

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 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, 2014) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	25.27	16.52	19.95	7.99
U.S. Equity Policy Index (1)	24.55	15.77	18.73	8.07
<i>PSERS Non-U.S. Equities</i>	18.14	6.01	12.32	9.20
Non-U.S. Equity Policy Index (2)	21.10	5.54	11.29	8.20
<i>PSERS Private Markets (3)</i>	14.27	11.33	14.90	13.70
Thomson ONE Median Return, Vintage Year Weighted	8.34	5.14	7.60	5.78
<i>PSERS Real Estate (3)</i>	16.44	10.91	7.90	6.06
Blended Real Estate Index (4)	11.13	10.21	8.75	8.63
<i>PSERS Fixed Income Portfolios</i>	9.86	7.21	10.71	7.46
Fixed Income Policy Index (5)	6.52	4.34	7.83	6.50
<i>PSERS Absolute Return</i>	6.31	4.33	8.24	N/A
Absolute Return Policy Index (6)	7.50	7.50	7.70	N/A
<i>PSERS Risk Parity</i>	23.95	12.95	N/A	N/A
Risk Parity Policy Index (7)	16.45	4.23	N/A	N/A
<i>PSERS Master Limited Partnerships</i>	35.97	28.46	33.01	N/A
S&P MLP Index	24.87	20.32	26.99	N/A
<i>PSERS Commodities</i>	10.29	-4.59	3.94	N/A
Commodity Policy Index (8)	8.21	-5.16	1.99	N/A
<i>PSERS Cash</i>	0.26	0.25	0.28	N/A
BofA Merrill Lynch U.S. Treasury Bill 0 - 3 Month Index	0.03	0.05	0.08	N/A
<i>PSERS Total Fund (9)</i>	14.91	8.66	12.09	7.28
Policy Index	12.05	6.14	9.20	5.81

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 reported on a one-quarter lag, except for publicly traded real estate investments.
4. Comprised of 100% Blended Benchmark (NCREIF-CEVA for Value Added and Opportunistic; NCREIF-ODCE for Core) since October 1, 2013, reported on a one-quarter lag. Between July 1, 2010 and September 30, 2013 the NTFI Index was used. 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.
5. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (17.2%), Barclays Capital Global Aggregate GDP Weighted Dev x U.S. (Unhedged) Index (3.5%), Barclays Capital Emerging Mkt 10% Country Cap Index (6.9%), Barclays Capital U.S. Treasury Long Index (10.3%), Barclays Capital U.S. High Yield Index (20.7%), and Barclays Capital U.S. TIPS Index (41.4%) effective July 1, 2013. Prior to July 1, 2013, the blend was Barclays Capital U.S. Universal Index (24.7%), JP Morgan GBI EM Global Diversified Index (9.4%), Barclays Capital U.S. High Yield Index (28.2%), Barclays Capital Multiverse Index (14.1%), and Blended Policy (Net Levered TIPS) (23.6%).
6. Policy index is based on the assumed actuarial rate of return for the Fund which was 8.0% from July 1, 2009 through June 30, 2011. The assumed rate changed to 7.5% on July 1, 2011.
7. Returns presented are a blend of the MSCI ACW Index (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Commodity Gold Index (5%); and 3-Month LIBOR (-150%).
8. Returns presented are a blend of the Bloomberg Commodity Gold Index (33.3%) and the Bloomberg Commodity Index (66.7%). On July 1, 2014, the indices names were changed from DJ/UBS to Bloomberg. The returns have been adjusted for leverage.
9. Over the past 25 years ended June 30, 2014, the Fund earned an annualized rate of return of 8.70 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 December 31, 2014) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	11.71	20.09	15.82	7.62
U.S. Equity Policy Index (1)	11.94	19.73	15.01	7.74
<i>PSERS Non-U.S. Equities</i>	5.09	12.99	7.72	7.71
Non-U.S. Equity Policy Index (2)	5.81	12.95	6.84	6.71
<i>PSERS Private Markets (3)</i>	10.38	12.12	12.37	12.91
Thomson ONE Median Return, Vintage Year Weighted	5.84	5.67	6.85	5.83
<i>PSERS Real Estate (3)</i>	17.23	12.65	10.87	5.53
Blended Real Estate Index (4)	14.95	11.49	11.32	8.48
<i>PSERS Fixed Income Portfolios</i>	10.32	6.32	8.48	6.88
Fixed Income Policy Index (5)	5.19	3.27	5.43	5.83
<i>PSERS Absolute Return</i>	3.09	3.55	6.70	N/A
Absolute Return Policy Index (6)	5.61	6.86	7.27	N/A
<i>PSERS Risk Parity</i>	10.15	7.65	N/A	N/A
Risk Parity Policy Index (7)	10.41	4.76	N/A	N/A
<i>PSERS Master Limited Partnerships</i>	16.30	21.70	24.54	N/A
S&P MLP Index	7.66	13.60	17.79	N/A
<i>PSERS Commodities</i>	-10.59	-7.11	-3.15	N/A
Commodity Policy Index (8)	-12.05	-7.94	-4.60	N/A
<i>PSERS Cash</i>	0.19	0.24	0.25	N/A
BofA Merrill Lynch U.S. Treasury Bill 0 - 3 Month Index	0.03	0.05	0.07	N/A
<i>PSERS Total Fund (9)</i>	8.83	9.61	9.43	6.35
Policy Index	6.66	7.04	6.88	4.96

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 reported on a one-quarter lag, except for publicly traded real estate security investments.
4. Comprised of 100% Blended Benchmark (NCREIF-CEVA for Value Added and Opportunistic; NCREIF-ODCE for Core) since October 1, 2013, reported on a one-quarter lag. Between July 1, 2010 and September 30, 2013 the NTFI Index was used. 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.
5. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (17.2%), Barclays Capital Global Aggregate GDP Weighted Dev x U.S. (Unhedged) Index (3.5%), Barclays Capital Emerging Mkt 10% Country Cap Index (6.9%), Barclays Capital U.S. Treasury Long Index (10.3%), Barclays Capital U.S. High Yield Index (20.7%), and Barclays Capital U.S. TIPS Index (41.4%) effective July 1, 2013. Prior to July 1, 2013, the blend was Barclays Capital U.S. Universal Index (24.7%), JP Morgan GBI EM Global Diversified Index (9.4%), Barclays Capital U.S. High Yield Index (28.2%), Barclays Capital Multiverse Index (14.1%), and Blended Policy (Net Levered TIPS) (23.6%).
6. Three month LIBOR +3.50% effective July 1, 2014. Previously, was based on the assumed actuarial rate of return for the Fund which was 8.0% from July 1, 2009 through June 30, 2011. The assumed rate changed to 7.5% on July 1, 2011 and was used as the Absolute Return Policy Index through June 30, 2014.
7. Effective July 1, 2014 returns presented are a blend of MSCI ACW Index (\$Net) (50%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (55%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Gold Subindex (5%); and 3-Month LIBOR (-100%). The weights to these indices have varied in previous quarters. The returns have been adjusted for volatility.
8. Returns presented are a blend of the Bloomberg Commodity Gold Index (33.3%) and the Bloomberg Commodity Index (66.7%). On July 1, 2014, the indices names were changed from DJ/UBS to Bloomberg. The returns have been adjusted for leverage.
9. Over the past 25 years ended December 31, 2014, the Fund earned an estimated annualized rate of return of 8.46 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, 2014)

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 information 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 following represents PSERS' asset allocation as of December 31, 2014 (unaudited):

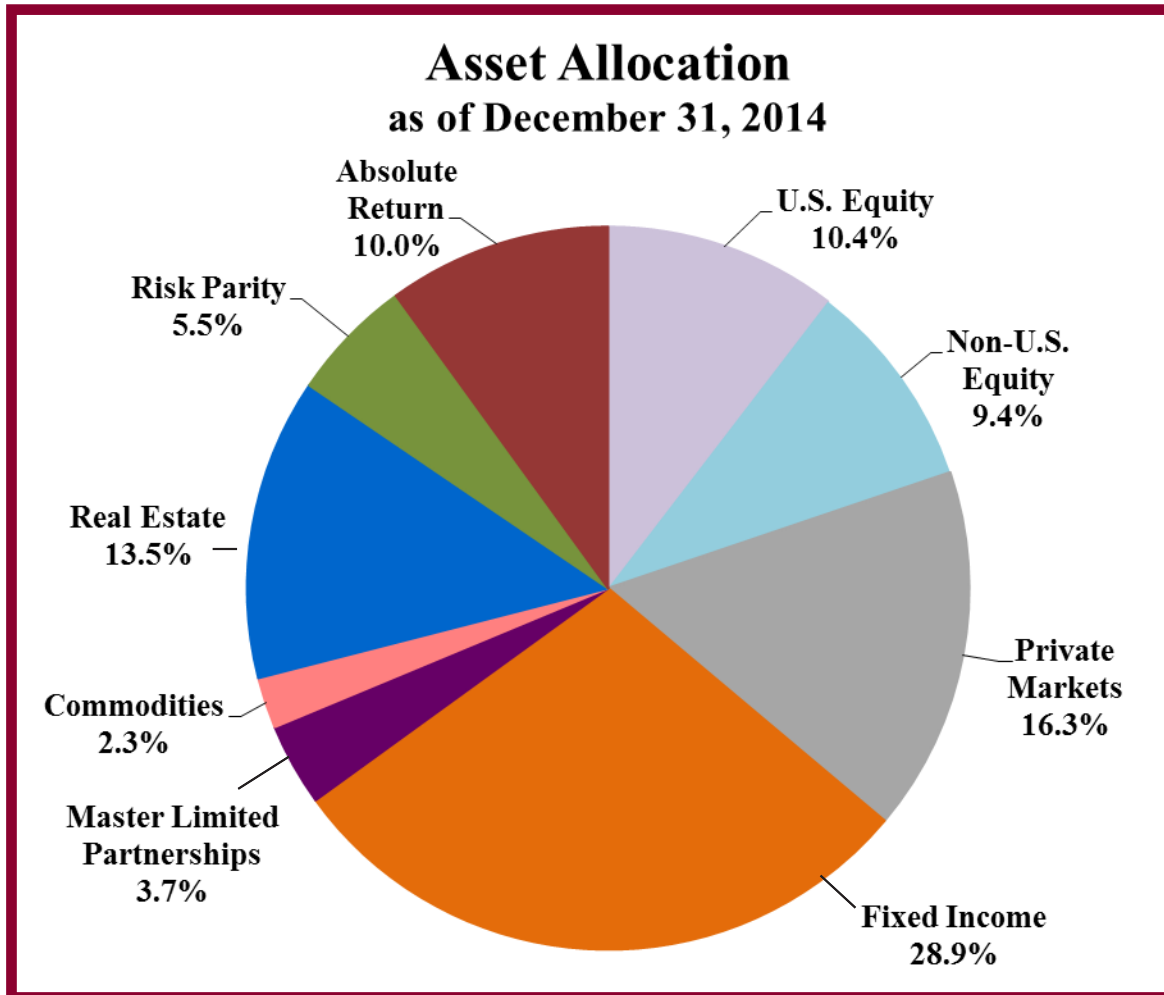
<u>Asset Class</u>	<u>Market Value (in millions)</u>	<u>Percentage of Total</u>	<u>Target Allocation %</u>	<u>Target Allocation Range</u>
Global Public Market Equity:				
U.S. Equity	\$ 5,294.2	10.4 %	10.4 %	
Non-U.S. Equity	<u>4,770.7</u>	<u>9.4</u>	<u>11.1</u>	
Total Global Public Market Equity	\$ 10,064.9	19.8 %	21.5 %	
Private Markets	<u>8,295.1</u>	<u>16.3</u>	<u>17.0</u>	
Total Equity	\$ 18,360.0	36.1 %	38.5 %	± 10%
Fixed Income**	\$ 14,688.2 *	28.9 %	23.0 %	± 10%
Master Limited Partnerships	1,879.4	3.7 %	4.0 %	
Commodities**	1,156.5	2.3	4.0	
Real Estate	<u>6,858.5</u>	<u>13.5</u>	<u>13.5</u>	
Total Real Asset Exposure	\$ 9,894.4	19.5 %	21.5 %	± 10%
Risk Parity**	\$ 2,803.3	5.5 %	7.0 %	± 5%
Absolute Return	\$ 5,076.6	10.0 %	10.0 %	± 4%
Totals	<u>\$ 50,822.5</u>	<u>100.0 %</u>	<u>100.0 %</u>	

* 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. Cash also includes a \$1.5 billion receivable from the secondary sale of 20 Private Equity partnership interests.

**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, 2014, PSERS had increased economic exposure of \$6.0 billion related to the following asset classes: Fixed Income (\$4.3 billion); Risk Parity (\$0.7 billion) and Commodities (\$1.0 billion). The target allocation to financing was netted against the following target allocations: Fixed Income (9%), Risk Parity (1%), and Commodities (2%).

Asset Allocation
(as of December 31, 2014)
(continued)

The following chart illustrates PSERS' asset allocation as of December 31, 2014:



**Asset Allocation
(as of December 31, 2014)
(continued)**

Number of Investment Managers and Portfolios

Public Market Asset Classes (ex. Real Estate)

PSERS' public market asset classes, excluding Real Estate, used 62 external investment managers who were responsible for 75 portfolios, and 9 internal portfolio managers who were responsible for 13 portfolios. There were 5 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 107 active external general partners to invest in 256 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*	2	2
Internal	2	3
<i>Non-U.S. Equity Investments:</i>		
External	9	10
Internal	2	3
<i>Fixed Income Investments:</i>		
External*	25	35
Internal**	2	3
<i>Commodities:</i>		
External	4	4
Internal	1	2
<i>Master Limited Partnerships:</i>		
External	3	3
<i>Risk Parity:</i>		
External	3	3
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>	71	89
<i>Total External*</i>	62	75
<i>Total Internal</i>	9	13

*The Public Market Emerging Investment Manager Program consisted of 5 portfolio managers. There were 1 U.S. Equity, 4 Fixed Income portfolios, and 1 Absolute Return portfolio in the Program.
 **PSERS managed \$279.7 million for the System's healthcare account.



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**Summary of PSERS’
Equity Investments
(as of December 31, 2014)**

Public Market Global Equity Exposure is one of eight 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 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 21.5% of assets to Global Public Market Equity Exposure.

Market Value as of December 31, 2014:

- U.S.: \$5,294.2 million, or 10.4% of the Fund’s total market value.
- Non-U.S.: \$4,770.7 million, or 9.4% of the Fund’s total market value.
- Total: \$10,064.9 million, or 19.8% of the Fund’s total market value.

Number of External Investment Managers: PSERS had contracts with two external investment managers responsible for various U.S. Equity portfolios (including one Public Market Emerging Manager Program manager) and contracts with 9 external investment managers responsible for various Non-U.S. Equity portfolios.

Number of Internal Portfolio Managers:

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

Types of Investment Portfolios at December 31, 2014:

- U.S.: 81.2% large capitalization stock strategies, and 18.8% medium/small capitalization stock strategies.
- 95.4% passively-managed portfolios and 4.6% actively-managed stock selection portfolios.
- 95.4% was managed by internal portfolio managers and 4.6% was managed by external investment managers.
- Non-U.S.: 71.4% large capitalization stock strategies, 15.0% small capitalization strategies, and 13.6% emerging market stock strategies.
- 45.8% passively-managed portfolios (managed internally) and 54.2% actively-managed portfolios (managed externally).

Section 3 - Investment Information**Summary of PSERS' U.S. Equity Portfolios (unaudited)**
(as of December 31, 2014)

	Market Value (in millions)	% of U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS S&P 400 Index Fund	\$ 370.1	7.0%	0.7%
PSERS S&P 500 Index Fund	4,300.3	81.2%	8.5%
PSERS S&P 600 Index Fund	379.6	7.2%	0.7%
Other	<u>1.3</u>	<u>0.0%</u>	<u>0.0%</u>
Total Passively Managed U.S. Equity	\$ <u>5,051.3</u>	<u>95.4%</u>	<u>9.9%</u>
<i>Actively Managed Mid and Small Cap Portfolios</i>			
A.H. Lisanti Capital Growth, LLC	\$ 72.7	1.4%	0.1%
First Pacific Advisors, Inc.	<u>170.2</u>	<u>3.2%</u>	<u>0.3%</u>
Total Actively Managed Mid and Small Cap U.S. Equity	\$ <u>242.9</u>	<u>4.6%</u>	<u>0.5%</u>
Total U.S. Equity	\$ <u>5,294.2</u>	<u>100.0%</u>	<u>10.4%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Non-U.S. Equity Portfolios (unaudited) (as of December 31, 2014)

	Market Value (in millions)	% of Non-U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS ACWI x-US Index Fund	\$ 1,828.4	38.3%	3.6%
PSERS Emerging Markets Equity Index	356.9	7.5%	0.7%
Total Passively Managed Non-U.S. Equity	\$ 2,185.3	45.8%	4.3%
<i>Actively Managed Developed Large Cap Portfolios</i>			
Baillie Gifford Overseas Ltd.	\$ 524.2	11.0%	1.0%
BlackRock Financial Management, Inc.	499.5	10.5%	1.0%
Marathon Asset Management Limited	537.9	11.3%	1.1%
Pareto Investment Management, Ltd.	15.3 a	0.3%	0.0%
Total Actively Managed Developed Large Cap Non-U.S. Equity	\$ 1,576.9	33.1%	3.1%
<i>Actively Managed Emerging Market Portfolios</i>			
Wasatch Advisors, Inc.	\$ 291.3	6.1%	0.6%
Other	0.4	0.0%	0.0%
Total Actively Managed Emerging Market Non-U.S. Equity	\$ 291.7	6.1%	0.6%
<i>Actively Managed Developed Small Cap Portfolios</i>			
Acadian Asset Management	\$ 180.1	3.8%	0.4%
Batterymarch Financial Mgmt., Inc.	73.0	1.5%	0.1%
Oberweis Asset Management, Inc.	135.9	2.8%	0.3%
Pyramis Global Advisors	128.3	2.7%	0.2%
Wasatch Advisors, Inc.	199.5	4.2%	0.4%
Total Actively Managed Developed Small Cap Non-U.S. Equity	\$ 716.8	15.0%	1.4%
Total Non-U.S. Equity	\$ 4,770.7	100.0%	9.4%

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, 2014)

Private Market investments represent one of eight 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 17.0% 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 serve 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, 2014)
(continued)**

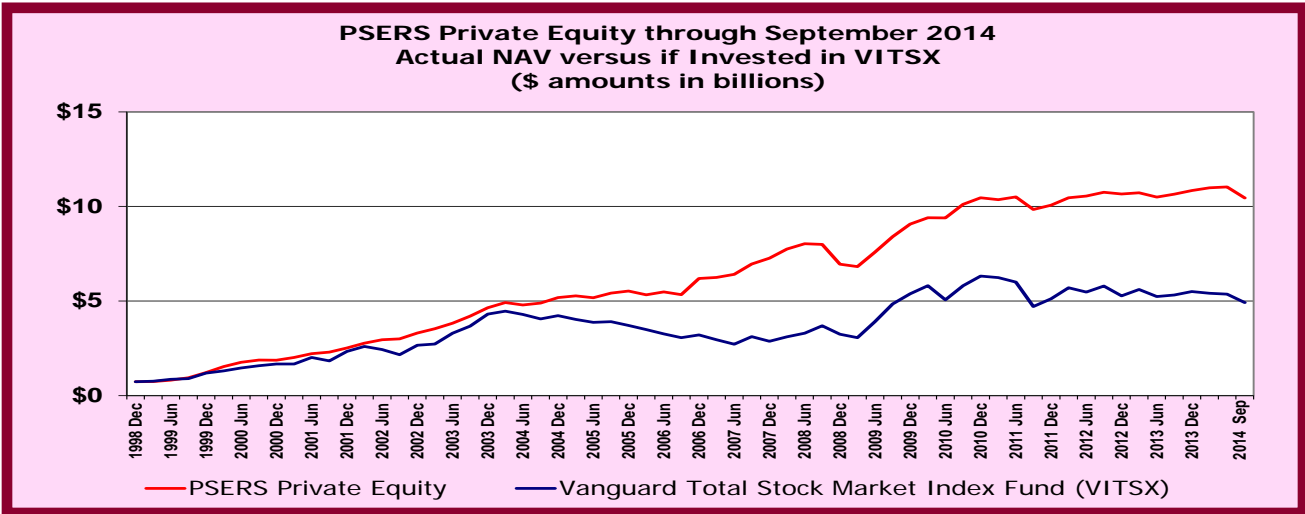
Public Equity vs. Private Equity

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 2014:



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, 2014) 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 (Sep 2004 - Sep 2014)
PSERS Private Equity Program	13.68%
Vanguard Total Stock Market Index (VITSX)	8.66%
Vanguard 500 Index Fund Admiral Shares (VFIAX)	8.08%
PSERS Internally-Managed S&P 500 Index Fund	8.44%

Section 3 - Investment Information

Summary of PSERS' Private Market Investments (as of December 31, 2014) (continued)

Market Value as of December 31, 2014: \$8,295.1 million, or 16.3% 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	\$ 14,844.3	\$ 6,245.8	12.3%
Venture Capital	2,372.1	840.6	1.6
Private Debt	<u>3,987.0</u>	<u>1,208.7</u>	<u>2.3</u>
Totals	\$ <u>21,203.4</u>	\$ <u>8,295.1</u>	<u>16.3%</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, 2014 are as follows:

Industry Diversification (by number of companies in each industry)

Secondary Funds	35.7%
Services	12.0%
Industrial	11.0%
Computer	8.1%
Financial	7.6%
Medical	6.8%
Consumer	4.7%
Energy	4.3%
Communication	4.0%
Transportation	2.7%
Real Estate	2.5%
Other	0.6%

Number of External Investment Managers: PSERS' Private Equity program has committed a total of \$14.8 billion to 100 partnerships through December 31, 2014. Six of these partnerships are located in Pennsylvania. Thirty-three of the 36 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	30.7%
New York	18.3%
California	12.7%
Texas	5.0%
Massachusetts	4.2%
Pennsylvania	2.8%
Illinois	2.5%
Connecticut	2.3%
New Jersey	2.3%
Florida	2.2%
North Carolina	1.7%
Maryland	1.4%
Virginia	1.2%
Ohio	1.1%
Other	11.6%

PSERS' Venture Capital program consists of 35 partnerships with committed capital totaling \$2.4 billion through December 31, 2014. A significant number of the venture capital partnerships, 17 out of 35, are located in Pennsylvania. One of the 36 international partnerships is included within the venture capital sector.

PSERS' Private Debt program has committed \$4.0 billion to 25 partnerships through December 31, 2014. 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 two of the 36 international partnerships are included within the private debt sector.

Number of In-House Co-Investments: PSERS' Private Market Internal Program consists of 16 investments with committed capital totaling \$195 million through December 31, 2014. PSERS' 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 six of the 16 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, 2014)

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	212,591,038	105,310,843
Actis Global 4, L.P.	2012	100,000,000	38,706,374	1,307,219
Allegheny New Mountain Partners, L.P.	2004	100,000,000	83,775,587	151,200,845
Apax Europe VII, L.P.	2007	242,000,000	288,419,822	137,723,403
Bain Capital Asia Fund II, L.P.	2012	100,000,000	57,500,000	5,827,814
Bain Capital Fund XI, L.P.	2013	100,000,000	16,250,000	-
Baring Asia Private Equity Fund III, L.P.	2005	122,500,000	139,970,424	271,797,962
Baring Asia Private Equity Fund IV, L.P.	2007	300,000,000	291,337,270	147,389,568
Baring Asia Private Equity Fund V, L.P.	2011	200,000,000	186,674,807	32,382,247
Baring Asia Private Equity Fund VI, L.P.	2014	100,000,000	-	-
Blue Point Capital Partners (B), L.P.	2001	103,750,000	91,089,506	138,050,630
Blue Point Capital Partners II (B), L.P.	2007	100,000,000	93,191,399	107,579,376
Blue Point Capital Partners III (B), L.P.	2014	60,000,000	13,592,686	-
Bridgepoint Capital II (Secondary)	1998	84,714,906	81,276,972	166,298,691
Bridgepoint Europe I	1998	79,622,624	75,089,014	135,785,536
Bridgepoint Europe II	2001	363,000,000	312,831,930	605,119,344
Bridgepoint Europe III A, L.P.	2005	242,000,000	249,204,232	148,242,066
Bridgepoint Europe IV, L.P.	2008	363,000,000	378,736,181	207,368,150
Bridgepoint Europe V, L.P.	2014	181,500,000	-	-
Capital International Private Equity Fund V L.P.	2007	200,000,000	198,859,899	133,698,911
Capital International Private Equity Fund VI, L.P.	2011	100,000,000	49,043,154	635,511
Catterton Growth Partners II, L.P.	2013	75,000,000	29,558,479	-
Catterton Growth Partners, L.P.	2008	75,000,000	84,387,768	48,862,186
Catterton Partners V, L.P.	2004	100,000,000	101,386,111	91,234,269
Catterton Partners VI, L.P.	2006	130,000,000	141,321,654	172,512,147
Catterton Partners VII, L.P.	2012	100,000,000	48,095,025	-
Cinven Fund (Fifth), L.P.	2011	121,000,000	52,872,278	1,007,065
Cinven Fund (Fourth), L.P.	2006	181,500,000	201,849,501	175,694,498
Coller International Partners VI, L.P.	2011	100,000,000	47,024,819	13,434,540
Credit Suisse Int'l Equity Partners, L.P.	1997	83,000,000	76,663,758	95,804,666
Crestview Partners II (PF) LP	2009	200,000,000	211,539,086	132,613,798
Crestview Partners III, L.P.	2014	150,000,000	-	-
Crestview Partners, L.P.	2005	150,000,000	152,889,340	202,329,836
CVC Capital Partners Asia Pacific III, L.P.	2008	300,000,000	293,371,326	232,458,081
CVC European Equity Partners V (A), L.P.	2008	363,000,000	402,080,158	252,050,230
DCPF VI Oil and Gas Co-Investment Fund, L.P.	2013	25,000,000	5,394,884	-
Denham Commodity Partners Fund VI, L.P.	2011	75,000,000	30,923,566	4,559,068
DLJ Merchant Banking Partners III, L.P.	2000	300,000,000	309,532,168	658,328,029
Dubin Clark Fund II, L.P.	2000	24,083,333	23,706,041	15,338,534
Energy & Minerals Group Fund III, L.P., (The)	2014	100,000,000	52,805,366	4,919

*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, 2014) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Evergreen Pacific Partners II, L.P.	2008	\$ 80,954,545	\$ 61,722,733	\$ 22,810,218
Evergreen Pacific Partners, L.P.	2005	50,000,000	37,284,430	5,291,302
First Reserve Fund XI, L.P.	2006	200,000,000	213,209,232	117,065,025
First Reserve Fund XII, L.P.	2008	250,000,000	258,290,074	95,641,350
GoldPoint Partners Co-Investment V, L.P.	2013	50,000,000	19,865,091	2,504,075
Greenwich Street Capital Partners II	1998	200,000,000	215,035,127	211,623,188
HgCapital 7 A, L.P.	2013	116,857,500	33,265,995	-
Incline Equity Partners III (PSERS), L.P.	2011	65,000,000	21,957,082	1,239,468
Irving Place Capital Partners II L.P.	2000	300,000,000	283,564,188	455,029,417
Irving Place Capital Partners III L.P.	2006	150,000,000	136,790,154	77,792,585
KRG Capital Fund II (PA) L.P.	2001	100,000,000	79,647,554	115,274,688
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	95,379,863	77,023,032
Landmark Equity Partners XIV, L.P.	2008	150,000,000	131,783,625	80,622,525
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	312,797,567	719,167,486
Milestone Partners II, L.P.	2004	29,890,000	27,844,247	42,050,676
Milestone Partners III, L.P.	2008	60,000,000	57,691,761	17,395,683
Milestone Partners IV, L.P.	2011	70,000,000	45,878,605	513,701
Morgan Stanley Dean Witter Cap. Partners IV, L.P.	1998	300,000,000	236,925,618	477,873,353
Morgan Stanley PE Asia Fund IV, L.P.	2013	100,000,000	38,090,112	-
New Mountain Partners III L.P.	2007	300,000,000	289,740,969	102,416,117
New Mountain Partners IV, L.P.	2013	100,000,000	14,929,142	-
New Mountain Partners. L.P.	2000	192,509,033	161,121,249	238,834,977
New York Life Capital Partners I, L.P.	1999	200,000,000	204,885,726	225,216,660
New York Life Capital Partners II, L.P.	2001	200,000,000	194,550,318	509,244,873
New York Life Capital Partners III-A, L.P.	2005	200,000,000	216,588,342	84,026,868
New York Life Capital Partners IV-A. L.P.	2008	100,000,000	105,889,105	84,776,978
NGP Natural Resources X, L.P.	2012	100,000,000	72,833,505	10,483,612
NGP Natural Resources XI, L.P.	2014	100,000,000	564,960	-
Odyssey Investment Partners Fund V, L.P.	2014	100,000,000	1,125,707	-
Orchid Asia V, L.P.	2011	40,000,000	33,497,194	20,602,156
Orchid Asia VI, L.P.	2014	75,000,000	1,765,996	-
PAI Europe IV-B2, L.P.	2005	121,000,000	129,935,514	172,570,055
PAI Europe V, L.P.	2007	121,000,000	125,416,062	38,561,892
PAI Europe VI, L.P.	2013	121,000,000	29,341,375	-
Palladium Equity Partners II-A, L.P.	2000	57,750,000	62,404,592	77,590,826
Palladium Equity Partners IV, L.P.	2014	75,000,000	19,394,410	580,018
Partners Group Secondary 2008, L.P.	2007	181,500,000	178,083,194	122,722,285

*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, 2014) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Partners Group Secondary 2011 (USD), L.P. Inc.	2011	\$ 100,000,000	\$ 52,199,851	\$ 11,253,302
Permira IV, L.P.	2006	151,250,000	160,992,120	124,602,329
Platinum Equity Capital Partners-A II, L.P.	2007	300,000,000	277,602,228	308,388,766
Platinum Equity Capital Partners-A III, L.P.	2012	200,000,000	70,547,849	54,753,988
Platinum Equity Capital Partners-A, L.P.	2004	125,000,000	97,387,205	247,394,758
PNC Equity Partners II, L.P.	2007	68,065,386	58,571,287	52,077,801
PNC Equity Partners, L.P.	2001	43,154,458	39,619,636	77,106,929
PSERS Private Equity Internal Program	2012	54,432,390	37,484,497	12,246,673
PSERS Private Equity Internal Program	2013	67,159,129	54,262,362	562,390
PSERS Private Equity Internal Program	2014	73,545,715	51,195,040	388,223
Quadrangle Capital Partners, L.P.	2001	270,422,415	225,438,094	377,588,897
StepStone International Investors III L.P.	2007	121,000,000	135,663,385	73,620,981
Sterling Capital Partners, L.P.	2002	75,000,000	84,218,317	148,372,825
Strategic Feeder, L.P.	2001	200,000,000	193,702,086	301,262,321
Strategic Partners Fund II, L.P.	2003	300,000,000	263,918,027	460,718,871
Strategic Partners Fund III-B, L.P.	2005	200,000,000	216,856,813	205,494,633
Strategic Partners Fund IV, L.P.	2008	100,000,000	92,820,310	113,389,049
Strategic Partners Fund V, L.P.	2011	150,000,000	106,232,901	56,898,525
Strategic Partners Fund VI, L.P.	2014	150,000,000	28,684,740	592,684
Trilantic Capital Partners IV L.P.	2007	76,752,676	75,944,527	77,264,734
Trilantic Capital Partners V (North America), L.P.	2013	100,000,000	32,882,454	92,138
U.S. Equity Partners II	2001	300,000,000	222,540,895	221,400,105
Sub Total Private Equity		\$ 14,553,447,797	\$ 12,009,726,444	\$ 11,954,346,634
Investment (1):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Bay City Capital V, L.P.	2007	\$ 18,906,000	\$ -	\$ -
Birchmere Ventures III TSIB, L.P.	2005	13,333,333	-	-
CHV Health Ventures Account I & II, L.P.	2003	10,916,667	-	-
Guggenheim Technology Ventures I, L.P.	2008	25,000,000	-	-
Invesco Partnership Fund IV, L.P.	2004	25,000,000	-	-
McCoy Investments, L.P.	2007	25,000,000	-	-
NB Crossroads Fund XVIII - Institutional Asset Allocation, L.P.	2006	25,000,000	-	-

(1) The Tobacco Settlement Fund, in accordance with the Commonwealth 2014-2015 Budget, transferred these investments to PSERS on December 31, 2014.

*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, 2014) (continued)

Partnership Name Private Equity - Investment (1) (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
NewSpring Health Capital II, L.P.	2008	\$ 20,000,000	\$ -	\$ -
Novitas Capital III, L.P.	2003	20,000,000	-	-
Pantheon Europe Fund IV, L.P.	2005	5,000,000	-	-
Pantheon USA Fund VI, L.P.	2004	20,000,000	-	-
Quaker BioVentures II, L.P.	2008	20,000,000	-	-
Quaker BioVentures Tobacco Fund, L.P.	2004	31,750,000	-	-
Versa Capital Fund I, L.P.	2006	31,000,000	-	-
Total Investment		\$ 290,906,000	\$ -	\$ -
Total Private Equity		\$ 14,844,353,797	\$ 12,009,726,444	\$ 11,954,346,634

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	54,991,937	23,576,409
Aisling Capital III, L.P.	2008	50,000,000	46,268,089	32,921,571
Co-Investment 2000 Fund, L.P.	2000	135,000,000	135,000,000	189,180,406
Co-Investment Fund II, L.P.	2006	135,000,000	130,950,000	31,178,095
Cross Atlantic Technology Fund II	2001	21,119,734	21,119,734	17,446,765
Cross Atlantic Technology Fund, L.P.	1999	30,141,666	30,357,584	35,781,536
Jefferson Partners Fund IV (PA) L.P.	2003	25,119,768	24,583,511	200,204
KBL Partnership, L.P.	1999	13,743,333	13,711,864	6,563,009
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	108,499,587
LLR Equity Partners III, L.P.	2008	187,500,000	164,570,481	140,605,594
LLR Equity Partners IV, L.P.	2013	200,000,000	30,000,000	954,167
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	123,891,149	201,103,404
Psilos Group Partners III-C, L.P.	2007	62,500,000	62,744,925	30,420,581
Quaker BioVentures II, L.P.	2007	100,000,000	85,153,932	54,020,776
Quaker BioVentures, L.P.	2003	69,350,000	63,488,565	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	29,114,336

(1) The Tobacco Settlement Fund, in accordance with the Commonwealth 2014-2015 Budget, transferred these investments to PSERS on December 31, 2014.

*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, 2014) (continued)

Partnership Name Venture Capital (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
StarVest Partners , L.P.	1999	\$ 67,500,000	\$ 65,659,367	\$ 102,852,914
StarVest Partners II (Parallel), L.P.	2007	50,000,000	45,039,747	1,886,791
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	55,373,125	52,657,959
Strategic Partners Fund IV VC, L.P.	2008	50,000,000	56,656,572	42,803,049
Summit Partners Growth Equity Fund VIII, L.P.	2012	100,000,000	58,500,000	9,708,786
Summit Partners Venture Capital Fund III, L.P.	2012	25,000,000	16,250,000	-
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	80,607,212
Tenaya Capital VI, L.P.	2012	50,000,000	31,996,566	-
Tenaya Capital VII, L.P.	2014	100,000,000	-	-
Tenaya Capital V-P, L.P.	2007	75,000,000	67,309,889	78,963,581
Total Venture Capital		\$ 2,372,078,200	\$ 1,999,637,396	\$ 1,650,324,233
Partnership Name Private Debt:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Apollo Investment Fund VIII, L.P.	2013	\$ 20,000,000	\$ 19,215,818	\$ -
Avenue Asia Special Situations Fund IV, LP	2006	300,000,000	225,056,480	176,084,050
Avenue Europe Special Situations Fund, L.P.	2008	242,000,000	259,698,044	355,848,488
Avenue Special Situations Fund IV, L.P.	2005	115,000,000	144,782,669	188,059,499
Avenue Special Situations Fund V, L.P.	2007	300,000,000	301,095,120	394,037,486
Avenue Special Situations Fund VI, L.P.	2010	75,000,000	76,892,726	34,395,660
Cerberus Institutional Partners V, L.P.	2012	200,000,000	191,502,125	19,212,678
Cerberus Institutional Partners, L.P. (Series 2)	2001	200,000,000	173,047,901	535,607,961
Cerberus Institutional Partners, L.P. (Series 3)	2003	100,000,000	81,055,777	140,674,890
Cerberus Institutional Partners, L.P. (Series 4)	2006	400,000,000	369,661,873	289,218,180
Gleacher Mezzanine Fund II, L.P.	2006	100,000,000	91,547,783	85,926,634
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	78,468,787
GSC Partners CDO Investors IV, L.P.	2003	80,000,000	80,000,000	100,200,000
GSC Recovery II, L.P.	2000	280,000,000	279,170,771	389,075,776
GSC Recovery III (Parallel Fund), L.P.	2005	200,000,000	201,394,130	230,412,782
NYLIM Mezzanine Partners (Parallel Fund) L.P.	2003	75,000,000	68,935,472	88,940,865
NYLIM Mezzanine Partners II (Parallel Fund) LP	2006	150,000,000	164,075,949	188,974,623
OCM Opportunities Fund VII L.P.	2007	75,000,000	75,000,000	88,756,217
OCM Opportunities Fund VII-b L.P.	2008	225,000,000	202,500,000	318,146,782
Versa Capital Fund I, L.P.	2005	75,000,000	88,545,177	61,691,490
Versa Capital Fund II, L.P.	2008	150,000,000	144,033,012	61,173,002

*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, 2014)
(continued)**

Partnership Name Private Debt (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Versa Capital Fund III, L.P.	2013	\$ 150,000,000	\$ -	\$ -
Windjammer Senior Equity Fund III, L.P.	2006	50,000,000	45,223,847	53,565,899
Windjammer Senior Equity Fund IV, L.P.	2012	\$ <u>100,000,000</u>	\$ <u>39,146,458</u>	\$ <u>2,763,553</u>
Total Private Debt		\$ 3,987,000,000	\$ 3,435,031,437	\$ 3,977,174,132
Grand Total		<u>\$ 21,203,431,997</u>	<u>\$ 17,444,395,275</u>	<u>\$ 17,581,845,002</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.*

Summary of PSERS' Real Estate Investments (as of December 31, 2014)

Private Real Estate Exposure is one of eight 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	\$ 448.8	\$ 291.5	0.6%
PTRES	202.4	213.5	0.4%
Core Real Estate	301.4	197.7	0.4%
Opportunistic Real Estate	8,709.2	4,597.9	9.0%
Value Added Real Estate	<u>4,136.4</u>	<u>1,557.9</u>	<u>3.1%</u>
Totals	<u>\$ 13,798.2</u>	<u>\$ 6,858.5</u>	<u>13.5%</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 13.5% 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 (30%), Value Added (50%) and Core (20%) 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, 2014: \$6,858.5 million or 13.5% of the Fund's total market value. This market value represents the combination of December 31, 2014 and September 30, 2014 market values adjusted for cash flows that occurred during the fourth quarter of 2014.

Number of External Investment Managers: PSERS had contracts with five external directly managed real estate asset managers and 38 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, 2014:

- 4.3% Separate Account Portfolios
- 3.1% Public Securities Portfolios
- 2.9% Core Real Estate Portfolios
- 67.0% Opportunistic Real Estate Portfolios
- 22.7% Value Added Real Estate Portfolios

Section 3 - Investment Information

Summary of PSERS' Active Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014)

<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	\$ 136,248,758	\$ 238,546,497
GF Management, Inc.	1987	131,991,000	132,449,035	146,107,784
Grosvenor Fund Management U.S., Inc.	1986	10,859,844	11,160,942	12,627,728
L&B Realty Advisors, LLP	1993	150,403,000	151,746,926	246,042,040
Prudential Agriculture Group	n/a	<u>22,421,000</u>	<u>22,534,106</u>	<u>55,358,754</u>
Total Separate Accounts		\$ 448,853,844	\$ 455,139,767	\$ 698,682,803
Public Securities:				
Security Capital Research & Management, Inc. - Preferred Growth	1997	\$ 202,393,803	\$ 202,393,803	\$ 89,824,697
Core Real Estate:				
JPMCB Strategic Property Fund	2007	\$ 100,000,000	\$ 25,000,000	\$ 4,949,023
PRISA	2006	100,000,000	100,000,000	29,996,705
PSERS Real Estate Internal Program	2014	1,371,558	1,371,558	-
UBS (US) Trumbull Property Fund, L.P.	2006	<u>100,000,000</u>	<u>75,000,000</u>	<u>17,905,584</u>
Total Core Real Estate		\$ 301,371,558	\$ 201,371,558	\$ 52,851,313
Opportunistic Real Estate:				
Ares European Real Estate Fund III, L.P.	2007	\$ 121,000,000	\$ 135,004,940	\$ 94,503,242
Ares European Real Estate Fund IV, L.P.	2013	100,000,000	11,394,763	-
Avenue Real Estate Fund (Parallel) L.P.	2006	100,000,000	94,193,695	-
BlackRock Asia Property Fund III, L.P.	2007	174,293,186	134,983,698	50,128,288
BlackRock Europe Property Fund III, L.P.	2007	121,000,000	125,216,070	68,187,204
Blackstone Real Estate Partners Europe III, L.P.	2009	242,000,000	258,705,795	121,368,498
Blackstone Real Estate Partners Europe IV, L.P.	2013	100,000,000	40,775,420	3,588,083
Blackstone Real Estate Partners V, L.P.	2006	200,000,000	214,491,119	199,232,639
Blackstone Real Estate Partners VI, L.P.	2007	400,000,000	428,664,925	375,818,864
Blackstone Real Estate Partners VII, L.P.	2011	300,000,000	294,731,455	97,306,662
Brookfield Strategic Real Estate Partners, L.P.	2012	200,000,000	173,951,892	24,730,774
Carlyle Europe Real Estate Partners III, L.P.	2007	242,000,000	279,059,328	79,888,248
Carlyle Realty Partners III, L.P.	2000	141,016,667	114,891,142	229,326,199
Carlyle Realty Partners IV, L.P.	2005	130,000,000	186,382,360	71,986,223
Carlyle Realty Partners V, L.P.	2007	300,000,000	361,662,366	376,574,984
Carlyle Realty Partners VI, L.P.	2011	200,000,000	166,850,734	92,447,476
Carlyle Realty Partners VII, L.P.	2014	100,000,000	586,301	-
DLJ Real Estate Capital Partners III, L.P.	2005	150,000,000	165,682,693	65,186,412
DLJ Real Estate Capital Partners IV, L.P.	2007	250,000,000	276,083,452	101,700,759

*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 Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Opportunistic Real Estate (continued):				
DLJ Real Estate Partners II, L.P.	1999	\$ 200,000,000	\$ 185,777,413	\$ 289,723,580
Fortress Investment Fund IV LP	2006	100,000,000	100,976,805	36,032,845
Fortress Investment Fund LLC	2000	200,000,000	195,446,950	527,623,657
Fortress Investment Fund V (Fund A) L.P.	2007	200,000,000	195,531,972	65,288,589
LAI 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	225,774,546
Lubert-Adler Real Estate Fund IV	2004	100,000,000	97,646,305	52,349,534
Lubert-Adler Real Estate Fund V	2006	100,000,000	93,743,009	12,652,905
Lubert-Adler Real Estate Fund VI	2007	150,000,000	142,913,507	64,950,368
Morgan Stanley Real Estate Fund IV Spec. Dom.	2002	100,000,000	113,878,480	118,465,924
Morgan Stanley Real Estate Fund IV Spec. Int'l.	2001	200,000,000	216,214,681	447,979,887
Morgan Stanley Real Estate Fund V Spec. Int'l.	2005	200,000,000	231,598,540	254,727,601
Morgan Stanley Real Estate Fund V U.S.	2006	150,000,000	189,913,007	28,674,308
Morgan Stanley Real Estate Fund VI Spec. Int'l.	2006	400,000,000	463,329,437	40,192,719
Morgan Stanley Real Estate Fund VII Global, L.P.	2007	309,636,000	297,643,501	165,647,286
O'Connor North American Property Partners II L.P.	2007	132,142,857	132,680,041	41,622,459
O'Connor North American Property Partners, L.P.	2004	100,000,000	111,660,943	42,473,479
Paladin Realty Latin America Investors III, L.P.	2008	113,583,333	112,046,993	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	28,381,175	10,304,882
Silverpeak Legacy Pension Partners II, L.P.	2005	200,000,000	207,887,600	138,539,568
Silverpeak Legacy Pension Partners III, L.P.	2007	300,000,000	137,725,257	11,091,434
Silverpeak Legacy/PSERS, L.P.	2000	300,000,000	139,573,305	278,577,703
Stockbridge RE Fund III Co-Investment	2013	49,870,000	49,870,000	1,136,594
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	494,686,665	576,573,475
Strategic Partners Fund II RE, L.P.	2003	75,000,000	67,759,107	96,807,978
Strategic Partners Fund III RE, L.P.	2005	75,000,000	80,020,127	17,169,775
Strategic Partners Fund IV RE, L.P.	2008	75,000,000	75,739,831	34,230,183
William E. Simon & Sons	2001	<u>76,662,500</u>	<u>74,788,678</u>	<u>60,042,379</u>
Total Opportunistic Real Estate		\$ 8,709,170,060	\$ 8,477,920,642	\$ 6,206,845,160

*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 Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014) (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	\$ 57,870,989	\$ 15,562,500
Almanac Realty Securities V, L.P.	2007	100,000,000	98,725,324	67,090,571
Almanac Realty Securities VI, L.P.	2012	100,000,000	45,973,171	30,418,314
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	96,586,142
Ares U.S. Real Estate Fund VII, L.P.	2008	150,000,000	146,903,937	96,258,140
Ares U.S. Real Estate Fund VIII, L.P.	2013	75,000,000	5,027,068	514,882
AvalonBay Value Added Fund II, L.P.	2009	100,000,000	89,100,000	33,125,000
AvalonBay Value Added Fund, L.P.	2004	75,000,000	75,000,000	95,573,863
Beacon Capital Strategic Partners V, L.P.	2007	200,000,000	180,000,000	59,348,940
Bell Institutional Fund IV, LLC	2011	75,000,000	72,128,981	7,210,959
Bell Institutional Fund V, LLC	2013	75,000,000	24,867,259	525,000
Blackstone Real Estate Debt Strategies II, L.P.	2013	100,000,000	49,134,015	4,044,126
BPG Investment Partnership V, L.P.	1999	50,000,000	47,112,231	84,171,753
BPG Investment Partnership VI, L.P.	2002	87,500,000	84,251,339	126,344,262
BPG/PSERS Co-Investment Fund	2001	100,000,000	65,703,742	171,843,849
Broadway Partners Real Estate Fund II, L.P.	2006	125,000,000	124,057,276	41,474,666
Broadway Partners Real Estate Fund III, L.P.	2007	166,182,500	167,153,228	8,875,000
Cabot Industrial Value Fund III, L.P.	2008	100,000,000	81,671,500	123,195,503
Cabot Industrial Value Fund IV, L.P.	2013	75,000,000	10,534,000	-
Centerline High Yield CMBS III - Loan/Stock	2008	90,000,000	90,000,000	42,173,179
DRA Growth and Income Fund VI, L.P.	2007	148,200,000	97,385,694	125,582,412
DRA Growth and Income Fund VII, L.P.	2011	100,000,000	98,460,000	24,831,937
DRA Growth and Income Fund VIII, LLC	2014	100,000,000	17,037,037	103,704
Exeter Industrial Value Fund II, L.P.	2011	75,000,000	73,539,355	24,390,244
Exeter Industrial Value Fund III, L.P.	2014	75,000,000	15,000,000	-
Fillmore West Fund, L.P.	2008	100,000,000	97,807,786	39,504,678
Hines U.S. Office Value Added Fund, L.P.	2004	100,000,000	104,304,496	150,775,996
Latitude Management Real Estate Capital III, Inc.	2012	75,000,000	51,849,791	3,476,243
LCCG R E Special Situations Mortgage Fund	2006	133,875,000	133,627,886	34,176,737
Legg Mason Real Estate Capital	2002	57,640,625	56,934,991	57,567,092
Legg Mason Real Estate Capital II	2005	100,000,000	97,699,152	66,908,081
LEM RE HY Debt & Pfd Equity Fund III, L.P.	2012	75,000,000	45,000,000	4,124,943
LEM Real Estate Mezzanine Fund II, L.P.	2006	75,000,000	60,000,000	42,836,394
Madison Marquette Retail Enhancement Fund LP	2007	100,000,000	97,157,748	27,328,544

*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 Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2014) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Value Added Real Estate (continued):				
Paramount Group Real Estate Fund VII, L.P.	2014	\$ 100,000,000	\$ 28,144,696	\$ -
PSERS Real Estate Internal Program	2013	15,000,000	15,000,000	13,921,955
PSERS Real Estate Internal Program	2014	25,000,000	22,569,577	-
RCG Longview Debt Fund IV, L.P.	2007	175,000,000	199,407,972	210,647,621
RCG Longview Debt Fund V, L.P.	2013	75,000,000	39,827,491	4,054,992
RCG Longview Equity Fund, L.P.	2006	125,000,000	90,423,129	55,539,458
Senior Housing Partnership Fund IV, L.P.	2011	100,000,000	83,181,660	9,456,620
Strategic Partners Value Enhancement Fund LP	2005	<u>55,000,000</u>	<u>54,978,609</u>	<u>28,061,000</u>
Total Value Added Real Estate		\$ 4,136,398,125	\$ 3,313,926,185	\$ 2,115,434,083
Grand Total		<u>\$ 13,798,187,390</u>	<u>\$ 12,650,751,955</u>	<u>\$ 9,163,638,056</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.

**Summary of PSERS' Fixed Income Investments
(as of December 31, 2014)**

Fixed Income Exposure is one of eight 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 23.0% of assets to Fixed Income, 6.0% of which is designated to Investment Grade, 8.0% of which is designated to Credit-Related, 6.0% of which is designated to TIPS strategies, and 3.0% designated to Cash.

Market Value as of December 31, 2014: \$14,688.2 million, or 28.9% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with 25 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 two employees managing various Fixed Income portfolios.

Types of Investment Portfolios at December 31, 2014:

- 8.7% Global strategy portfolios
- 16.6% Core/Core Plus strategies portfolios
- 20.8% TIPS strategies portfolios
- 21.5% Credit Opportunities portfolios
- 1.4% U.S. Long Treasuries
- 31.0% Cash and Passively Managed portfolios.
- 45.8% was managed by internal portfolio managers and 54.2% was managed by external investment managers

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2014)

	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	\$ 839.5	5.7%	1.7%
Pacific Investment Mgmt. Co. (PIMCO)	263.7	1.8	0.5
Piedmont Investment Advisors	53.4	0.4	0.1
PSERS Active Aggregate	1,088.7	7.4	2.1
Pugh Capital Management, Inc.	94.6	0.6	0.2
SEI Investments Management Corp.	100.2	0.7	0.2
Other	1.8	0.0	0.0
Total Actively Managed U.S. Core/Core Plus			
Fixed Income	\$ 2,441.9	16.6%	4.8%
<u>Actively Managed Treasury Inflation-Protected</u>			
<u>Securities (TIPS) Portfolios</u>			
Black River Asset Management, LLC	\$ 297.8	2.0%	0.6%
Bridgewater Associates, Inc.	1,720.1	11.7	3.4
PSERS TIPS Portfolio	1,044.1	7.1	2.1
Total Actively Managed Treasury Inflation-Protected Securities (TIPS)			
	\$ 3,062.0	20.8%	6.1%
<u>Actively Managed U.S. Long Treasury Portfolios</u>			
PSERS U.S. Long Treasuries	\$ 38.5	0.3%	0.1%
Pacific Investment Mgmt. Co. (PIMCO)	163.7	1.1	0.3
Total Actively Managed U.S. Long Treasury			
Portfolios	\$ 202.2	1.4%	0.4%

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2014) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<u>Actively Managed Credit Opportunity Portfolios</u>			
Apollo European Principal Finance Fund II, LP	\$ 134.3	0.9%	0.3%
BlackRock Mortgage (Offshore) Investors	0.3	0.0	0.0
Brigade Distressed Value Offshore Fund	128.3	0.9	0.3
Brigade Structured Credit Offshore Fund	200.7	1.4	0.4
Carlyle Energy Mezzanine Opportunity Fund, LP	140.7	1.0	0.3
Cerberus Levered Loan Opportunities Fund, LP	56.3	0.4	0.1
Cerberus Levered Loan Opportunities Fund II, LP	159.1	1.1	0.3
Galton Onshore Mortgage Recovery Fund III, LP	7.3	0.0	0.0
Hayfin Special Opportunities Credit Fund, LP	149.2	1.0	0.3
ICG Europe Fund V, LP	212.5	1.5	0.4
International Infrastructure Finance Company Fund, LP	49.1	0.3	0.1
LBC Credit Partners II, LP	64.9	0.4	0.1
LBC Credit Partners III, LP	124.7	0.8	0.2
Mariner Investment Group	149.7	1.0	0.3
Oaktree Loan Fund	13.9	0.1	0.0
Pacific Investment Mgmt. Co. (PIMCO)	318.3	2.2	0.6
Sankaty Advisors LLC - Bank Loans	420.6	2.9	0.8
Sankaty Credit Opportunities Fund IV, LP	125.0	0.9	0.2
Sankaty Credit Opportunities Fund V-A, LP	260.6	1.8	0.5
Sankaty Middle Market Opportunities Fund	122.0	0.8	0.2
Sankaty Middle Market Opportunities Fund II, LP	71.3	0.5	0.1
TOP NPL (A), LP	91.7	0.6	0.2
TPG Opportunities Partners II, LP	83.8	0.6	0.2
TPG Opportunities Partners III, LP	15.6	0.1	0.0
Summit Partners Credit Fund II, LP	21.4	0.1	0.0
Varde Scratch & Dent Fund, LP	<u>30.0</u>	<u>0.2</u>	<u>0.1</u>
Total Actively Managed Credit Opportunity			
Fixed Income	\$ <u>3,151.3</u>	<u>21.5%</u>	<u>6.0%</u>
Total Actively Managed U.S.			
Fixed Income	\$ <u>8,857.4</u>	<u>60.3%</u>	<u>17.3%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2014) (continued)

	Market Value (in millions)	% of Total Fixed Income	% of Total Fund
<u>Actively Managed Non-U.S. Developed Markets</u>			
<u>Fixed Income Portfolios</u>			
Alliance Bernstein	\$ 265.6	1.8%	0.5%
Pacific Investment Mgmt. Co. (PIMCO)	54.5	0.4	0.1
Other	<u>140.0</u>	<u>1.0</u>	<u>0.3</u>
Total Actively Managed Non-U.S. Developed Markets			
Fixed Income	\$ <u>460.1</u>	<u>3.2%</u>	<u>0.9%</u>
<u>Actively Managed Global Emerging Markets Fixed</u>			
<u>Income Portfolios</u>			
Franklin Templeton	\$ 377.9	2.6%	0.7%
Pacific Investment Mgmt. Co. (PIMCO)	109.1	0.7	0.2
Stone Harbor Investment Partners	<u>316.3</u>	<u>2.2</u>	<u>0.6</u>
Total Actively Managed Global Emerging Markets			
Fixed Income	\$ <u>803.3</u>	<u>5.5%</u>	<u>1.5%</u>
<u>Passively Managed Portfolios</u>			
PSERS Private Debt Internal	\$ <u>32.9</u>	<u>0.2%</u>	<u>0.1%</u>
<u>Internally Managed Cash Portfolios</u>			
PSERS Private Equity Conversions (2)	\$ 1,501.5	10.2%	3.0%
PSERS Proprietary Fund	3,029.0	20.6	6.0
PSERS Tobacco Guaranty Payment	<u>4.0</u>	<u>0.0</u>	<u>0.0</u>
Total Internally Managed Cash Portfolios			
Total Fixed Income	\$ <u>14,688.2</u>	<u>100.0%</u>	<u>28.9%</u>

(2) PSERS entered into sale agreements in December 2014 for 20 Private Equity partnership interests with 3 separate buyers.

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Absolute Return Investments (as of December 31, 2014)

Absolute Return Exposure is one of eight 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 the 3-month LIBOR +3.5%.

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, 2014: \$5,076.6 million, or 10.0% 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, 2014)

	Market Value (in millions)	% of Total Absolute Return	% of Total Fund
<i>Actively Managed Absolute Return Portfolios</i>			
Aeolus Capital Management Ltd.	\$ 266.3	5.3%	0.5%
Anderson Global Macro Fund, Ltd.	2.8	0.1	0.0
Black River Asset Management, LLC	300.0	5.9	0.6
BlackRock Capital Structure Investments Fund	264.8	5.2	0.5
Brevan Howard Fund, Ltd.	414.4	8.2	0.8
Bridgewater Associates, Inc.	972.1	19.1	1.9
Brigade Capital Management	454.3	8.9	0.9
Capula Global Relative Value Fund	249.1	4.9	0.5
Capula Tail Risk Fund	334.8	6.6	0.7
Caspian Capital Advisors, LLC	240.9	4.8	0.5
Ellis Lake Domestic Fund 2012	97.7	1.9	0.2
Nephila Capital, Ltd.	288.5	5.7	0.6
Oceanwood Opportunity Fund	199.0	3.9	0.4
Pacific Investment Mgmt. Co. (PIMCO)	720.0	14.2	1.4
Perry Partners, Inc.	194.4	3.8	0.4
Sciens Aviation Special Opportunities Fund II, LP	77.5	1.5	0.2
Total Absolute Return	\$ 5,076.6	100.0%	10.0%

Numbers may not add due to rounding.

**Summary of
PSERS' Risk Parity Portfolios
(as of December 31, 2014)**

Risk Parity Exposure represents one of eight asset classes that PSERS uses to diversify the investments of the Fund. PSERS' investment plan allocates capital to various Risk Parity strategies to diversify implementation and management styles. PSERS uses both an internal investment manager as well as contracts with external investment managers to manage Risk Parity portfolios.

Policy

Risk parity strives to generate investment returns through a more diversified allocation by endeavoring to balance market risk factor exposures as opposed to capital exposures. 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 risk-balancing portfolio construction.

The Fund benchmarks its Risk Parity investments to a custom benchmark: MSCI ACWI (\$Net) (50%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (55%); Bloomberg Commodity Index (Total Return) (15%); Bloomberg Gold Subindex (5%); and 3-Month LIBOR (-100%).

PSERS' Asset Allocation currently targets an allocation of 7.0% of assets to Risk Parity investments. The Risk Parity investments are targeted to be 100.0% actively managed.

Market Value of December 31, 2014: \$2,803.3 million, or 5.5% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with three 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, 2014)**

	Market Value (in millions)	% of Total Risk Parity	% of Total Fund
<u>Risk Parity Portfolios</u>			
AQR GRP EL 20 Offshore Fund, Ltd.	\$ 338.0	12.1%	0.7%
Bridgewater All Weather @ 15% Fund	1,662.6	59.3	3.3
D.E. Shaw Orienteer Fund, LLC	531.9	19.0	1.0
PSERS Risk Parity	<u>270.8</u>	<u>9.6</u>	<u>0.5</u>
Total Risk Parity	\$ <u>2,803.3</u>	<u>100.0%</u>	<u>5.5%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Master Limited Partnerships (as of December 31, 2014)

Master Limited Partnership Exposure (MLPs) represents one of eight 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 4.0% of assets to MLP investments and are targeted to be 100.0% actively managed.

Market Value of December 31, 2014: \$1,879.4 million, or 3.7% 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, 2014)

	Market Value (in millions)	% of Total MLPs	% of Total Fund
<i>Master Limited Partnership Portfolios</i>			
Atlantic Trust Private Wealth Management	\$ 553.8	29.5%	1.1%
Harvest Fund Advisors, LLC	737.7	39.2	1.4
Salient Capital Advisors, LLC	<u>587.9</u>	<u>31.3</u>	<u>1.2</u>
Total Master Limited Partnerships	\$ <u>1,879.4</u>	<u>100.0%</u>	<u>3.7%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Commodity Investments (as of December 31, 2014)

Commodity Exposure represents one of eight 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 (except for Gold) to the Bloomberg Commodity Index. The Bloomberg Commodity Index is calculated on an excess return basis and reflects commodities futures prices. Gold is benchmarked to the Bloomberg Commodity Gold Subindex.

PSERS' Asset Allocation currently targets an allocation of 4.0% of assets to Commodity investments which is targeted to be 100.0% actively managed.

Market Value of December 31, 2014: \$1,156.5 million, or 2.3% of the Fund's total market value.

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

Number of Internal Investment Managers: PSERS had one employee managing 2 commodity portfolios.

Summary of PSERS' Commodity Portfolios (unaudited) (as of December 31, 2014)

	Market Value (in millions)	% of Total Commodities	% of Total Fund
<u>Full Discretion Commodity Portfolio</u>			
Wellington Management Company, LLP	\$ 460.2	39.8%	0.9%
<u>Core/Enhanced Commodity Portfolios</u>			
Credit Suisse Asset Management	\$ 216.9	18.7%	0.4%
Black River Global Agricultural Absolute Return Fund	119.9	10.4	0.2
Gresham, LLC	387.8	33.5	0.8
PSERS Commodity Beta	(26.8) a	(2.3)	0.0
PSERS Gold Fund	(1.5) a	(0.1)	0.0
Total Core/Enhanced Commodities	\$ 696.3	60.2%	1.4%
Total Commodities	\$ 1,156.5	100.0%	2.3%

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 potentially 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 long-term excess returns above passive alternatives, net of fees

- 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 five 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 five 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. Generally, 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 allows PSERS 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, 2014 (Dollar Amounts in Thousands)

	<u>Fees</u>	<u>Basis Points</u>
External Management		
U.S. Equity	\$ 3,051	50
Non - U.S. Equity	18,392	27
Fixed Income	81,835	91
Real Estate	73,926	102
Alternative Investments	116,951	90
Absolute Return	140,523	263
Commodities	11,334	81
Master Limited Partnerships	11,133	64
Risk Parity	6,255	42
Total External Management	463,400	99
Total Internal Management	<u>12,336</u>	11
Total Investment Management	\$ 475,736	82
Custodian Fees	1,221	
Consultant and Legal Fees	<u>5,279</u>	
Total Investment Expenses	\$ <u>482,236</u>	83

Investment Advisory Fees History

<u>Fiscal Year</u>	<u>Total Investment Expenses*</u>	<u>Actual Net Return</u>	<u>Policy Benchmark Net Return</u>	<u>Excess Performance vs Index</u>	<u>Investment Performance Excluding Investment Expenses*</u>	<u>Investment Outperformance Net of Investment Expenses*</u>
2014	\$ 482	14.91%	12.05%	2.86%	\$ 1,755	\$ 1,273
2013	558	7.96%	5.68%	2.28%	1,835	1,277
2012	481	3.43%	1.98%	1.45%	1,467	986
2011	515	20.37%	17.56%	2.81%	1,641	1,126
2010	522	14.59%	10.87%	3.72%	2,280	1,758
2009	478	-26.54%	-20.67%	-5.87%	(2,649)	(3,127)
2008	399	-2.82%	-1.84%	-0.98%	(218)	(617)
2007	314	22.93%	18.48%	4.45%	2,674	2,360
2006	211	15.26%	11.96%	3.30%	1,846	1,635
2005	<u>193</u>	12.87%	10.54%	2.33%	<u>1,283</u>	<u>1,090</u>
Total	\$ <u>4,153</u>				\$ <u>11,914</u>	\$ <u>7,761</u>

* Dollar amounts in millions.

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (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	\$ 263
AllianceBernstein LP	New York	NY	698
Conestoga Capital Advisors, Inc.	Radnor	PA	270
First Pacific Advisors, Inc.	Los Angeles	CA	986
NorthPointe Capital, LLC	Troy	MI	662
Opus Capital Management, Inc.	Cincinnati	OH	<u>172</u>
Total - U.S. Equity			3,051
<u>Non - U.S. Equity</u>			
Acadian Asset Management	Boston	MA	877
Baillie Gifford Overseas Ltd.	Edinburgh	UK	2,111
Batterymarch Financial Management, Inc.	Boston	MA	574
BlackRock Financial Management, Inc.	New York	NY	2,647
Glovista Investments LLC	Jersey City	NJ	240
John Hsu Capital Group, Inc.	New York	NY	212
Marathon Asset Management Limited	London	UK	1,867
Oberweis Asset Management, Inc.	North Aurora	IL	1,284
Pareto Investment Management, Ltd.	New York	NY	2,346
Pyramis Global Advisors	Boston	MA	1,090
Shah Capital Management, Inc.	Raleigh	NC	3
Wasatch Advisors, Inc.	Salt Lake City	UT	4,488
Westwood Global Investments, LLC	Boston	MA	<u>653</u>
Total - Non - U.S. Equity			18,392
<u>Fixed Income</u>			
AllianceBernstein L.P.	White Plains	NY	820
Apollo European Principal Finance Fund II(Dollar A), L.P.	New York	NY	2,860
BlackRock Financial Management, Inc.	New York	NY	5,979
BlackRock Mortgage (Offshore) Investors, L.P.	New York	NY	2,015
Brevan Howard US, LLC	New York	NY	3,052
Bridgewater Associates, Inc.	Westport	CT	16,191
Brigade Capital Management, LLC	New York	NY	4,051
Cargill Financial Services Corporation	Hopkins	MN	5,469
Carlyle Energy Mezzanine Opportunities Fund, L.P.	Washington	DC	2,800
Cerberus Levered Loan Opportunities Fund I, L.P.	New York	NY	1,971
Cerberus Levered Loan Opportunities Fund II, L.P.	New York	NY	1,725

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Fixed Income (continued)</u>			
Franklin Templeton Investments	Nassau	Bahamas	\$ 2,089
Galton Onshore Mortgage Recovery Fund III, L.P.	Harrison	NY	59
Hayfin Special Opportunities Credit Opp Fund, L.P.	George Town	Cayman Islands	2,519
ICG Europe Fund V, L.P.	St. Helier	Guernsey	1,021
International Infrastructure Finance Company, L.P.	Harrison	NY	1,204
LBC Credit Partners II, L.P.	Philadelphia	PA	4,593
LBC Credit Partners III, L.P.	Philadelphia	PA	2,500
MacKay-Shields Financial Corporation	New York	NY	546
Mariner Investment Group	Harrison	NY	1,328
Oaktree Loan Fund, L.P.	Los Angeles	CA	89
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	4,854
Piedmont Investment Advisors	Durham	NC	130
Pugh Capital Management, Inc.	Seattle	WA	174
Sankaty Advisors LLC Bank Loans	Wilmington	DE	1,980
Sankaty Credit Opportunities IV, L.P.	Wilmington	DE	3,596
Sankaty Credit Opportunities V, L.P.	Wilmington	DE	987
Sankaty Middle Markets Opportunity Fund, L.P.	Wilmington	DE	1,582
Sankaty Middle Markets Opportunity Fund II, L.P.	Wilmington	DE	114
SEI Investments Company	Oaks	PA	166
Stone Harbor Investment Partners, L.P.	New York	NY	2,427
Strategic Fixed Income, LLC	Arlington	VA	329
TOP NPL (A), L.P.	Fort Worth	TX	254
TPG Opportunities Partners II (A), L.P.	Fort Worth	TX	2,152
Western Asset Management Company	Pasadena	CA	209
Total - Fixed Income			81,835
<u>Real Estate-Direct Ownership</u>			
Charter Oak Advisors, Inc.	King of Prussia	PA	965
GF Management, Inc.	Philadelphia	PA	131
Grosvenor Investment Management U.S., Inc.	Philadelphia	PA	47
L & B Realty Advisors, L.L.P.	Dallas	TX	53
Subtotal - Real Estate-Direct Ownership			1,196

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (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	\$ 577
Almanac Realty Securities V, L.P.	New York	NY	1,002
Almanac Realty Securities VI, L.P.	New York	NY	992
Apollo European Real Estate Fund III, L.P.	Purchase	NY	1,323
Apollo Real Estate Finance Corporation	New York	NY	883
Apollo Value Enhancement Fund VII, L.P.	Purchase	NY	1,593
AREFIN Co-Invest Corporation	New York	NY	61
AvalonBay Value Added Fund, L.P.	Alexandria	VA	278
AvalonBay Value Added Fund II, L.P.	Alexandria	VA	945
Avenue Real Estate Fund Parallel, L.P.	New York	NY	1,138
Beacon Capital Strategic Partners V, L.P.	Boston	MA	528
Bell Institutional Fund IV, LLC	Wilmington	DE	1058
Bell Institutional Fund V, LLC	Wilmington	DE	224
BlackRock Asia Property Fund III, L.P.	Hamilton	Bermuda	1,267
BlackRock Europe Property Fund III, L.P.	London	UK	1,508
Blackstone Real Estate Partners Europe III, L.P.	New York	NY	2,729
Blackstone Real Estate Partners Europe IV, L.P.	New York	NY	866
Blackstone Real Estate Partners V.TE.1, L.P.	New York	NY	1,100
Blackstone Real Estate Partners VI.TE.1, L.P.	New York	NY	4,181
Blackstone Real Estate Partners VII.TE.1, L.P.	New York	NY	3,723
BPG Investment Partnership V, L.P.	Philadelphia	PA	(38)
BPG Investment Partnership VI, L.P.	Philadelphia	PA	107
Broadway Partners Parallel Fund P II, L.P.	New York	NY	197
Broadway Partners Parallel Fund P III, L.P.	New York	NY	250
Brookfield Strategic Real Estate Partners, L.P.	New York	NY	2,250
Cabot Industrial Value Fund III, L.P.	Boston	MA	342
Cabot Industrial Value Fund IV, L.P.	Boston	MA	1,060
Carlyle Europe Real Estate Partners III-A, L.P.	Washington	DC	2,149
Carlyle Realty Partners III, L.P.	Washington	DC	(38)
Carlyle Realty Partners IV, L.P.	Washington	DC	1,102
Carlyle Realty Partners V, L.P.	Washington	DC	1,453
Carlyle Realty Partners VI, L.P.	Washington	DC	841
DLJ Real Estate Capital Partners II, L.P.	New York	NY	123
DLJ Real Estate Capital Partners III, L.P.	New York	NY	979
DLJ Real Estate Capital Partners IV, L.P.	New York	NY	2,244
DRA Growth and Income Fund VI, L.P.	New York	NY	1,799
DRA Growth and Income Fund VII, L.P.	New York	NY	2,205

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (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	\$ 822
Fillmore West Fund, L.P.	San Francisco	CA	506
Fortress Investment Fund IV, L.P.	New York	NY	957
Fortress Investment Fund V (Fund A), L.P.	New York	NY	1,501
Hines U.S. Office Value Added Fund, L.P.	Houston	TX	71
JPMCB Strategic Property Fund	New York	NY	229
LCCG RE Special Situations Mortgage Fund, LLC	Irving	TX	358
Latitude Management Real Estate Capital III, Inc.	Providence	RI	742
Legg Mason Real Estate Capital, Inc.	Los Angeles	CA	21
Legg Mason Real Estate Capital II, Inc.	Los Angeles	CA	1,251
LEM RE High Yield Debt & Preferred Equity Fund III, L.P.	Philadelphia	PA	563
LEM Real Estate Mezzanine Fund II, L.P.	Philadelphia	PA	345
Lubert-Adler Real Estate Fund IV, L.P.	Philadelphia	PA	83
Lubert-Adler Real Estate Fund V, L.P.	Philadelphia	PA	337
Lubert-Adler Real Estate Fund VI, L.P.	Philadelphia	PA	550
Madison Marquette Retail Enhancement Fund, L.P.	Washington	DC	945
Morgan Stanley Real Estate Fund IV Special Dom., L.P.	New York	NY	21
Morgan Stanley Real Estate Fund IV Special Int'l, L.P.	New York	NY	152
Morgan Stanley Real Estate Fund V Special Int'l, L.P.	New York	NY	308
Morgan Stanley Real Estate Fund V Special U.S., L.P.	New York	NY	84
Morgan Stanley Real Estate Fund VI Special Int'l, L.P.	New York	NY	621
Morgan Stanley Real Estate Fund VII Global, L.P.	New York	NY	1,412
O' Connor North American Property Partners, L.P.	New York	NY	801
O' Connor North American Property Partners II, L.P.	New York	NY	967
Paladin Realty Latin America Investors III, L.P.	Los Angeles	CA	1,594
Peabody Global Real Estate Partners, L.P.	New York	NY	25
PRISA	Parsippany	NJ	693
ProLogis North American Industrial Fund, L.P.	Denver	CO	1,677
RCG Longview Debt Fund IV, L.P.	New York	NY	1,035
RCG Longview Debt Fund V, L.P.	New York	NY	844
RCG Longview Equity Fund, L.P.	New York	NY	476
Senior Housing Partnership Fund IV, L.P.	Parsippany	NJ	447
Silverpeak Legacy Pension Partners II, L.P.	New York	NY	1,029
Silverpeak Legacy Pension Partners III, L.P.	New York	NY	1,052
Silverpeak/PSERS Real Estate, L.P.	New York	NY	65
Strategic Partners Fund II RE, L.P.	New York	NY	93
Strategic Partners Fund III RE, L.P.	New York	NY	(73)

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds (continued)</u>			
Strategic Partners Fund IV RE, L.P.	New York	NY	\$ 326
Stockbridge Real Estate Fund, L.P.	New York	NY	2,338
Stockbridge Real Estate Fund II, L.P.	New York	NY	814
Stockbridge Real Estate Fund III, L.P.	New York	NY	1,817
Strategic Partners Value Enhancement Fund, L.P.	Los Angeles	CA	541
UBS (US) Trumbull Property Fund, L.P.	Hartford	CT	830
Subtotal - Real Estate-Partnerships/Funds			72,271
<u>Real Estate-Farmland</u>			
Prudential Agricultural Group	Lisle	IL	459
Subtotal - Real Estate-Farmland			459
Total Real Estate			73,926
<u>Private Equity</u>			
ABS Capital Partners II, L.P.	Baltimore	MD	3
Actis Emerging Markets 3, L.P.	London	UK	3,177
Actis Global 4 L.P.	London	UK	1,807
Apax Europe VII-B, L.P.	St. Peter Port	Guernsey	678
Baring Asia Private Equity Fund III, L.P.	Hong Kong	China	977
Baring Asia Private Equity Fund IV, L.P.	Hong Kong	China	3,048
Baring Asia Private Equity Fund V, L.P.	Hong Kong	China	4,000
Blue Point Capital Partners III (B), L.P.	Cleveland	OH	1,043
Bridgepoint Europe II-A, L.P.	London	UK	18
Bridgepoint Europe III-A, L.P.	London	UK	1,531
Bridgepoint Europe IV, L.P.	London	UK	2,955
Capital International Private Equity Fund V, L.P.	San Francisco	CA	1,134
Capital International Private Equity Fund VI, L.P.	San Francisco	CA	1,412
Catterton Growth Partners, L.P.	Greenwich	CT	852
Catterton Growth Partners II, L.P.	Greenwich	CT	1,323
Catterton Partners V, L.P.	Greenwich	CT	346
Catterton Partners VI, L.P.	Greenwich	CT	1,792
Catterton Partners VII, L.P.	Greenwich	CT	1,984
Cinven Fund (Fourth), L.P. (The)	London	UK	1,668
Cinven Fund (Fifth), L.P. (The)	London	UK	1,728
Clarity Partners, L.P.	Beverly Hills	CA	802
Clarity Partners II, L.P.	Beverly Hills	CA	35

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
Private Equity (continued)			
Coller International Partners VI, L.P.	London	UK	\$ 1,500
Crestview Capital Partners, L.P.	New York	NY	1,140
Crestview Partners II (PF), L.P.	New York	NY	1,272
CVC Capital Partners Asia III Pacific, L.P.	George Town	Cayman Islands	1,745
CVC European Equity Partners V (A), L.P.	George Town	Cayman Islands	1,838
DCPF VI Oil and Gas Co-Investment Fund, L.P.	Boston	MA	4
Denham Commodity Partners Fund VI, L.P.	Boston	MA	1,152
DLJ Merchant Banking Partners III, L.P.	New York	NY	199
Evergreen Pacific Partners II, L.P.	Seattle	WA	447
First Reserve Fund XI, L.P.	Greenwich	CT	1,331
First Reserve Fund XII, L.P.	Greenwich	CT	3,001
GoldPoint Partners Co-Investment V, L.P.	New York	NY	792
Graham Partners Investments (B), L.P.	Newtown Square	PA	104
Greenwich Street Capital Partners II, L.P.	New York	NY	22
Headland Private Equity Fund 6, L.P.	George Town	Cayman Islands	2,398
HgCapital 7, L.P.	London	UK	1,351
Incline Equity Partners III, L.P.	Pittsburgh	PA	941
Irving Place Capital Partners III, L.P.	New York	NY	675
Jefferies Capital Partners IV, L.P.	New York	NY	157
KKR 2006 Fund, L.P.	New York	NY	952
Jefferies Capital Partners IV, L.P.	New York	NY	157
KKR 2006 Fund, L.P.	New York	NY	952
Landmark Equity Partners XIII, L.P.	Simsbury	CT	1,000
Landmark Equity Partners XIV, L.P.	Simsbury	CT	1,500
Milestone Partners III, L.P.	Rosemont	PA	624
Morgan Stanley PE Asia Fund IV, L.P.	New York	NY	2,117
Navis Asia Fund V, L.P.	Kuala Lumpur	Malaysia	1,255
New Mountain Partners III, L.P.	New York	NY	1,041
New York Life Capital Partners III, L.P.	New York	NY	722
New York Life Capital Partners IV, L.P.	New York	NY	617
NGP Natural Resources X, L.P.	Irving	TX	1,433
Nordic Capital VII Beta, L.P.	St. Helier	Guernsey	1,602
Orchid Asia V, L.P.	Grand Cayman	Cayman Islands	800
PAI Europe IV, L.P.	Paris	France	1,052
PAI Europe V, L.P.	St. Peter Port	Guernsey	923
Palladium Equity Partners IV, L.P.	New York	NY	1,931
Partners Group Secondary 2008, L.P.	St. Peter Port	Guernsey	2,568
Partners Group Secondary 2011, L.P.	St. Peter Port	Guernsey	1,250

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Private Equity (continued)</u>			
Permira IV, L.P.	London	UK	\$ 1,117
PNC Equity Partners, L.P.	Pittsburgh	PA	7
PNC Equity Partners II, L.P.	Pittsburgh	PA	65
Providence Equity Partners VI, L.P.	Providence	RI	1,481
Quadrangle Capital Partners II, L.P.	New York	NY	719
StepStone International Investors III, L.P.	London	UK	967
Sterling Capital Partners, L.P.	Northbrook	IL	487
Strategic Partners II, L.P.	New York	NY	546
Strategic Partners III-B, L.P.	New York	NY	500
Strategic Partners IV, L.P.	New York	NY	552
Strategic Partners V, L.P.	New York	NY	1,125
TPG Partners V, L.P.	Fort Worth	TX	481
TPG Partners VI, L.P.	Fort Worth	TX	1,999
Trilantic Capital Partners IV, L.P.	New York	NY	365
Trilantic Capital Partners V, L.P.	New York	NY	1,204
Subtotal - Private Equity			86,092
<u>Private Debt</u>			
Apollo Investment Fund VIII, L.P.	New York	NY	\$ 2,025
Avenue Asia Special Situations Fund IV, L.P.	New York	NY	1,211
Avenue Special Situations Fund VI, L.P.	New York	NY	641
Cerberus Institutional Partners, L.P. (Series Three)	New York	NY	313
Cerberus Institutional Partners, L.P. (Series Four)	New York	NY	2,003
Cerberus Institutional Partners V, L.P.	New York	NY	2,404
Gleacher Mezzanine Fund II, L.P.	New York	NY	438
Gold Hill Venture Lending 03-A, L.P.	Santa Clara	CA	13
GSC Recovery III, L.P.	Greenwich	CT	621
NYLIM Mezzanine Partners Parallel Fund, L.P.	New York	NY	83
NYLIM Mezzanine Partners Parallel Fund II, L.P.	New York	NY	332
OCM Opportunities Fund VII, L.P.	Los Angeles	CA	349
OCM Opportunities Fund VII-B, L.P.	Los Angeles	CA	743
Versa Capital Fund, L.P.	Philadelphia	PA	912
Versa Capital Fund II, L.P.	Philadelphia	PA	702
Windjammer Senior Equity Fund IV, L.P.	Newport Beach	CA	910
Subtotal - Private Debt			13,700

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (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	\$ 543
Aisling Capital III, L.P.	New York	NY	557
Co-Investment Fund II, L.P. (The)	Radnor	PA	1,387
KBL Partnership, L.P.	New York	NY	136
LLR Equity Partners II, L.P.	Philadelphia	PA	575
LLR Equity Partners III, L.P.	Philadelphia	PA	2,242
LLR Equity Partners IV, L.P.	Philadelphia	PA	3,459
Novitas Capital, L.P.	Wayne	PA	3
Novitas Capital II, L.P.	Wayne	PA	50
Psilos Group Partners III, L.P.	New York	NY	704
Quaker BioVentures, L.P.	Philadelphia	PA	1,261
Quaker BioVentures II, L.P.	Philadelphia	PA	1,434
SCP Private Equity Partners II, L.P.	Wayne	PA	380
Starvest Partners II, L.P.	New York	NY	909
Strategic Partners III-VC, L.P.	New York	NY	261
Strategic Partners IV VC, L.P.	New York	NY	282
Summit Partners Growth Equity Fund VIII, L.P.	Boston	MA	597
Tenaya Capital IV-P, L.P.	New York	NY	427
Tenaya Capital V-P, LP	New York	NY	952
Tenaya Capital VI, L.P.	New York	NY	<u>1,000</u>
Subtotal - Venture Capital			17,159
Total Alternative Investments			116,951
<u>Absolute Return</u>			
Aeolus Capital Management Ltd.	Hamilton	Bermuda	\$ 13,906
Anderson Global Macro Fund	New York	NY	509
AQR Capital Management, LLC	Greenwich	CT	1,162
Black River Asset Management LLC	Minnetonka	MN	9,953
BlackRock Financial Management, Inc.	San Francisco	CA	11,119
BlueCrest Capital Management L.P.	New York	NY	3,087
Brevan Howard Fund, Ltd.	George Town	Cayman Islands	6,118
Bridgewater Associates, Inc.	Westport	CT	23,444
Brigade Capital Management, LLC	New York	NY	17,983
Capula Global Relative Value Fund	London	UK	8,291
Capula Tail Risk Fund	London	UK	6,908
Caspian Select Credit International Fund	New York	NY	7,943

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2014 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Absolute Return (continued)</u>			
Ellis Lake Domestic Fund, LP	New York	NY	\$ 2,740
Lazard Asset Management	New York	NY	449
Nephila Capital Ltd.	Hamilton	Bermuda	7,080
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	11,004
Perry Partners L.P.	New York	NY	3,422
Robeco Investment Management	New York	NY	2,856
Sciens Aviation Special Opportunities Fund II, L.P.	Miami	FL	<u>2,549</u>
Total - Absolute Return			140,523
<u>Commodities</u>			
Cargill Financial Services Corporation	Hopkins	MN	825
Credit Suisse Asset Management, LLC	New York	NY	553
Gresham Investment Management, LLC	New York	NY	2,176
Schroder Investment Management North America, Inc.	New York	NY	2,771
Wellington Management Company, L.L.P.	Boston	MA	<u>5,009</u>
Total - Commodities			11,334
<u>Master Limited Partnerships</u>			
Harvest Fund Advisors, LLC	Wayne	PA	3,382
Salient Capital Advisors, LLC	Houston	TX	2,719
Stein Roe Investment Counsel D/B/A Atlantic Trust	Chicago	IL	<u>5,032</u>
Total - Master Limited Partnerships			11,133
<u>Risk Parity</u>			
AQR Capital Management, LLC	Greenwich	CT	1,423
Bridgewater All Weather Fund @15%, Ltd.	Westport	CT	4,192
D. E. Shaw & Co., L.P.	New York	NY	<u>640</u>
Total - Risk Parity			6,255
Total External Management			463,400
Total Internal Management			<u>12,336</u> *
Total Investment Management			\$ <u>475,736</u>

*Internal Management fees include salaries and fringe benefits of \$5,963 and operating expenses of \$6,373.



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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. The PSERS Internal Equity Trading Desk (Trading Desk) has the ability to trade domestic and international equities, currencies, options, and futures. 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

In addition to trade execution, the Trading Desk provides PSERS with access to information on the financial markets and analysis of trading ideas and strategies developed by PSERS' internal management. Various systems, including Bloomberg, and access to analysis from the broker community provide resources used in evaluating and implementing internal trading ideas and strategies. Trade Cost Analysis (TCA) is able to be performed on a pre-trade basis in order to get an idea of the expected costs of any transaction. Program trading applications enable the Trading Desk to manage the large number of trading transactions which occur during asset allocation changes, index rebalances, or other transitional trading events. These applications provide a means to execute large trading baskets while monitoring the profit or loss of the trade execution in real-time.

During the fiscal year ended June 30, 2014, PSERS' trading desk executed approximately 139,089,160 U.S. shares, 102,931 U.S. futures contracts, 71,276,526 international shares, and 120,955 international futures contracts with a combined notional value of \$92.1 billion.



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**PSERS' Public Market
Emerging Investment Manager
(PMEIM) Program
(as of December 31, 2014)**

The Public Market Emerging Investment Manager (PMEIM) Program is a sub-section of PSERS' 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, 2014: \$815.8 million or 1.6% of the total market value of the Fund.

Number of External Investment Managers: PSERS had contracts with 5 external investment managers in the PMEIM Program.

Section 3 - Investment Information

PSERS' PMEIM Investment Managers (Market Value in Millions) (unaudited, as of December 31, 2014)

<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		\$ 72.7			\$ 72.7
<u>U.S. Core Plus Fixed Income</u>					
Piedmont Investment Advisors			\$ 53.4		53.4
Pugh Capital Management, Inc.			94.6		94.6
<u>Short Term Duration - Fixed Income</u>					
Radcliffe Specialty Finance Debt Strategy	\$ 250.0				250.0
Radcliffe Capital Management	247.4				247.4
<u>Absolute Return</u>					
Ellis Lake Capital, LLC				\$ 97.7	97.7
Total PSERS' PMEIM Portfolios	<u>\$ 497.4</u>	<u>\$ 72.7</u>	<u>\$ 148.0</u>	<u>\$ 97.7</u>	<u>\$ 815.8</u>
<i>Percentage by category</i>	<u>61.0%</u>	<u>8.9%</u>	<u>18.1%</u>	<u>12.0%</u>	