Milliman Actuarial Valuation

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Cash Balance Benefit Program of the California State Teachers' Retirement System

June 30, 2022 Actuarial Valuation

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Teachers' Retirement Board
California State Teachers' Retirement System

Re: **Cash Balance Benefit Program Actuarial Valuation as of June 30, 2022**

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Cash Balance Benefit (CBB) Program of the State Teachers' Retirement System as of June 30, 2022. Details about the actuarial valuation are contained in the following report. The major findings of the 2022 Actuarial Valuation are contained in this report. This report reflects the benefit provisions and contribution rates in effect as of the valuation date.

Actuarial Certification

To the best of our knowledge and belief, this report is complete and accurate and contains sufficient information to fully and fairly disclose the funded condition of the CBB Program as of June 30, 2022.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by CalSTRS staff. This information includes, but is not limited to, statutory provisions, employee data, and financial information. In our examination of these data, we have found them to be reasonably consistent and comparable with data used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for CalSTRS have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of CalSTRS and reasonable expectations) and which, in combination, offer a reasonable estimate of anticipated experience affecting CalSTRS. Further, in our opinion, each actuarial assumption used is reasonably related to the experience of CalSTRS and to reasonable expectations which, in combination, represent a reasonable estimate of anticipated experience.

The valuation results were developed using models employing standard actuarial techniques. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice. We have incorporated other sources of economic data in assessing the reasonableness of the assumptions. Reliance on other experts is reflected in Milliman's capital market assumptions, and in Milliman's expected return model maintained by Milliman investment consultants. We have also considered CalSTRS investment policy, capital market assumptions, and expected return model in our assessment of the investment return assumption.

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. The Teachers' Retirement Board has sole authority to determine the actuarial assumptions and methods used for the valuation of the CBB Program. The board adopted the actuarial methods and assumptions used in the 2022 valuation. There were no changes in plan provisions (except that results are shown with and without Additional Earnings Credits as of June 30, 2022), assumptions, or methods that affected the 2022 CBB Program valuation.

Actuarial computations presented in this report are for purposes of assessing the funding of the CBB Program. The calculations in the enclosed report have been made on a basis consistent with our understanding of the CBB Program funding structure. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

Milliman's work is prepared solely for the internal business use of CalSTRS. To the extent that Milliman's work is not subject to disclosure under applicable public records laws, Milliman's work may not be provided to third parties without Milliman's prior written consent. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. Milliman's consent to release its work product to any third party may be conditioned on the third party signing a Release, subject to the following exceptions:

(a) CalSTRS may provide a copy of Milliman's work, in its entirety, to CalSTRS professional service advisors who are subject to a duty of confidentiality and who agree to not use Milliman's work for any purpose other than to benefit CalSTRS.

(b) CalSTRS may provide a copy of Milliman's work, in its entirety, to other governmental entities, as required by law.

No third party recipient of Milliman's work product should rely upon Milliman's work product. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the Code of Professional Conduct and Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States promulgated by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.

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We would like to express our appreciation to the CalSTRS staff who gave substantial assistance in supplying the data on which this report is based. We respectfully submit the following report and we look forward to discussing it with you.

Sincerely,

Nick J. Collier, ASA, EA, MAAA
Consulting Actuary

Scott D. Preppernau, FSA, EA, MAAA
Consulting Actuary

Julie D. Smith, FSA, EA, MAAA
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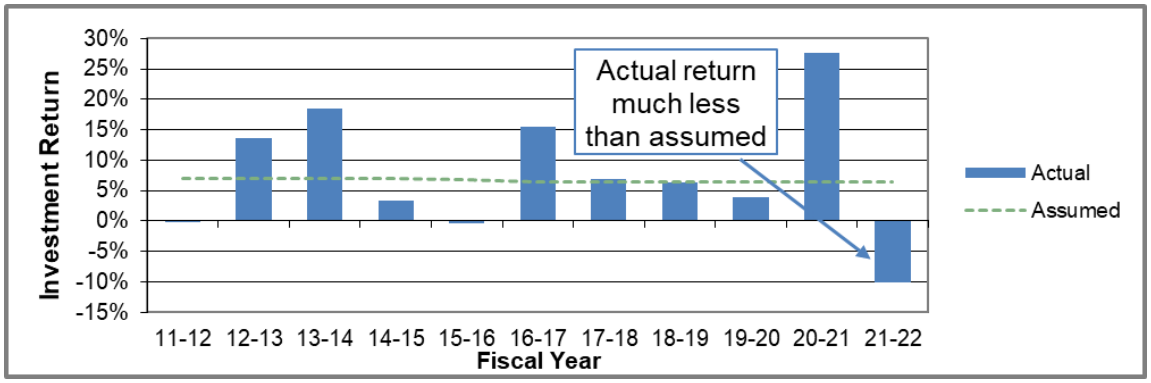
1. Summary of the Findings

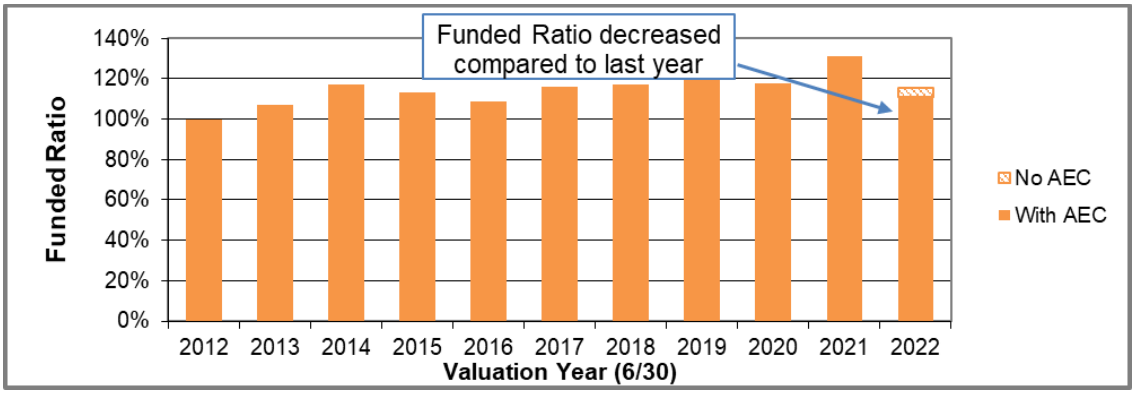
The primary purpose of the actuarial valuation is to determine the financial condition of the CBB Program through the measurement of the Gain and Loss Reserve. By using the actuarial methods and assumptions adopted by the Teachers' Retirement Board, this actuarial valuation provides an estimate of the financial condition of the CBB Program. The assumptions and methods were adopted at the January 2020 Teachers' Retirement Board meeting and there have been no changes to them since the last valuation.

The key findings of this actuarial valuation are:

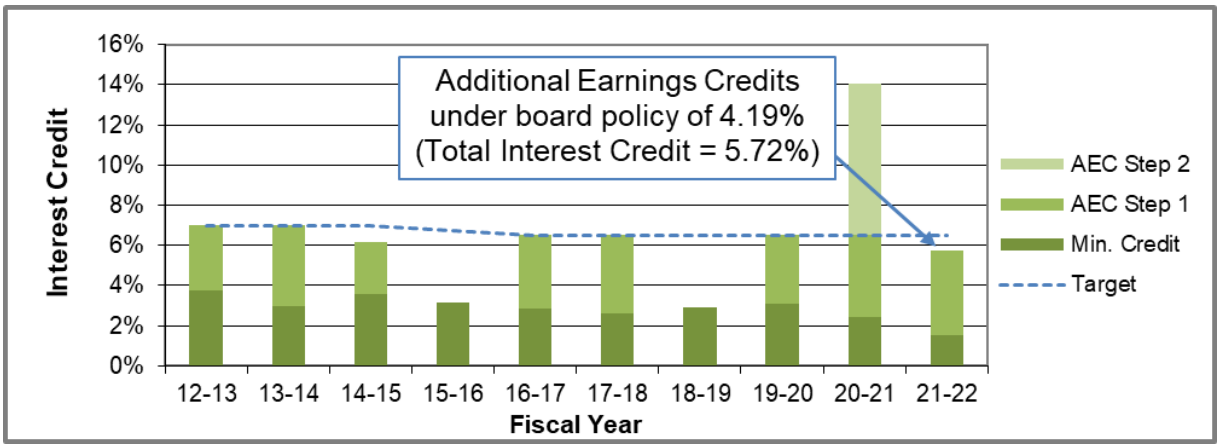
- The **investment return** for the 2021-22 fiscal year was calculated to be -10.2%, significantly less than the assumed 6.5%. The negative return was the primary factor affecting the results in this valuation. Note that CBB Program assets are invested differently than those of the DB and DBS Programs, and for the 2021-22 fiscal year the CBB Program had a markedly lower return than the other two programs.



- The **Funded Ratio** decreased from 131.2% to 115.5%, primarily due to an investment return less than the assumed 6.5% return for the prior fiscal year. The Funded Ratio of 115.5% is prior to the potential granting of Additional Earnings Credits (AEC). If the AEC are granted pursuant to the board policy, the Funded Ratio would decrease to 111.0%.



- Under board policy, an **Additional Earnings Credit** of 4.19% is calculated for June 30, 2022 account balances for non-retired members. The total amount of these credits is $15,313,000. The following chart shows the minimum interest rate credited each year as well as the additional credits granted under Step 1 and Step 2 of the policy through the 2021-22 fiscal year. The dotted line (target) is the assumed return assumption for each fiscal year. The details of the Step 1 and Step 2 additional credit calculations are described on page 8 of the report.



Results

As of June 30, 2022, the Actuarial Value of Assets of the Cash Balance Benefit (CBB) Program exceeds the Actuarial Obligation by $58,728,000. This number is a negative Unfunded Actuarial Obligation (UAO), sometimes referred to as an Actuarial Surplus. It is consistent with the board's policy to grant Additional Earnings Credits of $15,313,000 as of June 30, 2022, as discussed in this report.

($ Thousands)	June 30, 2022	June 30, 2021
Actuarial Balance Sheet		
Actuarial Obligation (before Add'l Credits)		
Active Members	$ 190,945	$ 163,226
Inactive Members	174,512	155,266
Retirees and Beneficiaries	13,936	12,435
Total	379,393	330,927
Actuarial Value of Assets	438,121	482,983
Unfunded Actuarial Obligation / (Actuarial Surplus)	$ (58,728)	$ (152,056)
Additional Earnings Credit	15,313 *	37,104
Final Unfunded Actuarial Obligation / (Actuarial Surplus)	$ (43,415) *	$ (114,952)
Funded Ratio (Assets ÷ Actuarial Obligation)		
Before Additional Credits	**115.48%**	**145.95%**
After Additional Credits	**111.00% ***	**131.23%**

** Subject to approval by the Teachers' Retirement Board.*

The Actuarial Value of Assets for this valuation is the Fair Market Value as provided to us by CalSTRS. The actual return for the year for the CBB Program, as measured using uniform cash flow throughout the year, was about -10.2% net of investment and administrative expenses.

($ Thousands)	Year Ended June 30, 2022	Year Ended June 30, 2021
Additions		
Contributions	$ 17,952	$ 16,937
Earnings	(48,377)	105,019
Change in GASB Adjustment	(100)	111
Total Additions	$ (30,525)	$ 122,067
Deductions		
Benefits	$ 13,298	$ 13,381
Expenses	1,039	1,153
Total Deductions	14,337	14,534
Net Increase (Decrease)	$ (44,862)	$ 107,533
Net Assets		
Beginning of Year	$ 482,983	$ 375,450
Net Increase (Decrease)	(44,862)	107,533
End of Year	$ 438,121	$ 482,983
Estimated Net Rate of Return	-10.2%	27.5%

If the experience had emerged as assumed, the Actuarial Surplus would have increased from $114,952,000 to $122,424,000. The difference between the actual and expected UAO is the actuarial gain or loss for the year.

- There was an actuarial loss of $81,061,000 due to the actual investment return being less than last year's assumed long-term return of 6.50%.
- There was an actuarial gain of $17,365,000 on the Actuarial Obligation. This was primarily due to the current year's interest credits being less than 6.50% during the year. The Minimum Interest Rate for the 2021-22 fiscal year was 1.53%.
- The net actuarial loss was $63,696,000, resulting in a Funded Ratio of 115.48% prior to granting any Additional Earnings Credits.

A summary of the actuarial (gains) and losses for the last two years is shown in the following table.

($ Thousands)	June 30, 2022	June 30, 2021
Actuarial (Gain) or Loss		
Investment Return on Assets	$ 81,061	$ (79,457)
Assumption & Method Changes	0	0
Interest Credits on Accounts	(17,365)	(11,878)
Total Actuarial (Gain) or Loss	$ 63,696	$ (91,335)
Expected UAO at End of Year	(122,424)	(60,721)
Total Unfunded Actuarial Obligation / (Actuarial Surplus) Before Add'l Credits	$ (58,728)	$ (152,056)

The board established a policy ("Additional Credit Policy") on June 9, 2006 that was effective for the Additional Earnings Credit and Additional Annuity Credit decisions beginning in 2006. The board's Additional Credit Policy calls for a two-step determination of the allocation as shown in detail in this report. This policy was updated at the board's April 2015 meeting to increase the thresholds needed to be met to grant Additional Earnings Credits and to remove the Additional Annuity Credit.

Based on the board's policy, Additional Earnings Credits of $15,313,000 may be granted as of June 30, 2022. If Additional Earnings Credits are granted in this amount, the Funded Ratio will be 111.00%, as opposed to 115.48% without the credit.

The following table shows a history of prior board actions.

($ Thousands) Valuation Date	Funded Ratio	Available Reserves and Unallocated Gains (Losses)	Additional Credits Adopted	Final Gain and Loss Reserve
June 30, 2012	100.0%	$ 34	$ 0	$ 34
June 30, 2013	107.1%	17,972	5,544	12,428
June 30, 2014	117.1%	41,310	7,492	33,818
June 30, 2015	113.2%	34,557	5,552	29,005
June 30, 2016	108.8%	20,837	0	20,837
June 30, 2017	115.9%	50,324	8,859	41,465
June 30, 2018	117.3%	58,365	10,045	48,320
June 30, 2019	121.6%	63,442	0	63,442
June 30, 2020	117.9%	67,051	10,036	57,015
June 30, 2021	131.2%	152,056	37,104	114,952
June 30, 2022	111.0%	* 58,728	15,313 *	43,415 *

** Subject to approval by the Teachers' Retirement Board.*

Future Funding

As of June 30, 2022, the CBB Program has an Actuarial Surplus (negative UAO) since the value of assets is greater than the current value of the Actuarial Obligation. If all assumptions are met, the funding surplus will slowly grow in the future (prior to reflecting potential Additional Earnings Credits). If future experience is worse than assumed, a UAO (shortfall between assets and liabilities) may develop. For example, if Additional Earnings Credits are adopted this year and the CBB Program has an 8% investment loss or more for the fiscal year ended June 30, 2023, we project that a UAO would emerge in the next valuation. Alternatively, a longer period with less-than-expected returns not as severe as the 8% loss could cause a UAO to develop.

There is currently no provision in the Education Code to increase contributions to make up for any future shortfalls if they were to occur. However, the assumed return on investments exceeds the current Minimum Interest Rate. To the extent that the assets earn more than the accounts are credited in the future, this may be sufficient to make up any potential shortfall.

The actuarially determined contribution in accordance with the funding policy is equal to the actual contributions that will be required to be made to the CBB Program according to the California Education Code.

Conclusion

The CBB Program is currently in a surplus funded position; that is, the assets exceed the value of the Actuarial Obligation based on the actuarial assumptions. Given the current funded position, it is consistent with their policy for the board to grant Additional Credits. However, it should be noted that future experience will not exactly conform to the assumptions. To the extent future experience is worse than assumed, it is possible that a UAO could develop in the future.

Granting Additional Earnings Credits of 4.19% to active and inactive member accounts is consistent with the board's policy. The estimated value of the Additional Earnings Credits is $15,313,000.

2. Findings of the Actuarial Valuation

An actuarial valuation is performed as of June 30 of each year, the last day of the Program's plan year. The primary purpose of the valuation is to determine the financial condition of the CBB Program through the measurement of the Gain and Loss Reserve. We also describe recent changes in the Program's financial condition and provide additional disclosure information.

The findings have been determined according to actuarial assumptions that were adopted on the basis of recent experience and current expectations of future experience. In our opinion, the assumptions used in the valuation are reasonably related to the past experience of the CBB Program and represent a reasonable estimate of future conditions affecting the Program. Nevertheless, the emerging costs of the Program will vary from those presented in this report to the extent that actual experience differs from that projected by the actuarial assumptions.

Actuarial Value of Assets

The Actuarial Value of Assets for this valuation is the Fair Market Value as reported by CalSTRS. A Statement of Program Assets for the last two plan years is shown in **Table 1**, and the Statement of Change in Program Assets is shown in **Table 2**.

The investment return for the 2021-22 fiscal year was calculated to be -10.2% net of all investment and administrative expenses and assuming uniform cash flow throughout the year. This is an estimate only for the purpose of comparing investment experience from one year to the next and will likely differ from information provided by CalSTRS investment staff.

Actuarial Balance Sheet

Under the Traditional Unit Credit Actuarial Cost Method, when the assumed investment return is equal to the assumed interest crediting rate, then the Normal Cost is equal to the contributions made during the year and the Actuarial Obligation is equivalent to the current sum of the Members' Account Balances plus a reserve for the present value of the current annuity payments.

Table 3 shows the Actuarial Obligation for this valuation and the prior valuation.

For the purpose of this valuation, the account information was provided to us by CalSTRS, reflecting all Additional Earnings Credits previously granted. We checked the information for reasonableness by reviewing the individual member records supplied to us. We independently calculated the value of the annuitized benefits.

The excess of the Actuarial Obligation over the Actuarial Value of Assets is called the Unfunded Actuarial Obligation (UAO). If the Actuarial Value of Assets exceeds the Actuarial Obligation, the difference is called the Actuarial Surplus.

If all experience emerged as assumed every year, the CBB Program would have an Actuarial Surplus at the end of each year before any Additional Earnings Credits, assuming the Minimum Interest Rate is less than the assumed earnings rate. In order to retain an Actuarial Surplus, the investment returns over a long period of time must exceed the combination of the Minimum Interest Rates and the Additional Earnings Credits.

Although this relationship is projected to hold, there have been situations in the past, such as after the Great Recession of 2008, where investment performance for several prior years was below the long-term assumption and a UAO emerged.

Actuarial Gains and Losses

The Minimum Interest Rate for the year ending on the valuation date was 1.53%. Since the assumed total earnings rate last year was 6.50% per year, the increase in the Actuarial Obligation was less than projected. The total actuarial gain on the Actuarial Obligation, primarily due to interest credits being less than assumed, was $17,365,000.

Last year, the assumed earnings rate on the invested assets was 6.50% per year. The actual return for the year was about -10.2% (net of investment and administrative expenses and assuming uniform cash flow through the year, which is slightly different than how interest is actually posted), which produced an investment loss of $81,061,000.

The assumed earnings rate is 6.50% in all future years, as adopted by the board in February 2017 and re-adopted in January 2020.

The total actuarial loss due to all causes was $63,696,000 as shown in **Table 4**.

Contributions and Normal Costs

Table 4 shows that the Normal Costs of the CBB Program are equal to the actual contributions. They are shown as the actual dollar amount of contributions. The timing in **Table 4** is therefore consistent with the fact that contributions are spread over the entire year and correspond to payroll timing. The total contributions of $17,952,000 were made up of $9,026,000 in member contributions and $8,926,000 in employer contributions.

Gain and Loss Reserve

Table 5 shows the derivation of the Gain and Loss Reserve. After each actuarial valuation, the Teachers' Retirement Board decides on the adjustment to the prior year's Gain and Loss Reserve and the Additional Earnings Credits, if any.

This report assumes the Teachers' Retirement Board will allocate any unallocated gain or loss to funding after any Additional Earnings Credits are adopted.

Additional Credits Based on Board Policy

Based on the board's policy, Additional Earnings Credits of $15,313,000 may be granted as of June 30, 2022.

The board's policy calls for a two-step determination of the allocation.

The first step in the process allocates the excess of the Actuarial Surplus over 1 times the Standard Deviation of the Expected Long-Term Rate of Return on the investment portfolio, but limited by the long-term assumed rate of earnings.

First Allocation	
Long-term Expected Net Investment Return	6.50%
Minimum Interest Rate (year prior to valuation)	1.53
Maximum Available in First Allocation (1)	4.97%
Actuarial Surplus	15.48%
First Threshold (1x Portfolio Std. Deviation)	11.00
Maximum credit such that resulting Funded Ratio is not less than 100% + Std. Deviation (2)	4.19%*
First Allocation [lesser of (1) and (2)]	**4.19%**
First Allocation Amount	$15,313,000

** The result is not a simple subtraction of the Actuarial Surplus and the First Threshold, because the maximum credit is determined based on a division of the Actuarial Value of Assets and the Actuarial Obligation with the First Allocation.*

The second step in the process allocates 50% of the remaining Actuarial Surplus over 2 times the Standard Deviation of the Expected Long-Term Rate of Return on the investment portfolio.

Second Allocation	
Remaining Actuarial Surplus (3)	11.00%
Second Threshold (2 x Portfolio Std. Deviation) (4)	22.00
Target Second Threshold Surplus [Average of (3) and (4), but not less than Second Threshold]	22.00%
Available for Second Allocation	**0.00%**

The total available is the sum of the two steps, or 4.19% of the Actuarial Obligation for active and inactive member accounts as of June 30, 2022.

Details of the calculation are shown in **Table 6**.

Historical Information

A history of the CBB Program's cash flow and funded status are shown in **Tables 7 and 8**.

Supplemental Information

Supplemental information that is recommended to be disclosed by the California Actuarial Advisory Panel is shown in **Tables 9, 10, and 11**.

Table 1
Statement of Program Assets

($ Thousands)	June 30, 2022	June 30, 2021
Invested Assets		
Cash	$ 434	$ 288
Debt Securities	122,145	120,264
Equity Securities	235,181	306,963
Alternative Investments	94,477	72,937
Derivative Instruments	(847)	(600)
Securities Lending Collateral	53,213	49,322
Bond Proceeds Investment	89	264
Other Investments	1,005	727
Total Investments	$ 505,697	$ 550,165
Receivables	24,237	8,771
Liabilities	(93,192)	(77,432)
Valuation Adjustment (GASB Expenses)	1,379	1,479
Fair Market Value of Net Assets	$ 438,121	$ 482,983

Table 2
Statement of Change in Program Assets

($ Thousands)	Year Ended June 30, 2022	Year Ended June 30, 2021
Additions		
Contributions		
Members	$ 9,026	$ 8,514
Employers	8,926	8,423
Total Contributions	17,952	16,937
Net Earnings	(48,377)	105,019
Total Additions	$ (30,425)	$ 121,956
Deductions		
Benefit Payments		
Retirement, Death and Survivor	$ 11,803	$ 7,930
Refunds of Participant Contributions	1,495	5,451
Total Benefits	13,298	13,381
Expenses	1,039	1,153
Total Deductions	$ 14,337	$ 14,534
Net Increase (Decrease)	$ (44,762)	$ 107,422
Fair Market Value of Net Assets		
Beginning of Year	$ 482,983	$ 375,450
Valuation Adjustment (GASB Expenses)	(100)	111
Net Increase (Decrease)	(44,762)	107,422
End of Year	$ 438,121	$ 482,983
Estimated Net Rate of Return - Assuming uniform cash flow through the year - Net of investment and administrative expenses	-10.2%	27.5%

Table 3
Actuarial Balance Sheet

($ Thousands)	June 30, 2022		June 30, 2021
	Without Additional Credits	With Additional Credits Adopted	
Total Requirements			
Actuarial Obligation			
Retirees and Beneficiaries	$ 13,936	$ 13,936	$ 12,435
Inactive Members	174,512	181,824*	173,354
Active Members	190,945	198,946*	182,242
Total Requirements	$ 379,393	$ 394,706*	$ 368,031
Total Resources			
Actuarial Value of Assets	$ 438,121	$ 438,121	$ 482,983
Unfunded Actuarial Obligation or (Actuarial Surplus)	(58,728)	(43,415)*	(114,952)
Total Resources	$ 379,393	$ 394,706*	$ 368,031
Funded Ratio	115.48%	111.00%*	131.23%

** Subject to approval by the Teachers' Retirement Board.*

Table 4
Actuarial Gains and Losses*

($ Thousands)	Actuarial Obligation	Actuarial Value of Assets	Unfunded Actuarial Obligation / (Surplus)
Balance at June 30, 2021	$ 368,031	$ 482,983	$ (114,952)
Expected Changes			
Actual Contributions	17,952	17,952	0
Actual Benefits Paid	(13,298)	(13,298)	0
Expected Earnings/Credits	24,073	31,545	(7,472)
Expected Balance at June 30, 2022	$ 396,758	$ 519,182	$ (122,424)
Actuarial Gains or Losses			
(Gain)/Loss on Actuarial Obligation	(17,365)		
Gain/(Loss) on Assets		(81,061)	
Assumption Change		0	
Net (Gain) or Loss			63,696
Actual Balance at June 30, 2022	$ 379,393	$ 438,121	$ (58,728)

** Prior to Additional Earnings Credits.*

Table 5
Gain and Loss Reserve

($ Thousands)	June 30, 2022		June 30, 2021
	Without Additional Credits	With Additional Credits Adopted	
Unfunded Actuarial Obligation or (Actuarial Surplus) (prior to any additional earnings credits)	$ (58,728)	$ (58,728)	$(152,056)
Additional Earnings Credits	0	15,313*	37,104
Unfunded Actuarial Obligation or (Actuarial Surplus)	(58,728)	(43,415)*	(114,952)
Gain and Loss Reserve			
Beginning of Year	$114,952	$ 114,952	$ 57,015
Allocated to Funding	(56,224)	(71,537)*	57,937
End of Year Gain and Loss Reserve	58,728	43,415*	114,952
Unallocated Gains and (Losses)	$ 0	$ 0*	$ 0

($ Thousands) Valuation Date	Available Reserves and Unallocated Gains (Losses)	Additional Credits Adopted	Final Gain and Loss Reserve
June 30, 2009	$ (22,887)	$ 0	$ (22,887)
June 30, 2010	(15,156)	0	(15,156)
June 30, 2011	6,786	0	6,786
June 30, 2012	34	0	34
June 30, 2013	17,972	5,544	12,428
June 30, 2014	41,310	7,492	33,818
June 30, 2015	34,557	5,552	29,005
June 30, 2016	20,837	0	20,837
June 30, 2017	50,324	8,859	41,465
June 30, 2018	58,365	10,045	48,320
June 30, 2019	63,442	0	63,442
June 30, 2020	67,051	10,036	57,015
June 30, 2021	152,056	37,104	114,952
June 30, 2022	58,728	15,313*	43,415*

** Subject to approval by the Teachers' Retirement Board.*

Table 6
Additional Credits Based on Board Policy

	June 30, 2022	June 30, 2021
Funded Ratio before Additional Credits	115.48%	145.95%
Actuarial Surplus	15.48%	45.95%
First Threshold	11.00%	11.00%
Second Threshold	22.00%	22.00%
First Allocation		
Long-term Net Investment Return	6.50%	6.50%
Minimum Interest Rate (year prior to valuation)	1.53	2.44
Maximum Available in First Allocation (1)	4.97%	4.06%
First Threshold (1 x Std. Deviation of Portfolio Return)	11.00	11.00
Maximum credit such that resulting Funded Ratio is not less than 100% + Std. Deviation (2)	4.19%*	32.71%*
First Allocation [lesser of (1) and (2)]	**4.19%**	**4.06%**
Second Allocation		
Remaining Actuarial Surplus after First Allocation	$43,415	$139,125
Total Actuarial Obligation after First Allocation	$394,706	$343,858
Remaining Actuarial Surplus % (3)	11.00%	40.46%
Second Threshold (2 x Std. Deviation of Portfolio Return) (4)	22.00%	22.00%
Target Second Threshold Surplus [Average of (3) and (4), but not less than Second Threshold]	22.00%	31.23%
Maximum Credit to meet Target Surplus	$0	$24,185
Non-Retired Actuarial Obligation [Prior to First Allocation]	$365,457	$318,492
Available for Second Allocation	**0.00%**	**7.59%**
Additional Earnings Credits based on Board Policy		
As a percentage of Actuarial Obligation (actives and inactives only) as of the valuation date	4.19%	11.65%
As a dollar amount ($ Thousands)	**$ 15,313**	**$ 37,104**

** The result is not a simple subtraction of the Actuarial Surplus and the First Threshold, because the maximum credit is determined based on a division of the Actuarial Value of Assets and the Actuarial Obligation with the First Allocation.*

Table 7
History of Cash Flow

($ Thousands)		Expenditures During the Year					
Year End	Contributions for the Year	Benefit Payments	Contribution Refunds	Expenses	Total	External Cash Flow	Fair Market Value of Assets
1997	$ 148	$ 0	$ 0	$ 428	$ 428	$ (280)	$ (393)
1998	1,544	0	0	466	466	1,078	790
1999	3,082	0	15	430	445	2,637[1]	5,224
2000	4,955	0	59	4	63	4,892	10,868
2001	5,972	0	119	8	127	5,845	15,768
2002	7,121	0	195	11	206	6,915	21,748
2003	7,171	0	320	17	337	6,834	29,963
2004	7,712	580	197	28	805	6,907	42,253
2005	8,639	1,235	245	34	1,514	7,125	53,918
2006	10,605	1,330	472	34	1,836	8,769	68,797
2007	11,884	884	664	44	1,592	10,292	93,182
2008	14,418	1,053	608	52	1,713	12,705	98,892
2009	14,970	1,222	1,054	65	2,341	12,629	91,793
2010	13,199	2,019	1,091	112	3,222	9,977	114,418
2011	12,889	2,463	1,305	114	3,882	9,007	151,248
2012	11,846	3,582	1,160	133	4,875	6,971	158,020
2013	13,425	3,329	1,692	161	5,182	8,243	188,551
2014	13,831	4,200	1,987	185	6,372	7,459	231,671
2015	15,861	4,332	2,001	203	6,536	9,325	248,699
2016	16,021	4,669	2,376	273	7,318	8,703	256,675
2017	18,066	6,007	6,495	359	12,861	5,205	302,448
2018	18,821	6,955	6,714	315	13,984	4,837	328,022
2019	18,440	7,930	3,798	992	12,720	5,720	357,273
2020	17,916	9,681	4,066	885	14,632	3,284	375,450
2021	16,937	7,930	5,451	1,153	14,534	2,403	482,983
2022	17,952	11,803	1,495	1,039	14,337	3,615	438,121

1. Excludes write-off of loan from the DB Program of $1,417,000 as of January 1, 1999.

Table 8
Schedule of Funding Progress

($ Thousands)

Year End	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio Assets/AAL	Estimated Covered Payroll	Coverage Ratio UAAL/Pay
1997	$ (393)	$ 164	$ 557	(240)%	$ 4,504	12%
1998	790	1,728	938	46%	18,838	5%
1999	5,224	5,001	(223)	104%	50,426	(0)%
2000	10,868	10,351	(517)	105%	70,605	(1)%
2001	15,768	16,938	1,170	93%	97,921	1%
2002	21,748	25,080	3,332	87%	89,871	4%
2003	29,963	33,837	3,874	89%	81,080	5%
2004	42,253	42,003	(250)	101%	96,199	(0)%
2005	53,918	51,781	(2,137)	104%	106,951	(2)%
2006	68,797	62,889	(5,908)	109%	122,316	(5)%
2007	93,182	79,882	(13,300)	117%	144,516	(9)%
2008	98,892	98,031	(861)	101%	181,104	(0)%
2009	91,793	114,680	22,887	80%	182,030	13%
2010	114,418	129,574	15,156	88%	162,546	9%
2011	151,248	144,462	(6,786)	105%	157,871	(4)%
2012	158,020	157,986	(34)	100%	150,686	(0)%
2013	188,551	176,123	(12,428)	107%	150,678	(8)%
2014	231,671	197,853	(33,818)	117%	174,342	(19)%
2015	248,699	219,694	(29,005)	113%	192,277	(15)%
2016	256,675	235,838	(20,837)	109%	209,220	(10)%
2017	302,448	260,983	(41,465)	116%	217,721	(19)%
2018	328,022	279,702	(48,320)	117%	231,621	(21)%
2019	357,273	293,831	(63,442)	122%	228,618	(28)%
2020	375,450	318,435	(57,015)	118%	225,023	(25)%
2021	482,983	368,031	(114,952)	131%	208,274	(55)%
2022	438,121	394,706*	(43,415)*	111%*	221,581	(20)%*

** Subject to approval by the Teachers' Retirement Board.*

Table 9
Reconciliation of Changes in Unfunded Actuarial Obligation

($ Thousands)

Year End	Beginning of Year UAO	Expected Earnings/ Credits	(G)/L on Actuarial Obligation	(G)/L on Assets	Additional Credits	End of Year UAO
2011	$ 15,156	$ 1,099	$ (3,958)*	$ (19,083)	$ 0	(6,786)
2012	(6,786)	(475)	(3,941)	11,168	0	(34)
2013	(34)	(3)	(7,164)	(10,771)	5,544	(12,428)
2014	(12,428)	(870)	(6,002)	(22,010)	7,492	(33,818)
2015	(33,818)	(2,367)	(7,422)	9,050	5,552	(29,005)
2016	(29,005)	(2,030)	(8,525)*	18,723	0	(20,837)
2017	(20,837)	(1,406)	(5,385)*	(22,696)	8,859	(41,465)
2018	(41,465)	(2,696)	(13,609)	(595)	10,045	(48,320)
2019	(48,320)	(3,141)	(10,982)	999*	0	(63,442)
2020	(63,442)	(4,123)	(8,836)	9,350	10,036	(57,015)
2021	(57,015)	(3,706)	(11,878)	(79,457)	37,104	(114,952)
2022	(114,952)	(7,472)	(17,365)	81,061	15,313**	(43,415)**

** Includes impact of changes in assumptions and methods.*

*** Subject to approval by the Teachers' Retirement Board.*

Table 10
Changes in Economic Assumptions

Year	Price Inflation	Wage Inflation	Investment Return
2011	3.00%	3.75%	7.00%
2012	3.00%	3.75%	7.00%
2013	3.00%	3.75%	7.00%
2014	3.00%	3.75%	7.00%
2015	3.00%	3.75%	7.00%
2016	2.75%	3.50%	6.75%
2017	2.75%	3.50%	6.50%
2018	2.75%	3.50%	6.50%
2019	2.75%	3.50%	6.50%
2020	2.75%	3.50%	6.50%
2021	2.75%	3.50%	6.50%
2022	2.75%	3.50%	6.50%

Table 11
Smoothing and Volatility Ratios

Year	Asset Smoothing Ratio AVA/MVA	Asset Volatility Ratio MVA/Payroll	Liability Volatility Ratio AAL/Payroll
2002	100%	24.2%	27.9%
2003	100%	37.0%	41.7%
2004	100%	43.9%	43.7%
2005	100%	50.4%	48.4%
2006	100%	56.2%	51.4%
2007	100%	64.5%	55.3%
2008	100%	54.6%	54.1%
2009	100%	50.4%	63.0%
2010	100%	70.4%	79.7%
2011	100%	98.8%	91.5%
2012	100%	104.9%	104.8%
2013	100%	125.1%	116.9%
2014	100%	132.9%	113.5%
2015	100%	129.3%	114.3%
2016	100%	122.7%	112.7%
2017	100%	138.9%	119.9%
2018	100%	141.6%	120.8%
2019	100%	156.3%	128.5%
2020	100%	166.8%	141.5%
2021	100%	231.9%	176.7%
2022	100%	197.7%	178.1%*

** Actuarial Accrued Liability used in calculation is subject to approval of Additional Earnings Credits by the Teachers' Retirement Board.*

3. Risk Disclosures

The results of any actuarial valuation are based on a set of assumptions. Although we believe the current assumptions provide a reasonable estimate of future expectations, it is almost certain that future experience will differ from the assumptions to some extent. The following is a general discussion of the potential risks to the CBB Program funding and is not intended to be a comprehensive analysis of all potential risks.

Factors Affecting Future Results

There are a number of factors that affect future valuation results. To the extent actual experience for these factors varies from the assumptions, this will likely cause either increases or decreases in the plan's future funding level. Examples of factors that can have a significant impact on valuation results are:

- Investment return
- Payroll variation
- Salary variation
- Mortality (how long retirees live)
- Service retirement
- Termination (members leaving active employment for reasons other than death, disability, or service retirement)
- Contribution limitations. There is no dedicated funding if a deficit develops between the Program's assets and the value of future benefits.

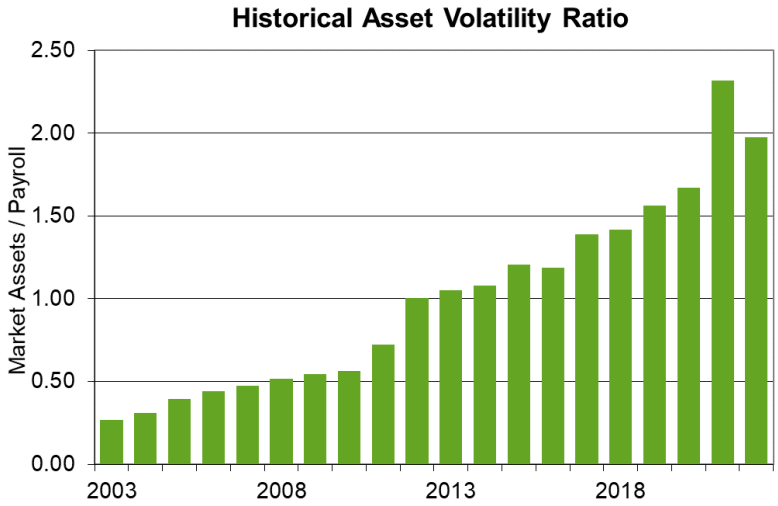
Of these factors, we believe the factor with the greatest potential risk is future investment returns. As an example of these risks, if actual investment returns fall materially short of the current assumption of 6.50% per year, this will cause a decrease in the Funded Ratio for the CBB Program, all other things being equal. Although, the CBB Program currently has a Funded Ratio of approximately 116%, if Additional Earnings Credits are adopted for this year and the fiscal year 2022-23 return is -8% or less, the Funded Ratio would be projected to be less than 100% next year and a deficit would emerge.

Maturity Risk

The magnitude of any contribution rate increase needed to make up any funding deficit (if one were to occur) is affected by the Program's maturity level. As the CBB Program becomes more mature (i.e., the number of retirees grows compared to the number of actives, and the accumulated assets grow compared to payroll), it becomes more difficult to emerge from a deficit position (if one were to occur in the future). One indicator of this maturity is the Asset Volatility Ratio (AVR), which is equal to the Fair Market Value of Assets divided by total payroll for active CBB Program members. The AVR is a current measure since it is based on the current level of assets and will vary from year to year.

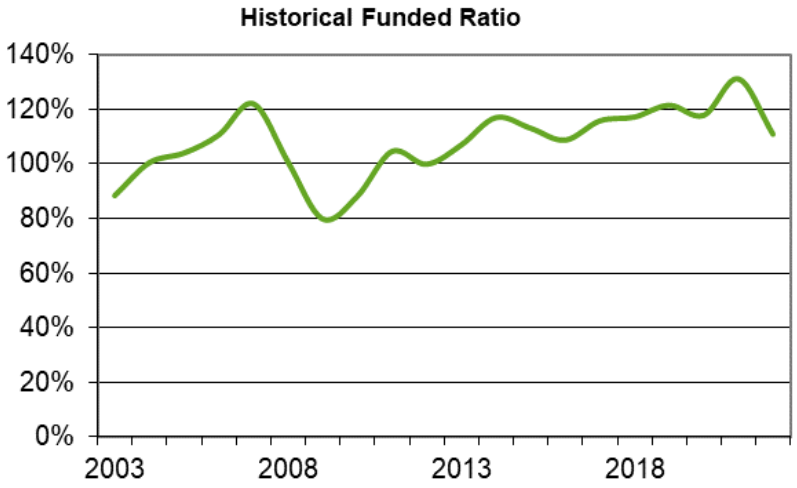
For the CBB Program, the current AVR is equal to 1.98. This means that for each 1% asset loss (in relation to the assumed investment return), there will need to be an increase in contributions equivalent to 1.98% of one-year's payroll to make up for this loss. However, this type of contribution increase would only be needed if the CBB Program were to move to a deficit position. It should be noted that there is no current mechanism to provide deficit reduction contributions to the CBB Program. Additionally, the CBB Program interest credit rates have historically been less than the assumed investment return, so it is possible the CBB Program could emerge from a deficit position without additional contributions.

The following graph shows how the CBB Program has matured over the last 20 years. There was a large increase in the 2021 valuation due to the significant increase in the market value of assets.



Historical Measures

One way to assess future risks is to look at historical measurements. The following graph shows how the CBB Program Funded Ratio has varied over the last 20 years. In particular, it reflects the significant impact that investment returns can have. The CBB Program had a Funded Ratio over 120% in 2007, but decreased to 80% in two years. The Funded Ratio has since recovered primarily due to strong returns. Note that the 2022 Funded Ratio includes potential Additional Earnings Credits, subject to approval by the Teachers' Retirement Board.



Appendix A Provisions of Governing Law

All of the actuarial calculations contained in this report are based upon our understanding of the Cash Balance Benefit (CBB) Program of the State Teachers' Retirement System as contained in Part 14 of the California Education Code. The provisions used in this valuation are summarized below for reference purposes.

Participation

Eligibility Requirement: Participation if employed at less than 50% of a full-time position for a California school district, or county office of education, or a temporary employee of a community college district, and the employer has elected to offer the CBB Program and the employee has elected to participate. In addition, a trustee of an employer that offers the CBB Program is eligible to participate.

Participant: An eligible employee or trustee with creditable service subject to coverage, who has contributions credited in the Program or is receiving an annuity from the Program.

Account Balance

Account Balance: Nominal accounts established for the purpose of determining benefits payable to the Member. Accounts are credited with Contributions, a Minimum Interest Rate and Additional Earnings Credits.

Contributions: Generally, Participant Contributions are 4% of salary and Employer Contributions are 4% of salary.

> Rules for Contribution rates may differ for Participants covered by a collective bargaining agreement, but the sum of the Participant and Employer contributions must equal or exceed 8% of salary, and in no event can the Employee contribution rate be less than 4% of salary.
>
> The board may adjust Employer Contributions for a fixed number of years, but the adjustment shall not exceed 0.25% of salaries in any plan year, up to a maximum mandatory Employer Contribution of 4.25%.

Minimum Interest Rate: Annual rate determined for the plan year by the board in accordance with federal laws and regulations. The Minimum Interest Rate is equal to the average of the yields on 30-year Treasuries for the 12 months ending in February preceding the beginning of the plan year, rounded to the next highest 0.01%.

Additional Earnings Credits: Annual rate determined for the plan year by the board pursuant to earnings credit policy adopted at the April 2015 meeting.

Additional Annuity Credit: No longer applies, per the board annuity credit policy adopted at the April 2015 meeting.

Normal Retirement

Eligibility Requirement: Age 60, or age 62 for a Participant subject to the Public Employees' Pension Reform Act.

Benefit: The Account Balance at the retirement date subject to limits imposed under Internal Revenue Code (IRC) Section 415.

Form of Payment: The normal form of payment is a lump sum distribution. Annuity options are available if the sum of the employer and Participant accounts equal or exceed $3,500.

Early Retirement

Eligibility Requirement: Age 55.

Benefit and Form: Same as Normal Retirement.

Late Retirement

Benefit and Form: Same as Normal Retirement.

Contributions and earnings continue to be credited to the Account Balances until distributed.

Deferred Retirement

Benefit: A Participant may cease active service, leave the accumulated Account Balance on deposit, and later retire upon attaining the minimum age requirement.

Disability Benefit

Eligibility Requirement: Determination by the board that the Participant has a total and permanent disability.

Benefit: The Account Balance at the date of disability. An annuity benefit is discontinued if the Participant is re-employed before age 60, and performs service creditable under the Program. The actuarial equivalent of the Participant's annuity as of the date creditable service is resumed is credited to the Participant's Account Balance.

Form of Payment: Same as Normal Retirement.

Death before Retirement

Eligibility Requirement: Deceased Participant has an Account Balance.

Benefit: The Account Balance at the date of death payable to the designated beneficiary.

Form of Payment: Same as Normal Retirement, except annuity options are limited to a Period Certain Annuity.

Death after Retirement

Eligibility Requirement: The deceased Member was receiving an annuity.

Benefit: According to the terms of the annuity elected by the Member.

Termination from the Program

Eligibility Requirement: Termination of all CalSTRS-covered service. A Participant may not apply for a Termination Payment if less than five years has elapsed since the most recent termination benefit, if any, has been paid.

Benefit: Lump-sum distribution of the Account Balance as of the date of distribution. The benefit is payable six months from the termination of creditable service.

Appendix B Actuarial Methods and Assumptions

This section of the report discloses the actuarial methods and assumptions used in this Actuarial Valuation. These methods and assumptions have been chosen on the basis of recent experience of the CBB Program and on current expectations as to future economic conditions. The assumptions were reviewed and changed for the June 30, 2019 Actuarial Valuation as a result of the 2020 Experience Analysis. Please refer to that Experience Analysis report dated January 14, 2020 for the data and rationale used in the selection and recommendation of each assumption.

The assumptions are intended to estimate the future experience of the members of the CBB Program and of the CBB Program itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in estimated costs of the CBB Program's benefits.

Actuarial Cost Method

The accruing costs of all benefits are measured by the Traditional Unit Credit Actuarial Cost Method. Under this method, the projected benefits of each individual member are allocated by a consistent formula to valuation years. The actuarial present value of future projected benefits allocated to the current year is called the Normal Cost. The actuarial present value of future projected benefits allocated to periods prior to the valuation year is called the Actuarial Obligation.

The Actuarial Obligation is equal to the accumulated account balances and the Normal Cost is equal to the total annual contribution.

Asset Valuation Method

The assets are valued at Fair Market Value. The Fair Market Value excludes the liability for "Net Pension and OPEB Obligation," which are pre-recognized administrative expenses, from the Fiduciary Net Position reported for accounting purposes.

Actuarial Assumptions

The Actuarial Standards Board has adopted Actuarial Standard of Practice No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*. This Standard provides guidance on selecting economic assumptions under defined benefit retirement programs such as the System. In our opinion, the economic assumptions have been developed in accordance with the Standard.

The Actuarial Standards Board has adopted Actuarial Standard of Practice No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*. This Standard provides guidance on selecting demographic assumptions under defined benefit retirement programs such as the System. In our opinion, the demographic assumptions have been developed in accordance with the Standard.

The assumptions are intended to estimate the future experience of the members of the CBB Program and of the System itself in areas that affect the projected benefit flow and anticipated investment earnings. Any variations in future experience from that expected from these assumptions will result in corresponding changes in estimated costs of the Program's benefits.

The economic and demographic assumptions are listed in **Table B.1** and illustrated at selected ages and duration combinations in **Table B.2**.

Table B.1
List of Major Valuation Assumptions

Economic Assumptions

Investment Return (net of investment and administrative expenses)	6.50%
Interest on Member Accounts	6.50%
Wage Growth	3.50%
Inflation	2.75%
Standard Deviation of Portfolio	11.00%

Demographic Assumptions

Mortality[1]

Retired & Beneficiary - Male	2019 CalSTRS Service Retired Male	Table B-2
Retired & Beneficiary - Female	2019 CalSTRS Service Retired Female	Table B-2
Disabled - Male	2019 CalSTRS Disabled Retiree Male	Table B-2
Disabled - Female	2019 CalSTRS Disabled Retiree Female (select rates in first three years for both Males and Females)	Table B-2

1. The mortality assumption uses a generational mortality approach with a base year of 2019. Projected improvement is based on 110% of the MP-2019 Ultimate Projection Scale. The combined base tables and projection scale specified contain a margin for expected future mortality improvement.

Note: Assumptions for active and inactive members do not apply to the CBB Program valuation, as each active and inactive member's liabilities are equal to the member's account balance.

Table B.2
Mortality as of June 30, 2022

	Retired Members and Beneficiaries[1]		Disabled Members (After Year 3)[1]	
Age	Male	Female	Male	Female
50	0.227%	0.126%	1.748%	0.987%
55	0.335	0.199	2.033	1.235
60	0.449	0.265	2.306	1.458
65	0.638	0.400	2.683	1.742
70	1.021	0.659	3.327	2.261
75	1.832	1.211	4.388	3.217
80	3.362	2.322	6.074	4.765
85	6.464	4.632	8.824	7.081
90	12.501	9.450	13.419	10.491
95	21.425	17.761	20.122	15.574

Select minimum rates for disability:

First year of disability	4.0%	3.0%
Second year of disability	3.5	2.5
Third year of disability	3.0	2.0

1. The mortality assumption uses a generational mortality approach with a base year of 2019. Projected improvement is based on 110% of the MP-2019 Ultimate Projection Scale. The rates shown reflect mortality improvement through June 30, 2022. The projection scale does not apply to the select minimum rates.

Appendix C Valuation Data

The membership data for this actuarial valuation was supplied by CalSTRS. Although we did not audit this data, we compared the data for this and the prior valuation and tested for reasonableness, as well as for consistency with prior periodic reports from the CalSTRS staff. Based on these tests, we believe the data to be sufficiently accurate for the purposes of this valuation. Since the valuation results are dependent on the integrity of the data supplied, the results can be expected to differ if the underlying data is incomplete or missing. It should be noted that if any data or other information is materially inaccurate or incomplete, our calculations may need to be revised.

Tables C.1 through **C.4** summarize the census data used in this valuation.

Table C.1
Summary of Statistical Information

	June 30, 2022	June 30, 2021
Number of Members		
Active Members[1]	8,229	7,940
Inactive Members[1]	29,482	29,542
Retirees and Beneficiaries	519	482
Total Number of Members	38,230	37,964
Active Members Statistics		
Annualized Salaries ($ millions)	$ 221.6	$ 208.3
Average Salary	$ 26,927	$ 26,231
Average Age	50.0 years	49.8 years
Average Service in CBB Program	8.2 years	8.0 years

1. Member counts as shown in CalSTRS Overview. Actual members valued excludes some members over age 72 who are assumed to have taken a mandatory distribution.

Table C.2
Age and Service Distribution – All Active Members[1]

Age Group		Years of Service	
Under 25	32	Under 1	980
25 – 29	261	1 – 2	496
30 – 34	773	2 – 3	701
35 – 39	1,004	3 – 4	621
40 – 44	1,121	4 – 5	556
45 – 49	991	5 – 9	2,265
50 – 54	1,005	10 and Over	2,610
55 – 59	909	Total	8,229
60 – 64	822		
65 and Over	1,311		
Total	8,229		

1. Member counts as shown in CalSTRS Overview. Actual members valued excludes some members over age 72 who are assumed to have taken a mandatory distribution.

Table C.3
Inactive Members

Fiscal Year Ending June 30	Number	Account Balances
2012	21,064	$60,558,000
2013	21,875	68,442,000
2014	22,278	73,363,000(1)
2015	23,084	82,793,000(1)
2016	24,017	96,459,000
2017	25,115	107,811,000
2018	26,063	116,783,000(1)
2019	27,154	134,514,000(1)
2020	28,087	146,398,000(1)
2021	29,542	170,244,000(1)
2022	29,482	190,652,000(1)

1. Member counts and balances as shown in CalSTRS Overview. Does not include Additional Earnings Credits for given year. Actual members valued excludes some members over age 72 who are assumed to have taken a mandatory distribution.

Table C.4
Annuitants

Fiscal Year Ending June 30	Number	Accounts at Retirement
2012	102	$ 1,626,000
2013	123	2,287,000
2014	158	3,799,000
2015	200	4,690,000
2016	252	6,020,000
2017	310	8,777,000
2018	370	10,901,000
2019	410	12,369,000
2020	458	13,856,000
2021	482	15,608,000
2022	519	17,886,000

Appendix D Glossary

The following definitions are largely excerpts from a list adopted by the major actuarial organizations in the United States. In some cases, the definitions have been modified for specific applicability to the CalSTRS CBB Program. Defined terms are capitalized throughout this Appendix.

Account Balance

The nominal account amount of an individual's benefit as of a specific date, determined in accordance with the terms of the Plan. The Account Balance is accumulated with contributions and interest.

Actuarial Assumptions

Assumptions as to the occurrence of future events affecting pension costs, such as mortality, withdrawal, disablement and retirement, changes in compensation, rates of investment earnings and asset appreciation or depreciation, and procedures used to determine other relevant items.

Actuarial Cost Method

A procedure for determining the Actuarial Present Value of pension plan benefits and expenses and for developing an actuarially equivalent allocation of such value to time periods, usually in the form of a Normal Cost and an Actuarial Obligation.

Actuarial Equivalent

Of equal Actuarial Present Value, determined as of a given date with each value based on the same set of Actuarial Assumptions.

Actuarial Gain or Loss

A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions during the period between two actuarial valuation dates, as determined in accordance with a particular Actuarial Cost Method.

Actuarial Obligation

That portion, as determined by a particular Actuarial Cost Method, of the Actuarial Present Value of pension plan benefits and expenses which is not provided for by future Normal Costs.

Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions.

Actuarial Surplus

The excess, if any, of the Actuarial Value of Assets over the Actuarial Obligation.

Actuarial Valuation

The determination, as of a Valuation Date, of the Normal Cost, Actuarial Obligation, Actuarial Value of Assets, and related Actuarial Present Values for a pension plan.

Actuarial Value of Assets

The value of cash, investments and other property belonging to a pension plan, as used by the actuary for the purpose of an actuarial valuation.

Normal Cost

The Actuarial Present Value of benefits expected to accrue in the plan year subsequent to the valuation date. The Normal Cost is equivalent to the expected Member and Employer contributions for the next year.

Traditional Unit Credit Actuarial Cost Method

A method under which the Actuarial Obligation is equal to the Actuarial Present Value of benefits for service accrued to the valuation date.

Unfunded Actuarial Obligation

The excess, if any, of the Actuarial Obligation over the Actuarial Value of Assets.

Valuation Date

June 30, 2022.