



M E K E T A I N V E S T M E N T G R O U P

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June 2, 2017

Mr. Henry Jones
 Chair, Investment Committee
 California Public Employees' Retirement System
 400 Q Street
 Sacramento, CA 95814

RE: CAPITAL MARKET ASSUMPTIONS

Dear Mr. Jones:

Meketa Investment Group has been asked in its capacity as Board Consultant for Private Equity (the "Program") to opine on the Capital Market Assumptions (the "CMAs") to be used for the 2017 Asset Liability Management Process. CalPERS conducts an in-depth Asset Liability Process every four years. The CMAs are important factors in assisting CalPERS develop its strategic investment plan for the coming years. We note that CMAs are estimates based on a current assessment of the financial markets, as well as projected economic, political, and capital market conditions. As such, the actual performance of CalPERS' investments will almost certainly be different than what is projected in the CMAs. However, the CMAs should represent a reasonable and unbiased estimate of forward-looking asset class returns, risks, and correlations. The CMAs proposed by Staff are described in Item 5a.

Meketa Investment Group participated in several discussions with Staff and other CalPERS' consultants in this process, with our particular focus on the assumptions for the private equity asset class.

The table below compares Staff's recommended return assumption for the private equity asset class to Meketa Investment Group's long-term return assumption.

Private Equity Projected Return Assumption

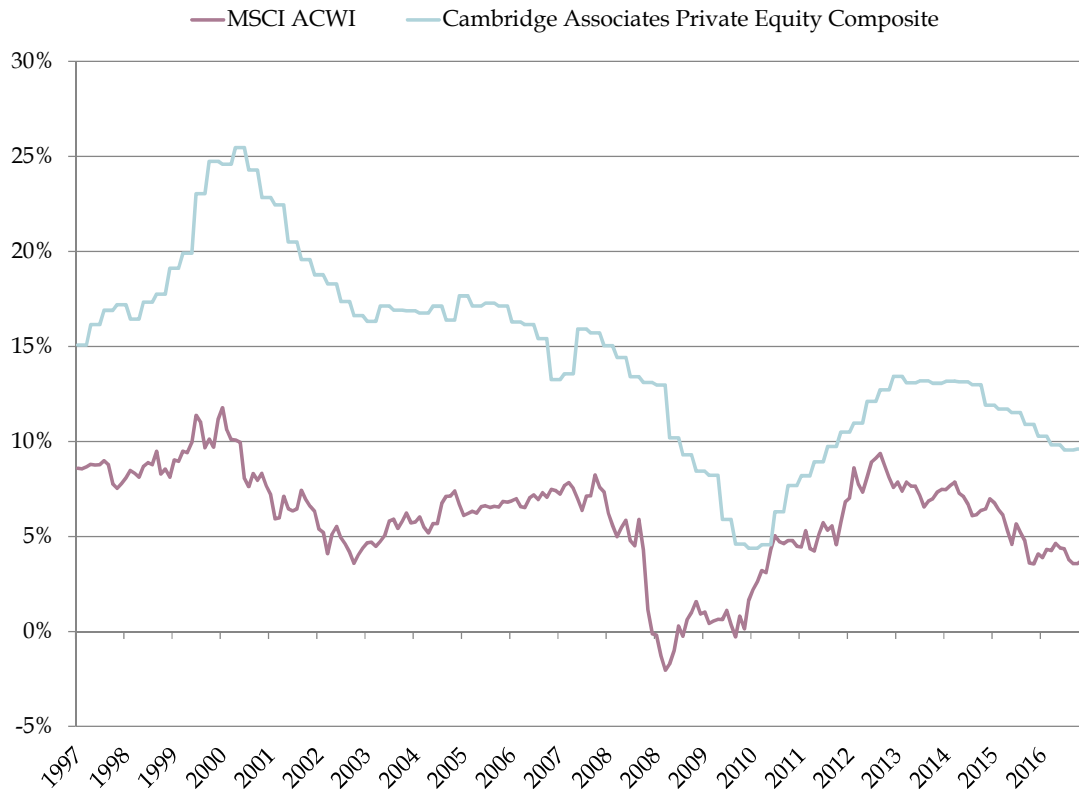
	CalPERS Staff Recommended (%)	Meketa Investment Group (%)
Expected Geometric Nominal Return	8.3	9.6
Return Spread Above Global Equity	1.5	1.4

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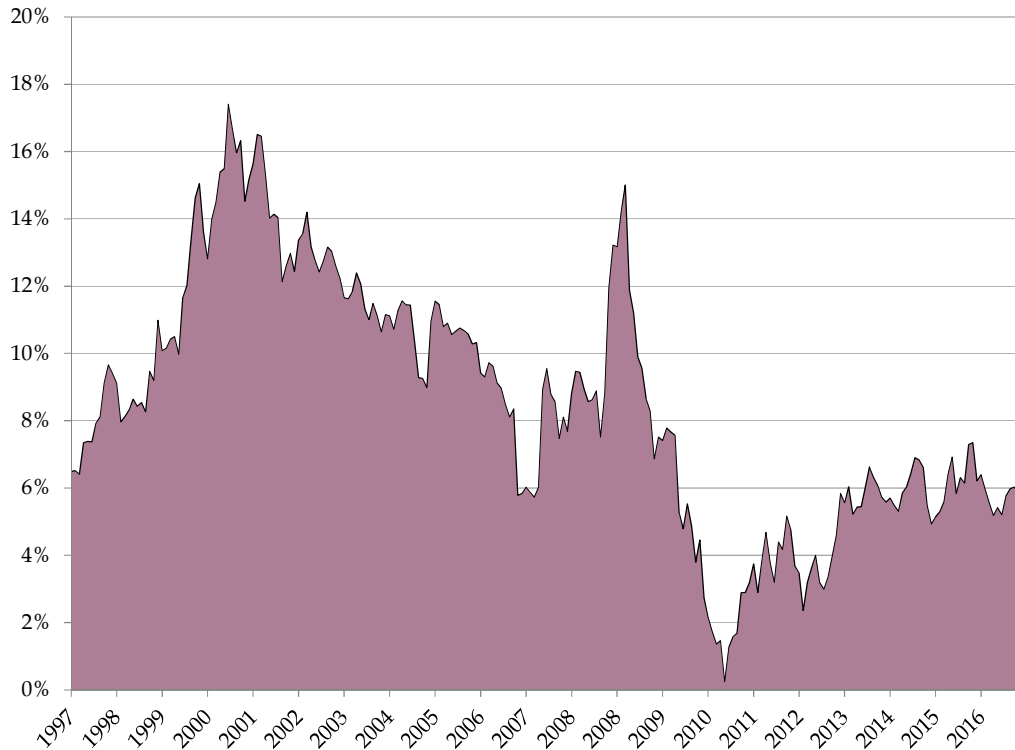
While Meketa Investment Group's projected return for the private equity asset class is somewhat higher than Staff's, this difference is driven largely by Staff's lower return expectation for global equity. The "return premium" of private equity we estimated (1.4%) is in line with Staff's estimate (1.5%) for the private equity return premium. It is this premium that is the critical private equity return assumption for the asset allocation process.

Instead of using a static private equity premium to develop our forward looking assumptions, Meketa Investment Group uses a fundamental approach that captures the current valuations via purchase price multiples and levels of debt to arrive at the private equity premium estimate. Based on these fundamental inputs and taking into account the empirical decline in the premium, we believe these estimates remain appropriately conservative.

Rolling Ten-Year Annualized Returns for Public and Private Equity



**Spread of Ten-Year Annualized Rolling Returns
between Public and Private Equity**



We note that, in general, the spread in returns between public and private equity has diminished over time. We believe that this trend will continue, in part due to increasing competition within the private equity asset class.

Both Meketa Investment Group and Staff estimate that private equity risk (volatility) should be modeled as higher than what is historically observed, due to the fact that private equity returns are calculated on a quarterly basis and that asset values are largely appraisal based.

Historical vs. Estimated Volatility for Private Equity

	% Per Year
Historical Private Equity Volatility ¹	12.2
Meketa Forecasted Private Equity Volatility	25.0

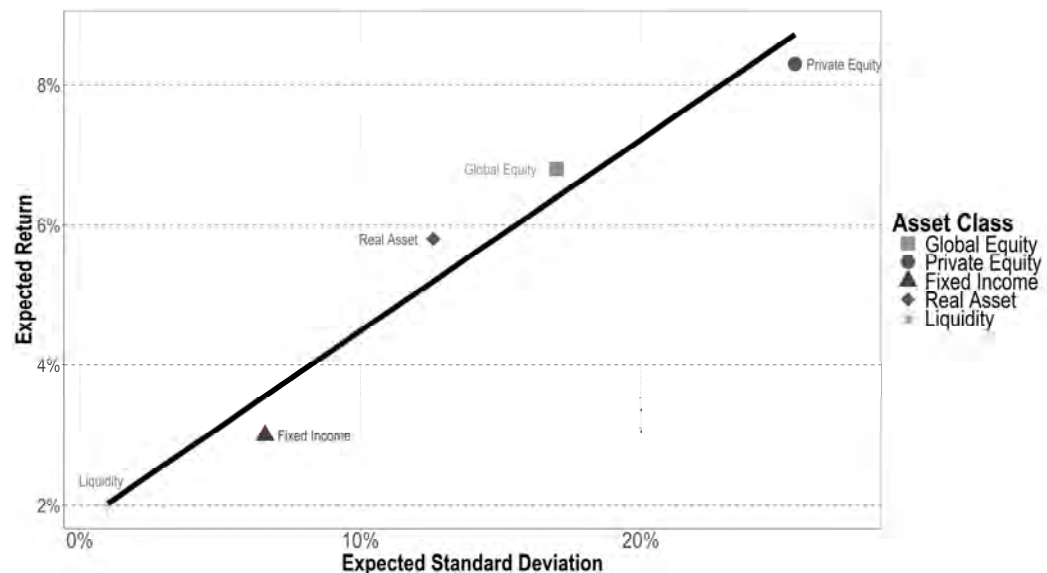
¹ Based on Cambridge Associates Private Equity Composite.

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In reviewing the private equity asset class risk and return assumptions in relation to those of other CalPERS asset classes, they conform with the underlying foundation of capital markets theory that risk and return are positively correlated over the long term. None of the asset class risk and return assumptions recommended by Staff appear disproportionately attractive or unattractive from a risk-adjusted standpoint.

Expected Risk vs. Expected Return in CalPERS CMA



Finally, Staff's correlation assumptions for private equity appear appropriately conservative (i.e., higher than historically observed correlations). We agree with this conservatism in the modeling process, as the underlying risks of private equity are almost certainly more related to the underlying risks of public equity than would be observed in historical return streams, due to the lagged nature of private equity returns, and to the appraisal-based valuation processes.

Overall, we support the Staff's proposed projected returns and volatility for private equity and the other asset classes.

SPM/SKH/nca