Investing in Your Future

Income from investments is the major source of revenue to PSERS, accounting for 71% of total revenues over the twenty-year period from FY 1994 to FY 2013.

Investment Section

COMMONWEALTH OF PENNSYLVANIA
PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

James H. Grossman Jr., CPA, CFA
Acting Chief Investment Officer

October 29, 2013

Dear Members of The PSERS Board of Trustees:

It is a privilege to present to you the Investment Section of the Comprehensive Annual Financial Report for the year ended June 30, 2013.

Authority and Fiduciary Standard

The Board has the responsibility to invest funds of the System in accordance with guidelines and limitations set forth in the Code and other applicable state law. As fiduciaries, the members of the Board and Staff must act solely in the interests of the members of the System and for the exclusive benefit of the System's members. In performance of their duties, the members of the Board and Staff delegated with investment authority shall be held to the Prudent Investor Standard.

The Prudent Investor Standard, as articulated in the Code, means "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 requires a trustee to act prudently and with caution, discretion, loyalty, and care but does not restrict the assets in which the Board can invest. Under the Prudent Investor Standard, which recognizes modern portfolio theory, the Board's investment and management decisions with respect to individual assets shall be considered in the context of the portfolio as a whole and as part of an overall investment strategy, and not in isolation. No specific investment or course of action, taken alone, shall be considered inherently prudent or imprudent. This Standard recognizes the trade-off between risk and return.

Policies and Objectives

The Board is responsible for the formulation of investment policies for the System. The overall investment objectives of the System are as follows:

Return Objectives – the System has a return objective of meeting or exceeding the targeted actuarial rate of return of 7.5% over the long-term. In addition, the Board has the following broad objectives:

1. The assets of the System shall be invested to maximize the returns for the level of risk taken; and,
2. The System shall strive to achieve a return that exceeds the Policy Index (the Policy Index is a custom benchmark, based on the Board-established asset allocation structure that seeks to generate a return that meets the actuarial rate of return assumption).

Risk Objectives

1. 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. Failure to do so could impair the System's ability to achieve its funding and long-term investment goals and objectives; and,
2. 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).

To achieve these objectives, the Board meets during the first quarter of the calendar year to review the overall asset allocation plan and investment policies for the System. Implementation of investment policies is accomplished through the use of external investment management firms who act as agents for the System and through the use of internal investment managers. The Board also retains various investment consultants to assist with the formulation and implementation of investment policies.

Operations

The Board, via its Finance Committee, provides oversight of investment activities. The Finance Committee generally conducts seven meetings per year and may meet more frequently as needed. Investment Office staff, as well as external investment advisors, Investment Accounting staff, and Internal Audit staff, assist the Board in achieving investment objectives and monitoring compliance with investment policies. For the fiscal year ended June 30, 2013, Wilshire Associates Incorporated (Wilshire) served as the general investment consultant to assist the Board and Staff in formalizing investment objectives, establishing an asset allocation plan, conducting investment advisor searches, reviewing performance, and commenting on compliance with investment policies. In addition, the Board utilized Aksia, LLC as an absolute return consultant, Courtland Partners, Ltd. as a real estate consultant, and Portfolio Advisors, LLC as an alternative investment consultant. Alternative investments generally consist of investments in private debt, private equity, and venture capital limited partnerships. Investment Office staff implement the investment decisions within the guidelines established in the Investment Policy Statement, Objectives and Guidelines regarding asset allocation, manager selection, security selection, and other objectives directed by the Board.

The Board employs both external investment management firms and internal investment managers to manage the investment portfolio of the System. At fiscal year-end, 54 external public market investment management firms were managing $17.6 billion in assets of the System, $12.1 billion in assets were managed by the System’s internal investment managers, and the remaining $19.8 billion in assets were managed by numerous emerging, alternative investment, and real estate investment managers. The performance of each external investment management firm and each internal manager is monitored quarterly against a pre-established benchmark as well as the performance of the manager’s peer group.

Asset Allocation

The Board reviews the long-term asset allocation targets of the System during the first quarter of each calendar year. The Board will consult with its actuary, consultants, Investment Office staff, and other sources of information it deems appropriate in formulating the asset allocation plan. The level of risk assumed by the System is largely determined by the Board’s strategic asset allocation plan. The Board, in determining its long-term asset allocation, takes the following factors into consideration:

- The System’s investment time horizon;
- The demographics of the plan participants and beneficiaries;
- The cash flow requirements of the System;
- The actuarial assumptions approved by the Board;
- The funded status of the System;
- The Board’s willingness and ability to take risk; and,
- The employers’ (Commonwealth and school districts) financial strength.

In establishing the asset allocation for the System, the Board considers capital market expectations for expected return, volatility, and asset class correlations as prepared by its general investment consultant. The current long-term, top-down asset allocation targets of the Board are discussed in the following paragraphs.

The long-term target allocation as of June 30, 2013 included an equity target allocation of 17.5% consisting of publicly traded stocks. Specific targets have been established for U.S. equity exposure (8.5%) and non-U.S. equity exposure (9.0%). Within the U.S. equity target, the portfolios are diversified between large, small, and micro capitalization investment mandates, and growth and value investment exposures. The non-U.S. equity exposure includes both developed and emerging markets portfolios as well as large and small capitalization investment managers.

The fixed income target allocation of 23.0% consisted of U.S. core fixed income exposure (5.0%), leveraged Treasury Inflation-Protected Securities exposure (6.0%), high yield exposure (6.0%), emerging markets fixed income exposure

(2.0%), non-U.S. developed market fixed income exposure (1.0%), and cash (3.0%). The Board, Staff, and Wilshire deemed it prudent to have an allocation to cash given the known and potential cash flow requirements of the System. Within these categories, all sectors of the bond market are represented. The high yield exposure is a mix of publicly traded high yield securities and private debt.

Alternative investments had a target allocation of 22.0%. The primary vehicle used to invest funds in this asset class is the limited partnership. The partnerships are established by individual management groups that have been selected by the System for the purpose of investing in and managing private equity, venture capital, and unlisted subordinated debt positions on behalf of PSERS and other limited partners.

The real estate target allocation of 13.5% consisted primarily of limited partnerships. The types of partnerships the System invests in include core, value-added, and opportunistic real estate limited partnerships.

The absolute return target allocation of 10.0% consisted primarily of investment managers retained by the System to generate positive returns over time that are independent of how the equity, fixed income, and commodity markets perform. Strategies implemented to achieve this target include, but are not limited to, global macro, commodity trading advisors (CTAs), currency, and relative value strategies such as insurance-linked securities and long/short credit. The absolute return program is included in the allocation to generate returns equal to or greater than the targeted actuarial rate of return of 7.5% with low correlation to the public markets to diversify the System's total portfolio risk.

The commodities target allocation of 6.0% consisted primarily of commodity futures and commodity and commodity-related publicly traded stocks. Commodities are included in the allocation to diversify the System's total portfolio risk.

The risk parity allocation of 5.0% consisted primarily of global equities, global nominal bonds, global inflation-linked securities, and commodities in an allocation that balances risk across these assets with structurally offsetting biases to the primary drivers of asset class returns, growth and inflation. Risk parity provides diversification and liquidity to the System. The risk parity allocation is managed to a targeted risk level of 12.0%.

The master limited partnership (MLP) allocation of 3.0% consisted of publicly traded partnerships that own and operate assets such as natural gas, crude oil, refined products and pipelines, and storage facilities that are a vital part of the U.S. energy infrastructure. MLPs are included in the allocation due to their attractive current yields, strong growth potential, and ability to diversify the System's total portfolio risk.

Liquidity and Asset Allocation

The System's risk profile is, in part, driven by its liquidity needs in any given year. During each of the past four fiscal years, the System has paid out over $3.5 billion more in benefits than it received in member and employer contributions. This funding has amounted to more than 7.0% of beginning net assets each year and represents the amount of investment return needed each year to make up the shortfall. The large annual cash flow shortfall will continue and necessitates a larger liquidity position and lower risk profile than a retirement system that has smaller liquidity requirements. Given the legislated reduction in the employer contribution rate, which is expected to continue for the next few years, the System anticipates only a modest improvement until the employer contribution rate rises to the actuarially required level.

Given the significant cash outflows projected, the Board has prudently reduced the risk profile of the System. It has done so by decreasing its dependence on the equity markets for returns and balancing the risk exposures into less correlated asset classes such as inflation-linked bonds, commodities, and absolute return. The goal of such an allocation is to generate the desired return profile with less volatility. While such an allocation will not provide for a large upside in returns, it is expected to minimize downside risks to the System's assets in the event of a large equity drawdown as experienced in 2008.

Investment Results

As of June 30, 2013, the fair value of the investment portfolio was $49.5 billion, an increase of $1.0 billion from last year's value. This increase was primarily due to net investment income ($4.1 billion) and member and employer contributions ($2.5 billion) exceeding the deductions for benefits and administrative expenses ($6.4 billion) plus net changes in other investment assets and liabilities ($0.8 billion). The investment portfolio, as invested, was composed of 19.4% common and preferred stocks (equity), 23.7% fixed income investments, 21.8% alternative investments, 14.1% real estate, 11.7%

absolute return portfolios, 3.6% commodities, 2.9% master limited partnership, and 2.8% risk parity at June 30, 2013. The table immediately following this letter illustrates a more detailed description of the investment portfolio's asset classes in dollars and as a percentage of the total investment portfolio.

This past year was characterized by a strong rally in developed market equity markets, specifically U.S. equities. The Federal Reserve implemented another asset purchase program during the year (QE3) in which they committed to purchasing $40 billion a month of mortgage-backed securities which represents approximately 50% of the gross mortgage issuance and over 100% of the net issuance. In December, Operation Twist (a plan to sell short-term notes and purchase long-term Treasuries to reduce interest rates) came to an end and was replaced with outright purchases of longer dated U.S. Treasuries in the amount of $45 billion a month starting in 2013. The Fed's objectives were to lower the cost of borrowing money so that the economy, housing, and employment conditions could continue to improve. This Fed program partially offset the effects of U.S. fiscal tightening through sequestration (government spending cuts of about $40 billion), the payroll tax increase, the expiration of some of the Bush-era tax cuts, and the Affordable Care Act tax increase during 2013 which acted as a drag on U.S. growth of about 1.0 – 1.5%. Sequestration was part of a last minute deal between the White House and Congress to avoid more severe automatic tax hikes and fiscal spending cuts. The European Central Bank remained accommodative throughout the fiscal year. Japan had a dramatic shift in fiscal and monetary policy during the fiscal year as they elected a new Prime Minister, Shinzo Abe. The Bank of Japan introduced a 2% inflation target, announced open-ended purchases of assets amounting to 13 trillion yen per month, and fiscal stimulation amounting to over 1% of Gross Domestic Product (GDP) for 2013. These loose monetary conditions led to a strong "risk-on" environment for the first three quarters of the fiscal year when the Morgan Stanley (MSCI) All-Country World Investable Market Index with USA gross (ACW IMI Index) was up 17.91%. During Fed Chairman Ben Bernanke's congressional testimony in May 2013, he discussed reducing ("tapering") the Fed's asset purchase programs which led to a significant re-pricing of assets in the global markets. Global equities were adversely impacted by the threat of tapering as the MSCI ACW IMI Index returned -0.41% during the second quarter of 2013. Especially impacted were the emerging markets as the MSCI Emerging Market Index was down 8.08% during the second quarter of 2013. Emerging markets have been significantly impacted by a slowing Chinese economy as well as a reduction of capital flows from developed markets which have been fueled by easy money policies. As monetary policies are being priced to tighten by the market, capital flows to emerging markets are becoming squeezed leading to currency weakness as well as weakening equity and bond markets.

U.S. economic activity as represented by the GDP was fairly tepid during the past fiscal year. The U.S. real GDP increased by 2.8%, 0.1%, 1.1%, and 2.5% in the third quarter 2012, fourth quarter 2012, first quarter 2013, and second quarter 2013, respectively. The official unemployment rate (otherwise known as the U3 unemployment rate) fell during the fiscal year from 8.2% as of June 2012 to 7.6% as of June 2013, but four years into an economic recovery the rate still remains high relative to past recoveries. The more encompassing U6 unemployment rate, which measures not only people without work seeking full-time employment (U3 unemployment rate) but also counts "marginally attached workers and those working part-time for economic reasons" remains elevated at 14.3% as of fiscal year end, down from 14.9% at the end of the last fiscal year but significantly above the low point over the past 10 years of 7.9% in December 2006. Housing during the past fiscal year has been strong, up 12.07% as measured by the S&P Case-Shiller 20-City Home Price Index.

With the continued backing of accommodative monetary policies during the past fiscal year, there was, on net, a strong increase in risk assets worldwide which led to positive returns in most asset classes, especially equities. The MSCI U.S. Investable Market Index, a U.S. equity index, returned 20.56% during the fiscal year. Returns for the first and third quarters of the fiscal year were exceptionally strong, posting a 6.10% and 10.80% return, respectively. Returns for the second and fourth quarters of the fiscal year were more modest, posting -0.03% and 2.58%, respectively. Foreign markets, in U.S. dollar terms, were weaker than the U.S. but strong nonetheless as the MSCI All-Country World (ACW) ex. U.S. Investable Market Index, an international equity index, returned 13.90% for the fiscal year, driven primarily by multiple expansion, accommodative monetary policies, and more stable economic conditions. The Thomson ONE median return, a benchmark for alternative investments that represents the median performance of the venture capital/private equity industry listed in the Investment Benchmark Reports on Venture Capital and Buy-outs produced by Thomson Reuters, returned 5.66% for the fiscal year (reported on a one-quarter lag) as these investments were written up to prices comparable to gains in the public equity markets.

Commodity markets performed very poorly in this environment as slowing Chinese growth and falling inflation expectations overshadowed loose monetary policy. For the fiscal year, the Dow Jones UBS Commodity Index, an index composed of futures contracts on 19 physical commodities weighted to account for economic significance and market liquidity, was down 8.00%.

Fixed income markets were generally negative in this environment as interest rates started to rise in anticipation of U.S. monetary conditions being tightened through tapering of asset purchases, possibly later in 2013. For the fiscal year, the Barclays U.S. Aggregate Index, a U.S. fixed income index, was down 0.69% as the yield curve rose from the June 2012 level. The Barclays Global Aggregate GDP Weighted Developed Market ex. U.S. Index (Unhedged), a non-U.S. fixed income index, was down 0.53%. The Barclays High Yield Index returned 9.49% during the past fiscal year due to a tightening of credit spreads as investors continued to bid up credit in search of yield. The Barclays U.S. TIPS Index, an index of U.S. treasury inflation protection securities, driven by rising real yields, had a negative return of 4.78% for the fiscal year.

To benchmark real estate performance, the System uses the National Council of Real Estate Investment Fiduciaries/ Townsend Fund (NTF) Index, a quarterly time series of real estate partnership portfolios used to simulate the universe of core, value-added, and opportunistic real estate partnerships. The indexes are designed to reflect the performance of funds available to U.S. institutional investors, including private real estate/equity-oriented investments, without regard to geographic location. The NTF Index returned 9.74% during the past fiscal year. Index returns are reported on a one-quarter lag due to the time taken to acquire this information from private market sources, so this return is for the twelve months ended March 31, 2013. Investment performance in the private real estate markets has continued rebounding from significant declines sustained during the credit crisis in 2008.

The absolute return program had a below target fiscal year generating a total return of 4.01%, 349 basis points under its target return of 7.50%. The weak performance was driven primarily by the commodity trading advisors (CTAs) who were whipsawed by interest rate markets during the year. The absolute return program is structured to have low beta to the equity, fixed income, and commodity markets and to provide additional diversification from the remainder of the asset allocation, objectives that were achieved as a program.

The risk parity program had a negative return of 4.26%, trailing the policy index for this program by 158 basis points. The risk parity managers take a balanced risk approach to portfolio construction, leveraging low risk assets such as nominal and inflation-linked bonds to an equivalent risk level as equities and commodities and then balancing the risks in constructing their portfolios. Risk parity had negative performance given the very weak performance of global nominal and inflation-linked bonds for the fiscal year.

The master limited partnership market performed extremely well during the fiscal year as the companies in this market continued to exhibit strong growth in distributions and high yields which compressed during the year. For the fiscal year, the Standard & Poor's MLP Index was up 29.49%.

For the one-year period ended June 30, 2013, the System generated a total net of fee return of 7.96%. This return exceeded the total fund Policy Index return of 5.68% by 228 basis points. Annualized total net of fee returns for the three-, five-, and ten-year periods ended June 30, 2013 were 10.36%, 2.50%, and 7.72%, respectively. The three-, five- and ten-year returns ended June 30, 2013 exceeded the total fund Policy Index returns by 223, 51, and 139 basis points, respectively.

Wilshire calculates the total investment return of the System as well as the performance of each external investment management firm and each internal investment manager retained by the Board to invest the System's assets. Performance is calculated using a time-weighted return methodology.

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

	Annualized Total Returns (%) Net of Fees Ended June 30, 2013			
	1 Year	**3 Years**	**5 Years**	**10 Years**
PSERS Total Portfolio	**7.96**	**10.36**	**2.50**	**7.72**
Total Fund Policy Index	5.68	8.13	1.99	6.33
Median Public Defined Benefit Plan (DBP) Fund Universe (Wilshire Database)	11.52	11.41	5.03	7.38
PSERS U.S. Equity Portfolios	**21.89**	**18.78**	**7.01**	**7.72**
U.S. Equity Policy Index (1)	20.56	18.03	6.84	7.78
Median Public DBP Fund Universe - U.S. Equities (Wilshire Database)	21.74	18.41	7.09	7.88
PSERS Non-U.S. Equity Portfolios	**16.08**	**9.56**	**2.42**	**10.43**
MSCI All-Country World ex. U.S. Investable Market Index (2)	13.90	8.13	0.57	9.18
Median Public DBP Fund Universe - Non-U.S. Equities (Wilshire Database)	14.94	9.26	-0.70	8.28
PSERS Fixed Income Portfolios	**2.62**	**7.87**	**8.47**	**6.83**
Fixed Income Policy Index (3)	-0.26	5.99	7.49	6.00
Median Public DBP Fund Universe - U.S. Bonds (Wilshire Database)	1.83	5.53	6.86	5.62
Median Public DBP Fund Universe – Global Bonds (Wilshire Database)	2.00	5.65	6.54	5.82
PSERS Commodity Portfolios	**-11.35**	**0.41**	**-10.05**	**N/A**
Dow Jones-UBS Commodity Index	-8.00	-0.25	-11.61	N/A
PSERS Absolute Return Portfolios	**4.01**	**6.54**	**N/A**	**N/A**
Benchmark - 7.5% Annualized Return (4)	7.50	7.67	N/A	N/A
PSERS Risk Parity Portfolios	**-4.26**	**N/A**	**N/A**	**N/A**
Risk Parity Policy Index (5)	-2.68	N/A	N/A	N/A
PSERS Master Limited Partnership (MLP) Portfolios	**37.08**	**27.84**	**N/A**	**N/A**
Standard & Poor's MLP Index	29.49	21.38	N/A	N/A
PSERS Real Estate (6)	**8.53**	**12.09**	**-6.36**	**6.66**
Blended Real Estate Index (7)	9.74	12.37	2.72	8.75
Median Public DBP Fund Universe - Real Estate (Wilshire Database)	8.81	13.25	0.74	7.94
PSERS Alternative Investments (6)	**10.34**	**12.71**	**4.98**	**14.32**
Thomson ONE Median Return, Vintage Year Weighted	5.66	7.69	3.22	6.11
Median Public DBP Fund Universe - Private Equity (Wilshire Database)	10.69	13.60	6.32	14.30

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 (17.2%), Barclays Capital Global Aggregate GDP-weighted Developed Market ex-U.S. (Unhedged) Index (3.4%), Barclays Capital EM Local Currency - Government - MV Weighted (Unhedged) - 10% Country Cap Index (6.9%), Barclays Capital U.S. Treasury Long Index (10.4%), Barclays Capital U.S. TIPS Index (Series –L) (41.4%), and Barclays Capital U.S. High Yield Index (20.7%) 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. 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.
5. 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%).
6. Returns reported on a one-quarter lag, except for publicly traded real estate security investments.
7. 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.

The System also participates in a securities lending program administered by The Bank of New York Mellon Corporation. This program is designed to provide incremental income to the System by lending securities in the System's portfolio to securities dealers in exchange for cash collateral, which can be reinvested to generate income, or non-cash collateral plus a cash fee. This program generated $8.2 million in net gains during the year.

Accomplishments

The System continued its efforts to diversify its market exposures as the board approved allocations to risk parity, master limited partnerships, and U.S. long treasuries were implemented in 2013. The System has significantly reduced its risk profile since 2009 while maintaining a return profile which should allow it meet its actuarial return assumptions on a prospective basis.

Acknowledgement

I would like to acknowledge the dedicated service, leadership, and ingenuity of Alan Van Noord, the System's Chief Investment Officer since July 2002, who retired on June 30, 2013 after 11 years of service to the System. Alan successfully led the Fund through some of the most turbulent times in the financial markets since the Great Depression. During Alan's tenure, the System was named Large Public Plan of the Year by Institutional Investor in 2011. Alan received the Richard Stoddard Award from the National Association of State Investment Officers in 2008 for his service to the public fund industry. He twice received the Excellence in Financial Management Award from Institutional Investor (2006 and 2007). We wish Alan well in his retirement and all of his future endeavors and may the wind always fill his sails.

Summary

The System had a good fiscal year ended June 30, 2013 with returns of 7.96% which was in excess of the Policy Index return of 5.68%. This excess return amounted to an incremental generation of income of approximately $1.1 billion. Over the past three- and ten-year periods ended June 30, 2013, the System returned 10.36% and 7.72%, both in excess of the System's targeted actuarial rate of return of 7.50%. The equity markets had a strong "risk-on" year while fixed income markets and commodity markets had weak years. Even with a more risk balanced allocation, the System was still able to generate strong absolute returns. As the U.S. economy starts to normalize, the Fed will begin to taper its purchases of assets removing some of the monetary accommodation from the markets. It remains to be seen how asset prices will respond to these changes. The U.S. faces debt ceiling and budgetary debates later this year, Europe still has excess debt, austerity, and unemployment issues, China continues to slow, and the emerging markets are facing a potentially vicious cycle of capital outflows. We believe the System is well positioned for this uncertain environment due to its risk balanced allocation and asset class diversification.

James H. Grossman Jr., CPA, CFA
Acting Chief Investment Officer

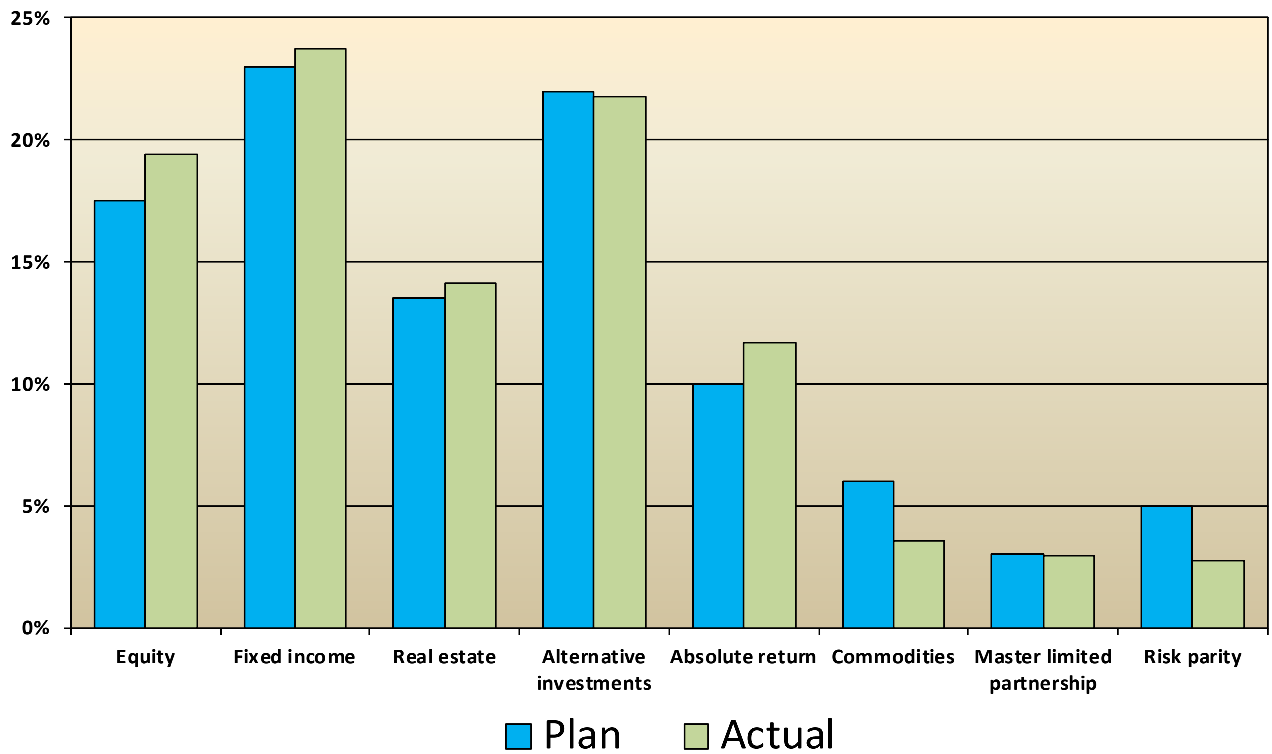
Portfolio Summary Statistics
Asset Allocation
As of June 30, 2013
(Dollar Amounts in Thousands)

Pension investments	Fair Value	% Fair Value
Common and preferred stock (Equity):		
Large cap stocks	$ 3,083,554	6.4
Mid and small cap stocks	679,202	1.4
Emerging markets stocks	1,198,783	2.4
Total Non-U.S. equity	**4,961,539**	**10.2**
Large cap stocks	3,240,053	6.6
Mid and small cap stocks	1,202,955	2.4
Microcap stocks	95,247	0.2
Total U.S. equity	**4,538,255**	**9.2**
Total Common and preferred stock - Asset Allocation Basis	**9,499,794**	**19.4**
Fixed income:		
Investment grade fixed income	3,664,187	7.4
High yield fixed income	3,039,974	6.2
Total U.S. Fixed income	**6,704,161**	**13.6**
Non-U.S. developed markets fixed income	2,246,091	4.6
Emerging markets fixed income	855,050	1.7
Total Non-U.S. Fixed income	**3,101,141**	**6.3**
Cash and cash equivalents	**1,869,574**	**3.8**
Total Fixed income - Asset Allocation Basis	**11,674,876**	**23.7**
Real estate	**7,040,252**	**14.1**
Alternative investments:		
Private equity	8,398,926	17.1
Private debt	1,403,198	2.9
Venture capital	843,302	1.8
Total Alternative investments - Asset Allocation Basis	**10,645,426**	**21.8**
Absolute return	**5,736,847**	**11.7**
Commodities	**1,763,717**	**3.6**
Master limited partnership	**1,447,434**	**2.9**
Risk parity	**1,352,220**	**2.8**
Total Pension investments - Asset Allocation Basis	**49,160,566**	**100.0**
Net Asset Allocation Adjustment*	135,574	
Pension investments per Statement of Plan Net Position	**49,296,140**	
Postemployment Healthcare investments	**$ 238,267**	**100.0**

* Includes reclassifications of certain investments between asset classes and investment receivables/payables to adjust the Statement of Plan Net Position classification to the basis used to measure Asset Allocation. See the table and graph which follow.

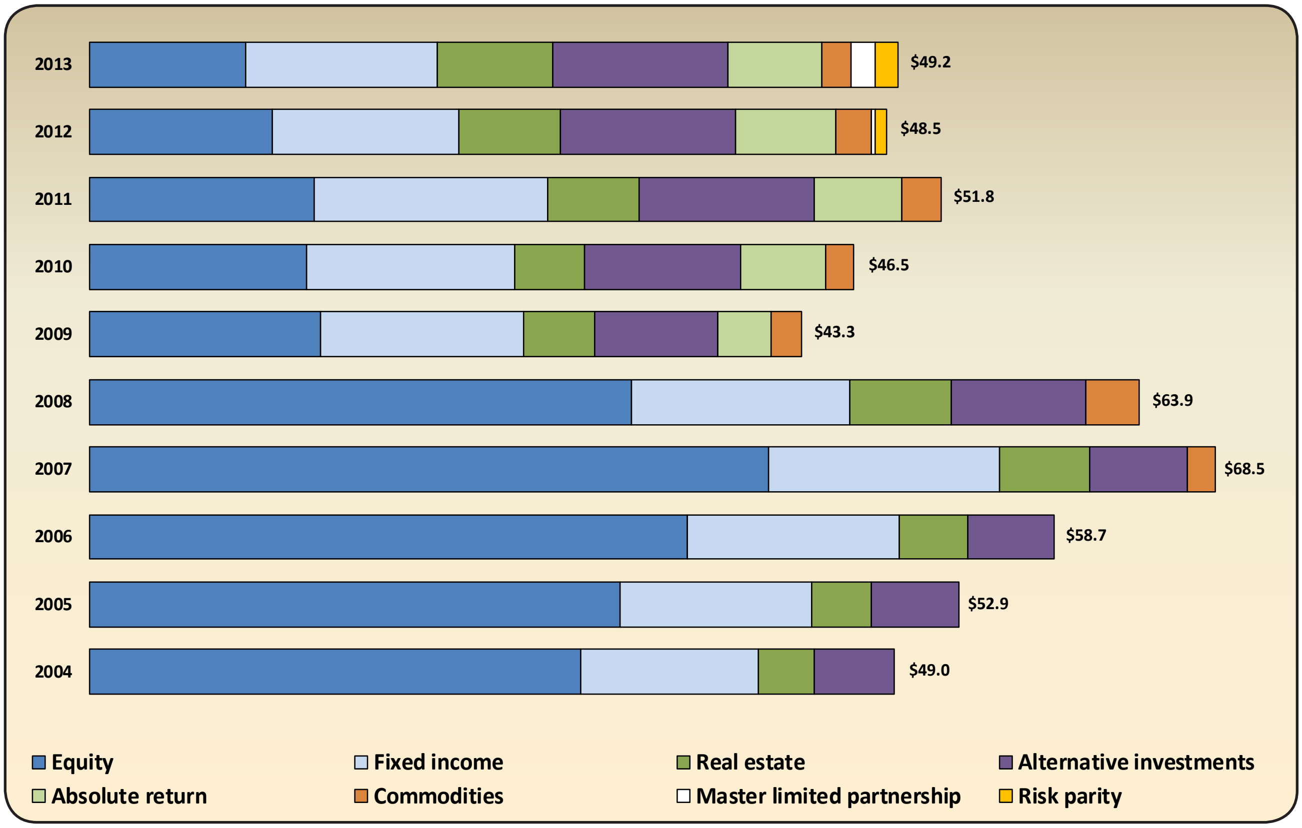
Comparison of Actual Portfolio Distribution to Asset Allocation Plan As of June 30, 2013

Asset Category	Plan	Actual
Common and preferred stock (Equity)	17.5%	19.4%
Fixed income	23.0	23.7
Real estate	13.5	14.1
Alternative investments	22.0	21.8
Absolute return	10.0	11.7
Commodities	6.0	3.6
Master limited partnership	3.0	2.9
Risk parity	5.0	2.8
Total	100.0%	100.0%



Portfolio Distribution 10 Year Trend

(Fair Value - Dollar Amounts in Billions)



The following lists of portfolio detail statistics present the ten largest holdings by descending order of fair value for the largest public market asset classes. Information on the complete holdings of the System can be downloaded from the PSERS website at www.psers.state.pa.us.

Common and Preferred Stock - Non-U.S. Equity

10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2013

(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
BlackRock Emerging Markets Alpha Advantage Fund Ltd.- Class D	199	$ 205,733
The 32 Capital Fund Ltd.	98	166,983
BlackRock Emerging Markets Alpha Advantage Fund Ltd.- Class P	32	98,121
Nestle SA	1,093	47,934
Roche Holding AG	124	30,784
Samsung Electronics Company, Ltd.	28	30,666
Toyota Motor Corporation	481	28,987
Taiwan Semiconductor Manufacturing Company, Ltd.	8,186	28,311
Novartis AG	399	28,300
HSBC Holdings PLC	2,672	28,179
Total of 10 Largest Holdings		**$ 693,998**

Common and Preferred Stock - U.S. Equity

10 Largest Holdings in Descending Order by Fair Value

As of June 30, 2013

(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Security Capital Preferred Growth	13,039	$ 196,212
Exxon Mobil Corporation	905	81,801
Apple Computer, Inc.	193	76,581
Microsoft Corporation	1,530	52,868
Google, Inc.	56	49,414
Johnson & Johnson	572	49,108
General Electric Company	2,105	48,826
Chevron Corporation	395	46,723
Procter & Gamble Company	558	42,967
Wells Fargo & Company	1,012	41,756
Total of 10 Largest Holdings		**$ 686,256**

Fixed Income

10 Largest Holdings in Descending Order by Fair Value

As of June 30, 2013

(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
PIMCO Multi-Sector Strategy Fund Ltd.	817	$ 850,673
BlackRock US Extended Core Global Alpha Bond Fund Ltd.	359	616,094
Bridgewater International Inflation-Linked Bond Fund	296	585,315
BlackRock Mortgage (Offshore) Investors, L.P.	N/A	417,318
Bridgewater Pure Alpha Fund II Ltd.	132	409,372
Sankaty Advisors LLC-Bank Loans	N/A	384,392
Bridgewater U.S. Inflation-Linked Bond Fund	199	368,606
Sankaty Credit Opportunities IV, L.P.	N/A	213,232
Black River Inflation Opportunity Fund Class B	250	177,843
LBC Credit Partners II, LP	N/A	161,095
Total of 10 Largest Holdings		**$ 4,183,940**

Absolute Return
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2013
(Dollar Amounts and Shares in Thousands)

Description	No. of Shares	Fair Value
Bridgewater Pure Alpha Fund II Ltd.	291	$ 854,197
Brigade Leveraged Capital Structures Offshore Ltd.	502	732,400
AQR Offshore Multi-Strategy Fund Ltd.	4	438,182
Brevan Howard Fund, Ltd.	3,095	425,319
Capula Tail Risk Fund Ltd.	3,977	355,176
Palmetto Fund Ltd. Class G	245	286,481
Black River Fixed Income Relative Value Opportunity Fund Ltd.	250	275,646
PIMCO Global Credit Opportunity Offshore Fund	142	266,383
BlackRock Capital Structure Investment Fund Ltd.	198	263,332
PIMCO Absolute Return Strategy V Offshore Fund	103	232,983
Total of 10 Largest Holdings		**$ 4,130,099**

Postemployment Healthcare Investments
10 Largest Holdings in Descending Order by Fair Value
As of June 30, 2013
(Dollar Amounts in Thousands)

Description	Maturity Date	Interest Rate (%)	Par Value	Fair Value
PSERS Short-Term Investment Fund	Various	Various	$ 131,426	$ 131,426
M & T Bank Repurchase Agreement	07/01/13	0.010	51,095	51,095
M & T Bank Repurchase Agreement	07/01/13	0.010	11,077	11,077
FNMA Guaranteed REMIC 2007-77 Class PC	09/25/35	6.000	2,173	2,243
FNMA Guaranteed REMIC 2010-58 Class LY	09/25/38	7.000	1,752	1,844
FNMA Guaranteed REMIC 2004-64 Class VE	01/25/25	4.500	1,804	1,824
GNMA Guaranteed REMIC 2009-46 Class G	09/20/34	4.500	1,371	1,405
Wachovia Corporation	02/15/14	4.875	1,000	1,026
Verizon Communications, Inc.	03/28/14	0.886	1,000	1,003
JP Morgan & Co., Inc.	07/01/27	0.000	1,000	990
Total of 10 Largest Holdings				**$ 203,933**

Comparison of Investment Activity Income
For Fiscal Years Ended June 30, 2013 and 2012
(Dollar Amounts in Thousands)

Investment Activity	**2013**	2012
Net appreciation in fair value of investments	**$ 3,427,309**	$ 537,586
Short-term	**9,290**	10,677
Fixed income	**228,760**	328,492
Common and preferred stock	**255,248**	258,258
Collective trust funds	**17,749**	5,209
Real estate	**251,742**	170,991
Alternative investments	**485,622**	255,769
Total investment activity income	**$ 4,675,720**	$ 1,566,982

Brokers' fees on equity investment transactions for the fiscal year ended June 30, 2013 were $9.2 million. The System has commission recapture contracts with several brokers. These contracts generally stipulate that the brokers rebate a percentage of commissions earned on investment transactions directly to the System. During the fiscal year ended June 30, 2013, the System earned $112,000 from the commissions recapture program. A list of the brokers receiving fees in excess of $100,000 during the fiscal year follows:

Summary Schedule of Brokers' Fees
(Cumulative Fiscal Year Amounts Exceeding $100,000)
Fiscal Year Ended June 30, 2013

Broker Name	**Fees Paid**	**Broker Name**	**Fees Paid**
Goldman Sachs & Company	$ 1,278,994	Fimat USA	$ 191,220
Citigroup Global Markets Incorporated	772,035	Macquarie Equities Limited	184,246
UBS Securities	521,375	Barclays	183,686
Instinet Corporation	432,774	Royal Bank of Scotland	147,328
Jones & Associates	429,101	Credit Lyonnais Securities	136,421
Credit Suisse First Boston	326,518	B-Trade Services, LLC	134,300
Merrill Lynch	313,328	ITG Securities	129,387
Deutsche Bank	265,432	Cantor, Fitzgerald & Company	127,782
Morgan Stanley & Company	250,502	Daiwa Securities	127,195
JP Morgan Chase & Company	242,029	UOB Kay Hian Pte Limited	106,054
Knight Securities	236,035	Securities Africa Limited	104,329
Liquidnet Incorporated	202,477	BTIG Securities, LLC	101,939

Professional Consultants
External Investment Advisors
As of June 30, 2013

Absolute Return Managers
- Apollo Aviation Services II, LP.
- Aeolus Capital Management, Ltd.
- AQR Capital Management, LLC
- Black River Asset Management, LLC
- BlackRock Financial Management, Inc.
- BlueCrest Capital Management, LLC
- Brevan Howard Asset Management, LLP
- Bridgewater Associates, Inc.
- Brigade Capital Management
- Capula Investment Management, LLP
- Caspian Capital Advisors
- Ellis Lake Capital, LLC
- Lazard Asset Management, LLC
- Nephila Capital, Ltd.
- Pacific Investment Management Company
- Robeco Investment Management, Inc.

U.S. Equity Managers
- AH Lisanti Capital Growth, LLC
- Conestoga Capital Advisors
- First Pacific Advisors, Inc.
- NorthPointe Capital, LLC
- Opus Capital Management

Publicly-Traded Real Estate Securities Manager
- Security Capital Research & Management, Inc.

Non-U.S. Equity Managers
- Acadian Asset Management, Inc.
- Baillie Gifford Overseas, Ltd.
- Batterymarch Financial Management, Inc.
- BlackRock Financial Management, Inc.
- Glovista Investments, LLC
- John Hsu Capital Group, Inc.
- Marathon Asset Management, LLP
- Oberweis Asset Management, Inc.
- Pyramis Global Advisors, Inc.
- Shah Capital Management, Inc.
- Wasatch Advisors, Inc.
- Westwood Global Investments, LLC

Commodity Managers
- Black River Asset Management, LLC
- Credit Suisse Asset Management, LLC
- Gresham Investment Management, LLC
- Schroder Investment Management North America, Inc.
- Wellington Management Company, LLP

U.S. Core Plus Fixed Income Managers
- BlackRock Financial Management, Inc.
- Piedmont Investment Advisors, LLC
- Pugh Capital Management, Inc.
- Western Asset Management Company

High Yield Fixed Income Managers
- Apollo Management International, LLP
- BlackRock Financial Management, Inc.
- Brevan Howard Asset Management LLP
- Brigade Capital Management
- Cerberus Institutional Partners, L.P.
- Haymarket Financial, LLP
- Intermediate Capital Group, PLC
- LBC Credit Partners
- MacKay-Shields Financial Corporation
- Mariner Investment Group, LLC
- Oaktree Capital Management, LP
- Radcliffe Capital Management, LP
- Sankaty Advisors, LLC
- The Carlyle Group
- TOP NPL(A), LP
- TPG Opportunities Partners II, LP

Non-U.S. Developed Markets Fixed Income Managers
- AllianceBernstein, LP
- Strategic Fixed Income, LLC

Emerging Markets Debt Managers
- Franklin Templeton Investments
- Stone Harbor Investment Partners, LP

Multi-Sector Fixed Income Manager
- Pacific Investment Management Company

Global Treasury Inflation - Protected Securities Managers
- Black River Asset Management, LLC
- Bridgewater Asociates, Inc.

Active Currency Hedging Overlay Program Manager
- Pareto Investment Management, Ltd.

Risk Parity Managers
- Bridgewater Associates, Inc.
- AQR Capital Management, LLC

Master Limited Partnership Advisors
- Atlantic Trust Private Wealth Management
- Harvest Fund Advisors, LLC
- Salient Capital Advisors, LLC

Professional Consultants (Continued)

Real Estate Advisors
- Charter Oak Advisors, Inc.
- GF Management, Inc.
- Grosvenor Fund Management US, Inc.
- L&B Realty Advisors, LLP

Real Estate Partnerships
- AG Core Plus Realty Fund III, LP
- Almanac Realty Securities V & VI, LP
- Apollo Europe Real Estate Fund III, LP
- Apollo Real Estate Finance Corp.
- Apollo Value Enhancement Fund VII, LP
- AREFIN Co-Invest Corp.
- AvalonBay Value Added Fund I & II, LP
- Avenue Real Estate Fund, LP
- Beacon Capital Strategic Partners V, LP
- Bell Institutional Fund IV, LP
- Blackstone Real Estate Debt Strategies II, LP
- Blackstone Real Estate Partners Europe III, LP
- Blackstone Real Estate Partners V, VI, & VII, LP
- BPG Investment Partnership V & VI, LP
- BGP/PSERS Co-Investment Fund, LP
- Broadway Partners Real Estate Fund II & III, LP
- Brookfield Strategic Real Estate Partners, LP
- Cabot Industrial Value Fund III, LP
- Carlyle Europe Real Estate Partners III-A, LP
- Carlyle Realty Partners III, IV, V, & VI, LP
- CS Strategic Partners Fund IV RE, LP
- CSFB Strategic Partners II & III RE, LP
- DLJ Real Estate Capital Partners II, III, & IV, LP
- DRA Growth and Income Fund VI & VII, LLC
- Exeter Industrial Value Fund II, LP
- Fillmore West Fund, LP
- Fortress Investment Fund I, IV, & V, LP
- Hines U.S. Office Value Added Fund, LP
- JP Morgan Strategic Property Fund
- Latitude Management Real Estate Capital III, Inc.
- Lazard Freres Real Estate Investors I, LLC
- Legg Mason Real Estate Capital I & II, Inc.
- LCCG High Yield CMBS Fund III, LLC
- LCCG Real Estate Special Situations Mortgage Fund, LLC
- LEM Real Estate High Yield Debt and Preferred Equity Fund III, LP
- LEM Real Estate Mezzanine Fund II, LP
- Lubert-Adler Real Estate Fund III, IV, V, & VI, LP
- Madison Marquette Retail Enhancement Fund, LP
- MGPA Asia Fund III, LP
- MGPA Europe Fund III, LP
- Morgan Stanley Domestic Real Estate Fund IV, LP
- Morgan Stanley Int'l. Real Estate Fund IV, V, & VI, LP
- Morgan Stanley Real Estate Fund II, LP
- Morgan Stanley Real Estate Fund V US, LP
- Morgan Stanley Real Estate Fund VII Global, LP
- O'Connor North American Property Partners I & II, LP
- Paladin Realty Latin America Investors III, LP
- Peabody Global Real Estate Partners
- PRISA
- ProLogis North American Industrial Fund, LP
- RCG Longview Debt Fund IV & V, LP
- RCG Longview Equity Fund, LP
- Senior Housing Partnership Fund IV, LP
- Silverpeak Legacy Partners I, II , & III, LP
- Stockbridge Real Estate Fund I, II, & III, LP
- Strategic Partners Value Enhancement Fund, LP
- UBS (US) Trumbull Property Fund, LP
- Westbrook Real Estate Fund I, LP
- Whitehall Street Real Estate V, VI, VII, & VIII, LP
- William E. Simon & Sons Realty Partners, LP

Farmland Advisor
- Prudential Agricultural Group

Private Equity/Venture Capital Partnerships
- ABS Capital Partners II, LP
- Actis Emerging Markets 3, LP
- Actis Global 4, LP
- Adams Capital Management, LP
- Aisling Capital Partners II & III, LP
- Allegheny New Mountain Partners, LP
- Apax Europe VII, LP
- Bain Capital Asia Fund II, LP
- Baring Asia Private Equity Fund III, IV, & V, LP
- Blue Point Capital Partners I & II, LP
- Bridgepoint Capital II, LP
- Bridgepoint Europe I, II, III, & IV, LP
- Capital International Private Equity Fund V & VI, LP
- Catterton Growth Partners, LP
- Catterton Partners V, VI, & VII, L.P.
- Clarity Partners I & II, LP
- Co-Invest Fund 2000, LP
- Co-Investment Fund II, LP
- Coller International Partners VI, LP
- Credit Suisse Equity Partners, LP
- Credit Suisse Intl. Equity Partners, LP
- Crestview Partners I & II, LP
- Cross Atlantic Technology Fund I & II, LP
- CS Strategic Partners Fund IV, IV-VC, & V, LP
- CSFB Strategic Partners II, III-B, & III-VC, LP
- CVC Capital Partners Asia Pacific III, LP
- CVC European Equity Partners V, LP
- Denham Commodity Partners VI, LP
- DLJ Merchant Banking Partners III, LP
- DLJ Strategic Partners, LP
- Dubin Clark Fund II, LP
- Edgewater Private Equity Fund III, LP
- Edgewater Growth Capital Partners, LP
- Evergreen Pacific Partners I & II, LP
- First Reserve Fund XI & XII, LP
- Franklin Capital Associates III, LP
- Furman Selz Investors III, LP

Professional Consultants (Continued)

- Graham Partners Investments, LP
- Greenpark International Investors III, LP
- Greenwich Street Capital Partners II, LP
- Halifax Capital Partners, LP
- Headland Private Equity Fund 6, LP
- Incline Equity Partners III, LP
- Irving Place Capital Partners II & III, LP
- Jefferies Capital Partners IV, LP
- Jefferson Partners Fund IV, LP
- KBL Healthcare Ventures, LP
- KKR 2006 Fund, LP
- KRG Capital Fund II, III, & IV, LP
- Landmark Equity Partners II, III, IV, V, XIII, & XIV, LP
- Landmark Mezzanine Partners, LP
- Lexington Capital Partners I, LP
- Lindsay, Goldberg & Bessemer, LP
- LLR Equity Partners I, II, & III, LP
- Milestone Partners II, III, & IV, LP
- Morgan Stanley Dean Witter Capital Partners IV, LP
- Navis Asia Fund V, LP
- NEPA Venture Fund II, LP
- New Mountain Partners I & III, LP
- New York Life Capital Partners I, II, III, & IV, LP
- NGP Natural Resources X, LP
- Nordic Capital VII Beta, LP
- Novitas Capital I & II, LP
- Orchid Asia V, LP
- PAI Europe III, IV, & V, LP
- Palladium Equity Partners II-A, LP
- Partners Group Secondary 2008 & 2011, LP
- Permira IV, LP
- Perseus-Soros Bio-Pharmaceutical Fund, LP
- Platinum Equity Capital Partners I, II, & III, LP
- PNC Equity Partners I & II, LP
- Providence Equity Partners VI, LP
- Psilos Group Partners III, LP
- Quadrangle Capital Partners I & II, LP
- Quaker BioVentures I & II, LP
- SCP Private Equity Partners I & II, LP
- StarVest Partners I & II, LP
- Sterling Capital Partners, LP
- Sterling Venture Partners, LP
- Summit Partners Growth Equity Fund VIII, LP
- Summit Partners Venture Capital Fund III, LP
- TDH III, LP
- Tenaya Capital IV-P , V-P, & VI, LP
- The Fifth Cinven Fund No. 1, L.P.
- The Fourth Cinven Fund
- TPG Partners V & VI, LP
- Trilantic Capital Partners IV, LP
- Trilantic Capital Partners V (North America), LP
- U.S. Equity Partners II, LP
- Wicks Communications & Media Partners, LP

Private Debt Partnerships

- Avenue Asia Special Situations Fund II & IV, LP
- Avenue Europe Special Situations Fund, LP
- Avenue Special Situations Fund III, IV, V, & VI, LP
- Cerberus Institutional Partners, LP (Series Two, Three, & Four)
- Cerberus Institutional Partners V, LP
- Gleacher Mezzanine Fund I & II
- Gold Hill Venture Lending, LP
- GSC Partners CDO Investors IV, LP
- GSC Recovery II & III, LP
- New York Life Investment Management Mezzanine Partners I & II, LP
- OCM Opportunities Fund VII & VII-B, LP
- Versa Capital Fund I & II, LP
- Windjammer Senior Equity Fund III & IV, LP

Alternative Investment Consultant

- Portfolio Advisors, LLC

Custodian Bank and Securities Lending Agent

- The Bank of New York Mellon Corporation

Hedge Fund Consultant

- Aksia, LLC

Investment Accounting Application Service Provider

- Financial Control Systems, Inc.

Investment Evaluator and General Investment Consultant

- Wilshire Associates, Inc.

Proxy Voting Agent

- Glass, Lewis & Co., LLC

Real Estate Investment Consultant

- Courtland Partners, Ltd.

This page intentionally left blank