Agenda Item 5
Attachment 1

Long-Term Care Actuarial Valuation

As of June 30, 2013

CALIFORNIA PUBLIC EMPLOYEES' RETIREMENT SYSTEM

Long-Term Care Actuarial Valuation as of June 30, 2013

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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, 2013. 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.

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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, 2013 for the CalPERS Long-Term Care Program. This is the first Long-Term Care valuation report prepared internally by CalPERS actuarial staff. Prior actuarial valuations were performed by outside actuarial firms retained by CalPERS. The June 30, 2012 actuarial valuation was prepared by United Health Actuarial Services, Inc. (UHAS). UHAS assisted in the preparation of this valuation ensuring our valuation results were consistent with theirs.

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. For more details on the impact of these changes, please refer to page 12 under "Reconciliation to Prior Valuation Results."

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 experiences 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 assumptions used 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, 2013. For information about the sensitivity of actuarial assumptions on the valuation results, please refer to the "Risk Analysis" section.

Purpose of the Report

The June 30, 2013 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, 2013 and expected future premium levels are sufficient to provide the future benefits
- Provide actuarial information as of June 30, 2013 to the CalPERS Board of Administration and other interest parties
- Provide information as of June 30, 2013 to be used in CalPERS financial statements

Use of this report for other purposes may be inappropriate.

Funded Status and Margin for the Program

As of June 30, 2012, the funded status for the Long-Term Care Program was 96 percent and the margin was negative 4.66 percent. As a result of the Stabilization Plan approved by CalPERS Board in October 2012, the funded status and the margin have increased over the last year. The funded status as of June 30, 2013 is now 123 percent and the margin is 19.66 percent based on the best estimate assumptions. The table below shows the funded status and margin/(deficit) as of June 30, 2013.

Funded Status and Margin as of June 30, 2013

Component	($ in Millions)
1. Present Value of Future Benefits	$6,110
2. Present Value of Future Expenses	$353
3. Present Value of Future Premiums (PVFP)	$3,455
4. Valuation Liabilities (= 3 – 1 – 2)	($3,008)
5. Valuation Assets	$3,687
6. Valuation Margin (= 5 + 4)	$679
7. Margin as a % of PVFP (= 6 / 3)	19.66%
8. Funded Status (= 5 / 4)	123%

The funded status and margin/(deficit) have fluctuated greatly over the last few years as a result of plan experience, the investment return assumption changes in 2010 and 2012, and premium rate adjustment in 2010 and 2013. 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).

5 Year History of Funded Status and Margin

Valuation Date	Funded Status	Margin
June 30, 2009	73%	(32.60%)
June 30, 2010	97%	(2.98%)
June 30, 2011	127%	23.14%
June 30, 2012	96%	(4.66%)
June 30, 2013	123%	19.66%

Key Findings

The following are the key findings from this actuarial valuation:

- The funded status improved from 96 percent on June 30, 2012 to 123 percent on June 30, 2013 while the Program went from a deficit of 4.66 percent to a margin of 19.66 percent. The main reason for these increases is the Stabilization Plan that was adopted by the CalPERS Board in October of 2012.
- In developing the Stabilization Plan adopted by the CalPERS Board to reach a margin of 10 percent for the Program, an assumption was made that 10 percent of current participants would convert to a less expensive policy. The actual conversion rate has been as high as 28 percent for a subset of participants that were offered a conversion option in 2013. This higher than expected conversion resulted in an improvement to both the margin and funded status, but not as high as expected. This is because the actual conversion was not evenly distributed between all ages and was concentrated more in ages where less savings could be achieved.
- The Program suffered an investment loss during 2012-13 fiscal year as a result of an investment return of 3.4 percent, which was lower than the assumed 5.75 percent discount rate assumption. The investment income was less than expected by $83,704,677 and resulted in a decrease to both the funded status and margin.
- 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. CalPERS has historically experienced very minimal shock lapses from rate increases, and this trend has continued for the announced 2015-16 premium rate increase.

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 experiences. In this valuation, we made minor changes to the morbidity, lapse rates and expense assumptions as well as changes to the conversion rates to better reflect actual experience over the last 12 months and expected long-term trends. 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 details in Appendix C.

Premiums and Policies

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. The ongoing 5 percent rate increase was stopped. LTC1 and LTC2 participants with the lifetime benefit period or inflation protection will receive an 85 percent rate increase in 2015. The 85 percent rate increase will be implemented over two years, with a 36 percent rate increase in 2015 and 2016 respectively. Participants will be given different options to pay the rate increase or convert to another benefit coverage plan. Participants who are not subject to the 5 percent rate increase in 2013 but are subject to the 85 percent rate increase in 2015 will be given the options to convert to another benefit coverage plan to avoid the 85 percent rate increase as early as in spring 2014. This was taken into consideration in the valuation projection.

Subsequent Events

There were no known events that would impact the result of this valuation as of the time of preparing this report. The actuarial valuation report as of June 30, 2013 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, 2013, compared to June 30, 2012. 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	6/30/2013 ($ in Millions)	6/30/2012 ($ in Millions)
1. Present Value of Future Benefits	$6,110	$6,693
2. Present Value of Future Expenses	$353	$371
3. Present Value of Future Premiums (PVFP)	$3,455	$3,425
4. Valuation Liabilities (= 3 – 1 – 2)	($3,008)	($3,639)
5. Valuation Assets	$3,687	$3,479
6. Valuation Margin (= 5 + 4)	$679	($160)
7. Margin as a % of PVFP (= 6 / 3)	19.66%	(4.66%)
8. Funded Status (= 5 / 4)	123%	96%

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, 2013 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, 2012 and June 30, 2013, the Long-Term Care Program went from a deficit of 4.66 percent to a margin of 19.66 percent. Several factors impacted the margin either positively or negatively during the fiscal year. The Stabilization Plan that was adopted by the CalPERS Board in October of 2012 had the biggest positive impact on the margin. The Program suffered an investment loss during 2012-13 fiscal as a result of an investment return of 3.4 percent, which was lower than the assumed 5.75 percent discount rate assumption. The lower than expected return resulted in a decrease in the margin. The Program had a slight demographic experience loss. This loss was due to more policies on claim, compared to the prior year, causing an increase in disabled life reserves. Adjustments were made to the actuarial assumptions, specifically changes to the morbidity, lapse rates, expense assumptions, and the conversion rates to better reflect actual experience over the last 12 months. 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	Results In Millions
Margin as of 6/30/12:	(4.66%)	($159.70)
Demographic Experience Loss	(0.36%)	($8.53)
Investment Loss for FY 2012-2013	(2.17%)	($83.70)
Stabilization Plan adopted by the Board	27.43%	$976.53
Revised Assumptions	(1.13%)	($54.69)
Other Including Model Change	0.55%	$9.21
Margin as of 6/30/13:	19.66%	$679.12

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 2013 valuation.

Discount Rate

The discount rate used in this valuation represents the expected long-term rate of return, based on CalPERS investment policy. For valuation purposes, the discount rate is 5.75 percent net of investment expenses. The rate was approved by the Board in April 2012. 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 an investment loss during the fiscal year ended June 30, 2013 since the actual return for the year was lower than the discount rate assumption. The actual return was about 3.4 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 2012-13, the actual claim experience for the CalPERS Long-Term Care Program was about the same as expected. Minor changes were made to the morbidity assumptions. To revise the assumption, expected claim costs were credibility weighted between Univita's manual morbidity assumptions utilized in 2005 and CalPERS actual claims experience. Some changes were also made to address the potential for anti-selection resulting from the less healthy participants not converting to less expensive policies as 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 2012-13" in the Assets Section on page 27.

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 2012-13, the CalPERS Long-Term Care Program experienced higher than expected lapses from participants terminating their policies which resulted in gains and a higher margin. Participants terminating their policies as a result of premium increases are usually referred to as shock lapses and are discussed next.

Lapse rates were adjusted slightly for the June 30, 2013 valuation based on historical experience through June 2013. The assumed lapse rates were increased slightly.

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 and will continue to offer through 2015 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
- For 2013, CalPERS offered many new conversion options

Shock lapse rates are based on historical experiences. The shock lapse rates vary by attained age. The older the participant is, the less likely the policy is going to lapse. Shock lapse rates were increased to reflect the higher rate increase in 2015.

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. In 2012-13, the actual conversion rate was higher than the assumed 10 percent conversion rate and was as high as 28 percent for a subset of the participants that were offered a conversion option in 2013.

The conversion assumptions were revised in this valuation to better reflect the higher actual conversion rates in 2013. As a result, new conversion rates were developed that now vary by attained age. The conversion rates are shown in Appendix C.

Conversion and downgrade activity continue to help the financial position of the LTC Program, but the impact of the higher conversion on the margin and funded status of the LTC Program in 2013 was not as significant as expected. This can be attributed to anti-selection where, healthier participants are more likely to lapse or lower their benefit, and less healthy participants are more likely to accept the rate increase. This may lead to an increase in claims after the rate increase is implemented. For this reason, changes were made to the morbidity assumption to reflect the fact that participants that did 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.

In 2012-13, the mortality experience was slightly better than expected. The mortality assumptions are the same as last year's, which were updated during last year's annual valuation. 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

Rate increases are assumed in the projections. We assumed a 5 percent rate increase in 2013 and 2014 for those LTC1 policies with lifetime benefit period and inflation protection, and a 36 percent rate increase in 2015 and 2016 respectively for those LTC1 and LTC2 policies with either lifetime benefit period or inflation protection. Accordingly, we applied shock lapses, morbidity anti-selection, and plan conversions for those rate increases.

Participants receiving the 5 percent premium rate increase in 2013 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, 2013. To account for these accepted conversions, the inforce file as of July 31, 2013 was used to adjust the valuation inforce file to account for conversions accepted after the valuation date. Conversion rates associated with the 2014 and 2015 offer are based on the responses received for the 2013 offer and also vary by benefit type and available options for conversion.

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, conversion, 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	19.66%	123%
Discount rate increased by 0.5% to 6.25%	29.77%	137%
Discount rate decreased by 0.5% to 5.25%	9.07%	110%

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	19.66%	123%
Lower Morbidity (Future claims reduced by 10%)	37.75%	155%
Higher Morbidity (Future claims increased by 10%)	1.57%	101%

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	19.66%	123%
Lapse Rates increased by 0.25%	23.55%	128%
Lapse Rates decreased by 0.25%	15.71%	118%

Policy Conversion

As part of the Stabilization Plan adopted by the Board in October 2012, participants were offered the ability to convert to less expensive policies. Generally, conversions to less expensive policies help the financial position of the LTC Program. It is important to note that participants that do not elect to convert to a less expensive policy are generally more likely to go on claim than participants that elect the less expensive policy. This is referred to as anti-selection. As a result, as part of this sensitivity analysis, different anti-selection factors were applied when either assuming higher or lower conversion. Higher conversion led to the use of higher anti-selection factors and vice-versa. For the sensitivity analysis, we are testing the impact of conversions on the margin and funded ratio of the LTC Program by increasing and decreasing the conversion rates which are shown in Appendix C. As shown in the table below, higher conversion rates than assumed will increase both the margin and funded status while lower conversion rates than assumed result in a decrease for both measures slightly. The changes to the margin due to the changes to the conversion rates are small.

Impact of Change in Conversion Rates on Margin and Funded Ratio

Scenario Description	Margin	Funded Ratio
Base Case	19.66%	123%
Higher Conversion rates	20.49%	123%
Lower Conversion rates	18.87%	122%

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	19.66%	123%
Mortality rates increased by 10%	25.99%	131%
Mortality rates decreased by 10%	12.67%	114%

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	19.66%	123%
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%	56.46%	195%
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%	(21.97%)	82 %

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	19.66%	123%
Scenario #2	74.67%	250%
Scenario #3	44.05%	157%
Scenario #4	74.60%	231%
Scenario #5	(91.06%)	48%
Scenario #6	(4.60%)	95%
Scenario #7	(52.99%)	61%

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, 2012	$3,479,592,584
2. Premiums Received during fiscal year 2012 -13	$307,811,908
3. Benefit Payments in 2012 -13	($198,185,047)
4. Expense Payments in 2012 -13	($22,309,474)
5. Investment Returns in 2012 -13	$119,726,725
6. Market Value of Assets as of June 30, 2013 [(1) + (2) - (3) - (4) + (5)]	$3,686,636,696

Comparison of Actual to Expected Cash Flows

Below is a table comparing the actual cash flows in 2012-13 to the cash flows that were projected as part of the June 30, 2012 valuation. As can be seen, the investment experience had the biggest impact on the assets.

Comparison of Actual to Expected Cash Flows for 2012-13

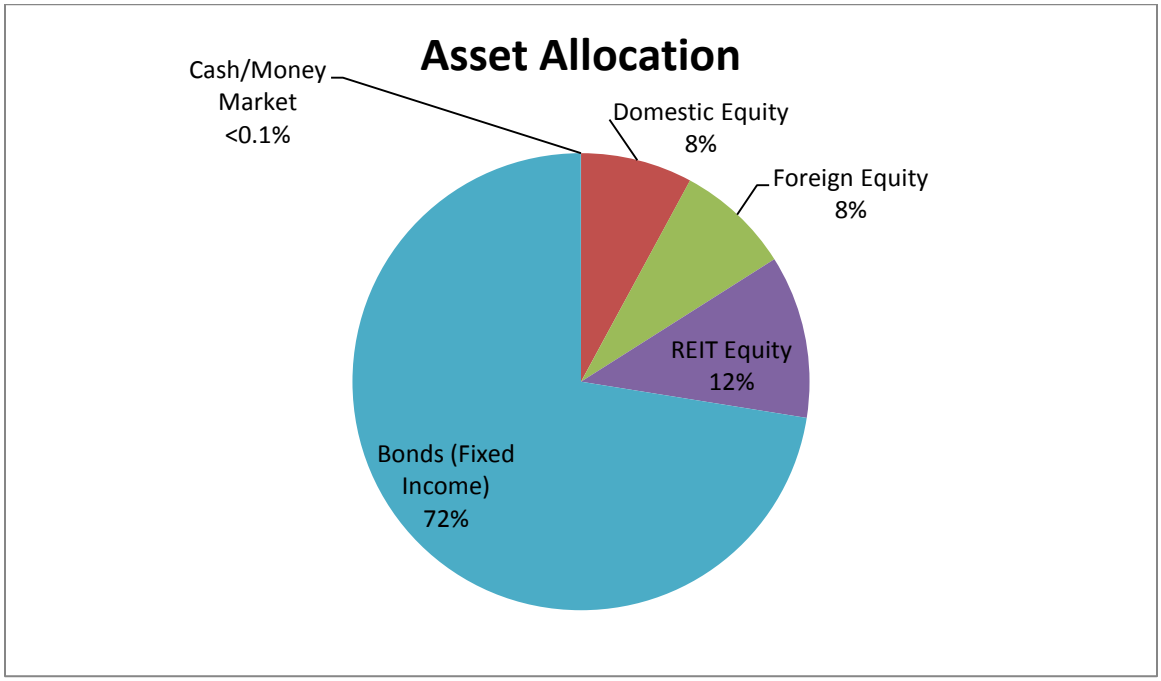
	Projected Results in the June 30, 2012 Valuation	Actual Results in June 30, 2013 Valuation	Difference
Fund Balance as of June 30, 2012	$3,479,592,584	$3,479,592,584	$-
Cash Flows for 2012-13			
• Premiums	$311,579,187	$307,811,908	($3,767,279)
• Investment Income	$203,431,402	$119,726,725	($83,704,677)
• Paid Claims	($198,725,055)	($198,185,047)	$540,008
• Expenses	($21,680,891)	($22,309,474)	($628,583)
Balance as of June 30, 2013	$3,774,197,227	$3,686,636,696	($87,560,531)

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, 2013.

Asset Class	Current Allocation
Cash/Money Market	<0.1%
Domestic Equity	7.9%
Foreign Equity	8.1%
REIT Equity	11.5%
Bonds (Fixed Income)	72.4%
Total Net Assets At Market:	**100.0%**



APPENDIX A

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

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
19.66%	$679	123%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$276,148	$228,276	$22,139	$220,983	$4,067,126
2015	130,680	$295,486	$245,574	$22,376	$234,834	$4,329,497
2016	125,643	$351,973	$264,605	$22,624	$250,953	$4,645,194
2017	120,592	$373,461	$283,717	$23,135	$269,804	$4,981,607
2018	115,535	$353,579	$301,610	$24,299	$288,007	$5,297,284
2019	110,480	$334,352	$317,983	$25,236	$305,074	$5,593,490
2020	105,432	$315,552	$334,810	$25,566	$321,059	$5,869,725
2021	100,400	$297,129	$353,041	$25,864	$335,868	$6,123,818
2022	95,397	$279,158	$371,931	$26,070	$349,393	$6,354,368
2023	90,431	$261,730	$389,261	$26,191	$361,616	$6,562,262
2033	44,695	$115,158	$526,999	$23,009	$412,344	$7,358,914
2043	13,798	$30,884	$451,146	$11,971	$374,534	$6,670,424
2053	2,360	$4,496	$202,018	$3,158	$408,125	$7,406,300
2063	208	$337	$46,550	$415	$624,615	$11,464,629
2073	11	$7	$2,922	$15	$530,487	$19,242,289

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$17,356,447	$760,917	$27,845,568
Present Value as of June 30, 2013	$3,454,607	$6,109,610	$352,511	$6,164,367

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 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
29.77%	$991	137%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$114,200	$3,829,421
2014	135,696	$276,148	$228,276	$22,139	$240,762	$4,095,915
2015	130,680	$295,486	$245,574	$22,376	$257,053	$4,380,504
2016	125,643	$351,973	$264,605	$22,624	$275,961	$4,721,209
2017	120,592	$373,461	$283,717	$23,135	$298,015	$5,085,833
2018	115,535	$353,579	$301,610	$24,299	$319,565	$5,433,068
2019	110,480	$334,352	$317,983	$25,236	$340,088	$5,764,289
2020	105,432	$315,552	$334,810	$25,566	$359,653	$6,079,118
2021	100,400	$297,129	$353,041	$25,864	$378,163	$6,375,505
2022	95,397	$279,158	$371,931	$26,070	$395,508	$6,652,170
2023	90,431	$261,730	$389,261	$26,191	$411,678	$6,910,126
2033	44,695	$115,158	$526,999	$23,009	$510,788	$8,458,605
2043	13,798	$30,884	$451,146	$11,971	$550,790	$9,145,522
2053	2,360	$4,496	$202,018	$3,158	$734,324	$12,383,781
2063	208	$337	$46,550	$415	$1,246,622	$21,169,710
2073	11	$7	$2,922	$15	$1,116,450	$37,391,171

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$17,356,447	$760,917	$45,994,450
Present Value as of June 30, 2013	$3,328,307	$5,689,680	$334,351	$7,336,013

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 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
9.07%	$326	110%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$96,159	$3,811,379
2014	135,696	$276,148	$228,276	$22,139	$201,294	$4,038,405
2015	130,680	$295,486	$245,574	$22,376	$212,907	$4,278,848
2016	125,643	$351,973	$264,605	$22,624	$226,473	$4,570,065
2017	120,592	$373,461	$283,717	$23,135	$242,400	$4,879,075
2018	115,535	$353,579	$301,610	$24,299	$257,581	$5,164,325
2019	110,480	$334,352	$317,983	$25,236	$271,565	$5,427,023
2020	105,432	$315,552	$334,810	$25,566	$284,400	$5,666,600
2021	100,400	$297,129	$353,041	$25,864	$295,997	$5,880,820
2022	95,397	$279,158	$371,931	$26,070	$306,251	$6,068,228
2023	90,431	$261,730	$389,261	$26,191	$315,146	$6,229,652
2033	44,695	$115,158	$526,999	$23,009	$328,590	$6,362,998
2043	13,798	$30,884	$451,146	$11,971	$238,898	$4,571,759
2053	2,360	$4,496	$202,018	$3,158	$178,855	$3,486,053
2063	208	$337	$46,550	$415	$219,180	$4,371,213
2073	11	$7	$2,922	$15	$173,269	$6,858,066

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$17,356,447	$760,917	$15,461,345
Present Value as of June 30, 2013	$3,589,661	$6,578,423	$372,365	$5,024,673

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
37.75%	$1,304	155%

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]
						$3,686,637
2013	141,502	$143,890	$94,090	$11,089	$105,330	$3,830,677
2014	135,696	$276,148	$206,023	$22,139	$222,200	$4,100,863
2015	130,680	$295,486	$221,562	$22,376	$237,449	$4,389,861
2016	125,643	$351,973	$238,665	$22,624	$255,153	$4,735,698
2017	120,592	$373,461	$255,839	$22,771	$275,798	$5,106,348
2018	115,535	$353,579	$271,905	$23,187	$296,043	$5,460,879
2019	110,480	$334,352	$286,595	$23,713	$315,409	$5,800,332
2020	105,432	$315,552	$301,696	$23,991	$333,931	$6,124,129
2021	100,400	$297,129	$318,067	$24,238	$351,529	$6,430,482
2022	95,397	$279,158	$335,034	$24,401	$368,115	$6,718,320
2023	90,431	$261,730	$350,594	$24,487	$383,685	$6,988,654
2033	44,695	$115,158	$474,349	$21,309	$486,530	$8,750,778
2043	13,798	$30,884	$406,035	$11,023	$543,928	$9,808,871
2053	2,360	$4,496	$181,816	$2,900	$730,150	$13,338,913
2063	208	$337	$41,895	$381	$1,196,896	$21,991,934
2073	11	$7	$2,630	$13	$1,024,784	$37,173,377

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$15,626,729	$713,771	$43,999,793
Present Value as of June 30, 2013	$3,454,607	$5,502,819	$334,459	$7,723,724

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
1.57%	$54	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]
						$3,686,637
2013	141,502	$143,890	$114,344	$11,089	$105,051	$3,810,144
2014	135,696	$276,148	$250,529	$22,139	$219,766	$4,033,389
2015	130,680	$295,486	$269,586	$22,376	$232,219	$4,269,133
2016	125,643	$351,973	$290,545	$22,624	$246,752	$4,554,689
2017	120,592	$373,461	$311,596	$23,498	$263,810	$4,856,866
2018	115,535	$353,579	$331,315	$25,412	$279,971	$5,133,689
2019	110,480	$334,352	$349,371	$26,759	$294,738	$5,386,649
2020	105,432	$315,552	$367,924	$27,141	$308,187	$5,615,322
2021	100,400	$297,129	$388,016	$27,489	$320,208	$5,817,153
2022	95,397	$279,158	$408,829	$27,739	$330,671	$5,990,415
2023	90,431	$261,730	$427,928	$27,896	$339,548	$6,135,869
2033	44,695	$115,158	$579,648	$24,710	$338,157	$5,967,050
2043	13,798	$30,884	$496,257	$12,918	$205,139	$3,531,977
2053	2,360	$4,496	$222,220	$3,416	$86,099	$1,473,686
2063	208	$337	$51,205	$450	$52,333	$937,323
2073	11	$7	$3,214	$16	$36,189	$1,311,202

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$19,086,164	$808,062	$11,691,344
Present Value as of June 30, 2013	$3,454,607	$6,716,401	$370,564	$4,605,010

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
23.55%	$797	128%

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]
						$3,686,637
2013	141,322	$143,763	$104,214	$11,081	$105,188	$3,820,293
2014	135,181	$275,374	$228,211	$22,088	$220,959	$4,066,326
2015	129,854	$293,887	$245,318	$22,276	$234,754	$4,327,373
2016	124,533	$349,181	$264,019	$22,475	$250,773	$4,640,832
2017	119,224	$369,590	$282,666	$22,934	$269,473	$4,974,294
2018	113,936	$349,029	$299,975	$24,036	$287,503	$5,286,815
2019	108,675	$329,215	$315,661	$24,898	$304,391	$5,579,862
2020	103,446	$309,919	$331,680	$25,158	$320,203	$5,853,147
2021	98,260	$291,088	$348,970	$25,385	$334,859	$6,104,739
2022	93,127	$272,791	$366,807	$25,521	$348,261	$6,333,462
2023	88,056	$255,114	$383,017	$25,574	$360,405	$6,540,390
2033	42,430	$109,439	$506,124	$21,895	$415,280	$7,421,467
2043	12,768	$28,610	$422,711	$11,101	$396,691	$7,091,643
2053	2,128	$4,059	$184,701	$2,853	$464,593	$8,453,390
2063	183	$297	$41,530	$366	$731,710	$13,436,733
2073	9	$6	$2,545	$12	$623,765	$22,626,210

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,667,726	$16,574,824	$730,907	$30,577,578
Present Value as of June 30, 2013	$3,384,910	$5,931,510	$342,995	$6,366,556

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
15.71%	$554	118%

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

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$3,686,637
2013	141,681	$144,016	$104,219	$11,097	$105,192	$3,820,528
2014	136,212	$276,922	$228,341	$22,190	$221,008	$4,067,926
2015	131,509	$297,090	$245,829	$22,475	$234,915	$4,331,625
2016	126,760	$354,780	$265,192	$22,773	$251,133	$4,649,573
2017	121,972	$377,363	$284,773	$23,337	$270,138	$4,988,964
2018	117,153	$358,177	$303,256	$24,566	$288,515	$5,307,834
2019	112,311	$339,555	$320,325	$25,578	$305,762	$5,607,249
2020	107,450	$321,272	$337,973	$25,980	$321,923	$5,886,492
2021	102,581	$303,280	$357,164	$26,350	$336,891	$6,143,148
2022	97,715	$285,657	$377,131	$26,630	$350,541	$6,375,586
2023	92,864	$268,500	$395,610	$26,823	$362,847	$6,584,501
2033	47,075	$121,161	$548,720	$24,178	$409,313	$7,294,301
2043	14,908	$33,332	$481,456	$12,906	$351,332	$6,229,108
2053	2,616	$4,980	$220,930	$3,494	$348,477	$6,299,933
2063	237	$383	$52,169	$472	$511,109	$9,374,345
2073	13	$8	$3,354	$17	$431,562	$15,653,538

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,993,793	$18,188,831	$792,653	$24,954,592
Present Value as of June 30, 2013	$3,526,492	$6,296,619	$362,444	$5,950,746

Higher Conversion Rates

The tables below contain information about the margin, funded status and expected cash flows for the next 60 years if the conversion rates were to be higher than expected. Please refer to Appendix C for more details on the higher conversion rates used for this analysis.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in millions)	Funded Status
20.49%	$686	123%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$274,664	$228,263	$22,139	$220,960	$4,065,632
2015	130,680	$289,718	$245,296	$22,376	$234,615	$4,322,294
2016	125,643	$341,379	$263,858	$22,624	$250,273	$4,627,465
2017	120,592	$360,793	$282,424	$23,096	$268,434	$4,951,172
2018	115,535	$341,452	$299,739	$24,180	$285,941	$5,254,646
2019	110,480	$322,766	$315,525	$25,075	$302,341	$5,539,153
2020	105,432	$304,508	$331,750	$25,408	$317,687	$5,804,189
2021	100,400	$286,625	$349,348	$25,710	$331,886	$6,047,641
2022	95,397	$269,192	$367,577	$25,923	$344,834	$6,268,167
2023	90,431	$252,296	$384,238	$26,050	$356,516	$6,466,690
2033	44,695	$110,561	$514,015	$22,885	$404,563	$7,220,353
2043	13,798	$29,524	$435,594	$11,908	$370,095	$6,596,018
2053	2,360	$4,292	$193,626	$3,142	$409,394	$7,433,729
2063	208	$323	$44,465	$413	$630,643	$11,576,507
2073	11	$7	$2,802	$14	$536,043	$19,443,891

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,632,443	$16,913,798	$757,308	$27,795,917
Present Value as of June 30, 2013	$3,348,873	$5,998,325	$351,036	$6,107,671

Lower Conversion Rates

The tables below contain information about the margin, funded status and expected cash flows for the next 60 years if the conversion rates were to be lower than expected. Please refer to Appendix C for more details on the lower conversion rates for this analysis.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in millions)	Funded Status
18.87%	$673	122%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$277,609	$228,289	$22,139	$221,006	$4,068,598
2015	130,680	$301,185	$245,849	$22,376	$235,048	$4,336,606
2016	125,643	$362,920	$265,359	$22,624	$251,633	$4,663,177
2017	120,592	$386,771	$285,033	$23,174	$271,208	$5,012,949
2018	115,535	$366,318	$303,522	$24,422	$290,143	$5,341,465
2019	110,480	$346,518	$320,502	$25,402	$307,911	$5,649,990
2020	105,432	$327,146	$337,951	$25,728	$324,570	$5,938,027
2021	100,400	$308,152	$356,837	$26,021	$340,023	$6,203,344
2022	95,397	$289,614	$376,412	$26,222	$354,156	$6,444,481
2023	90,431	$271,624	$394,437	$26,337	$366,952	$6,662,282
2033	44,695	$119,960	$540,476	$23,137	$420,556	$7,505,241
2043	13,798	$32,299	$467,309	$12,036	$379,379	$6,752,025
2053	2,360	$4,709	$210,737	$3,174	$407,212	$7,385,280
2063	208	$352	$48,720	$417	$619,061	$11,361,439
2073	11	$7	$3,047	$15	$525,326	$19,055,005

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$6,031,068	$17,815,866	$764,641	$27,917,807
Present Value as of June 30, 2013	$3,564,912	$6,224,919	$354,033	$6,225,326

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
25.99%	$876	131%

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]
						$3,686,637
2013	141,317	$143,751	$104,510	$11,082	$105,184	$3,819,981
2014	135,175	$275,168	$228,701	$22,089	$220,921	$4,065,279
2015	129,850	$293,444	$245,462	$22,277	$234,676	$4,325,660
2016	124,534	$348,461	$263,612	$22,477	$250,664	$4,638,695
2017	119,232	$368,669	$281,562	$22,897	$269,352	$4,972,256
2018	113,952	$348,028	$298,101	$23,906	$287,409	$5,285,686
2019	108,701	$328,168	$313,009	$24,704	$304,373	$5,580,514
2020	103,480	$308,851	$328,242	$24,943	$320,310	$5,856,489
2021	98,300	$290,018	$344,744	$25,152	$335,143	$6,111,753
2022	93,171	$271,732	$361,839	$25,275	$348,778	$6,345,148
2023	88,101	$254,068	$377,402	$25,318	$361,210	$6,557,708
2033	42,256	$108,264	$497,115	$21,556	$421,701	$7,543,736
2043	12,470	$27,652	$411,415	$10,713	$414,947	$7,432,849
2053	2,022	$3,806	$177,685	$2,684	$503,672	$9,175,569
2063	167	$266	$39,134	$331	$803,587	$14,759,830
2073	8	$5	$2,343	$11	$686,204	$24,891,304

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,630,410	$16,222,178	$719,027	$32,515,463
Present Value as of June 30, 2013	$3,370,582	$5,841,768	$339,477	$6,533,046

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
12.67%	$449	114%

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]
						$3,686,637
2013	141,685	$144,027	$103,924	$11,096	$105,196	$3,820,839
2014	136,220	$277,129	$227,850	$22,189	$221,046	$4,068,974
2015	131,522	$297,552	$245,688	$22,475	$234,993	$4,333,357
2016	126,778	$355,562	$265,617	$22,774	$251,244	$4,651,772
2017	121,995	$378,405	$285,934	$23,379	$270,264	$4,991,128
2018	117,181	$359,358	$305,251	$24,710	$288,618	$5,309,143
2019	112,344	$340,845	$323,188	$25,797	$305,792	$5,606,795
2020	107,490	$322,646	$341,739	$26,228	$321,828	$5,883,302
2021	102,629	$304,714	$361,863	$26,626	$336,612	$6,136,140
2022	97,773	$287,136	$382,740	$26,928	$350,017	$6,363,626
2023	92,934	$270,013	$402,047	$27,140	$362,015	$6,566,467
2033	47,444	$122,998	$560,716	$24,662	$401,888	$7,152,280
2043	15,394	$34,811	$498,136	$13,492	$328,593	$5,802,862
2053	2,797	$5,404	$232,624	$3,771	$297,607	$5,358,600
2063	267	$440	$56,466	$533	$416,095	$7,624,792
2073	15	$10	$3,747	$20	$348,782	$12,650,444

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$6,049,587	$18,701,199	$809,931	$22,425,351
Present Value as of June 30, 2013	$3,546,873	$6,416,817	$367,275	$5,738,621

"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 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
56.46%	$1,799	195%

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]
						$3,686,637
2013	141,138	$143,625	$94,380	$11,074	$114,344	$3,839,151
2014	134,661	$274,397	$206,401	$22,038	$241,989	$4,127,098
2015	129,029	$291,856	$221,281	$22,178	$259,640	$4,435,134
2016	123,433	$345,696	$237,295	$22,330	$280,026	$4,801,232
2017	117,879	$364,846	$253,008	$22,347	$303,691	$5,194,415
2018	112,374	$343,549	$267,339	$22,577	$327,116	$5,575,164
2019	106,924	$323,125	$280,108	$22,916	$349,831	$5,945,096
2020	101,531	$303,337	$293,070	$23,048	$371,905	$6,304,221
2021	96,205	$284,120	$307,069	$23,150	$393,292	$6,651,413
2022	90,954	$265,533	$321,514	$23,175	$413,933	$6,986,191
2023	85,787	$247,645	$334,522	$23,127	$433,859	$7,310,045
2033	40,114	$102,886	$429,806	$19,007	$604,624	$10,099,453
2043	11,538	$25,616	$347,032	$9,152	$806,038	$13,536,075
2053	1,823	$3,436	$146,265	$2,228	$1,271,678	$21,546,504
2063	147	$234	$31,440	$267	$2,261,110	$38,423,457
2073	7	$4	$1,839	$8	$2,035,486	$68,172,451

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,479,184	$13,967,174	$649,695	$73,623,500
Present Value as of June 30, 2013	$3,186,293	$4,775,099	$298,843	$9,364,272

"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 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
(21.97%)	($828)	82%

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]
						$3,686,637
2013	141,865	$144,153	$114,053	$11,104	$96,038	$3,801,670
2014	136,738	$277,905	$250,187	$22,241	$200,262	$4,007,410
2015	132,356	$299,166	$270,043	$22,575	$210,740	$4,224,698
2016	127,905	$358,397	$292,356	$22,924	$223,076	$4,490,890
2017	123,390	$382,358	$315,255	$23,960	$237,662	$4,771,696
2018	118,821	$364,030	$337,203	$26,138	$251,276	$5,023,661
2019	114,205	$346,149	$357,766	$27,741	$263,419	$5,247,723
2020	109,547	$328,494	$379,151	$28,311	$274,136	$5,442,890
2021	104,858	$311,020	$402,424	$28,849	$283,292	$5,605,929
2022	100,150	$293,819	$426,664	$29,284	$290,737	$5,734,537
2023	95,434	$276,996	$449,271	$29,620	$296,419	$5,829,061
2033	49,969	$129,408	$642,275	$27,843	$248,078	$4,694,618
2043	16,632	$37,570	$584,922	$15,705	$22,261	$162,664
2053	3,100	$5,984	$279,953	$4,515	($256,283)	($5,276,177)
2063	303	$500	$69,651	$656	($540,163)	($10,863,204)
2073	18	$12	$4,734	$26	($455,803)	($18,047,066)

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$6,226,376	$21,584,679	$898,516	($5,476,884)
Present Value as of June 30, 2013	$3,768,316	$7,861,308	$421,683	$2,708,461

APPENDIX B

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

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 of 5.75 percent.

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in millions)	Funded Status
19.66%	$679	123%

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]
						$3,686,637
2013	141502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135696	$276,148	$228,276	$22,139	$220,983	$4,067,126
2015	130680	$295,486	$245,574	$22,376	$234,834	$4,329,497
2016	125643	$351,973	$264,605	$22,624	$250,953	$4,645,194
2017	120592	$373,461	$283,717	$23,135	$269,804	$4,981,607
2018	115535	$353,579	$301,610	$24,299	$288,007	$5,297,284
2019	110480	$334,352	$317,983	$25,236	$305,074	$5,593,490
2020	105432	$315,552	$334,810	$25,566	$321,059	$5,869,725
2021	100400	$297,129	$353,041	$25,864	$335,868	$6,123,818
2022	95397	$279,158	$371,931	$26,070	$349,393	$6,354,368
2023	90431	$261,730	$389,261	$26,191	$361,616	$6,562,262
2033	44695	$115,158	$526,999	$23,009	$412,344	$7,358,914
2043	13798	$30,884	$451,146	$11,971	$374,534	$6,670,424
2053	2360	$4,496	$202,018	$3,158	$408,125	$7,406,300
2063	208	$337	$46,550	$415	$624,615	$11,464,629
2073	11	$7	$2,922	$15	$530,487	$19,242,289

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$17,356,447	$760,917	$27,845,568
Present Value as of June 30, 2013	$3,454,607	$6,109,610	$352,511	$6,164,367

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.

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in millions)	Funded Status
74.67%	$2,210	250%

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$276,148	$228,276	$22,139	$230,595	$4,076,738
2015	130,680	$295,486	$245,574	$22,376	$266,095	$4,370,369
2016	125,643	$351,973	$264,605	$22,624	$308,392	$4,743,505
2017	120,592	$373,461	$283,717	$23,135	$359,311	$5,169,425
2018	115,535	$353,579	$301,610	$24,299	$415,728	$5,612,823
2019	110,480	$334,352	$317,983	$25,236	$477,779	$6,081,735
2020	105,432	$315,552	$334,810	$25,566	$546,434	$6,583,345
2021	100,400	$297,129	$353,041	$25,864	$622,661	$7,124,230
2022	95,397	$279,158	$371,931	$26,070	$707,628	$7,713,015
2023	90,431	$261,730	$389,261	$26,191	$783,935	$8,343,228
2033	44,695	$115,158	$526,999	$23,009	$1,610,332	$17,094,765
2043	13,798	$30,884	$451,146	$11,971	$3,507,966	$37,512,800
2053	2,360	$4,496	$202,018	$3,158	$8,749,443	$94,009,527
2063	208	$337	$46,550	$415	$23,009,150	$247,465,659
2073	11	$7	$2,922	$15	$29,761,674	$624,993,697

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$18,058,089	$760,917	$633,596,976
Present Value as of June 30, 2013	$2,959,373	$4,164,116	$272,238	$15,154,293

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
44.05%	$1,338	157%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$276,148	$228,276	$22,139	$240,184	$4,086,326
2015	130,680	$295,486	$245,574	$22,376	$297,473	$4,411,336
2016	125,643	$351,973	$264,605	$22,624	$366,834	$4,842,914
2017	120,592	$373,461	$283,717	$23,135	$452,328	$5,361,852
2018	115,535	$353,579	$301,610	$24,299	$552,340	$5,941,861
2019	110,480	$334,352	$317,983	$25,236	$609,842	$6,542,836
2020	105,432	$315,552	$334,810	$25,566	$604,291	$7,102,303
2021	100,400	$297,129	$353,041	$25,864	$583,615	$7,604,142
2022	95,397	$279,158	$371,931	$26,070	$547,928	$8,033,227
2023	90,431	$261,730	$389,261	$26,191	$498,087	$8,377,592
2033	44,695	$115,158	$526,999	$23,009	$584,986	$10,534,028
2043	13,798	$30,884	$451,146	$11,971	$676,494	$12,223,877
2053	2,360	$4,496	$202,018	$3,158	$936,271	$17,119,601
2063	208	$337	$46,550	$415	$1,548,372	$28,453,738
2073	11	$7	$2,922	$15	$1,327,048	$48,138,053

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$18,058,089	$760,917	$56,741,332
Present Value as of June 30, 2013	$3,036,899	$5,084,980	$300,807	$8,448,416

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.

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in millions)	Funded Status
74.60%	$2,092	231%

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$158,935	$3,874,156
2014	135,696	$276,148	$228,276	$22,139	$340,976	$4,240,864
2015	130,680	$295,486	$245,574	$22,376	$372,552	$4,640,953
2016	125,643	$351,973	$264,605	$22,624	$409,123	$5,114,819
2017	120,592	$373,461	$283,717	$23,135	$451,650	$5,633,079
2018	115,535	$353,579	$301,610	$24,299	$495,270	$6,156,018
2019	110,480	$334,352	$317,983	$25,236	$539,383	$6,686,534
2020	105,432	$315,552	$334,810	$25,566	$584,218	$7,225,928
2021	100,400	$297,129	$353,041	$25,864	$629,788	$7,773,940
2022	95,397	$279,158	$371,931	$26,070	$676,094	$8,331,191
2023	90,431	$261,730	$389,261	$26,191	$723,289	$8,900,758
2033	44,695	$115,158	$526,999	$23,009	$1,296,033	$15,882,212
2043	13,798	$30,884	$451,146	$11,971	$2,390,781	$29,495,250
2053	2,360	$4,496	$202,018	$3,158	$5,091,219	$63,176,472
2063	208	$337	$46,550	$415	$11,617,989	$144,372,048
2073	11	$7	$2,922	$15	$13,143,275	$319,993,395

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$18,058,089	$760,917	$328,596,674
Present Value as of June 30, 2013	$2,804,288	$4,135,663	$263,328	$13,419,408

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.

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

Main Results

Margin as Percentage of the Present Value of Premiums	Margin ($ in millions)	Funded Status
(91.06%)	($3,963)	48%

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$276,148	$228,276	$22,139	$211,349	$4,057,492
2015	130,680	$295,486	$245,574	$22,376	$203,692	$4,288,721
2016	125,643	$351,973	$264,605	$22,624	$194,511	$4,547,976
2017	120,592	$373,461	$283,717	$23,135	$183,751	$4,798,336
2018	115,535	$353,579	$301,610	$24,299	$168,865	$4,994,870
2019	110,480	$334,352	$317,983	$25,236	$150,087	$5,136,090
2020	105,432	$315,552	$334,810	$25,566	$128,165	$5,219,431
2021	100,400	$297,129	$353,041	$25,864	$103,848	$5,241,503
2022	95,397	$279,158	$371,931	$26,070	$77,963	$5,200,623
2023	90,431	$261,730	$389,261	$26,191	$51,426	$5,098,328
2033	44,695	$115,158	$526,999	$23,009	$17,902	$2,181,888
2043	13,798	$30,884	$451,146	$11,971	($16,625)	($2,449,248)
2053	2,360	$4,496	$202,018	$3,158	($42,756)	($5,842,378)
2063	208	$337	$46,550	$415	($54,829)	($7,387,956)
2073	11	$7	$2,922	$15	($30,274)	($8,119,872)

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$17,356,447	$760,917	$483,407
Present Value as of June 30, 2013	$4,352,619	$11,469,405	$533,322	$771,347

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
(4.60%)	($183)	95%

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

Calendar Year[1]	Lives	Expected Premiums	Expected Claims	Expenses	Investment Earnings	Fund Balance[2]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$105,190	$3,820,411
2014	135,696	$276,148	$228,276	$22,139	$201,692	$4,047,835
2015	130,680	$295,486	$245,574	$22,376	$172,669	$4,248,040
2016	125,643	$351,973	$264,605	$22,624	$139,064	$4,451,848
2017	120,592	$373,461	$283,717	$23,135	$101,093	$4,619,550
2018	115,535	$353,579	$301,610	$24,299	$57,995	$4,705,215
2019	110,480	$334,352	$317,983	$25,236	$58,849	$4,755,197
2020	105,432	$315,552	$334,810	$25,566	$106,653	$4,817,027
2021	100,400	$297,129	$353,041	$25,864	$155,462	$4,890,712
2022	95,397	$279,158	$371,931	$26,070	$205,630	$4,977,499
2023	90,431	$261,730	$389,261	$26,191	$257,636	$5,081,413
2033	44,695	$115,158	$526,999	$23,009	$271,512	$4,768,827
2043	13,798	$30,884	$451,146	$11,971	$128,210	$2,140,216
2053	2,360	$4,496	$202,018	$3,158	($22,709)	($517,288)
2063	208	$337	$46,550	$415	($128,937)	($2,394,172)
2073	11	$7	$2,922	$15	($119,305)	($4,329,318)

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$18,058,089	$760,917	$4,273,960
Present Value as of June 30, 2013	$3,982,443	$7,433,504	$418,824	$3,416,251

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
(52.99%)	($2,347)	61%

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]
						$3,686,637
2013	141,502	$143,890	$104,217	$11,089	$50,676	$3,765,896
2014	135,696	$276,148	$228,276	$22,139	$104,190	$3,895,819
2015	130,680	$295,486	$245,574	$22,376	$107,603	$4,030,959
2016	125,643	$351,973	$264,605	$22,624	$111,816	$4,207,518
2017	120,592	$373,461	$283,717	$23,135	$117,005	$4,391,133
2018	115,535	$353,579	$301,610	$24,299	$121,506	$4,540,309
2019	110,480	$334,352	$317,983	$25,236	$125,088	$4,656,529
2020	105,432	$315,552	$334,810	$25,566	$127,781	$4,739,486
2021	100,400	$297,129	$353,041	$25,864	$129,546	$4,787,256
2022	95,397	$279,158	$371,931	$26,070	$130,338	$4,798,751
2023	90,431	$261,730	$389,261	$26,191	$130,157	$4,775,186
2033	44,695	$115,158	$526,999	$23,009	$76,987	$2,652,923
2043	13,798	$30,884	$451,146	$11,971	($43,287)	($1,834,070)
2053	2,360	$4,496	$202,018	$3,158	($157,773)	($5,994,144)
2063	208	$337	$46,550	$415	($242,905)	($9,098,559)
2073	11	$7	$2,922	$15	($161,476)	($11,986,792)

Note:

1- Cash flows for 2013 and 2073 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, 2013 and the last projected fund balance which is as of June 30, 2073.

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

	Expected Premiums	Expected Claims	Expenses	Investment Earnings
Total Sum of Cash Flows	$5,827,448	$18,058,089	$760,917	($3,383,513)
Present Value as of June 30, 2013	$4,429,596	$9,957,806	$505,526	$283,560

APPENDIX C

Long-Term Care Model and Assumptions

Model

Projection results are based on 144,933 inforce participants as of June 30, 2013. CalPERS LTC business consists of facility-only and comprehensive coverage and includes a variety of elimination periods, benefit periods, and inflation coverage combinations. 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 Univita 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 as below:

- Step 1: Develop complete inception-to-date exposure and claims.
- Step 2: Create a set of experience 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 types and duration. Apply scalar adjustment factors 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 selection factors.
- Step 3: Use the experience selection factors developed in Step 2 to adjust the actual incurred claims in Step 1 to estimate the ultimate levels. Create the ultimate experience 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 claim cost developed in Step 3 and 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 by 1 percent per year for 20 years from the valuation date. We also made a corresponding mortality improvement assumption.

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 description is a summary of the process we utilized to determine the appropriate mortality assumption. For the 2013 valuation, we assumed the same mortality assumption and confirmed and updated the lapse assumption utilizing the additional year of total termination experience available.

2012 Valuation Mortality Development: 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 identifying 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.

Using the March 2012 Social Security Database, Univita identified deaths within the CalPERS LTC Program by matching social security numbers, names, and birthdates. In total, over 26,000 deaths were confirmed or identified through this process, which represents 9,000 more deaths than the previous study. Any inconsistencies such as those reported as deaths in the Social Security Database but still active in the CalPERS Program were reported to the Univita's administrative staff.

Using the identified deaths, we compared the actual mortality experience to what was expected using last year's valuation assumptions. Overall, the previous assumptions were reasonable, but we identified several refinements. In addition, participants that were on claim had mortality rates that were nearly two times higher than those that were not claim. Because of the significant difference between these two cohorts, we developed two separate mortality assumptions; one for participants not on claim, and one for those on claim. The development of these assumptions is discussed next.

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

- 1994 GAM table along with 100% of projection scale AA used for the next twenty years.
- Selection factors by policy year as follows:

Policy Year 1:	0.33
Policy Year 2:	0.42
Policy Year 3:	0.50
Policy Year 4:	0.56
Policy Year 5:	0.57
Policy Year 6:	0.60
Policy Year 7:	0.65
Policy Year 8:	0.70

Policy Year 9: 0.71
Policy Year 10+: 0.71

- We used the attained-age adjustment factors listed below to further adjust mortality rates:

Male				Female			
Attained Age	**Mortality Factor**	**Attained Age**	**Mortality Factor**	**Attained Age**	**Mortality Factor**	**Attained Age**	**Mortality Factor**
51 and Below	1.460	**86**	1.460	**51 and Below**	1.460	**86**	1.490
52	1.460	**87**	1.510	**52**	1.460	**87**	1.540
53	1.140	**88**	1.550	**53**	1.140	**88**	1.580
54	1.140	**89**	1.550	**54**	1.130	**89**	1.580
55	1.150	**90**	1.560	**55**	1.140	**90**	1.580
56	1.050	**91**	1.560	**56**	1.050	**91**	1.590
57	1.060	**92**	1.570	**57**	1.060	**92**	1.590
58	1.050	**93**	1.580	**58**	1.050	**93**	1.600
59	0.920	**94**	1.580	**59**	0.920	**94**	1.600
60	0.880	**95**	1.580	**60**	0.880	**95**	1.610
61	0.840	**96**	1.610	**61**	0.840	**96**	1.620
62	0.840	**97**	1.630	**62**	0.840	**97**	1.600
63	0.790	**98**	1.630	**63**	0.790	**98**	1.620
64	0.770	**99**	1.630	**64**	0.770	**99**	1.630
65	0.770	**100**	1.670	**65**	0.770	**100**	1.650
66	0.770	**101**	1.630	**66**	0.780	**101**	1.600
67	0.780	**102**	1.640	**67**	0.780	**102**	1.610
68	0.770	**103**	1.640	**68**	0.780	**103**	1.610
69	0.780	**104**	1.650	**69**	0.790	**104**	1.610
70	0.760	**105**	1.660	**70**	0.760	**105**	1.610
71	0.760	**106**	1.660	**71**	0.770	**106**	1.610
72	0.820	**107**	1.670	**72**	0.830	**107**	1.610
73	0.820	**108**	1.680	**73**	0.830	**108**	1.620
74	0.820	**109**	1.690	**74**	0.830	**109**	1.620
75	0.860	**110**	1.690	**75**	0.870	**110**	1.620
76	0.880	**111**	1.690	**76**	0.890	**111**	1.620
77	0.890	**112**	1.690	**77**	0.900	**112**	1.620
78	0.900	**113**	1.690	**78**	0.910	**113**	1.620
79	0.910	**114**	1.690	**79**	0.920	**114**	1.620
80	1.000	**115**	1.690	**80**	1.010	**115**	1.620
81	1.000	**116**	1.690	**81**	1.020	**116**	1.620
82	1.000	**117**	1.690	**82**	1.020	**117**	1.620
83	1.110	**118**	1.690	**83**	1.120	**118**	1.620
84	1.250	**119**	1.690	**84**	1.280	**119**	1.620
85	1.280	**120**	1.690	**85**	1.300	**120**	1.620

Lapse

Using actual total termination experience and the 2012 mortality assumptions, the lapse assumptions were developed. Regarding the analysis performed, we started with the actual total termination experience including both voluntary lapses and deaths, and we then backed out the revised assumed mortality to review actual voluntary lapse rates. The revised lapse assumptions were then developed to correspond to the observed actual lapses.

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

Issue Age	Policy Year										
Group	1	2	3	4	5	6	7	8	9	10	11+
< 40	4.70%	3.60%	3.50%	2.70%	2.70%	2.70%	2.70%	2.70%	2.40%	2.40%	2.20%
40 - 49	3.30%	2.30%	1.90%	1.70%	1.70%	1.70%	1.60%	1.60%	1.50%	1.30%	1.20%
50 - 59	2.70%	1.90%	1.50%	1.30%	1.20%	1.20%	1.20%	1.20%	0.90%	0.80%	0.80%
60 - 69	2.10%	1.30%	1.10%	1.00%	1.00%	1.00%	1.00%	0.90%	0.90%	0.90%	0.90%
70 - 79	2.20%	1.20%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%	1.10%
80 +	2.50%	2.40%	1.70%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%	0.60%

In addition, we applied shock lapse rates which are consistent with the assumption relating to the development of the recommended rate increase in 2014, 2015 and 2016.

Expenses

We used the following expense assumptions:

- The Third Party Administration (TPA) costs reflect the new five year contract with Univita which started effective in 2013. For expenses after the five year contract, we increased all non-claim expense items using an annual inflation of 2.75 percent.
- The administration cost in the new administration contract with Univita 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 $271,527 per month through December of 2014 and increase 2.75 percent for inflation each January thereafter.

Discount Rate

We assumed 5.75 percent for all projection years.

Rate Increase Related Assumptions:

There are four assumptions that are related to the rate increase, the rate increase percentage, the conversion rates, the anti-selection factors, and the shock lapse rates.

1. Rate increase percentages:

    - 5 percent rate increase in 2013 and 2014 for LTC1 policies with Lifetime Benefit Period and Inflation Protection ; and
    - 36 percent rate increase in 2015 and 2016 consecutively for LTC1 and LTC2 policies with either Lifetime Benefit Period or Inflation Protection or both.

2. Conversion rates:

The conversion assumptions are based on the actual conversion rates of those policies subject to the 5 percent rate increase in 2013. The conversion rates vary by attained age for the larger conversion percentages. We used the distribution of inforce policies to weight them together. The weighted averages are shown in the table below for the base case (scenario 1) and the sensitivity testing scenarios for conversion rates.

		Base Case	Lower Conversion	Higher Conversion
1	LTC1 Lifetime Inflation (those receiving 5% ongoing rate increase) in 2014:			
	· converting to 10yr with BIO[1]:	3%	0%	6%
2	LTC1 Lifetime Inflation (those receiving 5% ongoing rate increase) in 2015:			
	· converting to 10yr with BIO:	1%	0%	2%
3	LTC2 Lifetime Inflation (those not receiving 5% ongoing rate increase) in 2014:			
	· converting to 10yr with BIO:	18%	9%	27%
	· converting to 6yr with BIO:	7%	0%	14%
	· converting to 6yr with inflation:	3%	0%	6%
4	LTC2 Lifetime Inflation (those not receiving 5% ongoing rate increase) in 2015:			
	· converting to 10yr with BIO:	3%	0%	6%
5	LTC1 and LTC2 6-yr and 3-yr inflation plans converting to non-inflation in 2014:	20%	10%	30%
6	LTC1 and LTC2 6-yr and 3-yr inflation plans converting to non-inflation in 2015:	5%	0%	10%
7	LTC1 and LTC2 lifetime non-inflation plans converting to 6-yr non-inflation in 2014:	20%	10%	30%
8	LTC1 and LTC2 lifetime non-inflation plans converting to 6-yr non-inflation in 2015:	5%	0%	10%

[1] BIO: Benefit Increase Option

3. 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, which are developed by UHAS, are two times the shock lapse and grade down to 0 percent over 10 years. The selection factor development took into account Milliman's information with respect to cumulative rate increases and assumed adverse selection.

Anti-selection factors vary by benefit plan and are applied to the 2013 conversions and the 2014 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	Lower Conversion	Higher Conversion
1	2013	1.092	1.092	1.092
2	2014	1.104	1.104	1.104
3	2015	1.092	1.092	1.092
4	2016	1.081	1.081	1.081
5	2017	1.069	1.069	1.069
6	2018	1.058	1.058	1.058
7	2019	1.047	1.047	1.047
8	2020	1.035	1.035	1.035
9	2021	1.024	1.024	1.024
10	2022	1.013	1.013	1.013
11	2023	1.002	1.002	1.002
12+	2024+	1.000	1.000	1.000

All Other Plans Receiving the 85% Premium Rate Increase Anti-Selection Factors Related to Shock Lapse				
Selection Period	Calendar Year	Base Scenario	Lower Conversion	Higher Conversion
1	2013	1.020	1.020	1.020
2	2014	1.038	1.038	1.038
3	2015	1.034	1.034	1.034
4	2016	1.030	1.030	1.030
5	2017	1.026	1.026	1.026
6	2018	1.022	1.022	1.022
7	2019	1.018	1.018	1.018
8	2020	1.014	1.014	1.014
9	2021	1.010	1.010	1.010
10	2022	1.006	1.006	1.006
11	2023	1.002	1.002	1.002
12+	2024+	1.000	1.000	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	Lower Conversion	Higher Conversion
1	2013	1.020	1.020	1.020
2	2014	1.084	1.059	1.115
3	2015	1.075	1.053	1.103
4	2016	1.066	1.047	1.091
5	2017	1.058	1.040	1.079
6	2018	1.049	1.034	1.067
7	2019	1.040	1.028	1.056
8	2020	1.032	1.022	1.044
9	2021	1.023	1.016	1.032
10	2022	1.015	1.010	1.021
11	2023	1.006	1.004	1.009
12+	2024+	1.000	1.000	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 BIO Selection factors				
Selection Period	Calendar Year	Base Scenario	Lower Conversion	Higher Conversion
1	2013	0.800	0.800	0.800
2	2014	0.820	0.820	0.820
3	2015	0.840	0.840	0.840
4	2016	0.860	0.860	0.860
5	2017	0.880	0.880	0.880
6	2018	0.900	0.900	0.900
7	2019	0.920	0.920	0.920
8	2020	0.940	0.940	0.940
9	2021	0.960	0.960	0.960
10	2022	0.980	0.980	0.980
11	2023	1.000	1.000	1.000
12+	2024+	1.000	1.000	1.000

LTC2, 10-year BIO Selection factors				
Selection Period	Calendar Year	Base Scenario	Lower Conversion	Higher Conversion
1	2013	1.000	1.000	1.000
2	2014	0.800	0.800	0.800
3	2015	0.820	0.820	0.820
4	2016	0.840	0.840	0.840
5	2017	0.860	0.860	0.860
6	2018	0.880	0.880	0.880
7	2019	0.900	0.900	0.900
8	2020	0.920	0.920	0.920
9	2021	0.940	0.940	0.940
10	2022	0.960	0.960	0.960
11	2023	0.980	0.980	0.980
12+	2024+	1.000	1.000	1.000

4. Shock lapse rates:

The shock lapses shown below were applied to all participants that will receive the 85% premium increase spread over two years starting in 2015. Given that participants were informed of the rate increase this year, we modeled half the shock lapse this year and half next year.

Attained Age Groups	<60	60-69	70-79	80+
2013 Shock Lapse Assumptions	2.00%	1.25%	0.50%	0.00%
2014 Shock Lapse Assumptions	2.00%	1.25%	0.50%	0.00%

APPENDIX D

Summary of Model Cells

CalPERS LTC Program

Summary of Model Cells Included in 6/30/2013 Projection

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	4,768	8,399,414
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	No Inflation	MGI	1,311	1,322,869
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	No Inflation	SF	1,037	1,042,202
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	Inflation	LF	6,445	12,997,566
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	Inflation	MGI	1,825	2,563,858
LTC1	Comprehensive	50% HHC	50% ALF	3 Year	90 Day EP	Inflation	SF	1,717	2,572,346
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	No Inflation	LF	2,255	3,416,989
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	No Inflation	MGI	1,167	1,283,867
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	No Inflation	SF	1,072	1,229,673
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	Inflation	LF	3,691	8,714,266
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	Inflation	MGI	1,474	2,507,119
LTC1	Comprehensive	50% HHC	50% ALF	6 Year	90 Day EP	Inflation	SF	1,421	2,622,290
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90 Day EP	No Inflation	LF	5,149	12,468,973
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90 Day EP	No Inflation	MGI	2,178	4,460,013
LTC1	Comprehensive	50% HHC	50% ALF	10 Year	90 Day EP	No Inflation	SF	1,839	3,539,924
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	No Inflation	LF	7,036	16,827,054
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	No Inflation	MGI	4,359	6,229,404
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	No Inflation	SF	3,069	4,361,082
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	Inflation	LF	18,039	58,594,823
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	Inflation	MGI	11,485	27,139,946
LTC1	Comprehensive	50% HHC	50% ALF	Lifetime	90 Day EP	Inflation	SF	8,536	21,474,876
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	No Inflation	LF	2,942	3,897,027
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	No Inflation	MGI	449	339,080
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	No Inflation	SF	356	283,889
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	Inflation	LF	3,098	5,169,298
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	Inflation	MGI	698	768,730
LTC1	Facilities Only		50% ALF	3 Year	90 Day EP	Inflation	SF	764	924,097
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	No Inflation	LF	1,052	1,507,559
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	No Inflation	MGI	189	188,652
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	No Inflation	SF	230	236,428
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	Inflation	LF	1,289	2,756,820
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	Inflation	MGI	265	393,791
LTC1	Facilities Only		50% ALF	6 Year	90 Day EP	Inflation	SF	329	513,373
LTC1	Facilities Only		50% ALF	10 Year	90 Day EP	No Inflation	LF	1,632	3,548,433
LTC1	Facilities Only		50% ALF	10 Year	90 Day EP	No Inflation	MGI	386	599,690
LTC1	Facilities Only		50% ALF	10 Year	90 Day EP	No Inflation	SF	462	694,982
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	No Inflation	LF	3,026	5,966,541
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	No Inflation	MGI	579	660,955
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	No Inflation	SF	575	670,295
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	Inflation	LF	4,445	12,683,258
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	Inflation	MGI	1,269	2,460,499
LTC1	Facilities Only		50% ALF	Lifetime	90 Day EP	Inflation	SF	1,333	2,645,213
LTC1	Partnership	50% HHC	50% ALF	1 Year	30 Day EP	Inflation	LF	1,286	1,607,781
LTC1	Partnership	50% HHC	50% ALF	1 Year	30 Day EP	Inflation	MGI	319	236,651
LTC1	Partnership	50% HHC	50% ALF	1 Year	30 Day EP	Inflation	SF	271	193,014
LTC1	Partnership	50% HHC	50% ALF	2 Year	30 Day EP	Inflation	LF	2,021	3,801,386
LTC1	Partnership	50% HHC	50% ALF	2 Year	30 Day EP	Inflation	MGI	553	654,875
LTC1	Partnership	50% HHC	50% ALF	2 Year	30 Day EP	Inflation	SF	597	663,523
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30 Day EP	Inflation	LF	124	121,001
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30 Day EP	Inflation	MGI	19	10,017
LTC1	Partnership	50% HHC	50% ALF	6 Mo	30 Day EP	Inflation	SF	10	6,073
LTC1 Subtotal								**120,441**	**257,971,486**

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

CalPERS LTC Program

Summary of Model Cells Included in 6/30/2013 Projection

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	640	960,444
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	No Inflation	MGI - Conversions	8	11,112
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	No Inflation	SF - Conversions	6	7,810
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	Inflation	LF	948	2,092,650
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	Inflation	LF - Conversions	4	8,596
LTC2	Comprehensive	50% HHC	70% ALF	3 Year	90 Day EP	Inflation	MGI - Conversions	5	12,756
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	No Inflation	LF	94	170,357
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	No Inflation	MGI	2	2,415
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	Inflation	LF	134	376,669
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	Inflation	MGI	1	3,680
LTC2	Comprehensive	50% HHC	70% ALF	6 Year	90 Day EP	Inflation	SF	1	3,071
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	LF	1,773	3,131,422
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	MGI - Conversions	20	45,787
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	SF - Conversions	19	34,397
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	Inflation	LF	3,509	10,948,532
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	22	78,795
LTC2	Comprehensive	50% HHC	70% ALF	Lifetime	90 Day EP	Inflation	SF - Conversions	28	96,601
LTC2	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	LF	164	198,253
LTC2	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	LF	155	283,275
LTC2	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	LF	33	49,622
LTC2	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	LF	37	92,719
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	No Inflation	LF	238	378,283
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	LF	523	1,215,321
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	2	8,173
LTC2	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	SF - Conversions	1	2,281
LTC2	Partnership	50% HHC	70% ALF	1 Year	30 Day EP	Inflation	LF	86	111,234
LTC2	Partnership	50% HHC	70% ALF	2 Year	30 Day EP	Inflation	LF	165	338,197
LTC2	Partnership	50% HHC	70% ALF	6 Mo	30 Day EP	Inflation	LF	11	12,359
LTC2 Subtotal								**8,629**	**20,674,811**

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

CalPERS LTC Program

Summary of Model Cells Included in 6/30/2013 Projection

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	802	1,081,103
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	No Inflation	MGI - Conversions	60	53,732
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	No Inflation	SF - Conversions	48	31,920
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	Inflation	LF	2,197	4,449,187
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	Inflation	MGI - Conversions	351	484,292
LTC3	Comprehensive	70% HHC	70% ALF	3 Year	90 Day EP	Inflation	SF - Conversions	374	552,852
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	No Inflation	LF	2,660	4,406,379
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	No Inflation	MGI - Conversions	605	616,007
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	No Inflation	SF - Conversions	469	515,620
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	Inflation	LF	2,468	6,614,489
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	Inflation	MGI - Conversions	467	929,863
LTC3	Comprehensive	70% HHC	70% ALF	6 Year	90 Day EP	Inflation	SF - Conversions	423	902,165
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	LF	1,079	2,120,949
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	MGI - Conversions	18	40,367
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	No Inflation	SF - Conversions	14	24,958
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	Inflation	LF	1,179	4,348,368
LTC3	Comprehensive	70% HHC	70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	8	45,811
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	295	379,915
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	MGI - Conversions	17	13,060
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	No Inflation	SF - Conversions	20	12,226
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	LF	521	939,425
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	MGI - Conversions	70	85,324
LTC3	Facilities Only		70% ALF	3 Year	90 Day EP	Inflation	SF - Conversions	118	155,815
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	LF	751	1,128,399
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	MGI - Conversions	68	60,048
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	No Inflation	SF - Conversions	93	79,610
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	LF	196	471,075
LTC3	Facilities Only		70% ALF	6 Year	90 Day EP	Inflation	MGI - Conversions	17	34,077
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	153	235,261
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	186	479,776
LTC3	Facilities Only		70% ALF	Lifetime	90 Day EP	Inflation	MGI - Conversions	1	1,521
LTC3	Partnership		70% ALF	1 Year	30 Day EP	Inflation	LF	38	55,439
LTC3	Partnership		70% ALF	2 Year	30 Day EP	Inflation	LF	66	152,233
LTC3 Subtotal								**15,863**	**31,574,383**
Grand Total								**144,933**	**310,220,681**

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

APPENDIX E

Demographic Information

Data

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

1. Data extracts from Univita 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 144,933 inforce participants with an average attained age of 72.3 and average duration of 13.33.

Inforce Participants as of 6/30/2013 - Demographics and Selected Benefit Options

The following distributions for all inforce participants as of June 30, 2013 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 6/30/2013
with Adjustments Reflecting Conversions as of 7/31/2013

By Benefit Period and Elimination Period

Benefit Period	Elimination Period	Policy Count	Percent	Expected Annual Premium	Percent
6 Month	30 Day	164	0%	149,450	0%
1 Year	30 Day	2,000	1%	2,204,119	1%
2 Year	30 Day	3,402	2%	5,610,214	2%
3 Year	90 Day	32,213	22%	52,094,123	17%
6 Year	90 Day	22,977	16%	41,874,315	13%
10 Year	90 Day	11,646	8%	25,312,015	8%
Lifetime	90 Day	72,531	50%	182,976,441	59%
Total		**144,933**	**100%**	**310,220,681**	**100%**

By Issue-Age Band and Gender

	Policy Count				Expected Annual Premium			
Issue-Age Band	Females	Males	Total	Percent	Females	Males	Total	Percent
< 30	434	245	679	0%	345,389	194,963	540,353	0%
30-39	4,310	2,577	6,887	5%	4,453,433	2,670,141	7,123,574	2%
40-44	5,891	3,240	9,131	6%	7,585,919	4,225,987	11,811,906	4%
45-49	11,123	6,088	17,211	12%	16,943,276	9,297,419	26,240,695	8%
50-54	16,771	10,000	26,771	18%	30,102,991	18,066,969	48,169,960	16%
55-59	18,440	12,211	30,651	21%	38,799,271	26,239,254	65,038,525	21%
60-64	14,921	11,376	26,297	18%	36,196,833	28,207,044	64,403,877	21%
65-69	9,461	7,086	16,547	11%	26,990,006	20,655,317	47,645,323	15%
70-74	4,938	2,936	7,874	5%	16,651,598	9,999,074	26,650,671	9%
75-79	1,676	795	2,471	2%	7,059,749	3,309,956	10,369,705	3%
80-84	290	96	386	0%	1,522,941	516,765	2,039,706	1%
85-89	25	3	28	0%	162,869	23,518	186,387	0%
90-94	0	0	0	0%	0	0	0	0%
95+	0	0	0	0%	0	0	0	0%
Total	**88,280**	**56,653**	**144,933**	**100%**	**186,814,274**	**123,406,407**	**310,220,681**	**100%**

By Attained Age and Gender

	Policy Count				Expected Annual Premium			
Attained Age	**Females**	**Males**	**Total**	**Percent**	**Females**	**Males**	**Total**	**Percent**
31	7	1	8	0%	8,904	1,089	9,993	0%
32	7	3	10	0%	9,074	2,355	11,430	0%
33	8	5	13	0%	6,657	6,575	13,232	0%
34	12	6	18	0%	11,672	5,939	17,610	0%
35	15	11	26	0%	11,441	8,218	19,659	0%
36	24	12	36	0%	22,736	11,592	34,329	0%
37	61	37	98	0%	46,187	26,517	72,704	0%
38	49	34	83	0%	38,439	27,550	65,989	0%
39	52	29	81	0%	41,712	20,746	62,458	0%
40	82	37	119	0%	92,255	38,764	131,019	0%
41	79	53	132	0%	82,308	55,382	137,689	0%
42	86	56	142	0%	92,325	60,262	152,586	0%
43	118	76	194	0%	112,680	76,620	189,299	0%
44	151	79	230	0%	177,626	93,774	271,399	0%
45	214	152	366	0%	275,612	180,412	456,024	0%
46	426	263	689	0%	459,757	280,386	740,143	0%
47	513	318	831	1%	569,048	355,397	924,444	0%
48	464	276	740	1%	510,064	312,486	822,550	0%
49	432	258	690	0%	475,415	287,073	762,488	0%
50	422	290	712	0%	508,477	340,257	848,734	0%
51	940	551	1491	1%	1,126,389	679,502	1,805,891	1%
52	1514	820	2334	2%	1,695,307	962,848	2,658,155	1%
53	1088	634	1722	1%	1,282,689	761,722	2,044,412	1%
54	729	428	1157	1%	1,002,285	584,628	1,586,914	1%
55	737	387	1124	1%	1,048,337	574,577	1,622,914	1%
56	1058	580	1638	1%	1,705,961	954,632	2,660,593	1%
57	2023	1101	3124	2%	2,935,132	1,547,305	4,482,437	1%
58	2380	1275	3655	3%	3,291,749	1,751,227	5,042,976	2%
59	1976	1071	3047	2%	2,978,312	1,666,444	4,644,756	1%
60	1404	748	2152	1%	2,361,879	1,272,092	3,633,971	1%
61	1811	1033	2844	2%	3,273,308	1,918,348	5,191,656	2%
62	3252	1923	5175	4%	5,367,233	3,258,355	8,625,588	3%
63	4296	2505	6801	5%	7,035,805	4,089,810	11,125,615	4%
64	3180	2015	5195	4%	5,591,925	3,593,379	9,185,304	3%
65	2081	1303	3384	2%	4,024,423	2,550,385	6,574,808	2%
66	2400	1532	3932	3%	4,779,178	3,191,330	7,970,508	3%
67	4548	2815	7363	5%	8,523,317	5,495,788	14,019,105	5%
68	4562	2939	7501	5%	8,729,717	5,697,129	14,426,845	5%
69	3459	2248	5707	4%	7,042,732	4,714,559	11,757,291	4%
70	1930	1384	3314	2%	4,292,978	3,101,391	7,394,369	2%
71	2240	1590	3830	3%	5,144,708	3,741,356	8,886,064	3%
72	3788	2623	6411	4%	8,136,012	5,838,626	13,974,638	5%
73	4606	2917	7523	5%	9,909,342	6,515,145	16,424,487	5%
74	2965	2005	4970	3%	6,709,401	4,764,510	11,473,911	4%
75	1232	1024	2256	2%	3,067,663	2,594,111	5,661,774	2%
76	1608	1275	2883	2%	4,052,451	3,265,852	7,318,303	2%
77	2892	2183	5075	4%	6,927,243	5,330,776	12,258,020	4%
78	3660	2718	6378	4%	8,949,616	6,752,390	15,702,007	5%
79	2733	1980	4713	3%	7,260,067	5,255,646	12,515,712	4%
80	656	525	1181	1%	1,919,392	1,573,701	3,493,093	1%
81	1099	863	1962	1%	3,211,969	2,506,225	5,718,194	2%
82	2035	1472	3507	2%	5,715,804	4,238,724	9,954,528	3%
83	2347	1667	4014	3%	6,869,994	4,926,051	11,796,046	4%
84	2113	1432	3545	2%	6,328,831	4,405,681	10,734,512	3%
85	372	218	590	0%	1,352,262	761,844	2,114,106	1%
86	665	350	1015	1%	2,296,684	1,198,033	3,494,717	1%
87	1126	615	1741	1%	3,759,505	1,986,867	5,746,372	2%
88	1253	691	1944	1%	4,294,688	2,418,964	6,713,652	2%
89	954	584	1538	1%	3,409,398	2,083,676	5,493,075	2%
90	198	89	287	0%	865,239	416,674	1,281,913	0%
91	213	96	309	0%	933,209	403,070	1,336,279	0%
92	320	168	488	0%	1,357,052	653,049	2,010,101	1%
93	301	140	441	0%	1,255,584	592,192	1,847,777	1%
94	180	98	278	0%	789,313	407,571	1,196,884	0%
95	36	9	45	0%	187,508	48,422	235,930	0%
96	33	16	49	0%	152,023	61,651	213,674	0%
97	29	6	35	0%	133,468	37,775	171,244	0%
98	27	9	36	0%	121,487	55,251	176,738	0%
99	2	0	2	0%	11,873	0	11,873	0%
100	1	0	1	0%	10,336	0	10,336	0%
101	2	1	3	0%	17,375	10,588	27,963	0%
102	1	1	2	0%	5,711	5,139	10,850	0%
103	3	0	3	0%	18,022	0	18,022	0%
Total	**88,280**	**56,653**	**144,933**	**100%**	**186,814,274**	**123,406,407**	**310,220,681**	**100%**

By Plan Type

Plan Type	Policy Count	Percent	Expected Annual Premium	Percent
Partnership (Comprehensive)	5,566	4%	7,963,784	3%
Comprehensive	110,315	76%	248,993,344	80%
Facilities Only	29,052	20%	53,263,552	17%
Total	**144,933**	**100%**	**310,220,681**	**100%**

By Inflation

Inflation	Policy Count	Percent	Expected Annual Premium	Percent
No Inflation	57,268	40%	98,968,712	32%
Inflation	87,665	60%	211,251,969	68%
Total	**144,933**	**100%**	**310,220,681**	**100%**

By Marital Status at time of Issue

Marital Status	Gender	Policy Count	Percent	Expected Annual Premium	Percent
Married	F	53,719	37%	108,316,940	35%
Married	M	44,879	31%	97,284,876	31%
Divorced	F	12,137	8%	25,385,108	8%
Divorced	M	3,363	2%	7,401,529	2%
Single	F	10,254	7%	19,904,988	7%
Single	M	4,936	3%	9,500,192	3%
Widowed	F	11,572	8%	31,917,312	10%
Widowed	M	2,664	2%	7,501,718	2%
Unknown	F	592	1%	1,282,816	1%
Unknown	M	803	1%	1,703,639	1%
Separated	F	6	0%	7,110	0%
Separated	M	8	0%	14,453	0%
Total		**144,933**	**100%**	**310,220,681**	**100%**

By Marital Status

Marital Status	Policy Count	Percent	Expected Annual Premium	Percent
Married	98,598	68%	205,601,816	66%
Other	46,335	32%	104,618,865	34%
Total	**144,933**	**100%**	**310,220,681**	**100%**

By Premium Mode

Premium Mode	Policy Count	Percent	Expected Annual Premium	Percent
Monthly	110,381	76%	240,439,998	78%
Quarterly	26,714	19%	52,792,100	17%
Semi-Annually	4,603	3%	9,714,447	3%
Annually	3,235	2%	7,274,136	2%
Total	**144,933**	**100%**	**310,220,681**	**100%**

By Underwriting Type

Underwriting Type	Policy Count	Percent	Expected Annual Premium	Percent
LF	89,399	62%	209,699,528	68%
MGI	30,267	21%	54,346,936	17%
SF	25,267	17%	46,174,217	15%
Total	**144,933**	**100%**	**310,220,681**	**100%**

By Product Series

Product Series	Policy Count	Percent	Expected Annual Premium	Percent
LTC 1	120,441	83%	257,971,486	83%
LTC 2	8,629	6%	20,674,811	7%
LTC 3	15,863	11%	31,574,383	10%
Total	**144,933**	**100%**	**310,220,681**	**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 - Refers to 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 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 - This is the period of time that the participant pays for care before the benefits are paid from insurance proceeds.

Facility-Only Plan - This type of plan 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 feature increases the amount of benefits by 5 percent per year. This compounding of available benefits in combination with the higher than expected (i.e., priced for) persistency is one of the primary causes of Program deficits.

LTC1, LTC2, LTC3 - Three different long-term care insurance plans sold to CalPERS participants. The main differences between the plans are the percent's 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

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 Partnership Program is 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).

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.

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 insured to stop making premium payments during the time when they meet specified disabling conditions such as being eligible to be on LTC claim.