,232
Total Private Equity		\$17,587,723,555	\$14,481,511,271	\$13,162,084,316

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Venture Capital:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Adams Capital Management, L.P.	1997	\$ 12,500,000	\$ 12,500,000	\$ 22,671,838
Aisling Capital II L.P.	2006	50,000,000	53,114,907	18,437,273
Aisling Capital III, L.P.	2008	50,000,000	35,282,257	14,068,657
Co-Investment 2000 Fund, L.P.	2000	135,000,000	135,000,000	159,041,375
Co-Investment Fund II, L.P.	2006	135,000,000	128,925,000	9,410,651
Cross Atlantic Technology Fund II	2001	21,119,734	21,119,734	12,114,382
Cross Atlantic Technology Fund, L.P.	1999	30,141,666	30,357,584	35,781,536
Jefferson Partners Fund IV (PA) L.P.	2003	27,452,588	24,583,511	200,204
KBL Partnership, L.P.	1999	13,743,333	13,711,864	6,563,009
Landmark Equity Partners II, L.P.	1992	25,000,000	25,000,000	39,039,687
Landmark Equity Partners V, L.P.	1995	49,060,283	48,481,948	58,703,795
LLR Equity Partners II, L.P.	2004	75,000,000	74,986,212	103,783,175
LLR Equity Partners III, L.P.	2008	187,500,000	160,820,481	82,003,514
LLR Equity Partners IV, L.P.	2013	200,000,000	-	-
LLR Equity Partners, L.P.	1999	62,500,000	61,278,857	131,247,393
NEPA Venture Fund II	1992	5,000,000	5,000,000	23,252,576
Novitas Capital , L.P.	1998	30,000,000	29,952,000	34,419,298
Novitas Capital II, L.P.	2000	75,000,000	74,775,000	15,910,651
Perseus-Soros BioPharmaceutical Fund	2001	112,206,666	123,791,149	190,468,490
Psilos Group Partners III-C, L.P.	2007	62,500,000	57,744,925	30,420,581
Quaker BioVentures II, L.P.	2007	100,000,000	81,153,932	20,998,932
Quaker Bio-Ventures, L.P.	2003	69,350,000	69,458,692	13,821,323
SCP Private Equity Partners I, L.P.	1996	62,500,000	63,285,918	43,172,864
SCP Private Equity Partners II, L.P.	2000	125,000,000	129,614,995	27,862,005
StarVest Partners , L.P.	1999	67,500,000	65,659,367	101,373,175
StarVest Partners II (Parallel), L.P.	2007	50,000,000	39,306,448	-
Sterling Venture Partners, L.P.	2000	33,986,000	36,115,022	31,203,448
Strategic Partners Fund III VC, L.P.	2005	50,000,000	54,752,975	45,090,752
Strategic Partners Fund IV VC, L.P.	2008	50,000,000	55,643,378	34,355,407
Summit Partners Growth Equity Fund VIII, L.P.	2012	100,000,000	27,500,000	-
Summit Partners Venture Capital Fund III, L.P.	2012	25,000,000	11,125,000	-
TDH III, L.P.	1993	7,350,750	7,350,750	4,874,316
Tenaya Capital IV-P, L.P.	2003	75,000,000	72,679,657	75,850,647
Tenaya Capital VI, L.P.	2012	50,000,000	20,726,212	-
Tenaya Capital V-P, L.P.	2007	75,000,000	65,173,379	55,894,136
Total Venture Capital		\$ 2,299,411,020	\$ 1,915,971,154	\$ 1,442,035,090

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Active Private Market Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

Partnership Name Private Debt:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Apollo Investment Fund VIII, L.P.	2013	\$ 250,000,000	\$ -	\$ -
Avenue Asia Special Situations Fund II, L.P.	2001	220,000,000	220,000,000	413,014,083
Avenue Asia Special Situations Fund III, L.P.	2003	100,000,000	76,344,737	114,220,428
Avenue Asia Special Situations Fund IV, LP	2006	300,000,000	225,056,480	160,211,233
Avenue Europe Special Situations Fund, L.P.	2008	275,780,000	259,698,044	351,705,292
Avenue Special Situations Fund IV, L.P.	2005	115,000,000	144,782,669	187,322,079
Avenue Special Situations Fund V, L.P.	2007	300,000,000	301,095,120	392,739,125
Avenue Special Situations Fund VI, L.P.	2010	75,000,000	76,892,726	3,367,165
Cerberus Institutional Partners V, L.P.	2012	200,000,000	104,950,369	19,212,678
Cerberus Institutional Partners, L.P. (Series 2)	2001	200,000,000	173,047,901	472,168,754
Cerberus Institutional Partners, L.P. (Series 3)	2003	100,000,000	81,055,777	119,102,169
Cerberus Institutional Partners, L.P. (Series 4)	2006	400,000,000	369,661,873	230,872,360
Gleacher Mezzanine Fund II, L.P.	2006	100,000,000	91,122,173	63,991,900
Gleacher Mezzanine Fund, L.P.	2001	75,000,000	63,450,304	95,938,829
Gold Hill Venture Lending 03-A, L.P.	2004	50,000,000	50,000,000	68,424,799
GSC Partners CDO Investors IV, L.P.	2003	80,000,000	80,000,000	91,000,000
GSC Recovery II, L.P.	2000	280,000,000	279,170,771	385,766,529
GSC Recovery III (Parallel Fund), L.P.	2005	200,000,000	201,394,130	171,881,608
NYLIM Mezzanine Partners (Parallel Fund) L.P.	2003	75,000,000	68,801,820	85,011,915
NYLIM Mezzanine Partners II (Parallel Fund) LP	2006	150,000,000	163,722,994	172,130,472
OCM Opportunities Fund VII L.P.	2007	75,000,000	75,000,000	85,212,949
OCM Opportunities Fund VII-b L.P.	2008	225,000,000	202,500,000	303,335,695
Versa Capital Fund I, L.P.	2005	75,000,000	88,545,177	61,512,768
Versa Capital Fund II, L.P.	2008	150,000,000	130,533,012	42,646,691
Versa Capital Fund III, L.P.	2013	150,000,000	-	-
Windjammer Senior Equity Fund III, L.P.	2006	50,000,000	45,223,847	39,496,800
Windjammer Senior Equity Fund IV, L.P.	2012	100,000,000	27,151,418	-
Total Private Debt		\$ 4,370,780,000	\$ 3,599,201,342	\$ 4,130,286,321
Grand Total		<u>\$24,257,914,575</u>	<u>\$19,996,683,767</u>	<u>\$18,734,405,727</u>

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.



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Summary of PSERS' Real Estate Investments (as of December 31, 2013)

Private Real Estate Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. The primary objective of the real estate program is to invest in real property directly or indirectly through global publicly-traded real estate securities (PTRES), direct investments, commingled fund investments, limited partnerships, and direct private placements. This is done in a prudent manner to create a diversified real estate portfolio of high quality investments which will enhance PSERS' overall long-term investment performance, diversify the asset base, and reduce the volatility of returns of the total investment portfolio.

	Total Commitment (Millions)	Market Value (Millions)	Percent Allocation to Total Fund
Separate Accounts	\$ 448.3	\$ 264.0	0.5%
PTRES	202.4	192.6	0.4%
Core Real Estate	500.0	339.6	0.7%
Opportunistic Real Estate	8,870.0	4,682.4	9.4%
Value Added Real Estate	<u>3,867.4</u>	<u>1,517.9</u>	<u>3.1%</u>
Totals	<u>\$ 13,888.1</u>	<u>\$ 6,996.5</u>	<u>14.1%</u>

Policy

The real estate program is designed to create the highest possible risk-adjusted returns in a controlled, coordinated, and comprehensive manner. Recognizing that real estate market conditions and PSERS' objectives for real estate may change over time, the program is reviewed periodically and updated as needed. The existing target allocation is 14.0% of total assets.

Investments are made through global PTRES, direct investments, commingled fund investments, limited partnerships, and direct private placements. It is PSERS' intent to liquidate any investment at the point in time when its value has been maximized. PSERS seeks to diversify its real estate portfolio by investing in a mix of Opportunistic (25%), Value Added (50%) and Core (25%) real estate investments.

Opportunistic real estate investing is the financing, acquisition or investment in real estate assets, real estate companies, portfolios of real estate assets, private and public REIT's that do not have access to traditional public equity or debt financing. Opportunistic real estate

consists of investment strategies that seek to exploit market inefficiencies with an emphasis on total return. Opportunistic investments require specialized expertise and the flexibility to respond quickly to market imbalances or changing market conditions. Investments may include non-traditional property types and/or assets that involve development, re-development, or leasing risks.

Value Added real estate investing typically focuses on both income growth and appreciation potential, where opportunities created by dislocations and inefficiencies between and within segments of the real estate capital markets are capitalized upon to enhance returns. Investments can include high-yield equity and debt investments and undervalued or impaired properties in need of repositioning, re-development or leasing.

Core real estate investing is the financing, acquisition or investment in real estate assets, real estate companies, portfolios of real estate assets, and private REITs that are broadly diversified by property type and location, focused primarily on completed, well-leased properties with modest levels of leasing risk, using relatively low leverage, and investing mainly in institutional property types and qualities allowing for relative ease of resale.

Market Value as of December 31, 2013: \$6,996.5 million or 14.1% of the Fund's total market value. This market value represents the combination of December 31, 2013 and September 30, 2013 market values adjusted for cash flows that occurred during the fourth quarter of 2013.

Number of External Investment Managers: PSERS had contracts with five external directly managed real estate asset managers and 41 external general partners to manage the real estate separate account, public securities, and pool fund portfolios.

Number of Internal Portfolio Managers: PSERS had two employees managing real estate portfolios.

Types of Investment Portfolios at December 31, 2013:

- 3.7% Separate Account Portfolios
- 2.8% Public Securities Portfolios
- 4.9% Core Real Estate Portfolios
- 66.9% Opportunistic Real Estate Portfolios
- 21.7% Value Added Real Estate Portfolios

Section 3 - Investment Information

Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Separate Accounts:				
Charter Oak Advisors, Inc.	1993	\$ 133,179,000	\$ 135,530,423	\$ 238,546,497
GF Management, Inc.	1987	131,991,000	132,318,035	141,968,556
Grosvenor Fund Management U.S., Inc.	1986	10,859,844	11,121,816	11,689,816
L&B Realty Advisors, LLP	1993	150,403,000	151,746,926	245,242,040
Prudential Agriculture Group	n/a	<u>21,821,000</u>	<u>22,522,567</u>	<u>52,308,754</u>
Total Separate Accounts		\$ 448,253,844	\$ 453,239,767	\$ 689,755,662
Public Securities:				
Security Capital Research & Management, Inc. - Preferred Growth	1997	\$ 202,393,803	\$ 202,393,803	\$ 74,308,516
Core Real Estate:				
JPMCB Strategic Property Fund	2007	\$ 100,000,000	\$ 25,000,000	\$ 4,004,818
PRISA	2006	100,000,000	100,000,000	26,647,910
ProLogis North American Industrial Fund, L.P.	2006	200,000,000	196,687,767	47,162,119
UBS (US) Trumbull Property Fund, L.P.	2006	<u>100,000,000</u>	<u>75,000,000</u>	<u>15,677,703</u>
Total Core Real Estate		\$ 500,000,000	\$ 396,687,767	\$ 93,492,551
Opportunistic Real Estate:				
Ares European Real Estate Fund III, L.P.	2007	137,890,000	135,255,446	31,518,161
Avenue Real Estate Fund (Parallel) L.P.	2006	100,000,000	94,193,695	-
BlackRock Asia Property Fund III, L.P.	2007	200,000,000	134,983,698	-
BlackRock Europe Property Fund III, L.P.	2007	137,890,000	122,036,575	5,113,090
Blackstone Real Estate Partners Europe III, L.P.	2009	275,780,000	243,816,554	33,600,842
Blackstone Real Estate Partners V, L.P.	2006	200,000,000	213,361,603	112,801,427
Blackstone Real Estate Partners VI, L.P.	2007	400,000,000	423,260,011	132,330,219
Blackstone Real Estate Partners VII, L.P.	2011	300,000,000	208,958,690	49,973,926
Brookfield Strategic Real Estate Partners, L.P.	2012	200,000,000	77,470,604	-
Carlyle Europe Real Estate Partners III, L.P.	2007	275,780,000	273,904,332	29,460,690
Carlyle Realty Partners III, L.P.	2000	141,016,667	114,754,550	227,206,170
Carlyle Realty Partners IV, L.P.	2005	130,000,000	182,254,665	62,275,945
Carlyle Realty Partners V, L.P.	2007	300,000,000	358,039,141	337,788,147
Carlyle Realty Partners VI, L.P.	2011	200,000,000	99,237,997	16,220,017
DLJ Real Estate Capital Partners III, L.P.	2005	150,000,000	164,704,060	63,733,983
DLJ Real Estate Capital Partners IV, L.P.	2007	250,000,000	270,045,774	80,565,452
DLJ Real Estate Partners II, L.P.	1999	200,000,000	185,654,834	289,723,580
Fortress Investment Fund IV LP	2006	100,000,000	100,976,805	15,674,699
Fortress Investment Fund LLC	2000	200,000,000	195,446,950	526,219,417

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Opportunistic Real Estate (continued):				
Fortress Investment Fund V (Fund A) L.P.	2007	\$ 200,000,000	\$ 195,531,972	\$ 22,774,940
LF Strategic Realty Investors, L.P.	1996	150,000,000	150,000,000	266,939,860
Lubert-Adler Real Estate Fund II	1998	50,000,000	50,389,205	74,591,477
Lubert-Adler Real Estate Fund III	2000	150,000,000	150,018,382	224,904,699
Lubert-Adler Real Estate Fund IV	2004	100,000,000	106,021,148	49,047,648
Lubert-Adler Real Estate Fund V	2006	100,000,000	102,117,852	9,754,354
Lubert-Adler Real Estate Fund VI	2007	150,000,000	137,924,761	39,065,148
Morgan Stanley Real Estate Fund II	1995	150,000,000	156,162,032	358,909,948
Morgan Stanley Real Estate Fund IV Spec Dom	2002	100,000,000	113,856,598	118,465,924
Morgan Stanley Real Estate Fund IV Spec Intl	2001	200,000,000	215,769,018	447,697,623
Morgan Stanley Real Estate Fund V Spec Intl	2005	200,000,000	231,122,788	238,060,971
Morgan Stanley Real Estate Fund V U.S.	2006	150,000,000	189,792,649	28,042,961
Morgan Stanley Real Estate Fund VI Spec Intl	2006	400,000,000	462,597,993	28,942,705
Morgan Stanley Real Estate Fund VII Global, L.P.	2007	309,636,000	279,825,643	89,678,026
O'Connor North American Property Partners II L.P.	2007	132,142,857	131,804,303	28,383,646
O'Connor North American Property Partners, L.P.	2004	100,000,000	111,003,553	20,459,052
Paladin Realty Latin America Investors III, L.P.	2008	113,583,333	112,286,119	17,531,683
Peabody Global Real Estate Partners	1998	100,000,000	89,031,934	157,153,927
PSERS Real Estate Internal Program	2013	30,000,000	28,178,490	895,474
Silverpeak Legacy Pension Partners II, L.P.	2005	200,000,000	206,995,782	119,906,586
Silverpeak Legacy Pension Partners III, L.P.	2007	300,000,000	136,696,279	4,672,504
Silverpeak Legacy/PSERS, L.P.	2000	300,000,000	139,508,708	278,513,106
Stockbridge RE Fund III Co-Investment	2013	49,870,000	49,870,000	251,042
Stockbridge Real Estate Fund II - Senior Note	2010	20,312,500	20,312,500	5,362,500
Stockbridge Real Estate Fund II, LP	2005	162,500,000	162,500,000	-
Stockbridge Real Estate Fund III, LP	2007	180,000,000	175,235,642	-
Stockbridge Real Estate Fund, L.P.	2000	408,465,517	492,133,134	576,573,475
Strategic Partners Fund II RE, L.P.	2003	75,000,000	67,614,719	94,974,059
Strategic Partners Fund III RE, L.P.	2005	75,000,000	78,890,915	5,307,813
Strategic Partners Fund IV RE, L.P.	2008	75,000,000	75,382,462	23,854,266
Westbrook Real Estate Fund I	1995	63,500,000	69,295,047	149,276,101
Whitehall Street VII & VIII	1996	100,000,000	96,092,963	154,492,457
William E Simon & Sons	2001	<u>76,662,500</u>	<u>74,788,678</u>	<u>59,042,379</u>
Total Opportunistic Real Estate		\$ 8,870,029,374	\$ 8,457,107,255	\$ 5,707,732,117

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2013) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Value Added Real Estate:				
AG Core Plus Realty Fund III, L.P.	2011	\$ 75,000,000	\$ 43,291,517	\$ 2,250,000
Almanac Realty Securities V, L.P.	2007	100,000,000	98,725,324	44,504,364
Almanac Realty Securities VI, L.P.	2012	100,000,000	28,502,580	1,395,052
Apollo Real Estate Finance Corp	2006	150,000,000	150,183,055	87,808,782
AREFIN Co-Invest Corporation	2008	83,000,000	69,192,000	86,255,401
Ares U.S. Real Estate Fund VII, L.P.	2008	150,000,000	147,283,793	57,280,355
Ares U.S. Real Estate Fund VIII, L.P.	2013	75,000,000	-	-
AvalonBay Value Added Fund II, L.P.	2009	100,000,000	89,100,000	13,250,000
AvalonBay Value Added Fund, L.P.	2004	75,000,000	75,000,000	69,227,272
Beacon Capital Strategic Partners V, L.P.	2007	200,000,000	172,000,000	37,425,743
Bell Institutional Fund IV, LLC	2011	75,000,000	72,321,806	3,085,959
Blackstone Real Estate Debt Strategies II, L.P.	2013	100,000,000	27,444,186	626,857
BPG Investment Partnership V, L.P.	1999	50,000,000	47,112,231	73,557,677
BPG Investment Partnership VI, L.P.	2002	87,500,000	84,251,339	106,248,762
BPG/PSERS Co-Investment Fund	2001	100,000,000	65,703,742	160,760,674
Broadway Partners Real Estate Fund II, L.P.	2006	125,000,000	124,057,276	10,528,306
Broadway Partners Real Estate Fund III, L.P.	2007	166,182,500	167,153,228	3,875,000
Cabot Industrial Value Fund III, L.P.	2008	100,000,000	81,671,500	121,260,937
Cabot Industrial Value Fund IV, L.P.	2013	75,000,000	-	-
Centerline High Yield CMBS III - Loan/Stock	2008	90,000,000	90,000,000	41,308,056
DRA Growth and Income Fund VI, L.P.	2007	148,200,000	96,898,540	45,851,548
DRA Growth and Income Fund VII, L.P.	2011	100,000,000	83,560,000	7,092,454
Exeter Industrial Value Fund II, L.P.	2011	75,000,000	60,200,941	8,902,439
Fillmore West Fund, L.P.	2008	100,000,000	97,807,786	37,492,482
Hines U.S. Office Value Added Fund, L.P.	2004	100,000,000	104,250,470	150,775,996
Latitude Management Real Estate Capital III, Inc.	2012	75,000,000	29,679,329	668,539
LCCG R E Special Situations Mortgage Fund	2006	133,875,000	133,627,886	29,228,262
Legg Mason Real Estate Capital	2002	57,640,625	56,928,569	57,567,092
Legg Mason Real Estate Capital II	2005	100,000,000	97,941,148	44,247,456
LEM RE High Yield Debt & Pfd Equity Fund III, L.P.	2012	75,000,000	15,000,000	980,509
LEM Real Estate Mezzanine Fund II, L.P.	2006	75,000,000	60,000,000	39,498,254
Madison Marquette Retail Enhancement Fund LP	2007	100,000,000	91,634,174	5,897,408
Paramount Group Real Estate Fund VII, L.P.	2013	100,000,000	-	-
PSERS Real Estate Internal Program	2013	21,000,000	21,000,000	8,256,975
RCG Longview Debt Fund IV, L.P.	2007	175,000,000	199,627,182	142,827,544
RCG Longview Debt Fund V, L.P.	2013	75,000,000	37,348,916	393,988
RCG Longview Equity Fund, L.P.	2006	125,000,000	90,517,020	55,539,458

*Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.

Numbers may not add due to rounding.

Section 3 - Investment Information

**Summary of PSERS' Real Estate Investments Committed,
Drawn, and Distributed (unaudited)
(as of December 31, 2013)
(continued)**

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Value Added Real Estate (continued):				
Senior Housing Partnership Fund IV, L.P.	2011	\$ 100,000,000	\$ 45,098,453	\$ 6,693,961
Strategic Partners Value Enhancement Fund LP	2005	55,000,000	54,978,609	13,321,000
Total Value Added Real Estate		3,867,398,125	3,009,092,599	1,575,884,563
Grand Total		<u>\$ 13,888,075,146</u>	<u>\$ 12,518,521,191</u>	<u>\$ 8,141,173,409</u>

**Includes capital contributions for management fees, late interest, etc. that are not applied to the capital commitments.
Numbers may not add due to rounding.*



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Summary of PSERS' Fixed Income Investments (as of December 31, 2013)

Fixed Income Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies Fixed Income investments and balances Fixed Income management styles. PSERS contracts with external investment managers and hires internal portfolio managers to manage portfolios.

Policy

Fixed Income investments are utilized by the Fund to help diversify the overall Fund and for a variety of purposes as follows:

- Nominal bonds are used for their ability to serve as a hedge against disinflation and/or deflation, their general ability to produce current income in the form of periodic interest payments, and their ability to provide sufficient liquidity to meet the Fund's obligations to pay member benefits and support other investment commitments;
- Inflation-linked bonds are used for their ability to serve as a hedge against inflation, their general ability to produce current income in the form of periodic interest payments, and their ability to provide sufficient liquidity to meet the Fund's obligations to pay member benefits and support other investment commitments; and

- High yield securities and emerging market bonds are used for their ability to generate high current income in the form of periodic interest payments as well as offering greater total return opportunities than high grade debt.

PSERS' Asset Allocation targets an eventual allocation of 26.0% of assets to Fixed Income, 8.0% of which is designated to Global Fixed Income (includes Core/Core Plus and Global strategies), 3.0% of which is designated to U.S. Long Treasuries, 6.0% of which is designated to TIPS strategies, 6.0% of which is designated to High Yield strategies, and 3.0% designated to Cash.

Market Value as of December 31, 2013: \$11,971.7 million, or 24.2% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with 26 external investment managers responsible for various Fixed Income portfolios (including two Public Market Emerging Investment Manager Program managers).

Number of Internal Portfolio Managers: PSERS had three employees managing various Fixed Income portfolios.

Types of Investment Portfolios at December 31, 2013:

- 10.8% Global strategy portfolios
- 19.6% Core/Core Plus strategies portfolios
- 24.4% TIPS strategies portfolios
- 23.2% High Yield and Credit Opportunities portfolios
- 1.3% U.S. Long Treasuries
- 20.7% Cash.
- 40.3% was managed by internal portfolio managers and 59.7% was managed by external investment managers



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Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<u>Actively Managed U.S. Core/Core Plus Fixed</u>			
<u>Income Portfolios</u>			
BlackRock U.S. Extended Core Global Alpha Fund	\$ 699.0	5.8%	1.4%
Pacific Investment Mgmt. Co. (PIMCO)	224.7	1.9%	0.5%
Piedmont Investment Advisors	50.7	0.4%	0.1%
PSERS Active Aggregate	1,100.9	9.2%	2.2%
Pugh Capital Management, Inc.	86.5	0.7%	0.2%
Other	<u>184.1</u>	<u>1.6%</u>	<u>0.4%</u>
Total Actively Managed U.S. Core/Core Plus Fixed Income	\$ <u>2,345.9</u>	<u>19.6%</u>	<u>4.8%</u>
<u>Actively Managed Treasury Inflation-Protected</u>			
<u>Securities (TIPS) Portfolios</u>			
Black River Asset Management, LLC	\$ 254.1	2.1%	0.5%
Bridgewater Associates, Inc.	1,453.5	12.1%	2.9%
PSERS TIPS Portfolio	<u>1,216.1</u>	<u>10.2%</u>	<u>2.5%</u>
Total Actively Managed Treasury Inflation- Protected Securities (TIPS)	\$ <u>2,923.7</u>	<u>24.4%</u>	<u>5.9%</u>
<u>Actively Managed U.S. Long Treasury Portfolios</u>			
PSERS U.S. Long Treasuries	\$ 23.0	0.2%	0.0%
Pacific Investment Mgmt. Co. (PIMCO)	<u>138.3</u>	<u>1.1%</u>	<u>0.3%</u>
Total Actively Managed U.S. Long Treasury Portfolios	\$ <u>161.3</u>	<u>1.3%</u>	<u>0.3%</u>
<u>Actively Managed High Yield Fixed Income Portfolio</u>			
MacKay-Shields Financial Corporation	\$ <u>198.1</u>	<u>1.7%</u>	<u>0.4%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2013) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<i>Actively Managed Credit Opportunity Portfolios</i>			
Apollo European Principal Finance Fund II, LP	\$ 62.5	0.5%	0.1%
BlackRock Mortgage (Offshore) Investors	7.0	0.1%	0.0%
Brevan Howard CMBS Fund	90.1	0.7%	0.2%
Brigade Distressed Value Offshore Fund	123.6	1.0%	0.2%
Carlyle Energy Mezzanine Opportunity Fund, LP	91.1	0.8%	0.2%
Cerberus Levered Loan Opportunities Fund, LP	102.6	0.9%	0.2%
Cerberus Levered Loan Opportunities Fund II, LP	128.8	1.1%	0.3%
Galton Onshore Mortgage Revcovery Fund III, LP	25.0	0.2%	0.1%
Hayfin Special Opportunities Credit Fund, LP	89.5	0.7%	0.2%
ICG Europe Fund V, LP	91.0	0.8%	0.2%
International Infrastructure Finance Company Fund, LP	20.3	0.2%	0.0%
LBC Credit Partners II, LP	135.0	1.1%	0.3%
LBC Credit Partners III, LP	69.4	0.6%	0.1%
Mariner Investment Group	170.2	1.4%	0.3%
Oaktree Loan Fund	15.5	0.1%	0.0%
Pacific Investment Mgmt. Co. (PIMCO)	362.9	3.0%	0.7%
Sankaty Advisors LLC - Bank Loans	398.5	3.3%	0.8%
Sankaty Credit Opportunities Fund IV, LP	162.0	1.4%	0.3%
Sankaty Credit Opportunities Fund V-A, LP	93.4	0.8%	0.2%
Sankaty Middle Market Opportunities Fund, LP	168.0	1.4%	0.3%
Sankaty Middle Market Opportunities Fund II, LP	10.0	0.1%	0.1%
TOP NPL (A), LP	72.8	0.6%	0.1%
TPG Opportunities Parnters II, LP	<u>78.0</u>	<u>0.7%</u>	<u>0.2%</u>
Total Actively Managed Credit Opportunity			
Fixed Income	\$ <u>2,567.2</u>	<u>21.5%</u>	<u>5.2%</u>
Total Actively Managed U.S.			
Fixed Income	\$ <u>8,196.2</u>	<u>68.5%</u>	<u>16.6%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2013) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<i>Actively Managed Non-U.S. Developed Markets</i>			
<i>Fixed Income Portfolios</i>			
Alliance Bernstein	\$ 288.5	2.4%	0.6%
Pacific Investment Mgmt. Co. (PIMCO)	43.2	0.4%	0.1%
Strategic Fixed Income	<u>130.8</u>	<u>1.1%</u>	<u>0.2%</u>
Total Actively Managed Non-U.S. Developed Markets			
Fixed Income	\$ <u>462.5</u>	<u>3.9%</u>	<u>0.9%</u>
<i>Actively Managed Global Emerging Markets Fixed</i>			
<i>Income Portfolios</i>			
Franklin Templeton	\$ 378.1	3.2%	0.8%
Pacific Investment Mgmt. Co. (PIMCO)	95.1	0.8%	0.2%
Stone Harbor Investment Partners	<u>351.8</u>	<u>2.9%</u>	<u>0.7%</u>
Total Actively Managed Global Emerging Markets			
Fixed Income	\$ <u>825.0</u>	<u>6.9%</u>	<u>1.7%</u>
<i>Internally Managed Cash Portfolio</i>			
PSERS Proprietary Fund	\$ <u>2,488.0</u>	<u>20.7%</u>	<u>5.0%</u>
Total Fixed Income	\$ <u>11,971.7</u>	<u>100.0%</u>	<u>24.2%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Absolute Return Investments (as of December 31, 2013)

Absolute Return Exposure is one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS contracts with external investment managers to manage absolute return portfolios.

Policy

Absolute Return investments are utilized by the Fund primarily to generate returns that are uncorrelated with other asset classes or investments and help diversify the overall Fund. The benchmark for PSERS' Absolute Return investments is an absolute return of 7.5% annualized with risk of 7.5% or lower at the program level over a full market cycle.

Absolute Return investments shall be in a variety of unique, non-directional investment strategies, including global macro, relative value, event driven, capital structure arbitrage, reinsurance, volatility and other strategies. The Fund shall diversify this program by manager and style.

PSERS' Asset Allocation currently targets an allocation of 10.0% of assets in Absolute Return investments.

Market Value as of December 31, 2013: \$5,288.2 million, or 10.7% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with 15 external investment managers responsible for the various Absolute Return portfolios (including one Public Market Emerging Investment Manager Program manager).

Number of Internal Investment Managers: None.

Summary of PSERS' Absolute Return Portfolios (unaudited) (as of December 31, 2013)

	<u>Market Value</u> <u>(in millions)</u>	<u>% of Total</u> <u>Absolute Return</u>	<u>% of</u> <u>Total Fund</u>
<u>Actively Managed Absolute Return Portfolios</u>			
Aeolus Capital Management Ltd.	\$ 256.2	4.8%	0.5%
Black River Asset Management, LLC	282.2	5.3%	0.6%
BlackRock Capital Structure Investments Fund	279.3	5.3%	0.6%
BlueCrest Capital Management LLP	216.7	4.1%	0.4%
Brevan Howard Fund, Ltd.	415.3	7.9%	0.8%
Bridgewater Associates, Inc.	917.7	17.4%	1.9%
Brigade Capital Management	548.8	10.4%	1.1%
Capula Global Relative Value Fund	231.9	4.4%	0.5%
Capula Tail Risk Fund	340.7	6.4%	0.7%
Caspian Capital Advisors, LLC	233.4	4.4%	0.5%
Ellis Lake Domestic Fund 2012	105.3	2.0%	0.2%
Nephila Capital, Ltd.	269.7	5.1%	0.5%
Pacific Investment Mgmt. Co. (PIMCO)	687.4	13.0%	1.4%
Perry Partners, Inc.	200.0	3.8%	0.4%
Robeco Investment Management, Inc.	197.3	3.7%	0.4%
Sciens Aviation Special Opportunities Fund II, LP	92.1	1.7%	0.2%
Other	<u>14.2</u>	0.3%	0.0%
Total Absolute Return	\$ <u>5,288.2</u>	<u>100.0%</u>	<u>10.7%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Risk Parity Portfolios (as of December 31, 2013)

Risk Parity Exposure represents one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies Risk Parity investments and balances Risk Parity investment philosophies. PSERS contracts with external investment managers to manage Risk Parity portfolios.

Policy

Risk Parity investments benefit the System due to their focus on the allocation of risk rather than the allocation of capital. Inclusion of this asset class is expected to reduce the portfolio's overall risk exposure over long-time horizons because it is designed to be more resistant to market downturns than traditional investment strategies, and further enhances the System's diversification due to the wide range of assets typically employed.

The Fund benchmarks its Risk Parity investments to a custom benchmark: MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); DJ/UBS Commodity Index (Total Return) (15%); DJ/UBS Gold Index (5%); and 3-Month LIBOR (-150%).

PSERS' Asset Allocation currently targets an allocation of 5.0% of assets to Risk Parity investments. The Risk Parity investments are targeted to be 100.0% actively managed.

Market Value of December 31, 2013: \$1,397.8 million, or 2.8% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with two external investment managers to manage Risk Parity portfolios.

Number of Internal Investment Managers: PSERS had one employee managing a Risk Parity portfolio.

Summary of PSERS' Risk Parity Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Total Risk Parity	% of Total Fund
<u>Risk Parity Portfolios</u>			
AQR GRP EL 20 Offshore Fund, Ltd.	\$ 298.6	21.4%	0.6%
Bridgewater All Weather @ 15% Fund	1,050.6	75.2%	2.1%
PSERS Optimal Liquid Beta	48.6	3.4%	0.1%
Total Risk Parity	\$ 1,397.8	100.0%	2.8%

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Master Limited Partnerships (as of December 31, 2013)

Master Limited Partnership Exposure (MLPs) represents one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies MLP investments and balances MLP management styles. PSERS contracts with external investment managers to manage MLP portfolios.

Policy

MLP securities, which are publicly traded on a securities exchange, avoid federal and state income taxes by meeting specific qualifications of the IRS related to the production, processing or transportation of oil, natural gas, and coal. MLP securities are utilized by the System due to their attractively low funding costs and low correlation to stock and bond returns, attractive growth characteristics, and their ability to produce current income in the form of periodic distributions.

The Fund benchmarks its MLP investments to the S&P MLP Total Return Index.

PSERS' Asset Allocation currently targets an allocation of 3.0% of assets to MLP investments and are targeted to be 100.0% actively managed.

Market Value of December 31, 2013: \$1,673.8 million, or 3.4% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with three external investment managers to manage MLP portfolios.

Number of Internal Investment Managers: None.

Summary of PSERS' Master Limited Partnerships (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Total MLPs	% of Total Fund
<u>Master Limited Partnership Portfolios</u>			
Atlantic Trust Private Wealth Management	\$ 482.6	28.8%	1.0%
Harvest Fund Advisors, LLC	665.1	39.8%	1.3%
Salient Capital Advisors, LLC	<u>526.1</u>	<u>31.4%</u>	<u>1.1%</u>
Total Master Limited Partnerships	\$ <u>1,673.8</u>	<u>100.0%</u>	<u>3.4%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Commodity Investments (as of December 31, 2013)

Commodity Exposure represents one of nine asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan diversifies Commodity investments and balances Commodity management styles. PSERS contracts with external investment managers to manage commodity portfolios.

Policy

Commodity investments are utilized by the Fund for diversification within the portfolio and to act as a hedge against unanticipated inflation. The prices of commodities are determined primarily by near-term events in global supply and demand conditions and are positively related with both the level of inflation and the changes in the rate of inflation. However, stock and bond valuations are based on longer-term expectations and react negatively to inflation. Therefore, commodity returns have had a historically

negative correlation to stock and bond returns. As such, commodities, when combined with stocks and bonds, lower the risk of a portfolio.

The Fund benchmarks its Commodity investments to the Dow Jones-UBS Commodity Index (DJ UBS). The DJ UBS is a broadly diversified basket of 20 commodities from 4 sectors (energy, industrial metals, precious metals, and agriculture).

PSERS' Asset Allocation currently targets an allocation of 5.0% of assets to Commodity investments and are targeted to be 100.0% actively managed.

Market Value of December 31, 2013: \$1,822.2 million, or 3.7% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with five external investment managers to manage Commodity portfolios.

Number of Internal Investment Managers: PSERS had one employee managing a commodity portfolio.

Summary of PSERS' Commodity Portfolios (unaudited) (as of December 31, 2013)

	Market Value (in millions)	% of Total Commodities	% of Total Fund
<u>Full Discretion Commodity Portfolio</u>			
Wellington Management Company, LLP	\$ 537.9	29.5%	1.1%
<u>Core/Enhanced Commodity Portfolios</u>			
Credit Suisse Asset Management	\$ 269.0	14.8%	0.5%
Black River Global Agricultural Absolute Return Fund	145.1	8.0%	0.3%
Gresham, LLC	454.5	24.9%	0.9%
PSERS Gold Fund	(14.2) a	(0.8)%	0.0%
Schroders Investment Management	429.9	23.6%	0.9%
Total Core/Enhanced Commodities	\$ 1,284.3	70.5%	2.6%
Total Commodities	\$ 1,822.2	100.0%	3.7%

a - The Market Value represents the net payable on swap contracts.

Numbers may not add due to rounding.



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Investment Advisory Fees

Active vs. Passive Investment Management

PSERS Board sets the asset allocation plan annually with input from staff and the general investment consultant. Upon approval of the Policy allocation, staff then works with the Board to implement the asset allocation plan. One of the first steps is to determine whether active, passive, or a combination of both strategies will be used to execute that plan.

Passive investment strategies form the basis that the Fund uses to attain market exposure in many public market asset classes. Adding additional value through active management is a rapidly evolving and increasingly difficult endeavor. An example of this continual evolution is how U.S. equities were materially affected in 2000 by the passing of Regulation Fair Disclosure (FD) by the Securities and Exchange Commission. Regulation FD leveled the playing field in U.S. equity active management by prohibiting selective disclosure of material information to large institutional investors. As such, information is equally disseminated to the investing public and few have “an edge” to generate adequate risk adjusted returns to justify the higher fees of active management. The advantage of passive strategies is that they are generally very inexpensive to implement. If solely using passive strategies, performance will be limited to what the market provides.

The Fund evaluates and selects active managers on a manager by manager basis with strong emphasis on understanding the manager’s sustainable investment edge. If the investment staff and consultants have conviction that the manager’s process will generate attractive and uncorrelated risk-adjusted net returns in excess of the most competitive passive benchmarks, the active manager will be considered. Active strategies are also used by the Fund in asset classes when passive strategies are not available, such as Private Equity. Private Equity covers a large part of the global economy which is comprised of companies that are not publicly traded and where deep research and due diligence can add value.

The advantage of active strategies is that they endeavor to generate net of fee returns in excess of the passive alternatives, if available, and/or provide diversification benefits which help manage total portfolio risk. The disadvantages of active strategies include being more expensive to implement than passive strategies and they may underperform passive strategies.

In selecting active managers, PSERS strives to hire managers that meet the following criteria:

- Have a unique insight or process
- Have the ability to add consistent excess returns above passive alternatives, net of fees

- Process is sustainable and timeless
- Have adequate capacity to execute the strategy
- Add diversification to our existing investment structure
- Do not exhibit style drift
- Exhibit a high level of ethical behavior

PSERS measures the performance of active strategies relative to the passive alternatives. In cases where the Fund is not getting value for the fees incurred, capital is redeployed to either other active strategies or to passive strategies. Where PSERS’ finds that the active managers are not providing value as a group, the Fund would endeavor to exit active strategies altogether and move to a passive implementation.

PSERS’ active management process has generated and continues to generate significant excess risk-adjusted, net of fee returns relative to the passive benchmarks. During each of the past four years, PSERS has averaged excess returns from active management in excess of \$1 billion per year. This means that the managers, both internal and external, beat the passive, Board approved asset allocation benchmarks, net of all fees and costs, by \$1 billion per year over the last four years. This added value would have been lost to the Fund by implementing a strictly low cost, passive approach.

While active management is more expensive than passive management, it is important to recognize that PSERS staff negotiates all fees to get the most favorable fee structure for the Fund. In addition, all investment management contracts contain what is known as a “Most Favored Nations” clause. This clause requires the investment manager to provide PSERS the best fee available at the time the contract is negotiated and allow us to have similar terms if another party investing the same or smaller dollar amount enters a contract in the same product in the future.

Section 3 - Investment Information

Summary of Investment Advisory Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands)

	<u>Fees</u>	<u>Basis Points</u>
External Management		
U.S. Equity	\$ 2,287	52
Non - U.S. Equity	27,941	62
Fixed Income	118,293	116
Real Estate	75,006	96
Alternative Investments	137,211	98
Absolute Return	149,764	235
Commodities	17,409	95
Master Limited Partnerships	4,966	49
Risk Parity	5,150	41
Total External Management	538,027	113
Total Internal Management	<u>14,634</u>	13
Total Investment Management	\$ 552,661	94
Custodian Fees	496	
Consultant and Legal Fees	<u>4,432</u>	
Total Investment Expenses	\$ <u>557,589</u>	95

Investment Advisory Fees History

<u>Fiscal Year</u>	<u>Actual Investment Expenses*</u>	<u>Policy Benchmark Net Return</u>	<u>Actual Net Return</u>	<u>Investment Outperformance Net of Investment Expenses*</u>
2013	\$ 558	5.68%	7.96%	\$ 1,115
2012	481	1.98%	3.43%	701
2011	515	17.56%	20.37%	1,375
2010	522	10.87%	14.59%	1,706
2009	478	(20.67)%	(26.54)%	(2,793)
2008	399	(1.84)%	(2.82)%	(646)
2007	314	18.48%	22.93%	2,756
2006	211	11.96%	15.26%	1,824
2005	193	10.54%	12.87%	1,163
2004	191	16.34%	19.67%	1,550
Total	<u>\$ 3,862</u>			<u>\$ 8,752</u>

* Dollar amounts in millions.

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands)

External Management fees are treated as a reduction of the investment revenue of the Fund rather than as a budgeted administrative expense.

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>U.S. Equity</u>			
AH Lisanti Capital Growth, LLC	New York	NY	\$ 217
Conestoga Capital Advisors, Inc.	Radnor	PA	225
First Pacific Advisors, Inc.	Los Angeles	CA	993
Hellman, Jordan Management Company, Inc.	Boston	MA	120
NorthPointe Capital, LLC	Troy	MI	573
Opus Capital Management, Inc.	Cincinnati	OH	159
Total - U.S. Equity			2,287
<u>Non - U.S. Equity</u>			
Acadian Asset Management	Boston	MA	763
Baillie Gifford Overseas Ltd.	Edinburgh	UK	2,095
Batterymarch Financial Management, Inc.	Boston	MA	603
BlackRock Financial Management, Inc.	New York	NY	14,271
Glovista Investments LLC	Jersey City	NJ	36
John Hsu Capital Group, Inc.	New York	NY	248
Marathon Asset Management Limited	London	UK	1,600
Oberweis Asset Management, Inc.	North Aurora	IL	951
Pareto Investment Management, Ltd.	New York	NY	1,620
Pyramis Global Advisors	Boston	MA	945
Shah Capital Management, Inc.	Raleigh	NC	283
Wasatch Advisors, Inc.	Salt Lake City	UT	3,776
Wellington Management Company, L.L.P.	Boston	MA	136
Westwood Global Investments, LLC	Boston	MA	614
Total - Non - U.S. Equity			27,941
<u>Fixed Income</u>			
AllianceBernstein L.P.	White Plains	NY	833
Apollo European Principal Finance Fund II(Dollar A), L.P.	New York	NY	4,066
BlackRock Financial Management, Inc.	New York	NY	11,995
BlackRock Mortgage (Offshore) Investors, L.P.	New York	NY	5,000
Brevan Howard US, LLC	New York	NY	10,557
Bridgewater Associates, Inc.	Westport	CT	17,117
Brigade Capital Management, LLC	New York	NY	2,384
Cargill Financial Services Corporation	Hopkins	MN	3,824
Carlyle Energy Mezzanine Opportunities Fund, LP	Washington	DC	7,047
Cerberus Levered Loan Opportunities Fund I, L.P.	New York	NY	1,147
Cerberus Levered Loan Opportunities Fund II, L.P.	New York	NY	3,356

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Fixed Income (continued)</u>			
Franklin Templeton Investments	Nassau	Bahamas	\$ 2,225
Hayfin Special Opportunities Credit Fund, L.P.	George Town	Cayman Islands	1,579
ICG Europe Fund V, L.P.	St. Helier	Guernsey	3,062
LBC Credit Partners II, L.P.	Philadelphia	PA	5,775
LBC Credit Partners III, L.P.	Philadelphia	PA	1,250
MacKay-Shields Financial Corporation	New York	NY	1,272
Mariner Investment Group	Harrison	NY	11,963
Oaktree Loan Fund, L.P.	Los Angeles	CA	569
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	3,627
Piedmont Investment Advisors	Durham	NC	130
Pugh Capital Management, Inc.	Seattle	WA	174
Sankaty Advisors LLC Bank Loans	Wilmington	DE	1,917
Sankaty Credit Opportunities IV, L.P.	Wilmington	DE	11,097
Sankaty Credit Opportunities V, L.P.	Wilmington	DE	222
Sankaty Middle Market Opportunities Fund	Wilmington	DE	1,361
Stone Harbor Investment Partners, L.P.	New York	NY	2,666
Strategic Fixed Income, LLC	Arlington	VA	303
TOP NPL (A), L.P.	Fort Worth	TX	153
TPG Opportunities Partners II (A), L.P.	Fort Worth	TX	1,090
Western Asset Management Company	Pasadena	CA	532
Total - Fixed Income			118,293
<u>Real Estate-Direct Ownership</u>			
Charter Oak Advisors, Inc.	King of Prussia	PA	890
GF Management, Inc.	Philadelphia	PA	131
Grosvenor Investment Management U.S., Inc.	Philadelphia	PA	56
L & B Realty Advisors, L.L.P.	Dallas	TX	52
Subtotal - Real Estate-Direct Ownership			1,129

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds</u>			
AG Core Plus Realty Fund III, L.P.	New York	NY	\$ 186
Almanac Realty Securities V, L.P.	New York	NY	1,012
Almanac Realty Securities VI, L.P.	New York	NY	116
Apollo European Real Estate Fund III, L.P.	Purchase	NY	1,329
Apollo Real Estate Finance Corporation	New York	NY	1,152
Apollo Value Enhancement Fund VII, L.P.	Purchase	NY	1,765
AREFIN Co-Invest Corporation	New York	NY	140
AvalonBay Value Added Fund, L.P.	Alexandria	VA	590
AvalonBay Value Added Fund II, L.P.	Alexandria	VA	965
Avenue Real Estate Fund Parallel, L.P.	New York	NY	1,138
Beacon Capital Strategic Partners V, L.P.	Boston	MA	726
Bell Institutional Fund IV, LLC	Wilmington	DE	184
Blackstone Real Estate Partners Europe III, L.P.	New York	NY	3,284
Blackstone Real Estate Partners V.TE.1, L.P.	New York	NY	1,945
Blackstone Real Estate Partners VI.TE.1, L.P.	New York	NY	4,071
Blackstone Real Estate Partners VII.TE.1, L.P.	New York	NY	3,717
BPG Investment Partnership V, L.P.	Philadelphia	PA	67
BPG Investment Partnership VI, L.P.	Philadelphia	PA	227
Broadway Partners Parallel Fund P II, L.P.	New York	NY	484
Broadway Partners Parallel Fund P III, L.P.	New York	NY	250
Brookfield Strategic Real Estate Partners, LP	New York	NY	1,940
Cabot Industrial Value Fund III, L.P.	Boston	MA	1,236
Carlyle Europe Real Estate Partners III-A, L.P.	Washington	DC	1,977
Carlyle Realty Partners III, L.P.	Washington	DC	82
Carlyle Realty Partners IV, L.P.	Washington	DC	1,102
Carlyle Realty Partners V, L.P.	Washington	DC	2,137
Carlyle Realty Partners VI, L.P.	Washington	DC	751
CS Strategic Partners IV RE, L.P.	New York	NY	353
CSFB Strategic Partners II RE, L.P.	New York	NY	111
CSFB Strategic Partners III RE, L.P.	New York	NY	330
DLJ Real Estate Capital Partners II, L.P.	New York	NY	142
DLJ Real Estate Capital Partners III, L.P.	New York	NY	1,008
DLJ Real Estate Capital Partners IV, L.P.	New York	NY	2,170
DRA Growth and Income Fund VI, L.P.	New York	NY	1,994
DRA Growth and Income Fund VII, L.P.	New York	NY	1,289

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds (continued)</u>			
Exeter Industrial Value Fund II, L.P.	Plymouth Meeting	PA	\$ 803
Fillmore West Fund, L.P.	San Francisco	CA	693
Fortress Investment Fund IV, L.P.	New York	NY	837
Fortress Investment Fund V (Fund A), L.P.	New York	NY	1,343
Hines U.S. Office Value Added Fund, L.P.	Houston	TX	182
JPMCB Strategic Property Fund	New York	NY	207
LCCG RE Special Situations Mortgage Fund, LLC	Irving	TX	109
Latitude Management Real Estate Capital III, Inc.	Providence	RI	248
Legg Mason Real Estate Capital, Inc.	Los Angeles	CA	55
Legg Mason Real Estate Capital II, Inc.	Los Angeles	CA	1,253
LEM RE High Yield Debt & Preferred Equity Fund III, LP	Philadelphia	PA	749
LEM Real Estate Mezzanine Fund II, L.P.	Philadelphia	PA	526
LF Strategic Realty Investors II, LLC	New York	NY	69
Lubert-Adler Real Estate Fund IV, L.P.	Philadelphia	PA	132
Lubert-Adler Real Estate Fund V, L.P.	Philadelphia	PA	378
Lubert-Adler Real Estate Fund VI, L.P.	Philadelphia	PA	1,341
Madison Marquette Retail Enhancement Fund, L.P.	Washington	DC	954
MGPA Asia Fund III, L.P.	Hamilton	Bermuda	1,139
MGPA Europe Fund III, L.P.	London	UK	1,309
Morgan Stanley Real Estate Fund IV Special Dom., L.P.	New York	NY	48
Morgan Stanley Real Estate Fund IV Special Int'l, L.P.	New York	NY	210
Morgan Stanley Real Estate Fund V Special Int'l, L.P.	New York	NY	575
Morgan Stanley Real Estate Fund V Special U.S., L.P.	New York	NY	147
Morgan Stanley Real Estate Fund VI Special Int'l, L.P.	New York	NY	765
Morgan Stanley Real Estate Fund VII Global, L.P.	New York	NY	1,395
O' Connor North American Property Partners, L.P.	New York	NY	931
O' Connor North American Property Partners II, L.P.	New York	NY	1,099
Paladin Realty Latin America Investors III, L.P.	Los Angeles	CA	1,598
Peabody Global Real Estate Partners, L.P.	New York	NY	25
PRISA	Parsippany	NJ	689
ProLogis North American Industrial Fund, L.P.	Denver	CO	1,681
RCG Longview Debt Fund IV, L.P.	New York	NY	1,889
RCG Longview Debt Fund V, LP	New York	NY	557
RCG Longview Equity Fund, L.P.	New York	NY	506
Senior Housing Partnership Fund IV, L.P.	Parsippany	NJ	277
Silverpeak Legacy Pension Partners II, L.P.	New York	NY	1,221

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds (continued)</u>			
Silverpeak Legacy Pension Partners III, L.P.	New York	NY	\$ 1,142
Silverpeak/PSERS Real Estate, L.P.	New York	NY	66
Stockbridge Real Estate Fund, L.P.	New York	NY	2,166
Stockbridge Real Estate Fund II, L.P.	New York	NY	946
Stockbridge Real Estate Fund III, L.P.	New York	NY	1,787
Strategic Partners Value Enhancement Fund, L.P.	Los Angeles	CA	660
UBS (US) Trumbull Property Fund, L.P.	Hartford	CT	782
Whitehall Street Real Estate L.P. VII & VIII	New York	NY	4
Subtotal - Real Estate-Partnerships/Funds			73,463
<u>Real Estate-Farmland</u>			
Prudential Agricultural Group	Lisle	IL	414
Subtotal - Real Estate-Farmland			414
Total Real Estate			75,006
<u>Private Equity</u>			
ABS Capital Partners II, L.P.	Baltimore	MD	3
Actis Emerging Markets 3, L.P.	London	UK	2,585
Actis Global 4 L.P.	London	UK	1,800
Apax Europe VII-B, L.P.	St. Peter Port	Guernsey	2,089
Bain Capital Asia Fund II, L.P.	George Town	Cayman Islands	2,000
Baring Asia Private Equity Fund III, L.P.	Hong Kong	China	1,069
Baring Asia Private Equity Fund IV, L.P.	Hong Kong	China	6,000
Baring Asia Private Equity Fund V, L.P.	Hong Kong	China	4,000
Blue Point Capital Partners II (B), L.P.	Cleveland	OH	291
Bridgepoint Europe III-A, L.P.	London	UK	1,780
Bridgepoint Europe IV, L.P.	London	UK	5,440
Capital International Private Equity Fund V, L.P.	San Francisco	CA	1,425
Capital International Private Equity Fund VI, L.P.	San Francisco	CA	1,483
Catterton Growth Partners, L.P.	Greenwich	CT	1,274
Catterton Partners V, L.P.	Greenwich	CT	555
Catterton Partners VI, L.P.	Greenwich	CT	2,004
Catterton Partners VII, L.P.	Greenwich	CT	1,022
Cinven Fund (Fourth), L.P. (The)	London	UK	1,478
Cinven Fund (Fifth), L.P. (The)	London	UK	1,929
Clarity Partners, L.P.	Beverly Hills	CA	905

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Private Equity (continued)</u>			
Clarity Partners II, L.P.	Beverly Hills	CA	\$ 108
Coller International Partners VI, L.P.	London	UK	1,498
Crestview Capital Partners, L.P.	New York	NY	1,681
Crestview Partners II (PF), L.P.	New York	NY	2,344
CS Strategic Partners IV, L.P.	New York	NY	658
CS Strategic Partners V, L.P.	New York	NY	1,125
CSFB Strategic Partners II, L.P.	New York	NY	572
CSFB Strategic Partners III-B, L.P.	New York	NY	500
CVC Capital Partners Asia III Pacific, L.P.	George Town	Cayman Islands	3,742
CVC European Equity Partners V (A), L.P.	George Town	Cayman Islands	3,722
Denham Commodity Partners Fund VI, L.P.	Boston	MA	1,031
DLJ Merchant Banking Partners III, L.P.	New York	NY	176
DLJ Strategic Partners, L.P.	New York	NY	500
Evergreen Pacific Partners, L.P.	Seattle	WA	169
Evergreen Pacific Partners II, L.P.	Seattle	WA	1,252
First Reserve Fund XI, L.P.	Greenwich	CT	1,455
First Reserve Fund XII, L.P.	Greenwich	CT	3,103
Graham Partners Investments (B), L.P.	Newtown Square	PA	108
Greenpark International Investors III, L.P.	London	UK	1,017
Greenwich Street Capital Partners II, L.P.	New York	NY	33
Headland Private Equity Fund 6, L.P.	George Town	Cayman Islands	3,241
Incline Equity Partners III, L.P.	Pittsburgh	PA	518
Irving Place Capital Partners III, L.P.	New York	NY	1,973
Jefferies Capital Partners IV, L.P.	New York	NY	363
KKR 2006 Fund, L.P.	New York	NY	31
Landmark Equity Partners XIII, L.P.	Simsbury	CT	1,000
Landmark Equity Partners XIV, L.P.	Simsbury	CT	1,500
Lindsay Goldberg & Bessemer, L.P.	New York	NY	373
Milestone Partners III, L.P.	Rosemont	PA	587
Milestone Partners IV, L.P.	Rosemont	PA	1,518
Navis Asia Fund V, L.P.	Kuala Lumpur	Malaysia	1,560
New Mountain Partners III, L.P.	New York	NY	2,756
New York Life Capital Partners II, L.P.	New York	NY	148
New York Life Capital Partners III, L.P.	New York	NY	766
New York Life Capital Partners IV, L.P.	New York	NY	836
NGP Natural Resources X, L.P.	Irving	TX	1,427
Nordic Capital VII Beta, L.P.	St. Helier	Guernsey	2,119

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Private Equity (continued)</u>			
Orchid Asia V, L.P.	Grand Cayman	Cayman Islands	\$ 800
PAI Europe III, L.P.	Paris	France	378
PAI Europe IV, L.P.	Paris	France	1,020
PAI Europe V, L.P.	St. Peter Port	Guernsey	1,919
Partners Group Secondary 2008, L.P.	St. Peter Port	Guernsey	2,433
Partners Group Secondary 2011, L.P.	St. Peter Port	Guernsey	1,110
Permira IV, L.P.	London	UK	1,459
PNC Equity Partners, L.P.	Pittsburgh	PA	7
Providence Equity Partners VI, L.P.	Providence	RI	1,675
Quadrangle Capital Partners II, L.P.	New York	NY	1,695
Sterling Capital Partners, L.P.	Northbrook	IL	484
TPG Partners V, L.P.	Fort Worth	TX	897
TPG Partners VI, L.P.	Fort Worth	TX	3,048
Trilantic Capital Partners IV, L.P.	New York	NY	585
Trilantic Capital Partners V, L.P.	New York	NY	<u>1,375</u>
Subtotal - Private Equity			103,527
<u>Private Debt</u>			
Avenue Asia Special Situations Fund III, L.P.	New York	NY	1
Avenue Asia Special Situations Fund IV, L.P.	New York	NY	1,722
Avenue Special Situations Fund VI, L.P.	New York	NY	858
Cerberus Institutional Partners, L.P. (Series Two)	New York	NY	232
Cerberus Institutional Partners, L.P. (Series Three)	New York	NY	469
Cerberus Institutional Partners, L.P. (Series Four)	New York	NY	2,556
Cerberus Institutional Partners V, L.P.	New York	NY	2,836
Gleacher Mezzanine Fund II, L.P.	New York	NY	616
Gold Hill Venture Lending 03-A, L.P.	Santa Clara	CA	40
GSC Partners CDO Investors IV, L.P.	New York	NY	247
GSC Recovery III, L.P.	New York	NY	816
NYLIM Mezzanine Partners Parallel Fund, L.P.	New York	NY	180
NYLIM Mezzanine Partners Parallel Fund II, L.P.	New York	NY	698
OCM Opportunities Fund VII, L.P.	Los Angeles	CA	586
OCM Opportunities Fund VII-B, L.P.	Los Angeles	CA	1,633
Versa Capital Fund, L.P.	Philadelphia	PA	875
Windjammer Senior Equity Fund III, L.P.	Newport Beach	CA	46
Windjammer Senior Equity Fund IV, L.P.	Newport Beach	CA	<u>1,625</u>
Subtotal - Private Debt			16,036

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Venture Capital</u>			
Aisling Capital II, L.P.	New York	NY	\$ 541
Aisling Capital III, L.P.	New York	NY	873
Co-Investment Fund II, L.P. (The)	Radnor	PA	1,330
Cross Atlantic Technology Fund II, L.P.	Radnor	PA	59
CS Strategic Partners IV VC, L.P.	New York	NY	344
CSFB Strategic Partners III-VC, L.P.	New York	NY	303
Franklin Capital Associates III, L.P.	Franklin	TN	737
Jefferson Partners Fund IV, L.P.	Toronto	Canada	207
KBL Partnership, L.P.	New York	NY	136
LLR Equity Partners, L.P.	Philadelphia	PA	7
LLR Equity Partners II, L.P.	Philadelphia	PA	660
LLR Equity Partners III, L.P.	Philadelphia	PA	3,301
Novitas Capital, L.P.	Wayne	PA	124
Novitas Capital II, L.P.	Wayne	PA	122
Perseus-Soros BioPharmaceutical Fund, L.P.	New York	NY	219
Psilos Group Partners III, L.P.	New York	NY	760
Quaker BioVentures, L.P.	Philadelphia	PA	1,387
Quaker BioVentures II, L.P.	Philadelphia	PA	1,986
SCP Private Equity Partners II, L.P.	Wayne	PA	398
Starvest Partners II, L.P.	New York	NY	1,000
Sterling Venture Partners, L.P.	Baltimore	MD	142
Summit Partners Growth Equity Fund VIII, L.P.	Boston	MA	579
Tenaya Capital IV-P, L.P.	New York	NY	532
Tenaya Capital V-P, L.P.	New York	NY	1,177
Tenaya Capital VI, L.P.	New York	NY	724
Subtotal - Venture Capital			17,648
Total Alternative Investments			137,211

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2013 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Absolute Return</u>			
Aeolus Capital Management Ltd.	Hamilton	Bermuda	\$ 6,022
AQR Capital Management, LLC	Greenwich	CT	6,741
Black River Asset Management LLC	Hopkins	MN	8,332
BlackRock Financial Management, Inc.	New York	NY	10,834
BlueCrest Capital Management L.P.	New York	NY	6,495
Boston Company Asset Management, LLC	Boston	MA	119
Brevan Howard Fund, Ltd.	George Town	Cayman Islands	12,555
Bridgewater Associates, Inc.	Westport	CT	21,448
Brigade Capital Management, LLC	New York	NY	15,636
Capula Global Relative Value Fund	London	UK	5,090
Capula Tail Risk Fund	London	UK	7,146
Caspian Select Credit International Fund	New York	NY	7,628
Denali Advisors, LLC	San Diego	CA	125
Ellis Lake Domestic Fund, L.P.	New York	NY	276
FX Concepts, Inc.	New York	NY	2,427
Lazard Asset Management	New York	NY	2,748
Nephila Capital Ltd.	Hamilton	Bermuda	5,824
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	21,171
Pareto Investment Management, Ltd.	London	UK	1,758
Robeco Investment Management	New York	NY	4,033
Sciens Aviation Special Opportunitites Fund II, L.P.	Miami	FL	<u>3,356</u>
Total - Absolute Return			149,764
<u>Commodities</u>			
Cargill Financial Services Corporation	Hopkins	MN	2,399
Credit Suisse Asseet Management, LLC	New York	NY	584
Deutsche Asset Management Americas, Inc.	New York	NY	2,869
Gresham Investment Management, LLC	New York	NY	2,559
Schroder Investment Management North America, Inc.	New York	NY	3,613
Wellington Management Company, L.L.P.	Boston	MA	<u>5,385</u>
Total - Commodities			17,409

Section 3 - Investment Information**Investment Managers' Fees
Fiscal Year Ended June 30, 2013
(Dollar Amounts in Thousands)
(continued)**

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
Master Limited Partnerships			
Harvest Fund Advisors, LLC	Wayne	PA	\$ 2,231
Salient Capital Advisors, LLC	Houston	TX	1,470
Atlantic Trust Private Wealth Management	Chicago	IL	<u>1,265</u>
Total - Master Limited Partnership			4,966
Risk Parity			
AQR Capital Management, LLC	Greenwich	CT	1,321
Bridgewater All Weather Fund @ 15%, Ltd.	Westport	CT	<u>3,829</u>
Total - Risk Parity			5,150
Total External Management			538,027
Total Internal Management			<u>14,634</u> *
Total Investment Management			<u>\$ 552,661</u>

*Internal Management fees include salaries and fringe benefits of \$5,687 and operating expenses of \$8,947.

Internal Equity Trading Desk

One of the benefits of managing a significant amount of assets internally is that PSERS can have its own trading desk. A majority of the U.S. equity trades for the Fund are executed by PSERS' internal trading desk. The internal U.S. equity managers as well as a number of the external U.S. equity managers utilize the trading desk to execute trades. The objectives of PSERS' internal trading desk include:

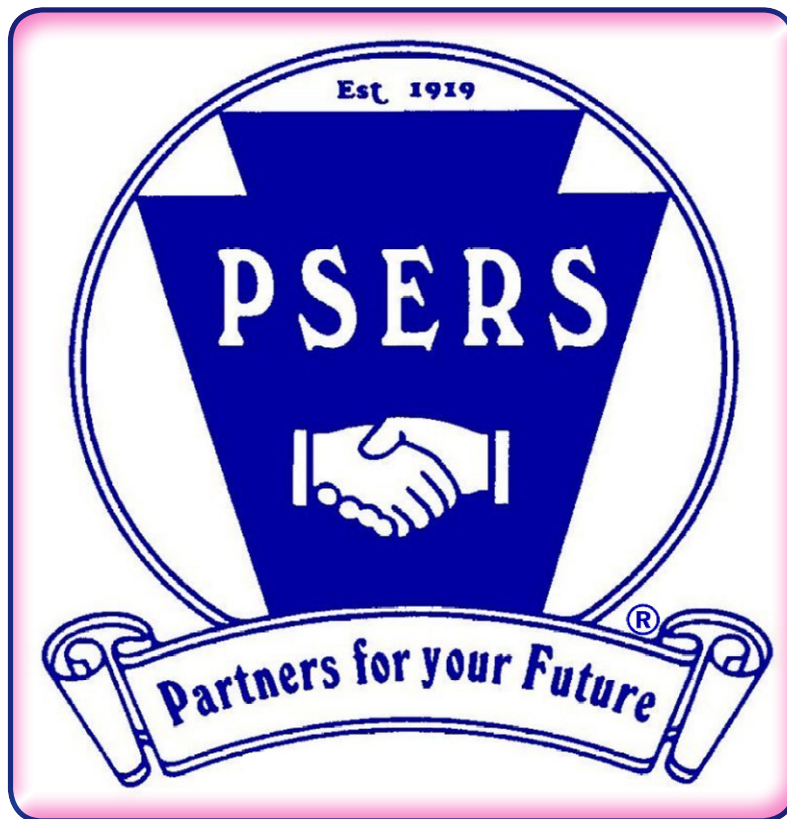
- to obtain best execution;
- to pay the lowest possible commissions consistent with obtaining best execution; and
- to provide market information/data to portfolio managers

The trading desk provides PSERS with access to information on the markets from sell-side brokers and by monitoring business news services which helps in the management of

the investments of the Fund. The trading desk also provides portfolio transition management services to PSERS. When equity portfolio managers are terminated, the trading desk handles the liquidation of the portfolio or the transition from one portfolio manager to another, minimizing the costs of those transitions.

The order flow generated by the trading desk provides PSERS with access to initial public offerings (IPOs). This can be a source of incremental returns since most IPOs generally trade higher after being issued. This IPO access generated \$6,282,675 in profits for PSERS during the calendar year ending December 31, 2013.

PSERS' trading desk executed approximately 15,300 U.S. orders for the purchase and sale of stock, futures, and options during the fiscal year ended June 30, 2013. The total dollar amount of U.S. orders traded during the fiscal year ended June 30, 2013 was approximately \$5.6 billion.



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**PSERS' Public Market
Emerging Investment Manager
(PMEIM) Program
(as of December 31, 2013)**

The Public Market Emerging Investment Manager (PMEIM) Program is a sub-section of PSERS' U.S. Equity, Non-U.S. Equity, Absolute Return, and Fixed Income asset classes.

Policy

Consistent with its fiduciary responsibilities, the Board has established the PMEIM Program to:

1. locate and fund managers with successful histories of generating positive alpha with risk commensurate with the alpha generated (positive risk adjusted returns);
2. provide a source of potential managers for the main fund; and
3. assist public market emerging investment management firms grow through the use of the System's name in the managers' marketing efforts.

The Board has allocated up to \$1 billion to the PMEIM Program. Funding for each investment manager will come from assets allocated within the main fund similar to or most closely related to the investment manager's mandate. The maximum number of investment managers in the program at any one time shall not exceed 25. The program may run with less than 25 investment managers.

Investment managers desiring to participate in the program must meet the following required criteria:

- Firms must be registered under the Investment Advisors Act of 1940 or be exempt therefrom (and will maintain such registration or exemption);
- Firms must provide transparency of positions and transactions;
- Firms must provide at least quarterly liquidity;
- Firms, the portfolio manager, or any combination thereof must have a three-year historical, performance record verified by at least one consultant or accounting firm in accordance with the Global Investment Performance Standards (GIPS);

- Firms considered to provide Equity, Commodity or Absolute Value exposure must have no more than \$1.5 billion of total assets under management when hired (existing investment managers will be terminated within a reasonable period of time from the PMEIM Program when the total assets under management exceeds \$3.0 billion);
- Firms considered to provide Fixed Income exposure must have no more than \$3.0 billion of total assets under management when hired (existing investment managers will be terminated within a reasonable period of time from the PMEIM Program when the total assets under management exceeds \$6.0 billion); and
- For performance-based fee accounts, the managers must exceed both a hurdle rate and a high water mark before they can earn the performance-based fee.

Preference will be given to investment managers deemed as able to meet the objectives, goals, and required criteria noted above plus having one or more of the following characteristics:

- Pennsylvania investment management firms headquartered or incorporated within the Commonwealth; and/or
- Minority and/or women-owned investment management firms approved by the Office of Minority and Women Business Enterprise in accordance with the criteria established by Executive Order No. 1987-18 and 4 Pennsylvania Code, Section 68.204.

Market Value as of December 31, 2013: \$555.6 million or 1.1% of the total market value of the Fund.

Number of External Investment Managers: PSERS had contracts with 8 external investment managers in the PMEIM Program.

Section 3 - Investment Information

PSERS' PMEIM Investment Managers (Market Value in Millions) (unaudited, as of December 31, 2013)

<u>External Manager</u>	<u>PA-Based</u>	<u>Women-owned</u>	<u>Minority-owned</u>	<u>Other</u>	<u>Total</u>
<u>U.S. Equity Mid and Small Cap</u>					
A.H. Lisanti Capital Growth, LLC		\$ 71.5			\$ 71.5
Conestoga Capital Advisors, Inc.	\$ 74.6				74.6
Opus Capital Management, Inc.			\$ 63.8		63.8
<u>Non-U.S. Equity Large Cap</u>					
John Hsu Capital Group, Inc.			71.8		71.8
<u>Non-U.S. Equity Emerging Markets</u>					
Glovista Investments			31.4		31.4
<u>U.S. Core Plus Fixed Income</u>					
Piedmont Investment Advisors			50.7		50.7
Pugh Capital Management, Inc.			86.5		86.5
<u>Absolute Return</u>					
Ellis Lake Capital, LLC				105.3	105.3
Total PSERS' PMEIM Portfolios	<u>\$ 74.6</u>	<u>\$ 71.5</u>	<u>\$ 304.2</u>	<u>\$ 105.3</u>	<u>\$ 555.6</u>
Percentage by category	<u>13.4%</u>	<u>12.9%</u>	<u>54.8%</u>	<u>18.9%</u>	