

Private Equity Annual Review - Supplemental Report

Period Ending June 30, 2017

Investment Objective

Private equity allocations are a means of enhancing equity returns through a value-added approach to investment management of a diverse set of portfolio companies and to capture the illiquidity premium. The major driver for returns is appreciation, with negligible cash yield.

- CalPERS ALM Workshop (2013)

Asset Class Characteristics

Managing Investment Director: Sarah Corr (Interim)

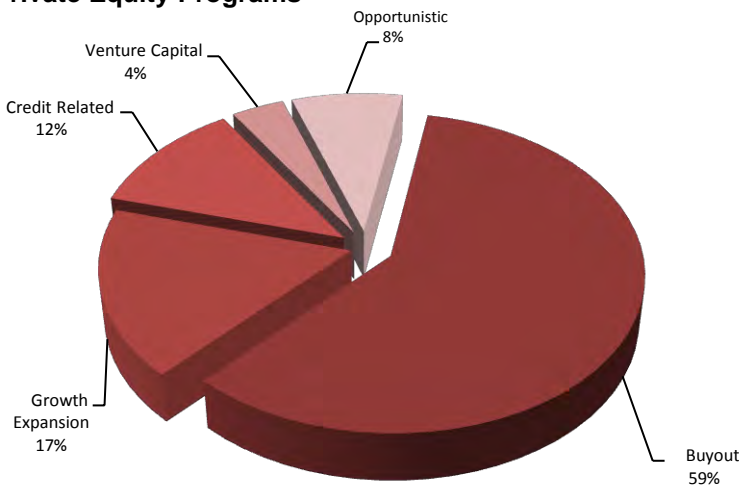
Assets: \$25.9 Billion

Benchmark: (67% FTSE U.S. TMI + 33% FTSE All World ex-U.S. TMI) + 3% lagged one quarter

Private Equity invests in commingled funds, separate accounts, co-investments, and direct investments. Private Equity utilizes secondary sales and purchases to restructure and rebalance the portfolio.

- Unfunded commitments of \$14.3 billion as of 06/30/2017
- Portfolio is invested 63% in the United States, 21% in Europe, 12% in Emerging Markets, and 4% in Other.

Private Equity Programs

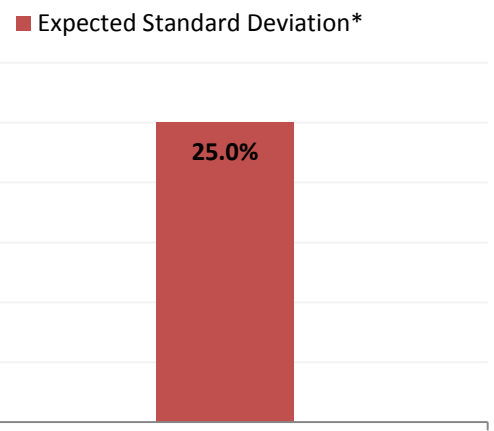
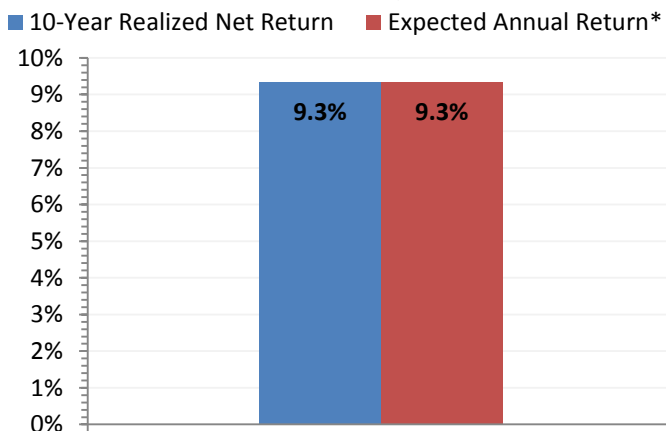


Class Allocation	Private Equity
Strategic Target Range %	4-12%
Interim Strategic Target %	8%
Actual Investment %	8.0%
Variance % (Strategic vs. Actual)	0.0%
Interim Strategic Target	\$ 25.9 Billion
Actual Investment	\$ 25.9 Billion
Variance \$(Interim Strategic vs. Actual)	\$ 0.0 Billion

Note: Strategic target effective October 1, 2016

Asset Liability Management Expectations

*Capital markets assumption used in the November 2013 ALM Workshop based on 10 -Year expected returns and volatility.



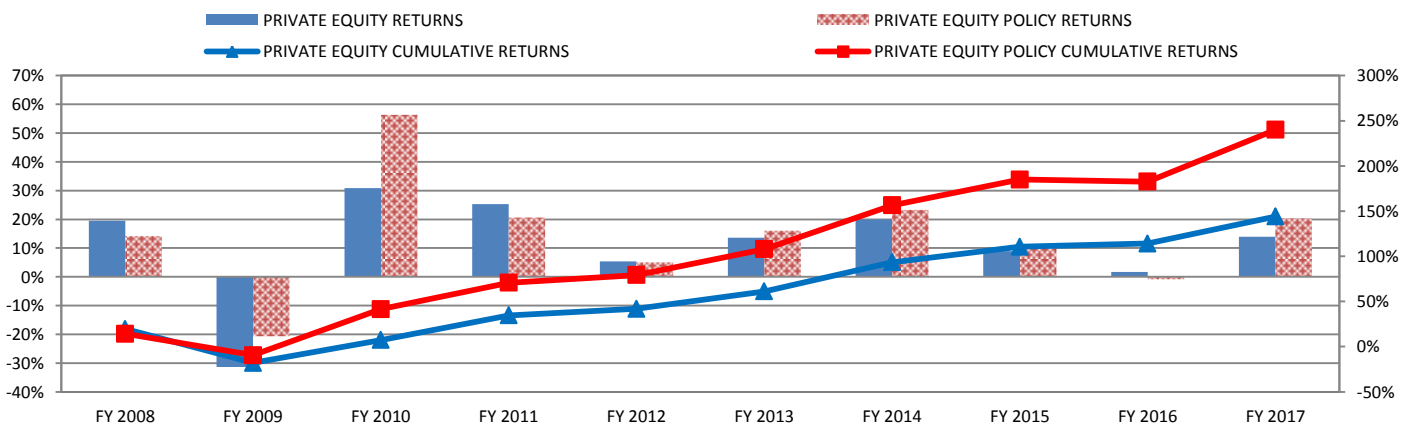
PRIVATE EQUITY PERFORMANCE

MONTH ENDING JUNE 30, 2017			1-YR		3-YR		5-YR		10-YR	
Asset Class	Ending Market Value	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	
PRIVATE EQUITY*	\$ 25.9 Billion	13.9%	(640)	8.1%	(180)	11.5%	(221)	9.3%	(369)	
Buyout	\$ 15.3 Billion	14.8%		9.2%		12.2%		10.1%		
Growth Expansion	\$ 4.4 Billion	22.6%		10.8%		12.8%		8.6%		
Credit Related	\$ 3.0 Billion	10.5%		1.1%		8.1%		10.2%		
Venture Capital	\$ 1.0 Billion	(8.9%)		(1.6%)		4.7%		3.1%		
Opportunistic	\$ 2.1 Billion	11.7%		16.6%		13.4%		6.7%		

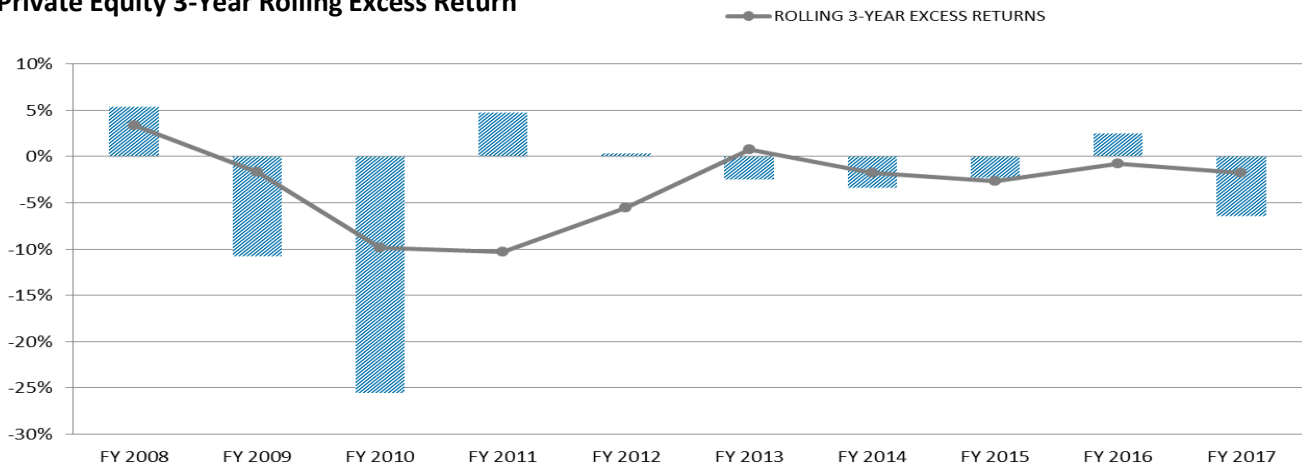
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Asset Class	Ending Market Value	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	
PRIVATE EQUITY*	\$ 25.9 Billion	13.9%	(640)	8.1%	(180)	11.5%	(221)	9.3%	(369)	
Funds	\$ 17.1 Billion	15.5%		8.2%		11.9%		10.1%		
Separate Accounts	\$ 3.5 Billion	10.2%		7.7%		8.7%		7.5%		
Fund-of-Funds	\$ 3.1 Billion	3.2%		9.1%		10.5%		6.5%		
Co-Invest/Direct	\$ 2.1 Billion	29.1%		6.1%		10.3%		7.5%		

*Includes currency and distributed securities in the amount of \$93 million

Private Equity Cumulative Return

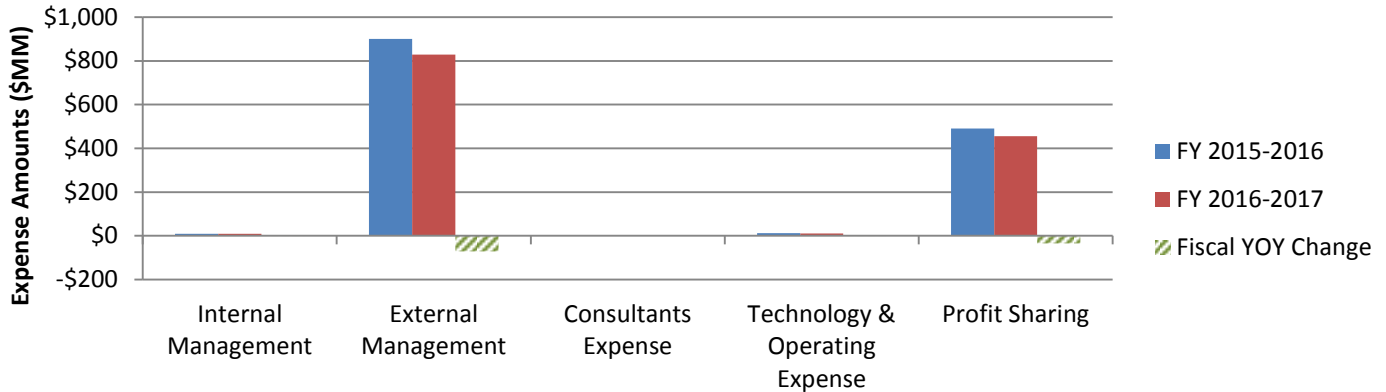


Private Equity 3-Year Rolling Excess Return



EXPENSES

Private Equity Expenses	FY 2015-2016	FY 2016-2017	Fiscal YOY Change
	(\$millions)	(\$millions)	(\$millions)
Internal Management	\$9	\$8	-\$1
External Management	\$900	\$829	-\$71
Consultants Expense	\$1	\$1	\$0
Technology & Operating Expense	\$11	\$10	-\$1
Profit Sharing	\$490	\$455	-\$35

Private Equity Expense Summary**STAFFING (as of 9/1/17)**

Senior Management Team	Years with CalPERS	Years Experience
Sarah Corr - ID (Interim MID)	16	19
Mahboob Hossain - ID	3	20
Investment Team	Number of Members	
Investment Managers	7	
Investment Officers	15	
Additional Resources	Number of Members	
Administrative Support Staff	8	

Private Equity Staffing Updates

- 35 Total Positions
- Hired 2 Investment Staff
- 8 Private Equity professionals appointed to more senior positions
- Transitioned 9 positions to a new Private Asset Analytics unit and transitioned 1 position to Real Assets.
- Current Vacancies
 - 1 Managing Investment Director
 - 1 Investment Officer
 - 1 Admin Support Staff

POLICY

REVIEWED	AMEND	POLICY/DELEGATION NAME	ACTION
✓	NO	Private Equity Policy	None
✓	NO	Restricting Private Equity Investments in Public Sector Outsourcers	<ul style="list-style-type: none"> • To the best of CalPERS knowledge, the Policy has been effective in limiting our General Partners (GPs) investments in public sector outsourcers, as CalPERS has not received any waiver requests in the last 12 months and all of our GPs have agreed to make good faith efforts to comply with the Policy • This Policy has had no negative impact on PE Program investment opportunities
✓	YES	Absolute Return Strategies Program Policy	Recommend updating the Policy to reflect the Program's current status which is not making any new investments and that all externally managed funds have been redeemed and are in various stages of wind-down or liquidation.

INVESTMENT BELIEFS

CalPERS Investment Beliefs

#1 Liabilities must influence the asset structure

While value appreciation is the primary component of total return for Private Equity (PE), appropriate consideration is given to the fact that CalPERS has a large and growing liquidity requirement.

#2 A long time investment horizon is a responsibility and an advantage

Adequate premium in the form of higher expected return is required for taking risk inherent in illiquid asset classes like PE.

#3 CalPERS investment decisions may reflect wider stakeholder views, provided they are consistent with its fiduciary duty to members and beneficiaries

Engagement with external partners and like-minded investors, as well as partnership with Sustainable Investments and Investment Manager Engagement to implement CalPERS stakeholder views.

#4 Long-term value creation requires effective management of three forms of capital: financial, physical and human

Engagement with external managers on alignment of interests, diversity issues, fair labor practices, and sustainability are essential elements of value creation for PE.

#5 CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution

Annual performance is benchmarked relative to public equity indexes (with added premium), but team performance is also evaluated based on contributions to long-term trust level objectives.

#6 Strategic asset allocation is the dominant determinant of portfolio risk and return

Portfolio construction process for PE is designed to have a material impact on overall return of the fund. Risk management process ensures diversification across different risk factors like sectors, vintages, managers, and strategies.

#7 CalPERS will take risk only where we have a strong belief we will be rewarded for it

PE aims to maximize return with the expectation that excess return will be achieved as compensation for the risk taken.

#8 Costs matter and need to be effectively managed

Align the interests of the fund, staff and external managers to promote transparency about fees and expenses and ensure appropriate balance of risk, return and cost.

#9 Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error

Both quantitative and qualitative risk factors need to be analyzed and understood before implementing any investment strategy. Impact of exogenous factors, like climate change, need to be incorporated as part of risk analysis.

#10 Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives

Strong team built on diversity of talent and a commitment to implement CalPERS investment beliefs is the key to PE's success. Senior team is accountable for ensuring strong governance and compliance with policies and procedures.