Finance and Administration Committee

# Agenda Item 7d

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**September 15, 2020**

**Item Name**: Long-Term Care Valuation

**Program**: Actuarial

**Item Type**: Information

## Recommendation

This agenda item provides the results of the California Public Employees' Retirement System Long-Term Care (LTC) Program's annual actuarial valuation for the fiscal year ending June 30, 2019. It also highlights the details of the anticipated change to the discount rate for the program as this change would have a substantial impact on the plan liabilities.

In the 2018-19 fiscal year, premiums received were about $283 million, administrative expenses were about $29 million, and claims payments were about $325 million. The balance of the LTC Fund increased by approximately $251 million resulting in a new fund balance of approximately $4.73 billion as of June 30, 2019. This actuarial valuation includes 120,632 policies, 6,959 of which are on claim.

Each year, the CalPERS actuarial team performs an experience study and discount rate review in preparation for the annual valuation. The assumptions and discount rate under review set the expectations for the average long-term experience of the program. The analysis indicated that significant updates in certain actuarial assumptions were necessary to adequately project the program's funding status. Therefore, the following assumption changes are recommended to be incorporated in the 2019 valuation:

- Update the discount rate assumption from 5.25% to 4%[1] to reflect the forward-looking rate of return in a low-interest environment.
- Update the morbidity assumptions to reflect longer claim length and higher daily benefit utilization rate
- Update the lapse assumption to reflect the removal of shock lapse

The assumption updates significantly lowered the program's margin and funded status. Under the recommended assumptions, the results of this year's valuation indicate a margin of negative 85% and a funded status of 69%. Among the major assumption updates, the discount rate assumption update lowered the margin by 47.27%, the morbidity assumption update lowered the margin by 25.54% and the lapse assumption update lowered the margin by 20.78%. This agenda item will go into further detail on the discount rate assumption as it has the largest impact on the liabilities of the plan.

[1] Based on the current asset allocation. CalPERS Board will review the asset allocation in November 2020.

Actuarial assumptions are a long-term outlook of the experience of the program. In addition to setting and reviewing actuarial assumptions, the actuarial team also measures how actual experience during the fiscal year affects the margin. There were minor impacts on the margin from the following factors: higher-than-expected claim payments lowered the margin by 1%, higher-than-expected investment returns improved the margin by 4%, and improvements in the projection model used in this valuation increased the margin by 3%.

Due to the underfunded status of the program, a stabilization plan is necessary. Stabilization and mitigation options are currently under analysis and research. The CalPERS Long Term Care team plans to present their research findings to the board this month.

**Strategic Plan**

This agenda item supports the Strategic Plan Goal of Fund Sustainability.

**Background**

The CalPERS LTC Program started in 1995 and has 120,632 policyholders as of June 30, 2019. Information on the types of policies offered through the program and the number of policyholders under each type can be obtained from Appendix D of the valuation report. The report will be published in September of this year.

Since its inception, the CalPERS LTC Program has experienced worse-than-expected morbidity, higher-than-expected claims, lower-than-expected voluntary termination, and lower-than-expected investment income. This experience is like that of other LTC insurance providers. CalPERS has taken corrective action to stabilize the LTC Fund. In October 2012, the CalPERS Board adopted the stabilization plan. For certain policies, this included either a premium increase of 85% (36% premium increases each year over 2 years in 2015 and 2016) or a one-time 79% increase in 2015. Conversion to a less expensive policy was also permitted. The implementation of the stabilization plan was completed in fiscal year 2016-17.

In 2017, the actuarial valuation adopted the First Principles Based modeling method. This modeling method is standard in the LTC insurance industry and provides better information to analyze assumptions. Assumptions for the First Principles Based model have been developed and refined in the last three fiscal years.

The asset allocation of the LTC program was last revised in 2018. There were minor changes to the asset allocation adopted in 2012, with a targeted 66% of the portfolio allocated to fixed income. A new set of capital market assumptions was also adopted in fiscal year 2017-18 and lowered the discount rate from 5.75% to 5.25%.

**Analysis**

**Discount Rate Analysis**

The discount rate for the Long-Term Care Program is currently 5.25%. The current rate was determined by a process which blends the short-term expected rates of return and the historic rates of return for the varying asset classes in the portfolio.

The last time analysis was done to determine the discount rate, the capital market assumptions (CMA) were as follows:

| 6/30/2017 | | | | |
|---|---|---|---|---|
| **Asset Class** | **Allocation** | **10yr CMA Geometric** | **20yr CMA Geometric** | **Long Term ROR** |
| **Global Equity** | 15.0% | 6.80% | 7.80% | 8.90% |
| **U.S Fixed Income** | 61.0% | 3.00% | 4.10% | 5.54% |
| **Commodities** | 6.0% | 3.10% | 5.02% | 6.94% |
| **Treasury Inflation-Protected Securities (TIPS)** | 6.0% | 2.77% | 3.60% | 4.73% |
| **Real Estate Investment Trusts (REITS)** | 12.0% | 5.75% | 6.40% | 8.81% |
| **Average Total** | | **4.43%** | **5.44%** | **6.99%** |

When the Actuarial Office performed the analysis on the discount rate today, several considerations were considered. First, since the average age of the LTC Program's participants/policyholders is approximately 75 years old, the likelihood of roughly half of the Long-Term Care cohort needing to utilize their benefits within the next 20 years is high. In fact, the analysis shows that 65% of the liabilities will become due within the next 20 years. Second, the Long-Term Care Portfolio is 66% invested in fixed income assets. In the current low interest rate environment, the forward-looking capital market assumptions are considerably lower than the 2017 assumptions. Below is a snapshot of the capital market assumptions as of December 2019:

| 12/31/2019 | | | |
|---|---|---|---|
| **Asset Class** | **Allocation** | **10yr CMA Geometric** | **20yr CMA Geometric** |
| **Global Equity** | 15.0% | 6.18% | 6.89% |
| **U.S Fixed Income** | 60.0% | 2.04% | 3.05% |
| **Commodities** | 8.0% | 2.43% | 3.51% |
| **Treasury Inflation-Protected Securities (TIPS)** | 6.0% | 1.98% | 2.60% |
| **Real Estate Investment Trusts (REITS)** | 11.0% | 6.27% | 6.89% |
| **Average Total** | | **3.62%** | **4.51%** |

Based on this information, it was decided to use a blend of the 10-year and 20-year capital market assumptions to adequately reflect the outlook of the program. With this methodology and current capital market assumptions, the process points to a revised discount rate of 4%.[1]

[1] Based on the current asset allocation. CalPERS Board will review the asset allocation in November 2020.

To validate the Actuarial Office's findings, an outside consultant, United Health Actuarial Services, Inc., was hired to do an independent analysis. Their research also pointed to a 4% discount rate. The report is attached to this agenda item.

**Funded Status and Margin of the Program**

The results of the actuarial valuation are based on the in-force data, revised assumptions and fund balance as of June 30, 2019. The funded status, as of June 30, 2019, is 69% and the margin is negative 85.46%.

The following table shows the derivation of the funded status and the margin and compares key results from the June 30, 2019 and June 30, 2018 valuations:

| Component | 6/30/2018 ($ in Millions) | 6/30/2019 ($ in Millions) |
|---|---|---|
| **1. Present Value of Future Benefits** | $6,458 | $8,952 |
| **2. Present Value of Future Expenses** | $343 | $396 |
| **3. Present Value of Future Premiums (PVFP)** | $2,358 | $2,488 |
| **4. Valuation Liabilities (= 1 + 2 - 3)** | $4,443 | $6,860 |
| **5. Valuation Assets** | $4,471 | $4,734 |
| **6. Valuation Margin (= 5 - 4)** | $28 | -$2,126 |
| **7. Margin as a % of PVFP (= 6 / 3)** | 1.20% | -85.46% |
| **8. Funded Status (= 5 / 4)** | 101% | 69% |

**Main Reasons for Changes in Margin**

Incorporating the major updates to the discount rate assumption, morbidity assumptions and lapse assumption caused the largest negative impacts to the margin.

About 66% of the program's portfolio is currently allocated in fixed income (including TIPS). Due to the current market of low interest rates, the market outlook for fixed income is decidedly lower than it was in the 2017-18 fiscal year. This low-interest-rate environment has lowered future reinvestment return and increased reinvestment risk. The expected average future return decreased from 5.25% to 4%[1], lowering the margin by 47.27%.

The morbidity assumption update consists of a few components. The claim termination rate was lowered to reflect longer length of stay while on claim based on an actual-to-expected analysis of historical data. The claim utilization rate was updated using total historical claim data instead of open claim data to account for the higher daily benefit utilization rates occurring in longer duration claims. In addition, the morbidity assumption development process also refined the approach for setting assumptions for the different sites of care. The morbidity assumption update lowered the margin by a total of 25.54%.

For FY 18-19, the lapse assumption was lowered to exclude the effect of historical shock lapses and reflect emerging data. The lapse assumption update lowered the margin by 20.78%.

Other than these major assumption updates, a few other factors impacted the margin on a smaller scale: the actual paid claims and investment return in fiscal year 2018-19, along with model refinements, improved the margin by a total of 6%.

[1] Based on the current asset allocation. CalPERS Board will review the asset allocation in November 2020.

The table below provides the breakdown for impacts on margin between 2018 and 2019.

| | Change in Margin | Resulting Margin | Funded Status |
|---|---|---|---|
| **Result from 2018 Valuation** | | **1.20%** | **101%** |
| **2018 Margin with 2018 Restated Fund Balance** | 0.48% | 1.68% | 101% |
| **Projected One Year Forward with 2018 Demographics** | 0.21% | 1.89% | 101% |
| **Update with FY 2018-19 Non-Investment Cashflow** | (1.09%) | 0.80% | 100% |
| **FY 2018-19 Investment Gain** | 3.99% | 4.78% | 102% |
| **Update with 2019 Demographics** | 0.19% | 4.97% | 102% |
| **Model Improvements** | 3.31% | 8.28% | 104% |
| **Expenses Assumption Update** | 0.06% | 8.34% | 104% |
| **Mortality Assumption Update** | (0.21%) | 8.13% | 104% |
| **Morbidity Assumption Update** | (25.54%) | (17.42%) | 93% |
| **Lapse Assumption Update** | (20.78%) | (38.20%) | 84% |
| **Discount Rate Change** | (47.27%) | (85.46%) | 69% |
| **2019 Valuation Result** | | **(85.46%)** | **69%** |

**History of Funded Status and Margin**

The table below shows the funded status and the margin(deficit) for the LTC Program for the last five years. The lower-interest-rate environment and the corresponding investment return have had the largest negative impacts on the margin in the last five years. In addition, the program's emerging experiences indicate higher future claim costs. The revised lapse assumption in 2019 also contributed to the large decrease in the margin.

| 5 Year History of Funded Status and Margin | | |
|---|---|---|
| **Valuation Date** | **Funded Status** | **Margin** |
| **June 30, 2015** | 111% | 14.44% |
| **June 30, 2016** | 106% | 9.59% |
| **June 30, 2017** | 99% | (1.45%) |
| **June 30, 2018** | 101% | 1.20% |
| **June 30, 2019** | 69% | (85.46%) |

**Budget and Fiscal Impacts**

The June 30, 2019 actuarial valuation was prepared by the CalPERS actuarial team along with United Health Actuarial Services, Inc. Funding was already identified within existing budgetary resources.

## Benefits and Risks

With the updates to the actuarial assumptions, the CalPERS LTC program must undergo yet another rate stabilization plan.

Due to additional complexities associated with the Long-Term Care Program, the CalPERS long-term care team has explored several avenues of possible program change to not only mitigate the impact of the assumption changes but also keep the soundness of the program intact. The team is analyzing several ways to implement a rate stabilization plan and plans to present those findings to the Pension Health and Benefits Committee this month.

The actuarial calculations performed as part of the actuarial valuation are based on assumptions related to very long-term demographic and economic behavior. Unless the assumptions (morbidity, lapses, deaths, expenses, and investment return) are exactly realized each year, there will be differences between actual and projected cash flows on a year-to-year basis. The year-to-year differences between actual experience and the assumptions are called actuarial gains and losses and will either increase or decrease the funded status and margin of the LTC Program. If the actual experience differs from the assumption over a prolonged period, it may indicate a need for assumption updates and result in a need for premium changes to ensure the financial integrity of the LTC Program.

Some LTC assumptions such as claim incidence rate, claim termination rate, claim utilization rate, and lapse rate can have more variability throughout a long period of time. These assumptions can be impacted over time by plan demographics, health care technologies, policy holder's preferences, and shock events. Timely updating the valuation assumptions to reflect the most updated information is beneficial for adequately monitoring the funding status of the program and minimizing the risk that actual experience is not in line with assumptions Demographic assumptions such as mortality rate can have a significant impact on the LTC Program if not realized over a long period of time. These assumptions in general are not subject to wide variances from year-to-year and typically the changes to these additional assumptions only gradually occur over time. Please refer to the "Risk Analysis" section of the valuation report for more information on how sensitive the margin of the LTC Program is to changes in the key actuarial assumptions.

Investment return also poses significant risk to the program if not realized over time. LTC insurance is characterized by level premiums and increasing claim costs over the coverage period. The collected premiums are invested and the aggregate premiums plus investment income are used to pay out future claims. Investment income is a significant component of the income as the block of insurance matures. If investment returns are lower than expected over a prolonged period, more premiums will be needed to make up for the reduced growth in assets.

## Attachments

Attachment 1 – UHAS Asset Return Projection Final Report 2020-06-02

Attachment 2 – Long-Term Care Valuation PowerPoint Presentation

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