

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 overall investment objective of the Board is to provide adequate funding for member benefits. Realization of this overall return objective would be sufficient to achieve funding adequacy (defined as when the actuarial market value of assets is at least equal to the System's projected benefit obligations) on an inflation-adjusted basis subject to the employee and employer fulfilling their ARC. The Policy also identifies the following general investment objectives and constraints:

Return Objectives

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

Risk Objectives

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

Constraints

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

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Investment Performance Net of Fees (for the period ended June 30, 2012) Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	3.62	17.60	-0.20	5.55
U.S. Equity Policy Index (1)	3.34	16.26	0.20	5.92
<i>PSERS Non-U.S. Equities</i>	-13.14	9.24	-2.62	8.26
Non-U.S. Equity Policy Index (2)	-14.79	7.36	-3.79	7.30
<i>PSERS U.S. Fixed Income</i>	10.64	14.44	9.84	7.96
U.S. Fixed Income Policy Index (3)	8.53	11.90	9.93	7.16
<i>PSERS Global Fixed Income</i>	1.27	9.85	8.05	7.60
Global Fixed Income Policy Index (4)	0.13	6.62	6.91	6.70
<i>PSERS Commodities</i>	-13.38	6.55	-2.19	N/A
Dow Jones - UBS Commodity Index	-14.32	3.49	-3.65	N/A
<i>PSERS Real Estate (5)</i>	7.96	4.99	-8.86	6.33
Blended Real Estate Index (6)	10.51	8.46	2.38	8.71
<i>PSERS Private Markets (5)</i>	9.35	16.65	6.59	12.96
Venture Economics Median Return, Vintage Year Weighted	5.97	10.07	3.58	5.10
<i>PSERS Absolute Return</i>	2.72	10.36	N/A	N/A
Absolute Return Policy Index (7)	7.50	7.83	N/A	N/A
<i>PSERS Cash</i>	0.27	0.30	N/A	N/A
Merrill Lynch U.S. Treasury Bill 0 - 3 Months Index	0.04	0.10	N/A	N/A
<i>Total Fund (8)</i>	3.43	12.57	0.37	7.19
Policy Index	1.98	9.94	0.59	6.12

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI All Country World (ACW) ex. USA Investable Market Index effective July 1, 2008; previously was the MSCI ACW ex. U.S. Index. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009; otherwise, the benchmark is unhedged.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (32.3%), Barclays Capital U.S. TIPS Index (Series -L) (30.8%), and Barclays Capital U.S. High Yield Index (36.9%) effective January 1, 2012. The weights to these indexes have varied in previous quarters. Prior to January 1, 2012, the Barclays Capital U.S. Universal Index was used in place of the Barclays Capital U.S. Aggregate Index.
4. Returns presented are a blend of the Barclays Capital Global Aggregate GDP-weighted Developed Market ex-U.S. (Unhedged) Index (60%) and Barclays Capital EM Local Currency-Government-MV Weighted (Unhedged)-10% Country Cap Index (40%) effective January 1, 2012. Between April 1, 2010 and December 31, 2011, the Barclays Multiverse Index and the JP Morgan Global Bond Index Emerging Markets Global Diversified (USD Unhedged) Index was used.
5. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
6. NTFI Index effective July 1, 2010. The NTFI Index is reported on a one-quarter lag. Between April 1, 2010 and June 30, 2010, the NCREIF Index was used. Previously, returns presented were a blend of the FTSE EPRA/NAREIT Global Real Estate Index and the NCREIF Index.
7. Absolute Return started April 1, 2009. The assumed actuarial rate of return for the fund was 8.0% from July 1, 2009 through June 30, 2011. The rate changed to 7.5% beginning July 1, 2011.
8. Over the past 25 years ended June 30, 2012, the Fund earned an annualized rate of return of 8.42 percent which remained above the Fund's assumed actuarial rate of return during that time period.

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Estimated Investment Performance

Net of Fees

(for the period ended December 31, 2012)

Annualized Total Returns(%)

Asset Class	One Year	Three Year	Five Year	Ten Year
<i>PSERS U.S. Equities</i>	15.65	11.64	1.75	7.54
U.S. Equity Policy Index (1)	15.62	10.68	1.76	7.71
<i>PSERS Non-U.S. Equities</i>	18.66	6.05	-0.45	11.27
Non-U.S. Equity Policy Index (2)	17.03	4.18	-1.76	10.31
<i>PSERS U.S. Fixed Income</i>	11.51	12.29	9.85	7.94
U.S. Fixed Income Policy Index (3)	9.28	9.40	9.48	6.97
<i>Non-U.S. Developed Markets Fixed Income</i>	7.16	6.51	6.94	6.94
Barclays Global Aggregate GDP Weighted Index	6.69	5.67	5.75	6.26
<i>Emerging Markets Fixed Income</i>	16.81	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Barclays Emerging Markets 10% Country Cap Index	16.01	N/A	N/A	N/A
<i>PSERS Commodities</i>	2.46	2.89	-3.48	<i>N/A</i>
Dow Jones - UBS Commodity Index	-1.05	0.07	-5.17	N/A
<i>PSERS Real Estate (4)</i>	9.94	8.81	-8.70	6.72
Blended Real Estate Index (5)	9.48	11.54	2.54	9.11
<i>PSERS Private Markets (4)</i>	13.27	12.91	4.71	13.68
Venture Economics Median Return, Vintage Year Weighted	7.74	8.49	2.84	5.72
<i>PSERS Absolute Return</i>	3.44	8.82	<i>N/A</i>	<i>N/A</i>
Absolute Return Policy Index (6)	7.50	7.75	N/A	N/A
<i>Master Limited Partnerships (7)</i>	12.77	23.30	<i>N/A</i>	<i>N/A</i>
S&P MLP Index	4.78	17.46	N/A	N/A
<i>Risk Parity (8)</i>	19.34	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
Risk Parity Policy Index (9)	9.92	N/A	N/A	N/A
<i>PSERS Cash</i>	2.06	1.44	<i>N/A</i>	<i>N/A</i>
Merrill Lynch U.S. Treasury Bill 0 - 3 Months Index	0.07	0.09	N/A	N/A
<i>Total Fund (10)</i>	11.39	9.90	0.90	8.45
Policy Index	9.31	7.65	0.96	7.19

1. MSCI USA Investable Market Index effective April 1, 2009; previously was the Dow Jones Wilshire 5000 Index.
2. MSCI All Country World (ACW) ex. USA Investable Market Index effective July 1, 2008; previously was the MSCI ACW ex. U.S. Index. The benchmark was 30% hedged to the U.S. dollar from July 1, 2006 to March 31, 2009; otherwise, the benchmark is unhedged.
3. Returns presented are a blend of the Barclays Capital U.S. Aggregate Index (32.3%), Barclays Capital U.S. TIPS Index (Series -L) (30.8%), and Barclays Capital U.S. High Yield Index (36.9%) effective January 1, 2012. The weights to these indexes have varied in previous quarters. Prior to January 1, 2012, the Barclays Capital U.S. Universal Index was used in place of the Barclays Capital U.S. Aggregate Index.
4. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
5. NTFI Index effective July 1, 2010. The NTFI Index is reported on a one-quarter lag. Between April 1, 2010 and June 30, 2010, the NCREIF Index was used. Previously, returns presented were a blend of the FTSE EPRA/NAREIT Global Real Estate Index and the NCREIF Index.
6. Absolute Return started April 1, 2009. The assumed actuarial rate of return for the fund was 8.0% from July 1, 2009 through June 30, 2011. The rate changed to 7.5% beginning July 1, 2011.
7. Returns for this asset class were included in U.S. Equities for the period ended June 30, 2012.
8. Returns for this asset class were not available as a separate category for the period ended June 30, 2012.
9. Returns presented are a blend of the MSCI ACWI (\$Net) (35%); Barclays Capital U.S. Treasury Index (75%); Barclays Capital World Inflation Linked Bond Index Hedged (120%); Dow Jones-UBS Commodity Index (Total Return) (15%); Dow Jones-UBS Gold Index (5%); and 3-Month LIBOR (-150%).
10. Over the past 25 years ended December 31, 2012, the Fund earned an estimated annualized rate of return of 8.91 percent which remained above the Fund's assumed actuarial rate of return during that time period.



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Asset Allocation (as of December 31, 2012)

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

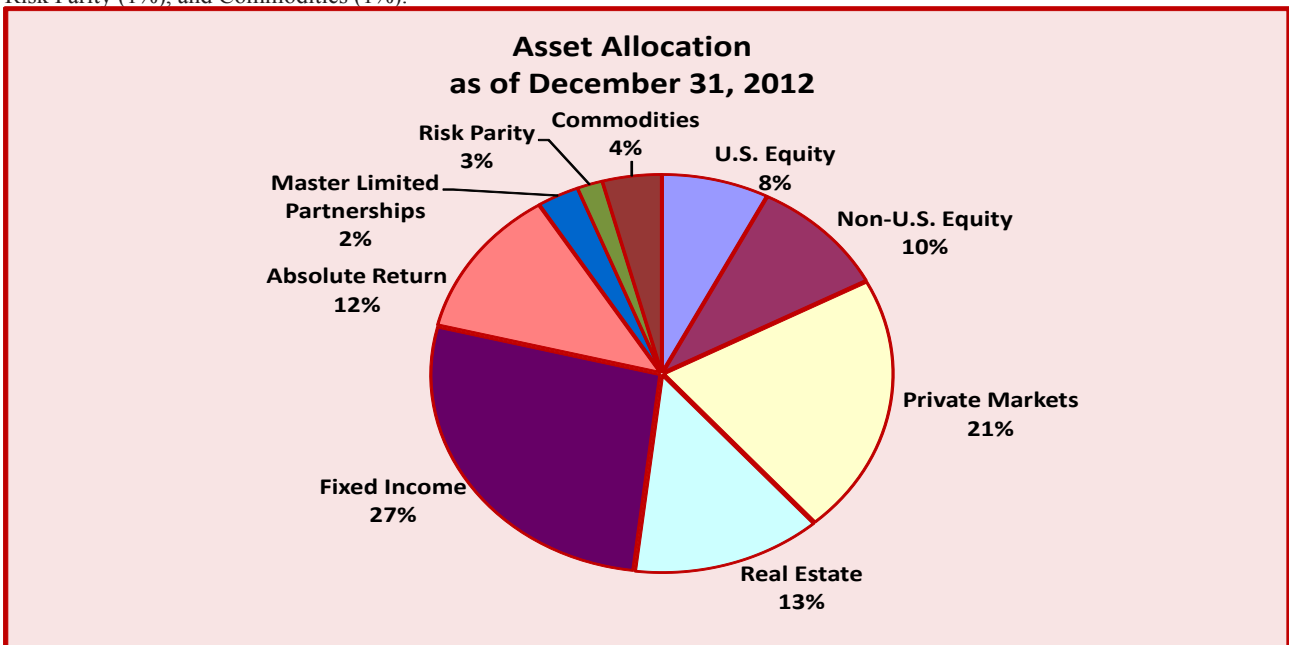
The Board reviews the long-term asset allocation targets of the System at least annually. In establishing the asset allocation plan, the Board will consult with its actuary, consultants, investment staff, and other sources of informa-

The following represents PSERS' asset allocation as of December 31, 2012 (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:				
U.S. Equity	\$ 3,688.4	7.5%	7.3%	± 5%
Non-U.S. Equity	4,786.2	9.8	8.2	± 5
Private Markets	10,417.0	21.2	22.0	-
Real Estate	6,545.1	13.4	12.5	-
Fixed Income**	13,230.6 *	27.0	27.0	± 10
Absolute Return	6,000.1	12.2	12.0	± 4
Risk Parity**	1,442.9	2.9	4.0	± 4
Master Limited Partnerships	875.1	1.8	2.0	± 2
Commodities**	2,036.6	4.2	5.0	± 4
Totals	\$ 49,022.0	100.0%	100.0%	

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

**PSERS uses financing to achieve increased economic exposure to diversifying asset classes to manage the overall portfolio risk while maintaining an allocation designed to achieve the long-term return goals of the System. Increased economic exposure is generally achieved through the use of either derivative positions or higher volatility funds. As of December 31, 2012, PSERS had increased economic exposure of \$2.1 billion related to the following asset classes: Fixed Income (\$1.2 billion); Risk Parity (\$0.5 billion); and Commodities (\$0.4 billion). The target allocation to financing was netted against the following target allocations: Fixed Income (7%), Risk Parity (1%), and Commodities (1%).



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Asset Allocation (as of December 31, 2012) (continued)

Number of Investment Managers and Portfolios

Public Market Asset Classes (ex. Real Estate)

PSERS public market asset classes, excluding Real Estate, used 71 external investment managers who were responsible for 84 portfolios, and 7 internal portfolio managers who were responsible for 10 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 117 active external general partners to invest in 255 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 and 2 internal real estate asset managers who oversee the direct management of 6 separate real estate accounts.

Public Market Asset Classes (excluding Public Market Real Estate)

	Portfolio Managers	Portfolios/Accounts
<i>U.S. Equity Investments:</i>		
External*	6	6
Internal	2	3
<i>Non-U.S. Equity Investments:</i>		
External*	13	14
Internal	2	2
<i>Fixed Income Investments:</i>		
External*	24	33
Internal**	2	3
<i>Commodities:</i>		
External	5	5
Internal	1	1
<i>Master Limited Partnerships:</i>		
External	3	3
<i>Risk Parity:</i>		
External	2	2
<i>Absolute Return:</i>		
External*	17	19
<i>Cash:</i>		
Internal**	1	1
<i>Securities Lending:</i>		
External	1	2
<i>Total</i>	80	94
<i>Total External*</i>	71	84
<i>Total Internal</i>	8***	10

*The Public Market Emerging Investment Manager Program consisted of 10 portfolio managers each managing a single portfolio. There were 4 U.S. Equity, 3 Non-U.S. Equity, 2 Fixed Income portfolios, and 1 Absolute Return portfolio in the Program.

**PSERS managed \$211.2 million for the System's healthcare account.

***PSERS had one internal manager responsible for a Commodity and Cash portfolio.

**Summary of PSERS’
Equity Investments
(as of December 31, 2012)**

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

Policy

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

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

PSERS’ Asset Allocation targets an eventual allocation of 15.5% of assets to Public Market Global Equity Exposure.

Market Value as of December 31, 2012:

- U.S.: \$3,688.4 million, or 7.5% of the Fund’s total market value.
- Non-U.S.: \$4,786.2 million, or 9.8% of the Fund’s total market value.
- Total: \$8,474.6 million, or 17.3% of the Fund’s total market value.

Number of External Investment Managers: PSERS had contracts with six external investment managers responsible for various U.S. Equity portfolios (including four Public Market Emerging Manager Program managers), and contracts with 13 external investment managers responsible for various Non-U.S. Equity portfolios (including three Public Market Emerging Investment Manager Program managers).

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 two Non-U.S. Equity portfolios.

Types of Investment Portfolios at December 31, 2012:

- U.S.: 91.3% large capitalization stock strategies, 7.5% medium/small capitalization stock strategies, and 1.2% in micro capitalization stock strategies.
- 90.1% passively-managed portfolios and 9.9% actively-managed stock selection portfolios.
- 90.1% was managed by internal portfolio managers and 9.9% is managed by external investment managers.
- Non-U.S.: 76.0% large capitalization stock strategies, 12.5% small capitalization strategies, and 11.5% emerging market stock strategies.
- 49.5% passively-managed portfolios (managed internally) and 50.5% actively-managed portfolios (managed externally).

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Summary of PSERS' U.S. Equity Portfolios (unaudited) (as of December 31, 2012)

	Market Value (in millions)	% of U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS S&P 400 Index Fund	\$ 175.0	4.7%	0.4%
PSERS S&P 500 Index Fund	2,973.4	80.6%	6.1%
PSERS S&P 600 Index Fund	<u>176.3</u>	<u>4.8%</u>	<u>0.4%</u>
Total Passively Managed U.S. Equity	\$ <u>3,324.7</u>	<u>90.1%</u>	<u>6.8%</u>
<i>Actively Managed Large Cap Portfolios</i>			
Hellman Jordan	\$ 37.8	1.0%	0.1%
Other	<u>6.5</u>	<u>0.2%</u>	<u>0.0%</u>
Total Actively Managed Large Cap U.S. Equity	\$ <u>44.3</u>	<u>1.2%</u>	<u>0.1%</u>
<i>Actively Managed Mid and Small Cap Portfolios</i>			
A.H. Lisanti Capital Growth, LLC	\$ 45.5	1.2%	0.1%
Conestoga Capital Advisors	48.6	1.3%	0.1%
First Pacific Advisors, Inc.	134.5	3.6%	0.3%
Opus Capital Management	<u>48.1</u>	<u>1.3%</u>	<u>0.1%</u>
Total Actively Managed Mid and Small Cap U.S. Equity	\$ <u>276.7</u>	<u>7.5%</u>	<u>0.6%</u>
<i>Actively Managed MicroCap Portfolio</i>			
NorthPointe Capital, LLC	\$ <u>42.7</u>	<u>1.2%</u>	<u>0.1%</u>
Total U.S. Equity	\$ <u>3,688.4</u>	<u>100.0%</u>	<u>7.5%</u>

Numbers may not add due to rounding.

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Summary of PSERS' Non-U.S. Equity Portfolios (unaudited) (as of December 31, 2012)

	Market Value (in millions)	% of Non-U. S. Equities	% of Total Fund
<i>Passively Managed Portfolios</i>			
PSERS ACWI x-US Index Fund	\$ 2,159.8	45.1%	4.4%
PSERS Emerging Markets Equity Index	208.5	4.4%	0.4%
Total Passively Managed Non-U.S. Equity	\$ 2,368.3	49.5%	4.8%
<i>Actively Managed Developed Large Cap Portfolios</i>			
Baillie Gifford Overseas Ltd.	\$ 478.3	10.0%	1.0%
BlackRock Financial Management, Inc.	438.8	9.2%	0.9%
John Hsu Capital Group, Inc.	56.9	1.2%	0.1%
Marathon Asset Management Limited	468.4	9.8%	1.0%
Shah Capital Management	34.6	0.7%	0.1%
Pareto Investment Management, Ltd.	3.1 a	0.1%	0.0%
Total Actively Managed Developed Large Cap Non-U.S. Equity	\$ 1,480.1	30.9%	3.0%
<i>Actively Managed Emerging Market Portfolios</i>			
Glovista Investments	\$ 30.9	0.6%	0.1%
Wasatch Advisors, Inc.	234.0	4.9%	0.5%
Westwood Global Investments	74.5	1.6%	0.2%
Total Actively Managed Emerging Market Non-U.S. Equity	\$ 339.4	7.1%	0.7%
<i>Actively Managed Developed Small Cap Portfolios</i>			
Acadian Asset Management	\$ 153.2	3.2%	0.3%
Batterymarch Financial Mgmt., Inc.	60.7	1.3%	0.1%
Oberweis Asset Management, Inc.	91.4	1.9%	0.2%
Pyramis Global Advisors	117.2	2.4%	0.2%
Wasatch Advisors, Inc.	175.9	3.7%	0.4%
Total Actively Managed Developed Small Cap Non-U.S. Equity	\$ 598.4	12.5%	1.2%
Total Non-U.S. Equity	\$ 4,786.2	100.0%	9.8%

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, 2012)

Private Market investments represent one of nine asset classes that PSERS uses to diversify the investments of the Fund. The primary vehicle used to invest funds in this asset class is the limited partnership. Individual management groups selected by PSERS form these partnerships for the purpose of investing in and managing private equity and unlisted-subordinated debt positions on behalf of PSERS and other limited partners. PSERS' Asset Allocation currently targets an allocation of 22.0% 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.

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 Venture Economics on a vintage year weighted basis.

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Summary of PSERS' Private Market Investments (as of December 31, 2012) (continued)

Market Value as of December 31, 2012: \$10,417.0 million, or 21.2% 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	\$ 16,293.8	\$ 8,048.0	16.4%
Venture Capital	2,346.3	861.5	1.7
Private Debt	<u>4,108.9</u>	<u>1,507.5</u>	<u>3.1</u>
Totals	\$ <u>22,749.0</u>	\$ <u>10,417.0</u>	<u>21.2%</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, 2012 are as follows:

Industry Diversification

(by number of companies in each industry)

Secondary Funds	34.8%
Services	12.0%
Industrial	11.2%
Financial	8.0%
Computer	8.0%
Medical	7.0%
Communication	5.9%
Consumer	4.3%
Transportation	3.0%
Energy	3.0%
Real Estate	2.1%
Other	0.7%

Geographical Diversity

(by percentage of companies located in each state)

International	29.6%
New York	17.7%
California	12.3%
Texas	4.8%
Massachusetts	4.3%
Pennsylvania	3.3%
Illinois	2.7%
Connecticut	2.6%
New Jersey	2.2%
Florida	2.0%
North Carolina	1.6%
Virginia	1.6%
Maryland	1.5%
Michigan	1.4%
Other	12.4%

Number of External Investment Managers: PSERS' Private Equity program has committed a total of \$16.3 billion to 104 partnerships through December 31, 2012. Eight of these partnerships are located in Pennsylvania. 26 of the 31 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.

PSERS' Venture Capital program consists of 37 partnerships with committed capital totaling \$2.3 billion through December 31, 2012. A significant number of the venture capital partnerships, 16 out of 37, are located in Pennsylvania. One of the 31 international partnerships is included within the venture capital sector.

PSERS Private Debt program has committed \$4.1 billion to 26 partnerships through December 31, 2012. The Private Debt program was initiated in 2000 by re-allocating \$1.0 billion from the Fixed Income allocation to take advantage of the attractive market conditions within the mezzanine and distressed debt sectors. Three partnerships are located in Pennsylvania, and four of the 31 international partnerships are included within the private debt sector.

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, 2012)

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	191,560,545	22,565,566
Actis Global 4, L.P.	2012	100,000,000	3,397,028	-
Allegheny New Mountain Partners, L.P.	2004	100,000,000	83,635,449	111,638,257
Apax Europe VII, L.P.	2007	263,940,000	264,666,022	50,110,506
Bain Capital Asia Fund II, L.P.	2011	100,000,000	18,750,000	-
Baring Asia Private Equity Fund III, L.P.	2005	122,500,000	139,026,360	244,720,302
Baring Asia Private Equity Fund IV, L.P.	2007	300,000,000	291,337,270	120,174,628
Baring Asia Private Equity Fund V, L.P.	2011	200,000,000	73,026,700	-
Blue Point Capital Partners (B), L.P.	2001	103,750,000	91,059,964	116,869,919
Blue Point Capital Partners II (B), L.P.	2007	100,000,000	83,379,280	66,405,103
Bridgepoint Capital II (Secondary)	1998	84,714,906	81,276,972	165,495,935
Bridgepoint Europe I	1998	79,622,624	75,089,014	134,601,685
Bridgepoint Europe II	2001	395,910,000	313,734,469	605,119,344
Bridgepoint Europe III A, L.P.	2005	263,940,000	249,204,188	68,923,994
Bridgepoint Europe IV, L.P.	2008	395,910,000	258,375,949	-
Capital International Private Equity Fund V, L.P.	2007	200,000,000	195,172,076	92,207,327
Capital International Private Equity Fund VI, L.P.	2011	100,000,000	20,996,654	69,262
Catterton Growth Partners, L.P.	2008	75,000,000	73,189,474	20,803,573
Catterton Partners V, L.P.	2004	100,000,000	101,386,111	74,400,352
Catterton Partners VI, L.P.	2006	130,000,000	137,480,694	44,235,613
Cinven Fund (Fifth), L.P.	2011	131,970,000	7,038,708	-
Cinven Fund (Fourth), L.P.	2006	197,955,000	200,746,500	73,239,913
Clarity Partners L.P.	2000	203,590,000	204,759,024	113,660,697
Clarity PSERS II, L.P.	2008	17,386,250	12,065,126	562,500
Coller International Partners VI, L.P.	2011	100,000,000	23,108,664	444,000
Credit Suisse Equity Partners, L.P.	1998	137,172,500	114,692,730	27,777,502
Credit Suisse Int'l Equity Partners, L.P.	1997	83,000,000	76,663,758	95,804,666
Crestview Partners II (PF) LP	2008	200,000,000	167,478,784	34,706,533
Crestview Partners, L.P.	2005	150,000,000	150,417,901	53,821,280
CS Strategic Partners IV, L.P.	2008	100,000,000	89,109,822	54,499,164
CS Strategic Partners V, L.P.	2011	150,000,000	66,995,629	10,663,909
CSFB Strategic Partners II, L.P.	2003	300,000,000	262,523,198	448,640,959
CSFB Strategic Partners III-B, L.P.	2005	200,000,000	215,447,104	137,263,559
CVC Capital Partners Asia Pacific III, L.P.	2008	300,000,000	237,237,651	47,278,574
CVC European Equity Partners V (A), L.P.	2008	395,910,000	298,208,217	106,769,654
Denham Commodity Partners VI, L.P.	2012	75,000,000	11,224,215	-
DLJ Merchant Banking Partners III, L.P.	2000	300,000,000	308,586,902	589,328,620
DLJ Strategic Partners	2001	200,000,000	192,515,953	292,420,397
Dubin Clark Fund II, L.P.	2000	24,083,333	23,706,041	15,338,534

*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, 2012) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Edgewater Growth Capital Partners, L.P.	2001	\$ 59,196,500	\$ 58,604,535	\$ 67,517,908
Edgewater Private Equity Fund III, L.P.	1998	39,000,000	39,000,000	20,395,808
Evergreen Pacific Partners II, L.P.	2008	80,954,545	30,071,385	8,812,875
Evergreen Pacific Partners, L.P.	2004	50,000,000	33,011,702	4,491,788
First Reserve Fund XI, L.P.	2006	200,000,000	211,166,491	64,333,447
First Reserve Fund XII, L.P.	2008	250,000,000	214,616,600	23,855,608
Furman Selz Investors III L.P.	2000	100,000,000	95,025,051	202,950,790
Graham Partners	1999	56,671,214	60,759,456	50,995,698
Green Equity Investors II	1994	25,000,000	24,151,005	50,916,127
Greenpark International Investors III L.P.	2007	131,970,000	131,068,174	47,667,211
Greenwich Street Capital Partners II	1998	200,000,000	214,878,512	209,037,608
Halifax Capital Partners	1999	50,000,000	39,967,488	60,277,718
Headland Private Equity Fund 6 L.P., The	2008	200,000,000	142,635,855	25,895,836
Incline Equity Partners III (PSERS), L.P.	2011	43,283,333	6,710,043	-
Irving Place Capital Partners II L.P.	2000	300,000,000	282,383,236	422,368,601
Irving Place Capital Partners III L.P.	2006	150,000,000	121,442,580	16,925,133
Jefferies Capital Partners IV, L.P.	2005	100,000,000	93,981,695	43,499,897
KKR 2006 Fund L.P.	2006	300,000,000	285,626,931	149,631,266
KRG Capital Fund II (PA) L.P.	2001	100,000,000	79,576,721	115,210,103
KRG Capital Fund III, (PA) L.P.	2005	88,000,000	82,321,841	34,703,229
KRG Capital Fund IV L.P.	2007	300,000,000	252,575,303	104,723,231
Landmark Equity Partners III, L.P.	1993	27,085,010	27,085,010	76,288,593
Landmark Equity Partners IV, L.P.	1994	10,533,687	10,254,032	15,353,655
Landmark Equity Partners XIII, L.P.	2006	100,000,000	92,925,371	57,896,668
Landmark Equity Partners XIV, L.P.	2008	150,000,000	90,145,815	27,481,210
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	310,990,957	673,395,795
Milestone Partners II, L.P.	2004	29,890,000	27,844,247	40,340,828
Milestone Partners III, L.P.	2008	60,000,000	51,126,300	1,814,905
Milestone Partners IV, L.P.	2011	29,025,862	18,327,017	-
Morgan Stanley Dean Witter Cap Ptrs IV, L.P.	1998	300,000,000	236,925,618	463,493,652
Navis Asia Fund V, L.P.	2007	100,000,000	114,190,688	31,302,002
New Mountain Partners III L.P.	2007	300,000,000	274,908,584	66,145,642
New Mountain Partners. L.P.	2000	192,509,033	161,036,343	224,742,581
New York Life Capital Partners I, L.P.	1999	200,000,000	204,806,900	220,803,538
New York Life Capital Partners II, L.P.	2001	200,000,000	194,403,235	490,092,888
New York Life Capital Partners III-A, L.P.	2005	200,000,000	203,406,522	57,740,062
New York Life Capital Partners IV-A. L.P.	2008	100,000,000	100,748,500	35,394,645

*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, 2012) (continued)

Partnership Name Private Equity (continued):	Vintage Year	Capital Committed	Capital Drawn	Distributions*
NGP Natural Resources X, L.P.	2012	\$ 100,000,000	\$ 22,752,250	\$ -
Nordic Capital VII Beta L.P.	2008	197,955,000	166,895,919	3,789,342
Orchid Asia V, L.P.	2011	40,000,000	11,946,966	-
PAI Europe III, L.P.	2001	395,910,000	334,978,803	1,086,236,022
PAI Europe IV-B2, L.P.	2005	131,970,000	129,843,351	139,306,421
PAI Europe V, L.P.	2007	131,970,000	105,051,619	-
Palladium Equity Partners II-A, L.P.	2000	57,750,000	62,205,262	72,421,840
Partners Group Secondary 2008, L.P.	2007	197,955,000	178,083,194	41,273,071
Partners Group Secondary 2011 (USD), L.P. Inc.	2011	100,000,000	11,521,018	-
Permira IV, L.P.	2006	164,962,500	157,625,230	56,754,539
Platinum Equity Capital Partners-A II, L.P.	2007	300,000,000	278,364,974	155,001,029
Platinum Equity Capital Partners-A III, L.P.	2012	200,000,000	82,976,592	1,727,021
Platinum Equity Capital Partners-A, L.P.	2004	125,000,000	97,387,205	228,619,924
PNC Equity Partners II, L.P.	2006	68,065,386	58,386,244	18,936,056
PNC Equity Partners, L.P.	2001	43,154,458	39,343,996	71,050,264
Providence Equity Partners VI, L.P.	2006	300,000,000	304,027,468	79,916,712
Quadrangle Capital Partners II, L.P.	2005	250,000,000	218,831,314	125,844,557
Quadrangle Capital Partners, L.P.	2001	270,422,415	224,285,192	322,880,173
Sterling Capital Partners, L.P.	2002	75,000,000	84,218,317	145,571,890
TPG Partners V, L.P.	2006	250,000,000	257,308,374	83,028,974
TPG Partners VI, L.P.	2008	360,000,000	271,393,010	55,984,062
Trilantic Capital Partners IV L.P.	2007	76,752,676	72,749,339	56,444,362
Trilantic Capital Partners V (North America), L.P.	2012	100,000,000	1,917,637	-
U.S. Equity Partners II	2001	300,000,000	221,217,580	204,823,492
Wicks Communications and Media Partners, L.P.	1999	<u>87,500,000</u>	<u>88,962,098</u>	<u>105,140,303</u>
Total Private Equity		\$16,293,841,232	\$13,657,318,589	\$11,516,835,410

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	49,271,718	16,108,148
Aisling Capital III, L.P.	2008	50,000,000	26,598,328	1,684,266
Co-Investment 2000 Fund, L.P.	2000	135,000,000	135,000,000	158,577,936
Co-Investment Fund II, L.P.	2006	135,000,000	120,825,000	5,984,565
Cross Atlantic Technology Fund II	2001	21,119,734	21,119,734	12,114,382
Cross Atlantic Technology Fund, L.P.	1999	30,141,666	30,357,584	33,701,670
CS Strategic Partners IV VC, L.P.	2008	50,000,000	54,117,347	24,066,930
CSFB Strategic Partners III-VC, L.P.	2005	50,000,000	54,714,481	40,555,874

*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, 2012) (continued)

Partnership Name Venture Capital:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Franklin Capital Partners III	1995	\$ 15,000,000	\$ 15,000,000	\$ 13,492,638
Jefferson Partners Fund IV (PA) L.P.	2003	29,326,173	24,583,511	200,204
KBL Partnership, L.P.	1999	13,743,333	13,711,864	6,563,009
Landmark Equity Partners II, L.P.	1992	25,000,000	25,000,000	39,039,687
Landmark Equity Partners V, L.P.	1995	49,060,283	48,481,948	58,703,795
LLR Equity Partners II, L.P.	2004	75,000,000	74,986,212	65,227,344
LLR Equity Partners III, L.P.	2008	187,500,000	151,445,481	77,892,552
LLR Equity Partners IV, L.P.	2012	200,000,000	-	-
LLR Equity Partners, L.P.	1999	62,500,000	61,278,857	130,766,555
NEPA Venture Fund II	1992	5,000,000	5,000,000	23,252,576
Novitas Capital , L.P.	1998	30,000,000	29,937,000	33,887,349
Novitas Capital II, L.P.	2000	75,000,000	74,775,000	15,910,651
P/A Fund	1993	30,000,000	30,000,000	66,835,233
Perseus-Soros BioPharmaceutical Fund	2001	112,206,666	124,190,158	188,756,357
Psilos Group Partners III, L.P.	2007	62,500,000	53,369,925	30,420,581
Quaker Bio-Ventures II, L.P.	2007	100,000,000	73,153,932	17,134,686
Quaker Bio-Ventures, L.P.	2003	69,350,000	69,458,692	13,821,323
SCP Private Equity Partners I, L.P.	1996	62,500,000	63,285,918	42,866,260
SCP Private Equity Partners II, L.P.	2000	125,000,000	129,614,995	27,862,005
StarVest Partners, L.P.	1999	67,500,000	65,659,367	70,140,174
StarVest Partners II (Parallel), L.P.	2007	50,000,000	32,232,763	-
Sterling Venture Partners, L.P.	2000	33,986,000	36,115,022	31,203,448
Summit Partners Growth Equity Fund VIII, L.P.	2011	100,000,000	7,000,000	-
Summit Partners Venture Capital Fund III, L.P.	2011	25,000,000	3,250,000	-
TDH III, L.P.	1993	7,350,750	7,350,750	4,780,305
Tenaya Capital IV-P, L.P.	2003	75,000,000	72,679,657	58,098,130
Tenaya Capital VI, L.P.	2012	50,000,000	5,123,816	-
Tenaya Capital V-P, L.P.	2007	75,000,000	63,330,404	30,387,043
Total Venture Capital		\$ 2,346,284,605	\$ 1,864,519,464	\$ 1,362,707,514

*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, 2012) (continued)

Partnership Name Private Debt:	Vintage Year	Capital Committed	Capital Drawn	Distributions*
Avenue Asia Special Situations Fund II, L.P.	2001	\$ 220,000,000	\$ 220,000,000	\$ 403,784,872
Avenue Asia Special Situations Fund III, L.P.	2003	100,000,000	76,344,737	112,166,632
Avenue Asia Special Situations Fund IV, LP	2006	300,000,000	225,056,480	118,764,277
Avenue Europe Special Situations Fund, L.P.	2008	263,940,000	259,698,044	327,048,709
Avenue Special Situations Fund IV, L.P.	2005	115,000,000	144,782,669	182,653,179
Avenue Special Situations Fund V, L.P.	2007	300,000,000	301,095,120	378,630,640
Avenue Special Situations Fund VI, L.P.	2010	75,000,000	69,924,376	-
Cerberus Institutional Partners V, L.P.	2012	200,000,000	92,396,179	-
Cerberus Institutional Partners, L.P. (Series 2)	2001	200,000,000	173,047,901	442,985,275
Cerberus Institutional Partners, L.P. (Series 3)	2003	100,000,000	81,055,777	96,496,889
Cerberus Institutional Partners, L.P. (Series 4)	2006	400,000,000	369,661,873	119,331,026
Gleacher Mezzanine Fund II, L.P.	2006	100,000,000	88,138,597	50,616,806
Gleacher Mezzanine Fund, L.P.	2001	75,000,000	63,450,304	95,899,411
Gold Hill Venture Lending 03-A, L.P.	2004	50,000,000	50,000,000	63,524,378
GSC Partners CDO Investors IV, L.P.	2003	80,000,000	80,000,000	80,000,000
GSC Recovery II, L.P.	2000	280,000,000	279,170,771	366,857,421
GSC Recovery III (Parallel Fund), L.P.	2005	200,000,000	199,461,456	144,736,891
NYLIM Mezzanine Partners (Parallel Fund) L.P.	2003	75,000,000	67,768,404	83,395,878
NYLIM Mezzanine Partners II (Parallel Fund) LP	2006	150,000,000	162,086,852	136,703,660
OCM Opportunities Fund VII L.P.	2007	75,000,000	75,000,000	70,718,229
OCM Opportunities Fund VII-b L.P.	2008	225,000,000	202,500,000	253,648,799
Versa Capital Fund I, L.P.	2005	75,000,000	85,545,177	61,332,007
Versa Capital Fund II, L.P.	2008	150,000,000	90,033,012	7,644,767
Versa Capital Fund III, L.P.	2012	150,000,000	-	-
Windjammer Senior Equity Fund III, L.P.	2006	50,000,000	45,146,206	34,448,773
Windjammer Senior Equity Fund IV, L.P.	2012	<u>100,000,000</u>	<u>1,664,510</u>	<u>-</u>
Total Private Debt		\$ 4,108,940,000	\$ 3,503,028,445	\$ 3,631,388,520
Grand Total		<u>\$22,749,065,838</u>	<u>\$19,024,866,498</u>	<u>\$16,510,931,443</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, 2012)

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

	Total Commitment (Millions)	Market Value (Millions)	Percent Allocation to Total Fund
Separate Accounts	\$ 539.9	\$ 240.5	0.5%
PTRES	202.4	192.6	0.4%
Core Real Estate	500.0	311.1	0.6%
Opportunistic Real Estate	8,964.7	4,175.5	8.6%
Value Added Real Estate	<u>3,511.4</u>	<u>1,625.4</u>	<u>3.3%</u>
Totals	<u>\$ 13,718.4</u>	<u>\$ 6,545.1</u>	<u>13.4%</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 12.5% 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 (25%), Value Added (50%) and Core (25%) real estate investments.

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

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

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

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

Market Value as of December 31, 2012: \$6,545.1 million or 13.4% of the Fund's total market value. This market value represents the combination of December 31, 2012 and September 30, 2012 market values adjusted for cash flows that occurred during the fourth quarter of 2012.

Number of External Investment Managers: PSERS had contracts with five external directly managed real estate asset managers and 40 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, 2012:

- 3.7% Separate Account Portfolios
- 2.9% Public Securities Portfolios
- 4.8% Core Real Estate Portfolios
- 63.8% Opportunistic Real Estate Portfolios
- 24.8% Value Added Real Estate Portfolios

Section 3 - Investment Information

Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2012)

<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	\$ 134,640,223	\$ -
GF Management, Inc.	1987	131,991,000	132,187,035	46,015,941
Grosvenor Fund Management U.S., Inc.	1986	9,980,000	10,000,423	-
L&B Realty Advisors, LLP	1993	150,403,000	151,746,926	85,044,962
Prudential Agriculture Group	n/a	31,723,000	32,014,433	7,950,000
PSERS	1993	<u>82,653,000</u>	<u>82,746,393</u>	<u>45,000</u>
Total Separate Accounts		\$ 539,929,000	\$ 543,335,433	\$ 139,055,903
Public Securities:				
Security Capital Research & Management, Inc. - Preferred Growth	1997	\$ 202,393,803	\$ 202,393,803	\$ 66,746,008
Core Real Estate:				
JPMCB Strategic Property Fund	2007	\$ 100,000,000	\$ 25,000,000	\$ 3,066,344
PRISA	2006	100,000,000	100,000,000	23,322,868
ProLogis North American Industrial Fund, L.P.	2006	200,000,000	196,687,767	41,645,683
UBS (US) Trumbull Property Fund, L.P.	2006	<u>100,000,000</u>	<u>75,000,000</u>	<u>13,511,981</u>
Total Core Real Estate		\$ 500,000,000	\$ 396,687,767	\$ 81,546,876
Opportunistic Real Estate:				
Apollo European Real Estate Fund III, L.P.	2007	\$ 131,970,000	\$ 135,540,052	\$ 22,133,166
Avenue Real Estate Fund (Parallel) L.P.	2006	100,000,000	94,193,695	-
Blackstone Real Estate Partners Europe III, L.P.	2009	263,940,000	177,713,616	3,494,808
Blackstone Real Estate Partners V, L.P.	2006	200,000,000	211,459,708	77,806,199
Blackstone Real Estate Partners VI, L.P.	2007	400,000,000	414,218,499	83,389,010
Blackstone Real Estate Partners VII, L.P.	2011	300,000,000	130,571,201	9,314,854
Brookfield Strategic Real Estate Partners, L.P.	2012	200,000,000	24,825,942	-
CS Strategic Partners IV RE, L.P.	2008	75,000,000	74,313,298	11,762,788
CSFB Strategic Partners II RE, L.P.	2003	75,000,000	67,433,018	92,161,397
CSFB Strategic Partners III RE, L.P.	2005	75,000,000	78,852,932	5,112,056
Carlyle Europe Real Estate Partners III, L.P.	2007	263,940,000	236,666,356	16,783,232
Carlyle Realty Partners III, L.P.	2000	141,016,667	114,651,209	225,101,535
Carlyle Realty Partners IV, L.P.	2005	130,000,000	180,518,340	61,315,789
Carlyle Realty Partners V, L.P.	2007	300,000,000	344,080,306	226,124,116
Carlyle Realty Partners VI, L.P.	2011	200,000,000	59,024,458	2,066,635
DLJ Real Estate Capital Partners III, L.P.	2005	150,000,000	162,823,525	62,340,603
DLJ Real Estate Capital Partners IV, L.P.	2007	250,000,000	254,860,032	59,177,573
DLJ Real Estate Partners II, L.P.	1999	200,000,000	185,220,263	285,670,479
Fortress Investment Fund IV LP	2006	100,000,000	100,976,805	13,509,945

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

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2012) (continued)

<u>Investment</u>	<u>Vintage Year</u>	<u>Capital Committed</u>	<u>Capital Drawn*</u>	<u>Distributions</u>
Opportunistic Real Estate (continued):				
Fortress Investment Fund LLC	2000	\$ 200,000,000	\$ 195,446,950	\$ 521,446,992
Fortress Investment Fund V (Fund A) L.P.	2007	200,000,000	195,531,972	8,372
LF Strategic Realty Investors II, L.P.	1997	150,000,000	149,999,997	177,137,916
LF Strategic Realty Investors, L.P.	1996	150,000,000	150,000,000	266,939,860
Lubert-Adler Real Estate Fund II	1998	50,000,000	50,389,205	74,591,477
Lubert-Adler Real Estate Fund III	2000	150,000,000	150,018,382	223,493,386
Lubert-Adler Real Estate Fund IV	2004	100,000,000	106,021,148	38,490,566
Lubert-Adler Real Estate Fund V	2006	100,000,000	102,117,852	6,565,948
Lubert-Adler Real Estate Fund VI	2007	150,000,000	124,247,911	14,376,981
MGPA Asia Fund III, L.P.	2007	200,000,000	130,216,472	-
MGPA Europe Fund III, L.P.	2007	131,970,000	115,660,214	1,013,035
Morgan Stanley Real Estate Fund II	1995	150,000,000	156,162,032	358,909,948
Morgan Stanley Real Estate Fund IV Special Dom.	2002	100,000,000	113,771,665	118,465,924
Morgan Stanley Real Estate Fund IV Special Int'l.	2001	200,000,000	214,982,729	445,040,579
Morgan Stanley Real Estate Fund V Special Int'l.	2005	200,000,000	230,138,176	200,679,171
Morgan Stanley Real Estate Fund V U.S.	2006	150,000,000	189,606,119	28,042,961
Morgan Stanley Real Estate Fund VI Special Int'l.	2006	400,000,000	461,609,742	16,442,689
Morgan Stanley Real Estate Fund VII Global, L.P.	2007	309,636,000	211,626,686	23,628,414
O'Connor North American Property Partners II L.P.	2007	132,142,857	130,794,605	26,034,828
O'Connor North American Property Partners, L.P.	2004	100,000,000	110,585,501	18,159,952
Paladin Realty Latin America Investors III, L.P.	2008	113,583,333	65,330,867	17,531,683
Peabody Global Real Estate Partners	1998	100,000,000	89,031,934	157,153,927
Silverpeak Legacy Pension Partners II, L.P.	2005	200,000,000	205,815,770	108,483,417
Silverpeak Legacy Pension Partners III, L.P.	2007	300,000,000	135,590,747	3,566,972
Silverpeak Legacy/PSERS, L.P.	2000	300,000,000	139,442,773	278,447,171
Stockbridge Real Estate Fund II - Senior Note	2010	20,312,500	17,420,000	-
Stockbridge Real Estate Fund II, LP	2005	162,500,000	162,500,000	-
Stockbridge Real Estate Fund III, LP	2007	180,000,000	167,711,642	-
Stockbridge Real Estate Fund, L.P.	2000	408,465,517	481,663,399	576,573,475
Westbrook Real Estate Fund I	1995	63,500,000	69,295,047	149,276,101
Whitehall Street V & VI	1994	60,000,000	57,668,246	135,597,011
Whitehall Street VII & VIII	1996	100,000,000	96,092,963	154,492,457
William E. Simon & Sons	2001	76,662,500	74,788,678	59,042,379
Total Opportunistic Real Estate		\$ 8,964,639,374	\$ 8,099,222,679	\$ 5,456,897,778

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

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Real Estate Investments Committed, Drawn, and Distributed (unaudited) (as of December 31, 2012) (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	\$ 31,593,473	\$ -
AREFIN Co-Invest Corporation	2008	83,000,000	69,192,000	52,600,901
Almanac Realty Securities V, L.P.	2007	100,000,000	88,414,831	13,113,744
Almanac Realty Securities VI, L.P.	2012	100,000,000	21,802,989	-
Apollo Real Estate Finance Corp.	2006	150,000,000	150,183,055	65,558,781
Apollo Value Enhancement Fund VII, L.P.	2008	150,000,000	147,720,926	30,204,184
AvalonBay Value Added Fund II, L.P.	2009	100,000,000	89,100,000	2,750,000
AvalonBay Value Added Fund, L.P.	2004	75,000,000	75,000,000	43,318,181
BPG Investment Partnership V, L.P.	1999	50,000,000	47,145,383	67,653,340
BPG Investment Partnership VI, L.P.	2002	87,500,000	84,327,558	100,886,718
BPG/PSERS Co-Investment Fund	2001	100,000,000	65,703,742	158,608,434
Beacon Capital Strategic Partners V, L.P.	2007	200,000,000	164,000,000	17,970,297
Bell Institutional Fund IV, LLC	2011	75,000,000	37,117,856	168,729
Broadway Partners Real Estate Fund II, L.P.	2006	125,000,000	124,057,276	500,000
Broadway Partners Real Estate Fund III, L.P.	2007	166,182,500	167,153,228	2,222,002
Cabot Industrial Value Fund III, L.P.	2008	100,000,000	72,842,500	4,560,261
Centerline High Yield CMBS III - Loan/Stock	2008	90,000,000	90,000,000	40,521,848
DRA Growth and Income Fund VI, L.P.	2007	148,200,000	93,577,720	18,809,373
DRA Growth and Income Fund VII, L.P.	2011	100,000,000	47,410,000	1,097,162
Exeter Industrial Value Fund II, L.P.	2011	75,000,000	41,450,941	365,854
Fillmore West Fund, L.P.	2008	100,000,000	97,807,786	13,346,141
Hines U.S. Office Value Added Fund, L.P.	2004	100,000,000	104,108,632	145,566,961
LCCG Diversified Risk CMBS Fund II, LLC	2004	90,000,000	90,000,000	71,490,855
LCCG RE Special Situations Mortgage Fund	2006	133,875,000	133,627,886	25,329,463
LEM Real Estate Mezzanine Fund II, L.P.	2006	75,000,000	60,000,000	34,264,329
Latitude Management Real Estate Capital III, Inc.	2013	75,000,000	-	-
Legg Mason Real Estate Capital	2002	57,640,625	56,945,022	53,445,788
Legg Mason Real Estate Capital II	2005	100,000,000	98,191,159	29,247,456
Madison Marquette Retail Enhancement Fund LP	2007	100,000,000	88,058,094	1,781,226
RCG Longview Debt Fund IV, L.P.	2007	175,000,000	200,079,500	63,272,466
RCG Longview Debt Fund V, L.P.	2012	75,000,000	-	-
RCG Longview Equity Fund, L.P.	2006	125,000,000	90,617,145	29,580,799
Senior Housing Partnership Fund IV, L.P.	2011	100,000,000	32,732,718	180,918
Strategic Partners Value Enhancement Fund LP	2005	55,000,000	54,978,609	2,970,000
Total Value Added Real Estate		\$ 3,511,398,125	\$ 2,814,940,027	\$ 1,091,386,211
Grand Total		<u>\$ 13,718,360,302</u>	<u>\$ 12,056,579,710</u>	<u>\$ 6,835,632,776</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, 2012)

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

Policy

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

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

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

PSERS' Asset Allocation targets an eventual allocation of 27.0% of assets to Fixed Income, 8.0% of which is designated to Global Fixed Income (includes Core/Core Plus and Global strategies), 2.0% of which is designated to U.S. Long Treasuries, 6.0% of which is designated to TIPS strategies, 8.0% of which is designated to High Yield strategies, and 3.0% designated to Cash.

Market Value as of December 31, 2012: \$13,230.6 million, or 27.0% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with 24 external investment managers responsible for various Fixed Income portfolios (including two Public Market Emerging Investment Manager Program managers).

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

Types of Investment Portfolios at December 31, 2012:

- 10.6% Global strategy portfolios
- 18.3% Core/Core Plus strategies portfolios, 23.4% TIPS strategies portfolios, 26.4% High Yield strategies portfolios, 1.1% U.S. Long Treasuries, and Cash 20.2%.
- 19.2% was managed by internal portfolio managers and 80.8% was managed by external investment managers



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Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2012)

	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	\$ 614.7	4.6%	1.3%
Pacific Investment Mgmt. Co. (PIMCO)	227.5	1.7%	0.5%
Piedmont Investment Advisors	52.3	0.4%	0.1%
PSERS Active Aggregate	1,179.0	8.9%	2.4%
Pugh Capital Management, Inc.	90.0	0.7%	0.2%
Western Asset Management Co.	246.3	1.9%	0.5%
Other	<u>1.6</u>	<u>0.0%</u>	<u>0.0%</u>
Total Actively Managed U.S. Core/Core Plus			
Fixed Income	\$ <u>2,411.4</u>	<u>18.2%</u>	<u>4.9%</u>
<u>Actively Managed Treasury Inflation-Protected</u>			
<u>Securities (TIPS) Portfolios</u>			
Black River Asset Management, LLC	\$ 75.1	0.6%	0.2%
Bridgewater Associates, Inc.	1,656.2	12.5%	3.4%
PSERS TIPS Portfolio	<u>1,364.6</u>	<u>10.3%</u>	<u>2.8%</u>
Total Actively Managed Treasury Inflation- Protected Securities (TIPS)			
	\$ <u>3,095.9</u>	<u>23.4%</u>	<u>6.3%</u>
<u>Actively Managed U.S. Long Treasury Portfolios</u>			
PSERS U.S. Long Treasuries	\$ 6.5	0.0%	0.0%
Pacific Investment Mgmt. Co. (PIMCO)	<u>140.0</u>	<u>1.1%</u>	<u>0.3%</u>
Total Actively Managed U.S. Long Treasury			
Portfolios	\$ <u>146.5</u>	<u>1.1%</u>	<u>0.3%</u>
<u>Actively Managed High Yield Fixed Income Portfolio</u>			
MacKay-Shields Financial Corporation	\$ <u>412.4</u>	<u>3.1%</u>	<u>0.8%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2012) (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	\$ 15.5	0.1%	0.0%
BlackRock Mortgage (Offshore) Investors	466.3	3.5%	1.0%
Brevan Howard CMBS Fund	225.7	1.7%	0.5%
Brigade Distressed Value Offshore Fund	111.0	0.8%	0.2%
Carlyle Energy Mezzanine Opportunity Fund, LP	31.8	0.2%	0.1%
Cerberus Levered Loan Opportunities Fund, LP	171.9	1.3%	0.4%
Cerberus Levered Loan Opportunities Fund II, LP	175.5	1.3%	0.4%
ICG Europe Fund V, LP	35.5	0.3%	0.1%
LBC Credit Partners II, LP	250.4	1.9%	0.5%
Mariner Investment Group	221.9	1.7%	0.5%
Oaktree Loan Fund	72.5	0.5%	0.1%
Pacific Investment Mgmt. Co. (PIMCO)	367.5	2.8%	0.7%
Sankaty Advisors LLC - Bank Loans	369.7	2.8%	0.8%
Sankaty Credit Opportunities Fund IV, LP	305.1	2.3%	0.6%
Sankaty Credit Opportunities Fund V-A, LP	35.7	0.3%	0.1%
Sankaty Middle Market Opportunities Fund	156.3	1.2%	0.3%
TOP NPL (A), LP	38.4	0.3%	0.1%
TPG Opportunities Partners II, LP	<u>36.9</u>	<u>0.3%</u>	<u>0.1%</u>
Total Actively Managed Credit Opportunity			
Fixed Income	\$ <u>3,087.6</u>	<u>23.3%</u>	<u>6.3%</u>
Total Actively Managed U.S.			
Fixed Income	\$ <u>9,153.8</u>	<u>69.2%</u>	<u>18.7%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Fixed Income Portfolios (unaudited) (as of December 31, 2012) (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	\$ 308.9	2.3%	0.6%
Pacific Investment Mgmt. Co. (PIMCO)	43.8	0.3%	0.1%
Strategic Fixed Income	<u>149.1</u>	<u>1.1%</u>	<u>0.3%</u>
Total Actively Managed Non-U.S. Developed Markets			
Fixed Income	\$ <u>501.8</u>	<u>3.8%</u>	<u>1.0%</u>
<u>Actively Managed Global Emerging Markets Fixed</u>			
<u>Income Portfolios</u>			
Franklin Templeton	\$ 408.2	3.1%	0.8%
Pacific Investment Mgmt. Co. (PIMCO)	96.3	0.7%	0.2%
Stone Harbor Investment Partners	<u>396.8</u>	<u>3.0%</u>	<u>0.8%</u>
Total Actively Managed Global Emerging Markets			
Fixed Income	\$ <u>901.3</u>	<u>6.8%</u>	<u>1.8%</u>
<u>Internally Managed Cash Portfolio</u>			
PSERS Proprietary Fund	\$ <u>2,673.7</u>	<u>20.2%</u>	<u>5.5%</u>
Total Fixed Income	\$ <u>13,230.6</u>	<u>100.0%</u>	<u>27.0%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Absolute Return Investments (as of December 31, 2012)

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

Policy

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

Absolute Return investments shall be in a variety of unique, non-directional investment strategies, including equity and fixed income long/short, global macro, currency, option, 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 12.0% of assets in Absolute Return investments.

Market Value as of December 31, 2012: \$6,000.1 million, or 12.2% of the Fund's total market value.

Number of External Investment Managers: PSERS had contracts with 17 external investment managers responsible for the various Absolute Return portfolios (including one Public Market Emerging Manager Program manager).

Number of Internal Investment Managers: None.

Summary of PSERS' Absolute Return Portfolios (unaudited) (as of December 31, 2012)

	Market Value (in millions)	% of Total Absolute Return	% of Total Fund
<u>Actively Managed Absolute Return Portfolios</u>			
AQR Capital Management	\$ 419.7	7.0%	0.9%
Aeolus Capital Management Ltd.	210.9	3.5%	0.4%
Black River Asset Management, LLC	268.3	4.5%	0.5%
BlackRock Capital Structure Investments Fund	258.7	4.3%	0.5%
BlackRock Global Ascent Fund	500.0	8.3%	1.0%
BlueCrest Capital Management LLP	245.5	4.1%	0.5%
Brevan Howard Fund, Ltd.	403.8	6.7%	0.8%
Bridgewater Associates, Inc.	857.5	14.3%	1.7%
Brigade Capital Management	712.0	11.9%	1.5%
Capula Global Relative Value Fund	214.3	3.6%	0.4%
Capula Tail Risk Fund	352.8	5.9%	0.7%
Caspian Capital Advisors, LLC	212.5	3.5%	0.4%
Denali Advisors, LLC	35.1	0.6%	0.1%
FX Concepts, Inc.	34.6 a	0.6%	0.1%
Lazard Asset Management	127.3	2.1%	0.3%
Nephila Capital, Ltd.	280.7	4.7%	0.6%
Pacific Investment Mgmt. Co. (PIMCO)	672.7	11.2%	1.4%
Pareto Investment Management, Ltd.	(4.2) a	(0.1)%	0.0%
Robeco Investment Management, Inc.	196.0	3.3%	0.4%
Other	1.9	0.0%	0.0%
Total Absolute Return	\$ 6,000.1	100.0%	12.2%

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

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Risk Parity Portfolios (as of December 31, 2012)

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

Policy

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

The Fund benchmarks its Risk Parity investments to a custom benchmark: 15% MSCI EAFE Index Hedged; 10% DJ/UBS Commodity Index; 5% S&P GSCI Precious Metal Index; 10% Barclays Capital World Inflation Linked Bond Index Hedged; 10% MSCI Emerging Markets Large Index(Net); 15% S&P 500 Index; 35% Barclays Capital Global Aggregate Hedged Index.

PSERS' Asset Allocation currently targets an allocation of 4.0% of assets to Risk Parity investments. The Risk Parity investments are targeted to be 100.0% actively managed.

Market Value of December 31, 2012: \$1,442.9 million, or 2.9% of the Fund's total market value.

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

Number of Internal Investment Managers: None.

Summary of PSERS' Risk Parity Portfolios (unaudited) (as of December 31, 2012)

	Market Value (in millions)	% of Total Risk Parity	% of Total Fund
<u>Risk Parity Portfolios</u>			
AQR GRP EL 20 Offshore Fund, Ltd.	\$ 326.5	22.6%	0.7%
Bridgewater All Weather @ 15% Fund	<u>1,116.4</u>	<u>77.4%</u>	<u>2.3%</u>
Total Risk Parity	\$ <u>1,442.9</u>	<u>100.0%</u>	<u>2.9%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Master Limited Partnerships (as of December 31, 2012)

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

Policy

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

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

PSERS' Asset Allocation currently targets an allocation of 2.0% of assets to MLP investments and are targeted to be 100.0% actively managed.

Market Value of December 31, 2012: \$875.1 million, or 1.8% 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.

	Market Value (in millions)	% of Total MLPs	% of Total Fund
<i>Master Limited Partnership Portfolios</i>			
Atlantic Trust Private Wealth Management	\$ 241.5	27.6%	0.5%
Harvest MLP II	379.4	43.4%	0.8%
Salient Capital	<u>254.2</u>	<u>29.0%</u>	<u>0.5%</u>
Total Master Limited Partnerships	\$ <u>875.1</u>	<u>100.0%</u>	<u>1.8%</u>

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of PSERS' Commodity Investments (as of December 31, 2012)

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

Policy

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

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

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

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

Market Value of December 31, 2012: \$2,036.6 million, or 4.2% of the Fund's total market value.

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

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

Summary of PSERS' Commodity Portfolios (unaudited) (as of December 31, 2012)

	Market Value (in millions)	% of Total Commodities	% of Total Fund
<u>Full Discretion Commodity Portfolios</u>			
Deutsche Asset Management	\$ 202.9	10.0%	0.4%
Wellington Management Company, LLP	579.4	28.4%	1.2%
Total Full Discretion Commodities	\$ 782.3	38.4%	1.6%
<u>Core/Enhanced Commodity Portfolios</u>			
Credit Suisse Asset Management	\$ 300.4	14.8%	0.6%
Gresham, LLC	490.5	24.1%	1.0%
PSERS Gold Swap	(5.8) a	(0.3)%	0.0%
Schroders Investment Management	469.2	23.0%	1.0%
Total Core/Enhanced Commodities	\$ 1,254.3	61.6%	2.6%
Total Commodities	\$ 2,036.6	100.0%	4.2%

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

Numbers may not add due to rounding.

Section 3 - Investment Information

Summary of Investment Advisory Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands)

	<u>Fees</u>	<u>Basis Points</u>
External Management		
U.S. Equity	\$ 2,869	50
Non - U.S. Equity	22,225	51
Fixed Income	64,644	81
Real Estate	74,758	86
Alternative Investments	140,914	101
Absolute Return	138,992	177
Commodities	19,517	83
Master Limited Partnerships	810	65
Risk Parity	2,466	36
Total External Management	467,195	100
Total Internal Management	<u>10,040</u>	7
Total Investment Management	\$ 477,235	79
Custodian Fees	604	
Consultant and Legal Fees	<u>3,447</u>	
Total Investment Expenses	\$ <u>481,286</u>	80

Investment Advisory Fees Fiscal Years Ended June 30, 2007 - 2011 (Dollar Amounts in Thousands)

<u>Fiscal Year</u>	<u>Fees</u>	<u>Basis Points</u>
2007	313,758	41
2008	399,136	47
2009	477,565	70
2010	522,315	82
2011	514,695	83

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (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	\$ 235
Ativo Capital Management, LLC	Chicago	IL	50
Conestoga Capital Advisors, Inc.	Radnor	PA	273
EDMP, Inc.	Tampa	FL	85
First Pacific Advisors, Inc.	Los Angeles	CA	1,200
Hellman, Jordan Management Company, Inc.	Boston	MA	126
NorthPointe Capital, LLC	Troy	MI	660
Opus Capital Management, Inc.	Cincinnati	OH	240
Total - U.S. Equity			2,869
<u>Non - U.S. Equity</u>			
Acadian Asset Management	Boston	MA	706
Baillie Gifford Overseas Ltd.	Edinburgh	UK	3,334
Batterymarch Financial Management, Inc.	Boston	MA	1,128
BlackRock Financial Management, Inc.	San Francisco	CA	7,253
Glovista Investments LLC	Jersey City	NJ	125
John Hsu Capital Group, Inc.	New York	NY	276
Marathon Asset Management Limited	London	UK	1,461
Oberweis Asset Management, Inc.	North Aurora	IL	803
Pareto Investment Management, Ltd.	New York	NY	1,620
Pyramis Global Advisors	Boston	MA	865
Shah Capital Management, Inc.	Raleigh	NC	422
Wasatch Advisors, Inc.	Salt Lake City	UT	2,888
Wellington Management Company, L.L.P.	Boston	MA	767
Westwood Global Investments, LLC	Boston	MA	577
Total - Non - U.S. Equity			22,225
<u>Fixed Income</u>			
Aberdeen Asset Management, Inc.	Philadelphia	PA	94
AllianceBernstein L.P.	White Plains	NY	533
BlackRock Financial Management, Inc.	New York	NY	5,282
BlackRock Mortgage (Offshore) Investors, L.P.	New York	NY	4,995
Brevan Howard US LLC	New York	NY	1,630
Bridgewater Associates, Inc.	Westport	CT	15,718
Brigade Capital Management, LLC	New York	NY	969

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Fixed Income (continued)</u>			
Brookfield Asset Management, Inc.	New York	NY	\$ 631
Cerberus Levered Loan Opportunities Fund I, L.P.	New York	NY	2,334
Fischer Francis Trees & Watts, Inc.	New York	NY	117
Franklin Templeton Investments	Nassau	Bahamas	2,272
LBC Credit Partners II, L.P.	Philadelphia	PA	4,875
MacKay-Shields Financial Corporation	New York	NY	1,306
Mariner Investment Group	Harrison	NY	3,494
Oaktree Loan Fund, L.P.	Los Angeles	CA	1,179
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	1,634
Piedmont Investment Advisors	Durham	NC	124
Pugh Capital Management, Inc.	Seattle	WA	156
Rogge Global Partners	London	UK	431
Sankaty Advisors LLC Bank Loans	Wilmington	DE	2,763
Sankaty Credit Opportunities IV, L.P.	Wilmington	DE	10,202
Stone Harbor Investment Partners, L.P.	New York	NY	2,624
TOP NPL (A), L.P.	Fort Worth	TX	16
TPG Opportunities Partners II (A), L.P.	Fort Worth	TX	765
Western Asset Management Company	Pasadena	CA	500
Total - Fixed Income			64,644
<u>Real Estate-Direct Ownership</u>			
Charter Oak Advisors, Inc.	King of Prussia	PA	897
GF Management, Inc.	Philadelphia	PA	131
Grosvenor Investment Management U.S., Inc.	Philadelphia	PA	20
L & B Realty Advisors, L.L.P.	Dallas	TX	56
Subtotal - Real Estate-Direct Ownership			1,104

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
Real Estate-Partnerships/Funds			
AG Core Plus Realty Fund III, L.P.	New York	NY	\$ 390
Almanac Realty Securities V, L.P.	New York	NY	681
Almanac Realty Securities VI, L.P.	New York	NY	533
Apollo European Real Estate Fund III, L.P.	Purchase	NY	1,434
Apollo Real Estate Finance Corporation	New York	NY	1,376
Apollo Value Enhancement Fund VII, L.P.	Purchase	NY	1,706
AREFIN Co-Invest Corporation	New York	NY	324
AvalonBay Value Added Fund, L.P.	Alexandria	VA	846
AvalonBay Value Added Fund II, L.P.	Alexandria	VA	885
Avenue Real Estate Fund Parallel, L.P.	New York	NY	1,250
Beacon Capital Strategic Partners V, L.P.	Boston	MA	1,160
Blackstone Real Estate Partners Europe III, L.P.	New York	NY	3,241
Blackstone Real Estate Partners V.TE.1, L.P.	New York	NY	2,073
Blackstone Real Estate Partners VI.TE.1, L.P.	New York	NY	4,377
Blackstone Real Estate Partners VII.TE.1, L.P.	New York	NY	1,899
BPG Co-Investment Partnership, L.P.	Philadelphia	PA	188
BPG Investment Partnership V, L.P.	Philadelphia	PA	176
BPG Investment Partnership VI, L.P.	Philadelphia	PA	319
Broadway Partners Parallel Fund P II, L.P.	New York	NY	612
Broadway Partners Parallel Fund P III, L.P.	New York	NY	375
Cabot Industrial Value Fund III, L.P.	Boston	MA	1,500
Carlyle Europe Real Estate Partners III-A, L.P.	Washington	DC	1,509
Carlyle Realty Partners III, L.P.	Washington	DC	161
Carlyle Realty Partners IV, L.P.	Washington	DC	1,102
Carlyle Realty Partners V, L.P.	Washington	DC	2,294
Carlyle Realty Partners VI, L.P.	Washington	DC	892
Cornerstone Patriot Fund, L.P.	Hartford	CT	339
CS Strategic Partners IV RE, L.P.	New York	NY	404
CSFB Strategic Partners II RE, L.P.	New York	NY	140
CSFB Strategic Partners III RE, L.P.	New York	NY	269
DLJ Real Estate Capital Partners II, L.P.	New York	NY	155
DLJ Real Estate Capital Partners III, L.P.	New York	NY	1,034
DLJ Real Estate Capital Partners IV, L.P.	New York	NY	2,212
DRA Growth and Income Fund VI, L.P.	New York	NY	1,752
DRA Growth and Income Fund VII, L.P.	New York	NY	97

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (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	\$ 963
Fillmore West Fund, L.P.	San Francisco	CA	710
Fortress Investment Fund IV, L.P.	New York	NY	762
Fortress Investment Fund V (Fund A), L.P.	New York	NY	1,288
Hines U.S. Office Value Added Fund, L.P.	Houston	TX	435
JPMCB Strategic Property Fund	New York	NY	196
LCCG High Yield CMBS Fund III, LLC	Irving	TX	125
LCCG RE Special Situations Mortgage Fund, LLC	Irving	TX	1,162
Legg Mason Real Estate Capital, Inc.	Los Angeles	CA	82
Legg Mason Real Estate Capital II, Inc.	Los Angeles	CA	1,256
LEM Real Estate Mezzanine Fund II, L.P.	Philadelphia	PA	693
LF Strategic Realty Investors II, LLC	New York	NY	448
Lubert-Adler Real Estate Fund II, L.P.	Philadelphia	PA	9
Lubert-Adler Real Estate Fund IV, L.P.	Philadelphia	PA	139
Lubert-Adler Real Estate Fund V, L.P.	Philadelphia	PA	350
Lubert-Adler Real Estate Fund VI, L.P.	Philadelphia	PA	1,961
Madison Marquette Retail Enhancement Fund, L.P.	Washington	DC	896
MGPA Asia Fund III, L.P.	Hamilton	Bermuda	1,008
MGPA Europe Fund III, L.P.	London	UK	1,294
Morgan Stanley Real Estate Fund IV Special Dom., L.P.	New York	NY	121
Morgan Stanley Real Estate Fund IV Special Int'l, L.P.	New York	NY	216
Morgan Stanley Real Estate Fund V Special Int'l, L.P.	New York	NY	766
Morgan Stanley Real Estate Fund V Special U.S., L.P.	New York	NY	207
Morgan Stanley Real Estate Fund VI Special Int'l, L.P.	New York	NY	848
Morgan Stanley Real Estate Fund VII Global, L.P.	New York	NY	856
O' Connor North American Property Partners, L.P.	New York	NY	1,057
O' Connor North American Property Partners II, L.P.	New York	NY	1,101
Paladin Realty Latin America Investors III, L.P.	Los Angeles	CA	1,612
Peabody Global Real Estate Partners, L.P.	New York	NY	26
Prime Property Fund, LLC	New York	NY	290
PRISA	Parsippany	NJ	692
ProLogis North American Industrial Fund, L.P.	Denver	CO	1,686
RCG Longview Debt Fund IV, L.P.	New York	NY	2,062
RCG Longview Equity Fund, L.P.	New York	NY	619
RREEF America REIT II, Inc.	Chicago	IL	2

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Real Estate-Partnerships/Funds (continued)</u>			
Senior Housing Partnership Fund IV, L.P.	Parsippany	NJ	\$ 148
Silverpeak Legacy Pension Partners II, L.P.	New York	NY	1,327
Silverpeak Legacy Pension Partners III, L.P.	New York	NY	1,203
Silverpeak/PSERS Real Estate, L.P.	New York	NY	259
Stockbridge Real Estate Fund, L.P.	New York	NY	2,267
Stockbridge Real Estate Fund II, L.P.	New York	NY	1,044
Stockbridge Real Estate Fund III, L.P.	New York	NY	2,083
Strategic Partners Value Enhancement Fund, L.P.	Los Angeles	CA	694
UBS (US) Trumbull Property Fund, L.P.	Hartford	CT	738
Whitehall Street Real Estate L.P. VII & VIII	New York	NY	10
William E. Simon & Sons Realty Partners, L.P.	Los Angeles	CA	42
Subtotal - Real Estate-Partnerships/Funds			73,458
<u>Real Estate-Farmland</u>			
Prudential Agricultural Group	Lisle	IL	196
Subtotal - Real Estate-Farmland			196
Total Real Estate			74,758
<u>Private Equity</u>			
ABS Capital Partners II, L.P.	Baltimore	MD	3
Actis Emerging Markets 3, L.P.	London	UK	3,795
Actis Global 4 L.P.	London	UK	582
Allegheny New Mountain Partners, L.P.	New York	NY	129
Apax Europe VII-B, L.P.	St. Peter Port	Guernsey	1,391
Baring Asia Private Equity Fund III, L.P.	Hong Kong	China	1,280
Baring Asia Private Equity Fund IV, L.P.	Hong Kong	China	6,000
Baring Asia Private Equity Fund V, L.P.	Hong Kong	China	4,000
Blue Point Capital Partners II (B), L.P.	Cleveland	OH	684
Bridgepoint Europe II-A, L.P.	London	UK	1,077
Bridgepoint Europe III-A, L.P.	London	UK	1,870
Bridgepoint Europe IV, L.P.	London	UK	4,396
Capital International Private Equity Fund V, L.P.	San Francisco	CA	1,626
Capital International Private Equity Fund VI, L.P.	San Francisco	CA	1,625
Catterton Growth Partners, L.P.	Greenwich	CT	1,202
Catterton Partners V, L.P.	Greenwich	CT	763

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
Private Equity (continued)			
Catterton Partners VI, L.P.	Greenwich	CT	\$ 1,948
Cinven Fund (Fourth), L.P. (The)	London	UK	2,592
Clarity Partners, L.P.	Beverly Hills	CA	1,211
Clarity Partners II, L.P.	Beverly Hills	CA	292
Coller International Partners VI, L.P.	London	UK	1,821
Credit Suisse First Boston Equity Partners, L.P.	New York	NY	1
Crestview Capital Partners, L.P.	New York	NY	1,759
Crestview Partners II (PF), L.P.	New York	NY	1,943
CS Strategic Partners IV, L.P.	New York	NY	727
CS Strategic Partners V, L.P.	New York	NY	1,125
CSFB Strategic Partners II, L.P.	New York	NY	601
CSFB Strategic Partners III-B, L.P.	New York	NY	500
CVC Capital Partners Asia III Pacific, L.P.	George Town	Cayman Islands	3,665
CVC European Equity Partners V (A), L.P.	George Town	Cayman Islands	3,713
Denham Commodity Partners Fund VI, L.P.	Boston	MA	764
DLJ Merchant Banking Partners III, L.P.	New York	NY	342
DLJ Strategic Partners, L.P.	New York	NY	500
Edgewater Growth Capital Partners, L.P.	Chicago	IL	124
Edgewater Private Equity Fund III, L.P.	Chicago	IL	144
Evergreen Pacific Partners, L.P.	Seattle	WA	163
Evergreen Pacific Partners II, L.P.	Seattle	WA	1,102
First Reserve Fund XI, L.P.	Greenwich	CT	1,254
First Reserve Fund XII, L.P.	Greenwich	CT	2,780
Graham Partners Investments (B), L.P.	Newtown Square	PA	112
Greenpark International Investors III, L.P.	London	UK	1,131
Greenwich Street Capital Partners II, L.P.	New York	NY	42
Headland Private Equity Fund 6, L.P.	George Town	Cayman Islands	3,331
Incline Equity Partners III, L.P.	Pittsburgh	PA	406
Irving Place Capital Partners III, L.P.	New York	NY	1,722
Jefferies Capital Partners IV, L.P.	New York	NY	803
KKR 2006 Fund, L.P.	New York	NY	1,595
KRG Capital Fund II (PA), L.P.	Denver	CO	30
Landmark Equity Partners XIII, L.P.	Simsbury	CT	1,000
Landmark Equity Partners XIV, L.P.	Simsbury	CT	1,500
Landmark Mezzanine Partners, L.P.	Simsbury	CT	9
Lindsay Goldberg & Bessemer, L.P.	New York	NY	496

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Private Equity (continued)</u>			
Milestone Partners III, L.P.	Rosemont	PA	\$ 656
Milestone Partners IV, L.P.	Rosemont	PA	116
Morgan Stanley Dean Witter Capital Partners IV, L.P.	New York	NY	87
Navis Asia Fund V, L.P.	Kuala Lumpur	Malaysia	1,587
New Mountain Partners III, L.P.	New York	NY	3,417
New York Life Capital Partners, L.P.	New York	NY	91
New York Life Capital Partners II, L.P.	New York	NY	321
New York Life Capital Partners III, L.P.	New York	NY	994
New York Life Capital Partners IV, L.P.	New York	NY	1,000
NGP Natural Resources X, L.P.	Irving	TX	684
Nordic Capital VII Beta, L.P.	St. Helier	Guernsey	2,947
Orchid Asia V, L.P.	Grand Cayman	Cayman Islands	790
PAI Europe III, L.P.	Paris	France	436
PAI Europe IV, L.P.	Paris	France	968
PAI Europe V, L.P.	St. Peter Port	Guernsey	1,397
Palladium Equity Partners II-A, LLC	New York	NY	203
Partners Group Secondary 2008, L.P.	St. Peter Port	Guernsey	2,456
Partners Group Secondary 2011, L.P.	St. Peter Port	Guernsey	1,063
Permira IV, L.P.	London	UK	1,983
PNC Equity Partners, L.P.	Pittsburgh	PA	30
PNC Equity Partners II, L.P.	Pittsburgh	PA	264
Providence Equity Partners VI, L.P.	Providence	RI	1,723
Quadrangle Capital Partners, L.P.	New York	NY	453
Quadrangle Capital Partners II, L.P.	New York	NY	1,844
Sterling Capital Partners, L.P.	Northbrook	IL	497
TPG Partners V, L.P.	Fort Worth	TX	725
TPG Partners VI, L.P.	Fort Worth	TX	3,062
Trilantic Capital Partners IV, L.P.	New York	NY	1,077
US Equity Partners II, L.P.	New York	NY	286
Subtotal - Private Equity			102,828

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Private Debt</u>			
Avenue Asia Special Situations Fund III, L.P.	New York	NY	\$ 55
Avenue Asia Special Situations Fund IV, L.P.	New York	NY	2,005
Avenue Europe Special Situations Fund, L.P.	New York	NY	1,622
Avenue Special Situations Fund VI, L.P.	New York	NY	757
Cerberus Institutional Partners, L.P. (Series Two)	New York	NY	274
Cerberus Institutional Partners, L.P. (Series Three)	New York	NY	544
Cerberus Institutional Partners, L.P. (Series Four)	New York	NY	5,049
Cerberus Institutional Partners V, L.P.	New York	NY	697
Gleacher Mezzanine Fund II, L.P.	New York	NY	1,215
Gold Hill Venture Lending 03-A, L.P.	Santa Clara	CA	107
GSC Partners CDO Investors IV, L.P.	New York	NY	988
GSC Recovery III, L.P.	New York	NY	839
NYLIM Mezzanine Partners Parallel Fund, L.P.	New York	NY	155
NYLIM Mezzanine Partners Parallel Fund II, L.P.	New York	NY	1,040
OCM Opportunities Fund VII, L.P.	Los Angeles	CA	855
OCM Opportunities Fund VII-B, L.P.	Los Angeles	CA	2,631
Versa Capital Fund, L.P.	Philadelphia	PA	777
Versa Capital Fund II, L.P.	Philadelphia	PA	822
Windjammer Senior Equity Fund III, L.P.	Newport Beach	CA	219
Windjammer Senior Equity Fund IV, L.P.	Newport Beach	CA	543
Subtotal - Private Debt			21,194
<u>Venture Capital</u>			
Aisling Capital II, L.P.	New York	NY	546
Aisling Capital III, L.P.	New York	NY	901
Co-Investment 2000 Fund, L.P. (The)	Radnor	PA	96
Co-Investment Fund II, L.P. (The)	Radnor	PA	1,206
Cross Atlantic Technology Fund, L.P.	Radnor	PA	19
Cross Atlantic Technology Fund II, L.P.	Radnor	PA	69
CS Strategic Partners IV VC, L.P.	New York	NY	357
CSFB Strategic Partners III-VC, L.P.	New York	NY	319
Franklin Capital Associates III, L.P.	Franklin	TN	109
Jefferson Partners Fund IV, L.P.	Toronto	Canada	402
KBL Partnership, L.P.	New York	NY	161
LLR Equity Partners, L.P.	Philadelphia	PA	152
LLR Equity Partners II, L.P.	Philadelphia	PA	756

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Venture Capital (continued)</u>			
LLR Equity Partners III, L.P.	Philadelphia	PA	\$ 3,281
Novitas Capital, L.P.	Wayne	PA	25
Novitas Capital II, L.P.	Wayne	PA	63
Perseus-Soros BioPharmaceutical Fund, L.P.	New York	NY	336
Psilos Group Partners III, L.P.	New York	NY	890
Quaker BioVentures, L.P.	Philadelphia	PA	1,384
Quaker BioVentures II, L.P.	Philadelphia	PA	1,982
SCP Private Equity Partners II, L.P.	Wayne	PA	494
Starvest Partners, L.P.	New York	NY	165
Starvest Partners II, L.P.	New York	NY	1,000
Sterling Venture Partners, L.P.	Baltimore	MD	243
Tenaya Capital IV-P, L.P.	New York	NY	623
Tenaya Capital V-P, LP	New York	NY	<u>1,313</u>
Subtotal - Venture Capital			16,892
Total Alternative Investments			140,914
<u>Absolute Return</u>			
Aeolus Capital Management Ltd.	Hamilton	Bermuda	223
AQR Capital Management, LLC	Greenwich	CT	12,187
Black River Asset Management, LLC	Hopkins	MN	4,435
BlackRock Financial Management, Inc.	San Francisco	CA	10,021
BlueCrest Capital Management LLP	New York	NY	395
Boston Company Asset Management, LLC	Boston	MA	2,190
Brevan Howard Fund, Ltd.	Geneva	Switzerland	15,038
Bridgewater Associates, Inc.	Westport	CT	21,649
Brigade Capital Management, LLC	New York	NY	11,627
Capula Global Relative Value Fund	London	UK	6,146
Capula Special Opportunities Fund	London	UK	1,716
Capula Tail Risk Fund	London	UK	14,211
Caspian Select Credit International Fund	New York	NY	1,432
Denali Advisors, LLC	San Diego	CA	299
FX Concepts, Inc.	New York	NY	4,000
Lazard Asset Management	New York	NY	146
Nephila Capital Ltd.	Hamilton	Bermuda	3,060

Section 3 - Investment Information

Investment Managers' Fees Fiscal Year Ended June 30, 2012 (Dollar Amounts in Thousands) (continued)

<u>Manager</u>	<u>Location</u>		<u>Amount</u>
<u>Absolute Return (continued)</u>			
Pacific Investment Management Company (PIMCO)	Newport Beach	CA	\$ 21,865
Pareto Investment Management, Ltd.	London	UK	3,200
Robeco Investment Management	New York	NY	<u>5,152</u>
Total - Absolute Return			138,992
<u>Commodities</u>			
Credit Suisse Asset Management, LLC	New York	NY	601
Deutsche Asset Management Americas, Inc.	New York	NY	3,332
Gresham Investment Management LLC	New York	NY	679
Neuberger Berman Alternative Fund Mgmt., LLC	New York	NY	5,654
Schroder Investment Management North America, Inc.	New York	NY	3,710
Wellington Management Company, LLP	Boston	MA	<u>5,541</u>
Total - Commodities			19,517
<u>Master Limited Partnerships</u>			
Harvest Fund Advisors LLC	Wayne	PA	810
<u>Risk Parity</u>			
Bridgewater All Weather Fund	Westport	CT	2,466
Total External Management			467,195
Total Internal Management			<u>10,040</u> *
Total Investment Management			\$ <u>477,235</u>

*Internal Management fees include salaries and fringe benefits of \$4,844 and operating expenses of \$5,196.



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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. A majority of the U.S. equity trades for the Fund are executed by PSERS' internal trading desk. The internal U.S. equity managers as well as a number of the external U.S. equity managers utilize the trading desk to execute trades. The objectives of PSERS' internal trading desk include:

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

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

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

The order flow generated by the trading desk provides PSERS with access to initial public offerings (IPOs). This can be a source of incremental returns since most IPOs generally trade higher after being issued. This IPO access generated \$984,016 in profits for PSERS during the calendar year ending December 31, 2012.

PSERS' trading desk executed approximately 17,000 U.S. and Non-U.S. orders for the purchase and sale of stock, currency, futures, and options during the fiscal year ended June 30, 2012. The total dollar amount of U.S. and Non-U.S. orders traded during the fiscal year ended June 30, 2012, was approximately \$21 billion.



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**PSERS' Public Market
Emerging Investment Manager
(PMEIM) Program
(as of December 31, 2012)**

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

Policy

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

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

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

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

- Firms must be registered under the Investment Advisors Act of 1940 or be exempt therefrom (and will maintain such registration or exemption);
- Firms must provide transparency of positions and transactions;
- Firms must provide at least monthly 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 have a hurdle rate and they must exceed this rate to 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, 2012: \$479.8 million or 1.1% of the total market value of the Fund.

Number of External Investment Managers: PSERS had contracts with 10 external investment managers in the PMEIM Program.

Section 3 - Investment Information

PSERS' PMEIM Investment Managers (Market Value in Millions) (unaudited, as of December 31, 2012)

<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 Large Cap</u>					
Hellman, Jordan Management Co., Inc.				\$ 37.8	\$ 37.8
<u>U.S. Equity Mid and Small Cap</u>					
A.H. Lisanti Capital Growth, LLC		\$ 45.5			45.5
Conestoga Capital Advisors, Inc.	\$ 48.6				48.6
Opus Capital Management, Inc.			\$ 48.1		48.1
<u>Non-U.S. Equity Large Cap</u>					
John Hsu Capital Group, Inc.			56.9		56.9
Shah Capital Management, Inc.			34.6		34.6
<u>Non-U.S. Equity Emerging Markets</u>					
Glovista Investments			30.9		30.9
<u>U.S. Core Plus Fixed Income</u>					
Piedmont Investment Advisors			52.3		52.3
Pugh Capital Management, Inc.			90.0		90.0
<u>Absolute Return</u>					
Denali Advisors, LLC			35.1		35.1
Total PSERS' PMEIM Portfolios	<u>\$ 48.6</u>	<u>\$ 45.5</u>	<u>\$ 347.9</u>	<u>\$ 37.8</u>	<u>\$ 479.8</u>
Percentage by category	<u>10.1%</u>	<u>9.5%</u>	<u>72.5%</u>	<u>7.9%</u>	