



Semi Annual Board Update

For the period ending June 30, 2017

Report Prepared For:



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I. Overview

StepStone Group LP ("StepStone") was engaged by Pennsylvania State Employees' Retirement System ("SERS") to provide Private Equity Advisory services for prospective investment opportunities as well as portfolio monitoring and reporting. StepStone monitors new and existing private equity investments for SERS at both the fund level and underlying portfolio company level to provide detailed performance and exposure analysis. The following report represents SERS' portfolio of Private Investments (the "Portfolio").

Since inception through June 30, 2017, SERS has committed US\$16.9 billion to 453 partnerships, of which 346 are active. This quarterly monitoring report covers the performance of the Portfolio as of June 30, 2017, as well as significant activity that occurred during the second quarter of 2017. Natural Resource partnerships are included in Buyout as of July 1, 2016.

Portfolio Performance Assessment

As of June 30, 2017, the Portfolio managed by SERS consisted of the following (all amounts herein US\$ millions unless otherwise noted):

US\$ in millions	Inception to Date June 30, 2017	Inception to Date March 31, 2017	Inception to Date June 30, 2016	Quarterly Change	Annual Change
Active Portfolio					
Number of Active Managers	153	151	150	2	3
Number of Active Investments	345	341	346	4	(1)
Total Portfolio					
Number of Managers	177	174	172	3	5
Number of Investments	453	449	443	4	10
Committed Capital	\$16,926.6	\$16,550.0	\$16,013.6	\$376.6	\$913.0
Contributed Capital ¹	15,095.6	14,988.1	14,634.7	107.4	460.8
Distributed Capital ²	20,036.6	19,693.3	18,641.2	343.3	1,395.3
Market Value	4,041.0	4,121.9	4,466.1	(80.9)	(425.1)
Total Value	24,077.6	23,815.2	23,107.3	262.4	970.3
Total Gain/(Loss)	8,982.0	8,827.1	8,472.6	154.9	509.4
Unfunded Commitment	2,138.7	1,857.7	1,492.7	280.9	646.0
Total Exposure ³	6,179.7	5,979.6	5,958.8	200.1	220.9
DPI ⁴	1.3x	1.3x	1.3x	0.01x	0.05x
TVM ⁵	1.6x	1.6x	1.6x	0.01x	0.02x
IRR ⁶	12.3%	12.2%	12.3%	5 bps	4 bps

¹ Contributed Capital includes contributions for investments, management fees and expenses to underlying partnership investments.

² Includes stock distributions.

³ Total Exposure represents the sum of Market Value and Unfunded Commitment.

⁴ DPI, or Distributed to Paid In Multiple, is a performance metric that measures distributions received relative to capital invested. DPI is calculated as Distributed Capital divided by Contributed Capital.

⁵ TVM, or Total Value Multiple, is a performance metric that measures total value created by the Portfolio relative to capital invested, without consideration for time. TVM is calculated as Total Value, which is comprised of Market Value plus Distributed Capital, divided by Contributed Capital. TVM net of StepStone's fees is 1.6x.

⁶ IRR, or Internal Rate of Return, is a performance metric that is calculated based on the Portfolio's daily cash flows and market value as of quarter-end. IRR is net of manager's fees, expenses and carried interest. IRR net of StepStone's fees is 12.24% as of June 30, 2017.

Note: Portfolio excludes T.Rowe Price Stock Distribution Account. Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

Portfolio Performance vs. Benchmarks

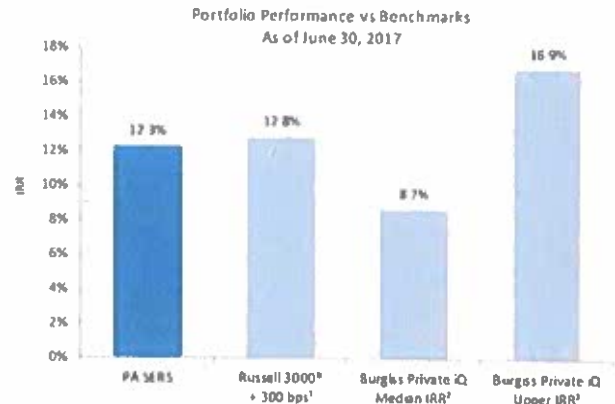
The Portfolio's performance is measured against two benchmarks, the Russell 3000® and Burgiss Private iQ.

The following graph illustrates Portfolio IRR performance versus benchmarks as of June 30, 2017.

StepStone believes the Russell 3000® Index plus 300 bps from inception appropriately reflects the opportunity cost of investing in Buyout, Venture, and Special Situations investments versus publicly traded common stocks and therefore is an appropriate benchmark for SERS.

SERS' returns include Buyout, Venture Capital and Special Situations investments from vintage years 1980 to 2017.

SERS' Buyout, Venture Capital, and Special Situations investments have a since inception IRR of 14.4%, 7.2%, and 13.0% respectively.



As of June 30, 2017	1 Year Return	3 Year Return	5 Year Return	10 Year Return
SERS Combined Portfolio (IRR)	12.7%	7.1%	11.3%	7.6%
Burgiss Private iQ Pooled PE Benchmark ⁴	14.2%	8.9%	12.8%	8.7%
Burgiss Private iQ All PE Top-Quartile ⁵	18.5%	17.3%	18.4%	15.3%
Russell 3000® ¹	18.5%	9.1%	14.6%	7.3%
Russell 3000® + 300 bps	21.5%	12.1%	17.6%	10.3%
SERS Buyout (IRR)	15.6%	8.5%	12.6%	8.1%
Burgiss Private iQ Pooled Buyout Benchmark ⁴	17.1%	8.9%	12.9%	8.5%
Burgiss Private iQ Buyout Top-Quartile ⁵	24.3%	20.1%	20.8%	16.6%
SERS Venture Capital (IRR)	5.1%	4.4%	8.2%	5.7%
Burgiss Private iQ Pooled VC Benchmark ⁴	8.7%	11.0%	14.2%	9.6%
Burgiss Private iQ VC Top-Quartile ⁵	15.4%	17.5%	18.1%	15.2%
SERS Special Situations (IRR)	13.8%	5.6%	10.1%	7.9%
Burgiss Private iQ Pooled SS Benchmark ⁴	11.2%	6.2%	9.7%	7.2%
Burgiss Private iQ SS Top-Quartile ⁵	13.8%	13.0%	13.8%	11.8%

¹ Benchmark is a dollar-weighted calculation of quarterly changes in the Russell 3000® Index. Russell Investment Group is the source and owner of the trademark, service marks and copyrights related to the Russell indexes. Russell® is a trademark of Russell Investment Group. Returns shown are time-weighted (TWR).

² Benchmark is provided by Burgiss Private iQ and reflects Global Private Equity Funds (excluding Real Assets and Real Estate) Median IRR as of June 30, 2017 for funds with vintage years 1980 to 2017. Returns shown are dollar-weighted (IRR).

³ Benchmark is provided by Burgiss Private iQ and reflects Global Private Equity Funds (excluding Real Assets and Real Estate) Upper Quartile IRR as of June 30, 2017 for funds with vintage years 1980 to 2017. Returns shown are dollar-weighted (IRR).

⁴ Benchmark is provided by Burgiss Private iQ and reflects Global pooled returns for Buyout (including Natural Resources), Venture Capital, Special Situations (including Distressed and Mezzanine), and all Private Equity (excluding Real Assets and Real Estate), respectively, as of June 30, 2017 for funds with vintage years 1980 to 2017. Returns shown are dollar-weighted (IRR).

⁵ Benchmark is provided by Burgiss Private iQ and reflects Global Upper Quartile IRR for Buyout (including Natural Resources), Venture Capital, Special Situations (including Distressed and Mezzanine), and all Private Equity (excluding Real Assets and Real Estate), respectively, as of June 30, 2017 for funds with vintage years 1980 to 2017. Returns shown are dollar-weighted (IRR).

Note: Burgiss Private iQ data is continuously updated and is therefore subject to change. The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

II. Market Overview

Executive Summary

Global equity markets outperformed US equity markets in the second quarter of 2017 due to easing political risks, stronger corporate earnings, and encouraging economic data. The MSCI Asia index led benchmark performances, gaining 6.4% for the quarter, followed by the MSCI Europe index which was up 5.9%. The French presidential election of pro-EU candidate Emmanuel Macron eased political risks of a European breakup, however, comments by ECB President Mario Draghi caused concern that the central bank may start to tighten policy. US equity markets advanced despite political uncertainty as fiscally expansive policies faced slower than expected implementation and mixed economic data as the Federal Reserve raised rates 25 basis points at the June meeting though inflation data remained weak. US bond markets were relatively calm while the yield curve flattened in response to three short-term rate hikes since December 2016. The S&P 500 Total Return index finished the quarter 3.1% higher, led by the US Health Care sector returning 7.1%.¹

In private markets, US leveraged buyout (“LBO”) debt volume remained strong, up 12.5% quarter-over-quarter to US\$34.0 billion, 91.1% above the 10-year quarterly average of US\$17.8 billion and 37.7% higher than the second quarter of 2016. Purchase price multiples (“PPM”) for US LBOs rose to 10.7x EBITDA in the second quarter, up 9.8% from 9.8x EBITDA in the first quarter, and above the 10-year average of 9.6x EBITDA. Average debt multiples of large corporate US LBO loans increased to 5.9x for the quarter, a 4.0% increase from 5.7x in the prior quarter, and above the 10-year average of 4.9x. Equity contributions for US LBOs increased to 42.6%, an 8.6% increase quarter-over-quarter, and slightly above the 10-year average of 41.7%.²

Global private equity fundraising totaled US\$101.1 billion in the second quarter, representing an increase of 5.5% quarter-over-quarter and a decrease of 5.2% compared to the second quarter of 2016. Geographically, the US represented 51.9% of total funds raised in the quarter which is lower than the 10-year average of 62.9%. Funds raised in Europe increased to the highest levels since 2008, accounting for 32.2% of total funds raised in the quarter, compared to the 10-year average of 20.7%. Asia and the Rest of World made up 12.0% and 4.0%, respectively, of global fundraising for the quarter. Invested capital for private equity funds increased 15.7% quarter-over-quarter, though the number of deals decreased 3.3% compared to the prior quarter. A significant portion of the capital deployed was in the Information Technology (“IT”) sector, accounting for 44.4% compared to the 10-year average of 30.6%.³

Private equity-backed IPO transaction volume declined from first quarter highs, but remained healthy with US\$4.1 billion raised in 24 IPOs. The amount raised through IPOs decreased 54.9% compared to the first quarter, but increased 36.0% compared to the second quarter of 2016. The previous quarter raised US\$9.1 billion in 14 IPOs, primarily due to Snap, Inc. (NYSE: SNAP) which raised US\$3.9 billion. The largest IPO in the second quarter was Gardner Denver, Inc. (NYSE: GDI), a global provider of compressed air solutions, which raised US\$949.9 million, representing 23.1% of the total value for all IPOs in the quarter. M&A activity declined in the second quarter with a total value of US\$122.9 billion, a 27.2% decrease compared to the prior quarter and a 14.4% decrease compared to the second quarter of 2016. The largest M&A deal of the quarter was the US\$29.9 billion purchase of Actelion Ltd. by Johnson & Johnson (NYSE: JNJ), representing 24.3% of the total value for all deals in the quarter.⁴

¹ Capital IQ, 2Q 2017

² S&P US LBO Review, 2Q 2017

³ Thomson ONE data as of 5 Sept 2017. Please note, all data in this report from Thomson ONE is correct as of 4 Sept 2017, but it is subject to revision as further data is made available. Data does not include SoftBank, which StepStone believes is a one-time fund that will not raise a second fund and is not a traditional Private Equity GP.

⁴ Capital IQ Transaction Screening Report as of 12 Sept 2017

Capital Markets Overview

Public Equity Markets

Public markets continued to rise during the second quarter of 2017, as US equities were led higher by the Health Care sector. However, the S&P 500 Total Return index lagged other global benchmarks during the quarter, though it increased 3.1%. The MSCI Asia index outperformed the European, Emerging Markets, and US regional indices, increasing 6.4% for the quarter. The MSCI Europe index followed, up 5.9% for the quarter. The MSCI Emerging Markets index increased 5.5% for the quarter.



The following table shows the returns of four major MSCI indices, as well as the S&P 500 and the S&P 500 Total Return Index, over various time horizons through June 30, 2017. Returns for time periods greater than one year are annualized. US markets underperformed global markets over the past quarter.

	Regional Indices				
	1 Mo	1 Yr	3 Yr	5 Yr	10 Yr
MSCI Asia	6.4%	20.9%	3.2%	6.5%	0.4%
MSCI Europe	5.9%	17.8%	(3.0%)	5.8%	(2.4%)
MSCI EM	5.5%	21.2%	(1.3%)	1.5%	(0.5%)
MSCI ACWI	3.6%	16.5%	2.7%	8.3%	1.5%
S&P 500	2.6%	15.5%	7.3%	12.2%	4.9%
S&P 500 Total Return*	3.1%	17.9%	9.6%	14.6%	7.2%

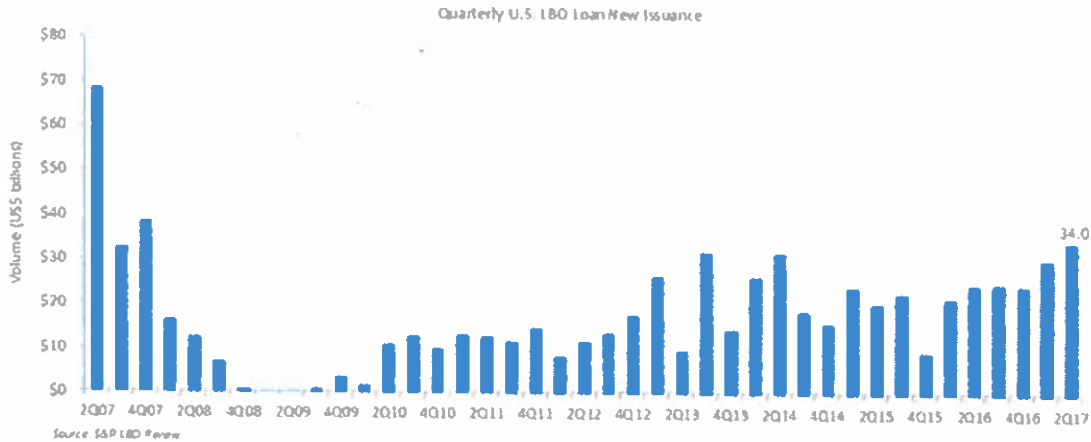
For the period ended June 30, 2017

*Includes reinvestment of dividends

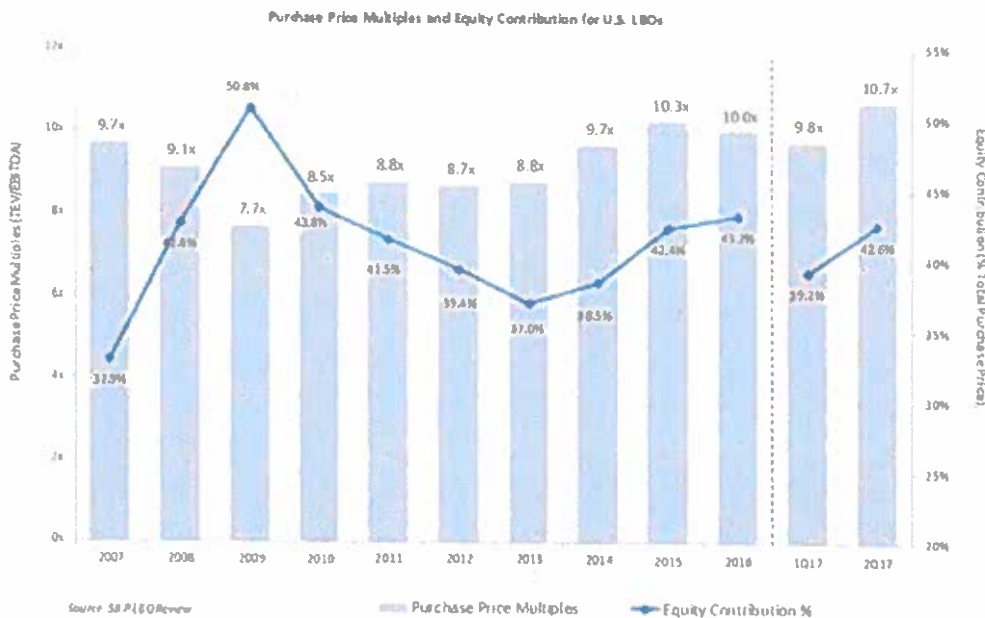
Source: Capital IQ

Debt Markets

During the second quarter of 2017, US LBO new loan issuance totaled US\$34.0 billion, representing an increase of 12.5% from the prior quarter and a 37.7% increase from the second quarter of 2016. The following chart shows the quarterly volume of US LBO new loan issuance for the past ten years.



The weighted average purchase price multiple for US LBO deals was 10.7x total enterprise value (“TEV”) to EBITDA, an increase from 9.8x in the prior quarter and above the 9.7x multiple from the second quarter of 2016. Average debt multiples of large corporate US LBO loans increased quarter-over-quarter from 5.7x EBITDA to 5.9x EBITDA, as equity contributions for US LBOs increased from 39.2% in the first quarter to 42.6% in the second quarter. The following chart compares purchase price multiples and equity contribution percentages for US LBO deals for the past ten years.



Private Equity Market Overview

All Private Equity

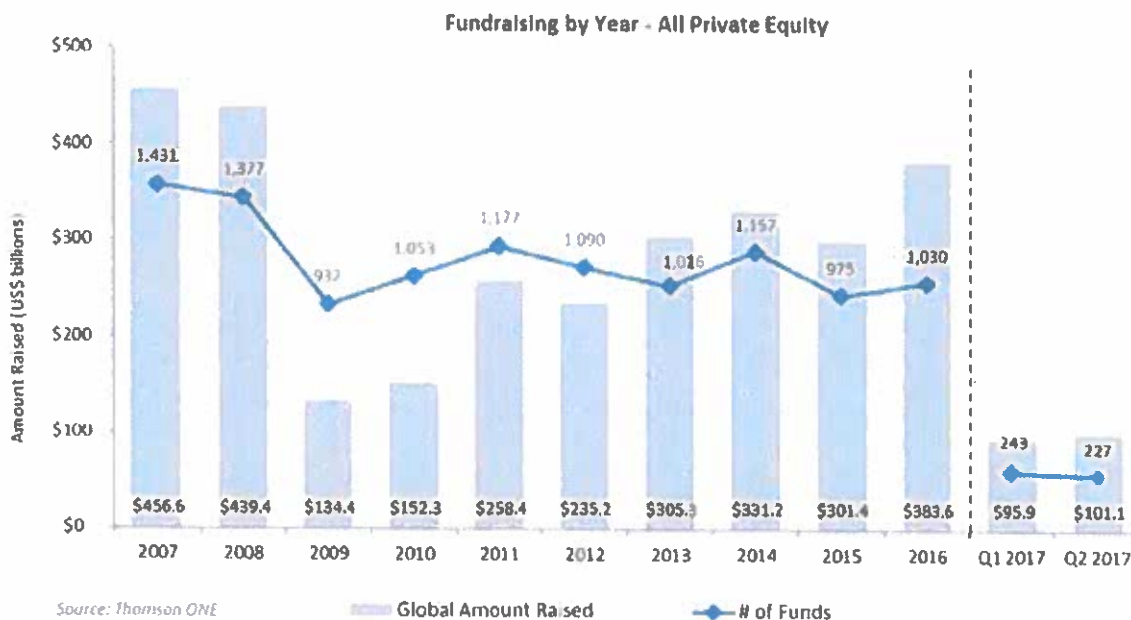
The table below shows the pooled Internal Rate of Return ("IRR") performance of global private equity investments by sector over various investment horizons through June 30, 2017. The All Private Equity benchmark has an IRR of 3.5% for the quarter. All sectors except Energy had positive quarterly IRRs, while Energy's IRR was -1.5%. Large Buyouts had the best IRR for the quarter (+5.7%), followed by Small/Middle Buyouts (+4.1%) and Mezzanine (+2.1%).

Sector	3 Mo	1 Yr	3 Yr	5 Yr	10 Yr
Small/Middle Buyouts (<\$3bn)	4.1%	15.1%	8.9%	12.2%	8.6%
Large Buyouts (>\$3bn)	5.7%	19.0%	10.9%	14.9%	8.6%
Mezzanine	2.1%	10.1%	8.4%	9.9%	7.4%
Energy	(1.5%)	16.4%	(5.0%)	1.9%	5.8%
Venture Capital	1.9%	8.5%	11.4%	14.6%	10.1%
All Private Equity	3.5%	14.4%	9.0%	12.8%	8.7%

Source: Burgiss PrivateIQ

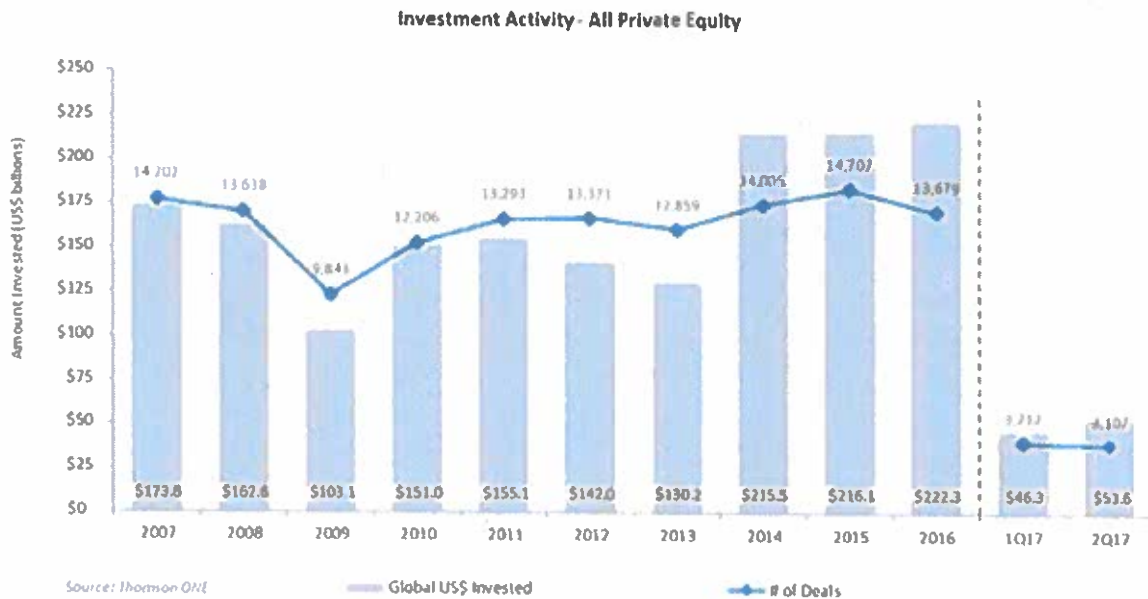
Fundraising

Fundraising for global private equity totaled US\$101.1 billion in the second quarter of 2017, a 5.5% increase compared to the prior quarter and a 5.2% decrease from the second quarter of 2016. Buyout fundraising totals increased 38.2% quarter-over-quarter to US\$77.1 billion and 8.1% compared to the second quarter of 2016. Venture Capital raised US\$16.1 billion in the second quarter, an increase of 9.6% compared to the prior quarter and an increase of 24.6% over the second quarter of 2016. Geographically, US fundraising represented 51.9% of the total amount raised in the quarter, while Europe, Asia, and the rest of the world accounted for 32.2%, 12.0%, and 4.0%, respectively. The chart below shows private equity fundraising activity across all sectors over the past ten years.

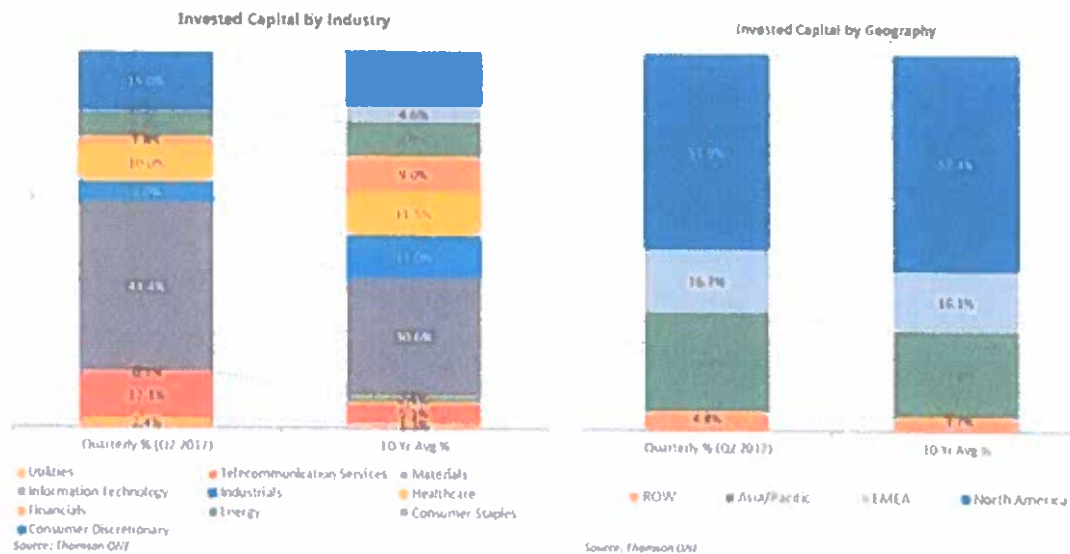


Investment Activity

Private equity funds invested US\$53.6 billion globally during the second quarter, representing a quarter-over-quarter increase of 15.7% and a 13.2% decrease from the second quarter of 2016. The average investment size during the quarter was US\$17.3 million, an increase of 19.7% compared to the average investment size of US\$14.4 million in the first quarter.

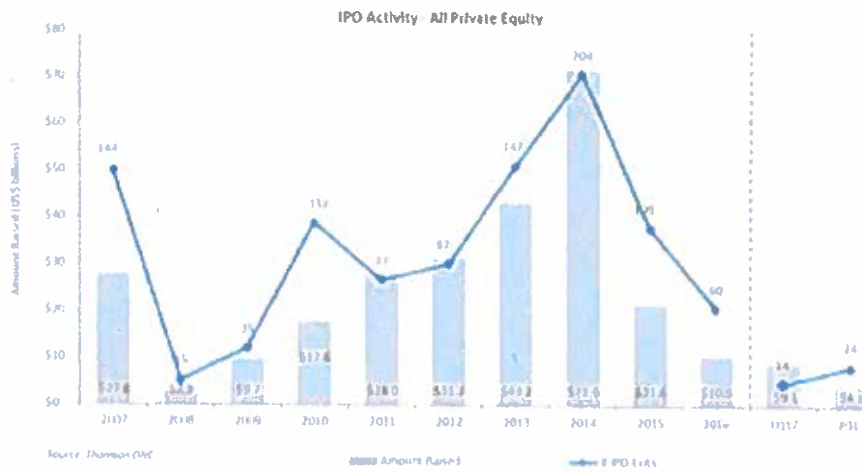


The graphs below depict the percentage of invested capital by industry and geography for the second quarter of 2017 and over the last ten years. The Information Technology sector attracted the most capital, accounting for US\$23.8 billion of transactions, or 44.4% of total capital invested by private equity firms, compared to its 10-year average of 30.6%. Considering geography, in the second quarter of 2017, investment activity was more concentrated in North America compared with 10-year historical averages.

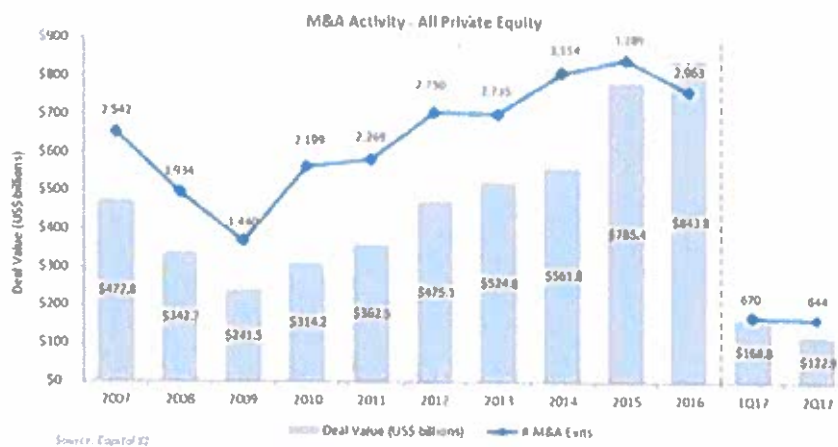


Deal Environment

The number of private equity-backed IPOs increased 71.4% in the second quarter, but the amount raised decreased by 54.9% compared to the prior quarter. During the second quarter, there were 24 private equity-backed IPOs, which raised US\$4.1 billion on the NYSE and NASDAQ. The second quarter IPOs were comprised of 16 venture capital-backed IPOs that raised a total of US\$1.8 billion and 8 IPOs from buyouts that raised US\$2.3 billion. The largest IPO of the quarter was completed by Gardner Denver, Inc. (NYSE: GDI), a global provider of compressed air solutions, which raised US\$949.9 million, representing 23.1% of the total value for all IPOs in the quarter. The graph below shows the amount raised and the number of IPOs on the NYSE and NASDAQ over the past ten years.



The number of private equity-backed Mergers and Acquisitions ("M&A") decreased 3.9% and the total value of M&A deals decreased 27.2% compared to the prior quarter. In the second quarter, there were 644 private equity backed M&A deals totaling US\$122.9 billion. The largest M&A deal of the quarter was the US\$29.9 billion purchase of Actelion Ltd. by Johnson & Johnson (NYSE: JNJ), representing 24.3% of the total value for all deals in the quarter. The graph below shows the deal value and the number of M&A deals over the past ten years.



III. SERS Portfolio Review

Summary

During the second quarter of 2017, SERS made total contributions of US\$107.4 million (including US\$8.1 million in fees) and received US\$343.3 million in distributions, for a net cash inflow of US\$235.8 million during the period. With US\$4.0 billion in market value and US\$2.2 billion in unfunded commitments as of June 30, 2017, SERS' total exposure to private equity is approximately US\$6.2 billion.

New Investment Commitments

The Portfolio made four new commitments for the period, April 1, 2017 through June 30, 2017.

Fund	Closing Date	Sector	Geographic Focus	Commitments (US\$mm)
Apollo Investment Fund IX	6/22/2017	Buyout	Global	\$85.4
CVC Capital Partners VII	6/20/2017	Buyout	Europe	\$91.2
Silver Lake Partners V	4/27/2017	Buyout	Global	\$100.0
Wind Point Partners VIII	5/18/2017	Buyout	North America	\$100.0
Total				\$376.6

Subsequent Investment Commitments

The Portfolio made three new commitments for the subsequent period, June 30, 2017 through September 30, 2017.

Fund	Closing Date	Sector	Geographic Focus	Commitments (US\$mm)
Asia Alternatives Capital Partners V	8/14/2017	Buyout	Asia	\$50.0
GTCR Fund XII, L.P.	9/29/2017	Buyout	North America	\$32.5
Insight Venture Partners X	7/3/2017	Venture	North America	\$100.0
Total				\$182.5

Quarterly Performance

The following table details the quarterly change in value by contributions, distributions, and unrealized gains and losses which occurred during the past eight quarters, net of any partnership fees and expenses.

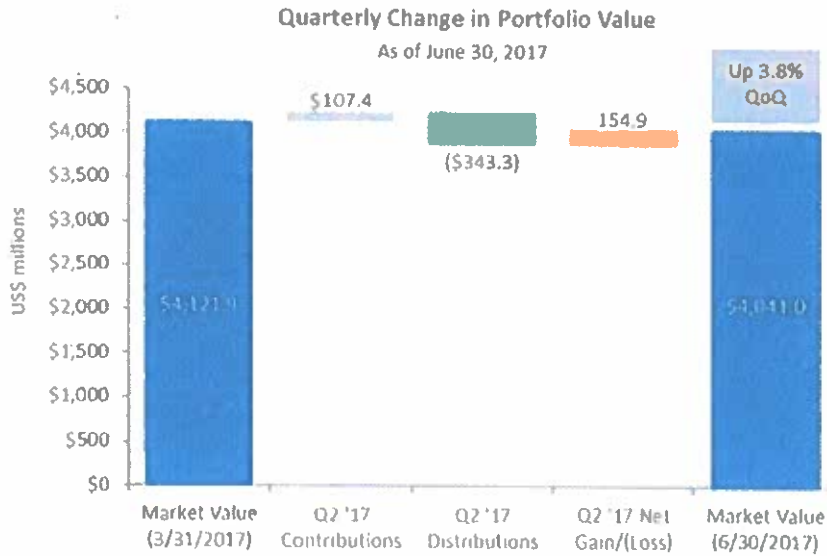
	2015				2016				2017	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Beginning Market Value	\$5,579.2	\$5,433.7	\$5,386.5	\$4,954.2	\$4,755.0	\$4,604.0	\$4,464.5	\$4,347.2	\$4,114.8	\$4,121.9
Contributed Capital	93.1	114.5	79.1	137.9	92.8	70.3	68.6	170.6	114.1	107.4
Distributed Capital	(317.3)	(408.4)	(409.2)	(403.4)	(233.3)	(297.9)	(328.5)	(428.4)	(295.1)	(343.3)
Appreciation/(Depreciation)	88.7	246.7	(102.7)	66.3	(10.4)	88.0	142.7	25.3	188.1	154.9
Ending Market Value	\$5,433.7	\$5,386.5	\$4,954.2	\$4,755.0	\$4,604.0	\$4,464.5	\$4,347.2	\$4,114.8	\$4,121.9	\$4,041.0
Unfunded Commitment	2,353.6	1,325.6	1,398.6	1,507.1	1,499.9	1,492.7	1,565.1	1,764.0	1,857.7	2,138.7
Total Exposure	\$6,787.3	\$6,712.0	\$6,352.8	\$6,257.2	\$6,103.9	\$5,957.2	\$5,912.3	\$5,878.8	\$5,979.6	\$6,179.7
Since Inception IRR	12.5%	12.6%	12.4%	12.4%	12.3%	12.3%	12.2%	12.2%	12.2%	12.3%

¹Appreciation/ (Depreciation) represents realized and unrealized gains/(losses) during the quarter, which is comprised of the difference between Ending Market Value and Beginning Market Value plus Contributed Capital minus Distributed Capital

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

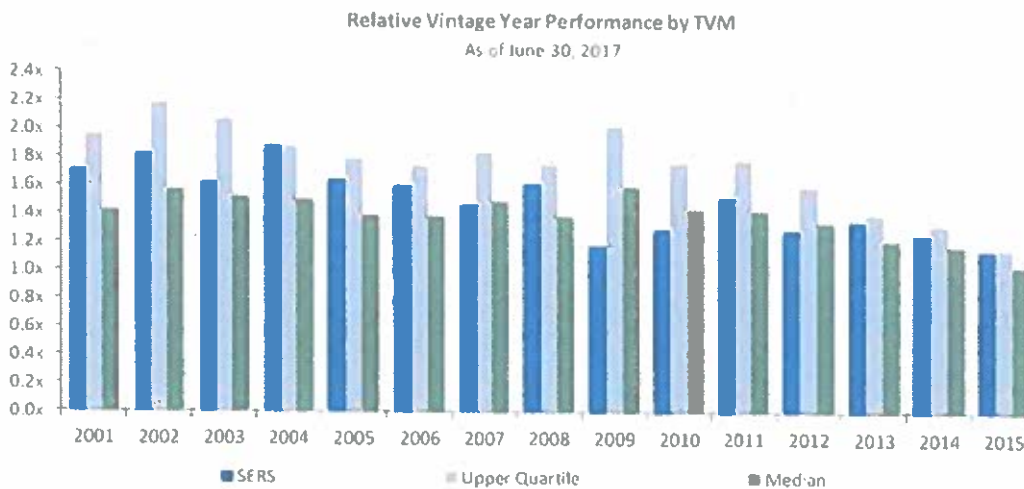
Valuation Movement

The valuation of the Portfolio increased by approximately US\$154.9 million, or 3.8% (on a net, after-fees basis) during the second quarter, primarily driven by Buyout-focused partnership investments.



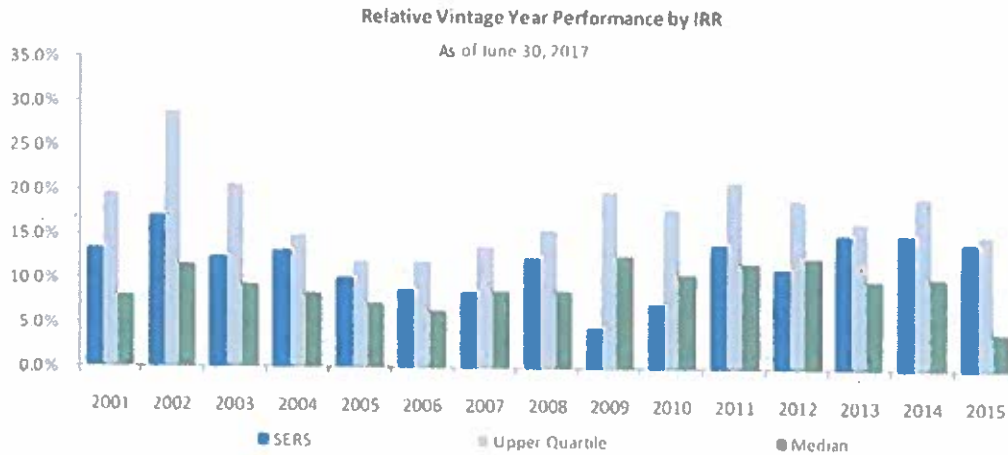
Performance by Vintage Year

The following graph illustrates Portfolio investment performance by vintage year as of June 30, 2017 relative to the upper quartile and median Global Private Equity TVM benchmarks as provided by Burgiss Private iQ. Performance of funds that are less than two years old is not meaningful. In aggregate, 11 out of 15 vintage years shown have outperformed the median and none have outperformed the upper quartile.



Note: Vintage years prior to 2001 have a market value of US\$135.9 million, representing 3.4% of the Portfolio's total market value as of June 30, 2017. Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

The following graph illustrates Portfolio investment performance by vintage year as of June 30, 2017 relative to the upper quartile and median Global Private Equity IRR benchmarks as provided by Burgiss Private IQ. In aggregate, 11 out of 15 vintage years shown have outperformed the median and none of 15 has outperformed the upper quartile.



Diversification

By Strategy/Sub-Strategy

(US\$ in millions)

As of June 30, 2017	Market Value		Unfunded		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
[Redacted Content]						
Total	4,041.0	100.0%	2,138.7	100.0%	6,179.7	100.0%

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

Fund Geographic Focus

(US\$ in millions)

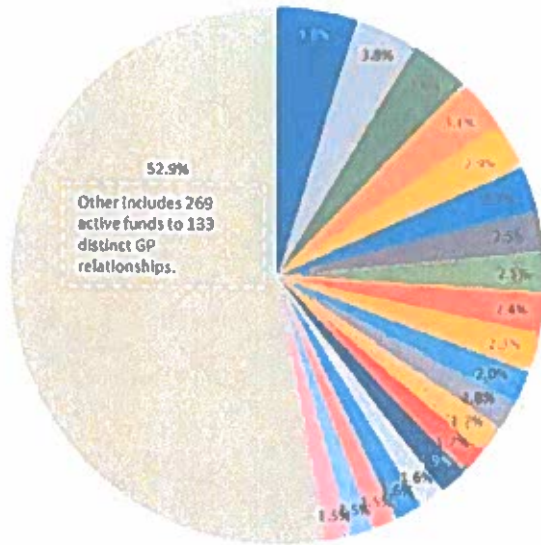
As of June 30, 2017	Market Value		Unfunded		Total Exposure	
	\$	% of Total	\$	% of Total	\$	% of Total
North America	2,723.0	67.4%	1,113.7	52.1%	3,836.7	62.1%
Europe	410.1	10.1%	301.6	14.1%	711.7	11.5%
Global	443.1	11.0%	427.2	20.0%	870.3	14.1%
Asia	322.9	8.0%	112.8	5.3%	435.6	7.0%
Emerging Markets	141.9	3.5%	183.5	8.6%	325.4	5.3%
Total	4,041.0	100.0%	2,138.7	100.0%	6,179.7	100.0%

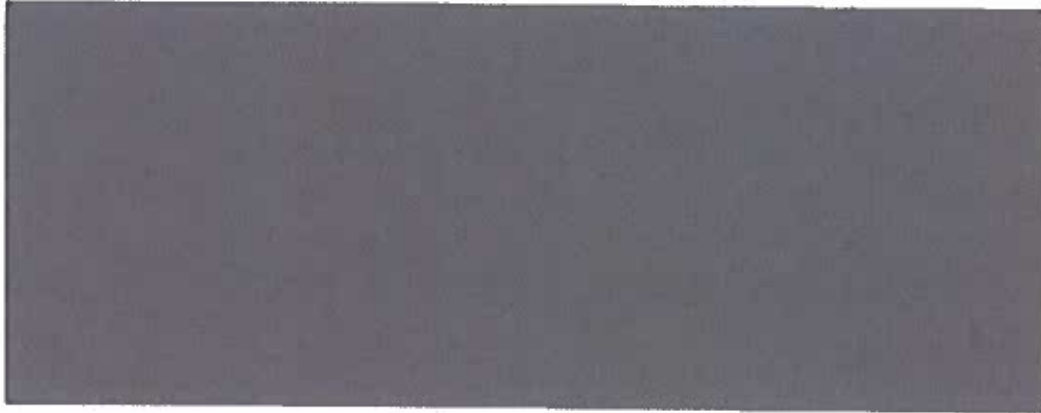
By Investment Manager

As of June 30, 2017, the Portfolio was highly diversified by investment manager, with the top 20 managers (listed with number of funds) comprising US\$2.9 billion, or 47.1% of total exposure. The remaining 133 active managers comprised 52.9% of total exposure as of quarter-end.

HarbourVest Partners, LLC makes up the largest exposure by manager (US\$297.2 million total exposure), or 4.8% of total exposure.

Total Exposure by Manager (\$6,179.7M)
As of June 30, 2017



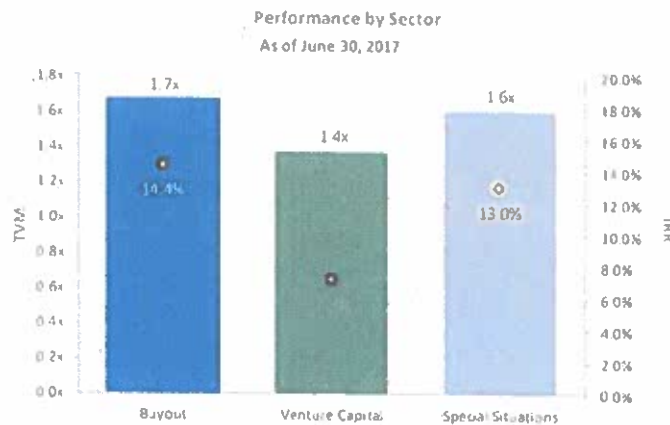


Portfolio Periodic Returns vs. Russell 3000® Index

As of June 30, 2017	1 Year	3 Year	5 Year	10 Year	Since Inception
PA SERS IRR	12.7%	7.1%	11.3%	7.6%	12.3%
Russell 3000® ¹	18.5%	9.1%	14.6%	7.3%	9.8%
Russell 3000® + 300 bps ¹	21.5%	12.1%	17.6%	10.3%	12.8%
PA SERS Outperformance/(Underperformance)					
vs. Russell 3000® ¹	(5.8%)	(2.0%)	(3.3%)	0.3%	2.4%
vs. Russell 3000® + 300 bps ¹	(8.8%)	(5.0%)	(6.3%)	(2.7%)	(0.6%)

Performance by Strategy

Buyout is the best performing sector generating an IRR of 14.4% and a TVM of 1.7x as of June 30, 2017.



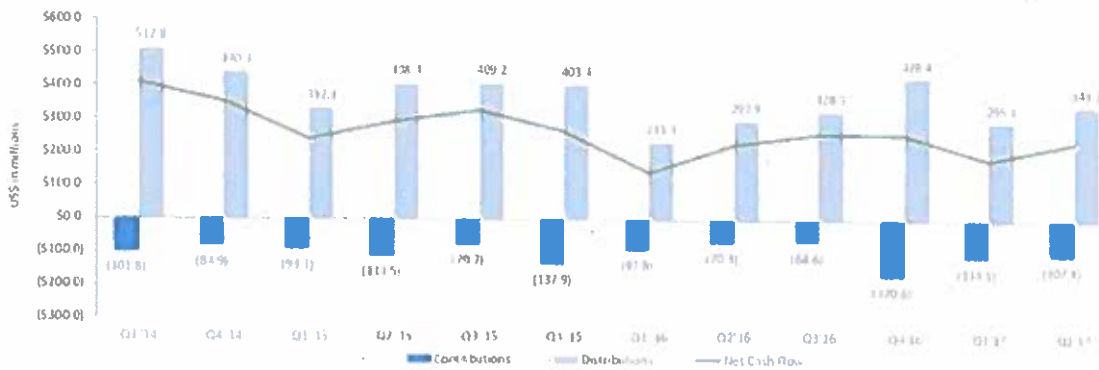
¹Benchmark is a dollar-weighted calculation of quarterly changes in the Russell 3000® index. Russell Investment Group is the source and owner of the trademark, service marks and copyrights related to the Russell indexes. Russell® is a trademark of Russell Investment Group. Returns shown are time-weighted (TWR).

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses. The referenced indices are shown for general market comparisons and are not meant to represent any particular fund. An investor cannot directly invest in an index. Moreover, indices do not reflect commissions or fees that may be charged to an investment product based on the index, which may materially affect the performance data presented.

Portfolio Cash Flow Analysis

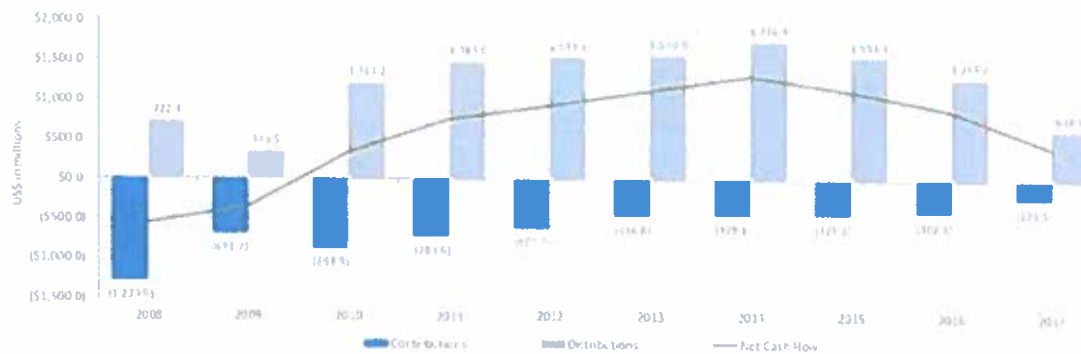
During the second quarter of 2017, the Portfolio made US\$107.4 million of contributions and received US\$343.3 million of distributions, for a net cash inflow of US\$235.8 million. The portfolio has been cash flow positive for 30 consecutive quarters. The graphs below illustrate recent cash flow activity by quarter and year.

Quarterly Cash Flow Activity



Quarterly Net Cash Flows											
Q1 '14	Q4 '14	Q1 '15	Q2 '15	Q3 '15	Q4 '15	Q1 '16	Q2 '16	Q3 '16	Q4 '16	Q1 '17	Q2 '17
416.0	355.4	299.1	293.9	329.5	265.5	140.6	227.6	259.9	257.8	181.0	235.8

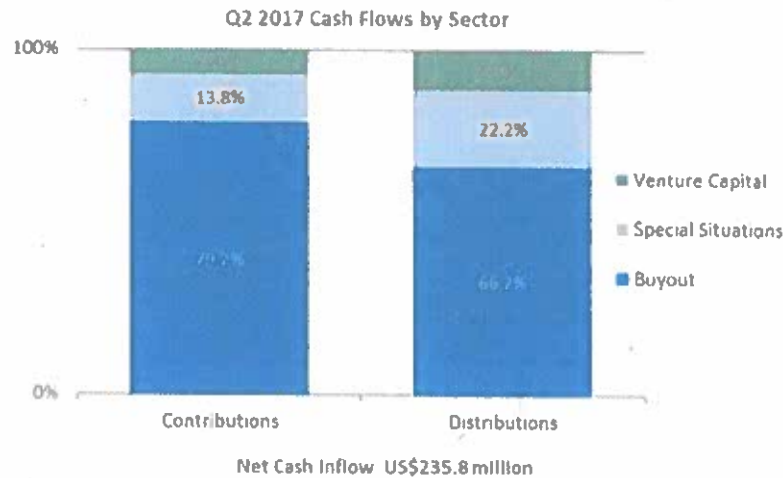
Yearly Cash Flow Activity



Annual Net Cash Flows									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
(557.2)	(339.7)	349.3	770.0	938.3	1,124.1	1,317.7	1,128.1	885.8	416.9

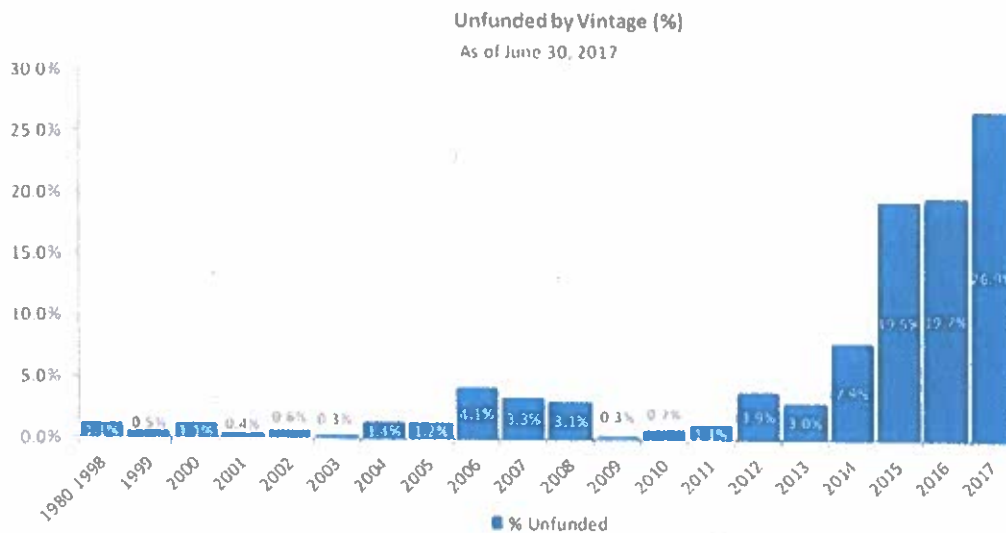
Cash Flow by Sector

Buyout funds were the most active in terms of cash flow activity during the second quarter of 2017, drawing down US\$85.1 million, or 79.2% of total contributions during the quarter, and distributing US\$227.3 million, or 66.2% of total distributions during the quarter.

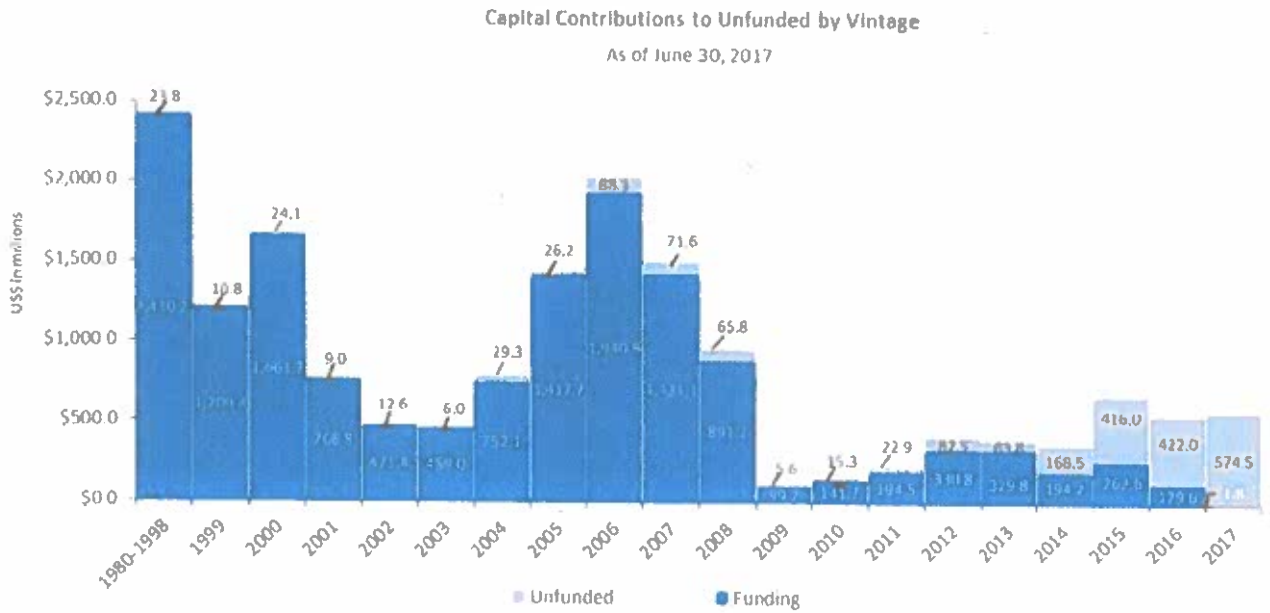


Invested Capital by Vintage Year

The following chart provides unfunded commitments by vintage year as a percentage of the Portfolio's total unfunded commitments. Vintage years 2014 through 2017 make up 73.9% of the Portfolio's unfunded commitments.



The following chart provides capital contributions (management fees and expenses included) and unfunded capital commitments, by vintage year.



Subsequent Cash Flows

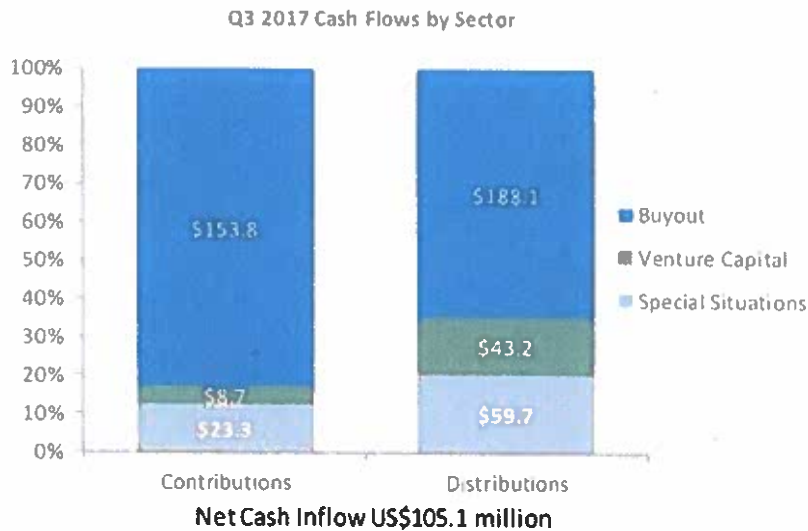
Subsequent Cash Flow Activity

Subsequent to quarter-end through June 30, 2017, the Portfolio made US\$185.8 million of contributions and received US\$291.0 million of distributions, for a net cash inflow of US\$105.1 million, a decrease of 55.4% from the previous quarter total



Subsequent Cash Flow by Sector

The largest concentration of capital calls and distributions during the time period was in the Buyout sector, resulting in net cash inflows of US\$34.3 million.



IV. Exhibits

V. Exhibit A – Investments by Vintage Year

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Sector	Committed	Capital Deployed	Distributions	Market Value	Unrealized Gain/(Loss)	IRR ⁽¹⁾	TVM	Upper Quartile IRR ⁽²⁾	Upper Quartile TVM ⁽³⁾	Quartile Ranking [TVM]
1980											
Zero Stage II	Venture Capital	2,000,000	2,000,000	628,401							
Total: 1980		\$ 2,000,000	\$ 2,000,000	\$ 628,401							
1985											
Fostun Capital	Venture Capital	10,000,000	10,000,000	10,535,024							
Keystone Ventures II	Venture Capital	10,000,000	10,000,000	22,401,982							
NEPA Venture	Venture Capital	2,000,000	2,000,000	12,132,452							
PKC Ventures	Buyout	5,000,000	5,000,000	12,055,375							
Pittsburgh Seed Fund	Venture Capital	2,000,000	2,000,000	1,016,649							
TDM II	Venture Capital	9,000,000	9,000,000	11,990,106							
Total: 1985		\$ 38,000,000	\$ 38,000,000	\$ 74,131,584							
1987											
APA Fostun	Venture Capital	20,000,000	20,000,000	77,278,523							
CEO Ventures I	Venture Capital	8,000,000	982,003	1,239,189							
Total: 1987		\$ 28,000,000	\$ 20,982,003	\$ 78,517,712							
1988											
Brentwood Buyout Fund	Buyout	12,500,000	12,548,440	21,955,297							
Murphy & Fauver	Venture Capital	5,200,000	5,194,735	7,862,758							
RR & Z PA Fund #1	Venture Capital	10,000,000	10,000,000	19,606,155							
Total: 1988		\$ 27,700,000	\$ 27,743,175	\$ 49,424,210							
1989											
CEO Ventures II	Venture Capital	7,500,000	7,483,903	5,275,003							
Code Hennessy & Simmons	Buyout	10,000,000	9,650,000	29,464,414							
Fostun Capital II	Venture Capital	8,000,000	7,500,000	11,611,178							
Total: 1989		\$ 25,500,000	\$ 24,633,903	\$ 46,352,595							
1990											
APAX Capital Risque III (France)	Buyout	5,000,000	5,103,877	11,622,162							
APAX Germany	Venture Capital	5,200,000	5,246,602	12,681,354							
Grotech PA III	Venture Capital	3,000,000	3,000,000	2,910,452							
Permira UK Venture Fund III	Venture Capital	9,063,438	8,946,988	26,255,739							
Pont Ventures II	Venture Capital	1,000,000	1,000,000	1,313,407							
Total: 1990		\$ 23,263,438	\$ 23,297,467	\$ 54,827,114							
1991											
Helman & Friedman Capital Partners III	Buyout	21,130,323	23,218,222	39,807,943							
Total: 1991		\$ 21,130,323	\$ 23,218,222	\$ 39,807,943							
1992											
Healthcare Ventures III	Venture Capital	15,000,000	15,000,000	31,477,480							
NEPA Venture-I	Venture Capital	7,500,000	7,500,000	34,879,769							
Total: 1992		\$ 22,500,000	\$ 22,500,000	\$ 66,357,249							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Acquire	Commitments	Contributions	Distributions	Market Value	Unrealized Gain/Loss	IRR (%)	TVM	Upper Quintile (%)	Upper Quintile Ranking (%)
1993										
Blackstone Capital III	Buyout	40,000,000	42,438,924	96,997,924						
Charterhouse Equity Partners II	Buyout	40,000,000	42,757,326	101,547,257						
Grotech Partners IV	Venture Capital	25,000,000	25,000,000	44,252,767						
Kelco Investment Associates V	Buyout	40,000,000	53,807,706	153,859,812						
Keystone Venture IV	Venture Capital	15,000,000	14,980,880	11,417,693						
Madison Dearborn Capital Partners	Buyout	15,000,000	14,449,521	49,149,700						
New Enterprise Associates VI	Venture Capital	25,000,000	25,000,000	200,811,085						
PJA Fund I	Venture Capital	30,000,000	30,000,000	66,835,378						
TA/Advent VI	Buyout	25,000,000	25,000,000	96,185,496						
Total: 1993		\$ 255,000,000	\$ 273,434,357	\$ 821,257,610						
1994										
Bachow Investments III	Venture Capital	25,000,000	24,969,997	16,202,538						
Code Hennessy & Simmons II	Buyout	20,000,000	20,000,000	49,888,354						
Edison Venture Fund III	Venture Capital	25,000,000	25,000,000	48,625,410						
Fairview Capital	Venture Capital	10,000,000	10,000,000	4,672,939						
Landmark Equity V	Special Situations	18,923,291	12,495,850	18,814,890						
ICW Special Credit V	Special Situations	35,000,000	35,000,000	60,857,854						
Total: 1994		\$ 129,923,291	\$ 122,465,847	\$ 229,061,985						
1995										
Clayton Dubilier & Rice V	Buyout	50,000,000	49,236,502	58,935,059						
Hellman & Friedman Capital Partners III	Buyout	50,000,000	40,308,123	91,816,515						
Landmark Equity Partners V	Special Situations	19,624,113	19,391,580	23,752,434						
OCM Opportunities Fund	Special Situations	24,000,000	24,000,000	39,330,886						
Sprout VII	Venture Capital	18,000,000	18,000,000	48,331,682						
Summit IV	Buyout	25,000,000	24,000,000	183,497,742						
Weston Presidio II	Buyout	20,000,000	17,000,000	41,383,116						
Total: 1995		\$ 206,624,113	\$ 191,936,205	\$ 487,047,434						
1996										
BIR Capital Partners	Special Situations	35,000,000	34,423,917	50,540,547						
OU Merchant Banking Fund II	Buyout	75,000,000	80,090,261	106,469,101						
Media/Communication III	Buyout	25,000,000	23,593,750	38,175,382						
New Enterprise Associates VII	Venture Capital	30,000,000	30,000,000	102,186,796						
OCM Principal Opportunities	Special Situations	25,000,000	25,000,000	36,286,472						
Permira UK Venture Fund IV	Venture Capital	15,248,000	15,794,739	23,596,190						
Polaris Venture Partners	Venture Capital	15,000,000	14,520,000	46,594,679						
RR2 Private Equity	Venture Capital	20,000,000	19,144,687	12,188,287						
TL Ventures III	Venture Capital	15,000,000	15,000,000	20,773,854						
Vestor Capital Partners III	Buyout	25,000,000	22,289,809	27,745,687						
Total: 1996		\$ 280,248,000	\$ 279,856,163	\$ 464,557,704						

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Sector	Commitments	Contributions	Distributions	Market Value	Unrealized Gain/(Loss)	IRR (%)	IVM	Upper Quartile (%)	Upper Quartile (%)	Quantile Ranking
1997											
ABRY Broadcast Partners III	Buyout	25,000,000	20,394,093	28,932,345							
APAX Germany II	Venture Capital	8,737,262	8,455,477	17,367,332							
APAX UK Ventures VI	Venture Capital	6,918,899	6,918,899	13,274,906							
Apollo Investment Fund IV	Buyout	75,000,000	72,079,063	124,814,033							
Blackstone Capital III	Buyout	75,000,000	74,295,009	155,123,498							
Charterhouse Equity Partners III	Buyout	50,000,000	52,598,202	76,093,084							
Code Hennessy & Simmons III	Buyout	40,000,000	38,423,990	56,551,057							
Fairview II	Venture Capital	10,000,000	9,869,194	4,047,645							
Frontenac VII	Buyout	40,000,000	40,000,000	55,957,155							
GTCR V	Buyout	11,400,000	11,400,000	20,777,730							
Halpern Denny Fund II	Buyout	25,000,000	24,999,991	5,307,874							
Harbourvest IPEP II	Buyout	25,000,000	24,500,000	34,075,106							
Healthcare Ventures V	Venture Capital	25,000,000	25,000,000	52,714,973							
J.H. Whitney Equity Fund III	Buyout	20,000,000	19,971,316	50,875,134							
Keystone V	Venture Capital	25,000,000	25,000,000	2,320,252							
Madison Dearborn Capital Partners II	Buyout	40,000,000	39,477,443	93,274,048							
Mid-Atlantic Venture Fund III	Venture Capital	20,000,308	20,000,000	5,654,702							
OCM Opportunities Fund II	Special Situations	40,000,000	40,000,000	60,166,957							
P/A Fund III	Venture Capital	100,000,000	99,166,750	161,607,393							
Permira European Fund	Buyout	33,494,516	32,159,947	84,005,717							
TA/Advent VIII	Buyout	30,000,000	29,400,000	67,143,158							
TPG Partners II	Buyout	75,000,000	71,335,785	127,821,079							
Total: 1997		\$ 800,559,005	\$ 785,640,159	\$ 1,298,103,178							
1998											
Clayton Dubilier & Rice VI	Buyout	50,000,000	33,699,959	57,754,625							
GTCR VI	Buyout	50,000,000	49,520,987	44,453,905							
Grotech Partners V	Venture Capital	25,000,000	25,000,000	24,590,624							
HarbourVest IPEP III	Buyout	40,000,000	39,400,000	60,828,829							
JP Morgan Venture Capital Investors	Venture Capital	100,000,000	93,284,186	70,178,287							
Keiso VI	Buyout	75,000,000	64,061,730	92,977,515							
Lexington Capital Partners II	Special Situations	40,000,000	39,538,000	51,513,592							
Media/Communications IV	Buyout	25,000,000	23,125,000	17,340,500							
Polaris Venture Partners II	Venture Capital	25,000,000	24,750,000	40,761,283							
Summit V	Buyout	37,500,000	36,187,500	49,997,247							
Thomas H. Lee Equity Fund IV	Buyout	70,000,000	60,512,410	52,506,686							
Weston Presidio III	Buyout	35,000,000	31,989,586	36,399,850							
Total: 1998		\$ 572,500,000	\$ 521,069,358	\$ 600,250,943							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Strategy	Commitments	Long-Term Investments ⁽¹⁾	Distributions	Market Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	TVM	Upper Quartile IRR ⁽³⁾	Upper Quartile TVM ⁽³⁾	Quartile Ranking [TVM]
1999											
ABS Capital Partners III	Buyout	35,000,000	27,764,683	18,757,336							
APAX Europe IV	Buyout	32,424,000	29,909,800	40,876,051							
APEX Investment Fund V	Venture Capital	25,000,000	25,000,000	5,661,282							
Adams Capital Management II	Venture Capital	30,000,000	30,000,000	4,117,043							
Asia Pacific Growth Fund III	Buyout	15,000,000	14,627,000	16,708,736							
Atlas Venture Fund IV	Venture Capital	26,000,000	21,630,650	8,556,942							
Cerberus Institutional Partners	Special Situations	35,000,000	35,000,000	79,906,454							
Code Hennessy & Simmons IV	Buyout	100,000,000	97,238,000	156,773,531							
Cross Atlantic Technology Fund	Venture Capital	20,000,000	19,985,000	23,742,240							
Draper Fisher Jurvetson Fund V	Venture Capital	8,000,000	8,000,000	5,347,835							
Draper Triangle Ventures	Venture Capital	20,000,000	16,194,757	13,357,493							
Frazier Healthcare III	Venture Capital	30,000,000	30,000,000	13,051,047							
Great Hill Equity Partners	Buyout	30,000,000	27,858,676	31,139,243							
Gryphon Partners II	Buyout	35,000,000	32,173,416	41,951,023							
HarbourVest Partners V	Buyout	100,000,000	196,000,000	235,595,889							
Hellman & Friedman Capital Partners IV	Buyout	75,000,000	64,681,459	189,025,929							
Invemed Catalyst Fund	Buyout	25,000,000	13,695,639	11,020,758							
J.H. Whitney IV	Buyout	20,000,000	17,658,772	7,529,485							
LLR Equity Partners	Buyout	25,000,000	24,500,000	52,196,658							
Lexington Capital Partners III	Special Situations	35,000,000	34,516,449	43,363,378							
Madison Dearborn Capital Partners III	Buyout	75,000,000	74,852,182	114,509,416							
New Enterprise Associates IX	Venture Capital	20,000,000	19,600,000	6,787,262							
Newbridge Asia II	Buyout	15,000,000	14,756,943	14,567,191							
Oakhill Capital Partners	Buyout	50,000,000	50,156,830	93,999,577							
Palamon European Equity	Buyout	29,779,989	33,517,469	67,773,611							
Summit Accelerator Fund	Venture Capital	8,000,000	7,560,000	13,102,985							
3L Ventures IV	Venture Capital	35,000,000	35,000,000	26,810,892							
TPG Partners III	Buyout	75,000,000	61,238,756	161,383,087							
US Venture Partners VII	Venture Capital	13,750,000	13,750,000	4,800,279							
Vestor Capital Partners IV	Buyout	100,000,000	90,331,274	172,192,260							
Total: 1999		\$ 1,242,953,989	\$ 1,167,189,755	\$ 1,677,406,913							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Strategy	Commitments	Contributions**	Distributions	Net Asset Value	Unrealized Gain/(Loss)	IPB III	IVM	Upper Quartile (IB III)	Upper Quartile (IVM III)	Quartile Ranking (IVM)
2000											
ABACUS Fund Partners	Venture Capital	15,000,000	15,000,000	8,949,405							
ABRY Partners IV	Buyout	35,000,000	22,500,122	74,633,973							
ABS Capital Partners V	Buyout	35,000,000	28,789,304	68,253,149							
APAX Europe V	Buyout	53,262,000	68,764,274	150,017,403							
Adams Capital Management II	Venture Capital	10,000,000	10,000,000	7,011,905							
Advanced Technology Ventures V	Venture Capital	10,000,000	10,000,000	4,498,689							
Alloy Ventures 2000	Venture Capital	20,000,000	20,000,000	5,964,401							
Apar Excelsior VI	Buyout	35,000,000	33,957,540	56,527,379							
Apollo Investment Fund V	Buyout	50,000,000	42,484,019	122,268,807							
Atlas Venture Fund V	Venture Capital	37,200,000	34,699,263	40,751,899							
Audax Private Equity Fund	Buyout	35,000,000	33,157,787	55,936,816							
BC European Capital V2	Buyout	32,658,500	37,740,202	96,576,440							
Bain Capital Fund VI	Buyout	25,000,000	23,562,500	47,998,008							
Blackstone Communications Partners I	Buyout	25,000,000	22,673,931	30,998,189							
Charles River Partnership XI	Venture Capital	11,032,259	11,032,259	14,422,548							
DEJ Merchant Banking Fund II	Buyout	85,000,000	82,782,001	188,607,421							
Draper Fisher Jurvetson Fund VII	Venture Capital	20,000,000	20,000,000	9,781,991							
Francisco Partners	Buyout	50,000,000	46,788,932	61,163,220							
GTCR VI	Buyout	55,000,000	47,987,500	121,878,298							
Great Hill Equity Partners II	Buyout	35,000,000	33,224,117	78,337,666							
Halpern Denny Fund III	Buyout	25,000,000	22,446,273	28,562,555							
Healthcare Ventures VI	Venture Capital	35,000,000	35,000,000	6,534,943							
InterWest Partners VII	Venture Capital	25,000,000	24,850,000	12,953,647							
J.M. Whitney V	Buyout	20,000,000	22,559,316	44,904,355							
J.P. Morgan Venture Capital Investors II	Venture Capital	100,000,000	98,029,678	116,062,449							
Kane Hawkes Pacific	Venture Capital	15,000,000	15,000,000	7,024,260							
Madison Dearborn Capital Partners V	Buyout	90,000,000	87,106,109	167,519,294							
Medial/Communications Ventures Fund V	Venture Capital	35,000,000	33,781,095	56,014,639							
Monarch Capital Partners II	Venture Capital	26,475,166	24,842,529	37,926,932							
Mid Atlantic Venture Fund IV	Venture Capital	30,000,000	30,000,000	9,177,849							
New Enterprise Associates X	Venture Capital	35,000,000	35,000,000	32,493,542							
Newbridge Asia III	Buyout	15,000,000	12,743,920	55,728,660							
Novo Vita	Venture Capital	11,616,498	11,328,462	5,382,912							
OCM Opportunities Fund III	Special Situations	60,000,000	60,000,000	90,237,385							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Series	Commitments	Contributions ⁽¹⁾	Distributions	Market Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	IVM ⁽³⁾	Upper Quartile ⁽³⁾	Upper Quartile ⁽³⁾	Quartile Ranking ⁽³⁾
Permira European Fund II	Buyout	48,000,000	45,672,612	91,464,007							
Polaris Venture Partners III	Venture Capital	50,000,000	49,500,000	35,229,712							
Providence Equity Partners IV	Buyout	25,000,000	21,894,740	56,040,748							
SCP Private Equity Partners II	Venture Capital	25,000,000	23,016,869	8,534,307							
TAIX	Buyout	45,000,000	43,650,000	105,881,474							
TL Ventures V	Venture Capital	40,000,000	40,000,000	16,100,247							
Thomas H Lee Equity Fund V	Buyout	100,000,000	97,772,983	175,615,745							
Three Arch Capital	Venture Capital	20,000,000	19,500,000	16,310,214							
US Venture Partners VII	Venture Capital	26,250,000	25,830,000	11,214,948							
Waxton Preudio IV	Buyout	35,000,000	34,451,015	39,417,544							
Worldview Technology Partners IV	Venture Capital	18,130,073	16,951,175	7,863,519							
Total: 2000		\$ 1,649,624,446	\$ 1,596,080,569	\$ 2,498,775,624							
2001											
ABRY Mezzanine Partners	Special Situations	30,000,000	24,857,300	49,707,116							
AG Capital Recovery Partners II	Special Situations	17,600,000	17,600,000	27,534,983							
APEX Investment Fund V	Venture Capital	20,000,000	20,122,702	7,719,736							
Accel Europe	Venture Capital	15,000,000	11,350,000	10,931,665							
Advanced Technology Ventures VI	Venture Capital	27,000,000	26,797,500	28,185,753							
Altus Venture Fund VI	Venture Capital	24,800,000	23,282,720	16,191,410							
Austin Ventures VIII	Venture Capital	20,932,140	20,932,140	33,669,094							
BC European Capital VII Top Up	Buyout	10,046,300	12,278,596	12,186,702							
Blackstone Capital IV	Buyout	75,000,000	67,747,508	184,306,060							
Cerberus Institutional Partners Series Two	Special Situations	35,000,000	30,100,793	93,674,154							
Cross Asset & Technology Fund II	Venture Capital	32,900,000	31,815,185	33,327,455							
Frazier Healthcare IV	Venture Capital	30,000,000	28,257,985	24,821,191							
Harbourvest IPEP IV	Buyout	40,000,000	39,000,000	66,958,354							
Highland Capital Partners VI	Venture Capital	25,000,000	25,000,000	37,031,136							
IVP II	Venture Capital	8,600,000	8,564,472	2,799,296							
Lexington Capital Partners V	Special Situations	75,000,000	74,322,207	122,032,804							
Matlin Patterson Global Opportunities Partners	Special Situations	35,000,000	30,007,727	56,709,189							
Morgenthaler Partners VII	Venture Capital	35,000,000	35,000,000	28,717,913							
OCM Opportunities Fund IV	Special Situations	70,000,000	70,000,000	115,665,253							
OCM Principal Opportunities II	Special Situations	25,000,000	25,000,000	43,894,168							
Parthenon Investors II	Buyout	20,000,000	19,771,146	35,780,448							
Polaris Venture Partners IV	Venture Capital	50,000,000	49,750,000	44,081,207							
Summit Ventures VI	Buyout	62,000,000	62,000,000	124,306,643							
Total: 2001		\$ 783,878,440	\$ 753,559,081	\$ 1,226,511,228							

Commonwealth of Pennsylvania State Employees' Retirement System

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Investment	Sector	Commitments	Contributions	Distributions	Market Value	Unrealized Gain/(Loss)	TVM ⁽¹⁾	Upper Quartile ⁽¹⁾	Upper Quartile ⁽¹⁾	Quantile Ranking [TVM]
2002										
AG Capital Recovery Partners III	Special Situations	20,000,000	16,000,000	25,183,359						
Alloy Ventures 2002	Venture Capital	25,000,000	24,832,999	15,448,474						
Alpha Private Equity Fund 4	Buyout	26,503,000	35,605,050	77,986,040						
Avenue Special Situations Fund III	Special Situations	50,000,000	37,387,969	62,628,424						
Berkshire Fund VI	Buyout	20,000,000	17,260,645	44,220,291						
Charterhouse Capital Partners VII	Buyout	55,482,500	52,250,090	109,645,407						
GTCR VII	Buyout	75,000,000	69,393,599	114,671,496						
Healthcare Ventures VI	Venture Capital	35,000,000	35,000,000	22,026,167						
J.W. Childs Equity Partners III	Buyout	40,000,000	38,233,446	76,553,620						
JP Morgan US Corp Finance Investors II	Special Situations	50,000,000	47,843,124	83,158,875						
Leeds Equity Partners IV	Buyout	20,000,000	18,540,214	22,919,831						
Nordic Capital V	Buyout	34,996,500	42,234,176	131,706,706						
Sterling Capital Partners I	Buyout	15,000,000	14,146,729	30,923,365						
Total: 2002		\$ 466,987,000	\$ 448,708,081	\$ 817,065,935						
2003										
AG Capital Recovery Partners IV	Special Situations	30,000,000	35,415,216	55,993,470						
Abingworth BioVentures IV	Venture Capital	20,000,000	19,700,000	23,712,133						
Alloy Annex I	Venture Capital	5,000,000	5,000,000	1,958,747						
Carborus Institutional Partners Series Three	Special Situations	35,000,000	22,321,354	48,001,987						
HarbourVest Partners VII	Buyout	75,000,000	73,687,500	90,232,312						
Keefe VII	Buyout	40,000,000	38,453,157	65,760,625						
New Enterprise Associates III	Venture Capital	25,000,000	23,000,000	53,967,678						
Novitas Capital III	Venture Capital	10,000,000	8,337,867	3,924,047						
Permira European Fund III	Buyout	115,960,000	123,774,404	214,320,293						
Quaker BioVentures	Venture Capital	20,000,000	19,757,637	5,472,501						
ShoreView Capital Partners	Buyout	38,000,000	26,859,811	56,043,792						
TPG Partners IV	Buyout	30,000,000	27,502,733	56,716,528						
Three Arch Partners IV	Venture Capital	20,000,000	19,050,000	19,732,734						
Total: 2003		\$ 483,960,000	\$ 444,859,667	\$ 695,778,847						
2004										
ABRY Partners V	Buyout	45,000,000	36,658,306	81,981,960						
AXA Secondary Fund III	Special Situations	26,000,000	21,733,291	37,244,706						
AXA Secondary Fund III-2	Special Situations	14,000,000	11,677,210	19,062,764						
Apa Europe VI	Buyout	76,349,190	74,145,979	134,510,076						
Bain Capital Fund VIII-E	Buyout	12,144,000	12,299,670	19,631,405						
Clearstone Venture Partners III-A	Venture Capital	25,000,000	24,250,000	12,828,843						
Draper Triangle Ventures II	Venture Capital	12,000,000	11,490,032	13,724,504						
Elevation Partners	Buyout	35,000,000	27,052,500	49,826,210						
Energy Spectrum Partners IV	Buyout	50,000,000	47,543,699	86,714,979						
Furtt Reserve Fund X	Buyout	30,000,000	29,215,285	54,728,700						
Gryphon Partners II	Buyout	30,000,000	24,094,133	51,691,321						
Hellman & Friedman Capital Partners V	Buyout	80,000,000	70,568,846	191,936,442						

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As of June 30, 2017

Investment	Strategy	Commitments	Contributions ⁽¹⁾	Disbursements	Market Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	TVM ⁽³⁾	Upper Quintile IRR ⁽⁴⁾	Upper Quintile TVM ⁽⁵⁾	Quartile Ranking
2004											
IVP II	Venture Capital	10,500,000	9,555,000	12,920,296							
InterWest Partners IX	Venture Capital	20,000,000	19,430,000	20,323,462							
Knightsbridge Venture Capital VI	Venture Capital	20,000,000	18,266,667	13,807,280							
Lime Rock Partners III	Buyout	15,000,000	13,833,501	7,179,936							
LLR Equity Partners II	Buyout	25,000,000	25,000,000	40,778,924							
Martin Patterson Global Opportunities Partners II	Special Situations	30,000,000	29,962,912	10,578,309							
OCM Opportunites Fund V	Special Situations	40,000,000	40,000,000	64,930,528							
Oak Investment Partners XI	Venture Capital	35,000,000	35,000,000	20,884,742							
Oaktree Capital Management	Special Situations	40,000,000	39,999,995	117,367,238							
Prango Venture Capital Fund IV	Venture Capital	20,000,000	20,266,266	16,748,067							
Providence Equity Partners V	Buyout	45,000,000	41,090,834	49,459,242							
UMS Partners Fund I	Buyout	5,000,000	5,900,000	3,004,753							
Versa Capital Partners	Special Situations	20,000,000	22,868,000	15,988,714							
Total: 2004		\$ 760,993,190	\$ 721,002,124	\$ 1,148,097,400							
2005											
ABS Capital Partners V	Buyout	20,000,000	19,404,254	48,986,604							
AG Capital Recovery Partners V	Special Situations	20,000,000	20,000,000	21,834,353							
Alloy Ventures 2005	Venture Capital	25,000,000	25,000,000	9,242,217							
Apollo Investment Fund VI	Buyout	40,000,000	38,289,202	57,606,408							
Audax Private Equity Fund II	Buyout	25,000,000	25,506,073	45,110,929							
Austin Ventures IX	Venture Capital	15,000,000	15,127,754	16,396,495							
Avenue Special Situations Fund IV	Special Situations	50,000,000	49,911,855	69,076,799							
BC European Capital VIII	Buyout	98,107,500	97,137,090	104,856,917							
Buchners Ventures III	Venture Capital	10,000,000	9,082,885	8,692,184							
Brynwood Partners V	Buyout	10,000,000	9,646,565	18,886,669							
Code Hennessy & Simmons V	Buyout	50,000,000	52,664,489	91,608,248							
Frazier Healthcare V	Venture Capital	30,000,000	27,254,471	44,861,311							
HSPEP V-Asia Pacific & Rest of World	Buyout	30,000,000	28,100,000	31,465,405							
Healthcare Ventures VIII	Venture Capital	30,000,000	29,735,000	20,617,021							
InterMedia Partners VII	Buyout	15,000,000	14,749,398	16,403,677							
J.H. Whittary VI	Buyout	30,000,000	46,555,172	40,539,938							
JMI Equity Fund V	Buyout	24,000,000	21,891,322	127,661,437							
JP Morgan Venture Capital Investors III	Venture Capital	100,000,000	99,749,283	80,029,395							
Lexington Capital Partners VI	Special Situations	50,000,000	52,732,143	61,408,551							
LightSpeed Venture Partners VII	Venture Capital	18,000,000	15,057,658	29,801,928							
Lime Rock Resources	Buyout	20,000,000	17,129,968	25,786,779							
Meridian Venture Partners II	Buyout	10,000,000	10,000,000	21,939,244							
Morgenthaler Partners VIII	Venture Capital	35,000,000	35,046,903	39,451,350							
Motion II B	Buyout	48,204,998	41,261,710	38,726,742							
New York Life Capital Partners III	Buyout	50,000,000	50,454,371	42,068,297							
Newbridge Asia IV	Buyout	40,000,000	37,967,906	82,887,170							
Nordic Capital V	Buyout	54,369,000	59,249,208	92,734,157							
OCM/GH Power Opportunities Fund II	Buyout	25,000,000	13,110,559	41,644,215							
OCM Opportunites Fund VI	Special Situations	40,000,000	40,000,000	63,171,009							

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As of June 30, 2017

Investment	Sector	Commitments	Contributions ⁽¹⁾	Distributions	Market value	Unrealized Gain/(Loss)	PER ⁽²⁾	Upper Quartile (3)	Upper Quartile (4)	Quartile Ranking (5)
2005										
Palmon European Equity II	Buyout	36,113,990	37,311,083	60,699,188						
Sterling Capital Partners II	Buyout	30,000,000	27,224,698	27,662,225						
Summit Partners Private Equity Fund VII	Buyout	97,134,500	97,134,505	141,097,097						
Summit Partners Venture Capital Fund III	Venture Capital	15,000,000	15,000,000	28,084,917						
Templeton Strategic Emerging Markets Fund II	Special Situations	100,000,000	74,742,190	149,972,520						
Vestor Capital Partners V	Buyout	50,000,000	48,164,752	51,571,508						
Weston Presidio V	Buyout	50,000,000	43,269,290	104,257,433						
Total: 2005		\$ 1,410,929,988	\$ 1,343,601,757	\$ 1,950,342,258						
2006										
ABRY Senior Equity II	Special Situations	30,000,000	25,405,729	44,684,849						
AXA Secondary Fund IV	Special Situations	80,000,000	66,908,452	82,301,114						
Alpha Private Equity Fund S	Buyout	57,796,800	62,184,152	82,402,625						
Artman Ventures II	Venture Capital	25,000,000	20,967,427	11,141,575						
Asa Alternatives Capital Partners	Buyout	50,000,000	23,406,269	34,732,699						
Avenue Asa Special Situations Fund IV	Special Situations	50,000,000	31,897,973	33,606,114						
Bain Capital Fund IX	Buyout	75,000,000	72,937,500	107,913,972						
Bain Capital IX Co-Investment Fund	Buyout	15,000,000	14,456,250	21,969,013						
Berkshire Fund VII	Buyout	32,000,000	29,159,510	44,446,671						
Blackstone Capital Partners V	Buyout	150,000,000	141,252,710	228,835,260						
Brat IV	Buyout	25,000,000	15,196,613	2,873,282						
Care Capital Investments III	Venture Capital	25,000,000	19,990,191	11,268,961						
Centerbridge Capital Partners I	Special Situations	50,000,000	51,804,352	107,918,945						
Cerberus Institutional Partners Series Four	Special Situations	75,000,000	68,695,715	99,407,294						
Charterhouse Capital Partners VIII	Buyout	63,826,976	67,961,522	70,399,353						
Chequers Capital XV	Buyout	31,133,996	28,814,337	55,670,090						
Devon Park Bioventures	Venture Capital	10,842,697	8,417,877	25,366,934						
Eureka II	Buyout	20,000,000	16,539,093	17,061,767						
First Reserve Fund XI	Buyout	60,000,000	61,497,082	39,196,915						
Francisco Partners II	Buyout	30,000,000	29,186,046	40,261,907						
GTCR IX	Buyout	50,000,000	46,134,343	79,738,269						
Great Hill Equity Partners III	Buyout	35,000,000	31,191,528	40,355,000						
HarbourVest Partners VII	Buyout	100,000,000	98,000,000	95,315,924						
Hellman & Friedman Capital Partners VI	Buyout	125,000,000	112,971,649	195,637,070						
Highland Capital Partners VII	Venture Capital	35,000,000	35,000,000	27,335,325						
Luke Rock Partners V	Buyout	25,000,000	23,650,060	19,382,889						
Madison Dearborn Capital Partners V	Buyout	75,000,000	66,925,260	98,078,137						
Meritech Capital Partners III	Venture Capital	35,000,000	35,000,000	179,717,500						
New Enterprise Associates E2	Venture Capital	35,000,000	35,626,297	40,514,815						
NewSpring Growth Capital II	Buyout	10,000,000	8,757,900	13,815,193						
OCM Principal Opportunities Fund IV	Special Situations	20,000,000	20,400,000	32,981,361						
Oak Investment Partners XII	Venture Capital	40,000,000	39,214,554	28,177,778						
PNC Equity Partners II	Buyout	15,000,000	12,151,978	24,020,354						
Pemura V	Buyout	127,779,198	123,910,182	186,107,259						
Polaris Venture Partners V	Venture Capital	50,000,000	49,000,000	37,304,560						
Siguler Gulf BVC Opportunities Fund	Buyout	10,600,000	9,500,000	8,684,042						

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Investment	Sector	Commitments	Equity Buys/Losses	Dispositions	Market Value	Unrealized Gain/(Loss)	#	TVM	Upper Quintile	Upper Quintile	Decile Ranking
											(TVM)
2006											
Sofinnova Venture Partners VII	Venture Capital	20,000,000	19,204,944	28,074,291							
TA X	Buyout	70,000,000	67,550,000	88,457,009							
TPG Partners V	Buyout	95,756,241	89,664,515	101,412,222							
Thomas H. Lee Equity Fund VI	Buyout	50,000,000	49,535,152	13,888,962							
Total: 2006		\$ 1,979,135,908	\$ 1,830,267,412	\$ 2,542,519,100							
2007											
ABRY Advanced Securities Fund	Special Situations	25,000,000	20,239,583	18,682,209							
Aberforth Bioventures V	Venture Capital	33,775,000	26,267,474	37,245,978							
Advent Latin American Private Equity Fund IV	Buyout	80,000,000	29,810,236	32,090,921							
Apax Europe VII	Buyout	132,170,235	131,961,257	145,865,152							
Asia Alternatives Capital Partners II	Buyout	50,000,000	26,583,918	20,116,025							
Audax Private Equity Fund III	Buyout	37,000,000	39,579,527	73,371,672							
Avenue Special Situations Fund V	Special Situations	70,000,000	69,801,575	92,690,854							
Bain Capital Asia Fund	Buyout	12,000,000	12,020,944	15,143,534							
Bain Capital Fund X	Buyout	90,000,000	86,374,239	100,560,312							
Bain Capital X Co-Investment Fund	Buyout	5,000,000	1,225,000	1,061,774							
Banig Vostok Private Equity Fund IV	Buyout	30,000,000	27,455,543	14,782,880							
Battery Ventures VIII, L.P.	Venture Capital	25,000,000	25,000,000	41,528,658							
CID Greater China Venture Capital Fund II	Venture Capital	20,000,000	15,442,417	20,748,420							
CVI Global Value Fund	Special Situations	60,000,000	57,000,000	82,838,032							
Dover Street VII	Special Situations	30,000,000	28,725,000	34,158,237							
Energy Spectrum Partners V	Buyout	30,000,000	24,365,520	51,487,729							
Excelsior Capital Asia Partners III	Buyout	75,000,000	19,930,971	12,595,480							
Highland Consumer Fund I	Venture Capital	25,000,000	25,000,000	7,358,806							
IVP IV	Venture Capital	14,000,000	13,100,000	11,104,733							
Insight Venture Partners VI	Venture Capital	30,000,000	28,895,502	61,968,071							
JMI Equity Fund VI	Buyout	40,000,000	36,591,240	66,051,810							
Kelso VIII	Buyout	150,000,000	127,406,578	110,435,972							
Nordic Capital VII	Buyout	92,519,165	88,584,871	74,215,867							
OCM Opportunities Fund VII	Special Situations	40,000,000	40,000,000	51,627,682							
OCM Opportunities Fund VII b	Special Situations	40,000,000	36,000,000	59,059,393							
Pirango Venture Capital Fund V	Venture Capital	30,000,000	27,917,626	16,866,840							
Providence Equity Partners VI	Buyout	50,000,000	50,589,518	51,180,127							
Quaker BioVentures II	Venture Capital	25,000,000	22,108,833	16,355,865							
SFC Energy Partners I	Buyout	25,000,000	22,291,498	22,575,508							
Santaty Credit Opportunities III	Special Situations	50,000,000	50,000,000	50,615,310							
Siguler Guff BR C Opportunities Fund II	Buyout	25,000,000	24,500,000	12,920,918							
Sterling Capital Partners III	Buyout	32,000,000	29,792,891	30,703,208							
TPG Asia V	Buyout	22,500,000	19,733,774	20,736,313							
W Capital Partners II	Special Situations	40,000,000	38,333,987	51,953,047							
Weathergate Venture Capital	Venture Capital	25,000,000	22,875,000	21,431,174							
Total: 2007		\$ 1,480,964,400	\$ 1,345,006,472	\$ 1,554,250,721							

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Investment #	Sector	Commitments	Contributions ⁽¹⁾	Distributions	Market Value	Unrealized Gain/(Loss)	Age ⁽²⁾	IVM	Upper-Quartile IRR ⁽³⁾	Upper-Quartile IVM ⁽⁴⁾	Quartile Ranking [IVAs]
2008											
ABRY Partners VI	Buyout	50,000,000	54,962,208	105,219,960							
Advent International GPE VI A	Buyout	35,000,000	34,034,207	52,362,090							
Avenue Europe Special Situations Fund	Special Situations	18,632,500	25,106,863	37,899,419							
Bain Capital Europe III	Buyout	72,432,276	62,972,190	112,389,602							
Basing India Private Equity Fund III Limited	Buyout	5,000,000	4,829,380	3,515,232							
Battery Ventures VIII Side Car Fund	Venture Capital	9,000,000	6,768,000	17,412,210							
Brynwood Partners VI	Buyout	10,000,000	10,586,341	20,942,840							
Clevidra Capital Partners II	Buyout	25,631,168	14,880,732	20,490,598							
First Reserve Fund XII	Buyout	50,000,000	50,054,842	24,077,391							
Great Hill Equity Partners IV	Buyout	25,000,000	21,827,790	32,871,394							
Guggenheim Technology Ventures I	Venture Capital	2,000,000	2,000,000	585,422							
H.F.G. Bayside Debt & LBO Fund II	Special Situations	30,000,000	30,010,001	24,818,134							
InterWest Partners X	Venture Capital	30,000,000	25,894,500	2,300,138							
LLR Equity Partners II	Buyout	30,000,000	28,374,310	30,522,651							
LightSpeed Venture Partners VIII	Venture Capital	15,000,000	12,661,838	18,809,443							
Lime Rock Partners V	Buyout	42,500,000	39,651,821	23,067,932							
Madison Dearborn Capital Partners VI	Buyout	50,000,000	44,757,002	72,677,386							
Morgenthaler Partners IX	Venture Capital	20,000,000	19,280,000	29,175,846							
New York Life Capital Partners IV	Buyout	50,000,000	49,547,519	79,691,371							
Patrol Financial Partners I	Buyout	25,000,000	25,000,000	44,342,334							
Sankaty Credit Opportunities IV	Special Situations	40,000,000	38,000,000	49,701,946							
Segulah IV	Buyout	16,705,647	14,633,586	9,819,161							
ShoreView Capital Partners II	Buyout	40,000,000	32,902,497	53,927,004							
TPG Partners VI	Buyout	45,000,000	46,395,784	49,654,685							
Templeton Strategic Emerging Markets Fund II	Special Situations	100,000,000	92,498,137	59,967,965							
Versa Capital Partners II	Special Situations	15,000,000	15,943,385	5,867,313							
Tucapá American Alliance Fund II	Buyout	25,000,000	26,820,365	15,650,108							
Total: 2008		\$ 896,901,591	\$ 830,518,299	\$ 997,749,575							
2009											
ABS Capital Partners VI	Buyout	40,000,000	35,589,138	17,444,057							
Charterhouse Capital Partners IX	Buyout	66,385,000	54,638,144	65,564,824							
Total: 2009		\$ 106,385,000	\$ 90,227,282	\$ 83,008,881							
2010											
Advent Latin American Private Equity Fund V	Buyout	15,000,000	13,058,177	2,670,000							
Artisan Ventures II	Venture Capital	20,000,000	18,910,000								
Avenue Special Situations Fund VI	Special Situations	20,000,000	19,977,798	17,801,933							
J.H. Whitney VI	Buyout	25,000,000	20,806,196	29,754,045							
OCM Opportunities Fund VII	Special Situations	12,500,000	12,500,000	14,429,583							
OCM Opportunities Fund VIII	Special Situations	12,500,000	12,500,000	6,973,114							
Oaktree Power Opportunities Fund II	Buyout	15,000,000	15,501,637	13,173,469							
Weatherpage Venture Capital III	Venture Capital	25,000,000	20,814,064	4,917,827							
Total: 2010		\$ 155,000,000	\$ 134,067,872	\$ 89,719,971							

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Investment	Acquire	Commitments	Contributions (1)	Distributions	Market Value	Unrealized Gain/(Loss)	IRR (2)	IVM	Upper Quintile (3)	Upper Quintile (3)	Quartile Ranking (IV)
2011											
ABRY Partners VI	Buyout	30,000,000	34,226,469	39,150,084							
Asia Alternatives Korea Buyout Investors (Hahn & Co)	Buyout	7,000,000	8,017,051	4,096,324							
BC European Capital IX	Buyout	26,472,535	23,406,153	12,246,295							
Berkshire Fund VII	Buyout	30,000,000	24,660,545	5,306,179							
Francisco Partners III	Buyout	20,000,000	17,416,150	15,323,189							
H I G Growth Buyouts & Equity Fund III	Buyout	15,000,000	6,784,132	2,654,945							
Insight Venture Partners V	Venture Capital	20,000,000	19,141,600	13,716,040							
JMI Equity Fund VI	Buyout	10,000,000	8,988,735	4,802,885							
Mentech Capital Partners IV	Venture Capital	20,000,000	19,100,000	11,914,133							
SFC Energy Partners III	Buyout	25,000,000	17,772,990	2,222,349							
Total: 2011		\$ 203,472,535	\$ 179,523,815	\$ 111,440,423							
2012											
AXA Secondary Fund V B	Special Situations	75,000,000	57,721,809	58,316,674							
Advent International GPE V II B	Buyout	40,000,000	34,073,050	15,159,752							
Asia Alternatives Capital Partners III	Buyout	50,000,000	45,804,166	16,768,065							
Carlyle Energy Mezzanine Opportunities Fund	Buyout	50,000,000	52,755,986	19,937,821							
Denham Commodity Partners VI	Buyout	50,000,000	40,178,653	17,649,777							
NewSpring Growth Capital III	Buyout	25,000,000	21,204,827	2,218,985							
Penn Asia Investors	Buyout	83,000,000	61,805,442	12,168,472							
Total: 2012		\$ 373,000,000	\$ 333,543,933	\$ 142,221,496							
2013											
Eureka Growth Capital III	Buyout	20,000,000	9,977,250	9,600,134							
FSH Capital IV L P	Buyout	46,049,703	35,124,589	11,830,703							
H I G Bayside Loan Opp Fund III	Special Situations	50,000,000	34,494,601	9,000,884							
Incline Equity Partners III	Buyout	15,000,000	11,421,071	12,841,882							
Insight Venture Partners VIII	Venture Capital	50,000,000	46,424,000	6,698,134							
LBC Credit Partners III	Special Situations	50,000,000	47,500,000	31,189,050							
LLR Equity Partners IV	Buyout	50,000,000	40,069,497	10,736,842							
Oaktree Opportunities Fund IX	Special Situations	50,000,000	50,000,000	7,483,912							
Platinum Equity Capital Partners III L P	Special Situations	50,000,000	43,439,580	42,481,570							
Total: 2013		\$ 381,049,703	\$ 318,450,588	\$ 139,863,111							
2014											
Capvix Equity IV	Buyout	49,855,591	25,151,017	11,046,958							
GTCR Fund XI, LP	Buyout	25,000,000	13,551,655	3,692,041							
H I G Europe Capital Partners II	Buyout	27,544,596	2,854,261	-							
Hahn & Company B	Buyout	50,000,000	18,906,645	129							
Horizon Impact Fund	Buyout	50,000,000	24,915,644	2,444,290							
Horizon Strategic Fund - Carlyle Group	Buyout	100,000,000	71,801,469	11,469,662							
KPS Special Situations Fund IV	Special Situations	25,000,000	5,009,898	5,384,244							
Mentech Capital Partners V	Venture Capital	23,000,000	14,317,500	-							
Sentinel Capital Partners V, L P	Buyout	10,000,000	5,976,411	371,539							
Total: 2014		\$ 360,400,187	\$ 182,504,500	\$ 34,408,863							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Vintage Year

As of June 30, 2017

Investment	Sector	Commitments	Contributions ⁽¹⁾	Distributions	Marked Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	TVM	Upper Quartile IRR ⁽³⁾	Upper Quartile TVM ⁽³⁾	Quartile Ranking (TVM)
2015											
ABRY Partners VII	Buyout	25,000,000	21,020,610	3,599,240	-	-	-	-	-	-	-
ADY Opportunities Fund II, L.P.	Special Situations	50,000,000	36,078,170	(138,445)	-	-	-	-	-	-	-
Advent Latin American Private Equity Fund VI	Buyout	25,000,000	4,521,463	375,000	-	-	-	-	-	-	-
Audax Private Equity Fund V	Buyout	50,000,000	10,928,119	780,851	-	-	-	-	-	-	-
Blackstone Capital Partners VII, L.P.	Buyout	50,000,000	6,245,583	17,717	-	-	-	-	-	-	-
Centerbridge Capital Partners III	Special Situations	30,000,000	7,268,621	404,701	-	-	-	-	-	-	-
Clearlake Capital Partners IV, L.P.	Special Situations	15,000,000	10,452,861	1,075,857	-	-	-	-	-	-	-
Draper Triangle Ventures III, LP	Venture Capital	10,000,000	4,686,204	-	-	-	-	-	-	-	-
Francisco Partners IV	Buyout	25,000,000	14,185,199	-	-	-	-	-	-	-	-
Hellman & Friedman Capital Partners V III	Buyout	50,000,000	2,850,985	804,914	-	-	-	-	-	-	-
H.I.G. Baystate Loan Opp. Fund IV	Special Situations	25,000,000	8,183,672	3,410,636	-	-	-	-	-	-	-
H.I.G. Brazil and Latin America Partners	Buyout	50,000,000	804,392	-	-	-	-	-	-	-	-
Insight Venture Partners IX	Venture Capital	50,000,000	32,170,605	1,339,968	-	-	-	-	-	-	-
IMI Equity Fund VII	Buyout	25,000,000	9,092,487	-	-	-	-	-	-	-	-
Lightspeed India Partners I	Venture Capital	15,000,000	6,109,500	-	-	-	-	-	-	-	-
Primavera Capital Fund 8	Buyout	50,000,000	24,191,322	761,810	-	-	-	-	-	-	-
Ridgemont Equity Partners II	Buyout	50,000,000	22,691,497	5,851,833	-	-	-	-	-	-	-
RRJ Capital Master Fund III	Special Situations	50,000,000	15,929,917	244,616	-	-	-	-	-	-	-
Sterling Group Partners IV, L.P.	Buyout	20,000,000	5,228,329	342,813	-	-	-	-	-	-	-
Total: 2015		\$ 665,000,000	\$ 242,639,536	\$ 18,371,710							
2016											
Advent International GPE VIII-B	Buyout	50,000,000	10,770,205	-	-	-	-	-	-	-	-
ASF VII B LP	Special Situations	100,000,000	10,559,385	(155,125)	-	-	-	-	-	-	-
ASF VII PA Co-Invest	Special Situations	50,000,000	406,198	-	-	-	-	-	-	-	-
FSN Capital V	Buyout	77,189,328	6,292,425	(32,659)	-	-	-	-	-	-	-
Pemura VI	Buyout	58,202,000	8,058,091	-	-	-	-	-	-	-	-
Providence Strategic Growth II	Buyout	60,000,000	16,029,097	-	-	-	-	-	-	-	-
Vista Equity Partners Fund VI	Buyout	150,000,000	69,270,272	(1,099,214)	-	-	-	-	-	-	-
Total: 2016		\$ 543,391,328	\$ 121,385,673	\$ (1,286,995)							
2017											
Apollo Investment Fund IX	Buyout	85,400,000	-	-	-	-	-	-	-	-	-
CVC Capital Partners V-I	Buyout	91,202,040	-	-	-	-	-	-	-	-	-
Monzon Impact Fund B	Buyout	100,000,000	1,391,545	-	-	-	-	-	-	-	-
Silver Lake Partners V	Buyout	100,000,000	-	-	-	-	-	-	-	-	-
TDR Capital IV	Buyout	93,047,720	-	-	-	-	-	-	-	-	-
Wind Point Partners VIII	Buyout	100,000,000	-	-	-	-	-	-	-	-	-
Total: 2017		\$ 569,649,760	\$ 1,391,545	\$ -							
Total: Commonwealth of Pennsylvania State Employees' Retirement System		\$ 10,928,625,635	\$ 16,426,699,870	\$ 20,836,570,727							

(1) Contributions do not include management fees and fund expenses

(2) IRR performance for investments held less than two years is not meaningful

(3) Fund benchmark data provided by Burgess Private IQ as of 6/30/17, and represents sector comparable funds aggregated by Vintage Year, Asset Class, and Geography, with Special Situations benchmarked to All Private Equity. Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

VII. Exhibit B – Investments by Sector

Commonwealth of Pennsylvania State Employees' Retirement System
 Schedule of Private Equity Investments by Sector
 As of June 30, 2017

Investment Name	Vintage	Commitments	Equity Invested ⁽¹⁾	Distributions	Market Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	TVM	Upper Quartile IRR ⁽³⁾	Upper Quartile TVM ⁽³⁾	Quartile Ranking (TVM)
Buyout											
ABRY Broadcast Partners III	1997	25,000,000	20,354,093	20,932,345							
ABRY Partners IV	2000	35,000,000	22,500,122	24,633,973							
ABRY Partners V	2004	45,000,000	36,658,306	81,985,960							
ABRY Partners VI	2008	50,000,000	54,962,201	105,219,960							
ABRY Partners VII	2011	80,000,000	34,226,469	39,159,084							
ABRY Partners VIII	2015	25,000,000	21,020,610	3,599,240							
ABS Capital Partners III	1999	35,000,000	27,764,683	18,757,336							
ABS Capital Partners IV	2000	35,000,000	28,789,304	68,253,149							
ABS Capital Partners V	2005	20,000,000	19,404,254	48,986,604							
ABS Capital Partners VI	2009	40,000,000	35,589,138	17,444,057							
Advent International GPE VII-A	2008	35,000,000	34,034,207	52,362,090							
Advent International GPE VII-B	2012	40,000,000	34,073,050	15,159,752							
Advent International GPE VIII-B	2016	50,000,000	10,770,205								
Advent Latin American Private Equity Fund IV	2007	30,000,000	29,810,236	32,090,921							
Advent Latin American Private Equity Fund V	2010	15,000,000	13,058,177	2,670,000							
Advent Latin American Private Equity Fund VI	2015	25,000,000	4,521,463	175,000							
Alpha Private Equity Fund 4	2002	26,508,000	35,605,050	77,986,040							
Alpha Private Equity Fund 5	2006	57,796,800	62,384,152	82,402,825							
APAX Capital Risque III (France)	1990	5,000,000	5,103,877	11,622,167							
APAX Europe IV	1999	32,424,000	29,909,800	40,876,051							
APAX Europe V	2000	53,162,000	68,764,274	150,117,401							
Apax Europe VI	2004	76,349,190	74,145,979	134,550,076							
Apax Europe VII	2007	132,170,235	131,961,257	145,865,152							
Apax Excelium VI	2000	35,000,000	33,957,540	56,527,379							
Apollo Investment Fund IV	1997	75,000,000	72,079,063	124,814,033							
Apollo Investment Fund V	2000	50,000,000	42,484,019	122,268,807							
Apollo Investment Fund VI	2005	40,000,000	38,289,202	52,606,408							
Apollo Investment Fund IX	2017	85,400,000									
Asa Alternatives Capital Partners	2006	50,000,000	23,406,269	34,732,699							
Asa Alternatives Capital Partners II	2007	50,000,000	26,583,918	20,136,025							
Asa Alternatives Capital Partners III	2012	50,000,000	45,804,166	16,768,065							
Asa Alternatives Lopez Buyout Investors (Lopez & Co)	2011	7,000,000	8,017,051	4,096,324							
Asa Pacific Growth Fund III	1999	15,000,000	14,627,000	16,708,736							
Audax Private Equity Fund	2000	35,000,000	33,157,787	55,936,816							
Audax Private Equity Fund II	2005	25,000,000	25,506,073	45,110,929							
Audax Private Equity Fund III	2007	37,000,000	39,579,527	73,271,872							
Audax Private Equity Fund V	2015	50,000,000	10,928,119	280,051							
Bain Capital Asia Fund	2007	12,000,000	11,020,944	15,143,534							
Bain Capital Europe III	2008	72,432,276	62,972,190	112,389,602							
Bain Capital Fund IX	2006	75,000,000	72,937,500	107,913,972							
Bain Capital Fund VII	2000	75,000,000	23,562,500	47,998,008							
Bain Capital Fund VIII-E	2004	12,144,000	12,298,670	19,631,405							
Bain Capital Fund X	2007	90,000,000	86,374,239	100,560,312							
Bain Capital IX Co-Investment Fund	2006	15,000,000	14,456,250	21,968,013							
Bain Capital X Co-Investment Fund	2007	5,000,000	1,225,000	1,061,774							
Baring India Private Equity Fund III Limited	2008	5,000,000	4,829,380	3,515,232							
Baring Vostok Private Equity Fund IV	2007	30,000,000	27,455,543	14,787,880							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Sector

As of June 30, 2017

Investment	Year	Commitments	Contributions ⁽¹⁾	Distributions	Market Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	TVM ⁽³⁾	Upper Quintile	Upper Quintile	Quants Banking (TVAR)
BC European Capital IX	2011	26,472,585	23,406,153	12,246,295							
BC European Capital VII	2009	32,658,500	37,740,202	96,576,440							
BC European Capital VII Top Up	2001	10,046,300	12,178,596	32,386,202							
BC European Capital VIII	2005	98,107,500	97,117,090	104,856,917							
Beithore Fund VI	2002	20,000,000	17,260,685	44,220,191							
Beithore Fund VII	2006	32,000,000	29,159,510	44,446,671							
Beithore Fund VIII	2011	30,000,000	24,660,545	5,306,179							
Blackstone Capital II	1993	40,000,000	42,438,924	96,997,924							
Blackstone Capital III	1997	75,000,000	74,295,009	155,121,498							
Blackstone Capital IV	2001	75,000,000	67,747,508	184,306,060							
Blackstone Capital Partners V	2006	150,000,000	141,252,730	228,895,260							
Blackstone Capital Partners VII, L.P.	2015	50,000,000	6,245,583	17,717							
Blackstone Communications Partners I	2000	25,000,000	22,673,931	30,998,189							
Brax V	2006	25,000,000	15,396,613	2,873,282							
Brexitwood Buyout Fund	1988	12,500,000	12,548,440	21,955,297							
Brynwood Partners V	2005	10,000,000	9,646,565	18,886,569							
Brynwood Partners VI	2008	10,000,000	10,586,341	20,942,840							
Capris Equity IV	2014	49,855,591	25,151,617	11,046,958							
Carlyle Energy Mezzanine Opportunities Fund	2012	50,000,000	52,755,986	19,937,821							
Charterhouse Capital Partners IX	2009	66,385,000	54,638,144	65,564,824							
Charterhouse Capital Partners VII	2002	55,462,500	52,250,050	109,645,407							
Charterhouse Capital Partners VIII	2006	61,876,974	67,961,522	70,399,353							
Charterhouse Equity Partners II	1993	40,000,000	42,757,326	111,547,757							
Charterhouse Equity Partners III	1997	50,000,000	52,598,202	76,093,084							
CFI Equity Capital XV	2006	31,133,996	28,814,337	55,670,090							
Clayton Dublier & Rice V	1995	50,000,000	49,736,502	58,935,059							
Clayton Dublier & Rice VI	1998	50,000,000	33,699,959	57,754,625							
Cleardale Capital Partners V, L.P.	2015	15,000,000	10,452,861	1,075,857							
Crestida Capital Partners II	2008	25,631,168	14,880,732	20,490,598							
Code Hennessy & Simmons	1989	10,000,000	9,650,000	29,464,514							
Code Hennessy & Simmons II	1994	20,000,000	20,000,000	69,888,354							
Code Hennessy & Simmons III	1997	40,000,000	38,423,990	54,551,057							
Code Hennessy & Simmons IV	1999	100,000,000	97,710,000	156,733,531							
Code Hennessy & Simmons V	2005	50,000,000	52,664,489	91,608,248							
CVI Capital Partners VI	2017	91,202,046									
Denham Commodity Partners VI	2012	50,000,000	40,178,653	17,649,777							
DJI Merchant Banking Fund II	1996	75,000,000	80,090,261	106,469,101							
DJI Merchant Banking Fund III	2000	85,000,000	82,782,001	188,607,421							
Elevation Partners	2004	35,000,000	27,052,500	49,826,210							
Energy Spectrum Partners IV	2004	50,000,000	47,543,699	86,714,979							
Energy Spectrum Partners V	2007	30,000,000	24,365,526	51,487,729							
Eureba Growth Capital I	2013	20,000,000	9,977,250	9,600,134							
Eureba II	2006	20,000,000	16,539,093	17,061,767							
Estelcor Capital Asia Partners III	2007	25,000,000	19,930,971	12,595,490							
Farr Reserve Fund X	2004	30,000,000	29,215,285	54,728,700							
Farr Reserve Fund XI	2006	60,000,000	61,497,082	39,196,915							
Farr Reserve Fund XII	2008	50,000,000	50,054,842	24,077,391							
Francisco Partners	2000	50,000,000	46,788,932	61,163,230							
Francisco Partners II	2006	30,000,000	29,186,046	40,261,907							
Francisco Partners III	2011	20,000,000	17,426,150	15,323,189							

Commonwealth of Pennsylvania State Employees' Retirement System
 Schedule of Private Equity Investments, by Sector
 As of June 30, 2017

Investment	Vintage	Commitment	Contributions ⁽¹⁾	Distributions	Market Value	Investment Gain/Loss ⁽²⁾	Wght	TVAR	Upper Quintile IRR ⁽³⁾	Upper Quintile TVM ⁽⁴⁾	Quartile Ranking (TRM)
Francisco Partners IV	2015	25,000,000	14,185,199								
Frontenac V	1997	40,000,000	40,000,000	55,957,155							
FSN Capital (V) LP	2013	46,049,703	35,124,589	11,830,703							
FSN Capital V	2014	77,189,328	6,292,425	(32,659)							
Great Hill Equity Partners	1999	30,000,000	27,858,676	31,339,243							
Great Hill Equity Partners II	2000	35,000,000	31,224,137	78,337,666							
Great Hill Equity Partners III	2006	35,000,000	31,191,528	40,355,000							
Great Hill Equity Partners IV	2008	25,000,000	21,827,798	32,871,394							
Gryphon Partners II	1999	35,000,000	32,173,416	41,953,023							
Gryphon Partners III	2004	30,000,000	34,094,133	51,691,321							
GTCR Fund XI LP	2014	25,000,000	13,551,655	3,692,041							
GTCR IX	2006	50,000,000	46,134,343	79,736,269							
GTCR V	1997	11,400,000	11,400,000	20,777,730							
GTCR VI	1998	50,000,000	49,520,987	44,453,905							
GTCR VII	2000	55,000,000	47,987,500	121,878,298							
GTCR VIII	2007	75,000,000	69,393,599	114,671,436							
H.G. Brazil and Latin America Partners	2013	50,000,000	804,392								
H.G. Europe Capital Partners I	2014	27,544,596	2,854,261								
H.G. Growth Buyouts & Equity Fund I	2011	15,000,000	6,788,132	2,654,945							
Hahn & Company II	2014	50,000,000	18,906,645	129							
Malpern Denny Fund I	1997	25,000,000	24,999,991	5,307,874							
Malpern Denny Fund II	2000	25,000,000	22,446,273	28,967,555							
HarbourVest I/PEP I	1997	25,000,000	24,500,808	34,875,106							
HarbourVest I/PEP II	1998	40,000,000	39,400,000	60,820,829							
HarbourVest I/PEP III	2001	40,000,000	39,000,000	66,958,354							
HarbourVest Partners VI	1999	200,000,000	196,000,000	235,595,889							
HarbourVest Partners VII	2003	75,000,000	73,687,500	90,232,312							
HarbourVest Partners VIII	2006	100,000,000	98,000,000	95,315,924							
Hellman & Friedman Capital Partners II	1991	21,110,323	23,218,222	39,807,943							
Hellman & Friedman Capital Partners III	1995	50,000,000	40,308,123	91,816,515							
Hellman & Friedman Capital Partners IV	1995	75,000,000	64,681,459	189,025,929							
Hellman & Friedman Capital Partners V	2004	80,000,000	70,568,846	191,936,442							
Hellman & Friedman Capital Partners VI	2006	125,000,000	112,971,649	195,637,870							
Hellman & Friedman Capital Partners VII	2015	50,000,000	2,850,985	604,914							
HIPEP V-Asia Pacific & Rest of World	2005	30,000,000	28,200,000	31,465,405							
Horizon Impact Fund	2014	50,000,000	24,935,644	2,484,290							
Horizon Impact Fund II	2017	100,000,000	1,391,545								
Horizon Strategic Fund - Carlyle Group	2014	100,000,000	71,803,469	11,469,662							
Incure Equity Partners III	2013	15,000,000	11,421,071	12,841,882							
Incure Media Partners VII	2005	15,000,000	14,749,188	16,403,677							
Invemed Catalyst Fund	1999	25,000,000	13,695,639	31,020,758							
J.H. Whitney Equity Fund III	1997	20,000,000	19,973,316	50,875,154							
J.H. Whitney IV	1999	20,000,000	17,658,772	7,529,485							
J.H. Whitney V	2000	20,000,000	22,559,318	44,904,355							
J.H. Whitney VI	2005	50,000,000	46,555,172	40,539,938							
J.H. Whitney VII	2010	25,000,000	20,808,196	29,754,045							
J.W. Childs Equity Partners III	2002	40,000,000	38,233,446	76,553,620							
IMH Equity Fund V	2005	24,800,000	21,893,322	122,661,437							
IMH Equity Fund VI	2007	40,000,000	38,591,240	66,053,810							

Commonwealth of Pennsylvania State Employees' Retirement System
 Schedule of Private Equity Investments by Sector
 As of June 30, 2017

Investment	Year	Commitment	Contributions	Distributions	Market Value	Unrealized Gain/(Loss)	IRR (%)	TVM	Upper Quartile (%)	Lower Quartile (%)	Quartile Ranking (TVM)
JMI Equity Fund VII	2011	10,000,000	8,988,735	4,802,885							
JMI Equity Fund VII	2015	25,000,000	9,092,487								
Kelso Investment Associates V	1993	40,000,000	53,807,706	153,659,812							
Kelso VI	1998	75,000,000	64,061,730	91,977,515							
Kelso VII	2003	40,000,000	38,453,157	65,700,625							
Kelso VIII	2007	150,000,000	127,406,578	110,435,972							
Leeds Equity Partners IV	2002	20,000,000	18,540,214	22,913,831							
Lime Rock Partners III	2004	15,000,000	13,811,501	7,379,936							
Lime Rock Partners IV	2006	25,000,000	23,650,060	19,182,689							
Lime Rock Partners V	2008	42,500,000	39,651,821	23,057,932							
Lime Rock Resources	2005	20,000,000	17,129,968	25,286,779							
LLR Equity Partners	1999	25,000,000	24,500,000	52,596,658							
LLR Equity Partners II	2004	25,000,000	25,000,000	40,778,924							
LLR Equity Partners III	2008	30,000,000	28,374,310	30,522,651							
LLR Equity Partners IV	2013	50,000,000	40,069,497	10,736,842							
Madison Dearborn Capital Partners	1993	15,000,000	14,449,511	49,149,700							
Madison Dearborn Capital Partners II	1997	40,000,000	39,472,443	93,274,048							
Madison Dearborn Capital Partners III	1999	75,000,000	74,852,182	114,509,426							
Madison Dearborn Capital Partners IV	2000	90,000,000	87,106,109	167,519,294							
Madison Dearborn Capital Partners V	2006	75,000,000	66,925,260	98,078,137							
Madison Dearborn Capital Partners VI	2008	50,000,000	44,757,002	72,677,386							
Media/Communication III	1996	25,000,000	23,593,750	38,175,382							
Media/Communication IV	1998	25,000,000	21,125,000	37,340,500							
African Venture Partners II	2005	10,000,000	10,000,000	21,939,244							
Motson II B	2005	48,204,998	41,261,710	38,726,742							
New York Life Capital Partners II	2005	50,000,000	50,454,371	42,068,297							
New York Life Capital Partners IV	2008	50,000,000	49,547,519	79,691,371							
Newbridge Assn III	1999	15,000,000	14,756,943	14,567,191							
Newbridge Assn III	2000	15,000,000	12,741,920	55,728,660							
Newbridge Assn IV	2005	40,000,000	37,967,906	92,887,170							
NewSpring Growth Capital III	2006	10,000,000	8,757,900	13,815,193							
NewSpring Growth Capital III	2012	25,000,000	21,204,827	2,218,985							
Nordic Capital V	2007	34,996,500	42,214,176	131,706,706							
Nordic Capital VI	2005	54,369,000	59,249,208	92,724,157							
Nordic Capital VII	2007	92,519,165	88,584,871	74,215,667							
Oak Hill Capital Partners	1999	50,000,000	50,156,830	93,999,577							
Oaktree Power Opportunities Fund III	2010	25,000,000	15,501,637	13,173,469							
Oaktree Power Opportunities Fund III	2005	25,000,000	13,110,559	41,644,215							
Palamon European Equity	1999	29,779,939	33,537,469	67,773,611							
Palamon European Equity II	2005	36,113,990	37,311,033	60,699,188							
Parthenon Investors I	2001	20,000,000	19,771,146	35,780,448							
Patriot Financial Partners	2008	25,000,000	25,000,000	44,342,324							
Penn Assn Investors	2012	83,000,000	61,805,442	12,368,422							
Perma European Fund	1997	33,494,536	32,159,947	84,005,717							
Perma European Fund II	2000	48,000,000	45,672,612	91,464,087							
Perma European Fund III	2003	115,960,000	123,774,404	214,320,293							
Perma IV	2006	127,779,198	123,910,382	186,107,259							
Perma VI	2016	56,202,000	8,058,093								
PHC Equity Partners II	2006	15,000,000	12,151,978	24,020,354							

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Investment	Vintage	Commitments	Equity Invested	Distributions	Market Value	Unrealized Gain/Loss	IRR	TVM	Upper Quartile	Upper Quartile	Quality Ranking
											(TVM)
PNC Ventures	1985	5,000,000	5,000,000	12,055,375							
Primavera Capital Fund II	2015	50,000,000	24,191,322	763,010							
Providence Equity Partners IV	2000	75,000,000	21,894,740	56,040,748							
Providence Equity Partners V	2004	45,000,000	41,090,834	49,459,242							
Providence Equity Partners VI	2007	50,000,000	50,589,518	51,180,127							
Providence Strategic Growth II	2016	60,000,000	16,029,097								
Ridgemont Equity Partners III	2015	50,000,000	22,691,497	5,851,833							
Segulah IV	2008	16,705,647	14,613,586	9,819,161							
Sentinel Capital Partners V L.P.	2014	10,000,000	5,976,411	371,539							
SFC Energy Partners I	2007	25,000,000	22,291,498	22,575,508							
SFC Energy Partners II	2011	25,000,000	17,772,980	2,222,349							
ShoreView Capital Partners	2003	38,000,000	26,859,811	56,043,792							
ShoreView Capital Partners II	2008	40,000,000	32,902,497	53,927,004							
Siguler Guff BAIC Opportunities Fund	2006	10,000,000	9,500,000	8,684,042							
Siguler Guff BAIC Opportunities Fund 2	2007	25,000,000	24,500,000	12,920,918							
Silver Lake Partners V	2017	100,000,000									
Sterling Capital Partners I	2002	15,000,000	14,146,729	30,923,365							
Sterling Capital Partners II	2005	30,000,000	27,224,698	27,662,225							
Sterling Capital Partners III	2007	22,000,000	29,792,891	30,703,208							
Sterling Group Partners IV, L.P.	2015	20,000,000	5,228,329	342,813							
Summit IV	1995	25,000,000	24,000,000	183,497,742							
Summit Partners Private Equity Fund VII	2005	97,134,500	97,134,505	141,047,097							
Summit V	1998	37,500,000	36,187,500	49,997,247							
Summit Ventures VI	2001	62,000,000	62,000,000	124,366,641							
TA IX	2000	45,000,000	41,650,000	105,863,474							
TA X	2006	70,000,000	67,550,000	88,457,009							
TA/Advent VII	1993	25,000,000	25,000,000	96,585,496							
TA/Advent VIII	1997	30,000,000	29,400,000	67,141,158							
TOR Capital IV	2017	93,047,720									
Thomas H. Lee Equity Fund IV	1990	70,000,000	60,512,410	52,506,686							
Thomas H. Lee Equity Fund V	2000	100,000,000	97,772,983	175,615,745							
Thomas H. Lee Equity Fund VI	2006	50,000,000	49,515,152	53,898,967							
TPG Asia V	2007	22,500,000	19,733,774	20,736,321							
TPG Partners II	1997	75,000,000	71,335,785	127,821,079							
TPG Partners III	1999	75,000,000	61,238,756	165,383,087							
TPG Partners IV	2003	30,000,000	27,502,733	56,716,528							
TPG Partners V	2006	95,756,241	89,864,515	101,412,222							
TPG Partners VI	2008	45,000,000	46,395,784	49,654,685							
UMS Partners Fund 1	2004	5,000,000	5,000,000	3,004,752							
Vestar Capital Partners III	1996	25,000,000	22,288,809	22,746,687							
Vestar Capital Partners IV	1999	100,000,000	90,331,274	172,192,760							
Vestar Capital Partners V	2005	50,000,000	48,164,752	55,571,508							
Vista Equity Partners Fund VI	2016	150,000,000	69,270,272	(1,099,213)							
Weston Presidio II	1995	20,000,000	17,000,000	41,383,116							
Weston Presidio III	1998	35,000,000	31,989,586	36,399,850							
Weston Presidio IV	2000	35,000,000	34,451,015	39,417,544							
Weston Presidio V	2005	50,000,000	43,269,290	104,257,451							
Wind Point Partners VII	2017	100,000,000									
Yucapa American Alliance Fund 1	2008	25,000,000	26,820,365	15,650,108							
Total Buyout		\$ 10,804,666,041	\$ 8,918,499,391	\$ 13,329,587,187							

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Investment	Vintage	Commitments	Contributions	Units/Shares	Market Value	Unrealized Gain/(Loss)	IRR ⁽¹⁾	TVM	Upper Quartile IRR ⁽²⁾	Upper Quartile TVM ⁽³⁾	Quartile Ranking (TVM)
Venture Capital											
ABACUS Fund Partners	2000	15,000,000	15,000,000		8,949,405						
Abingworth BioVentures IV	2003	20,000,000	18,700,000		23,712,133						
Abingworth BioVentures V	2007	33,735,000	26,267,474		37,245,978						
Accel Europe	2001	15,000,000	11,350,000		16,931,665						
Adams Capital Management II	1999	10,000,000	10,000,000		4,117,043						
Adams Capital Management III	2000	10,000,000	10,000,000		7,011,905						
Advanced Technology Ventures VI	2000	10,000,000	10,000,000		4,498,689						
Advanced Technology Ventures VII	2001	27,000,000	26,797,500		28,185,753						
Alloy Annex I	2003	5,000,000	5,000,000		1,958,747						
Alloy Ventures 2000	2000	20,000,000	20,000,000		5,964,403						
Alloy Ventures 2002	2002	25,000,000	24,832,999		15,448,474						
Alloy Ventures 2005	2005	25,000,000	25,000,000		9,242,217						
APA Fostin	1987	20,000,000	20,000,000		77,278,523						
APAX Germany	1990	5,200,000	5,246,602		12,685,354						
APAX Germany II	1997	8,737,282	8,455,417		17,367,332						
APAX US Ventures VI	1997	6,918,899	6,918,899		13,274,906						
APEX Investment Fund IV	1999	25,000,000	25,000,000		5,661,282						
APEX Investment Fund V	2001	20,000,000	20,122,702		7,739,736						
Artemis Ventures II	2006	15,000,000	20,967,427		13,143,575						
Artemis Ventures III	2010	20,000,000	18,910,000								
Atlas Venture Fund IV	1999	26,000,000	21,610,658		8,556,942						
Atlas Venture Fund V	2000	37,200,000	34,699,263		40,751,899						
Atlas Venture Fund VI	2001	24,800,000	23,283,720		16,191,410						
Austin Ventures III	2005	15,000,000	15,127,754		16,396,495						
Austin Ventures VIII	2001	20,932,140	20,932,140		33,669,094						
Bachow Investments III	1994	25,000,000	24,969,997		26,202,518						
Battery Ventures VIII Side Car Fund	2008	9,000,000	8,768,000		17,412,310						
Battery Ventures VIII, L.P.	2007	25,000,000	25,000,000		44,528,658						
Birchmere Ventures III	2005	10,000,000	9,082,885		8,692,184						
Care Capital Investments III	2006	25,000,000	19,990,191		11,268,961						
CEO Ventures II	1989	7,500,000	7,483,903		5,275,003						
CEO Ventures S	1987	8,000,000	982,003		1,219,189						
Charles River Partnership XI	2000	11,032,259	11,032,259		14,422,548						
CID Greater China Venture Capital Fund II	2007	20,000,000	15,642,417		20,748,420						
Clearstone Venture Partners II-A	2004	25,000,000	24,250,000		12,828,843						
Cross Atlantic Technology Fund	1999	20,000,000	19,985,000		23,742,240						
Cross Atlantic Technology Fund II	2001	32,500,000	31,815,285		33,327,455						
Devon Park BioVentures	2006	10,842,697	8,417,877		25,366,934						
Draper Fisher Jurvetson Fund VI	1999	8,000,000	8,000,000		5,147,835						
Draper Fisher Jurvetson Fund VII	2000	20,000,000	20,000,000		9,781,991						
Draper Triangle Ventures	1999	20,000,000	16,394,757		11,357,493						
Draper Triangle Ventures II	2004	12,000,000	11,490,032		13,724,504						
Draper Triangle Ventures III, LP	2015	10,000,000	4,686,204								
Edison Venture Fund III	1994	25,000,000	25,000,000		48,625,410						
Fairview Capital	1984	10,000,000	10,000,000		4,672,939						
Fairview II	1997	10,000,000	9,889,194		4,047,645						
Fostin Capital	1985	10,000,000	10,000,000		10,535,024						
Fostin Capital II	1989	8,000,000	7,500,000		11,613,178						

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Frazier Healthcare III	1999	30,000,000	32,000,000	13,051,047							
Frazier Healthcare IV	2001	30,000,000	28,257,985	24,821,191							
Frazier Healthcare V	2005	30,000,000	27,254,471	46,861,311							
Grotech PA III	1990	3,000,000	3,000,000	2,910,452							
Grotech Partners IV	1993	25,000,000	25,000,000	44,252,767							
Grotech Partners V	1998	25,000,000	25,000,000	24,590,624							
Guggenheim Technology Ventures I	2008	2,000,000	2,000,000	585,422							
Healthcare Ventures I	1992	15,000,000	15,000,000	31,477,480							
Healthcare Ventures V	1997	25,000,000	25,000,000	52,714,973							
Healthcare Ventures VI	2000	35,000,000	35,000,000	6,534,943							
Healthcare Ventures VII	2002	35,000,000	35,000,000	22,026,107							
Healthcare Ventures VIII	2005	30,000,000	29,775,000	20,617,021							
Highland Capital Partners VI	2001	25,000,000	25,000,000	37,031,136							
Highland Capital Partners V2	2006	35,000,000	35,000,000	27,335,325							
Highland Consumer Fund I	2007	25,000,000	25,000,000	7,158,806							
IVP II	2001	8,600,000	8,564,472	2,799,296							
IVP III	2004	10,500,000	9,555,000	12,920,296							
IVP IV	2007	14,000,000	13,100,000	11,104,733							
Insight Venture Partners VI	2007	10,000,000	28,895,502	61,968,071							
Insight Venture Partners VII	2011	20,000,000	19,141,600	13,716,040							
Insight Venture Partners VIII	2013	50,000,000	46,424,000	6,698,134							
Insight Venture Partners IX	2015	50,000,000	32,170,605	1,339,968							
InterWest Partners IX	2004	20,000,000	19,410,000	20,323,462							
InterWest Partners V2	2000	25,000,000	24,850,000	12,953,647							
InterWest Partners X	2008	30,000,000	25,894,500	2,300,118							
JP Morgan Venture Capital Investors	1998	100,000,000	93,284,186	70,128,287							
JP Morgan Venture Capital Investors II	2000	100,000,000	98,029,678	116,062,449							
JP Morgan Venture Capital Investors III	2005	100,000,000	99,249,283	80,029,395							
Keystone V	1997	25,000,000	25,000,000	2,120,252							
Keystone Venture IV	1993	15,000,000	14,980,880	11,417,691							
Keystone Ventures II	1985	10,000,000	10,000,000	22,401,982							
Kline Market Pacific	2000	15,000,000	15,000,000	7,024,260							
Knightbridge Venture Capital VI	2004	20,000,000	18,266,667	13,807,280							
LightSpeed India Partners I	2015	15,000,000	6,109,500								
LightSpeed Venture Partners V2	2005	18,000,000	15,057,658	29,801,929							
LightSpeed Venture Partners VI	2008	15,000,000	12,661,838	18,809,443							
Media/Communications Ventures Fund V	2000	15,000,000	13,781,095	56,014,639							
Meritech Capital Partners II	2000	26,475,164	24,847,529	37,926,932							
Meritech Capital Partners III	2006	35,000,000	35,000,000	179,217,500							
Meritech Capital Partners IV	2011	20,000,000	19,100,000	11,914,133							
Meritech Capital Partners V	2014	23,000,000	14,317,500								
Mid-Atlantic Venture Fund III	1997	20,000,000	20,000,000	5,654,702							
Mid-Atlantic Venture Fund IV	2000	30,000,000	30,000,000	9,177,849							
Morgenthaler Partners IX	2008	20,000,000	19,200,000	29,175,846							
Morgenthaler Partners V2	2001	35,000,000	35,000,000	28,717,913							
Morgenthaler Partners VII	2005	35,000,000	35,046,903	39,451,350							
Murphy & Faucher	1988	5,200,000	5,194,735	7,862,758							
NEPA Venture	1985	2,000,000	2,000,000	11,132,452							
NEPA Venture II	1992	7,500,000	7,500,000	54,879,769							

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New Enterprise Associates I1	2003	25,000,000	25,000,000	51,967,678							
New Enterprise Associates I2	2006	35,000,000	35,626,297	40,518,815							
New Enterprise Associates IX	1999	20,000,000	19,600,000	6,787,262							
New Enterprise Associates VI	1993	25,000,000	25,000,000	200,811,085							
New Enterprise Associates VII	1986	30,000,000	30,000,000	102,186,705							
New Enterprise Associates X	2000	35,000,000	35,000,000	32,493,542							
Novitas Capital III	2003	10,000,000	8,337,867	3,924,047							
Novo Vita	2000	11,616,498	11,378,462	5,382,932							
Oak Investment Partners K1	2004	35,000,000	35,000,000	20,884,742							
Oak Investment Partners K4	2006	40,000,000	39,214,554	28,177,778							
P/A Fund I	1993	30,000,000	30,000,000	66,835,378							
P/A Fund II	1997	100,000,000	99,366,750	161,607,393							
Permira UK Venture Fund III	1990	9,063,438	9,946,988	26,295,739							
Permira UK Venture Fund IV	1996	15,748,000	15,794,739	23,596,190							
Pitango Venture Capital Fund -V	2004	20,000,000	20,266,266	16,748,067							
Pitango Venture Capital Fund V	2007	30,000,000	27,917,626	16,866,840							
Pittsburgh Seed Fund	1985	2,000,000	2,000,000	1,016,649							
Point Ventures II	1990	1,000,000	1,000,000	1,313,407							
Polaris Venture Partners	1996	15,000,000	14,520,000	46,594,679							
Polaris Venture Partners V	1998	25,000,000	24,750,000	40,761,285							
Polaris Venture Partners III	2000	50,000,000	49,500,000	35,219,712							
Polaris Venture Partners IV	2001	50,000,000	49,750,000	44,081,207							
Polaris Venture Partners V	2006	50,000,000	49,000,000	37,304,560							
Quaker BioVentures	2003	20,000,000	19,757,627	5,472,501							
Quaker BioVentures II	2007	25,000,000	22,108,833	16,355,865							
RR & Z PA Fund #1	1988	10,000,000	10,000,000	19,606,155							
RRZ Private Equity	1996	20,000,000	19,344,647	12,188,287							
SCP Private Equity Partners II	2000	25,000,000	23,026,869	8,534,307							
Solinnova Venture Partners VII	2006	20,000,000	19,204,944	28,074,391							
Sprout VII	1995	18,000,000	18,000,000	48,331,682							
Summit Accelerator Fund	1999	8,000,000	7,560,000	13,302,985							
Summit Partners Venture Capital Fund II	2005	15,000,000	15,000,000	28,086,917							
TDH II	1985	9,000,000	9,000,000	15,990,106							
Three Arch Capital	2000	20,000,000	19,500,000	16,330,214							
Three Arch Partners IV	2003	20,000,000	19,050,000	19,732,734							
TL Ventures III	1996	15,000,000	15,000,000	20,773,654							
TL Ventures IV	1999	35,000,000	35,000,000	26,810,892							
TL Ventures V	2000	40,000,000	40,000,000	16,100,247							
US Venture Partners VII	1999	13,750,000	13,750,000	4,800,279							
US Venture Partners VIII	2000	26,250,000	25,830,000	31,214,948							
Weatherage Venture Capital	2007	25,000,000	22,875,000	21,431,174							
Weatherage Venture Capital II	2010	25,000,000	20,814,064	4,917,877							
Worldview Technology Partners IV	2000	18,130,023	16,951,175	7,863,559							
Zero Stage II	1980	2,000,000	2,000,000	678,401							
Total Venture Capital		\$ 3,302,179,690	\$ 3,146,210,896	\$ 3,501,392,056							

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Special Situations											
ABRY Advanced Securities Fund	2007	25,000,000	20,239,583	20,682,709							
ABRY Mezzanine Partners	2001	30,000,000	24,857,300	49,707,116							
ABRY Senior Equity III	2006	30,000,000	25,405,379	44,688,849							
ADV Opportunities Fund I, L.P.	2015	50,000,000	36,078,170	(138,445)							
AG Capital Recovery Partners II	2001	17,600,000	17,600,000	27,534,983							
AG Capital Recovery Partners III	2002	20,000,000	16,000,000	25,183,359							
AG Capital Recovery Partners IV	2003	50,000,000	35,415,216	55,991,470							
AG Capital Recovery Partners V	2005	20,000,000	20,000,000	23,814,353							
ASF VII B LP	2016	100,000,000	10,559,385	(155,125)							
ASF VII PA Co-Invest	2016	50,000,000	426,198								
Avenue Asia Special Situations Fund IV	2008	50,000,000	31,891,913	33,606,114							
Avenue Europe Special Situations Fund	2008	38,622,500	25,306,861	37,859,419							
Avenue Special Situations Fund III	2002	50,000,000	37,387,969	62,628,424							
Avenue Special Situations Fund IV	2005	50,000,000	49,911,835	69,076,799							
Avenue Special Situations Fund V	2007	20,000,000	19,901,575	32,690,854							
Avenue Special Situations Fund VI	2010	20,000,000	19,977,798	17,831,933							
AXA Secondary Fund III	2004	26,000,000	21,733,291	37,244,706							
AXA Secondary Fund III-2	2004	14,000,000	11,677,210	19,062,764							
AXA Secondary Fund IV	2006	80,000,000	66,908,452	82,302,114							
AXA Secondary Fund V B	2012	75,000,000	57,721,809	58,318,674							
BIM Capital Partners	1996	35,000,000	24,423,917	50,549,547							
Centerbridge Capital Partners I	2006	50,000,000	51,804,352	107,910,945							
Centerbridge Capital Partners III	2015	30,000,000	7,268,621	404,701							
Cerberus Institutional Partners	1999	35,000,000	35,000,000	79,906,454							
Cerberus Institutional Partners Series Four	2006	75,000,000	68,695,715	99,407,294							
Cerberus Institutional Partners Series Three	2003	35,000,000	22,321,354	48,003,987							
Cerberus Institutional Partners Series Two	2001	35,000,000	30,100,793	93,674,154							
CVI Global Value Fund	2007	80,000,000	57,000,000	82,038,632							
Dover Street VII	2007	30,000,000	28,725,000	34,158,337							
H I G Bayside Debt & LBO Fund II	2008	30,000,000	30,010,001	24,818,134							
H I G Bayside Loan Opp. Fund III	2013	50,000,000	34,494,601	9,000,884							
H I G Bayside Loan Opp. Fund IV	2015	25,000,000	8,183,672	3,410,636							
JP Morgan US Corp Finance Investors II	2002	50,000,000	47,843,124	83,158,875							
KPS Special Situations Fund IV	2014	25,000,000	5,009,898	5,384,244							
Landmark Equity IV	1994	14,923,291	12,495,850	18,814,699							
Landmark Equity Partners V	1995	19,824,113	19,391,580	23,752,414							
LBC Credit Partners III	2013	50,000,000	47,500,000	31,189,050							
Lexington Capital Partners II	1998	40,000,000	39,538,000	52,512,592							
Lexington Capital Partners III	1999	35,000,000	34,516,449	43,363,378							
Lexington Capital Partners V	2001	75,000,000	74,322,207	122,032,804							
Lexington Capital Partners VI	2005	50,000,000	52,212,143	61,408,551							
Math Patterson Global Opportunities Partners	2001	35,000,000	10,007,727	56,709,189							
Math Patterson Global Opportunities Partners II	2004	30,000,000	29,962,912	10,578,309							
Oaktree Capital Management	2004	40,000,000	39,999,995	117,162,238							
Oaktree Opportunities Fund IX	2013	50,000,000	50,000,000	7,483,912							
OCM Opportunities Fund	1995	24,000,000	24,000,000	39,330,684							
OCM Opportunities Fund II	1997	40,000,000	40,000,000	60,365,957							
OCM Opportunities Fund III	2000	60,000,000	60,000,000	90,237,365							
OCM Opportunities Fund IV	2001	70,000,000	70,000,000	115,665,753							
OCM Opportunities Fund V	2004	40,000,000	40,000,000	64,930,528							
OCM Opportunities Fund VI	2005	40,000,000	40,000,000	63,171,009							
OCM Opportunities Fund VII	2007	40,000,000	40,000,000	51,627,682							

Commonwealth of Pennsylvania State Employees' Retirement System

Schedule of Private Equity Investments by Sector

As of June 30, 2017

Investment	Vintage	Commitments	Contributions ⁽¹⁾	Distributions	Market Value	Unrealized Gain/(Loss)	IRR ⁽²⁾	TVM	Upper Quintile Ranking (IRR) ⁽³⁾	Upper Quintile TVM ⁽³⁾	Quintile Ranking (TVM)
OCM Opportunities Fund VIa	2007	40,000,000	36,000,000	59,059,393							
OCM Opportunities Fund VIa	2010	12,500,000	12,500,000	14,429,583							
OCM Opportunities Fund VIb	2010	12,500,000	12,500,000	6,973,114							
OCM Principal Opportunities	1996	25,000,000	25,000,000	36,286,472							
OCM Principal Opportunities Fund IV	2006	20,000,000	20,400,000	32,981,161							
OCM Principal Opportunities II	2001	25,000,000	25,000,000	43,894,166							
Platinum Equity Capital Partners II, L.P.	2013	50,000,000	43,439,580	40,481,570							
RNI Capital Master Fund III	2015	50,000,000	15,929,917	744,415							
Sankaty Credit Opportunities III	2007	50,000,000	50,000,000	50,615,310							
Sankaty Credit Opportunities IV	2008	40,000,000	38,000,000	49,701,946							
TCW Special Credits V	1994	35,000,000	35,000,000	60,857,854							
Templeton Strategic Emerging Markets Fund II	2005	100,000,000	74,742,190	149,972,520							
Templeton Strategic Emerging Markets Fund III	2008	100,000,000	92,498,137	59,967,965							
Versa Capital Partners	2004	20,000,000	22,868,000	15,988,714							
Versa Capital Partners II	2008	15,800,000	15,943,385	5,867,313							
W Capital Partners II	2007	40,000,000	38,133,987	51,953,047							
Total Special Situations		\$ 2,819,779,904	\$ 2,361,989,533	\$ 3,205,391,484							
Total: Commonwealth of Pennsylvania State Employees' Retirement System		\$ 16,926,629,635	\$ 14,426,699,810	\$ 28,036,570,727							

(1) Contributions do not include management fees and fund expenses

(2) IRR performance for investments held less than two years is not meaningful

(3) Fund benchmark data provided by Burgiss Private EQ as of 6/30/17 and represents sector comparable funds aggregated by Vintage Year, Asset Class, and Geography, with Special Situations benchmarked to All Private Equity

Past performance is not necessarily indicative of future results and there can be no assurance that the fund will achieve comparable results or avoid substantial losses.

Pages 44 to 50 - Redacted