Long-Term Care
Actuarial Valuation
As of June 30, 2022

CalPERS

Table of Contents

Actuarial Certification

April 2023

To the best of our knowledge, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the CalPERS Long-Term Care Program. This valuation is based on the participant and financial data as of June 30, 2022. It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles and the standards of practice prescribed by the Actuarial Standards Board and that the assumptions and methods are internally consistent and reasonable for the Program related to actual and anticipated future experience.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Hang “Allen” Han, ASA, MAAA

Actuary, CalPERS

Fritzie Archuleta, ASA, MAAA

Deputy Chief Actuary, CalPERS

Scott Terando, ASA, EA, MAAA, FCA, CFA

Chief Actuary, CalPERS

Highlights and Executive Summary

Highlights and Executive Summary

Introduction

This is the actuarial valuation report as of June 30, 2022 for the CalPERS Long-Term Care Program (the Program). The financial projections used in this valuation analysis were produced under the First Principles Model by using the June 30, 2022 in-force data and updated assumptions. Risk Strategies Consulting (RSC) as the consulting actuary for CalPERS completed a parallel valuation, and RSC's valuation results are consistent with CalPERS' valuation results.

This actuarial valuation uses best estimate assumptions that are appropriate as of the date of valuation and these assumptions do not include any margin for adverse deviation. Assumptions could change as more information becomes known, which would impact the funded status reported in this valuation. The model, scenarios, and all assumptions were reviewed and updated this year. This report summarizes the approach, assumptions, and results of the actuarial valuation of the CalPERS Long-Term Care (LTC) Program as of June 30, 2022. For information on the sensitivity of the valuation results to changes in the actuarial assumptions, please refer to the "Risk Analysis" section and Appendices A and B.

Purpose of the Report

The purpose of the June 30, 2022 actuarial valuation report of the CalPERS Long-Term Care Program is to:

- Determine whether assets as of June 30, 2022, expected future premium levels, and future investment returns are sufficient to support future benefits.
- Provide actuarial information as of June 30, 2022 to the CalPERS Board of Administration and other interested parties.
- Provide information as of June 30, 2022 to be used in CalPERS financial statements.

Use of this report for other purposes may be inappropriate. More detailed information can be provided upon request.

Funded Status and Margin for the Program

As of June 30, 2022, the Program's funded status is 95% (a decrease from 108% last year) and the margin is negative 7.40% (a decrease from positive 10.51% last year). During the 2021-22 fiscal year, the program experienced a negative investment return due to the rising interest rates and market volatility. The investment return had the most significant impact to the margin in this valuation. This valuation reflected the 52% premium rate increase implemented during the 2021-22 fiscal year and the 25% premium rate increase planned for the 2022-23 fiscal year. For more details on the program and assumption changes, please see the "Key Assumption Changes and Findings" section. The table below provides the funded status and margin as of June 30, 2022.

Component	($ in Millions)
1)Present Value of Future Benefits	$7,943
2)Present Value of Future Expenses	$369
3)Present Value of Future Premiums (PVFP)	$3,215
4)Valuation Liabilities [(1+2) - (3)]	**$5,098**
5)Valuation Assets	$4,860
6)Valuation Margin [(5) – (4)]	**($238)**
7)Margin as a % of PVFP [(6) / (3)]	**(7.40%)**
8)Funded Status [(5) / (4)]	**95%**

Highlights and Executive Summary

The table below shows the funded status and the margin/(deficit) for the LTC Program over the last five years. The previous low-interest-rate environment and the corresponding long-term investment return expectation had a large negative impact on the margin in the 2019 valuation. In addition, morbidity assumption and lapse assumption adjustments also contributed to the large decrease in the 2019 valuation margin. The stabilization plan to change the asset allocation and increase premium rates brought the margin back to positive in the 2020 valuation. The higher-than-expected investment return and the Program's experience due to COVID-19 increased the margin in the 2021 valuation. However, the rising interest rates and market volatility reduced the margin to negative in the 2022 valuation.

5-Year History of Funded Status and Margin

Valuation Date	Funded Status	Margin / (Deficit)
June 30, 2018	101%	1.20%
June 30, 2019	69%	**(85.46%)**
June 30, 2020	101%	1.34%
June 30, 2021	108%	10.51%
June 30, 2022	95%	**(7.40%)**

Key Assumption Changes and Findings

The key assumption changes and findings reflected in this actuarial valuation are as follows:

- The Program experienced an investment return of negative 9.8% during the fiscal year 2021-22 due to the rising interest rates and market volatility. The negative investment return decreased the margin by 20.34%.
- The morbidity assumptions were updated in this valuation generally with experience data up to 6/30/2020. Experience data after 6/30/2020 was excluded from the experience study due to the distortion from COVID-19. Updating the assumptions with additional data had a positive impact to the margin. The morbidity improvement assumption assumes a decreasing trend for future new claims. In recent years there has not been consistent industrywide evidence or direct data support suggesting this trend would continue. As a result, the morbidity improvement assumption was removed in this valuation. This change had a negative impact to the margin. Overall, the morbidity assumption updates decreased the margin by 0.83%.
- The in-force population data at 6/30/2022 reflected the premium rate increase implementation during the 2021-22 fiscal year. It also reflected the modestly higher-than-projected mortality and less-than-projected new claims during the fiscal year partially due to COVID-19. The in-force population update overall improved the margin by 2.89%.

Summary of the Program's cashflows in the fiscal year 2021-22 are as follows:

- The Program's actual claim payment in the 2021-22 fiscal year was $318.9 million, which was 4%, or $13.1 million, lower than projected.
- The Program's actual premium collected in the 2021-22 fiscal year was $297.4 million. This amount reflected the implemented 52% premium rate increase during the fiscal year.
- The Program experienced an investment return of negative 9.8% during the 2021-22 fiscal year. The investment return was $790.5 million lower than expected.
- The program's actual expenses during the 2021-22 fiscal year was $26.9 million, which was 4%, or $1.0 million, higher than projected.

A complete reconciliation of the Program's margin/(deficit) is provided on page 10.

Highlights and Executive Summary

Changes Since the Prior Valuation

Actuarial Model

CalPERS has used a First Principles Model for the Program's valuation projection since 2017. Improvements to the First Principles Model are made subsequently each year when necessary. The modeling improvements and revisions made for the 2022 valuation include:

- Modified the model to allow more detailed age groups for the claim termination assumption at incurred age 90 and higher

More information about the First Principles Based Model can be found in Appendix C.

Actuarial Assumptions

The First Principles Model requires development of granular assumptions. It requires multiple morbidity assumption components including claim incidence rates, claim termination rates, and claim utilization rates. The claim termination rates for the First Principles Model are also further refined into assumptions for claim recovery and on-claim death. Similarly, mortality for the First Principles Model is separated into active life and disabled life components. First Principles Model lapse rates are only applied to active policies.

Each year, actual experience is measured against the assumptions made, which are then updated to reflect the actual experience. For the 2022 valuation, assumptions were updated to include 6 more months of recent data, except the claim utilization assumption which included 12 more months of recent data. Please refer to the "Summary of Key Assumptions" Section on page 11 for more information on the changes that were made. Assumptions are documented in more detail in Appendix C.

Premiums and Policies

As of June 30, 2022, there were 105,370 in-force policies with an annualized premium amount of $354,605,475. CalPERS historically implemented corrective actions, including premium increases in 2003, 2007, 2010, and 2015/2016, to stabilize the LTC Fund. These historical premium increases were reflected in the data of this valuation.

In the June 30, 2019 valuation, the program had an underfunded status due to a decreased future investment return assumption and an increased future claim liability. To address this funding risk, the Board subsequently approved stabilization efforts to improve the financial position of the program. The stabilization efforts included a 52% premium increase in the 2021-22 fiscal year for all policies and an additional premium increase of up to 25% in the 2022-23 fiscal year for a cumulative increase of up to 90%. The implementation of the first phase of the premium increase was mostly complete by the 6/30/2022 valuation date. The second phase of the premium increase is in progress to be implemented during the 2022-23 fiscal year. This valuation reflects the implemented 52% premium increase in 2021 and assumes a 25% premium increase in 2022.

To reduce the impact of higher premiums on policyholders, options to convert to less expensive policies are offered to policyholders during the premium increase implementations. More details of the coverage conversions during the fiscal year are provided in Appendix D. Since the coverage conversions for the 25% premium increase would become effective after the valuation date, this valuation does not assume any policy conversions related to the 25% premium increase. Please see the Sensitivity of Key Assumptions section for more detail.

Highlights and Executive Summary

Subsequent Events

Due to COVID-19, the program experienced higher mortality, lower claim incidence, and lower claim payments most noticeably in the 2020-21 fiscal year. COVID-19 could still have an impact on the program's experience in the upcoming years but likely at a much lower magnitude compared to what was experienced previously. These impacts currently are still assumed to be one-time and temporary, pending confirmation based on subsequent data and how long COVID-19 persists in the population. The long-term impact from COVID-19 remains unclear.

Interest rates likely would continue to rise in the 2022-23 fiscal year, which could cause decrease in the market value of assets and lower-than-expected investment return. In the long run, if interest rates revert to lower levels in future years, it could cause an increase in the market value of assets and higher-than-expected returns.

A lawsuit was filed in 2013 contesting the increase in premiums from the 2012 stabilization plan. The lawsuit has been settled, but the settlement has not yet been finally approved by the Court. Any financial or demographic implications due to the lawsuit are not reflected in this valuation.

Valuation Results

Valuation Results

Comparison of Current and Prior Year Results

The results summarized throughout this report refer to deficits/margins and to funded status. A deficit is an estimate of the level of a one-time rate increase in premiums needed to bring the Program back to a zero margin. If the current fund balance and present value of earnings are adequate, a positive number or a margin would result. A second method of expressing the current financial status of the Program is the funded status. In general, the funded status is calculated by dividing the Program's assets by the accrued liability, or reserves. For the LTC Program, the accrued liability is equal to the present value of future benefits and expenses less the present value of participant premiums. This definition is consistent with a statutory gross premium valuation reserve for LTC insurance. In this context, a breakeven position is a funded ratio of 100%.

These two methods of expressing the financial status of the LTC Program are consistent in that both will always produce a margin when the funded ratio is greater than 100% and both will always produce a deficit when the funded ratio is lower than 100%. They are not consistent, however, in that a 10% margin does not produce a 110% funded ratio.

The table below summarizes and compares the CalPERS Long-Term Care Program's June 30, 2022 actuarial valuation results to its June 30, 2021 results, including the present values of future cash flows for the current in-force participants. These present values are based on 60 years of projected cash flow.

Component	6/30/2021 ($ in Millions)	6/30/2022 ($ in Millions)
1) Present Value of Future Benefits	$8,473	$7,943
2) Present Value of Future Expenses	$385	$369
3) Present Value of Future Premiums (PVFP)	$3,819	$3,215
4) Valuation Liabilities [(1+2) - (3)]	**$5,040**	**$5,098**
5) Valuation Assets	$5,441	$4,860
6) Valuation Margin [(5) – (4)]	**$401**	**($238)**
7) Margin as a % of PVFP [(6) / (3)]	**10.51%**	**(7.40%)**
8) Funded Status [(5) / (4)]	**108%**	**95%**

This result shows that, with the planned rate increases reflected in this valuation, the assets and expected future premiums are not sufficient to support the program if the future experience conforms to our current actuarial assumptions.

Liability cashflows were calculated based on a projection of expected future cash flows of in-force policies as of June 30, 2022. This projection used a set of underlying assumptions derived from the CalPERS Long-Term Care Program's assumed experience, as well as industry experience in areas where CalPERS data does not have sufficient credibility. Policies were projected on a seriatim basis using specific characteristics including issue age, issue date, policy form, benefit period, elimination period, underwriting status, and benefit options. We have not generated liabilities and reserves consistent with statutory reporting requirements as this self-funded plan is not subject to such requirements.

Detailed yearly cashflows and projected fund balances are provided in Appendix A.

Valuation Results

Reconciliation to Prior Year Valuation Results

The Program's margin decreased from positive 10.51% to negative 7.40% between June 30, 2021 and June 30, 2022. Factors that impacted the margin either positively or negatively during the fiscal year are the following:

In-force population update, mortality assumption update, and lower-than-expected claim cash flow during the fiscal year had a positive impact on the margin:

- The in-force population data at 6/30/2022 reflected the premium rate increase implementation during the 2021-22 fiscal year. It also reflected the modestly higher-than-projected mortality and less-than-projected new claims during the fiscal year partially due to COVID-19. The in-force population update overall improved the margin by 2.89%.
- The mortality assumption was updated with 6 months additional data which incorporated experience up to 6/30/2020. Experience data after 6/30/2020 was excluded due to the distortion from COVID-19. The mortality assumption update improved the margin by 0.15%
- The Program's actual claim payment in the 2021-22 fiscal year was 4% lower than projected. The overall lower-than-expected cash outflows improved the margin by 0.34%.

Negative investment return, morbidity assumption updates, and expense assumption update had a negative impact on the margin:

- The Program experienced an investment return of negative 9.8% during the 2021-22 fiscal year. The negative return decreased the margin by 20.34%. A breakdown of the investment returns by asset classes can be found in the "Asset Allocation" section on page 21.
- The morbidity assumption updates included components with positive and negative impact to the margin. The total impact overall decreased the margin by 0.83%. These updates included the following components:
    - Morbidity improvement is an assumption that projects claim incidence level to gradually decrease in future years due to advancement in healthcare technology and other factors. In recent years there has not been consistent industry-wide evidence or direct data support suggesting this trend would continue. Based on this analysis, the morbidity improvement assumption was removed in this valuation. This decreased the margin by 5.14%.
    - The claim incidence, claim termination, claim recovery assumptions were updated with 6 months of additional data which incorporated experience up to 6/30/2020. Experience data after 6/30/2020 was excluded from these assumptions due to the distortion from COVID-19. The claim utilization assumption was updated with data up to 12/31/2021 and with calculation refinements to better reflect utilization variation by maximum benefit ranges and by calendar years. The IBNR (Incurred But Not Reported) claim estimate was also updated to reflect 6/30/2022 claim volume. These updates in total improved the margin by 3.35%
    - Due to the projection model limitation, the prior-year valuation used an approximated adjustment in the claim incidence assumption to reflect shorter claim length of stay for claims incurred at age 90 or higher. The projection model was enhanced in this valuation to accommodate this feature in the claim termination assumption. This change improved the margin by 0.96%.
- The expense assumption was updated to reflect recent expense trends and contract terms. This update decreased the margin by 0.11%

Valuation Results

Reconciliation to Prior Year Valuation Results (continued)

This table below provides a detailed reconciliation of the factors that contributed to the change of margin.

	Change in Margin	Resulting Margin	Funded Status
Margin as of 6/30/21 valuation		10.51%	108%
FY21-22 Non-Investment Gain/Loss	0.34%	10.85%	108%
FY21-22 Investment Gain/Loss	**(20.34%)**	**(9.50%)**	93%
Update to 2022 Demographics	2.89%	**(6.61%)**	96%
Expense Assumption Update	**(0.11%)**	**(6.72%)**	96%
Lapse Assumption Update	0.00%	**(6.72%)**	96%
Mortality Assumption Updates	0.15%	**(6.56%)**	96%
Morbidity Assumption Updates	**(0.83%)**	**(7.40%)**	95%
Margin as of 6/30/22 valuation		**(7.40%)**	95%

Valuation Results

Summary of Key Assumptions

To calculate the future claim payments, premiums, and investment income, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Actual experience is measured against the assumptions, and the assumptions are then updated to reflect actual experience. This section provides general information on key assumptions used in the 2022 valuation.

Discount Rate

The discount rate assumption is a major assumption of the valuation, as it is used to project asset growth and to determine the present values of future premiums, benefits, and expenses. The June 30, 2022 valuation uses a discount rate assumption of 4.75% which was adopted by the board in November 2020. It reflects the target asset allocation approved by the board in the March 2021 Investment Committee and the related assumed future return for each asset class based on the information as of September 30, 2020.

Morbidity

Morbidity represents a substantial financial risk for Long-Term Care insurance products. The morbidity assumption reflects the expected claim payments for participants. The key components driving claim payments are:

- Claim incidence, which is the probability of a policy going on claim
- Claim termination, which is the probability that an existing claim will close in a given month
- Claim utilization, which is the amount of claim payment reimbursed relative to the maximum daily benefit

Assumptions were developed for claim incidence and termination based on data as of June 30, 2022, with a study cutoff date of June 30, 2020, whereas the utilization study had a cutoff date of December 31, 2021. Expected claim incidence rates and claim termination rates were credibility weighted using CalPERS actual claim experience and the industry data. The industry data uses the Society of Actuaries' Long Term Care Intercompany Experience Study - Aggregated Database 2000-2011 Report. Additional credibility is assigned to the Program's experience as the experience continues to emerge. Actual claim experience is summarized in the table "Comparison of Actual to Expected Cash Flows for 2021-22" in the "Assets" section on page 19.

Mortality

The mortality assumption summarizes the expected death rate of the population. Mortality reduces future liabilities without significantly affecting assets.

The First Principles Model tracks policyholder status and projects separately for active and disabled mortality. This method more accurately models the plan's overall mortality, particularly the extent to which the mix of active and disabled individuals may be different for a given attained age.

For active mortality, the 2012 Individual Annuity Mortality (IAM) table is used as the assumed general population mortality, and selection factors are developed based on CalPERS' actual experience. Projected mortality based on the 2012 IAM and CalPERS selection factors is then compared to the actual CalPERS mortality experience to determine more refined experience-based adjustment factors that vary by attained age. The combination of these adjustment factors along with the 2012 IAM table and CalPERS selection factors produces the CalPERS experienced-based mortality assumption. Active mortality rates are broken down by the following categories: age, gender, and marital status at issue.

Summary of Key Assumptions (continued)

Mortality improvement assumption reflects the expectation for mortality to gradually improve in the population due to health care technology and other factors. The development of this assumption can be very challenging and often relies on a very large population base to complete a credible study. Therefore, it is common in the LTC industry to rely on industry mortality improvement scales rather than independently calculate this assumption. Since many CalPERS LTC Program members are also in the CalPERS Pension Program, we have chosen the same mortality improvement table that CalPERS Pension Valuation is based on. This valuation uses 100% of the SOA mortality improvement scale MP-2020.

Disabled mortality accounts for the majority of claim terminations. It is projected by using claim termination rate minus claim recovery rate instead of having its own direct assumption. The amount of claim recoveries is relatively small compared to disabled mortality. If a life recovers from a claim, it returns to the active status and has a probability to enter claim again in the future. This projection approach allows the disabled mortality and the recovery rate to vary by claim type and claim duration. The recovery rate assumption is developed based on CalPERS claim data as of June 30, 2022, with a study cutoff date of June 30, 2020.

Lapse

The lapse assumption reflects the expected portion of participants who terminate their policies each year by not paying the renewal premiums. Lapse assumptions can differ based on a variety of factors, including the participant's age at enrollment and the number of years they have had their policy. In general, it is assumed that the longer a participant keeps their policy, the less likely they are to lapse. Lapse rate assumptions greatly affect long-term care insurance premiums because when individuals lapse, future liabilities are immediately reduced while current assets are mostly not affected. The First Principles Model uses an active life lapse assumption that only applies to active policyholders. See the "Rate Increase and Policy Conversion" section below for information regarding shock lapses associated with the rate increase.

Expense

Expenses for the Program include fees charged by the third-party administrator (TPA) and CalPERS expenses related to internal staff working on the LTC Program and the investments. Expense assumptions were updated based on last year's actual expenses and the TPA contract which has been in effect since January 2018. The administrative expenses are expressed either as per participant per month or flat expenses per month. Credit card premium payment expenses are reflected as a percent of premium paid.

Rate Increase and Policy Conversion

This valuation projection reflects the 52% premium increase implemented during the 2021-2022 fiscal year and assumes an additional 25% premium increase to become effective November 1, 2022. A morbidity anti-selection assumption due to the premium increases and shock lapses is applied in the projection.

Options to convert to less expensive polices to offset the 25% premium increase are offered to policyholders. The potentially associated anti-selection rate is difficult to estimate. The projection in this valuation does not reflect any future conversions due to the 25% premium increase.

Risk Analysis

Risk Analysis

The actuarial calculations supplied in this report are based on a number of assumptions about very long-term demographic and economic behavior. Unless these assumptions (such as morbidity, mortality, lapses, expenses, and investment return) are exactly realized each year, there will be differences on a year-to-year basis. The year-to-year differences between the assumptions and actual experience are called actuarial gains and losses which could either increase or decrease the funded status and margin of the LTC Program. If the actual experience differs from the assumptions over a prolonged period, it may result in a need for premium changes to ensure the financial integrity of the LTC Program. The next section displays the results of sensitivity testing performed around key actuarial assumptions.

Sensitivity Testing of Key Assumptions

Several scenarios were run to test the sensitivity of future cash flows to changes in assumptions with respect to claim incidence, claim termination, claim utilization, active mortality, claim recovery rate, lapses, and investment earnings. The tables below illustrate the impact of changes to the base assumptions on asset adequacy levels.

Results are highly sensitive to the assumptions underlying the calculations. While these tests show the outcomes of each of these scenarios, they do not indicate the likelihood of each scenario; as such, this testing does not include the probability that the projected values will be realized.

Detailed yearly cash flows and projected fund balances for the base case and each of the scenarios tested as part of the sensitivity testing are provided in Appendix A. The base case scenario is based on our current actuarial assumptions used for this valuation.

Discount Rate

The discount rate assumption used in this valuation is 4.75%. In the sensitivity analysis, we test the impact of future investment returns on the margin and funded ratio of the LTC Program by increasing and decreasing the discount rate by 0.5%. The table below shows the impact on the margin and funded status. As expected, a higher discount rate increases both margin and funded status while a lower discount rate decreases both measures.

Impact of Discount Rate on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Discount Rate Increased by 0.5% to 5.25%	5.1%	103%
Discount Rate Decreased by 0.5% to 4.25%	(20.5%)	88%

Claim Incidence

Claim incidence is the probability of an active policyholder going on claim. This is a key morbidity assumption for long-term care modeling and is calculated using new claim counts and active exposure life years. The sensitivity analysis tests the impact of claim incidence on the margin and funded ratio of the LTC Program by increasing and decreasing future expected claim incidence by 10%. As shown in the table below, lower-than-expected incidence increases both the margin and funded status while higher-than-expected claim incidence decreases both measures.

Impact of Claim Incidence on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Lower Claim Incidence (Future Claims Incidence Reduced by 10%)	5.3%	104%
Higher Claim Incidence (Future Claims Incidence Increased by 10%)	(19.6%)	89%

Sensitivity Testing of Key Assumptions (continued)

Claim Termination

Claim termination is the probability that an existing claim will cease in a given month. Claim termination occurs due to recovery or death of a member while on claim. For the sensitivity analysis, we test the impact that claim terminations have on the margin and funded ratio of the LTC Program by increasing and decreasing future expected claim terminations by 10%. As shown in the table below, higher-than-expected claim terminations increase both the margin and funded status, while lower-than-expected claim terminations decrease both measures.

Impact of Claim Termination on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Higher Claim Termination (Future Claim Termination Increased by 10%)	10.7%	108%
Lower Claim Termination (Future Claim Termination Decreased by 10%)	(28.7%)	84%

Claim Utilization

The claim utilization assumption projects the average percentage of maximum benefit allowance being used each month while on-claim. This assumption incorporates a trend projecting the utilization rate to increase each calendar year. For the sensitivity analysis, we test the impact of the yearly increase trend being 0.5 times higher or lower compared to the baseline assumption. As shown in the table below, higher-than-expected claim utilization decreases both the margin and funded status, while lower-than-expected claim utilization increases both measures.

Impact of Claim Utilization on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Lower Claim Utilization (Yearly Increase Trend Being 0.5 Times Lower)	7.5%	105%
Higher Claim Utilization (Yearly Increase Trend Being 0.5 Times Higher)	(21.7%)	87%

Active Mortality

The active mortality assumption reflects the expected death rate of the participants in the LTC Program. Active mortality reduces future liabilities without significantly affecting the assets on hand. Because of this, higher-than-expected active mortality will generally result in an increase in the margin and funded status. For the sensitivity analysis, we test the impact active mortality rates have on the margin and funded ratio of the LTC Program by increasing and decreasing the active mortality rates by 10%. As shown in the table below, mortality deterioration (i.e., higher rates) increases both the margin and funded status, while mortality improvement (i.e., lower rates) decreases both measures.

Impact of Active Mortality on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Active Mortality Increased by 10%	(2.6%)	98%
Active Mortality Decreased by 10%	(12.4%)	92%

Sensitivity Testing of Key Assumptions (continued)

Claim Recovery Rate

The claim recovery assumption reflects the percentage of claims that would recover and return to active status. It is used to split claim terminations into recoveries and disabled mortality. If a claim is terminated due to recovery, the policy has a probability to enter claim again in the future, while a claim termination due to disabled mortality would have no further liability. Therefore, under a certain total claim termination rate, higher claim recovery rate decreases the margin while lower claim recovery rate increases the margin. We test the impact if the claim recovery rate is 25% higher or lower than expected, and the results are shown below:

Impact of Claim Recovery Rate on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Claim Recovery Rate Being 25% Lower	(4.2%)	97%
Claim Recovery Rate Being 25% Higher	(10.7%)	93%

Lapses

The lapse assumption reflects the expected portion of active participants who terminate their policies each year by not paying the renewal premiums. For the sensitivity analysis, we test the impact lapses have on the margin and funded ratio of the LTC Program by increasing and decreasing the assumed lapse rates by a flat 0.25%. As shown in the table below, higher-than-expected lapse assumptions increase both the margin and funded status, while lower-than-expected lapses decrease both measures.

Impact of Lapses on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Lapse Rates Increased by 0.25%	(2.4%)	98%
Lapse Rates Decreased by 0.25%	(12.4%)	92%

Best and Worst Case

To test the potential “best case” and “worst case” scenarios, the sensitivity of the seven key assumptions was tested simultaneously. The seven key assumptions include discount rate, claim incidence, claim termination, claim utilization, active mortality, claim recovery, and lapses. The table below shows the combined impact on the margin and the funded status when the experience is better for all seven key assumptions, and when the experience is worse for all seven key assumptions.

Combined Impact of Key Assumptions on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
Discount Rate Increases by 0.5% to 5.25% Lower Claim Incidence (Future Claim Incidence Reduced by 10%) Higher Claim Termination (Future Claim Termination Increased by 10%) Lower Claim Utilization (Yearly Increase Trend Being 0.5 times Lower) Active Mortality Rates Increased by 10% Claim Recovery Rate Being 25% Lower Lapses Increased by 0.25%	45.8%	142%
Discount Rate Decreases by 0.5% to 4.25% Higher Claim Incidence (Future Claim Incidence Increased by 10%) Lower Claim Termination (Future Claim Termination Decreased by 10%) Higher Claim Utilization (Yearly Increase Trend Being 0.5 times Higher) Active Mortality Rates Decreased by 10% Claim Recovery Rate Being 25% Higher Lapses Decreased by 0.25%	(74.8%)	67%

Sensitivity Testing of Key Assumptions (continued)

Policy Conversion

The base result of this valuation does not assume any conversions related to the 25% premium rate increases. Generally, conversions to less expensive policies may slightly improve the financial position of the LTC Program. Below we test the impact on the margin and funded ratio for a 20% conversion acceptance rate related to the 25% premium rate increase. Anti-selection related to conversion is hard to estimate and is not included in the testing below. As shown in the table below, conversion may have a positive impact on the margin without considering anti-selection.

Impact of Policy Conversion on Margin and Funded Ratio

Scenario Description	Margin	Funded Status
Base Case	(7.4%)	95%
20% Conversion Rate	(6.2%)	96%

Fraud Mitigation Program

CalPERS re-established a fraud mitigation program in 2021 in order to reduce fraudulent claim liabilities. It is estimated that the fraud mitigation program reduced fraudulent claim liabilities on average by $1.7 million per year in the last 2 years. Scaling with projected future claims and future benefit inflation, it is estimated that the total claim liability savings from this program could be around $15.1 million over the next 10 years. These savings could improve the LTC Program's margin by around 0.5%, and the funded status by around 0.3%. These estimated potential savings are not included in the assumptions of this valuation.

Risk Analysis

Additional Sensitivity Testing

In addition to the sensitivity testing summarized above, we used the New York 7 interest rate scenarios to test different investment scenarios on the base case scenario. In the private industry, most LTC insurance companies use the seven interest rate scenarios defined in New York Regulation 126 to test asset adequacy and form an opinion with respect to asset adequacy analysis. Those scenarios prescribe the use of specific discount rate assumptions as described in the table below:

New York Regulation 126 Discount Rate Sensitivity

	Projection Years										
Scenarios	1	2	3	4	5	6	7	8	9	10	11+
Scenario #1	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%	4.75%
Scenario #2	4.75%	5.25%	5.75%	6.25%	6.75%	7.25%	7.75%	8.25%	8.75%	9.25%	9.75%
Scenario #3	4.75%	5.75%	6.75%	7.75%	8.75%	9.75%	8.75%	7.75%	6.75%	5.75%	4.75%
Scenario #4	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%	7.75%
Scenario #5	4.75%	4.25%	3.75%	3.25%	2.75%	2.25%	1.75%	1.25%	0.75%	0.25%	0.00%
Scenario #6	4.75%	3.75%	2.75%	1.75%	0.75%	0.00%	0.75%	1.75%	2.75%	3.75%	4.75%
Scenario #7	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%

The following table shows how varying the discount rate assumptions as described in the table above impacts the margin and funded status as of the valuation date.

Impact of Additional Discount Rate Sensitivity on Margin and Funded Ratio

Scenarios	Margin	Funded Ratio
Scenario #1	(7.4%)	95%
Scenario #2	60.3%	154%
Scenario #3	25.6%	118%
Scenario #4	59.9%	149%
Scenario #5	(130.3%)	49%
Scenario #6	(41.3%)	76%
Scenario #7	(97.5%)	56%

Detailed yearly cash flows and projected fund balances for these additional discount rate sensitivity scenarios are provided in Appendix B.

Assets

Assets

Reconciliation of the Market Value of Assets Over Prior Fiscal Year

	Market Value
Market Value of Assets as of June 30, 2021	$5,441,183,813
Premiums Received During Fiscal Year 2021-22	$297,387,600
Benefit Payments in 2021-22	($318,864,010)
Expense Payments in 2021-22	($26,892,906)
Investment Returns in 2021-22	($532,926,437)
Market Value of Assets as of June 30, 2022 [(1) + (2) + (3) + (4) + (5)]	**$4,859,888,060**

Comparison of Actual to Expected Cash Flows

Below is a table comparing the actual cash flows in 2021-22 to the cash flows that were projected as part of the June 30, 2021 valuation. As shown in the table, the investment experience had the largest impact on the fund balance. The actual premium received during fiscal year 2021-22 reflected the implemented 52% premium increase and policyholders' election of coverage conversions to offset the 52% premium increase.

Comparison of Actual to Expected Cash Flows for 2021-2022

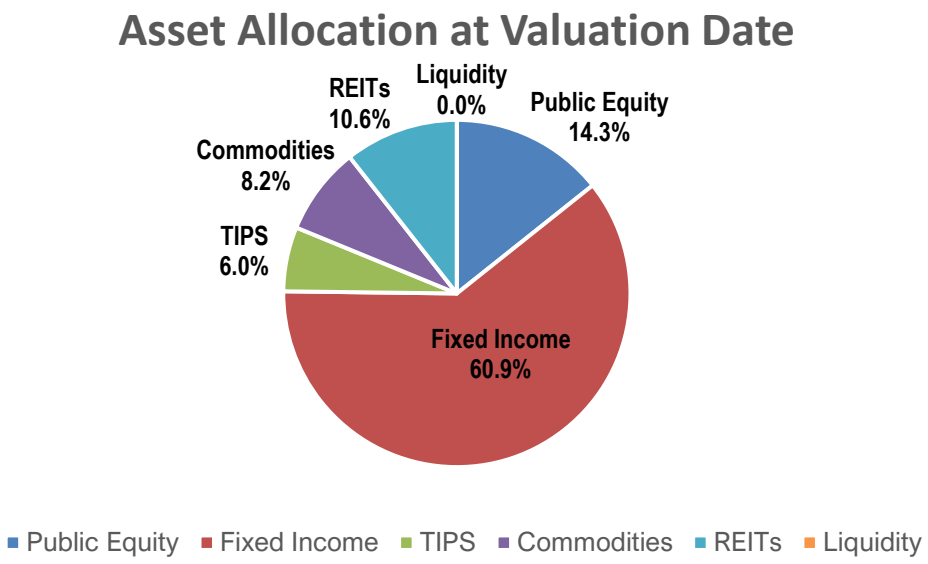
	Projected Results in the June 30, 2021 Valuation	Actual Results in the June 30, 2022 Valuation	Difference
Fund Balance as of June 30, 2021	$5,441,183,813	$5,441,183,813	$0
Cash Flows for 2021-22			
Premiums	$340,610,375	$297,387,600	($43,222,775)
Paid Claims	($331,985,858)	($318,864,010)	$13,121,848
Expenses	($25,835,618)	($26,892,906)	($1,057,288)
Investment Income	$257,619,323	($532,926,437)	($790,545,760)
Balance as of June 30, 2022	**$5,681,592,035**	**$4,859,888,060**	**($821,703,975)**

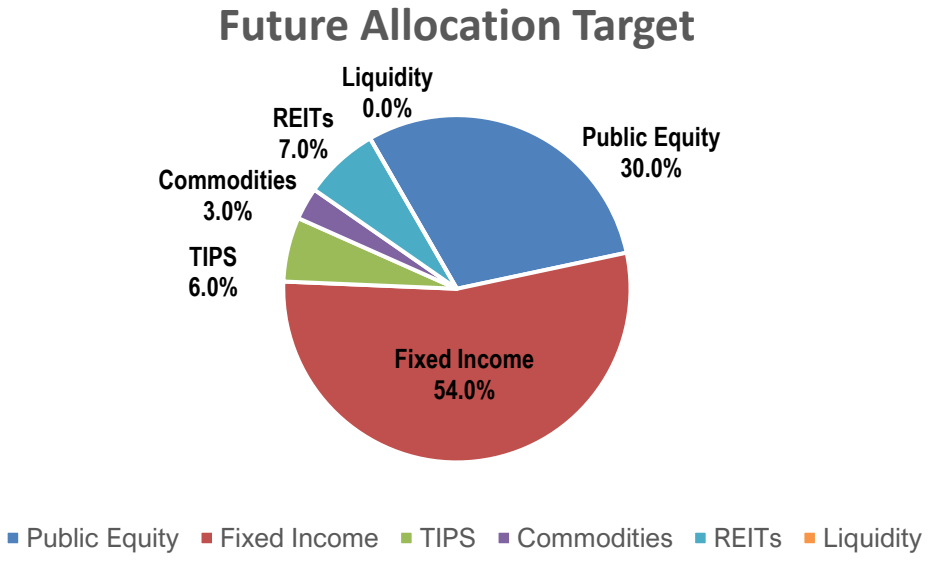
Assets

Asset Allocation

CalPERS follows a strategic allocation policy that identifies the percentage of funds to be invested in each asset class. A new strategic asset allocation target was adopted by the board in March 2021. The asset allocation and market value of assets as of June 30, 2022, as well as the future asset allocation target, are shown below.

Asset Class	Allocation at Valuation Date	Market Value at Valuation Date ($ in Millions)	Return during Fiscal Year	Future Allocation Target
Public Equity	14.3%	$696.9	(16.2%)	30.0%
Fixed Income	60.9%	$2,976.2	(14.8%)	54.0%
Treasury-Inflation Protected Securities (TIPS)	6.0%	$293.3	(5.1%)	6.0%
Commodities	8.2%	$401.1	44.5%	3.0%
Real Estate Investment Trusts (REITs)	10.6%	$519.2	(12.9%)	7.0%
Liquidity	0.0%	$0.1	0%	0.0%
Total LTC Fund:	**100.0%**	**$4,886.9**	**(9.8%)**	**100.0%**

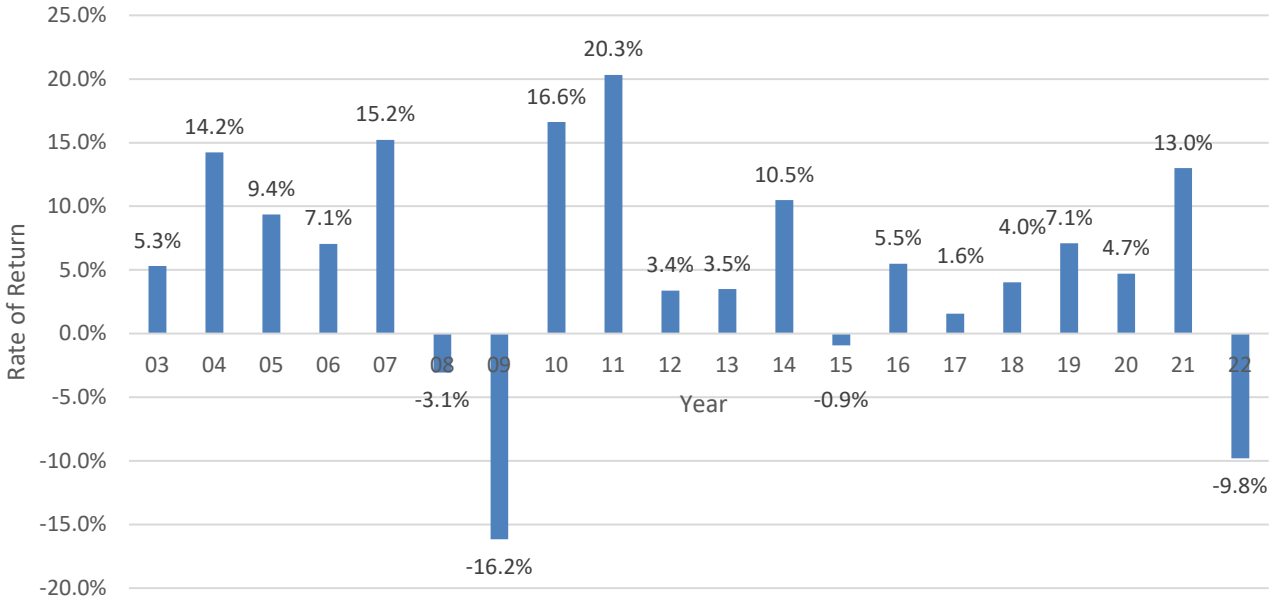




Assets

Historical Investment Return

The following table provides 20 years of historical investment returns for each fiscal year ending June 30. Prior to 2012, the program's portfolio allocated about 44% in equity. Starting from 2012, the targeted asset allocation switched to a more conservative mix with 15% in equity and 66% in fixed income.



Appendices

Appendix A – 60 Year Projection of Fund Balance for Scenarios Used in Sensitivity Testing of Key Assumptions

Appendix A

Base Case Scenario

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years based on the actuarial assumptions used in this valuation.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(7.4%)	($238)	95%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$113,982	$4,972,328
2023	99,212	$386,008	$351,606	$26,527	$236,455	$5,216,657
2024	95,007	$363,790	$376,081	$26,511	$246,966	$5,424,821
2025	90,721	$341,852	$400,508	$26,695	$255,754	$5,595,224
2026	86,369	$320,227	$422,766	$26,811	$262,808	$5,728,682
2027	81,938	$298,970	$443,010	$27,028	$268,157	$5,825,770
2028	77,491	$278,150	$460,909	$27,183	$271,847	$5,887,676
2029	73,048	$257,829	$477,100	$26,867	$273,930	$5,915,467
2030	68,640	$238,070	$491,463	$26,473	$274,452	$5,910,053
2031	64,287	$218,935	$504,587	$26,006	$273,443	$5,871,838
2032	59,996	$200,475	$516,362	$25,466	$270,923	$5,801,409
2042	23,841	$63,617	$517,187	$16,598	$176,298	$3,651,906
2052	6,060	$12,831	$295,405	$6,875	$45,131	$851,252
2062	1,062	$1,829	$110,713	$1,936	($46,213)	($1,073,874)
2072	143	$201	$27,015	$440	($111,894)	($2,480,920)
2082	21	$11	$2,335	$50	($91,918)	($4,008,764)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$647,133	$3,718,008
Present Value as of June 30, 2022	$3,214,671	$7,943,291	$369,003	$3,407,096

Appendix A

Discount Rate Increased by 0.50% to 5.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the assumed discount rate and expected return were 5.25%, i.e., 0.50% higher.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
5.1%	$158	103%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$125,828	$4,984,174
2023	99,212	$386,008	$351,606	$26,531	$261,966	$5,254,011
2024	95,007	$363,790	$376,081	$26,519	$274,924	$5,490,125
2025	90,721	$341,852	$400,508	$26,708	$286,105	$5,690,865
2026	86,369	$320,227	$422,766	$26,830	$295,495	$5,856,990
2027	81,938	$298,970	$443,010	$27,054	$303,123	$5,989,019
2028	77,491	$278,150	$460,909	$27,216	$309,037	$6,088,081
2029	73,048	$257,829	$477,100	$26,908	$313,290	$6,155,191
2030	68,640	$238,070	$491,463	$26,523	$315,931	$6,191,207
2031	64,287	$218,935	$504,587	$26,066	$316,992	$6,196,481
2032	59,996	$200,475	$516,362	$25,536	$316,490	$6,171,549
2042	23,841	$63,617	$517,187	$16,824	$240,157	$4,578,354
2052	6,060	$12,831	$295,405	$7,398	$133,705	$2,536,084
2062	1,062	$1,829	$110,713	$2,630	$88,624	$1,721,553
2072	143	$201	$27,015	$1,457	$103,646	$2,063,969
2082	21	$11	$2,335	$1,028	$80,380	$3,180,482

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$681,573	$10,941,694
Present Value as of June 30, 2022	$3,112,447	$7,458,482	$356,179	$4,528,740

Appendix A

Discount Rate Decreased by 0.50% to 4.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the assumed discount rate and expected return were 4.25%, i.e., 0.50% lower.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(20.5%)	($682)	88%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$102,107	$4,960,453
2023	99,212	$386,008	$351,606	$26,524	$211,060	$5,179,392
2024	95,007	$363,790	$376,081	$26,502	$219,385	$5,359,984
2025	90,721	$341,852	$400,508	$26,681	$226,076	$5,500,722
2026	86,369	$320,227	$422,766	$26,792	$231,126	$5,602,517
2027	81,938	$298,970	$443,010	$27,003	$234,566	$5,666,040
2028	77,491	$278,150	$460,909	$27,150	$236,441	$5,692,571
2029	73,048	$257,829	$477,100	$26,827	$236,800	$5,683,273
2030	68,640	$238,070	$491,463	$26,425	$235,690	$5,639,145
2031	64,287	$218,935	$504,587	$25,949	$233,142	$5,560,687
2032	59,996	$200,475	$516,362	$25,399	$229,176	$5,448,577
2042	23,841	$63,617	$517,187	$16,394	$124,688	$2,822,879
2052	6,060	$12,831	$295,405	$6,562	($16,084)	($538,258)
2062	1,062	$1,829	$110,713	$1,936	($127,123)	($3,172,954)
2072	143	$201	$27,015	$440	($226,134)	($5,560,284)
2082	21	$11	$2,335	$50	($173,097)	($8,405,678)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$641,855	($684,185)
Present Value as of June 30, 2022	$3,323,445	$8,479,737	$385,813	$2,360,556

Appendix A

Claim Incidence Rates Increased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim incidence were to be 10% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(19.6%)	($616)	89%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,340	$177,481	$167,469	$12,919	$113,972	$4,970,953
2023	99,144	$384,774	$361,355	$26,524	$236,169	$5,204,018
2024	94,863	$361,485	$393,458	$26,495	$245,932	$5,391,483
2025	90,485	$338,647	$423,637	$26,659	$253,573	$5,533,406
2026	86,028	$316,272	$449,941	$26,750	$259,155	$5,632,143
2027	81,488	$294,399	$472,791	$26,935	$262,775	$5,689,590
2028	76,931	$273,084	$492,132	$27,052	$264,533	$5,708,023
2029	72,385	$252,381	$508,875	$26,683	$264,526	$5,689,371
2030	67,885	$232,341	$523,191	$26,234	$262,836	$5,635,123
2031	63,453	$213,019	$535,866	$25,713	$259,513	$5,546,077
2032	59,097	$194,456	$546,876	$25,118	$254,594	$5,423,134
2042	22,962	$59,715	$530,185	$15,852	$133,580	$2,701,917
2052	5,716	$11,720	$294,618	$6,219	($26,892)	($736,818)
2062	984	$1,632	$108,028	$1,804	($159,620)	($3,573,483)
2072	132	$177	$25,712	$405	($291,041)	($6,430,936)
2082	19	$10	$2,205	$46	($232,516)	($10,138,677)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,495,439	$17,033,435	$628,387	($1,832,181)
Present Value as of June 30, 2022	$3,148,015	$8,261,436	$362,097	$2,514,880

Appendix A

Claim Incidence Rates Reduced by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim incidence were to be 10% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
5.3%	$175	104%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,365	$177,750	$165,009	$12,919	$113,992	$4,973,702
2023	99,280	$387,250	$341,801	$26,531	$236,741	$5,229,360
2024	95,152	$366,127	$358,475	$26,527	$248,008	$5,458,493
2025	90,961	$345,126	$376,896	$26,730	$257,962	$5,657,954
2026	86,716	$324,296	$394,809	$26,873	$266,523	$5,827,092
2027	82,399	$303,704	$412,127	$27,124	$273,657	$5,965,202
2028	78,067	$283,428	$428,265	$27,316	$279,354	$6,072,403
2029	73,732	$263,539	$443,599	$27,055	$283,620	$6,148,907
2030	69,422	$244,109	$457,724	$26,719	$286,470	$6,195,042
2031	65,154	$225,206	$471,038	$26,310	$287,911	$6,210,811
2032	60,936	$206,888	$483,340	$25,828	$287,946	$6,196,477
2042	24,798	$68,000	$500,891	$17,404	$222,248	$4,675,048
2052	6,448	$14,136	$294,807	$7,801	$123,906	$2,588,867
2062	1,152	$2,067	$113,167	$2,763	$78,085	$1,665,683
2072	158	$232	$28,369	$1,392	$84,171	$1,841,692
2082	23	$13	$2,482	$881	$61,616	$2,684,751

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,753,617	$16,009,330	$693,649	$9,774,225
Present Value as of June 30, 2022	$3,286,345	$7,591,823	$379,504	$4,374,728

Appendix A

Claim Termination Rates Increased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim terminations were to be 10% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
10.7%	$345	108%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,259	$177,615	$165,257	$12,914	$113,989	$4,973,322
2023	98,960	$385,992	$343,140	$26,490	$236,671	$5,226,355
2024	94,632	$363,741	$360,628	$26,444	$247,767	$5,450,791
2025	90,253	$341,765	$379,544	$26,604	$257,463	$5,643,871
2026	85,829	$320,103	$397,476	$26,701	$265,699	$5,805,494
2027	81,348	$298,810	$414,258	$26,903	$272,470	$5,935,615
2028	76,865	$277,958	$429,405	$27,046	$277,797	$6,034,918
2029	72,397	$257,609	$443,340	$26,715	$281,710	$6,104,182
2030	67,971	$237,827	$455,842	$26,310	$284,247	$6,144,103
2031	63,605	$218,675	$467,291	$25,834	$285,431	$6,155,084
2032	59,307	$200,200	$477,574	$25,286	$285,284	$6,137,707
2042	23,305	$63,393	$472,091	$16,515	$224,605	$4,739,806
2052	5,852	$12,753	$265,527	$7,326	$145,011	$3,068,508
2062	1,014	$1,813	$98,034	$2,918	$124,829	$2,703,816
2072	136	$199	$23,505	$2,189	$163,972	$3,603,485
2082	20	$11	$2,023	$1,722	$124,763	$5,437,745

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,612,757	$15,180,452	$691,460	$11,837,011
Present Value as of June 30, 2022	$3,211,625	$7,354,201	$372,691	$4,609,532

Appendix A

Claim Termination Rates Reduced by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future claim terminations were to be 10% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(28.7%)	($922)	84%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,447	$177,616	$167,229	$12,924	$113,975	$4,971,325
2023	99,475	$386,024	$360,348	$26,567	$236,233	$5,206,668
2024	95,406	$363,841	$392,435	$26,582	$246,133	$5,397,625
2025	91,229	$341,942	$423,145	$26,793	$253,950	$5,543,581
2026	86,962	$320,358	$450,511	$26,931	$259,719	$5,646,215
2027	82,594	$299,140	$474,949	$27,167	$263,502	$5,706,741
2028	78,192	$278,354	$496,253	$27,336	$265,374	$5,726,880
2029	73,781	$258,064	$515,272	$27,038	$265,404	$5,708,038
2030	69,397	$238,332	$531,981	$26,659	$263,654	$5,651,384
2031	65,062	$219,218	$547,228	$26,204	$260,161	$5,557,331
2032	60,783	$200,774	$560,896	$25,673	$254,943	$5,426,479
2042	24,471	$63,870	$570,579	$16,704	$121,199	$2,410,027
2052	6,311	$12,920	$332,115	$6,848	($70,299)	($1,712,529)
2062	1,122	$1,847	$126,847	$2,056	($245,595)	($5,478,826)
2072	153	$204	$31,670	$474	($434,971)	($9,607,916)
2082	22	$11	$2,766	$53	($346,584)	($15,112,283)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,625,742	$18,196,849	$651,793	($5,749,270)
Present Value as of June 30, 2022	$3,218,017	$8,629,040	$371,107	$2,015,195

Appendix A

Claim Utilization Rate with Higher Yearly Increases

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future yearly increase trend of claim utilization rate being 0.5 times higher than projected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(21.7%)	($698)	87%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$167,159	$12,919	$113,972	$4,971,398
2023	99,211	$386,008	$354,843	$26,529	$236,342	$5,212,375
2024	95,005	$363,790	$381,428	$26,512	$246,645	$5,414,869
2025	90,716	$341,852	$408,123	$26,696	$255,111	$5,577,013
2026	86,358	$320,227	$432,789	$26,812	$261,716	$5,699,355
2027	81,920	$298,970	$455,532	$27,027	$266,478	$5,782,245
2028	77,467	$278,149	$475,972	$27,179	$269,435	$5,826,679
2029	73,017	$257,827	$494,781	$26,858	$270,626	$5,833,493
2030	68,605	$238,068	$511,803	$26,460	$270,089	$5,803,388
2031	64,247	$218,933	$527,608	$25,987	$267,845	$5,736,570
2032	59,952	$200,472	$542,006	$25,440	$263,904	$5,633,499
2042	23,775	$63,609	$559,044	$16,424	$144,397	$2,927,388
2052	6,032	$12,826	$329,741	$6,574	($28,816)	($796,533)
2062	1,056	$1,828	$127,271	$1,951	($179,737)	($4,026,602)
2072	143	$201	$29,096	$442	($329,315)	($7,276,624)
2082	21	$11	$2,355	$49	($263,018)	($11,468,642)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,737	$17,786,898	$642,756	($2,517,613)
Present Value as of June 30, 2022	$3,214,605	$8,404,590	$367,522	$2,525,238

Appendix A

Claim Utilization Rate with Lower Yearly Increases

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the future yearly increase trend of claim utilization rate being 0.5 times lower than projected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
7.5%	$240	105%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$165,315	$12,918	$113,991	$4,973,262
2023	99,213	$386,008	$348,364	$26,526	$236,568	$5,220,948
2024	95,007	$363,790	$370,777	$26,509	$247,286	$5,434,738
2025	90,727	$341,852	$392,911	$26,693	$256,395	$5,613,382
2026	86,379	$320,227	$412,769	$26,810	$263,897	$5,757,927
2027	81,956	$298,971	$430,553	$27,030	$269,830	$5,869,145
2028	77,515	$278,150	$445,944	$27,187	$274,250	$5,948,415
2029	73,077	$257,830	$459,587	$26,875	$277,218	$5,997,001
2030	68,674	$238,072	$471,352	$26,486	$278,788	$6,016,023
2031	64,326	$218,938	$481,773	$26,025	$279,003	$6,006,166
2032	60,040	$200,478	$490,846	$25,491	$277,894	$5,968,201
2042	23,911	$63,625	$471,840	$16,774	$208,887	$4,393,399
2052	6,096	$12,836	$259,454	$7,398	$122,139	$2,567,189
2062	1,071	$1,831	$93,197	$2,720	$92,003	$1,982,455
2072	145	$201	$21,741	$1,668	$113,946	$2,501,418
2082	22	$11	$1,860	$1,203	$85,916	$3,744,393

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,619,091	$15,234,306	$685,232	$10,184,952
Present Value as of June 30, 2022	$3,214,736	$7,460,074	$374,319	$4,318,734

Appendix A

Active Mortality Rates Increased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the active mortality rates were to be 10% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(2.6%)	($82)	98%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,265	$177,536	$166,406	$12,915	$113,979	$4,972,082
2023	98,957	$385,254	$351,718	$26,494	$236,425	$5,215,549
2024	94,597	$362,353	$375,606	$26,445	$246,892	$5,422,743
2025	90,171	$339,833	$399,172	$26,595	$255,640	$5,592,450
2026	85,691	$317,721	$420,371	$26,679	$262,674	$5,725,795
2027	81,149	$296,065	$439,425	$26,863	$268,037	$5,823,610
2028	76,607	$274,926	$456,058	$26,984	$271,785	$5,887,279
2029	72,084	$254,362	$470,949	$26,623	$273,977	$5,918,046
2030	67,611	$234,429	$484,003	$26,187	$274,667	$5,916,952
2031	63,209	$215,183	$495,828	$25,681	$273,893	$5,884,519
2032	58,883	$196,668	$506,320	$25,104	$271,677	$5,821,440
2042	22,967	$61,218	$497,729	$16,117	$184,736	$3,846,841
2052	5,738	$12,133	$279,956	$6,706	$68,857	$1,381,935
2062	990	$1,703	$103,554	$1,810	($1,856)	($92,127)
2072	133	$185	$24,909	$407	($38,686)	($865,452)
2082	20	$10	$2,131	$46	($34,047)	($1,485,514)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,541,655	$16,013,715	$635,723	$5,762,381
Present Value as of June 30, 2022	$3,172,880	$7,750,901	$364,049	$3,680,471

Appendix A

Active Mortality Rates Decreased by 10%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the active mortality rates were to be 10% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(12.4%)	($404)	92%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,439	$177,695	$166,071	$12,923	$113,984	$4,972,573
2023	99,466	$386,762	$351,493	$26,561	$236,485	$5,217,765
2024	95,418	$365,233	$376,558	$26,577	$247,040	$5,426,904
2025	91,277	$343,888	$401,856	$26,795	$255,868	$5,598,010
2026	87,056	$322,765	$425,191	$26,945	$262,942	$5,731,581
2027	82,741	$301,925	$446,654	$27,197	$268,277	$5,827,932
2028	78,394	$281,440	$465,860	$27,385	$271,910	$5,888,037
2029	74,036	$261,380	$483,401	$27,116	$273,880	$5,912,781
2030	69,697	$241,813	$499,129	$26,766	$274,229	$5,902,927
2031	65,399	$222,807	$513,620	$26,341	$272,979	$5,858,752
2032	61,149	$204,416	$526,748	$25,840	$270,145	$5,780,725
2042	24,774	$66,185	$537,843	$17,111	$167,473	$3,447,875
2052	6,413	$13,604	$312,239	$7,068	$20,030	$289,593
2062	1,142	$1,973	$118,692	$2,078	($93,477)	($2,120,128)
2072	156	$220	$29,419	$478	($190,055)	($4,205,769)
2082	23	$12	$2,574	$54	($153,733)	($6,703,949)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,700,139	$17,143,950	$660,425	$1,540,399
Present Value as of June 30, 2022	$3,258,189	$8,147,523	$374,440	$3,116,785

Appendix A

Claim Recovery Rate Being 25% Higher

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the claim recovery rates were to be 25% higher than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(10.7%)	($347)	93%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,380	$177,645	$166,241	$12,920	$113,982	$4,972,353
2023	99,306	$386,320	$351,699	$26,540	$236,460	$5,216,895
2024	95,167	$364,420	$376,449	$26,536	$246,983	$5,425,313
2025	90,945	$342,762	$401,316	$26,735	$255,780	$5,595,803
2026	86,652	$321,379	$424,144	$26,866	$262,830	$5,729,002
2027	82,276	$300,328	$445,053	$27,099	$268,156	$5,825,334
2028	77,878	$279,678	$463,684	$27,269	$271,797	$5,885,855
2029	73,478	$259,495	$480,647	$26,975	$273,799	$5,911,527
2030	69,107	$239,845	$495,804	$26,603	$274,203	$5,903,169
2031	64,786	$220,791	$509,734	$26,157	$273,038	$5,861,107
2032	60,521	$202,384	$522,318	$25,637	$270,316	$5,785,852
2042	24,332	$65,018	$530,158	$16,866	$170,634	$3,520,996
2052	6,261	$13,276	$306,754	$6,975	$28,854	$486,810
2062	1,110	$1,914	$116,293	$2,022	($77,135)	($1,758,558)
2072	151	$212	$28,774	$464	($163,196)	($3,613,129)
2082	22	$12	$2,508	$52	($132,522)	($5,779,127)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,660,375	$16,937,083	$653,921	$2,291,613
Present Value as of June 30, 2022	$3,236,260	$8,071,353	$371,668	$3,216,943

Appendix A

Claim Recovery Rate Being 25% Lower

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the claim recovery rates were to be 25% lower than expected.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(4.2%)	($133)	97%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,324	$177,587	$166,236	$12,918	$113,982	$4,972,302
2023	99,117	$385,696	$351,513	$26,515	$236,449	$5,216,419
2024	94,846	$363,162	$375,714	$26,485	$246,949	$5,424,331
2025	90,498	$340,946	$399,704	$26,655	$255,728	$5,594,647
2026	86,087	$319,083	$421,397	$26,756	$262,785	$5,728,362
2027	81,603	$297,625	$440,983	$26,958	$268,158	$5,826,203
2028	77,109	$276,637	$458,161	$27,097	$271,897	$5,889,479
2029	72,623	$256,183	$473,596	$26,759	$274,060	$5,919,366
2030	68,179	$236,320	$487,183	$26,345	$274,697	$5,916,856
2031	63,796	$217,111	$499,524	$25,858	$273,844	$5,882,429
2032	59,481	$198,601	$510,513	$25,298	$271,521	$5,816,740
2042	23,368	$62,269	$504,680	$16,339	$181,819	$3,779,446
2052	5,869	$12,411	$284,659	$6,783	$60,862	$1,203,370
2062	1,017	$1,750	$105,506	$1,856	($16,479)	($415,574)
2072	136	$191	$25,397	$418	($62,634)	($1,393,810)
2082	20	$11	$2,179	$47	($52,944)	($2,309,432)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,578,639	$16,196,877	$641,019	$5,089,937
Present Value as of June 30, 2022	$3,193,581	$7,819,943	$366,501	$3,590,409

Appendix A

Lapses Increased by 0.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the lapse rates were to be 0.25% higher than expected for each of the next 60 years.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(2.4%)	($77)	98%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,228	$177,457	$166,232	$12,912	$113,981	$4,972,181
2023	98,858	$384,963	$351,453	$26,481	$236,430	$5,215,641
2024	94,443	$361,898	$375,542	$26,420	$246,889	$5,422,466
2025	89,967	$339,223	$399,366	$26,559	$255,611	$5,591,374
2026	85,445	$316,971	$420,830	$26,631	$262,597	$5,723,481
2027	80,866	$295,191	$440,118	$26,804	$267,893	$5,819,642
2028	76,292	$273,948	$456,927	$26,914	$271,556	$5,881,305
2029	71,743	$253,300	$471,922	$26,538	$273,648	$5,909,793
2030	67,250	$233,305	$485,003	$26,087	$274,228	$5,906,236
2031	62,832	$214,019	$496,780	$25,567	$273,337	$5,871,244
2032	58,497	$195,484	$507,158	$24,978	$271,001	$5,805,594
2042	22,690	$60,505	$495,828	$15,946	$183,342	$3,816,823
2052	5,629	$11,902	$276,432	$6,590	$68,131	$1,367,634
2062	962	$1,655	$101,125	$1,763	($1,143)	($75,204)
2072	127	$177	$24,095	$390	($36,591)	($818,847)
2082	18	$10	$2,032	$43	($32,272)	($1,408,053)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,517,675	$15,933,982	$630,850	$5,779,215
Present Value as of June 30, 2022	$3,159,936	$7,735,109	$362,121	$3,673,353

Appendix A

Lapses Decreased by 0.25%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the lapse rates were to be 0.25% lower than expected for each of the next 60 years.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(12.4%)	($406)	92%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,476	$177,773	$166,246	$12,925	$113,983	$4,972,474
2023	99,566	$387,053	$351,758	$26,574	$236,479	$5,217,673
2024	95,572	$365,687	$376,620	$26,602	$247,043	$5,427,181
2025	91,480	$344,494	$401,654	$26,831	$255,897	$5,599,087
2026	87,300	$323,508	$424,712	$26,992	$263,019	$5,733,910
2027	83,022	$302,787	$445,921	$27,255	$268,423	$5,831,944
2028	78,706	$282,404	$464,926	$27,454	$272,142	$5,894,109
2029	74,373	$262,425	$482,336	$27,200	$274,215	$5,921,213
2030	70,055	$242,918	$498,008	$26,865	$274,679	$5,913,938
2031	65,772	$223,951	$512,515	$26,453	$273,552	$5,872,474
2032	61,531	$205,579	$525,728	$25,964	$270,845	$5,797,206
2042	25,048	$66,881	$539,437	$17,279	$169,054	$3,482,182
2052	6,523	$13,829	$315,649	$7,185	$21,192	$313,542
2062	1,171	$2,021	$121,192	$2,128	($93,496)	($2,121,781)
2072	162	$228	$30,283	$496	($191,088)	($4,228,976)
2082	25	$13	$2,682	$57	($154,682)	($6,745,402)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,723,700	$17,219,028	$665,287	$1,555,325
Present Value as of June 30, 2022	$3,270,920	$8,160,899	$376,351	$3,128,518

Appendix A

"Best Case" Scenario

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the experience were to be better than expected for the key assumptions. Specifically, this scenario includes higher discount rate, higher claim termination rates, higher active mortality, higher lapse rates, lower claim incidence rates, lower yearly increase for claim utilization rates, and lower claim recovery rates.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
45.8%	$1,449	142%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,035	$177,483	$163,291	$12,901	$114,004	$4,975,184
2023	98,343	$385,136	$330,439	$26,402	$237,001	$5,240,481
2024	93,676	$362,151	$337,683	$26,281	$248,911	$5,487,580
2025	89,017	$339,526	$347,502	$26,372	$259,888	$5,713,121
2026	84,364	$317,307	$357,490	$26,409	$269,846	$5,916,376
2027	79,701	$295,552	$367,340	$26,555	$278,752	$6,096,784
2028	75,076	$274,327	$376,380	$26,649	$286,606	$6,254,689
2029	70,501	$253,694	$384,852	$26,254	$293,428	$6,390,705
2030	65,997	$233,710	$392,314	$25,792	$299,252	$6,505,561
2031	61,578	$214,432	$398,966	$25,268	$304,107	$6,599,866
2032	57,253	$195,904	$404,727	$24,680	$308,025	$6,674,387
2042	21,880	$60,753	$375,773	$16,077	$310,881	$6,689,780
2052	5,344	$11,928	$198,904	$8,036	$331,613	$7,216,016
2062	900	$1,652	$68,663	$5,486	$449,188	$9,869,939
2072	118	$176	$15,363	$7,796	$688,218	$15,165,602
2082	17	$10	$1,266	$7,232	$535,806	$23,356,578

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,525,820	$12,330,190	$819,140	$27,120,200
Present Value as of June 30, 2022	$3,164,737	$6,194,229	$381,118	$6,833,667

Appendix A

"Worst Case" Scenario

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years if the experience were to be worse than expected for the key assumptions. Specifically, this scenario includes lower discount rate, lower claim termination rates, lower active mortality, lower lapse rates, higher claim incidence rates, higher yearly increase for claim utilization rates, and higher claim recovery rates.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(74.8%)	($2,447)	67%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,676	$177,748	$169,250	$12,937	$113,959	$4,969,408
2023	100,125	$386,916	$373,966	$26,659	$235,885	$5,191,584
2024	96,431	$365,539	$417,973	$26,756	$244,892	$5,357,287
2025	92,576	$344,371	$459,825	$27,045	$251,260	$5,466,048
2026	88,578	$323,424	$497,453	$27,254	$255,030	$5,519,795
2027	84,428	$302,747	$531,286	$27,556	$256,277	$5,519,977
2028	80,202	$282,406	$561,162	$27,783	$255,087	$5,468,526
2029	75,928	$262,466	$588,115	$27,561	$251,534	$5,366,851
2030	71,651	$242,993	$612,308	$27,249	$245,677	$5,215,965
2031	67,393	$224,054	$634,733	$26,853	$237,541	$5,015,973
2032	63,162	$205,703	$655,223	$26,372	$227,130	$4,767,211
2042	26,237	$67,074	$703,462	$17,227	$9,553	($117,642)
2052	6,988	$13,958	$433,820	$7,618	($319,290)	($7,254,182)
2062	1,285	$2,057	$175,535	$2,389	($687,678)	($15,252,076)
2072	181	$234	$42,272	$567	($1,154,791)	($25,487,061)
2082	27	$13	$3,577	$65	($913,864)	($39,845,780)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,727,784	$22,207,310	$678,236	($26,547,906)
Present Value as of June 30, 2022	$3,272,169	$10,197,736	$381,329	($967,708)

Appendix B – 60 Year Projection of Fund Balance for Additional Discount Rate Sensitivity Testing from New York Regulation 126

Appendix B

Scenario 1 – Base Case

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years based on the actuarial assumptions used in this valuation. This is the base scenario including a discount rate and expected return assumption of 4.75%.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(7.4%)	($238)	95%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$113,982	$4,972,328
2023	99,212	$386,008	$351,606	$26,527	$236,455	$5,216,657
2024	95,007	$363,790	$376,081	$26,511	$246,966	$5,424,821
2025	90,721	$341,852	$400,508	$26,695	$255,754	$5,595,224
2026	86,369	$320,227	$422,766	$26,811	$262,808	$5,728,682
2027	81,938	$298,970	$443,010	$27,028	$268,157	$5,825,770
2028	77,491	$278,150	$460,909	$27,183	$271,847	$5,887,676
2029	73,048	$257,829	$477,100	$26,867	$273,930	$5,915,467
2030	68,640	$238,070	$491,463	$26,473	$274,452	$5,910,053
2031	64,287	$218,935	$504,587	$26,006	$273,443	$5,871,838
2032	59,996	$200,475	$516,362	$25,466	$270,923	$5,801,409
2042	23,841	$63,617	$517,187	$16,598	$176,298	$3,651,906
2052	6,060	$12,831	$295,405	$6,875	$45,131	$851,252
2062	1,062	$1,829	$110,713	$1,936	($46,213)	($1,073,874)
2072	143	$201	$27,015	$440	($111,894)	($2,480,920)
2082	21	$11	$2,335	$50	($91,918)	($4,008,764)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$647,133	$3,718,008
Present Value as of June 30, 2022	$3,214,671	$7,943,291	$369,003	$3,407,096

Appendix B

Scenario 2 - Discount Rate Increasing by 0.50% for 10 Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 2 of the NY 7 interest rates scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
60.3%	$1,704	154%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$113,982	$4,972,328
2023	99,212	$386,008	$351,606	$26,528	$248,890	$5,229,092
2024	95,007	$363,790	$376,081	$26,515	$286,607	$5,476,892
2025	90,721	$341,852	$400,508	$26,709	$326,119	$5,717,646
2026	86,369	$320,227	$422,766	$26,840	$367,505	$5,955,771
2027	81,938	$298,970	$443,010	$27,081	$410,974	$6,195,625
2028	77,491	$278,150	$460,909	$27,266	$456,859	$6,442,458
2029	73,048	$257,829	$477,100	$26,991	$505,617	$6,701,813
2030	68,640	$238,070	$491,463	$26,649	$557,839	$6,979,610
2031	64,287	$218,935	$504,587	$26,248	$614,239	$7,281,949
2032	59,996	$200,475	$516,362	$25,788	$675,687	$7,615,961
2042	23,841	$63,617	$517,187	$18,628	$1,099,695	$12,139,822
2052	6,060	$12,831	$295,405	$13,949	$2,159,931	$24,164,287
2062	1,062	$1,829	$110,713	$23,997	$5,140,275	$57,794,434
2072	143	$201	$27,015	$69,772	$12,869,902	$144,819,505
2082	21	$11	$2,335	$105,910	$15,838,049	$348,401,074

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$2,544,438	$358,025,150
Present Value as of June 30, 2022	$2,824,263	$5,657,064	$323,585	$12,464,934

Appendix B

Scenario 3 - Discount Rate Increasing 1% for Five Years then Decreasing 1% for Five Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 3 of the NY 7 interest rates scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
25.6%	$735	118%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$113,982	$4,972,328
2023	99,212	$386,008	$351,606	$26,528	$261,295	$5,241,497
2024	95,007	$363,790	$376,081	$26,520	$326,402	$5,529,088
2025	90,721	$341,852	$400,508	$26,723	$397,765	$5,841,474
2026	86,369	$320,227	$422,766	$26,870	$476,576	$6,188,640
2027	81,938	$298,970	$443,010	$27,134	$564,523	$6,581,989
2028	77,491	$278,150	$460,909	$27,351	$599,574	$6,971,452
2029	73,048	$257,829	$477,100	$27,098	$565,447	$7,290,529
2030	68,640	$238,070	$491,463	$26,762	$518,875	$7,529,249
2031	64,287	$218,935	$504,587	$26,346	$461,296	$7,678,548
2032	59,996	$200,475	$516,362	$25,845	$394,617	$7,731,433
2042	23,841	$63,617	$517,187	$17,357	$315,197	$6,714,617
2052	6,060	$12,831	$295,405	$8,388	$265,425	$5,708,550
2062	1,062	$1,829	$110,713	$4,549	$302,975	$6,625,318
2072	143	$201	$27,015	$5,217	$441,453	$9,719,397
2082	21	$11	$2,335	$4,630	$341,152	$14,870,543

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$789,103	$22,739,285
Present Value as of June 30, 2022	$2,871,754	$6,662,339	$333,896	$6,353,018

Appendix B

Scenario 4 – Discount Rate Increased 3%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 4 of the NY 7 interest rates scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
59.9%	$1,608	149%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,921	$184,643	$5,042,986
2023	99,212	$386,008	$351,606	$26,551	$391,268	$5,442,106
2024	95,007	$363,790	$376,081	$26,562	$420,422	$5,823,675
2025	90,721	$341,852	$400,508	$26,779	$448,206	$6,186,446
2026	86,369	$320,227	$422,766	$26,932	$474,630	$6,531,604
2027	81,938	$298,970	$443,010	$27,193	$499,771	$6,860,143
2028	77,491	$278,150	$460,909	$27,395	$523,735	$7,173,723
2029	73,048	$257,829	$477,100	$27,133	$546,642	$7,473,959
2030	68,640	$238,070	$491,463	$26,800	$568,611	$7,762,377
2031	64,287	$218,935	$504,587	$26,401	$589,741	$8,040,064
2032	59,996	$200,475	$516,362	$25,936	$610,114	$8,308,355
2042	23,841	$63,617	$517,187	$18,389	$811,236	$11,040,841
2052	6,060	$12,831	$295,405	$11,943	$1,261,175	$17,387,108
2062	1,062	$1,829	$110,713	$14,919	$2,425,200	$33,656,405
2072	143	$201	$27,015	$34,164	$5,018,915	$69,748,306
2082	21	$11	$2,335	$43,060	$5,158,843	$140,798,620

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$1,560,292	$149,438,550
Present Value as of June 30, 2022	$2,682,603	$5,620,366	$314,036	$10,878,486

Appendix B

Scenario 5 – Discount Rate Decreasing 0.50% for 10 Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 5 of the NY 7 interest rates scenarios. Interest rates in future years are floored at 0%.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(130.3%)	($5,016)	49%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$113,982	$4,972,328
2023	99,212	$386,008	$351,606	$26,527	$223,990	$5,204,193
2024	95,007	$363,790	$376,081	$26,506	$207,480	$5,372,875
2025	90,721	$341,852	$400,508	$26,681	$186,665	$5,474,204
2026	86,369	$320,227	$422,766	$26,782	$162,411	$5,507,293
2027	81,938	$298,970	$443,010	$26,978	$135,682	$5,471,958
2028	77,491	$278,150	$460,909	$27,104	$107,490	$5,369,585
2029	73,048	$257,829	$477,100	$26,752	$78,860	$5,202,421
2030	68,640	$238,070	$491,463	$26,316	$50,799	$4,973,512
2031	64,287	$218,935	$504,587	$25,799	$24,275	$4,686,336
2032	59,996	$200,475	$516,362	$25,201	$5,749	$4,350,997
2042	23,841	$63,617	$517,187	$15,676	$0	($69,546)
2052	6,060	$12,831	$295,405	$6,562	$0	($3,884,105)
2062	1,062	$1,829	$110,713	$1,936	$0	($5,723,606)
2072	143	$201	$27,015	$440	$0	($6,300,513)
2082	21	$11	$2,335	$50	$0	($6,415,474)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$633,219	$1,297,384
Present Value as of June 30, 2022	$3,850,666	$13,212,945	$513,435	$1,146,797

Appendix B

Scenario 6 – Discount Rate Decreasing 1% for Five Years then Increasing 1% for Five Years

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 6 of the NY 7 interest rates scenarios. Interest rates in future years are floored at 0%.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(41.3%)	($1,504)	76%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,919	$113,982	$4,972,328
2023	99,212	$386,008	$351,606	$26,527	$211,495	$5,191,698
2024	95,007	$363,790	$376,081	$26,501	$168,149	$5,321,055
2025	90,721	$341,852	$400,508	$26,667	$118,849	$5,354,580
2026	86,369	$320,227	$422,766	$26,754	$66,242	$5,291,529
2027	81,938	$298,970	$443,010	$26,930	$19,652	$5,140,212
2028	77,491	$278,150	$460,909	$27,033	$18,657	$4,949,076
2029	73,048	$257,829	$477,100	$26,669	$59,982	$4,763,117
2030	68,640	$238,070	$491,463	$26,234	$103,664	$4,587,154
2031	64,287	$218,935	$504,587	$25,731	$143,654	$4,419,425
2032	59,996	$200,475	$516,362	$25,162	$180,210	$4,258,586
2042	23,841	$63,617	$517,187	$15,990	$65,265	$1,203,637
2052	6,060	$12,831	$295,405	$6,562	($131,113)	($3,035,242)
2062	1,062	$1,829	$110,713	$1,936	($326,486)	($7,254,623)
2072	143	$201	$27,015	$440	($557,674)	($12,311,552)
2082	21	$11	$2,335	$50	($442,318)	($19,285,997)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$634,933	($11,571,426)
Present Value as of June 30, 2022	$3,642,255	$9,578,247	$427,737	($92,752)

Appendix B

Scenario 7 – Discount Rate Decreased 3%

The tables below contain information about the margin, funded status, and expected cash flows for the next 60 years under scenario 7 of the NY 7 interest rates scenarios.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in Millions)	Funded Status
(97.5%)	($3,889)	56%

Projected Cash Flows and Fund Balance Over the Next 60 Years ($ in Thousands)

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$4,859,888
2022	103,352	$177,616	$166,239	$12,917	$42,302	$4,900,650
2023	99,212	$386,008	$351,606	$26,504	$85,861	$4,994,409
2024	95,007	$363,790	$376,081	$26,461	$87,097	$5,042,754
2025	90,721	$341,852	$400,508	$26,615	$87,536	$5,045,018
2026	86,369	$320,227	$422,766	$26,700	$87,191	$5,002,970
2027	81,938	$298,970	$443,010	$26,882	$86,089	$4,918,137
2028	77,491	$278,150	$460,909	$26,999	$84,263	$4,792,642
2029	73,048	$257,829	$477,100	$26,643	$81,750	$4,628,478
2030	68,640	$238,070	$491,463	$26,206	$78,582	$4,427,461
2031	64,287	$218,935	$504,587	$25,695	$74,786	$4,190,900
2032	59,996	$200,475	$516,362	$25,107	$70,386	$3,920,293
2042	23,841	$63,617	$517,187	$15,660	$1,527	($145,538)
2052	6,060	$12,831	$295,405	$6,562	($72,683)	($4,369,168)
2062	1,062	$1,829	$110,713	$1,936	($123,468)	($7,233,265)
2072	143	$201	$27,015	$440	($158,793)	($9,245,955)
2082	21	$11	$2,335	$50	($95,257)	($11,030,385)

(1) Cash flows for 2022 and 2082 are for six months only.
(2) Fund balances are as of the end of the calendar year, except for the opening balance (as of June 30, 2022) and the last projected fund balance (as of June 30, 2082).

Total Sum of All Cash Flows and Present Values ($ in Thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$4,618,912	$16,558,439	$631,953	($3,318,793)
Present Value as of June 30, 2022	$3,989,051	$12,235,370	$502,404	($1,022,864)

Appendix C – Long-Term Care Model and Assumptions

Model

Projection results are based on the 105,370 in-force participants as of June 30, 2022. CalPERS LTC business consists of facility-only and comprehensive coverage options and includes a variety of elimination periods, benefit periods, and inflation coverage combinations. A summary of policy benefits has been included as Appendix D; the projection results reflect output from the First Principles Model based on the policy benefits in the program.

The first principles modeling approach is becoming the industry standard for modeling long-term care insurance. This approach includes more detailed modeling on claim incidence, claim termination, and utilization. The First Principles Model automatically tracks policyholder status: policyholders are classified as “active”, “disabled” (including site of care), or “inactive” (due to lapsation, death, or benefit expiration). In addition to tracking policyholder status, the First Principles Model follows lives as they progress through claims or as they recover back into the healthy population, tracking their used and remaining benefits. This detailed tracking of lives allows first principles models to more accurately project when benefits will be exhausted and to more accurately reflect the claim payment patterns as claimants move along their respective continuance curves.

Benefit exhaustion and the runout of incurred claims into paid claims are calculated inside the model. For the runout of incurred claims into paid claims, the First Principles Model pays claims exactly as the continuance curve and utilization assumptions suggest, allowing for detailed patterns of all segments of the population.

Important statistics such as the number of new and open claims, the rate at which claims are terminating (often distinguished between death, recovery, and exhaustion), and the split of the population between disabled and healthy lives can be easily tracked using the information available in the First Principles Model. These statistics offer increased transparency on what is driving deviations in experience, e.g., higher/lower-than-assumed claim incidence or longer/shorter-than-expected claim persistence. The ability to directly compare these figures against emerging experience is a useful tool which is not readily available from the Claim Cost Model. Used together with sensitivity testing, the additional information accessible in the First Principles Model allows for better insight into the CalPERS Program and the impacts of different assumption changes on its projected development.

The first principles modeling gives more credibility to CalPERS experience and provides more detailed actual-to-expected observations including the number of new claimants, the number of claim terminations, and the utilization of benefits.

Appendix C

Assumptions

Morbidity

There are three separate morbidity assumptions. The first assumption is the incidence rate, which determines the probability that an individual will go on claim at a given time. The second assumption is the continuance rate, or claim termination rate, which is the probability that an individual will continue with their claim from one month to the next. The third assumption is the claim utilization rate, which determines how much of the available benefit a policyholder will use while on claim as a percentage of the maximum benefit available.

Claim Incidence Rates

The incidence rate is developed using CalPERS claim data. When there is insufficient claim data available for full credibility, CalPERS experience rates are credibility weighted with the industry data using the 2000-2011 Long-Term Care Intercompany Experience Study Aggregated Databases from the Society of Actuaries (SOA). Before credibility weighting, adjustment factors are applied to incidence rates from industry data to bring the incidence distribution by site of care more in line with CalPERS experience.

A link to the SOA study and associated databases can be found at https://www.soa.org/experience-studies/2015/research-ltc-study-2000-11-aggregrated/. Please note that this is a website outside of CalPERS and the web address may be subject to change or removal. Unless noted otherwise, all references to SOA material in this section refer to this report and its associated databases.

Separate incidence rates were developed for the following categories:

- Gender: Male or Female
- Attained Age at Claim
- Initial Site of Care: Home Health Care, Assisted Living Facility, or Nursing Home
- Policy Type: Comprehensive or Non-Comprehensive
- Duration of Claim: Long Duration or Short Duration claims. The initial diagnosis of a claim is used to identify potential Long Duration claims. Claims with initial diagnosis in the following diagnosis categories are identified as Long Duration claims: Alzheimer's, Mental, and Nervous System and Sense Organs.

The incidence study for the June 30, 2022 valuation uses all claim and exposure information as of June 30, 2022, with an experience study cutoff date of June 30, 2020. The experience study uses the following steps to calculate the incidence rates:

- Step 1: Aggregate the active life exposure.
    - The active life exposure is found by adding up all exposures while an individual is not on claim. In years when an individual does go on claim, a full year of exposure is credited to the individual for that year.
- Step 2: Aggregate claim counts.
    - The claim counts are grouped based on the different categories mentioned previously.
- Step 3: Calculate the incidence rates based on CalPERS experience.
    - The incidence rates are the total number of claims divided by the exposure.
- Step 4: Obtain incidence rates based on industry experience.
    - Base industry incidence rates are obtained from the SOA 2000-2011 Claim Incidence Rates Database. The base rates are then split between Long Duration and Short Duration claims. The split ratio is determined by the ratio between Long and Short Duration exposure amounts from the SOA 2000-2011 Claim Termination Rates Database.

Assumptions (continued)

- Step 5: Develop adjustment factors for industry incidence rates.
    - It was observed that compared to CalPERS data, SOA pre-2011 data had higher distribution in claims with Nursing Home as initial site of care. CalPERS data overall has higher distribution in Assisted Living Facility and Home Health Care claims. As a result, adjustment factors are developed to bring site of care distribution of the industry incidence rates more in line with CalPERS experience.
- Step 6: Calculate the credibility-weighted incidence rates.
    - Final incidence rates are credibility-weighted averages between the rates from CalPERS experience and the rates from SOA industry data.
    - CalPERS experience receives full credibility in areas with 271 or more claims. Otherwise, CalPERS experience receives partial or zero credibility.
- Step 7: Develop adjustment factors for underwriting groups, benefit period, marital status, and partnership policies.
    - Underwriting group factors are developed to reflect the variation in claim incidence rates between different underwriting methods. This set of factors is developed by underwriting group and by policy duration. Underwriting groups include Short Form (SF), Modified Guarantee Issue (MGI) with issue dates in 1995, MGI with issue dates after 1996, Long Form (LF) with issue dates from 1995 to 1998, and LF with issue dates after 1999. The underwriting group factors also include an adjustment component to adjust the actual-to-expected ratio of historical claim counts to 100%.
    - Benefit period factors are developed to reflect the variation in claim incidence rates between policies with benefit period 10 years or lifetime and policies with benefit period lower than 10 years.
    - Marital status factors are developed to reflect the variation in claim incidence rates between married and single policyholders.
    - Elimination period adjustment factor is developed using actual-to-expected method to distinguish incidence rate between comprehensive polices that have 30-day or 90-day elimination period.
- Step 8: Develop attained age smoothing factors
    - Attained age smoothing factors are developed to break down age-group incidence rates by individual attained ages. The smoothing factors are developed from age 60 to age 96+, with age 96 and higher grouped together. The factor values are based on actual-to-expected ratio for each age with smoothing applied.

Claim Termination Rates

The claim termination rates are developed using CalPERS claim data. When there is insufficient claim data available for full credibility, the termination rates are credibility weighted with industry data using the 2000-2011 Long Term Care Intercompany Experience Study Aggregated Databases from the SOA. Adjustment factors are then applied to make the actual-to-expected ratio 100% based on historical data.

A link to the study and the databases can be found at https://www.soa.org/experience-studies/2015/research-ltc-study-2000-11-aggregrated/. Please note that this is a website outside of CalPERS and the web address may be subject to change or removal. Unless noted otherwise, all references to SOA material in this section refer to this report and its associated databases.

Assumptions (continued)

Separate claim termination rates were developed for the following categories:

- Gender: Male or Female
- Incurred Age Bands: 0-64, 65-74, 75-84, 85-89, or 90+
- Initial Site of Care: Home Health Care, Assisted Living Facility, or Nursing Home
    - Due to low data volume, ages 0-64 does not have separate claim termination rates for each site of care.
- Days on Claim: rates were developed for each 30-day interval starting from the incurred date of a claim.
- Duration of Claim: Claims with initial diagnosis in the following diagnosis categories are identified as Long Duration claims: Alzheimer's, Mental, and Nervous System and Sense Organs.

The claim termination study for the June 30, 2022 valuation uses all claim and exposure information as of June 30, 2022 and an experience study cutoff date of June 30, 2020. The claim termination study uses the following steps to calculate the claim termination rates:

- Step 1: Calculate exposure.
    - Exposure is the calculated open claim counts during each 30-day on-claim interval and is aggregated based on claim characteristics.
- Step 2: Obtain claim termination counts.
    - Terminations are non-benefit-exhaustion claim counts that closed during each 30-day on-claim interval and are aggregated based on claim characteristics.
- Step 3: Calculate the CalPERS-experience-based claim termination rate.
    - Claim termination rates are calculated as the claim termination counts in a given period divided by the exposure in that period.
- Step 4: Calculate industry claim termination rates.
    - The SOA Claim Termination Rates Database 2000-2011 was used to develop the industry rates. For areas without sufficient industry data, CalPERS' disabled mortality values were used.
- Step 5: Calculate the credibility-weighted claim termination rates.
    - Final claim termination rates are credibility-weighted averages between rates based on CalPERS experience and industry data.
    - CalPERS experience receives full credibility in areas with 271 or more exposure. Otherwise, CalPERS experience receives partial or zero credibility.
- Step 6: Apply A/E adjustment factors.
    - After Step 5, adjustment factors are applied to rates in each claim group so that the actual-to-expected ratios of termination counts is 100% compared to historical data.
    - Additional A/E adjustment factors are also applied for claims incurred at age 90 or higher to reflect shorter length of stay as the claim incurred age increases. Factors are applied for incurred age groups 90-91, 92-93, 94-95, and 96+.
- Step 7: Develop marital status factors.
    - Marital status factors are applied in projection to reflect claim termination rate variations between the married and not-married populations. They are calculated for each age band and based on marital status at issue.

Appendix C

Assumptions (continued)

Claim Utilization Rates

The claim utilization assumption is developed using CalPERS' total claim data as of June 30, 2022, with an experience study cutoff date of December 31, 2021. The assumption structure captures utilization rate variations by claims' initial site of care, MDB range, product series, benefit period, and yearly increase trend.

The claim utilization assumption is developed by following the steps:

- Step 1: Summarize the total benefit paid for each claim category
- Step 2: Summarize total historical benefit allowance for each claim category
- Step 3: Calculate benefit period adjustment factors using the relative ratios between the various benefit period groups
- Step 4: Derive utilization rate by site of care and MDB range for LTC1 using historical data
- Step 5: Calculate product series adjustment factors for LTC2 to LTC4 based on LTC1 result using actual-to-expected method
- Step 6: Calculate yearly increase adjustment factors using actual-to-expected method
- Step 7: Derive cumulative yearly increase cap based on historical data
- Step 8: Utilization rates in the initial projection year for existing open claims are based on the recent year data of each individual claim if there is 180 days or greater exposure.

Mortality

Since CalPERS does not have a sufficiently large enough population to develop its own mortality rates, the SOA 2012 Individual Annuitant Mortality (IAM) table was used as a baseline. Adjustment factors are then applied based on CalPERS plan experience. The disabled mortality result from this study is not used directly in the projection but is used in the claim termination study when there is no sufficient industry data.

The mortality study for the June 30, 2022 valuation uses the program's mortality and exposure data as of June 30, 2022, with an experience study cutoff date of June 30, 2020. The following steps are used to develop the mortality assumption:

- Step 1: Obtain death counts and develop active and disabled life exposures.
    - Death and exposure data are divided into several categories: active or disabled, age, gender, policy duration, and marital status. If there is a death, a full year of exposure is credited to the individual at the age of death.
- Step 2: Develop duration selection factors.
    - Duration selection factors are developed by comparing actual mortality and expected mortality (based on the IAM table) at each policy duration.
    - Historical expected mortality was adjusted according to the mortality improvement scale table to account for historical mortality improvement.
- Step 3: Develop marriage factors.
    - Marriage factors for active mortality vary by gender and attained age. They are derived by taking the ratio of A/E mortality for single and married active policies (split by attained age and gender) and calculating factors that will get those ratios close to 100 percent.
- Step 4: Develop attained age factors.
    - Attained age factors are developed by comparing actual mortality and expected mortality (based on the IAM table) at each attained age grouping. Age grouping intervals are determined so that each group has sufficient data credibility. The attained age factors are developed separately by gender and by active or disabled status. Attained age factors for disabled status are smoothed over the age group intervals.

Assumptions (continued)

- Step 5: Apply mortality improvement factors.
    - 100% of the SOA Mortality improvement Scale MP-2020 is used for mortality improvement factors, with a 15-year mortality improvement projection period. A link to SOA's table and report can be found at https://www.soa.org/resources/experience-studies/2020/mortality-improvement-scale-mp-2020/.

Claim Recovery Rates

The claim recovery assumption is used to split claim terminations into recoveries and disabled mortality. If a life recovers from a claim, it returns to the active status and has a probability to enter claim again in the future. Disabled mortality is projected by using the total claim termination minus the claim recovery. The claim recovery assumption is developed using CalPERS' total claim data as of June 30, 2022, with an experience study cutoff date of June 30, 2020. It is calculated by the following steps:

- Step 1: Summarize historical claim exposure by claim duration, claim site of care, and long / short claim types
- Step 2: Summarize historical claim recoveries by claim duration, claim site of care, and long / short claim types
- Step 3: Calculate recovery rates by using claim recoveries divided by claim exposure

Lapse

The lapse study for the June 30, 2022 valuation uses the program's lapse and exposure data as of June 30, 2022, with an experience study cutoff date of June 30, 2020. Lapse rates are calculated as the number of voluntary lapses divided by the total active life exposures. Shock lapses, which are determined as the lapses during rate increase years, are excluded from lapse counts. Policy terminations due to death or expiration of benefit are not included in this study. When a policy lapses, it receives a full year exposure at the duration of lapse. Due to the relatively low level of lapse experience in the recent years, adjustment factors are applied to the final lapse rates to bring the assumption in line with recent experience.

Lapse rates are broken down by the following categories: issue age group and policy duration.

The following assumed voluntary lapse rates were used for all policies:

Policy Year	Issue Age Group					
	< 40	40 – 49	50 – 59	60 – 69	70 – 79	80+
1	4.55%	3.26%	2.66%	2.38%	2.46%	3.46%
2	3.24%	2.10%	1.59%	1.14%	1.25%	2.11%
3	2.26%	1.38%	0.97%	0.76%	0.74%	1.40%
4	2.26%	1.12%	0.77%	0.48%	0.58%	0.82%
5	1.42%	0.85%	0.51%	0.38%	0.46%	0.86%
6	1.38%	0.77%	0.43%	0.31%	0.46%	1.15%
7	1.40%	0.71%	0.41%	0.25%	0.34%	0.74%
8	1.10%	0.57%	0.35%	0.26%	0.39%	0.49%
9	1.09%	0.57%	0.37%	0.21%	0.42%	0.50%
10	1.12%	0.70%	0.41%	0.31%	0.36%	0.99%
11+	0.59%	0.35%	0.26%	0.46%	0.85%	1.16%

Assumptions (continued)

Expenses

We used the following expense assumptions:

- The third-party administrator (TPA) cost assumptions reflect the contract terms with Long Term Care Group (LTCG) up to 2024. Expenses after the contract term are assumed to increase at an annual inflation rate of 2.3% plus additional fees per the contract terms.
- CalPERS operating expenses are projected based on expense cashflows during fiscal year 2021-22 and are assumed to increase with inflation each year. Additional bank transaction fees are projected based on a percentage of cashflow amount with annual inflation. Future expense inflation is assumed to be 5.4% in the first projection year, 2.8% in the second projection year, and 2.3% thereafter.
- Projected operating expenses are assumed to decrease in January 2029 by the ratio of the current in-force count to the prior year's in-force count. This is intended to reflect that eventually as the Program's population declines, expenses would decline as well.
- An option for participants to pay premiums with credit card has been available since 2014. Credit card fees are assumed as a percentage of total premium cashflow, with annual increases accounting for contract fee increases and inflation.

Discount Rate

The 4.75% discount rate used in this valuation is based on the target asset allocation adopted by the Investment Committee of the board in March 2021. It is based on a blend of 10-year and 30-year capital market assumptions as of September 30, 2020. The blending method calculates the present value of expected cashflows using the short-term and long-term expected returns derived from the capital market assumptions, then find a level discount rate that would result in the same present value of expected cashflows. The final discount rate assumption is rounded down to the nearest quarter.

Appendix C

Assumptions (continued)

Rate Increase Related Assumptions

2012 Rate Increase Anti-Selection Factors

During the 85% rate increase implementation starting in 2012, plan conversion options were given to policyholders to either avoid the rate increase or minimize its financial impact. The model assumptions include anti-selection factors related to this increase.

A rate increase may prompt healthier participants to lapse or reduce benefits to lower the impact of a rate increase. Therefore, the total risk pool will be less healthy after a rate increase. A higher risk will be assumed for policyholders that did not convert to benefit plans with lower benefit allowance.

Anti-selection is difficult to measure, and we have not attempted to determine the actual anti-selection experienced by CalPERS. As a result, the suggested anti-selection factor is an estimate. The anti-selection factors are twice the shock lapse rate and grade down to 0% over 10 years.

Anti-selection factors vary by benefit plan and are applied to the 2013, 2014, 2015, and 2016 conversions. Please see the table below for the groups that received or will receive the anti-selection factors.

For those policies that accepted the rate increase, the following anti-selection factors are applied to increase the future morbidity risk.

LTC1 & LTC 2, Lifetime, Inflation Receiving the 85% Premium Rate Increase Anti-Selection Factors Related to Shock Lapse and Conversion		
Calendar Year	LTC1	LTC2
2022	1.0464	1.0510
2023	1.0199	1.0298
2024	1.0083	1.0109
2025	1.0016	1.0014
2026+	1.0000	1.0000

All Other Plans Receiving the 85% Premium Rate Increase Anti-Selection Factors Related to Shock Lapse	
Calendar Year	LTC1 & LTC2
2022	1.006
2023	1.002
2024+	1.000

For those policies that converted to a 10-year Benefit Increase Option, the following anti-selection factors are applied to decrease the future morbidity risk because it is assumed that healthier participants are more likely to lower their benefits to pay lower premiums when there is a rate increase.

LTC1 & LTC 2, 10-Year Benefit Increase Option Selection Factors		
Calendar Year	LTC1	LTC2
2022	0.9639	0.9471
2023	0.9839	0.9671
2024	0.9925	0.9871
2025	0.9986	0.9983
2026+	1.0000	1.0000

Appendix C

Assumptions (continued)

2021 Rate Increase Assumptions

Anti-selection due to the shock lapses related to the 2021 rate increase is accounted for in the projections. It is assumed that the claim incidence rate in the population after the shock lapses would be 2.47% higher. This factor is derived by assuming the shock lapse population has 80% less chance of going on claim compared to the plan average. This effect is set to grade down over 10 years as shown below. No future policy conversion is assumed in the base case result of this valuation.

Anti-Selection Factors Related to 2021 Shock Lapse	
Calendar Year	Anti-Selection Factor
2022	1.0247
2023	1.0223
2024	1.0198
2025	1.0173
2026	1.0148
2027	1.0124
2028	1.0099
2029	1.0074
2030	1.0049
2031+	1.0025

No additional shock lapse after June 30, 2022 is assumed in this valuation.

Appendix D – Summary of Policy Benefits

Summary of Model Cells Included in 6/30/2022 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	Inflation	LF	188	520,889
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	Inflation	MGI	79	180,469
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	Inflation	SF	85	211,462
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	No Inflation	LF	3,192	5,555,545
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	No Inflation	MGI	1,259	1,965,650
LTC1	Comprehensive	50% HHC	50% ALF	2 Year	90	No Inflation	SF	1,249	1,887,507
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	Inflation	LF	1,237	5,416,176
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	Inflation	MGI	679	2,375,711
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	Inflation	SF	567	2,102,563
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	No Inflation	LF	5,534	13,661,822
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	No Inflation	MGI	2,037	4,252,080
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90	No Inflation	SF	1,847	3,750,100
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	Inflation	LF	785	3,892,457
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	Inflation	MGI	654	2,637,447
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	Inflation	SF	487	2,205,006
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	No Inflation	LF	8,313	22,524,491
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	No Inflation	MGI	5,140	12,308,326
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90	No Inflation	SF	4,345	10,269,654
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90	No Inflation	LF	5,457	22,188,191
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90	No Inflation	MGI	2,530	10,000,198
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90	No Inflation	SF	2,266	8,685,478
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	Inflation	LF	4,802	36,902,281
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	Inflation	MGI	4,775	29,558,509
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	Inflation	SF	3,042	20,251,789
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	No Inflation	LF	2,070	8,606,378
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	No Inflation	MGI	1,930	6,999,340
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90	No Inflation	SF	1,369	4,766,858
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	Inflation	LF	8	0
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	Inflation	MGI	2	0
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	No Inflation	LF	2	0
LTC1	Comprehensive	50% HHC	50% ALF	In-Nonforfeiture	90	No Inflation	SF	1	0
LTC1	Facilities Only		50% ALF	2 Year	90	Inflation	LF	42	98,212
LTC1	Facilities Only		50% ALF	2 Year	90	Inflation	MGI	12	26,349
LTC1	Facilities Only		50% ALF	2 Year	90	Inflation	SF	21	42,876
LTC1	Facilities Only		50% ALF	2 Year	90	No Inflation	LF	1,209	1,814,823
LTC1	Facilities Only		50% ALF	2 Year	90	No Inflation	MGI	323	378,881
LTC1	Facilities Only		50% ALF	2 Year	90	No Inflation	SF	372	439,608
LTC1	Facilities Only		50% ALF	3 Year	90	Inflation	LF	338	1,239,309
LTC1	Facilities Only		50% ALF	3 Year	90	Inflation	MGI	188	533,251
LTC1	Facilities Only		50% ALF	3 Year	90	Inflation	SF	163	475,068
LTC1	Facilities Only		50% ALF	3 Year	90	No Inflation	LF	2,365	4,928,315
LTC1	Facilities Only		50% ALF	3 Year	90	No Inflation	MGI	611	1,041,669
LTC1	Facilities Only		50% ALF	3 Year	90	No Inflation	SF	647	1,104,625
LTC1	Facilities Only		50% ALF	6 Year	90	Inflation	LF	83	398,951
LTC1	Facilities Only		50% ALF	6 Year	90	Inflation	MGI	41	147,436
LTC1	Facilities Only		50% ALF	6 Year	90	Inflation	SF	66	285,652
LTC1	Facilities Only		50% ALF	6 Year	90	No Inflation	LF	2,145	5,146,567
LTC1	Facilities Only		50% ALF	6 Year	90	No Inflation	MGI	626	1,287,560
LTC1	Facilities Only		50% ALF	6 Year	90	No Inflation	SF	698	1,328,378

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Appendix D

Summary of Model Cells Included in 6/30/2022 Projection

(LTC1 Continued)

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC1	Facilities Only		50% ALF	10 Year	90	No Inflation	LF	1,319	4,854,650
LTC1	Facilities Only		50% ALF	10 Year	90	No Inflation	MGI	390	1,291,602
LTC1	Facilities Only		50% ALF	10 Year	90	No Inflation	SF	459	1,419,471
LTC1	Facilities Only		50% ALF	Lifetime	90	Inflation	LF	733	4,786,650
LTC1	Facilities Only		50% ALF	Lifetime	90	Inflation	MGI	377	1,954,228
LTC1	Facilities Only		50% ALF	Lifetime	90	Inflation	SF	412	2,202,276
LTC1	Facilities Only		50% ALF	Lifetime	90	No Inflation	LF	474	1,836,313
LTC1	Facilities Only		50% ALF	Lifetime	90	No Inflation	MGI	216	619,277
LTC1	Facilities Only		50% ALF	Lifetime	90	No Inflation	SF	197	567,874
LTC1	Facilities Only		50% ALF	In-Nonforfeiture	90	Inflation	LF	1	0
LTC1	Facilities Only		50% ALF	In-Nonforfeiture	90	No Inflation	LF	2	0
LTC1	Facilities Only		50% ALF	In-Nonforfeiture	90	No Inflation	SF	1	0
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30	Inflation	LF	127	113,426
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30	Inflation	MGI	33	17,464
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30	Inflation	SF	33	19,425
LTC1	Partnership	50% HHC	50% ALF	1 Year	30	Inflation	LF	606	873,792
LTC1	Partnership	50% HHC	50% ALF	1 Year	30	Inflation	MGI	230	230,935
LTC1	Partnership	50% HHC	50% ALF	1 Year	30	Inflation	SF	241	233,240
LTC1	Partnership	50% HHC	50% ALF	2 Year	30	Inflation	LF	986	2,181,799
LTC1	Partnership	50% HHC	50% ALF	2 Year	30	Inflation	MGI	349	572,120
LTC1	Partnership	50% HHC	50% ALF	2 Year	30	Inflation	SF	419	644,163
LTC1	Partnership	50% HHC	50% ALF	In-Nonforfeiture	30	Inflation	LF	71	0
LTC1	Partnership	50% HHC	50% ALF	In-Nonforfeiture	30	Inflation	MGI	47	0
LTC1	Partnership	50% HHC	50% ALF	In-Nonforfeiture	30	Inflation	SF	10	0
LTC1 Subtotal								**83,614**	**288,812,616**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Appendix D

Summary of Model Cells Included in 6/30/2022 Projection[1]

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	Inflation	LF	26	79,944
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	Inflation	SF	3	12,421
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	No Inflation	LF	669	1,091,694
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	No Inflation	MGI	7	15,679
LTC2	Comprehensive	50% HHC	70% ALF	2 Year	90	No Inflation	SF	7	14,452
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	Inflation	LF	220	1,212,184
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	Inflation	MGI	1	12,267
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	Inflation	SF	2	23,407
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	No Inflation	LF	1,273	3,055,257
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	No Inflation	MGI	8	19,261
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90	No Inflation	SF	5	10,211
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	Inflation	LF	12	71,285
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	No Inflation	LF	19	56,211
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	No Inflation	MGI	17	54,808
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90	No Inflation	SF	1,004	3,890,118
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90	No Inflation	LF	8	40,832
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90	No Inflation	MGI	9	41,607
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90	No Inflation	SF	701	5,653,496
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	Inflation	LF	7	71,463
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	Inflation	MGI	8	63,918
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	Inflation	SF	562	2,443,209
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	No Inflation	LF	5	15,769
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90	No Inflation	MGI	5	15,099
LTC2	Facilities Only		70% ALF	2 Year	90	Inflation	LF	24	95,838
LTC2	Facilities Only		70% ALF	2 Year	90	No Inflation	LF	265	503,085
LTC2	Facilities Only		70% ALF	3 Year	90	Inflation	LF	7	33,372
LTC2	Facilities Only		70% ALF	3 Year	90	No Inflation	LF	197	438,185
LTC2	Facilities Only		70% ALF	6 Year	90	Inflation	LF	154	424,972
LTC2	Facilities Only		70% ALF	6 Year	90	No Inflation	LF	1	4,981
LTC2	Facilities Only		70% ALF	10 Year	90	No Inflation	LF	1	2,344
LTC2	Facilities Only		70% ALF	10 Year	90	No Inflation	MGI	74	386,692
LTC2	Facilities Only		70% ALF	10 Year	90	No Inflation	SF	1	13,663
LTC2	Facilities Only		70% ALF	Lifetime	90	Inflation	LF	43	147,095
LTC2	Facilities Only		70% ALF	Lifetime	90	Inflation	MGI	32	25,898
LTC2	Facilities Only		70% ALF	Lifetime	90	No Inflation	LF	79	121,835
LTC2	Partnership	50% HHC	70% ALF	6 Mo	30	Inflation	LF	88	226,406
LTC2	Partnership	50% HHC	70% ALF	1 Year	30	Inflation	LF	26	79,944
LTC2	Partnership	50% HHC	70% ALF	2 Year	30	Inflation	LF	3	12,421
LTC2 Subtotal								**7,007**	**24,401,453**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Appendix D

Summary of Model Cells Included in 6/30/2022 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC3	Comprehensive	70% HHC	70% ALF	2 Year		Inflation	LF	426	877,012
LTC3	Comprehensive	70% HHC	70% ALF	2 Year		Inflation	MGI	57	80,688
LTC3	Comprehensive	70% HHC	70% ALF	2 Year		Inflation	SF	49	76,688
LTC3	Comprehensive	70% HHC	70% ALF	2 Year		No Inflation	LF	564	987,562
LTC3	Comprehensive	70% HHC	70% ALF	2 Year		No Inflation	MGI	107	131,990
LTC3	Comprehensive	70% HHC	70% ALF	2 Year		No Inflation	SF	91	114,397
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	Inflation	LF	1,156	3,352,682
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	Inflation	MGI	188	378,814
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	Inflation	SF	205	434,367
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	No Inflation	LF	1,040	1,937,224
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	No Inflation	MGI	108	138,608
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90	No Inflation	SF	119	121,127
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	Inflation	LF	1,309	4,941,191
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	Inflation	MGI	268	764,556
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	Inflation	SF	228	702,932
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	No Inflation	LF	2,103	4,976,585
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	No Inflation	MGI	494	881,914
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90	No Inflation	SF	393	671,931
LTC3	Comprehensive	70% HHC	70% ALF	10 Year	90	No Inflation	LF	5	16,352
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	Inflation	LF	789	4,218,081
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	Inflation	MGI	7	51,669
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	Inflation	SF	4	22,499
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	No Inflation	LF	875	3,077,026
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	No Inflation	MGI	14	53,571
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90	No Inflation	SF	12	36,822
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	Inflation	LF	65	0
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	Inflation	MGI	5	0
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	Inflation	SF	8	0
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	No Inflation	LF	71	116,320
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	No Inflation	MGI	6	7,618
LTC3	Comprehensive	70% HHC	70% ALF	2 Year	90	No Inflation	SF	16	21,730
LTC3	Facilities Only		70% ALF	3 Year	90	Inflation	LF	135	193,930
LTC3	Facilities Only		70% ALF	3 Year	90	Inflation	MGI	15	10,538
LTC3	Facilities Only		70% ALF	3 Year	90	Inflation	SF	29	27,364
LTC3	Facilities Only		70% ALF	3 Year	90	No Inflation	LF	217	548,815
LTC3	Facilities Only		70% ALF	3 Year	90	No Inflation	MGI	28	51,260
LTC3	Facilities Only		70% ALF	3 Year	90	No Inflation	SF	58	112,018
LTC3	Facilities Only		70% ALF	6 Year	90	Inflation	LF	219	313,790
LTC3	Facilities Only		70% ALF	6 Year	90	Inflation	MGI	29	26,579
LTC3	Facilities Only		70% ALF	6 Year	90	Inflation	SF	42	26,726
LTC3	Facilities Only		70% ALF	6 Year	90	No Inflation	LF	104	332,597
LTC3	Facilities Only		70% ALF	6 Year	90	No Inflation	MGI	9	25,547
LTC3	Facilities Only		70% ALF	6 Year	90	No Inflation	SF	15	36,438
LTC3	Facilities Only		70% ALF	Lifetime	90	Inflation	LF	350	746,746
LTC3	Facilities Only		70% ALF	Lifetime	90	Inflation	MGI	32	44,462
LTC3	Facilities Only		70% ALF	Lifetime	90	No Inflation	LF	43	78,635
LTC3	Facilities Only		70% ALF	In-Nonforfeiture	90			104	376,476
LTC3	Facilities Only		70% ALF	In-Nonforfeiture	90			1	2,311
LTC3	Facilities Only		70% ALF	In-Nonforfeiture	90			128	325,375
LTC3	Partnership	70% HHC	70% ALF	6 Mo	30	Inflation	LF	4	0
LTC3	Partnership	70% HHC	70% ALF	1 Year	30	Inflation	LF	1	0
LTC3	Partnership	70% HHC	70% ALF	2 Year	30	Inflation	LF	3	0
LTC3 Subtotal								**12,436**	**32,714,464**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Appendix D

Summary of Model Cells Included in 6/30/2022 Projection

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Annualized Premium
LTC4	Comprehensive	100% HHC	100% ALF	2 Year	90	Inflation	LF	194	568,802
LTC4	Comprehensive	100% HHC	100% ALF	2 Year	90	No Inflation	LF	48	136,436
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90	Inflation	LF	639	2,278,158
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90	No Inflation	LF	343	900,482
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90	No Inflation	MGI	1	998
LTC4	Comprehensive	100% HHC	100% ALF	6 Year	90	Inflation	LF	483	2,188,880
LTC4	Comprehensive	100% HHC	100% ALF	6 Year	90	No Inflation	LF	160	538,922
LTC4	Comprehensive	100% HHC	100% ALF	10 Year	90	Inflation	LF	274	1,354,572
LTC4	Comprehensive	100% HHC	100% ALF	10 Year	90	No Inflation	LF	130	534,711
LTC4	Comprehensive	100% HHC	100% ALF	In-Nonforfeiture	90	No Inflation	LF	3	0
LTC4	Partnership	100% HHC	100% ALF	6 Mo	30	Inflation	LF	6	13,577
LTC4	Partnership	100% HHC	100% ALF	1 Year	30	Inflation	LF	11	34,239
LTC4	Partnership	100% HHC	100% ALF	2 Year	30	Inflation	LF	21	127,164
LTC4 Subtotal								**2,313**	**8,676,941**
Grand Total								**105,370**	**354,605,475**

Abbreviation	Description
ALF	Assisted Living Facility
HHC	Home Health Care
LF U/W	Long Form Underwriting
MGI U/W	Modified Guaranteed Issue Underwriting
SF U/W	Short Form Underwriting

Summary of Coverage Conversions during Fiscal Year 2021-22

The following table summarizes the percentages of the total in-force population that elected to convert to less expensive policies in order to offset the 52% premium increase during fiscal year 2021-22.

Coverage Conversions as Percentages of Total Population

	Converted To									
Initial Coverage	6 Year w Inflation	3 Year w Inflation	2 Year w Inflation	1 Year w Inflation	Half Year w Inflation	Lifetime wo Inflation	10 Year wo Inflation	6 Year wo Inflation	3 Year wo Inflation	2 Year wo Inflation
Lifetime w Inflation	0.7%	1.0%	0.0%			2.5%	0.0%	0.0%	0.0%	0.0%
10 Year w Inflation	0.0%	0.0%	0.0%				0.1%		0.0%	
6 Year w Inflation		0.0%	0.4%					1.4%	0.0%	0.0%
3 Year w Inflation			0.8%						1.5%	0.0%
2 Year w Inflation				0.3%						
1 Year w Inflation					0.2%					
Lifetime wo Inflation								1.2%	0.1%	0.0%
10 Year wo Inflation								5.0%	2.2%	0.0%
6 Year wo Inflation									0.9%	3.9%
3 Year wo Inflation										4.4%
Total										**26.5%**
Among the above also Reduced Inflation Percentage or Maximum Daily Benefit										7.9%
Reduced Inflation Percentage or Maximum Daily Benefit Only										**0.2%**
Grand Total										**26.7%**

Appendix E – Demographic Information

Data

We relied on the in-force data and claim information supplied by the third-party administrator LTCG and have evaluated that data for reasonableness and consistency. The principal materials we used were provided by LTCG and internal financial reports and included:

1. Data extracts from LTCG's administrative system
2. Financial statements
3. Plan descriptions

The Actuarial Valuation considers the quantitative and demographic characteristics of covered participants, including active participants and on-claim participants. This section presents a summary of significant statistical data on these participant groups. Future plan costs are affected by attained age, years in plan, and benefits chosen. In this year's valuation, there were 105,370 in-force participants averaging an attained age of 76.5 years and a policy duration of 23 years.

In-force Participants as of 6/30/2022 - Demographics and Policy Benefits

The following distributions of all in-force participants as of June 30, 2022 are included in Appendix E:

- By benefit period and elimination period
- By issue-age and attained-age
- By gender
- By coverage
- By inflation option
- By Marriage Status at Issue
- By premium mode
- By underwriting type
- By product series

Appendix E

Distributions of Policies In-force as of 6/30/2022

By Benefit Period and Elimination Period

Benefit Period	Elimination Period	Policy Count	Percent	Annualized Premium	Percent
6 Month	30 Day	237	0%	199,216	0%
1 Year	30 Day	1,198	1%	1,557,071	0%
2 Year	30 Day	1,914	2%	3,922,098	1%
In-Nonforfeiture	30 Day	128	0%	0	0%
2 Year	90 Day	10,677	10%	17,874,826	5%
3 Year	90 Day	22,403	21%	56,433,848	16%
6 Year	90 Day	30,968	29%	83,857,428	24%
10 Year	90 Day	14,007	13%	54,750,079	15%
Lifetime	90 Day	23,732	23%	136,010,910	38%
In-Nonforfeiture	90 Day	106	0%	0	0%
Total		**105,370**	**100%**	**354,605,475**	**100%**

By Issue-Age Band and Gender

Issue-Age Band	Policy Count				Annualized Premium			
	Females	Males	Total	Percent	Females	Males	Total	Percent
< 30	402	221	623	1%	686,125	388,097	1,074,222	0%
30-39	3,861	2,287	6,148	6%	8,273,814	4,882,682	13,156,496	4%
40-44	5,354	2,871	8,225	8%	13,680,128	7,241,848	20,921,975	6%
45-49	10,078	5,384	15,462	15%	29,429,081	15,851,214	45,280,295	13%
50-54	14,848	8,496	23,344	22%	47,248,648	27,195,820	74,444,469	21%
55-59	15,237	9,459	24,696	23%	53,763,165	34,009,652	87,772,817	25%
60-64	10,272	7,065	17,337	16%	40,037,814	28,063,772	68,101,587	19%
65-69	4,487	2,864	7,351	7%	19,597,647	12,923,025	32,520,671	9%
70-74	1,298	575	1,873	2%	6,426,559	3,040,604	9,467,163	3%
75-79	231	58	289	0%	1,282,364	433,425	1,715,789	0%
80-84	16	5	21	0%	125,827	17,976	143,803	0%
85-89	1	0	1	0%	6,188	0	6,188	0%
90-94	0	0	0	0%	0	0	0	0%
95+	0	0	0	0%	0	0	0	0%
Total	**66,085**	**39,285**	**105,370**	**100%**	**220,557,358**	**134,048,116**	**354,605,475**	**100%**

By Attained Age and Gender

Attained-Age Band	Policy Count				Annualized Premium			
	Females	Males	Total	Percent	Females	Males	Total	Percent
< 30	10	8	18	0%	11,708	7,355	19,064	0%
30-39	52	29	81	0%	66,293	38,480	104,773	0%
40-44	100	55	155	0%	206,375	104,719	311,094	0%
45-49	280	149	429	0%	520,605	285,980	806,585	0%
50-54	744	484	1,228	1%	1,521,766	1,011,826	2,533,592	1%
55-59	1,887	1,155	3,042	3%	4,230,276	2,537,836	6,768,112	2%
60-64	3,810	2,154	5,964	6%	9,022,107	5,223,204	14,245,312	4%
65-69	7,297	3,872	11,169	11%	19,861,172	10,555,431	30,416,603	9%
70-74	12,029	6,952	18,981	18%	36,463,411	21,523,208	57,986,619	16%
75-79	15,169	9,156	24,325	23%	51,074,416	31,238,259	82,312,675	23%
80-84	11,863	7,539	19,402	18%	43,476,984	28,765,326	72,242,310	20%
85-89	7,644	4,916	12,560	12%	30,896,646	19,967,632	50,864,278	14%
90-94	3,940	2,300	6,240	6%	17,129,143	10,217,735	27,346,878	8%
95+	1,260	516	1,776	2%	6,076,456	2,571,123	8,647,579	2%
Total	**66,085**	**39,285**	**105,370**	**100%**	**220,557,358**	**134,048,116**	**354,605,475**	**100%**

Appendix E

Distributions of Policies In-force as of 6/30/2022 (continued)

By Plan Type

Plan Type	Policy Count	Percent	Annualized Premium	Percent
Partnership (Comprehensive)	3,477	3%	5,678,385	2%
Comprehensive	84,810	80%	303,014,429	85%
Facilities Only	17,083	16%	45,912,662	13%
Total	**105,370**	**100%**	**354,605,475**	**100%**

By Inflation

Inflation	Policy Count	Percent	Annualized Premium	Percent
No Inflation	74,030	70%	198,814,300	56%
Inflation	31,340	30%	155,791,174	44%
Total	**105,370**	**100%**	**354,605,475**	**100%**

By Marriage Status at Time of Issue

Marital Status	Gender	Policy Count	Percent	Annualized Premium	Percent
Married	F	45,091	43%	147,468,144	42%
Married	M	32,756	31%	110,671,311	31%
Single	F	20,994	20%	73,089,215	21%
Single	M	6,529	6%	23,376,805	7%
Total		**105,370**	**100%**	**354,605,475**	**100%**

By Premium Mode

Premium Mode	Policy Count	Percent	Annualized Premium	Percent
Monthly	79,440	75%	274,535,141	77%
Quarterly	20,064	19%	59,079,637	17%
Semi-Annually	3,342	3%	11,235,957	3%
Annually	2,524	2%	9,754,740	3%
Total	**105,370**	**100%**	**354,605,475**	**100%**

By Underwriting Type

Underwriting Type	Policy Count	Percent	Annualized Premium	Percent
LF	61,051	58%	207,725,806	59%
MGI	23,955	23%	81,279,755	23%
SF	20,364	19%	65,599,914	18%
Total	**105,370**	**100%**	**354,605,475**	**100%**

By Product Series

Product Series	Policy Count	Percent	Annualized Premium	Percent
LTC 1	83,614	79%	288,812,616	81%
LTC 2	7,007	7%	24,401,453	7%
LTC 3	12,436	12%	32,714,464	9%
LTC 4	2,313	2%	8,676,941	2%
Total	**105,370**	**100%**	**354,605,475**	**100%**

Appendix F – Glossary of Actuarial Terms

Glossary of Actuarial Terms

Anti-Selection - Individuals who let their policies lapse because of special events (see “Shock Lapses”) are usually in better health. A participant does not normally drop their coverage if they anticipate that they will soon have a claim. As a result of this participant decision process, individuals who retain their policies are often, on average, in worse health than those who lapse them. This phenomenon is called anti-selection.

Base Case - The results of a projection using the “best estimate” assumptions in the LTC valuation. All sensitivity projections are done relative to this base case.

Benefit Period - This is the period of time that an insured would receive benefits if the full maximum daily benefit amount was paid each day an insured is on claim. If less than the maximum daily benefit amount was paid, the length of time that a claimant would receive benefits would be greater than this time period.

Claim Incidence - The probability of a policyholder incurring a claim is referred to as claim incidence.

Claim Termination - The probability that an existing claim will cease is referred to as claim termination.

Comprehensive Plan - A plan that covers home health care in addition to care in a nursing home and/or an assisted living facility.

Claim Continuance - The period of time that a participant continues to be on claim after a claim has begun.

Conversion - The voluntary decision to switch or reduce coverage, sometimes as the result of a specific event such as a premium rate increase.

Credible - A statistical measure of the degree to which data is considered reliable for predictive purposes. Credibility increases as a block of business grows and as more data accumulates over time.

Deficit - A calculation that determines the degree to which the current fund value is insufficient to pay future benefits, expressed as a percentage of the present value of future premiums. This number is an estimate of what one-time rate increase would be needed to bring the Program back to the target margin level. If the current fund value is more than enough to pay future benefits, the surplus is represented by a positive number. In formula terms:

{Current Fund Balance + Present Value of Premiums - Present Value of Benefits and Expenses} / Present Value of Premiums

Disabled Life Reserve - The value of future claim payments for those participants currently on claim.

Discount Rate - An interest rate used to determine present values. For CalPERS, the discount rate is set equal to the expected investment earnings rate.

Duration - The amount of time, typically measured in years since the issue date of the policy. Duration is sometimes referred to as policy year.

Appendix F

Glossary of Actuarial Terms (continued)

Elimination Period - The period of time in which the participant pays for care before benefits are paid from insurance proceeds.

First Principles Model - A model that uses fundamental concepts and assumptions to project cash flows. First principles model calculations tend to use more granular assumptions and track policyholder status and transitions more closely than a comparable claim cost model does.

Facility-Only Plan - A type of plan that pays for care in a nursing home or assisted living facility, but not for care at home or in the community.

Funded Ratio - Method of expressing the current financial status of the Program, which is consistent with the CalPERS pension and health plan financial status measurements. In general, the funded ratio is the assets divided by the accrued liability, or reserves. For long-term care insurance, the accrued liability is equal to the present value of future benefits and expenses less the present value of participant premiums. This definition is consistent with a statutory gross premium valuation reserve for LTC insurance. In this context, a breakeven position is a ratio of 100%. In formula terms:

Fund Balance / {Present Value of Benefits and Expenses - Present Value of Premiums}

Incidence - The number of participants that start a claim as a percentage of the participants that could start a claim over a specified time period (i.e., frequency of claim).

Incurred But Not Reported (IBNR) - an estimate of the liability for claim-generating events that have taken place but have not yet been reported.

Inflation Coverage - An optional feature that increases the amount of available benefits over time to protect a participant against rising health care costs. The CalPERS inflation coverage offers four different levels of automatic inflation protection: 3 or 5 percent simple, and 3 or 5 percent compound.

LTC1, LTC2, LTC3, LTC4 - Four different long-term care insurance plans sold to CalPERS participants. The main differences between the plans are the percentages of daily benefit for Home Health Care (HHC) and Assisted Living Facility (ALF) care available at the time of claim in comparison to the Nursing Home (NH) coverage for comprehensive policies. A summary of those benefits and the initial issue year is shown below.

LTC1 (1995) - NH (100%) / ALF (50%) / HHC (50%)
LTC2 (2003) - NH (100%) / ALF (70%) / HHC (50%)
LTC3 (2005) - NH (100%) / ALF (70%) / HHC (70%)
LTC4 (2014) - NH (100%) / ALF (100%) / HHC (100%)

Model - An actuarial tool used to project future cash flows including premiums, claims, investment returns, and expenses.

Appendix F

Glossary of Actuarial Terms (continued)

Morbidity - The generic term for the various assumptions underlying the expected/projected claims of a block of business.

Mortality - The rate of death.

Partnership Plan - A collaboration or "partnership" between the state government, insurance companies, and state residents who buy long-term care Partnership policies. The purpose of the Partnership Program is to encourage individuals to purchase LTC coverage and save the state money by increasing the private funding of LTC services, thereby reducing Medicaid payments for LTC. The advantage of the partnership plan for a participant is that once their insurance coverage is exhausted, their assets in an amount equal to the amount of insurance coverage used are protected when qualifying for Medicaid payments for LTC.

Persistency - The number of participants that remain active relative to the total number that started from one time period to another. Historically, LTC persistency has been higher than what was originally expected for CalPERS and the LTC industry as a whole. Because of the stronger-than-expected persistency, more participants are ultimately expected to submit claims than were originally expected, which puts additional financial strain on a LTC Program.

Present Value - A calculation that expresses future cash flows in a current cash equivalent amount based on assumed future interest rates (the discount rate).

Restoration of Benefits (ROB) - Benefit period will be restored if the participant recovers and is not eligible for benefits for at least 180 consecutive days. The maximum amount that can be restored over the life of the coverage is equal to the original total benefit amount purchased. This optional benefit rider is only available to LTC4 policies with a benefit period of three years or six years.

Return of Premium (ROP) - Returns some or all of a participant's premiums less any benefits paid to the spouse or estate if the participant dies before age 75. This is a built-in option for some of CalPERS's plans.

Selection Factors - Factors used to adjust attained age or ultimate morbidity to levels reflecting recent underwriting/issue, generally reducing the projected claims associated with those policies. Different selection factors are also used for the mortality assumption.

Shock Lapses - An insurance phenomenon where individuals allow their policies to lapse/terminate at a higher rate than usual due to a specific event such as a premium rate increase.

Survivorship Benefit - If both spouses or partners have this optional benefit, long-term care coverage for the surviving spouse or partner will be paid up if one spouse or partner dies after both have had coverage for a period of 10 years or more. This optional benefit rider is only available to LTC4 policies. Spouses or domestic partners must choose identical coverage to sign up for this optional benefit.

Terminations - The policies that are no longer active due to death, voluntary lapse, or any other reason.

Glossary of Actuarial Terms (continued)

Underwriting Type - Underwriting is the process of evaluating and selecting risks to be insured. Three types of underwriting were utilized at various times by CalPERS:

- Modified Guaranteed Issue (MGI) - limited underwriting for younger applicants active in the workforce
- Short Form (SF) - simplified application process with limited medical evaluation for younger applicants.
- Long Form (LF) - considered "full underwriting" due to the comprehensive nature of the medical questions asked and the associated underwriting process.

CalPERS only uses the long form of application for underwriting since 2002.

Voluntary Lapsation - Occurs when a participant chooses to voluntarily terminate their policy rather than terminate due to death or limitations on renewing contained within the policy itself.

Waiver of Premium or WOP - A benefit provision in a policy that allows the participant to stop making premium payments during the period of time in which they meet specific disabling conditions such as being eligible to be on LTC claim.

Actuarial Office
P.O. Box 942709 Sacramento, CA 94229-2709
TTY - (877) 249-7442
(888) 225-7377
FAX (916) 795-2744

Available online at CalPERS Website

California Public Employees' Retirement System A Component Unit of the State of California