



Long-Term Care Actuarial Valuation

As of June 30, 2016

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Long-Term Care Actuarial Valuation as of June 30, 2016

Actuarial Office

P.O. Box 942709

Sacramento, CA 94229-2709

TTY - (877) 249-7442

(888) 225-7377

FAX (916) 795-2744

TABLE OF CONTENTS

ACTUARIAL CERTIFICATION	1
HIGHLIGHTS & EXECUTIVE SUMMARY	
Introduction	5
Purpose of The Report.....	5
Funded Status and Margin For The Program	6
Key Findings	7
Changes Since the Prior Valuation.....	7
Subsequent Events.....	8
VALUATION RESULTS	
Comparison Of Current And Prior Year.....	11
Reconciliation to Prior Valuation Results	12
Summary Of Key Assumptions.....	13
RISK ANALYSIS	
Sensitivity Testing of Key Assumptions	19
Additional Sensitivity Testing	22
ASSETS	
Reconciliation of The Market Value of Assets Over The Prior Fiscal Year	25
Comparison of Actual To Expected Cash Flows.....	25
Asset Allocation	26
APPENDIX A	
60 Year Projection of Fund Balance for Scenarios used in Sensitivity Testing of Key Assumptions	A-1
APPENDIX B	
60 Year Projection of Fund Balance for Additional Discount Rate Sensitivity Testing from New York Regulation 126	B-1
APPENDIX C	
Long-Term Care Model and Assumptions	C-1
APPENDIX D	
Summary of Model Cells.....	D-1
APPENDIX E	
Demographic Information	E-1
APPENDIX F	
Glossary of Terms	F-1

Actuarial Certification

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, 2016. It is our opinion that the valuation has been performed in accordance with generally accepted actuarial principles, in accordance with 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.

Flora Xiaoge Hu, A.S.A, M.A.A.A.
Senior Life Actuary, CalPERS

Daniel Miller, A.S.A, M.A.A.A.
Associate Actuary, CalPERS

Scott Terando, A.S.A., M.A.A.A.
Deputy Chief Actuary, CalPERS

HIGHLIGHTS AND EXECUTIVE SUMMARY

- INTRODUCTION
- PURPOSE OF THE REPORT
- FUNDED STATUS AND MARGIN FOR THE PROGRAM
- KEY FINDINGS
- CHANGES SINCE THE PRIOR VALUATION
- SUBSEQUENT EVENTS

Introduction

This is the actuarial valuation report as of June 30, 2016 for the CalPERS Long-Term Care Program prepared by CalPERS actuarial staff. United Health Actuarial Services, Inc. (i.e., “UHAS”) assisted in the development of assumptions and did a parallel valuation. CalPERS’ valuation results are consistent with UHAS’ parallel valuation.

This actuarial valuation reflects the Stabilization Plan that was approved by the Board in October 2012 that included premium increases for certain policies and permitted policy conversions for participants to move to a less expensive policy.

This actuarial valuation was performed based on best estimate assumptions that are appropriate at the date of valuation. We do not reflect the potential for adverse deviations in actual future experience in our best estimate assumptions. Assumptions could change as more information becomes known, which would impact the funded status reported in this valuation. The models, scenarios and all assumptions except termination assumptions and discount rate are reviewed and, if necessary, updated each year. This report summarizes the approach, assumptions, and results of our actuarial valuation of the CalPERS Long-Term Care (LTC) Program as of June 30, 2016. For information about the sensitivity of actuarial assumptions on the valuation results, please refer to the “Risk Analysis” section and Appendix A.

Purpose of the Report

The June 30, 2016 actuarial valuation report of the CalPERS Long-Term Care Program has been prepared by CalPERS actuarial staff in order to:

- Determine whether assets as of June 30, 2016 and expected future premium levels are sufficient to provide the future benefits
- Provide actuarial information as of June 30, 2016 to the CalPERS Board of Administration and other interested parties
- Provide information as of June 30, 2016 to be used in CalPERS financial statements

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

Funded Status and Margin for the Program

As of June 30, 2015, the funded status for the Long-Term Care Program was 111 percent and the margin was 14.44 percent. The margin decreased as of June 30, 2016 over the margin from last year mainly because of higher-than-expected claim costs and lower-than-expected investment returns. The funded status as of June 30, 2016 is now 106 percent and the margin is 9.59 percent based on the best estimate assumptions. The table below shows the funded status and margin as of June 30, 2016.

Funded Status and Margin as of June 30, 2016

Component	(\$ in Millions)
1. Present Value of Future Benefits	\$6,225
2. Present Value of Future Expenses	\$404
3. Present Value of Future Premiums (PVFP)	\$2,589
4. Valuation Liabilities (= 1 + 2 – 3)	\$4,040
5. Valuation Assets	\$4,288
6. Valuation Margin (= 5 – 4)	\$248
7. Margin as a % of PVFP (= 6 / 3)	9.59%
8. Funded Status (= 5 / 4)	106%

The Program's funded status has been more than 100 percent funded and the margin has been positive since 2013 after the implementation of the Stabilization Plan. The table below shows the funded status and the margin/(deficit) for the Long-Term Care Program for the last 5 years based on the best estimate assumptions (i.e., the "base case" scenario). In the past two years, there is a steady decline in the funded status and the margin. The main drivers for the decrease in the funded status and the margin are investment loss and higher-than-expected claim cost.

5 Year History of Funded Status and Margin

Valuation Date	Funded Status	Margin
June 30, 2012	96%	(4.66%)
June 30, 2013	123%	19.66%
June 30, 2014	123%	23.49%
June 30, 2015	111%	14.44%
June 30, 2016	106%	9.59%

Key Findings

The following are the key findings from this actuarial valuation:

- The funded status decreased from 111 percent on June 30, 2015 to 106 percent on June 30, 2016, and the margin decreased from 14.44 percent to a margin of 9.59 percent. The reasons for the decrease to the funded status and margin are primarily increases in morbidity assumptions, along with a slightly lower investment return, and small increases in expense assumptions.
- The major driving factor that reduced the 2016 projected margin is the increase in the claim cost. Reasons for the increase in the clam costs include but not limited to: 1) there is trend for higher claim costs in years of rate increase; 2) Higher CalPERS credibility leads to more reliance on Program experience, which has been slightly worse than industry assumptions.
- The Program suffered a small investment loss during 2015-16 fiscal year as a result of an investment return of 5.48 percent, which was slightly lower than the assumed 5.75 percent discount rate assumption. The investment income was less than expected by \$8,621,552 and thus further negatively impacting the funded status and the margin.
- The actual expenses were 10.6% higher than the projected for the 2015-16 fiscal year. The new expense assumption reflects this increase, which contributed to the declining results.
- No conversion was assumed in the 2015 valuation for the second 36 percent increase in 2016. As of August 2016, the actual 10 Year BIO conversion rate was 5.3 percent; the actual 6 Year BIO conversion rate was 4.9 percent; and the actual 3 Year BIO conversion rate was 2.7 percent. Those 2016 conversions resulted in an improvement to both the margin and funded status.
- The margins as of June 30, 2016 is 9.59 percent, which is close to the 2012 Stabilization Plan's targeted 10 percent margin. Since the implementation of the Stabilization Plan, there has been much more favorable conversion than assumed, which caused an increase to both the funded status and the margin. Those increases in margin however were offset by the unfavorable investment return and the increase in morbidity assumption. The margin would be about 10 percent higher if investment returns were as expected.

A complete reconciliation of the Program's margin/(deficit) is provided on page 12.

Changes Since the Prior Valuation

Actuarial Assumptions

Each year, actual experience is measured against the assumptions, and assumptions are updated to reflect actual experience. In this valuation, we made changes to the morbidity and expense assumptions. We used actual accepted conversions as of the end of August 2016 for the 2016 rate increase. Please refer to the "Summary of Key Assumptions" Section on page 13 for more information on the changes that were made. Assumptions are documented in more detail in Appendix C.

Premiums and Policies

In an effort to stabilize the LTC Fund, CalPERS implemented corrective actions, including premium increases, in 2003, 2007 and 2010. In addition, starting in 2011, all LTC1 policies with lifetime coverage and inflation protection receive an on-going annual 5 percent premium increase. In October 2012, the CalPERS Board approved the Stabilization Plan to help improve the financial position of the Long-Term Care Program. The Stabilization Plan included premium increases for some participants and provided the ability for participants to convert to less expensive policies, and stopped the ongoing 5 percent rate increase after 2014. LTC1 and LTC2 participants with the lifetime benefit period or inflation protection had their premiums increased by 36 percent in both 2015 and 2016 for a cumulative 85 percent increase. The 2016 premium increase implementation started on July 1 of this year. Participants who are subject to the 85 percent rate increase were given options to convert to other benefit coverage plans to avoid the 85 percent rate increase in the fall of 2014 and again in the spring of 2015. Participants were given another chance to convert in 2016. This valuation projection reflected the actual conversion responses received by CalPERS as of August 2016.

Subsequent Events

There were no known events that would impact the results of this valuation as of the time of preparing this report. The actuarial valuation report as of June 30, 2016 is based on financial information as of that date. Changes in the value of assets subsequent to that date, to the extent that they exist, are not reflected. Declines in asset values will decrease the funded status of the Program, while increases will increase the funded status of the Program.

VALUATION RESULTS

- COMPARISON OF CURRENT AND PRIOR YEAR
- RECONCILIATION TO PRIOR VALUATION RESULTS
- SUMMARY OF KEY ASSUMPTIONS

Comparison of Current and Prior Year

The Program results summarized throughout this report refer to funded status and also to “deficits” or “margins.” A deficit is an estimate of what level of a one-time rate increase in premiums would be 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 the Program assets divided 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 percent.

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 percent and will always produce a deficit when the funded ratio is lower than 100 percent. They are not consistent in that a 10 percent margin does not produce a 110 percent funded ratio.

The table below summarizes the results of the actuarial valuation of the CalPERS Long-Term Care Program as of June 30, 2016, compared to June 30, 2015. Results presented include the present value of future cash flows for the current inforce participants. Present values are based on 60 years of projected cash flow.

Component	6/30/2015 (\$ in Millions)	6/30/2016 (\$ in Millions)
1. Present Value of Future Benefits	\$6,144	\$6,225
2. Present Value of Future Expenses	\$388	\$404
3. Present Value of Future Premiums (PVFP)	\$2,868	\$2,589
4. Valuation Liabilities (= 1 + 2 – 3)	\$3,664	\$4,040
5. Valuation Assets	\$4,078	\$4,288
6. Valuation Margin (= 5 – 4)	\$414	\$248
7. Margin as a % of PVFP (= 6 / 3)	14.44%	9.59%
8. Funded Status (= 5 / 4)	111%	106%

Our analysis indicates that if experience conforms to our best estimate assumptions, the current assets and rate structure are sufficient to fund future claims and expenses for the next 60 years.

Liability cash flows were derived through the application of a projection of expected future cash flows based on the inforce policies as of June 30, 2016 using a set of underlying assumptions based upon the CalPERS Long-Term Care Program’s assumed experience. Policies are grouped and projected 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 cash flows and projected cash balances are provided in Appendix A.

Reconciliation to Prior Valuation Results

Between June 30, 2015 and June 30, 2016, the Long-Term Care Program decreased from a margin of 14.44 percent to a margin of 9.59 percent. Several factors impacted the margin either positively or negatively during the fiscal year. Adjustments were made to the actuarial assumptions, specifically changes to the morbidity. The morbidity experience is slow to develop based on the long claim process and recent claim experiences are limited in the development of the claim assumptions. Because of these items, the increase in assumed claims assumption is something that is based on the previous few years of higher actual-to-expected results. The claim costs also increase because more credibility is assigned to the Program’s actual claim cost experience which is slightly worse than that of the industry’s. The Program suffered a small investment loss during 2015-16 fiscal as a result of an investment return of 5.48 percent, which was slightly lower than the assumed 5.75 percent discount rate assumption. The lower than expected return resulted in a decrease in the margin by 0.91 percent. The Program had a slight demographic experience gain. This gain was due to higher and favorable conversions. No adjustments were made to lapse and mortality assumptions. The aggregate impact of these assumption changes was a decrease in margin. The table below provides a detailed reconciliation as to the factors that contributed to the margin.

	Results as a Present-Value of Premiums
Margin as of 6/30/15:	14.44%
Projected One Year Forward (Passage of Time)	1.60%
Demographic Experience Gain	0.79%
Investment Loss for FY 2014-2015	(0.91%)
Morbidity Assumption Change	(5.45%)
Expenses Assumption Change	(0.88%)
Margin as of 6/30/16:	9.59%

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. Each year, actual experience is measured against the assumptions, and assumptions are updated to reflect actual experiences. This section provides general information on key assumptions used in the 2016 valuation.

Discount Rate

The discount rate used in this valuation was approved in September 2012 by Pension and Health Benefit Committee (PHBC), which reflects the revised investment mix that was approved in April 2012 Investment Committee. For valuation purposes, the discount rate is 5.75 percent net of investment expenses. The discount rate is a major component of the valuation process and is used to project asset growth and to determine present values of future premiums, expenses and benefits. CalPERS Long-Term Care Program experienced a small investment loss during the fiscal year ended June 30, 2016, since the actual return for the year was slightly lower than the discount rate assumption. The actual return was positive 5.48 percent.

Morbidity

For Long-Term Care insurance products, the substantial financial risks lie in morbidity assumptions. The morbidity assumption reflects the amount of claim costs expected for participants. The key components driving claim costs are:

- Claim incidence, which is the probability of going on claim
- Claim continuance, which is the length of time staying on claim, and
- Utilization, which is the level of claim payment

In 2015-16, the actual claim experience for the CalPERS Long-Term Care Program was 0.4 percent higher than expected. The actual experience continues to emerge as it has to date. To revise the assumption, expected claim costs were credibility weighted between LTCG's manual morbidity assumptions utilized in 2005 and CalPERS actual claims experience. The new claim cost assumption increases as observed worse actual-than-expected morbidity in the previous few years and more credibility assigned to the Program's experiences. Some changes were also made to address the potential for anti-selection resulting from the less healthy participants not converting to less expensive policies which were offered as part of the Stabilization Plan. Please see the policy conversion section below for additional discussion. Actual claim experience is summarized in the table "Comparison of Actual to Expected Cash Flows for 2015-16" in the Assets Section on page 25.

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 vary based on a variety of factors, including the participants' age at enrollment and the number of years participants have their policies. In general, it is assumed that the longer that participants keep their policies, 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 although current assets are not affected.

In 2015-16, the CalPERS Long-Term Care Program experienced slightly lower than expected lapses from participants terminating their policies, which resulted a lower margin. Participants terminating their policies as a result of premium increases are usually referred to as shock lapses and are discussed next.

Lapse rates remained the same for the June 30, 2016 valuation as for the June 30, 2015 valuation.

Shock lapses are an insurance phenomenon where individuals drop their coverage at a higher rate than usual due to a specific event such as a premium rate increase. Individuals who let their policies lapse because of rate increases are usually in better health. Participants do not normally drop their policies if they anticipate they will soon have claims. As a result, individuals who retain their policies are often, on average, in worse health than those who lapse their policies. This participant decision process is referred to as anti-selection. To minimize the shock lapses, CalPERS offered many benefit change options to alleviate the impact of the rate increase. The election to switch coverage is referred to as conversion.

CalPERS historically has experienced very minimal shock lapses from the rate increases, and this trend has continued in the last fiscal year for the announced 2015-16 premium rate increase, likely because of the following reasons:

- An industry-wide steep slope to issue-age premiums generally does not allow the participants to purchase less expensive coverage elsewhere, and
- CalPERS offered many new conversion options
- The 2016 implementation of the 36 percent rate increase is the second, and last, round of the total 85 percent rate increase. It was assumed that policies would have lapsed in the first round of 36 percent rate if they decided to lapse their coverage.

Policy Conversion

As part of the Stabilization Plan that was adopted by the CalPERS Board in October 2012, an assumption was made that 10 percent of the participants subject to the premium increases would convert to a less expensive policy, and this assumption was updated as actual conversion activity was experienced. The actual 2014 and 2015 conversions turned out to be higher than that assumed in the 2014 valuation. In the 2015 valuation, no further conversions were assumed for the second 36 percent rate increase which will be implemented in 2016. As of the end of August 2016, 5.3 percent of policies converted to 10 year BIO, 4.8 percent of policies converted to 6 year BIO, and 2.6 percent of policies converted to 3 year BIO, which totals to 12.7 percent conversion rate.

Initial Coverage	2016 Rate Increase Percentage of Policies Converted To		
	10 Year BIO	6 Year BIO	3 Year BIO
Lifetime with Inflation	5.30%	1.00%	0.30%
Lifetime with BIO		2.80%	0.20%
6 Year with Inflation		1.00%	0.10%
3 Year with Inflation			2.00%
Total	5.30%	4.80%	2.60%

Conversion and downgrade activity continue to help the financial position of the LTC Program, but there is also likely to be anti-selection associated with these conversions – i.e. on average healthier participants convert to less expensive policies believing they are less likely to go on claim in the near future and less healthy participants who fear a near term claim are more likely to accept the rate increase. For this reason, the morbidity assumption was modified to reflect the fact that participants who do not convert to a less expensive policy may be more likely to go on claim.

Mortality

The mortality assumption summarizes the expected death rate of the population. Similar to the lapse assumption, mortality reduces future liabilities without affecting assets.

We utilized the mortality assumptions developed in the 2014 valuation, which were based on a complete mortality study which includes mortality improvement assumptions reflecting the work completed by CalPERS actuarial staff and updated industry mortality improvement studies. Please see Appendix C for greater details on the mortality assumptions.

Expense

The expenses of managing the Program include administrative expenses. Expenses are based on the Third Party Administrator fee and CalPERS expenses related to internal staff working on the LTC Program. The expenses were updated based on last year’s actual expenses and are expressed either as per participant per month, flat expenses per month, or as a percent of future incurred claims.

Rate Increase

The projection reflected the actual rate increase based on the plan conversion option letters received by the end of August 2016. Accordingly, we applied morbidity anti-selection for those rate increases and plan conversion options.

Participants receiving the second 36 percent premium rate increase in 2016 were offered a conversion option, and for those participants that accepted the conversion, the effective date was after the valuation date of this report, i.e. June 30, 2016. To account for these accepted conversions, the inforce population data was adjusted. The 2016 valuation data reflected all the conversions that have been elected by end of August 2016.

Regarding all assumptions previously discussed, actual experience may differ from that assumed in the projections. To the extent actual experience is different from the assumptions underlying this report, so will actual results differ from the projected results shown here. Sensitivity of results to changes in assumptions is provided in the Risk Analysis section.

RISK ANALYSIS

- SENSITIVITY TESTING OF KEY ASSUMPTIONS
- ADDITIONAL SENSITIVITY TESTING

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 (morbidity, lapses, deaths, 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 actual experience and the assumptions are called actuarial gains and losses and either increase or decrease the funded status and margin of the LTC Program. If the actual experience differs from the assumption over a prolonged period, it may result in a need for premium changes to ensure the financial integrity of the LTC Program. Included next are the results of sensitivity testing that was 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 morbidity, voluntary lapses, mortality, and investment earnings. 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 indicate outcomes under each of these scenarios, they do not indicate the likelihood of each scenario, and therefore, this testing does not indicate the probability that 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 the scenario that is based on our current actuarial assumptions used for this valuation.

Discount Rate

The discount rate assumption used in this valuation is 5.75 percent. For the sensitivity analysis, we are testing 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 percent. The table below shows the impact on the margin and funded status. As expected, a lower discount rate results in a lower margin and lower funded status while a higher discount rate results in an increase for both measures.

Impact of Discount Rate on Margin and Funded Ratio

Scenario Description	Margin	Funded Ratio
Base Case	9.59%	106%
Discount rate increased by 0.5% to 6.25%	22.06%	115%
Discount rate decreased by 0.5% to 5.25%	(3.38%)	98%

Morbidity

The morbidity assumption reflects the amount of claim costs expected for participants in the future. For the sensitivity analysis, we are testing the impact claims have on the margin and funded ratio of the LTC Program by increasing and decreasing future expected claims by 10 percent. As shown in the table below, if future expected claims are higher than assumed in the valuation, both the margin and funded status will be lower, while lower than expected claims would result in an increase for both measures.

Impact of Morbidity on Margin and Funded Ratio

Scenario Description	Margin	Funded Ratio
Base Case	9.59%	106%
Lower Morbidity (Future claims reduced by 10%)	33.86%	126%
Higher Morbidity (Future claims increased by 10%)	(13.81%)	92%

Lapses

The lapse assumption reflects the expected portion of participants who terminate their policies each year by not paying the renewal premiums. For the sensitivity analysis, we are testing the impact lapses have on the margin and funded ratio of the LTC Program by increasing and decreasing the incidence of lapses by 0.25 percent. As shown in the table below, if future expected lapses are lower than assumed in the valuation, both the margin and funded status will be lower while higher than expected lapses would result in an increase for both measures.

Impact of Lapses on Margin and Funded Ratio

Scenario Description	Margin	Funded Ratio
Base Case	9.59%	106%
Lapse Rates increased by 0.25%	14.20%	109%
Lapse Rates decreased by 0.25%	4.93%	103%

Mortality

The mortality assumption reflects the expected death rate of the participants in the LTC Program. Similar to the lapse assumption, mortality reduces future liabilities without affecting the assets on hand. For this reason, higher-than-expected mortality will generally result in an increase in the margin and funded status. For the sensitivity analysis, we are testing the impact mortality rates have on the margin and funded ratio of the LTC Program by increasing and decreasing the mortality rates by 10 percent. As shown in the table below, if mortality rates improve i.e. rates are lower, both the margin and funded status will be lower, while if mortality rates deteriorate i.e. rates are higher, both measures would increase.

Impact of Mortality on Margin and Funded Ratio

Scenario Description	Margin	Funded Ratio
Base Case	9.59%	106%
Mortality rates increased by 10%	16.74%	111%
Mortality rates decreased by 10%	1.80%	101%

Best and Worst Case

In order to test for the potential “best case” and “worst case” scenarios, the sensitivity of four of the key assumptions was tested simultaneously. The table below shows the combined impact on the margin and the funded status if the experience were to be better and worse than expected for the discount rate, morbidity, lapses and mortality.

Combined Impact of key Assumptions on Margin and Funded Status

Scenario Description	Margin	Funded Ratio
Base Case	9.59%	106%
Discount rate increases by 0.5% to 6.25% Lower Morbidity (Future claims reduced by 10%) Lapses increased by 0.25% Mortality rates increased by 10%	56.56%	147%
Discount rate decreases by 0.5% to 5.25% Higher Morbidity (Future claims increased by 10%) Lapses decreased by 0.25% Mortality rates decreased by 10%	(42.10%)	78%

Additional Sensitivity Testing

In addition to the sensitivity testing summarized above, we tested more robust investment scenarios on the base case scenario using the New York 7 interest rate scenarios. In 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	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%
Scenario #2	5.75%	6.25%	6.75%	7.25%	7.75%	8.25%	8.75%	9.25%	9.75%	10.25%	10.75%
Scenario #3	5.75%	6.75%	7.75%	8.75%	9.75%	10.75%	9.75%	8.75%	7.75%	6.75%	5.75%
Scenario #4	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%	8.75%
Scenario #5	5.75%	5.25%	4.75%	4.25%	3.75%	3.25%	2.75%	2.25%	1.75%	1.25%	0.75%
Scenario #6	5.75%	4.75%	3.75%	2.75%	1.75%	0.75%	1.75%	2.75%	3.75%	4.75%	5.75%
Scenario #7	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%

The table below shows the impact on the margin and the funded status of varying the discount rate assumption as described in the above table.

Impact of Additional Discount Rate Sensitivity on Margin and Funded Ratio

Scenario	Margin	Funded Ratio
Scenario #1	9.59%	106%
Scenario #2	77.32%	169%
Scenario #3	43.17%	130%
Scenario #4	78.03%	164%
Scenario #5	(112.96%)	55%
Scenario #6	(24.62%)	86%
Scenario #7	(77.92%)	63%

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

ASSETS

- RECONCILIATION OF THE MARKET VALUE OF ASSETS OVER THE PRIOR FISCAL YEAR
- COMPARISON OF ACTUAL TO EXPECTED CASH FLOWS
- ASSET ALLOCATION

Reconciliation of the Market Value of Assets Over the Prior Fiscal Year

1. Market Value of Assets as of June 30, 2015	\$4,077,740,581
2. Premiums Received during fiscal year 2015 -16	\$282,425,954
3. Benefit Payments in 2015 -16	(\$271,741,858)
4. Expense Payments in 2015 -16	(\$26,604,855)
5. Investment Returns in 2015 -16	\$226,525,913
6. Market Value of Assets as of June 30, 2016 [(1) + (2) - (3) - (4) + (5)]	\$4,288,345,735

Comparison of Actual to Expected Cash Flows

Below is a table comparing the actual cash flows in 2015-16 to the cash flows that were projected as part of the June 30, 2015 valuation. As can be seen, the investment experience and loss of premiums had the biggest impact on the assets.

Comparison of Actual to Expected Cash Flows for 2015-16

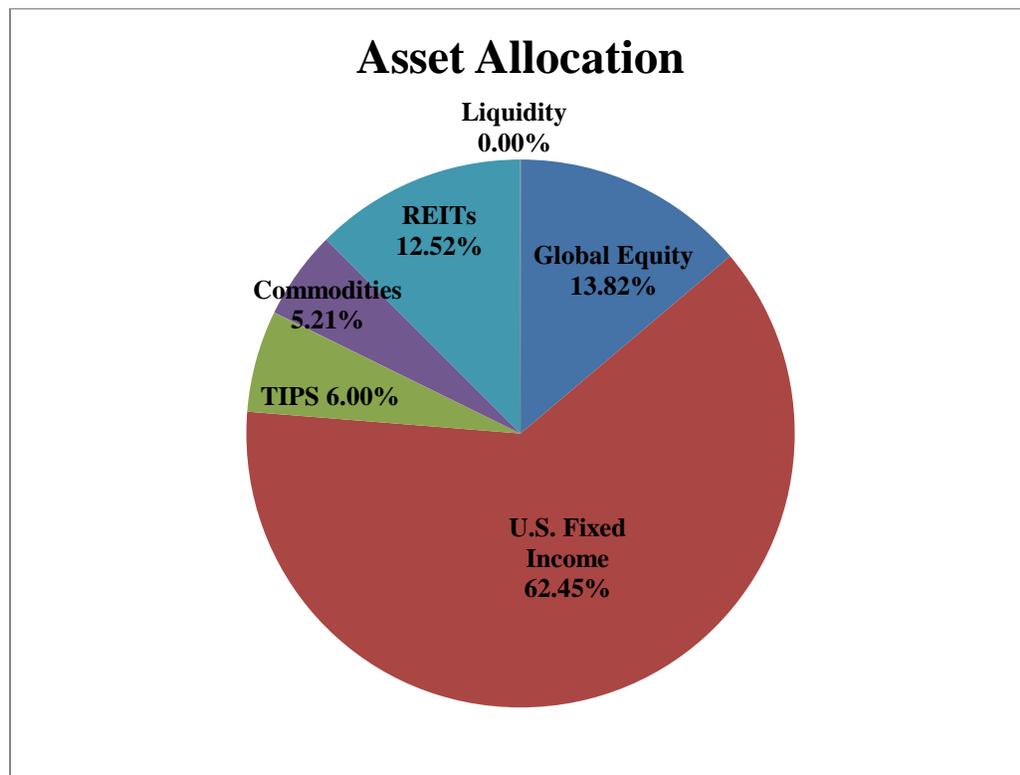
	Projected Results in the June 30, 2015 Valuation	Actual Results in June 30, 2016 Valuation	Difference
Fund Balance as of June 30, 2015	\$4,077,740,581	\$4,077,740,581	\$-
Cash Flows for 2015-16			
• Premiums	\$292,863,544	\$282,425,954	(\$10,437,590)
• Investment Income	\$235,147,465	\$226,525,913	(\$8,621,552)
• Paid Claims	(\$270,749,810)	(\$271,741,858)	(\$992,048)
• Expenses	(\$24,061,511)	(\$26,604,855)	(\$2,543,345)
Balance as of June 30, 2016	\$4,310,940,269	\$4,288,345,735	(\$22,594,534)

Asset Allocation

CalPERS follows a strategic allocation policy that identifies the percentage of funds to be invested in each asset class. The target allocation was changed to a more conservative asset mix by the Board in April 2012.

The asset allocation and market value of assets are shown below as of June 30, 2016.

Asset Class	Target Allocation	Current Allocation	Current Market Value
Global Equity	15.00%	13.82%	\$597,112,057
U.S. Fixed Income	61.00%	62.45%	\$2,698,479,862
Treasury-Inflation Protected Securities (TIPS)	6.00%	6.00%	\$258,721,307
Commodities	6.00%	5.21%	\$225,225,729
Real Estate Investment Trusts (REITs)	12.00%	12.52%	\$540,932,120
Liquidity	0.00%	0.00%	\$0
Total Net Assets At Market:	100.00%	100.00%	\$4,320,700,184



APPENDIX A

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

- BASE CASE SCENARIO..... A-1
- DISCOUNT RATE INCREASED BY 0.50 PERCENT TO 6.25 PERCENT..... A-2
- DISCOUNT RATE DECREASED BY 0.50 PERCENT TO 5.25 PERCENT..... A-3
- LOWER MORBIDITY (FUTURE CLAIMS REDUCED BY 10 PERCENT)..... A-4
- HIGHER MORBIDITY (FUTURE CLAIMS INCREASED BY 10 PERCENT) A-5
- LAPSES INCREASED BY 0.25 PERCENT..... A-6
- LAPSES DECREASED BY 0.25 PERCENT..... A-7
- MORTALITY RATES INCREASED BY 10 PERCENT A-8
- MORTALITY RATES DECREASED BY 10 PERCENT A-9
- “BEST CASE” SCENARIO..... A-10
- “WORST CASE” SCENARIO A-11

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
9.59%	\$248	106%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$121,564	\$4,403,895
2017	124,393	\$305,214	\$317,797	\$26,626	\$252,407	\$4,617,094
2018	119,274	\$288,868	\$334,944	\$28,023	\$263,654	\$4,806,647
2019	114,186	\$273,279	\$347,574	\$29,178	\$273,679	\$4,976,853
2020	109,113	\$258,081	\$359,439	\$29,812	\$282,677	\$5,128,359
2021	104,078	\$243,231	\$372,028	\$30,443	\$290,586	\$5,259,705
2022	99,108	\$228,870	\$384,352	\$30,665	\$297,361	\$5,370,920
2023	94,205	\$215,085	\$394,555	\$30,804	\$303,047	\$5,463,693
2024	89,340	\$201,791	\$402,605	\$30,893	\$307,757	\$5,539,743
2025	84,496	\$188,764	\$411,376	\$30,945	\$311,511	\$5,597,696
2026	79,704	\$175,970	\$422,886	\$30,928	\$314,156	\$5,634,008
2036	36,966	\$71,780	\$477,444	\$23,936	\$276,954	\$4,875,697
2046	9,827	\$16,024	\$324,119	\$10,302	\$182,906	\$3,204,777
2056	1,363	\$1,856	\$114,950	\$2,189	\$153,839	\$2,772,436
2066	106	\$116	\$20,050	\$360	\$222,797	\$4,087,605
2076	8	\$3	\$1,197	\$130	\$188,648	\$6,842,662

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$820,018	\$14,549,980
Present Value as of June 30, 2016	\$2,589,405	\$6,225,350	\$403,965	\$4,591,644

Discount Rate Increased by 0.50 Percent to 6.25 Percent

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 6.25 percent, i.e. 0.50 percent higher.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
22.06%	\$553	115%

Projected Cash Flows and Fund Balance Over Next 60 years (\$ in thousands)

Calendar Year ¹	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance ²
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$131,977	\$4,414,308
2017	124,393	\$305,214	\$317,797	\$26,627	\$275,007	\$4,650,106
2018	119,274	\$288,868	\$334,944	\$28,025	\$288,645	\$4,864,649
2019	114,186	\$273,279	\$347,574	\$29,181	\$301,105	\$5,062,278
2020	109,113	\$258,081	\$359,439	\$29,815	\$312,600	\$5,243,704
2021	104,078	\$243,231	\$372,028	\$30,448	\$323,067	\$5,407,526
2022	99,108	\$228,870	\$384,352	\$30,671	\$332,461	\$5,553,836
2023	94,205	\$215,085	\$394,555	\$30,811	\$340,836	\$5,684,390
2024	89,340	\$201,791	\$402,605	\$30,902	\$348,318	\$5,800,992
2025	84,496	\$188,764	\$411,376	\$30,956	\$354,933	\$5,902,357
2026	79,704	\$175,970	\$422,886	\$30,939	\$360,522	\$5,985,023
2036	36,966	\$71,780	\$477,444	\$23,970	\$358,267	\$5,872,521
2046	9,827	\$16,024	\$324,119	\$10,374	\$320,996	\$5,297,664
2056	1,363	\$1,856	\$114,950	\$2,329	\$403,000	\$6,794,024
2066	106	\$116	\$20,050	\$624	\$686,952	\$11,668,117
2076	8	\$3	\$1,197	\$374	\$616,202	\$20,637,331

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$827,465	\$28,352,095
Present Value as of June 30, 2016	\$2,505,459	\$5,855,965	\$385,232	\$5,682,946

Discount Rate Decreased by 0.50 Percent to 5.25 Percent

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 percent, i.e. 0.50 percent lower.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
(3.38%)	(\$91)	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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$111,127	\$4,393,458
2017	124,393	\$305,214	\$317,797	\$26,625	\$229,910	\$4,584,160
2018	119,274	\$288,868	\$334,944	\$28,022	\$238,997	\$4,749,058
2019	114,186	\$273,279	\$347,574	\$29,176	\$246,855	\$4,892,443
2020	109,113	\$258,081	\$359,439	\$29,808	\$253,662	\$5,014,938
2021	104,078	\$243,231	\$372,028	\$30,439	\$259,360	\$5,115,062
2022	99,108	\$228,870	\$384,352	\$30,659	\$263,906	\$5,192,828
2023	94,205	\$215,085	\$394,555	\$30,797	\$267,341	\$5,249,901
2024	89,340	\$201,791	\$402,605	\$30,885	\$269,767	\$5,287,970
2025	84,496	\$188,764	\$411,376	\$30,936	\$271,200	\$5,305,622
2026	79,704	\$175,970	\$422,886	\$30,916	\$271,499	\$5,299,288
2036	36,966	\$71,780	\$477,444	\$23,905	\$209,417	\$3,980,657
2046	9,827	\$16,024	\$324,119	\$10,241	\$80,730	\$1,459,484
2056	1,363	\$1,856	\$114,950	\$2,090	(\$12,866)	(\$314,696)
2066	106	\$116	\$20,050	\$217	(\$62,409)	(\$1,260,997)
2076	8	\$3	\$1,197	\$9	(\$54,404)	(\$2,154,385)

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$815,448	\$5,548,362
Present Value as of June 30, 2016	\$2,678,864	\$6,633,472	\$424,380	\$3,547,086

Lower Morbidity (Future Claims Reduced by 10 Percent)

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
33.86%	\$877	126%

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
						\$4,288,346
2016	129,588	\$158,975	\$136,471	\$13,117	\$121,777	\$4,419,510
2017	124,393	\$305,214	\$284,604	\$26,627	\$254,243	\$4,667,736
2018	119,274	\$288,868	\$300,159	\$28,026	\$267,550	\$4,895,968
2019	114,186	\$273,279	\$311,662	\$29,182	\$279,834	\$5,108,237
2020	109,113	\$258,081	\$322,504	\$29,817	\$291,279	\$5,305,275
2021	104,078	\$243,231	\$334,008	\$30,451	\$301,836	\$5,485,883
2022	99,108	\$228,870	\$345,263	\$30,674	\$311,474	\$5,650,291
2023	94,205	\$215,085	\$354,598	\$30,815	\$320,245	\$5,800,208
2024	89,340	\$201,791	\$361,960	\$30,906	\$328,261	\$5,937,393
2025	84,496	\$188,764	\$369,938	\$30,961	\$335,551	\$6,060,810
2026	79,704	\$175,970	\$380,369	\$30,945	\$341,990	\$6,167,456
2036	36,966	\$71,780	\$429,659	\$23,990	\$360,160	\$6,430,036
2046	9,827	\$16,024	\$291,709	\$10,415	\$360,331	\$6,483,949
2056	1,363	\$1,856	\$103,455	\$2,399	\$480,779	\$8,790,838
2066	106	\$116	\$18,045	\$730	\$799,028	\$14,686,035
2076	8	\$3	\$1,077	\$449	\$685,700	\$24,873,430

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$13,760,717	\$830,618	\$31,052,608
Present Value as of June 30, 2016	\$2,589,405	\$5,595,974	\$405,024	\$6,242,577

Higher Morbidity (Future Claims Increased by 10 Percent)

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
(13.81%)	(\$358)	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
						\$4,288,346
2016	129,588	\$158,975	\$166,168	\$13,117	\$121,359	\$4,389,395
2017	124,393	\$305,214	\$346,677	\$26,625	\$250,761	\$4,572,067
2018	119,274	\$288,868	\$365,768	\$28,021	\$260,195	\$4,727,340
2019	114,186	\$273,279	\$379,930	\$29,175	\$268,204	\$4,859,719
2020	109,113	\$258,081	\$393,284	\$29,807	\$274,985	\$4,969,693
2021	104,078	\$243,231	\$407,435	\$30,437	\$280,462	\$5,055,515
2022	99,108	\$228,870	\$421,274	\$30,656	\$284,576	\$5,117,030
2023	94,205	\$215,085	\$432,778	\$30,794	\$287,365	\$5,155,909
2024	89,340	\$201,791	\$441,870	\$30,881	\$288,946	\$5,173,895
2025	84,496	\$188,764	\$451,697	\$30,931	\$289,332	\$5,169,362
2026	79,704	\$175,970	\$464,503	\$30,911	\$288,349	\$5,138,266
2036	36,966	\$71,780	\$525,083	\$23,885	\$197,626	\$3,392,760
2046	9,827	\$16,024	\$356,529	\$10,192	\$12,270	\$50,448
2056	1,363	\$1,856	\$126,445	\$2,090	(\$161,265)	(\$3,028,353)
2066	106	\$116	\$22,055	\$217	(\$332,854)	(\$6,132,449)
2076	8	\$3	\$1,316	\$9	(\$290,766)	(\$10,548,354)

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$16,808,462	\$814,767	(\$1,337,282)
Present Value as of June 30, 2016	\$2,589,405	\$6,832,070	\$403,269	\$3,010,854

Lapses Increased by 0.25 Percent

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 percent 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
14.20%	\$361	109%

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
						\$4,288,346
2016	129,423	\$158,850	\$151,872	\$13,110	\$121,563	\$4,403,777
2017	123,921	\$304,380	\$317,730	\$26,572	\$252,382	\$4,616,237
2018	118,521	\$287,328	\$334,659	\$27,911	\$263,572	\$4,804,568
2019	113,178	\$271,117	\$346,927	\$29,004	\$273,521	\$4,973,275
2020	107,875	\$255,376	\$358,282	\$29,576	\$282,432	\$5,123,224
2021	102,638	\$240,059	\$370,212	\$30,145	\$290,258	\$5,253,184
2022	97,489	\$225,302	\$381,752	\$30,285	\$296,965	\$5,363,413
2023	92,431	\$211,186	\$391,088	\$30,344	\$302,611	\$5,455,779
2024	87,436	\$197,622	\$398,213	\$30,353	\$307,318	\$5,532,154
2025	82,487	\$184,388	\$405,964	\$30,325	\$311,115	\$5,591,367
2026	77,611	\$171,449	\$416,329	\$30,230	\$313,863	\$5,630,121
2036	35,093	\$68,153	\$458,550	\$22,808	\$283,036	\$4,995,973
2046	9,093	\$14,821	\$303,606	\$9,585	\$208,336	\$3,682,526
2056	1,229	\$1,671	\$105,029	\$2,025	\$210,225	\$3,814,344
2066	93	\$102	\$17,867	\$400	\$325,708	\$5,981,324
2076	7	\$3	\$1,040	\$186	\$277,751	\$10,074,987

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,021,184	\$14,715,457	\$793,419	\$17,274,333
Present Value as of June 30, 2016	\$2,542,528	\$6,075,380	\$394,422	\$4,811,199

Lapses Decreased by 0.25 Percent

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 percent 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
4.93%	\$130	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
						\$4,288,346
2016	129,752	\$159,100	\$151,874	\$13,125	\$121,565	\$4,404,013
2017	124,866	\$306,049	\$317,863	\$26,681	\$252,432	\$4,617,950
2018	120,030	\$290,411	\$335,229	\$28,136	\$263,735	\$4,808,731
2019	115,201	\$275,452	\$348,223	\$29,353	\$273,838	\$4,980,445
2020	110,361	\$260,807	\$360,601	\$30,049	\$282,923	\$5,133,524
2021	105,535	\$246,436	\$373,855	\$30,745	\$290,917	\$5,266,277
2022	100,750	\$232,485	\$386,973	\$31,049	\$297,760	\$5,378,500
2023	96,008	\$219,045	\$398,059	\$31,271	\$303,487	\$5,471,703
2024	91,280	\$206,035	\$407,052	\$31,443	\$308,202	\$5,547,446
2025	86,550	\$193,230	\$416,866	\$31,577	\$311,913	\$5,604,146
2026	81,847	\$180,596	\$429,554	\$31,641	\$314,457	\$5,638,004
2036	38,934	\$75,589	\$497,104	\$25,119	\$270,704	\$4,752,014
2046	10,618	\$17,320	\$345,990	\$11,073	\$156,421	\$2,706,928
2056	1,512	\$2,061	\$125,792	\$2,372	\$94,693	\$1,679,301
2066	120	\$133	\$22,496	\$320	\$114,617	\$2,096,868
2076	9	\$3	\$1,376	\$71	\$94,953	\$3,443,752

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,230,463	\$15,917,983	\$848,021	\$11,690,947
Present Value as of June 30, 2016	\$2,637,679	\$6,382,139	\$413,891	\$4,361,835

Mortality Rates Increased by 10 Percent

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
16.74%	\$424	111%

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
						\$4,288,346
2016	129,377	\$158,773	\$151,868	\$13,108	\$121,562	\$4,403,705
2017	123,824	\$303,897	\$317,538	\$26,544	\$252,370	\$4,615,889
2018	118,401	\$286,572	\$333,941	\$27,819	\$263,551	\$4,804,252
2019	113,049	\$270,210	\$345,517	\$28,854	\$273,518	\$4,973,609
2020	107,745	\$254,387	\$356,094	\$29,394	\$282,486	\$5,124,994
2021	102,513	\$239,039	\$367,205	\$29,936	\$290,418	\$5,257,310
2022	97,374	\$224,286	\$377,964	\$30,057	\$297,284	\$5,370,858
2023	92,329	\$210,199	\$386,644	\$30,102	\$303,141	\$5,467,452
2024	87,343	\$196,670	\$393,274	\$30,102	\$308,108	\$5,548,854
2025	82,399	\$183,467	\$400,607	\$30,065	\$312,207	\$5,613,857
2026	77,526	\$170,558	\$410,563	\$29,960	\$315,300	\$5,659,191
2036	34,911	\$67,386	\$452,091	\$22,493	\$289,947	\$5,126,127
2046	8,932	\$14,427	\$297,814	\$9,322	\$225,001	\$3,991,861
2056	1,187	\$1,600	\$102,777	\$1,956	\$242,385	\$4,406,937
2066	90	\$98	\$17,408	\$428	\$382,990	\$7,035,024
2076	6	\$2	\$1,021	\$218	\$327,197	\$11,868,678

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$3,996,092	\$14,504,635	\$784,357	\$18,873,231
Present Value as of June 30, 2016	\$2,530,720	\$6,004,603	\$390,886	\$4,959,255

Mortality Rates Decreased by 10 Percent

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
1.80%	\$48	101%

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
						\$4,288,346
2016	129,796	\$159,175	\$151,878	\$13,127	\$121,566	\$4,404,083
2017	124,966	\$306,534	\$318,053	\$26,709	\$252,444	\$4,618,300
2018	120,164	\$291,205	\$335,954	\$28,231	\$263,757	\$4,809,076
2019	115,358	\$276,445	\$349,677	\$29,513	\$273,843	\$4,980,175
2020	110,533	\$261,932	\$362,903	\$30,248	\$282,872	\$5,131,828
2021	105,718	\$247,644	\$377,078	\$30,978	\$290,760	\$5,262,176
2022	100,936	\$233,733	\$391,101	\$31,311	\$297,439	\$5,370,938
2023	96,194	\$220,305	\$402,982	\$31,555	\$302,944	\$5,459,649
2024	91,468	\$207,292	\$412,616	\$31,745	\$307,381	\$5,529,961
2025	86,743	\$194,483	\$423,001	\$31,899	\$310,763	\$5,580,306
2026	82,047	\$181,844	\$436,260	\$31,981	\$312,924	\$5,606,833
2036	39,281	\$76,778	\$506,007	\$25,581	\$262,614	\$4,599,074
2046	10,903	\$17,973	\$355,420	\$11,499	\$135,522	\$2,317,946
2056	1,588	\$2,187	\$130,192	\$2,498	\$52,811	\$906,844
2066	127	\$142	\$23,562	\$291	\$39,285	\$710,925
2076	9	\$4	\$1,437	\$30	\$29,841	\$1,081,795

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,266,664	\$16,227,060	\$861,378	\$9,615,223
Present Value as of June 30, 2016	\$2,653,613	\$6,475,590	\$418,683	\$4,174,618

“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, if the discount rate and expected return were to be 0.50 percent higher or 6.25 percent, if lapse rates were to be 0.25 percent higher, if mortality rates were to be higher by 10 percent, and if morbidity rates were 10 percent lower.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
56.56%	\$1,362	147%

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
						\$4,288,346
2016	129,213	\$158,647	\$136,465	\$13,100	\$132,204	\$4,429,632
2017	123,354	\$303,066	\$284,312	\$26,492	\$276,935	\$4,698,829
2018	117,653	\$285,044	\$299,003	\$27,712	\$292,686	\$4,949,844
2019	112,051	\$268,072	\$309,237	\$28,689	\$307,461	\$5,187,451
2020	106,523	\$251,720	\$318,473	\$29,172	\$321,501	\$5,413,028
2021	101,094	\$235,920	\$328,071	\$29,656	\$334,793	\$5,626,014
2022	95,783	\$220,789	\$337,237	\$29,701	\$347,337	\$5,827,201
2023	90,590	\$206,387	\$344,449	\$29,672	\$359,220	\$6,018,688
2024	85,482	\$192,606	\$349,734	\$29,598	\$370,586	\$6,202,547
2025	80,439	\$179,213	\$355,541	\$29,489	\$381,487	\$6,378,217
2026	75,490	\$166,174	\$363,591	\$29,315	\$391,822	\$6,543,307
2036	33,142	\$63,980	\$390,810	\$21,523	\$470,652	\$7,824,349
2046	8,264	\$13,343	\$251,141	\$8,869	\$595,487	\$10,000,000
2056	1,070	\$1,441	\$84,549	\$2,191	\$950,615	\$16,118,375
2066	79	\$86	\$13,969	\$1,170	\$1,705,060	\$28,978,643
2076	6	\$2	\$799	\$916	\$1,536,291	\$51,453,236

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$3,898,540	\$12,560,134	\$779,395	\$56,605,880
Present Value as of June 30, 2016	\$2,407,418	\$4,968,434	\$365,737	\$7,864,122

“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, if the discount rate and expected return were to be 0.50 percent lower or 5.25 percent, if lapse rates were to be 0.25 percent lower, if mortality rates were to be lower by 10 percent, and if morbidity rates were 10 percent higher.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
(42.10%)	(\$1,179)	78%

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
						\$4,288,346
2016	129,960	\$159,301	\$167,392	\$13,134	\$110,934	\$4,378,054
2017	125,441	\$307,372	\$351,776	\$26,761	\$228,273	\$4,535,162
2018	120,926	\$292,761	\$371,552	\$28,341	\$235,572	\$4,663,601
2019	116,383	\$278,643	\$386,880	\$29,684	\$241,481	\$4,767,160
2020	111,798	\$264,698	\$401,798	\$30,480	\$246,149	\$4,845,728
2021	107,197	\$250,906	\$417,923	\$31,275	\$249,476	\$4,896,912
2022	102,608	\$237,424	\$434,045	\$31,690	\$251,373	\$4,919,973
2023	98,034	\$224,360	\$447,930	\$32,017	\$251,854	\$4,916,240
2024	93,454	\$211,650	\$459,459	\$32,290	\$251,008	\$4,887,149
2025	88,850	\$199,083	\$471,976	\$32,527	\$248,827	\$4,830,556
2026	84,253	\$186,624	\$487,832	\$32,691	\$245,123	\$4,741,780
2036	41,371	\$80,850	\$579,692	\$26,763	\$114,975	\$2,038,566
2046	11,781	\$19,426	\$417,465	\$12,295	(\$143,892)	(\$3,089,759)
2056	1,761	\$2,428	\$156,784	\$2,725	(\$434,250)	(\$8,783,188)
2066	144	\$162	\$29,097	\$302	(\$781,480)	(\$15,681,092)
2076	11	\$4	\$1,819	\$13	(\$647,890)	(\$25,650,112)

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,379,456	\$18,605,297	\$890,827	(\$14,821,790)
Present Value as of June 30, 2016	\$2,800,558	\$7,816,016	\$451,799	\$1,178,165

APPENDIX B

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

- SCENARIO 1 – BASE CASE..... B-1
- SCENARIO 2 – DISCOUNT RATE INCREASING 0.50 PERCENT FOR 10 YEARS..... B-2
- SCENARIO 3 – DISCOUNT RATE INCREASING 1 PERCENT FOR 5 YEARS THEN
DECREASING 1 PERCENT FOR 5 YEARS B-3
- SCENARIO 4 – DISCOUNT RATE INCREASED 3 PERCENT B-4
- SCENARIO 5 – DISCOUNT RATE DECREASING 0.50 PERCENT FOR 10 YEARS..... B-5
- SCENARIO 6 – DISCOUNT RATE DECREASING 1 PERCENT FOR 5 YEARS THEN
INCREASING 1 PERCENT FOR 5 YEARS..... B-6
- SCENARIO 7 – DISCOUNT RATE DECREASED 3 PERCENT B-7

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 same as the base scenario with a discount rate and expected return of 5.75 percent.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
9.59%	\$248	106%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$121,564	\$4,403,895
2017	124,393	\$305,214	\$317,797	\$26,626	\$252,407	\$4,617,094
2018	119,274	\$288,868	\$334,944	\$28,023	\$263,654	\$4,806,647
2019	114,186	\$273,279	\$347,574	\$29,178	\$273,679	\$4,976,853
2020	109,113	\$258,081	\$359,439	\$29,812	\$282,677	\$5,128,359
2021	104,078	\$243,231	\$372,028	\$30,443	\$290,586	\$5,259,705
2022	99,108	\$228,870	\$384,352	\$30,665	\$297,361	\$5,370,920
2023	94,205	\$215,085	\$394,555	\$30,804	\$303,047	\$5,463,693
2024	89,340	\$201,791	\$402,605	\$30,893	\$307,757	\$5,539,743
2025	84,496	\$188,764	\$411,376	\$30,945	\$311,511	\$5,597,696
2026	79,704	\$175,970	\$422,886	\$30,928	\$314,156	\$5,634,008
2036	36,966	\$71,780	\$477,444	\$23,936	\$276,954	\$4,875,697
2046	9,827	\$16,024	\$324,119	\$10,302	\$182,906	\$3,204,777
2056	1,363	\$1,856	\$114,950	\$2,189	\$153,839	\$2,772,436
2066	106	\$116	\$20,050	\$360	\$222,797	\$4,087,605
2076	8	\$3	\$1,197	\$130	\$188,648	\$6,842,662

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$820,018	\$14,549,980
Present Value as of June 30, 2016	\$2,589,405	\$6,225,350	\$403,965	\$4,591,644

Scenario 2 - Discount Rate Increasing 0.50 Percent 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
77.32%	\$1,748	169%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$121,564	\$4,403,895
2017	124,393	\$305,214	\$317,797	\$26,626	\$263,345	\$4,628,031
2018	119,274	\$288,868	\$334,944	\$28,024	\$298,698	\$4,852,629
2019	114,186	\$273,279	\$347,574	\$29,181	\$336,324	\$5,085,477
2020	109,113	\$258,081	\$359,439	\$29,817	\$376,775	\$5,331,076
2021	104,078	\$243,231	\$372,028	\$30,453	\$420,422	\$5,592,248
2022	99,108	\$228,870	\$384,352	\$30,679	\$467,748	\$5,873,836
2023	94,205	\$215,085	\$394,555	\$30,825	\$519,500	\$6,183,040
2024	89,340	\$201,791	\$402,605	\$30,923	\$576,713	\$6,528,015
2025	84,496	\$188,764	\$411,376	\$30,986	\$640,497	\$6,914,914
2026	79,704	\$175,970	\$422,886	\$30,981	\$711,904	\$7,348,919
2036	36,966	\$71,780	\$477,444	\$24,244	\$1,383,517	\$14,033,799
2046	9,827	\$16,024	\$324,119	\$11,279	\$3,117,807	\$31,959,827
2056	1,363	\$1,856	\$114,950	\$4,985	\$8,244,974	\$84,883,655
2066	106	\$116	\$20,050	\$8,209	\$22,764,844	\$234,516,783
2076	8	\$3	\$1,197	\$10,813	\$30,773,163	\$618,284,944

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$1,030,975	\$626,203,218
Present Value as of June 30, 2016	\$2,261,175	\$4,481,229	\$322,846	\$13,107,027

Scenario 3 - Discount Rate Increasing 1 Percent for 5 Years then Decreasing 1 Percent for 5 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
43.17%	\$998	130%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$121,564	\$4,403,895
2017	124,393	\$305,214	\$317,797	\$26,626	\$274,257	\$4,638,943
2018	119,274	\$288,868	\$334,944	\$28,025	\$333,879	\$4,898,721
2019	114,186	\$273,279	\$347,574	\$29,183	\$400,102	\$5,195,345
2020	109,113	\$258,081	\$359,439	\$29,822	\$474,768	\$5,538,931
2021	104,078	\$243,231	\$372,028	\$30,462	\$559,889	\$5,939,560
2022	99,108	\$228,870	\$384,352	\$30,694	\$599,983	\$6,353,367
2023	94,205	\$215,085	\$394,555	\$30,844	\$578,617	\$6,721,670
2024	89,340	\$201,791	\$402,605	\$30,943	\$545,585	\$7,035,498
2025	84,496	\$188,764	\$411,376	\$31,003	\$501,461	\$7,283,344
2026	79,704	\$175,970	\$422,886	\$30,991	\$447,085	\$7,452,522
2036	36,966	\$71,780	\$477,444	\$24,047	\$449,839	\$8,055,238
2046	9,827	\$16,024	\$324,119	\$10,496	\$485,185	\$8,763,976
2056	1,363	\$1,856	\$114,950	\$2,528	\$682,352	\$12,492,296
2066	106	\$116	\$20,050	\$954	\$1,146,863	\$21,082,080
2076	8	\$3	\$1,197	\$642	\$985,196	\$35,737,691

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$837,700	\$43,462,691
Present Value as of June 30, 2016	\$2,311,573	\$5,253,784	\$348,305	\$7,234,166

Scenario 4 – Discount Rate Increased 3 Percent

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
78.03%	\$1,681	164%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,118	\$183,678	\$4,466,008
2017	124,393	\$305,214	\$317,797	\$26,631	\$389,541	\$4,816,335
2018	119,274	\$288,868	\$334,944	\$28,033	\$418,660	\$5,160,886
2019	114,186	\$273,279	\$347,574	\$29,194	\$447,484	\$5,504,882
2020	109,113	\$258,081	\$359,439	\$29,834	\$476,388	\$5,850,077
2021	104,078	\$243,231	\$372,028	\$30,473	\$505,378	\$6,196,185
2022	99,108	\$228,870	\$384,352	\$30,702	\$534,484	\$6,544,485
2023	94,205	\$215,085	\$394,555	\$30,850	\$563,886	\$6,898,050
2024	89,340	\$201,791	\$402,605	\$30,949	\$593,877	\$7,260,164
2025	84,496	\$188,764	\$411,376	\$31,012	\$624,624	\$7,631,163
2026	79,704	\$175,970	\$422,886	\$31,006	\$656,045	\$8,009,285
2036	36,966	\$71,780	\$477,444	\$24,205	\$1,044,510	\$12,762,789
2046	9,827	\$16,024	\$324,119	\$10,990	\$1,884,055	\$23,255,910
2056	1,363	\$1,856	\$114,950	\$3,827	\$4,060,167	\$50,404,104
2066	106	\$116	\$20,050	\$4,197	\$9,306,447	\$115,653,907
2076	8	\$3	\$1,197	\$4,512	\$10,530,203	\$256,372,377

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$923,657	\$264,183,333
Present Value as of June 30, 2016	\$2,153,962	\$4,450,858	\$310,769	\$11,573,845

Scenario 5 – Discount Rate Decreasing 0.50 Percent 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.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
(112.96%)	(\$3,558)	55%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$121,564	\$4,403,895
2017	124,393	\$305,214	\$317,797	\$26,626	\$241,444	\$4,606,130
2018	119,274	\$288,868	\$334,944	\$28,023	\$228,745	\$4,760,777
2019	114,186	\$273,279	\$347,574	\$29,176	\$212,164	\$4,869,470
2020	109,113	\$258,081	\$359,439	\$29,806	\$192,408	\$4,930,713
2021	104,078	\$243,231	\$372,028	\$30,435	\$170,034	\$4,941,516
2022	99,108	\$228,870	\$384,352	\$30,651	\$145,687	\$4,901,071
2023	94,205	\$215,085	\$394,555	\$30,784	\$120,115	\$4,810,932
2024	89,340	\$201,791	\$402,605	\$30,866	\$94,106	\$4,673,357
2025	84,496	\$188,764	\$411,376	\$30,910	\$68,398	\$4,488,233
2026	79,704	\$175,970	\$422,886	\$30,883	\$43,690	\$4,254,123
2036	36,966	\$71,780	\$477,444	\$23,790	\$6,559	\$665,078
2046	9,827	\$16,024	\$324,119	\$10,184	(\$23,799)	(\$3,354,743)
2056	1,363	\$1,856	\$114,950	\$2,090	(\$42,192)	(\$5,724,204)
2066	106	\$116	\$20,050	\$217	(\$49,953)	(\$6,720,161)
2076	8	\$3	\$1,197	\$9	(\$27,194)	(\$7,293,020)

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$813,400	\$407,679
Present Value as of June 30, 2016	\$3,150,189	\$10,417,703	\$579,166	\$733,715

Scenario 6 - Discount Rate Decreasing 1 Percent for 5 Years then Increasing 1 Percent for 5 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.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin (\$ in millions)	Funded Status
(24.62%)	(\$724)	86%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$121,564	\$4,403,895
2017	124,393	\$305,214	\$317,797	\$26,626	\$230,454	\$4,595,140
2018	119,274	\$288,868	\$334,944	\$28,022	\$193,974	\$4,715,016
2019	114,186	\$273,279	\$347,574	\$29,173	\$151,774	\$4,763,323
2020	109,113	\$258,081	\$359,439	\$29,801	\$105,905	\$4,738,067
2021	104,078	\$243,231	\$372,028	\$30,426	\$58,426	\$4,637,270
2022	99,108	\$228,870	\$384,352	\$30,638	\$56,567	\$4,507,718
2023	94,205	\$215,085	\$394,555	\$30,769	\$98,834	\$4,396,313
2024	89,340	\$201,791	\$402,605	\$30,852	\$138,908	\$4,303,555
2025	84,496	\$188,764	\$411,376	\$30,899	\$177,337	\$4,227,381
2026	79,704	\$175,970	\$422,886	\$30,876	\$214,505	\$4,164,093
2036	36,966	\$71,780	\$477,444	\$23,846	\$137,209	\$2,305,657
2046	9,827	\$16,024	\$324,119	\$10,184	(\$61,430)	(\$1,288,835)
2056	1,363	\$1,856	\$114,950	\$2,090	(\$273,442)	(\$5,085,763)
2066	106	\$116	\$20,050	\$217	(\$524,456)	(\$9,655,270)
2076	8	\$3	\$1,197	\$9	(\$455,646)	(\$16,529,428)

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$813,889	(\$8,828,240)
Present Value as of June 30, 2016	\$2,939,660	\$7,475,998	\$475,869	\$1,421,500

Scenario 7 - Discount Rate Decreasing 3 Percent

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
(77.92%)	(\$2,516)	63%

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
						\$4,288,346
2016	129,588	\$158,975	\$151,873	\$13,117	\$58,563	\$4,340,895
2017	124,393	\$305,214	\$317,797	\$26,622	\$118,982	\$4,420,672
2018	119,274	\$288,868	\$334,944	\$28,014	\$120,689	\$4,467,271
2019	114,186	\$273,279	\$347,574	\$29,163	\$121,551	\$4,485,363
2020	109,113	\$258,081	\$359,439	\$29,791	\$121,669	\$4,475,881
2021	104,078	\$243,231	\$372,028	\$30,417	\$121,023	\$4,437,690
2022	99,108	\$228,870	\$384,352	\$30,632	\$119,599	\$4,371,175
2023	94,205	\$215,085	\$394,555	\$30,765	\$117,429	\$4,278,369
2024	89,340	\$201,791	\$402,605	\$30,847	\$114,577	\$4,161,285
2025	84,496	\$188,764	\$411,376	\$30,893	\$111,060	\$4,018,840
2026	79,704	\$175,970	\$422,886	\$30,867	\$106,813	\$3,847,869
2036	36,966	\$71,780	\$477,444	\$23,792	\$25,573	\$738,748
2046	9,827	\$16,024	\$324,119	\$10,184	(\$91,029)	(\$3,559,485)
2056	1,363	\$1,856	\$114,950	\$2,090	(\$186,925)	(\$7,040,745)
2066	106	\$116	\$20,050	\$217	(\$263,690)	(\$9,862,201)
2076	8	\$3	\$1,197	\$9	(\$173,123)	(\$12,850,471)

Note:

- 1- Cash flows for 2016 and 2076 are for 6 months only.
- 2- Fund balances are as of the end of the Calendar Year, except for the opening balance which is as of June 30, 2016 and the last projected fund balance which is as of June 30, 2076.

Total Sum of all cash Flows and Present Values (\$ in thousands)

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	\$4,123,811	\$15,299,456	\$813,213	(\$5,149,959)
Present Value as of June 30, 2016	\$3,228,840	\$9,472,398	\$560,623	(\$513,717)

APPENDIX C

Long-Term Care Model and Assumptions

Model

Projection results are based on 132,274 inforce participants as of June 30, 2016. CalPERS LTC business consists of facility-only and comprehensive coverage and includes a variety of elimination periods, benefit periods, and inflation coverage combinations. New optional benefits available to LTC4 policies are projected in the model, which include 3 percent simple or compound automatic inflation protection, 5 percent simple automatic inflation protection, restoration of benefits, and survivorship benefit. A summary of the model cells we used for projection purposes has been included as Appendix D. Projection results for each cell reflect output from two different models. The first model calculates the disabled life reserves and incurred but not reported claim liabilities. The second model generates base plan projections, premium waiver projections, and return-of-premium benefit projections.

Assumptions

Morbidity:

Claim Cost: The claim cost assumption is derived using the expected claim costs developed by LTCG based on industry morbidity assumptions in 2005, adjusted to the extent credible by the aggregate experience of the CalPERS Long-Term Care Program. The valuation claim cost development process is described below:

- Step 1: Develop complete inception-to-date exposure and claims.
- Step 2: Create a set of experience-based select-and-ultimate factors that vary by issue-age band, duration, issue year, and underwriting type. Manual claim costs and selection factors are used to calculate expected claim costs. Then, the actual claim costs are compared to the expected claim costs in aggregate by underwriting type and duration. Scalar adjustment factors are then applied to the manual selection factors until the expected claim costs are close to the actual claim costs. The resulting scalar adjustment factors are applied to the manual selection factors to get the experience-based selection factors.
- Step 3: Use the experience-based selection factors developed in Step 2 to adjust the actual incurred claims in Step 1 to estimate the ultimate levels. Create the ultimate experience-based claim cost tables by using the adjusted incurred claims divided by the exposure in Step 1. The ultimate claim costs vary by plan option, gender and attained age.
- Step 4: Develop the final valuation claim cost tables by credibility weighting the experience-based claim costs developed in Step 3 with the manual claim costs for attained ages between 38 and 97. Use manual claim costs for attained ages 37 and younger and 98 and older.

Claim Payment Distribution: These vary by age at claim incurral, gender, plan, benefit period, and claim duration. They were updated for this valuation to reflect emerging experience and were developed to be consistent with current liability/reserve levels.

Morbidity Improvement: Consistent with population experience and relevant actuarial documentation and practice, we assumed that future morbidity would improve for 20 years from

the valuation date. Because of the relationship between mortality and morbidity improvement, we assumed the amount of morbidity improvement would be the same as the mortality improvement, but we set the maximum morbidity improvement at 1.25 percent.

Inflation Adjustment: Appropriate morbidity adjustments are made for policies with inflation protection.

Adjustments to Reflect Individuals Already on Claim: These vary by benefit period, inflation coverage, gender, issue age and duration. They are used to adjust the assumed claim costs to be on an exposure basis consistent with that used in the projection model.

Mortality

The following is a summary of the process we utilized to determine the appropriate mortality assumption.

Generally, deaths are not consistently reported in LTC insurance, and therefore it is customary to compare the historical inforce file to a Social Security Database to properly identify those that have died rather than those that have lapsed coverage. Accurate mortality assumptions are important when projecting future terminations within a LTC block because, as the block ages, mortality becomes a greater proportion of total terminations.

The 1994 GAM industry table is used as the assumed industry level mortality assumption, and selection factors are developed based on CalPERS actual experience.

Then, actual mortality experience is compared to the expected assumption based on the 94 GAM and CalPERS selection factors to determine more refined experience-based adjustment factors that vary by attained-age for both active participants and participants on claim. These experience adjustment factors combined with the 94 GAM mortality table and CalPERS selection factors result in the CalPERS experienced-based mortality assumption.

Mortality improvement assumption development 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 to independently calculate this assumption.

In 2014, by using the May 2014 Social Security Database, actual mortality experience, and the mortality improvement work done by CalPERS actuarial staff, UHAS did a complete mortality study and made the following refinements:

- Developed two separate mortality assumptions: one for participants not on claim, and one for those on claim;
- Revised selection factors based on CalPERS actual mortality experience; and
- Adopted the Pension Scale BB as the mortality improvement assumption for CalPERS LTC.

For the 2016 valuation, we assumed the same mortality assumption as used in the 2014 valuation.

The following were used for all projection cells as the assumed mortality:

- 1994 GAM table along with the Pension Scale BB as the mortality improvement factors used for the next twenty years.
- Selection factors by policy year as follows:
 - Policy Year 1: 0.35
 - Policy Year 2: 0.46
 - Policy Year 3: 0.55
 - Policy Year 4: 0.60
 - Policy Year 5: 0.62
 - Policy Year 6: 0.66
 - Policy Year 7+: 0.72

Lapse

Using actual total termination experience and the mortality assumptions described above, the lapse assumptions are developed. Starting with the actual total termination experience including both voluntary lapses and deaths, the revised assumed mortality is backed out to review actual voluntary lapse rates. The revised lapse assumptions are then developed to correspond to the observed actual lapses.

The following assumed voluntary lapse rates were used for all projection cells:

Policy Year	Age Group					
	<40	40-49	50-59	60-69	70-79	80+
1	4.7%	3.3%	2.7%	2.1%	2.2%	2.8%
2	3.6%	2.3%	1.9%	1.3%	1.3%	2.8%
3	3.5%	1.9%	1.5%	1.1%	1.3%	2.3%
4	2.8%	1.7%	1.3%	0.9%	1.3%	1.7%
5	2.8%	1.7%	1.2%	0.9%	1.3%	1.7%
6	2.8%	1.6%	1.2%	0.9%	1.3%	1.7%
7	2.8%	1.6%	1.2%	0.9%	1.3%	1.7%
8	2.8%	1.6%	1.2%	0.9%	1.3%	1.7%
9	2.4%	1.6%	1.0%	0.9%	1.3%	1.7%
10	2.4%	1.6%	0.9%	0.9%	1.3%	1.7%
11	2.3%	1.4%	0.9%	0.9%	1.1%	1.7%
12	2.3%	1.4%	0.8%	0.9%	1.1%	1.7%
13	2.3%	1.4%	0.8%	0.9%	1.1%	1.7%
14+	2.3%	1.2%	0.8%	0.9%	1.1%	1.7%

Expenses

We used the following expense assumptions:

- The Third Party Administration (TPA) costs reflect the new five year contract with LTCG which started effective in 2013. For expenses after the five year contract, we increased all non-claim expense items using an annual inflation rate of 2.75 percent.
- The administration cost in the new administration contract with LTCG is based on per participant per month. After the five year period, the administration fees are switched back to claim adjudication costs which are consistent with past valuation costs associated with claims.
- Starting in January 2019, we reduced the inflated fixed dollar fees by the ratio of current premium to the prior year premium. The intent of this is to adjust for the fact that if the Program volume declines, expenses would need to decline as well.
- We assumed CalPERS non-TPA expenses would be \$499,569 per month through December of 2016 and increase 2.75 percent for inflation each January thereafter.
- A new option for participants allowing one-time premium payments using credit cards has been available in 2014. The credit card fee assumes that each year 1.0 percent of participants will use a credit card to pay their premiums at a cost of 3 percent of premium resulting in a total 0.03 percent of premium annual expense fee for credit cards.

Discount Rate

We assumed 5.75 percent discount rate for all projection years.

Rate Increase Related Assumptions:

Since the plan conversion change letters were received for the second 36 percent rate increase in 2016 respectively, we used the actual conversions in the projection and assumed no shock lapses for the 2016 rate increase. There is only one assumption that is related to the rate increase which is the anti-selection factors.

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.

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 two times the shock lapse and grade down to 0 percent over 10 years. This anti-selection factor development is consistent with the 2013 and 2014 assumed rates.

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

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

LTC1, Lifetime, Inflation Receiving the 85% Premium Rate Increase Anti-Selection Factors Related to Shock Lapse and Conversions		
Selection Period	Calendar Year	Base Scenario
1	2016	1.209
2	2017	1.182
3	2018	1.154
4	2019	1.127
5	2020	1.100
6	2021	1.073
7	2022	1.046
8	2023	1.020
9	2024	1.008
10	2025	1.002
11+	2026+	1.000

LTC2, Lifetime, Inflation Receiving the 85% Premium Rate Increase Anti-Selection Factors Related to Shock Lapse and Conversions		
Selection Period	Calendar Year	Base Scenario
1	2016	1.181
2	2017	1.159
3	2018	1.137
4	2019	1.115
5	2020	1.094
6	2021	1.072
7	2022	1.051
8	2023	1.030
9	2024	1.011
10	2025	1.001
11+	2026+	1.000

All Other Plans Receiving the 85% Premium Rate Increase Anti-Selection Factors Related to Shock Lapse		
Selection Period	Calendar Year	Base Scenario
1	2016	1.030
2	2017	1.026
3	2018	1.022
4	2019	1.018
5	2020	1.014
6	2021	1.010
7	2022	1.006
8	2023	1.002
9	2024	1.000
10+	2025+	1.000

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

LTC1, 10-year Benefit Increase Option Selection factors		
Selection Period	Calendar Year	Base Scenario
1	2016	0.844
2	2017	0.864
3	2018	0.884
4	2019	0.904
5	2020	0.924
6	2021	0.944
7	2022	0.964
8	2023	0.984
9	2024	0.993
10	2025	0.999
11+	2026+	1.000

LTC2, 10-year Benefit Increase Option Selection factors		
Selection Period	Calendar Year	Base Scenario
1	2016	0.827
2	2017	0.847
3	2018	0.867
4	2019	0.887
5	2020	0.907
6	2021	0.927
7	2022	0.947
8	2023	0.967
9	2024	0.987
10	2025	0.998
11+	2026+	1.000

APPENDIX D

Summary of Model Cells

CalPERS LTC Program
Summary of Model Cells Included in 6/30/2016 Projection¹

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Expected Annual Premium
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	No Inflation	LF	8,127	14,009,810
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	No Inflation	MGI	2,441	2,933,553
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	No Inflation	SF	2,164	2,659,651
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	Inflation	LF	2,136	6,907,603
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	Inflation	MGI	810	1,930,094
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	Inflation	SF	677	1,705,667
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	No Inflation	LF	8,377	14,162,888
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	No Inflation	MGI	4,237	5,455,872
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	No Inflation	SF	3,724	4,769,058
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	Inflation	LF	1,189	4,256,443
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	Inflation	MGI	687	1,845,979
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	Inflation	SF	610	1,855,335
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90 Day EP	No Inflation	LF	9,345	24,464,746
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90 Day EP	No Inflation	MGI	4,277	9,730,395
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90 Day EP	No Inflation	SF	3,710	8,191,936
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	No Inflation	LF	3,002	11,548,936
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	No Inflation	MGI	2,273	5,562,223
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	No Inflation	SF	1,517	3,761,867
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	Inflation	LF	9,730	54,142,441
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	Inflation	MGI	7,613	32,378,151
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	Inflation	SF	5,156	23,018,147
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	No Inflation	LF	4,276	5,899,048
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	No Inflation	MGI	822	756,572
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	No Inflation	SF	792	765,793
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	Inflation	LF	903	2,450,005
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	Inflation	MGI	285	538,756
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	Inflation	SF	276	555,758
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	No Inflation	LF	3,194	5,070,059
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	No Inflation	MGI	680	757,362
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	No Inflation	SF	782	858,493
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	Inflation	LF	255	834,967
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	Inflation	MGI	78	195,503
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	Inflation	SF	131	344,100
LTC1	Facilities Only		50% ALF	10 Year	90 Day EP	No Inflation	LF	2,707	6,354,495
LTC1	Facilities Only		50% ALF	10 Year	90 Day EP	No Inflation	MGI	665	1,155,428
LTC1	Facilities Only		50% ALF	10 Year	90 Day EP	No Inflation	SF	798	1,369,625
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	No Inflation	LF	1,105	3,431,490
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	No Inflation	MGI	271	529,617
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	No Inflation	SF	223	446,924
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	Inflation	LF	2,013	9,698,465
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	Inflation	MGI	729	2,579,655
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	Inflation	SF	748	2,601,270
LTC1	Partnership	50% HHC	50% ALF	1 Year	30 Day EP	Inflation	LF	1,087	1,199,551
LTC1	Partnership	50% HHC	50% ALF	1 Year	30 Day EP	Inflation	MGI	315	210,947
LTC1	Partnership	50% HHC	50% ALF	1 Year	30 Day EP	Inflation	SF	262	177,634
LTC1	Partnership	50% HHC	50% ALF	2 Year	30 Day EP	Inflation	LF	1,677	2,948,606
LTC1	Partnership	50% HHC	50% ALF	2 Year	30 Day EP	Inflation	MGI	512	599,925
LTC1	Partnership	50% HHC	50% ALF	2 Year	30 Day EP	Inflation	SF	563	617,572
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30 Day EP	Inflation	LF	93	86,429
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30 Day EP	Inflation	MGI	17	8,555
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30 Day EP	Inflation	SF	9	5,306
LTC1 Subtotal								108,070	288,338,705

Abbreviation Description
ALF Assisted Living Facility
HHC Home Health Care

LF U/W Long From Underwriting
MGI U/W Modified Guaranteed Issue Underwriting
SF U/W Short Form Underwriting

Note:

1- Model cells include all inforce data as of June 30, 2016. All benefits including selected optional benefits are valued in the projection except Benefit Increase Options.

CalPERS LTC Program
Summary of Model Cells Included in 6/30/2016 Projection¹

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Expected Annual Premium
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	No Inflation	LF	1,365	2,029,401
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	No Inflation	MGI - Conversions	9	15,514
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	No Inflation	SF - Conversions	9	12,259
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	Inflation	LF	294	1,024,782
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	Inflation	MGI - Conversions	2	7,667
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	Inflation	SF - Conversions	3	15,850
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	No Inflation	LF	1,317	2,136,879
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	No Inflation	MGI - Conversions	19	35,352
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	No Inflation	SF - Conversions	16	30,136
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	Inflation	LF	28	111,190
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	Inflation	SF - Conversions	1	5,680
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90 Day EP	No Inflation	LF	1,483	3,373,868
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90 Day EP	No Inflation	MGI - Conversions	10	23,105
LTC2	Comprehensive	50% HHC	70% ALF	10 Year	90 Day EP	No Inflation	SF - Conversions	10	25,612
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	LF	774	2,250,841
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	MGI - Conversions	6	14,810
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	SF - Conversions	5	16,166
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	Inflation	LF	1,320	6,870,995
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	9	67,856
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	Inflation	SF - Conversions	10	52,756
LTC2	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	LF	290	329,503
LTC2	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	LF	48	139,182
LTC2	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	LF	244	306,793
LTC2	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	LF	13	41,673
LTC2	Facilities Only		70% ALF	10 Year	90 Day EP	No Inflation	LF	239	396,230
LTC2	Facilities Only		70% ALF	10 Year	90 Day EP	No Inflation	MGI - Conversions	1	2,761
LTC2	Facilities Only		70% ALF	10 Year	90 Day EP	No Inflation	SF - Conversions	1	1,542
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	No Inflation	LF	70	195,899
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	LF	157	565,790
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	1	8,989
LTC2	Partnership	50% HHC	70% ALF	1 Year	30 Day EP	Inflation	LF	81	100,262
LTC2	Partnership	50% HHC	70% ALF	2 Year	30 Day EP	Inflation	LF	152	294,189
LTC2	Partnership	50% HHC	70% ALF	6 Mo	30 Day EP	Inflation	LF	9	8,189
LTC2 Subtotal								7,996	20,511,720

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

Note:

1- Model cells include all inforce data as of June 30, 2016. All benefits including selected optional benefits are valued in the projection except Benefit Increase Options.

CalPERS LTC Program
Summary of Model Cells Included in 6/30/2016 Projection¹

Product Series	Plan Type	HHC	ALF	Benefit Period	Elimination Period	Inflation	Underwriting Type	Policy Count	Expected Annual Premium
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	No Inflation	LF	773	1,092,460
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	No Inflation	MGI - Conversions	62	61,530
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	No Inflation	SF - Conversions	45	32,503
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	Inflation	LF	2,090	4,201,062
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	Inflation	MGI - Conversions	332	452,609
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	Inflation	SF - Conversions	365	538,489
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	No Inflation	LF	2,459	4,140,734
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	No Inflation	MGI - Conversions	582	647,573
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	No Inflation	SF - Conversions	448	528,478
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	Inflation	LF	2,351	6,217,556
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	Inflation	MGI - Conversions	447	883,074
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	Inflation	SF - Conversions	406	861,443
LTC3	Comprehensive	70% HHC	70% ALF	10 Year	90 Day EP	No Inflation	LF	5	9,166
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	LF	1,029	2,140,719
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	MGI - Conversions	21	51,910
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	SF - Conversions	15	29,622
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	Inflation	LF	1,107	4,073,359
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	8	45,812
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	Inflation	SF - Conversions	6	21,633
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	LF	247	314,364
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	MGI - Conversions	15	10,925
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	SF - Conversions	19	11,090
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	LF	477	839,644
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	MGI - Conversions	61	74,083
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	SF - Conversions	115	153,023
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	LF	669	999,188
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	MGI - Conversions	65	58,622
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	SF - Conversions	88	80,805
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	LF	178	418,009
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	MGI - Conversions	15	30,440
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	SF - Conversions	24	47,223
LTC3	Facilities Only		70% ALF	Lifetime	90 Day EP	No Inflation	LF	146	242,416
LTC3	Facilities Only		70% ALF	Lifetime	90 Day EP	No Inflation	MGI - Conversions	1	4,259
LTC3	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	LF	173	434,667
LTC3	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	1	1,521
LTC3	Partnership	70% HHC	70% ALF	1 Year	30 Day EP	Inflation	LF	35	52,511
LTC3	Partnership	70% HHC	70% ALF	2 Year	30 Day EP	Inflation	LF	64	146,622
LTC3 Subtotal								14,944	29,949,145
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90 Day EP	No Inflation	LF	59	118,017
LTC4	Comprehensive	100% HHC	100% ALF	3 Year	90 Day EP	Inflation	LF	531	1,329,123
LTC4	Comprehensive	100% HHC	100% ALF	6 Year	90 Day EP	No Inflation	LF	47	136,998
LTC4	Comprehensive	100% HHC	100% ALF	6 Year	90 Day EP	Inflation	LF	381	1,165,732
LTC4	Comprehensive	100% HHC	100% ALF	10 Year	90 Day EP	No Inflation	LF	46	148,150
LTC4	Comprehensive	100% HHC	100% ALF	10 Year	90 Day EP	Inflation	LF	177	629,058
LTC4	Partnership	100% HHC	100% ALF	1 Year	30 Day EP	No Inflation	LF	3	7,734
LTC4	Partnership	100% HHC	100% ALF	2 Year	30 Day EP	Inflation	LF	20	79,381
LTC4 Subtotal								1,264	3,614,191
Grand Total								132,274	342,413,761

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

Note:
1- Model cells include all inforce data as of June 30, 2016. All benefits including selected optional benefits are valued in the projection except Benefit Increase Options.

APPENDIX E

Demographic Information

Data

We relied on the inforce data and claim information supplied by the third party administrator LTCG. We have evaluated that data for reasonableness and consistency. The principal materials upon which we relied were provided by LTCG and internal financial reports include:

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

The Actuarial Valuation considers the number 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 132,274 inforce participants with an average attained age of 72.4 and an average duration of 17.

Inforce Participants as of 6/30/2016 - Demographics and Selected Benefit Options

The following distributions for all inforce participants as of June 30, 2016 are included in Appendix E:

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

**CalPERS LTC Program
Distributions of Business Inforce as of 6/30/2016
with Adjustments Reflecting Conversions as of 7/31/2016**

By Benefit Period and Elimination Period

Benefit Period	Elimination Period	Policy Count	Percent	Expected Annual Premium	Percent
6 Month	30 Day	129	0%	110,544	0%
1 Year	30 Day	1,782	1%	1,746,574	1%
2 Year	30 Day	2,988	2%	4,686,294	1%
3 Year	90 Day	30,920	23%	54,406,580	16%
6 Year	90 Day	33,742	26%	61,736,013	18%
10 Year	90 Day	23,474	18%	62,608,622	18%
Lifetime	90 Day	39,239	30%	157,119,135	46%
Total		132,274	100%	342,413,761	100%

By Issue-Age Band and Gender

Issue-Age Band	Policy Count				Expected Annual Premium			
	Females	Males	Total	Percent	Females	Males	Total	Percent
< 30	417	228	645	0%	489,490	282,597	772,087	0%
30-39	4084	2437	6,521	5%	5,997,748	3,580,465	9,578,213	3%
40-44	5634	3073	8,707	7%	9,806,565	5,335,162	15,141,727	4%
45-49	10720	5815	16,535	13%	21,501,778	11,762,612	33,264,390	10%
50-54	16191	9543	25,734	19%	36,496,967	21,488,704	57,985,671	17%
55-59	17631	11486	29,117	22%	45,730,764	30,146,066	75,876,830	22%
60-64	13722	10218	23,940	18%	40,447,619	30,459,346	70,906,965	21%
65-69	8025	5807	13,832	10%	27,708,574	20,233,968	47,942,542	14%
70-74	3634	2005	5,639	4%	14,725,272	8,102,434	22,827,706	7%
75-79	1029	400	1,429	1%	5,004,732	1,954,356	6,959,088	2%
80-84	137	33	170	0%	912,238	212,241	1,124,478	0%
85-89	5	0	5	0%	34,063	0	34,063	0%
90-94	0	0	0	0%	0	0	0	0%
95+	0	0	0	0%	0	0	0	0%
Total	81,229	51,045	132,274	100%	208,855,811	133,557,951	342,413,761	100%

By Attained Age and Gender

Attained Age	Policy Count				Expected Annual Premium			
	Females	Males	Total	Percent	Females	Males	Total	Percent
<30	21	11	32	0%	17,153	10,141	27,294	0%
34	7	0	7	0%	8,904	0	8,904	0%
35	6	2	8	0%	8,871	2,067	10,938	0%
36	28	15	43	0%	31,208	16,407	47,616	0%
37	37	26	63	0%	40,518	33,157	73,675	0%
38	12	7	19	0%	15,858	5,658	21,516	0%
39	23	10	33	0%	26,316	13,677	39,993	0%
40	53	30	83	0%	59,974	32,216	92,190	0%
41	47	30	77	0%	53,822	42,176	95,997	0%
42	59	43	102	0%	81,482	61,781	143,264	0%
43	97	46	143	0%	139,576	66,720	206,296	0%
44	75	50	125	0%	93,562	62,313	155,874	0%
45	76	54	130	0%	96,993	70,327	167,321	0%
46	111	70	181	0%	132,906	89,878	222,784	0%
47	154	82	236	0%	229,684	134,352	364,036	0%
48	229	170	399	0%	362,469	245,563	608,032	0%
49	390	241	631	0%	565,402	350,126	915,528	0%
50	480	297	777	1%	700,388	445,410	1,145,799	0%
51	428	260	688	1%	631,042	394,632	1,025,675	0%
52	456	270	726	1%	712,185	414,267	1,126,452	0%
53	488	328	816	1%	843,452	539,214	1,382,666	0%
54	880	515	1395	1%	1,430,265	808,852	2,239,117	1%
55	1433	765	2198	2%	2,172,160	1,208,740	3,380,900	1%
56	1032	587	1619	1%	1,673,408	922,186	2,595,594	1%
57	747	439	1186	1%	1,279,679	755,696	2,035,375	1%
58	801	425	1226	1%	1,446,634	803,562	2,250,195	1%
59	1008	549	1557	1%	1,852,551	1,057,830	2,910,382	1%
60	1943	1036	2979	2%	3,521,849	1,801,835	5,323,684	2%
61	2271	1215	3486	3%	4,186,455	2,196,022	6,382,476	2%
62	1958	1067	3025	2%	3,841,683	2,193,836	6,035,519	2%
63	1456	774	2230	2%	3,048,213	1,681,672	4,729,884	1%
64	1735	988	2723	2%	3,624,995	2,167,833	5,792,828	2%
65	3106	1823	4929	4%	6,295,792	3,767,152	10,062,945	3%
66	4137	2382	6519	5%	8,920,284	4,993,134	13,913,418	4%
67	3094	1950	5044	4%	6,899,557	4,348,909	11,248,466	3%
68	2058	1303	3361	3%	4,935,121	3,182,140	8,117,261	2%
69	2306	1444	3750	3%	5,528,162	3,562,752	9,090,914	3%
70	4372	2638	7010	5%	10,307,698	6,364,151	16,671,849	5%
71	4382	2763	7145	5%	10,815,002	6,781,696	17,596,698	5%
72	3302	2126	5428	4%	8,472,157	5,534,248	14,006,405	4%
73	1850	1299	3149	2%	5,031,417	3,606,346	8,637,764	3%
74	2119	1485	3604	3%	5,971,927	4,220,962	10,192,889	3%
75	3551	2425	5976	5%	9,503,623	6,639,996	16,143,619	5%
76	4324	2697	7021	5%	11,801,848	7,654,784	19,456,632	6%
77	2729	1820	4549	3%	7,770,195	5,380,725	13,150,919	4%
78	1125	923	2048	2%	3,509,445	2,837,716	6,347,161	2%
79	1472	1122	2594	2%	4,475,070	3,367,610	7,842,680	2%
80	2593	1921	4514	3%	7,657,207	5,729,805	13,387,012	4%
81	3293	2346	5639	4%	10,012,905	7,083,980	17,096,885	5%
82	2370	1655	4025	3%	7,885,181	5,374,381	13,259,563	4%
83	570	452	1022	1%	1,980,064	1,606,277	3,586,341	1%
84	924	698	1622	1%	3,286,791	2,427,649	5,714,440	2%
85	1686	1169	2855	2%	5,767,186	4,088,687	9,855,873	3%
86	1923	1285	3208	2%	6,855,691	4,619,491	11,475,182	3%
87	1667	1083	2750	2%	6,198,260	4,057,676	10,255,935	3%
88	290	169	459	0%	1,246,172	681,648	1,927,820	1%
89	489	243	732	1%	1,976,898	980,044	2,956,942	1%
90	784	389	1173	1%	3,140,315	1,497,195	4,637,510	1%
91	864	421	1285	1%	3,542,353	1,749,401	5,291,754	2%
92	612	354	966	1%	2,663,979	1,533,587	4,197,566	1%
93	118	36	154	0%	609,664	166,513	776,177	0%
94	124	41	165	0%	597,579	186,181	783,759	0%
95	173	73	246	0%	885,321	346,480	1,231,801	0%
96	157	60	217	0%	691,764	311,408	1,003,172	0%
97	79	41	120	0%	431,096	216,218	647,314	0%
98	13	1	14	0%	71,655	2,903	74,558	0%
99+	32	6	38	1%	188,773	27,962	216,735	0%
Total	81,229	51,045	132,274	100%	208,855,811	133,557,951	342,413,761	100%

By Plan Type

Plan Type	Policy Count	Percent	Expected Annual Premium	Percent
Partnership (Comprehensive)	4,899	4%	6,543,412	2%
Comprehensive	102,284	77%	282,968,324	83%
Facilities Only	25,091	19%	52,902,026	15%
Total	132,274	100%	342,413,761	100%

By Inflation

Inflation	Policy Count	Percent	Expected Annual Premium	Percent
No Inflation	86,360	65%	167,410,745	49%
Inflation	45,914	35%	175,003,016	51%
Total	132,274	100%	342,413,761	100%

By Marital Status at time of Issue

Marital Status	Gender	Policy Count	Percent	Expected Annual Premium	Percent
Married	F	50,207	38%	122,164,188	36%
Married	M	40,638	31%	104,568,054	31%
Divorced	F	11,035	8%	28,316,981	8%
Divorced	M	2,956	2%	8,236,338	2%
Single	F	9,633	7%	24,605,023	7%
Single	M	4,587	3%	11,840,830	3%
Widowed	F	9,803	7%	32,371,048	9%
Widowed	M	2,122	2%	7,123,801	2%
Unknown	F	545	0%	1,389,181	0%
Unknown	M	735	1%	1,777,141	1%
Separated	F	6	0%	9,390	0%
Separated	M	7	0%	11,787	0%
Total		132,274	100%	342,413,761	100%

By Marital Status

Marital Status	Policy Count	Percent	Expected Annual Premium	Percent
Married	90,845	69%	226,732,242	66%
Other	41,429	31%	115,681,519	34%
Total	132,274	100%	342,413,761	100%

By Premium Mode

Premium Mode	Policy Count	Percent	Expected Annual Premium	Percent
Monthly	100,718	76%	267,598,106	78%
Quarterly	24,384	18%	55,701,489	16%
Semi-Annually	4,182	3%	10,755,438	3%
Annually	2,990	2%	8,358,728	2%
Total	132,274	100%	342,413,761	100%

By Underwriting Type

Underwriting Type	Policy Count	Percent	Expected Annual Premium	Percent
LF	80,167	61%	216,578,318	63%
MGI	28,379	21%	69,667,000	20%
SF	23,728	18%	56,168,444	16%
Total	132,274	100%	342,413,761	100%

By Product Series

Product Series	Policy Count	Percent	Expected Annual Premium	Percent
LTC 1	108,070	82%	288,338,705	84%
LTC 2	7,996	6%	20,511,720	6%
LTC 3	14,944	11%	29,949,145	9%
LTC 4	1,264	1%	3,614,191	1%
Total	132,274	100%	342,413,761	100%

APPENDIX F

Glossary of Terms

Glossary of Terms

Anti-Selection - Individuals who let their policies lapse because of special events (see “Shock Lapses”) are usually in better health. Participants do 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 is paid each day an insured is on claim. If less than the maximum daily benefit amount is paid, the length of time that a claimant would receive benefits would be greater than this time period.

Claim Costs - Product of the expected claims frequency (incidence) and the expected average claim (severity) based on assumed continuance.

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

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

Conversion - The voluntary election to switch/reduce coverage, sometimes as a 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 over time as more data accumulates.

Credibility-Weighted Claim Costs - When actual claim costs from a block of business are not fully credible, data from outside inputs (such as national data sources) are used to supplement the block’s experience. A percentage of each source of claim costs is used such that the two percentages add to 100 percent. The percentage of actual block experience used is based on the credibility of that block, and the remaining percentage would be attributed to the outside input. For CalPERS, the percentages are split between experience-based claim costs and manual claim costs (i.e., LTC insurance industry data).

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, a positive number represents a surplus. 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.

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

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 percent. 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 participants that could start a claim over a specified time period (i.e., frequency of claim).

Incurred Claims - Incurred claims are made up of paid claims plus a reserve representing the assumed continuance of claims on known claimants which have yet to be paid as well as claims that have begun on unknown claimants but have not yet been reported. The amount of the latter unpaid claims is referred to as the IBNR (Incurred But Not Reported) Reserve.

Inflation Coverage - An optional feature that increases the amount of available benefits over time in order 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 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 the Home Health Care (HHC) and Assisted Living Facility (ALF) care that are 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%) / 50% HHC
LTC2 (2003) - NH (100%) / ALF (70%) / 50% HHC
LTC3 (2005) - NH (100%) / ALF (70%) / 70% HHC
LTC4 (2014) - NH (100%) / ALF (100%) / 100% HHC

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

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

Mortality - The rate of incidence of death.

Partnership Plan - A collaboration or “partnership” between 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 private funding of LTC services and thereby reducing Medicaid payments for LTC. The advantage of the partnership plan for a participant is that once his/her insurance coverage is exhausted, his/her 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 or (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 3 years or 6 years.

Return of Premium or (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 plans.

Selection Factors - Factors used to adjust attained age or ultimate claim costs to levels reflecting recent underwriting/issue, therefore reducing (in general) claim costs 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 a surviving spouse or partner will be paid up if one spouse or partner dies after each 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 sign up for this optional benefit.

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

Ultimate Claim Costs (Factors) - Also referred to as attained-age claim costs; it represents the claim costs after underwriting selection wears off.

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:

- MGI - Modified Guaranteed Issue; limited underwriting for younger applicants actively at work.
- SF - Short Form; simplified application process with limited medical evaluation for younger applicants.
- LF - Long Form; considered “full underwriting” due to the comprehensive nature of medical questions asked and the associated underwriting process.

Currently, CalPERS only uses the long form of application for underwriting and has done so since 2002.

Voluntary Lapsation - When a participant chooses to terminate his/her policy of his/her own volition - not due to death or other limitation on renewing contained within the policy.

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