Semi-Annual Treasury Analysis and Liquidity Status Report

Prepared for: Finance and Administration Committee - Period ending December 31, 2015

CalPERS

Public Employees' Retirement Fund (PERF)

The Public Employees' Retirement Fund provides retirement benefits to the State of California, schools and other California public agency employees. The PERF benefits are funded by member contributions, employer contributions and by investment earnings. The analysis included in this report is for the time period of July 2015 through December 2015. Changes in Investment asset allocation and investment strategies can significantly impact data reported from period to period.

Liquidity Coverage Ratio Analysis

$$\text{Liquidity Coverage Ratios (LCR)} = \frac{\text{cash + assets convertible to cash + incoming cash sources}}{\text{outgoing cash uses + contingent cash uses}}$$

Funding Sources

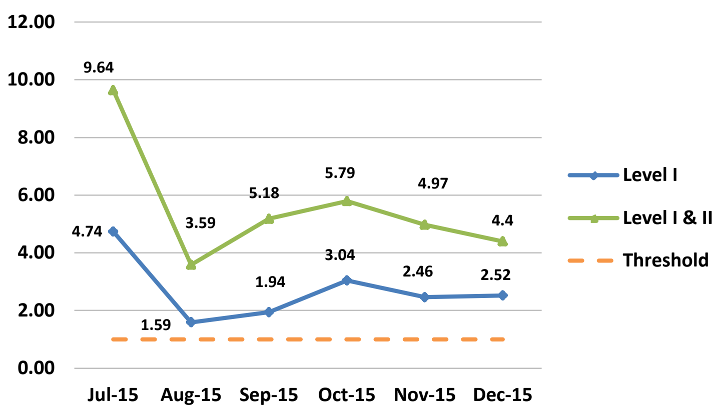
Level I: Cash and cash equivalents

Level II: Borrowed liquidity held in cash

Level III: Sale of public assets

**Threshold indicates the PERF's ability to cover 100% of monthly obligations.*

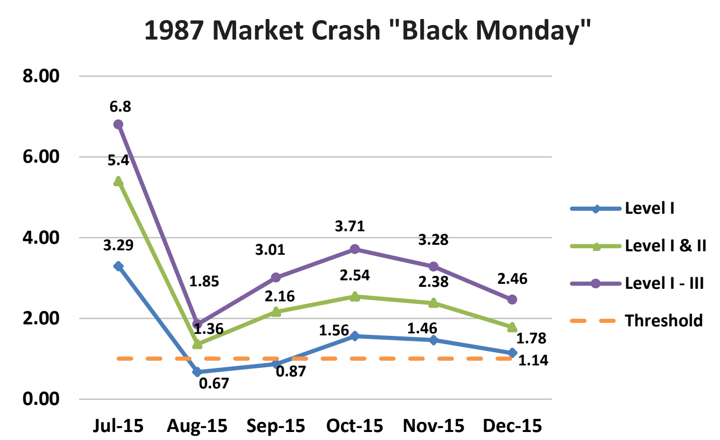
Normal Environment (30 Day Coverage Ratios)



Level I: The coverage ratios exceeded the threshold due to excess liquidity and changes in liquidity operations. Effective June 2015, the Investment Committee approved changing the strategic asset allocation target from 2% to 1% (+/- 3%) for the Liquidity Program. Modifications to liquidity operations are being made in order to meet the Fund's strategic asset allocation target for Liquidity. We will evaluate over time if liquidity coverage levels will become closer to the threshold identified in the graph. In addition, July's ratio was much higher due to an influx of contributions from the Unfunded Accrued Liability prepayment option becoming available to employers.

Level I & II: Since Level I coverage ratio exceeded the threshold, it was not necessary to utilize Level II assets.

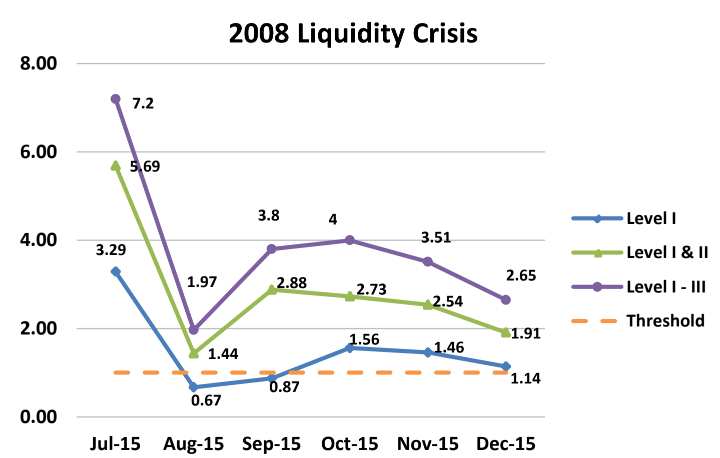
Stressed Environments



Level I: With the exception of August and September 2015, liquidity coverage ratios for Level I were adequate had a stressed event occurred.

Level I & II: If a stressed event similar to Black Monday were to occur in August and September 2015, CalPERS may have had to utilize Level II liquidity in order to meet monthly obligations because Level I fell short of the threshold.

Level I – III: CalPERS would not have had to utilize Level III assets.

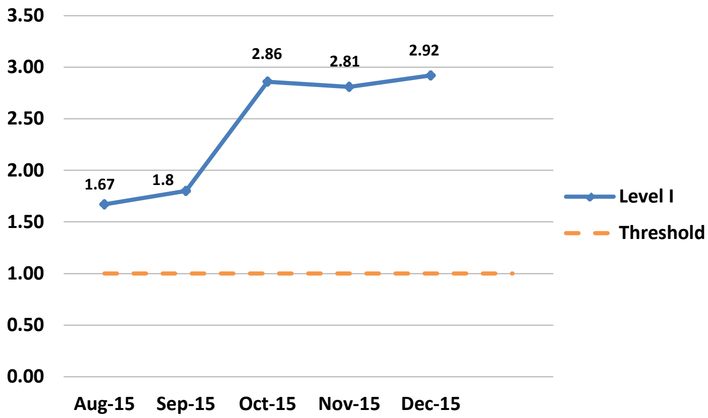


Level I: With the exception of August and September 2015, liquidity coverage ratios for Level I are adequate had a stressed event occurred.

Level I & II: If a stressed event similar to 2008 Liquidity Crisis were to occur in August and September 2015, CalPERS may have had to utilize Level II liquidity in order to meet monthly obligations because Level I fell short of the threshold.

Level I – III: CalPERS would not have had to utilize Level III assets.

Crisis Environment - 10-Day Liquidity



Level I: The PERF had sufficient cash to cover obligations ten days prior to the payment date. This indicates Level I was adequate had a crisis event occurred.

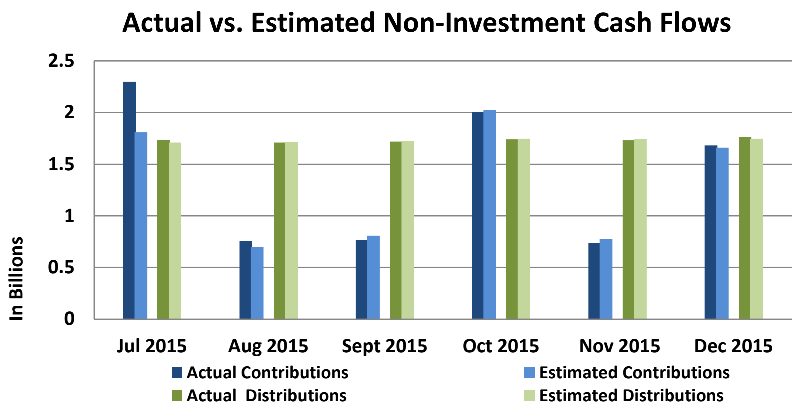
Level I – III: In a crisis environment, CalPERS would not have access to Level II and Level III assets because it is assumed there is a five business day market lockdown similar to September 11th, 2001.

Overall PERF Liquidity Health

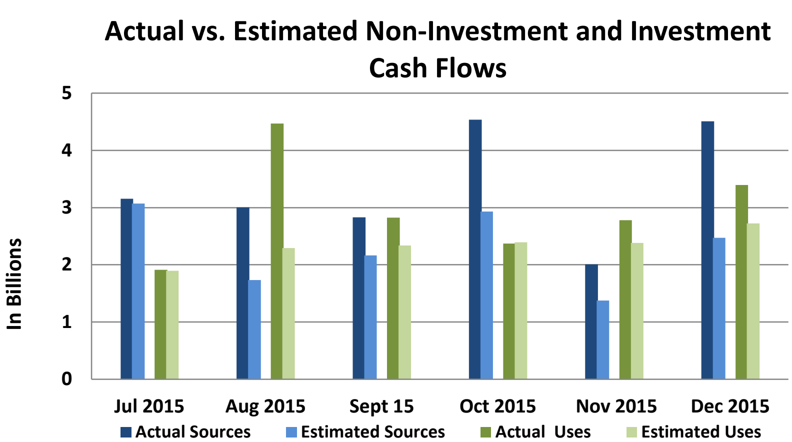
Based on Q1 and Q2 Coverage Ratio Analysis:

- ✓ PERF liquidity exceeded target threshold in normal environment.
- ✓ PERF liquidity was adequate in stressed and crisis scenarios.
- ✓ CalPERS is able to make payments for benefits, operating expenses and projected investments regardless of market conditions.
- ✓ Staff will continue to monitor PERF's liquidity health using liquidity coverage ratios.

PERF Cash Flow Forecasting



With the exception of July 2015, cash flow forecasting accuracy was in the 90th percentile. In July 2015, employers were given the opportunity to participate in the Unfunded Accrued Liability prepayment option. This resulted in greater actuals than forecasted contributions.



Cash forecasting for total fund cash activities (both non-investment and investment) can be volatile due to investment activities. Components that drive forecast volatility include, but are not limited to: private equity activity, real estate, investment expenses, etc.