PUBLIC PENSION PLANS ASSUME APPROXIMATELY TEN PERCENT RETURNS FROM EQUITIES AND LITTLE TO NO RETURNS FROM FIXED INCOME OVER THE LONG-TERM

Identifying where pension plans expect to generate these returns requires some algebra. If most plans operate with a mean-variance utility framework, it is relatively straightforward to calculate their implied asset-class return expectations given their portfolio-level return and volatility expectations, asset-class allocations, and historical asset-class volatility and covariance (see technical appendix for details).

For example, during 2015 CalPERS assumed a 7.5 percent annualized return and a 13.0 percent target volatility.[6] CalPERS allocated approximately 24 percent to US equities.[7] Based on the long-term covariance across asset classes, this suggests CalPERS implied US equity returns equal 10.3 percent (see appendix).[8]

Figure 2a reports these implied asset class returns across the cross-section of pension funds based on their fiscal year 2015 allocations. On average, the implied returns suggest an approximately ten percent return to equities (US and international) and fifteen percent to real estate. The implied expectation for fixed income returns is approximately zero. Return expectations for alternatives also remains low. This may be a reason why several pensions announced their decision to cut their hedge fund allocations.[9]

FIGURE 2A AVERAGE IMPLIED RETURN ASSUMPTION:2015

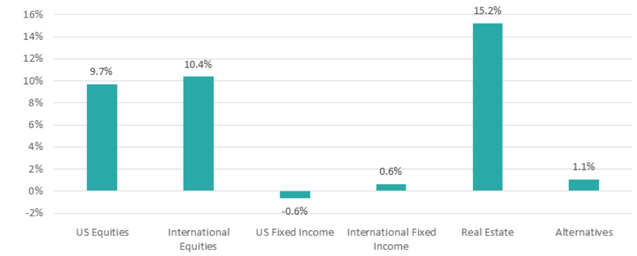
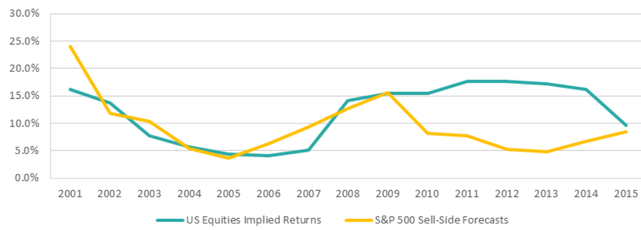


FIGURE 2B IMPLIED US EQUITIES RETURNS VS. S&P 500 SELL-SIDE FORECASTS



Notes: Pensions data from the Public Plans Data (PPD) produced by the Center for Retirement Research at Boston College, S&P 500 sell-side forecast data from Bloomberg

Whether these return expectations prove realistic remains an open question. Figure 2b compares US equity implied returns with published S&P forecasts from leading sell-side banks.[10] From 2010 to 2014, a chasm of more than five percentage points separated the expectations of pension plans and banks. It seems that public pension funds did not adjust their allocations to US equities to account for the higher volatility following the financial crisis, leading to significantly higher implied returns from US equities compared to sell-side analysts' forecasts. Since 2014, that gap has narrowed and fallen more in line with sell-side forecasts.

6 http://www.pionline.com/article/20161128/PRINT/311289986/calpers-balancing-risks-in-review-of-lower-return-target

7 https://www.calpers.ca.gov/docs/forms-publications/annual-investment-report-2016.pdf

8 "Cash" and "Other" categories were left out of PPD allocation data, and remaining asset weights were normalized to sum to 100%.

9 https://www.bloomberg.com/news/articles/2016-08-15/hedge-funds-are-losing-endowments-after-exodus-by-large-pensions

10 Source: Bloomberg