

1H 2015

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM (CalPERS)
PRIVATE EQUITY PROGRAM SEMI-ANNUAL PERFORMANCE REPORT



INTRODUCTION

Private equity is a long-term asset class with performance results influenced by various factors. This report concentrates on several key exposures that contribute to performance results, including sector, geography, structure and vintage year. In addition, the broad industry trends highlighted herein may affect future performance results.

EXECUTIVE SUMMARY

Portfolio Highlights

- The PE Program underperformed the Policy Benchmark over the latest one, three, five, and ten-year periods. Despite trailing the Policy Benchmark over the latest ten-year period, **the PE Program's average annual return as of June 30, 2015 is above CalPERS' expected return for the asset class (9.33%), well above the actuarial rate of return (7.5%) and has consistently outperformed the peer-based State Street Private Equity Index (SSPEI).**
- Including a public market index in the PE Program Policy Benchmark continues to result in questions about comparable performance results. Most private equity investors use this type of benchmark and the industry is attempting to develop an alternative that will be more readily understood and acceptable. **In the interim, generally expect private equity to underperform rising public equity markets and outperform falling ones.**
- A **downturn in the energy sector impacted the one-year return** of the overall markets, including the PE Program, Policy Benchmark and SSPEI.
- **The PE Program has been net cash flow positive by approximately \$21 billion (i.e., distributions received exceeded capital contributions made) since 2011.**
- **The performance of the portfolio is primarily driven by investments** (a) in the **Buyout** strategy, (b) in the **United States** and (c) utilizing **partnership structures**. This is true over all measured time periods.
- An analysis of the existing unfunded commitments shows that the **PE Program's general partners have approximately \$11.7 billion of "dry powder,"** approximately 25% of which is from the 2006-2008 vintage years, though the investment period for most (if not all) of these funds should by now be expired.
- Although the PE Program is in its twenty-fifth year, **93% of value and performance are attributable to commitments made in the last ten years.** More specifically, commitments made in the 2006-2008 vintage years currently represent nearly two-thirds of the PE Program's aggregate fair market value.
- **The PE Program's five largest general partner relationships represent approximately 35% of net exposure,** which is defined as cost plus unfunded commitments.

Industry Trends

- **U.S. private equity fundraising in 2014 exceeded that of 2013 by roughly 20%**; a strong fundraising environment has continued through the first half of 2015. Fundraising is on pace to roughly equal 2014 levels, which were approximately \$265 billion.
- **Commitments to buyout funds totaled approximately \$70 billion, which accounted for 72% of total U.S. fundraising activity** during the first half of the year.
- **Risk metrics in the U.S. leveraged buyout market were mixed during the first half**, with an uptick in purchase price multiples (from 9.7x to 10.1x) and slight decline in average debt multiples (from 5.8x to 5.5x).
- **U.S. purchase price multiples continue to exceed those in 2007 while debt multiples remain slightly below 2007 levels.**
- **First quarter venture capital deal volume was robust** relative to the same period in recent years, and **venture capital IPO volume remained high.**
- **The outlook for distressed debt investment strategies continues to be mixed**, as default rates remain very low but a turn in the cycle could materially increase the opportunity set.
- **The S.E.C. has increased its scrutiny on private equity**, particularly with respect to general partners' fee and expense allocation practices. This issue has garnered significant media attention though it is unclear yet whether it will result in greater transparency.

OVERALL PRIVATE EQUITY PROGRAM PERFORMANCE

Performance vs. Policy Benchmarks

	1 Year	3 Year	5 Year	10 Year
CalPERS' PE Program¹	8.9%	14.1%	14.4%	11.9%
<i>PE Program Policy Benchmark²</i>	<i>11.1%</i>	<i>16.7%</i>	<i>15.0%</i>	<i>14.9%</i>
<i>State Street Private Equity Index (SSPEI)³</i>	<i>7.6%</i>	<i>11.6%</i>	<i>12.7%</i>	<i>11.5%</i>
Excess Return				
<i>v. Policy Benchmark</i>	(2.2%)	(2.6%)	(0.6%)	(3.0%)
<i>v. SSPEI</i>	1.3%	2.5%	1.7%	0.4%

Source: Wilshire Associates, State Street, PCA

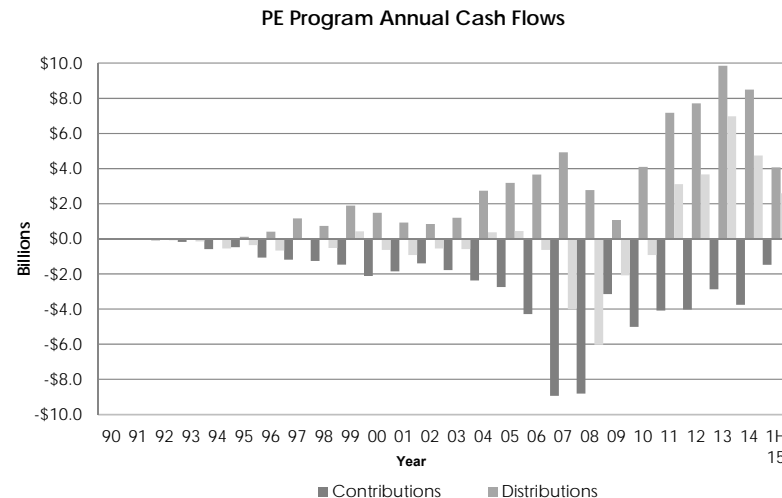
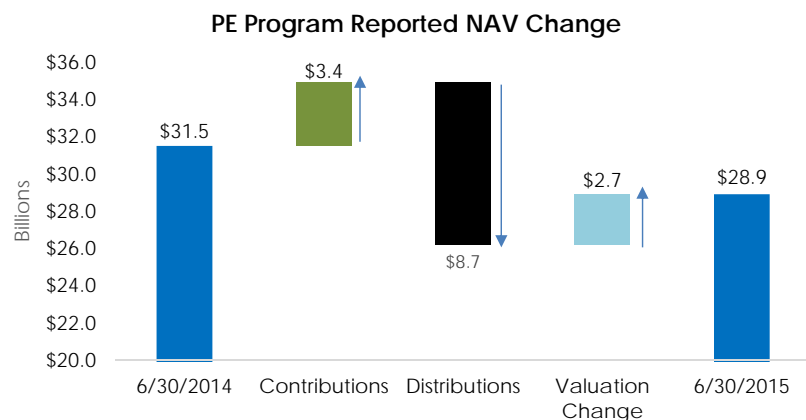
- As of June 30, 2015, the PE Program represented 9.6% of the overall portfolio, which is 0.4% below the PE Program's interim target of 10% and 2.4% below the long-term target of 12%.
- The PE Program underperformed the Policy Benchmark by 2.2% over the latest year. The one-year PE Program return of 8.9%, down from 14.6% as of December 31, 2014, is generally reflective of broad market movements as the SSPEI declined from a one-year return of 14.4% to 7.6% over the same time period. Similarly, the Policy Benchmark's one-year return declined from 17.1% as of December 31, 2014 to 11.1% as of June 30, 2015, demonstrating lower public equity returns over the same periods.
- Strong absolute five-year returns for the PE Program and the Policy Benchmark demonstrate the continued recovery from the economic crisis in late 2008/early 2009, while the PE Program underperformed the benchmark by 0.6%.
- The PE Program has posted a return above the expected return for the asset class (9.33%) and above the actuarial rate of return (7.5%) over the latest ten-year period, despite trailing the Policy Benchmark by 300 basis points. Given the long term nature of private equity, the three-, five- and ten-year results are more instructive in analyzing overall performance than is the one-year return.
- The PE Program outperformed the State Street Private Equity Index (a peer based, industry benchmark) over all periods evaluated, with the largest outperformance occurring at the three- and five-year time periods.

¹ The net asset value of CalPERS' PE Program portfolio is lagged one quarter with adjustments for current cash flows through the reporting period

² Currently equals (67% FTSE US TMI + 33% FTSE AW x-US TMI) + 3% 1-quarter lagged from and since September 2011; the Wilshire 2500 ex-tob + 3% since July 2009; previous periods for the PE Program Policy Index are linked historically to the Custom Young Fund Index, the PE Program's prior benchmark. The Custom Young Fund Index was composed of private equity holdings where write downs lagged the public markets declines in the reporting period.

³ Time-weighted return calculated by linking quarterly return, 1-quarter lagged

NET ASSET VALUE CHANGE AND CASH FLOWS

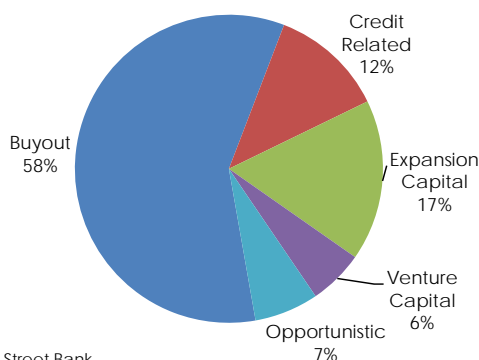


Source: Private Edge, PCA

- o PE Program net asset value (NAV) decreased by \$2.6 billion over the latest year due to strong distributions of capital from managers, totaling \$8.7 billion, which exceeded the program's total contributions and valuation increases, which equaled \$6.1 billion.
- o Over the three-year period ending June 30, 2015, the PE Program received \$27.5 billion in distributions while contributing \$10.0 billion, resulting in a positive net cash flow of \$17.5 billion.
- o Distributions from managers have been high due to an attractive exit market (including an active IPO environment for both venture capital and leveraged buyout transactions) and more friendly credit markets resulting in material utilization of the dividend recap. In addition, the PE Program's sales on the secondary market, and proceeds received when direct investments in certain private equity management companies were wholly or partially realized in 2013, generated distributions and contributed to the positive net cash flows.

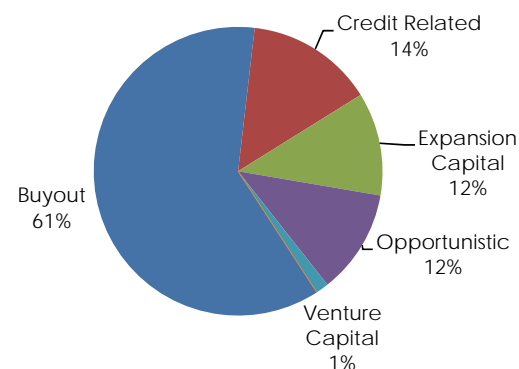
PORTFOLIO STRATEGY COMPOSITION

PE Program NAV by Strategy: \$28.9 B



Source: State Street Bank

PE Program Unfunded Commitments by Strategy: \$11.7 B



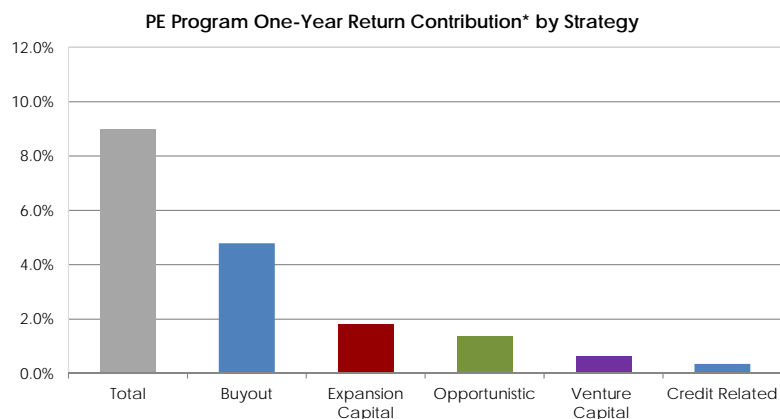
Source: State Street Bank, Private Edge, PCA

Target Strategy Allocations

Strategy	Target	Range	Actual
Buyouts	60%	50%-70%	58%
Credit Related	15%	10%-25%	12%
Venture Capital	1%	0%-7%	6%
Growth/Expansion	15%	5%-20%	17%
Opportunistic	10%	0%-15%	7%

- All strategy allocations are within target ranges and all but Venture Capital are at or near the middle of target ranges.
- Buyout is the greatest proportion of the PE Program's unfunded commitments and will therefore continue to be its largest exposure prospectively.
- Venture Capital, which comprises 6% of the PE Program's overall NAV, represents only 1% of unfunded commitments, demonstrating the PE Program's shift away from this strategy in recent years.
- Conversely, Credit Related investments currently represent 12% of the PE Program's overall NAV but 14% of unfunded commitments, demonstrating an increased focus on new commitments to this strategy in recent years.
- The PE Program's largest industry exposures are, in approximate order, consumer discretionary, information technology, industrials, financials, healthcare, energy, and consumer staples, ranging from a high of roughly 18% of the portfolio to a low of 6%. Over the 12-months ending June 30, 2015, the energy sector suffered a significant decline, which has been a major detractor to the PE Program's one-year performance results.

PORTFOLIO STRATEGY PERFORMANCE



* Sector return weighted by proportion of NAV.
Source: State Street Bank, PCA

Performance Summary: by strategy

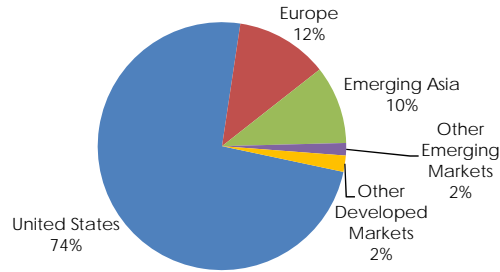
	1 Year	3 Year	5 Year	10 Year
PE Program	8.9%	14.1%	14.4%	11.9%
<i>Buyout</i>	<i>8.3%</i>	<i>13.6%</i>	<i>14.2%</i>	<i>14.1%</i>
<i>Credit Related</i>	<i>2.9%</i>	<i>13.8%</i>	<i>16.1%</i>	<i>13.0%</i>
<i>Expansion Capital</i>	<i>10.8%</i>	<i>14.4%</i>	<i>14.3%</i>	<i>8.9%</i>
<i>Venture Capital</i>	<i>11.3%</i>	<i>13.2%</i>	<i>10.1%</i>	<i>6.6%</i>
<i>Opportunistic</i>	<i>20.5%</i>	<i>12.4%</i>	<i>13.3%</i>	<i>6.1%</i>

Sources: Wilshire, State Street Bank

- o All major strategies of the PE Program contributed positive results over the last twelve months, with the Buyout strategy being the largest contributor to overall performance. Opportunistic had the highest 1-year performance of the five strategies but represents a small proportion of the portfolio and is therefore a lesser contributor to the Program's overall performance.
- o Though all strategies contributed positive performance over the past year, the one-year returns of seven of the ten largest Buyout holdings were less than their corresponding one-year returns from the second half of 2014 by a non-cap weighted average of 7.3%.
- o Despite generating a positive 2.9% one-year return, each of the PE Program's ten largest Credit Related holdings, which includes the single largest holding in the entire program, had lower returns relative to the previous reporting period.
- o The Buyout strategy (with a 13.6% return) was a large factor in generating returns over the last three years due to its significant allocation in the PE Program.
- o All strategies have demonstrated volatility over the four time periods measured, with Opportunistic being the most volatile.
- o The Buyout strategy has generated attractive results over the longer ten-year period, posting an average annual return of 14.1%.

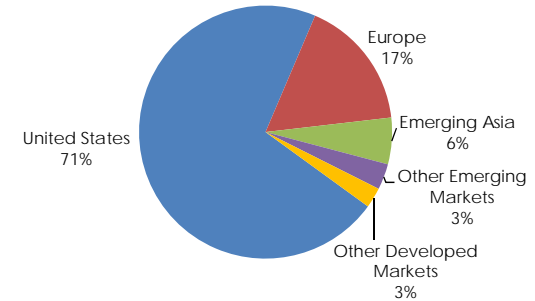
PORTFOLIO GEOGRAPHIC COMPOSITION AND PERFORMANCE

PE Program NAV by Geography: \$28.9 B



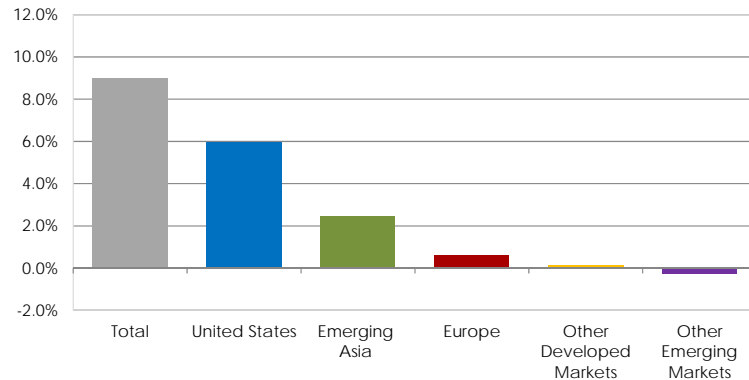
Source: State Street Bank, PCA

PE Program Unfunded Commitments by Geography: \$11.7 B



Source: State Street Private Edge

PE Program One-Year Return Contribution* by Geography



* Geographic return weighted by proportion of NAV.
Source: State Street Bank, PCA

Performance Summary: by geography

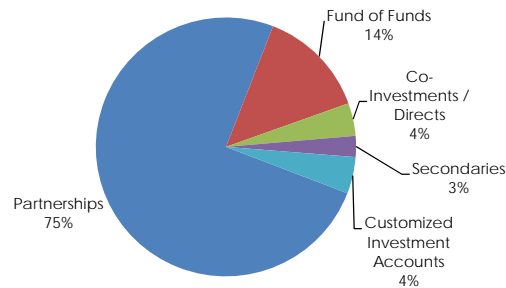
	1 Year	3 Year	5 Year	10 Year
PE Program	8.9%	14.1%	14.4%	11.9%
<i>United States</i>	<i>8.2%</i>	<i>14.6%</i>	<i>15.2%</i>	<i>11.8%</i>
<i>International- Developed World</i>	<i>5.8%</i>	<i>10.6%</i>	<i>11.2%</i>	<i>11.8%</i>
<i>International- Emerging Markets</i>	<i>19.2%</i>	<i>13.3%</i>	<i>12.6%</i>	<i>13.9%</i>

Sources: Wilshire, State Street Bank

- o Approximately 74% of the PE Program’s NAV is invested in the United States (based on the location of the investment firm) with 14% invested in developed markets (primarily Europe at 12%) and 12% in emerging markets (primarily Asia at 10%).
- o The two largest U.S. holdings, despite generating positive returns over the past year, depreciated relative to the one-year results from the prior reporting period. These declines roughly correspond to the performance of the SSPEI over the same period.
- o Performance results were positive across all major geographic sectors and time periods.
- o Unfunded commitments by geography generally correspond to each geography’s relative NAV.

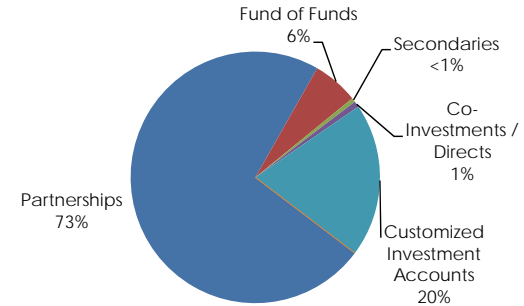
PORTFOLIO STRUCTURE COMPOSITION AND PERFORMANCE

PE Program NAV by Structure: \$28.9 B



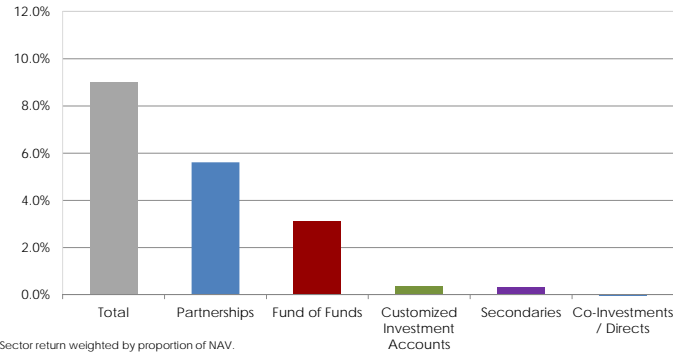
Source: State Street Bank

PE Program Unfunded Commitments by Structure: \$11.7 B



Source: State Street Bank, Private Edge, PCA

PE Program One-Year Return Contribution* by Structure



* Sector return weighted by proportion of NAV.
Source: State Street Bank, PCA

Performance Summary: by structure

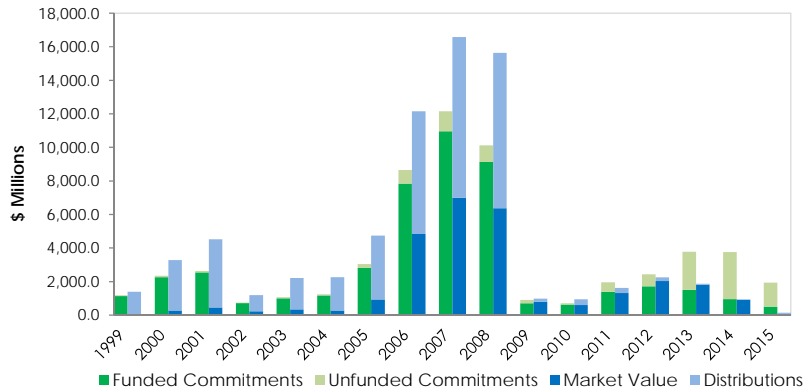
	1 Year	3 Year	5 Year	10 Year
PE Program	8.9%	14.1%	14.4%	11.9%
<i>Partnerships</i>	<i>7.5%</i>	<i>14.0%</i>	<i>14.7%</i>	<i>12.1%</i>
<i>Customized Investment Accounts</i>	<i>18.7%</i>	<i>5.9%</i>	<i>3.5%</i>	<i>1.7%</i>
<i>Fund of Funds</i>	<i>22.8%</i>	<i>15.1%</i>	<i>12.6%</i>	<i>8.5%</i>
<i>Co-Investments/Directs</i>	<i>(4.3%)</i>	<i>8.8%</i>	<i>12.4%</i>	<i>16.5%</i>
<i>Secondaries</i>	<i>12.7%</i>	<i>9.4%</i>	<i>11.4%</i>	<i>10.9%</i>

Sources: Wilshire, State Street Bank

- o Partnership structures are the most prevalent in the portfolio and therefore had the most significant impact on performance results.
- o Performance results are net positive across all structures over the latest year with the exception of Co-Investments/Directs, which posted a loss of (4.3%) over the 12 months ending on June 30, 2015, primarily attributed to a direct investment in a general partner.
- o The PE Program’s bias toward Partnerships is also demonstrated in that 73% of unfunded commitments relate to Partnerships, though a number of large commitments have been made to Customized Investment Accounts recently. This is the first report categorizing the performance of Customized Investment Accounts as a structure.
- o Co-investments, though representing 4% of the PE Program’s NAV, comprise only 1% of unfunded commitments, largely due to the fact that co-investments are frequently funded (or substantially funded) upon closing.

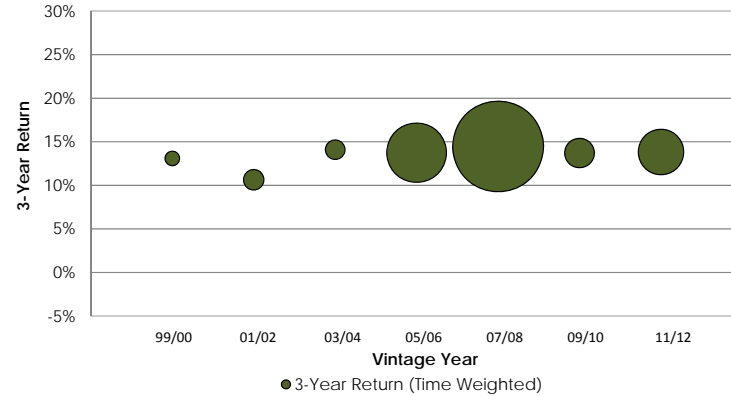
PORTFOLIO VINTAGE YEAR COMPOSITION AND PERFORMANCE

Commitments and Total Value by Vintage Year



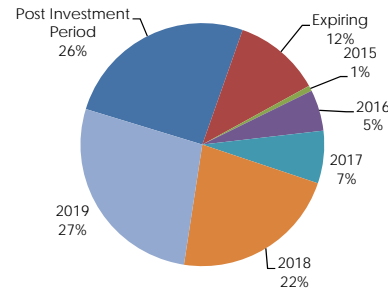
Source: Private Edge

PE Program 3-Year Return: By Vintage Year



Source: State Street Bank, PCA

PE Program Unfunded Commitments by Maturity



Source: State Street Bank, Private Edge, PCA

- o The Program currently has \$59.8 billion in active commitments⁴, \$11.7 billion of unfunded commitments, and \$28.9 billion in NAV.
- o The majority of active commitments and NAV are currently represented by the 2006 to 2008 vintage years at \$30.9 billion and \$18.2 billion, respectively, and are driving performance results.
- o Near-term expirations are smaller due to slower commitment activity post-crisis. An increase in recent commitment activity has increased the longer-dated expirations.

⁴ Active commitments only include commitments that have drawn capital as of the reporting date.

ANNUAL COMMITMENT ACTIVITY AND MANAGER CONCENTRATION

PE Program Commitment Activity: fiscal year 2014/2015

Partnership/Firm	Commitment (\$M)	Sector	Relationship
Blackstone Capital Partners VII	556	Buyout	Existing
Blackstone Tactical Opportunities III	500	Opportunistic	Existing
Bridgepoint V	469	Buyout	Existing
Centerbridge III	150	Credit	New
Co-Investments	449	Buyout	Existing
CVC Credit Separate Account	250	Credit	Existing
GCM California Mezzanine	80	Credit	Existing
GCM Grosvenor DEM	200	Buyout	Existing
Hellman & Friedman VIII	500	Buyout	Existing
Insight Separate Account	400	Growth	Existing
Insight Venture Partners IX	100	Growth	Existing
Riverstone VI	500	Buyout	Existing
Sankaty Separate Account	500	Credit	New
Siris Partners III	75	Buyout	Graduate
Tailwind Sidecar	50	Buyout	Existing
WCAS XII	350	Buyout	Existing
Total	\$5,129		

Source: CalPERS, PCA

Largest PE Program Relationships by Net Exposure

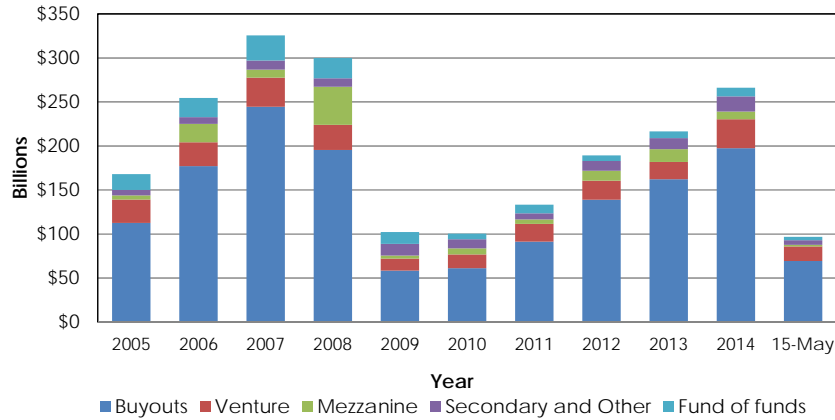
Firm	Investments	Net Exposure (\$M)	% of Program
Blackstone Group	20	\$4,165	10%
Carlyle	28	\$3,395	9%
Apollo Global Management	12	\$2,289	6%
TPG Capital	17	\$2,229	6%
Grove Street	4	\$1,766	4%

Source: State Street Bank, Private Edge, PCA

- o The PE Program authorized commitments totaling over \$5 billion across 20 opportunities during the 2014-2015 fiscal year.
- o PE Program's five largest relationships, based on net exposure (defined as cost of investments plus unfunded commitments) represent approximately 35% of the program's overall net exposure with capital allocated across over 80 investments (partnerships, funds of funds and direct investments) and targeting multiple strategies and geographies.

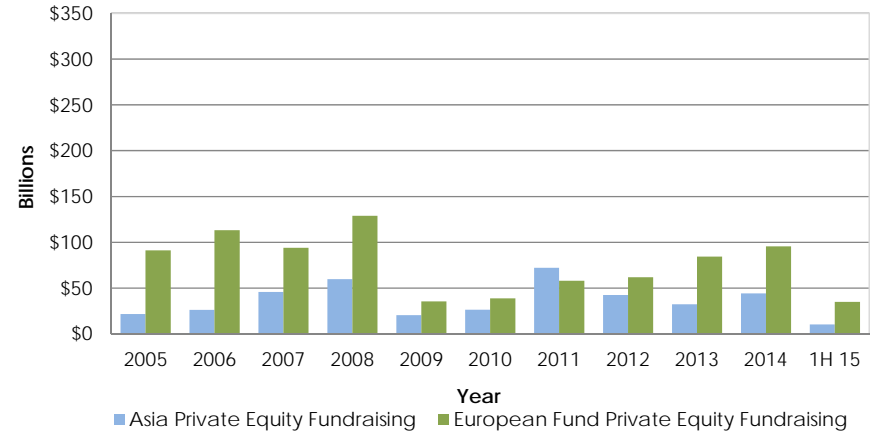
PRIVATE EQUITY MARKET OVERVIEW

Commitments to U.S. Private Equity Partnerships



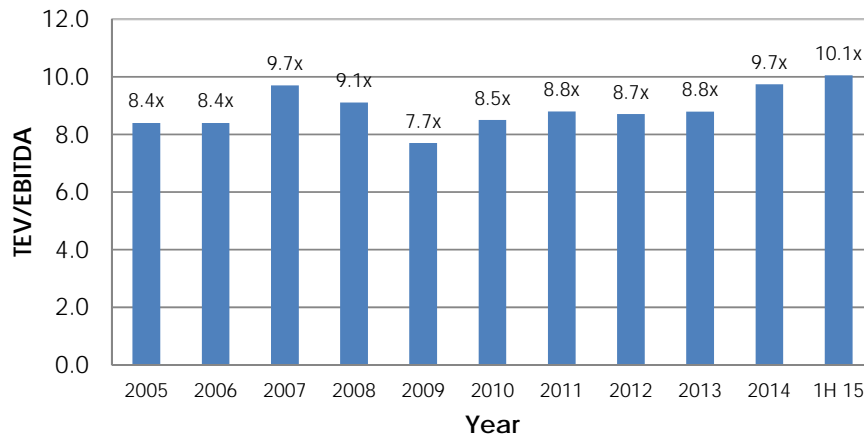
Source: Private Equity Analyst through May 2015

Commitments to Non-U.S. Private Equity



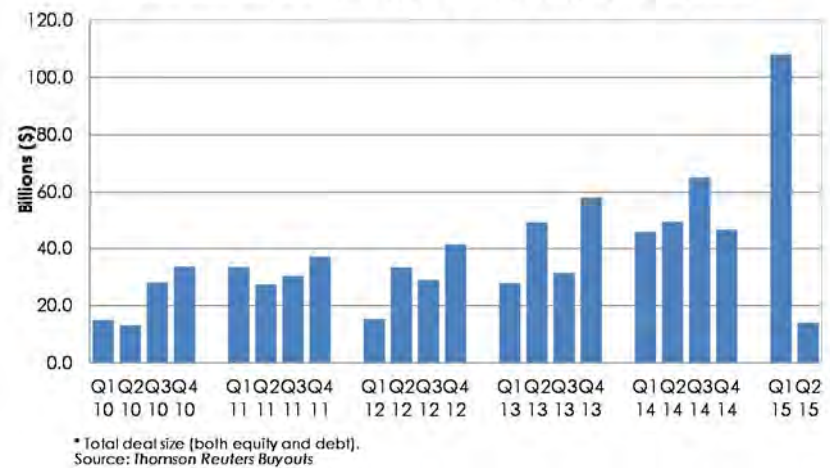
Source: Thomson Reuters, through June 2015

Average U.S. Purchase Price Multiples



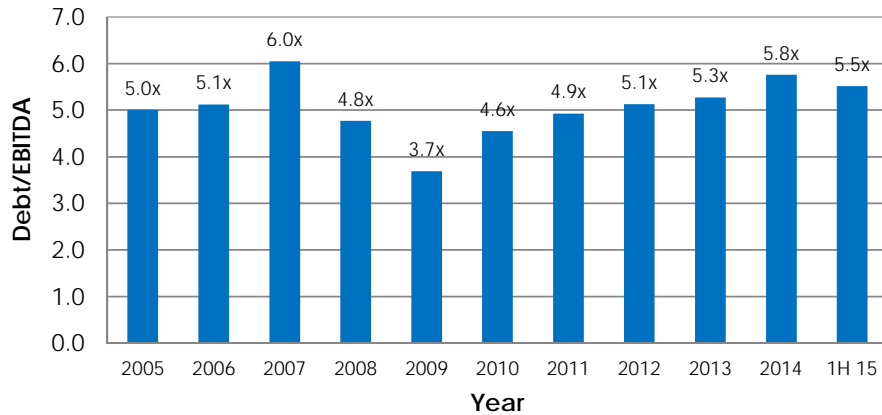
Source: S&P Capital IQ

Announced and Disclosed U.S. Quarterly LBO Deal Value*



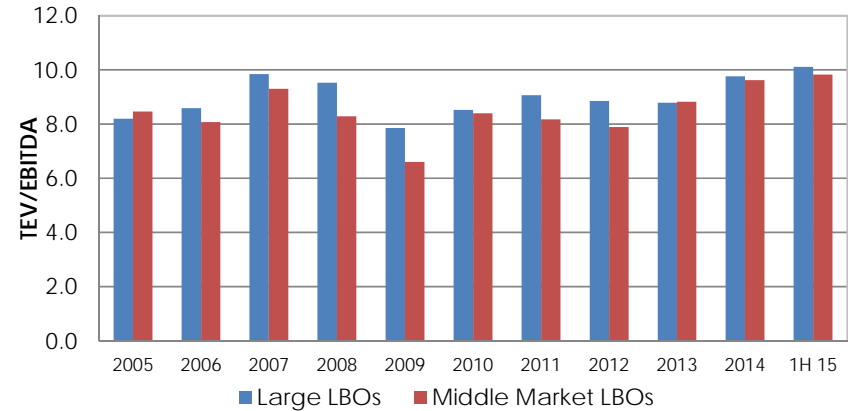
* Total deal size (both equity and debt).
Source: Thomson Reuters Buyouts

Average U.S. Debt Multiples



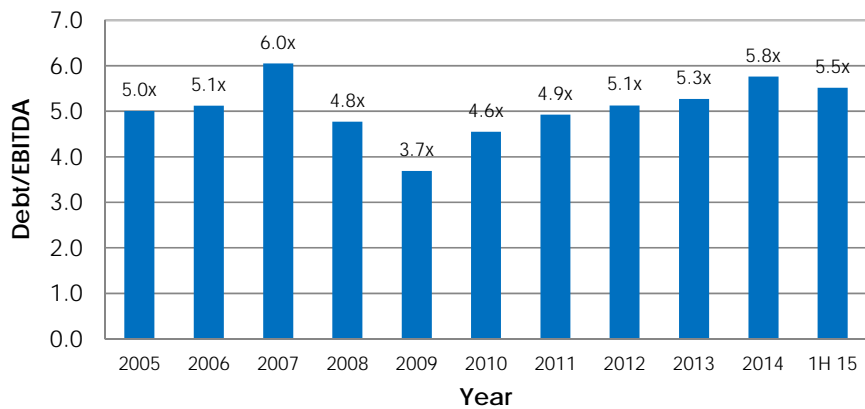
Source: S&P Capital IQ

U.S. Purchase Price Multiples: Large vs Middle Market



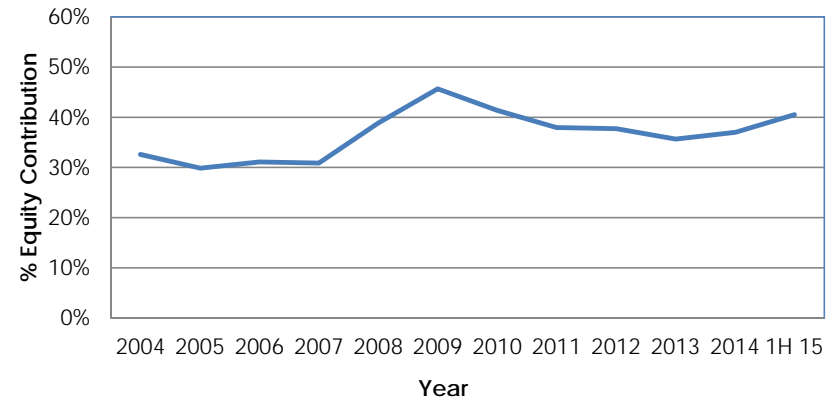
Source: S&P Capital IQ

Average U.S. Debt Multiples



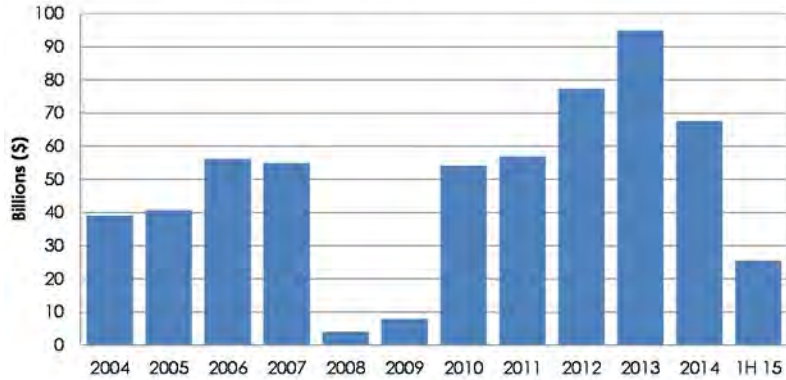
Source: S&P Capital IQ

Equity Contribution



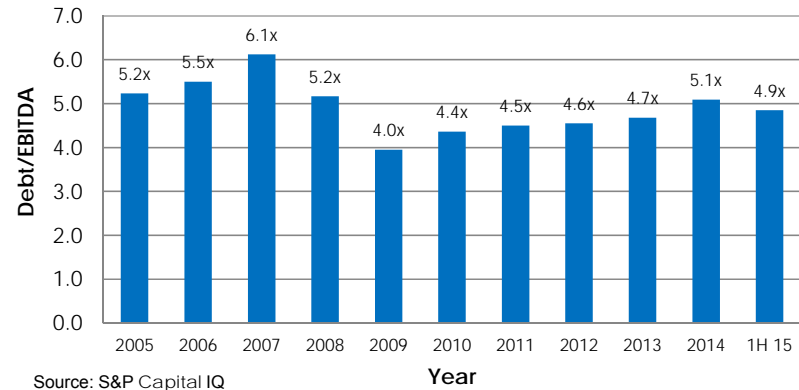
Source: S&P Capital IQ

Dividend/Stock Repurchase Loan Volume



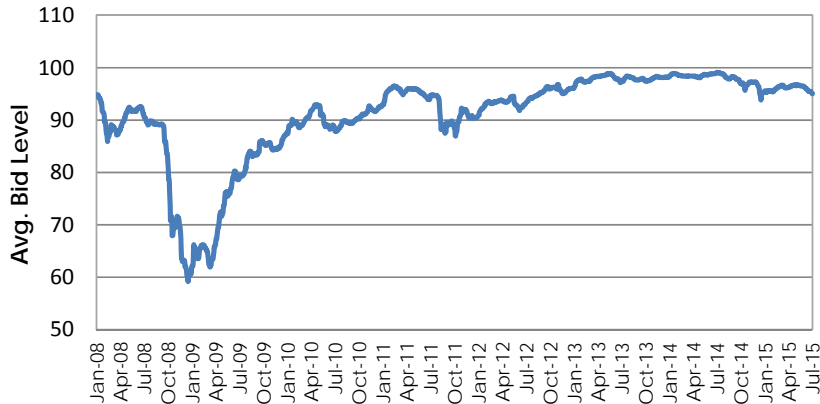
Source: S&P Capital IQ LCD, Bank of America Merrill Lynch

Average European Debt Multiples



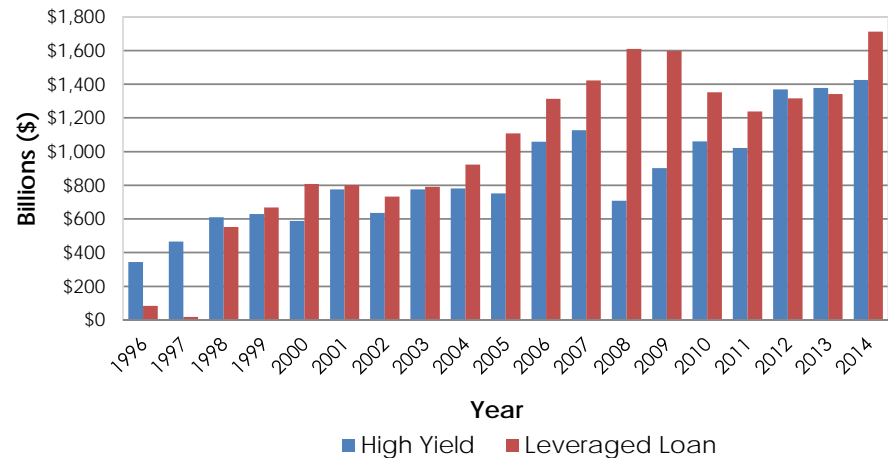
Source: S&P Capital IQ

Leveraged Loan Index



Source: Loan Syndications and Trading Association (LSTA)

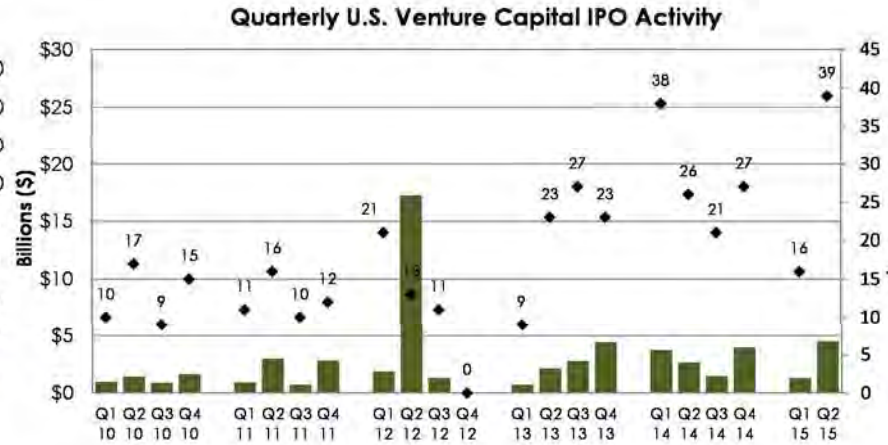
U.S. High-Yield and Leveraged Loan Market Size



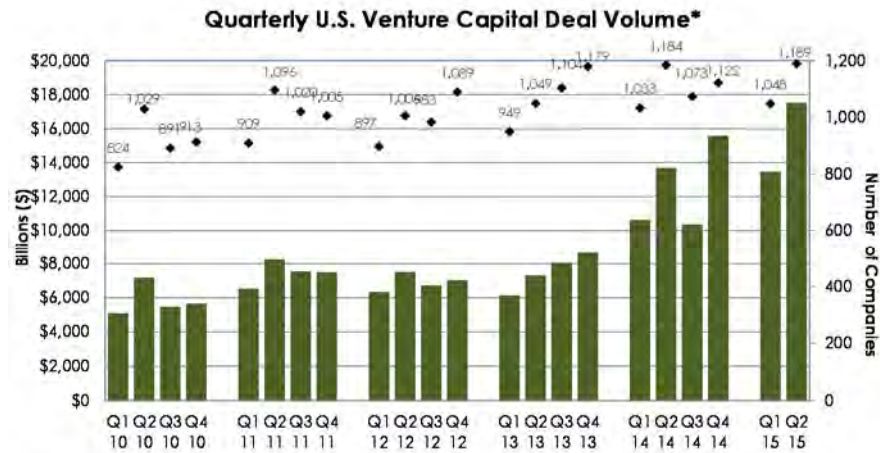
Source: Thomson Reuters, Credit Suisse Leveraged Finance Market Update



Source: Thomson Reuters



Source: Thomson Reuters



* Only includes equity portion of deal value.
Source: Thomson Reuters

Appendix 1: PE Program Relationships by Net Exposure (Cost plus Unfunded Commitments)

<u>Firm</u>	<u>Net Exposure (\$M)</u>	<u>% of Program</u>	<u>Firm (continued)</u>	<u>Net Exposure (\$M)</u>	<u>% of Program</u>
Blackstone Group	4,165	10%	Khosla Ventures	225	1%
Carlyle Group	3,395	9%	Madison Dearborn Partners	221	1%
Apollo Global Management	2,289	6%	Lombard/Pacific Partners	211	1%
TPG	2,229	6%	Birch Hill Equity Partners	211	1%
Grove Street	1,766	4%	Francisco Partners	209	1%
Kohlberg Kravis Roberts & Co.	1,614	4%	CDH	198	1%
CVC Capital Partners	1,591	4%	Arclight	186	<1%
First Reserve	1,128	3%	Levine Leichtman Capital	186	<1%
Advent Partners	1,075	3%	SAIF Partners	181	<1%
GCM Grosvenor	999	2%	Wellspring Capital Partners	174	<1%
Cerberus	992	2%	Palladium	165	<1%
Silver Lake Partners	957	2%	OCM	157	<1%
TowerBrook Capital Partners	752	2%	Polish Enterprise	154	<1%
57 Stars	709	2%	Thomas H. Lee Company	152	<1%
Yucaipa	673	2%	Clessidra Capital	150	<1%
Welsh Carson Anderson & Stowe	673	2%	Centerbridge Capital	150	<1%
Insight Venture Partners	581	1%	The Resolute Fund	149	<1%
Hellman & Friedman	550	1%	KPS	147	<1%
Standard Life	543	1%	Aisling Capital	145	<1%
Sankaty Advisors	500	1%	Lion Capital	132	<1%
Permira	479	1%	Avenue Capital Partners	122	<1%
Bridgepoint Capital	469	1%	Lime Rock	120	<1%
Riverstone	452	1%	Riverwood Capital Partners	119	<1%
Capital Dynamics	445	1%	VantagePoint Venture Partners	116	<1%
WL Ross & Co. LLC	435	1%	Coller Capital	111	<1%
Onex	410	1%	Huntsman Gay Capital	111	<1%
KMCP	403	1%	Audax Group	108	<1%
Hamilton Lane	372	1%	Essex Woodlands Health Ventures	106	<1%
Ares	364	1%	W Capital Partners	99	<1%
New Mountain Capital	354	1%	Affinity Equity Partners	96	<1%
MHR	330	1%	Magnum Capital	89	<1%
Providence Equity Partners	294	1%	Triton Partners	88	<1%
AACP	293	1%	EM Alternative Investments	84	<1%
Green Equity Investors	272	1%	Rhone Partners	81	<1%
Oak Hill Capital Partners	260	1%	Aurora Capital Partners	81	<1%
Jasper Ridge	260	1%	Kline Hawkes & Co.	76	<1%
Tailwind	253	1%	PAG	76	<1%
Stone Point Capital	250	1%	OTHER	1,059	3%

CalPERS Private Equity Performance Report – 1H 2015



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