# South Carolina Tuition Prepayment Program

## 2023 Actuarial Valuation Report

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September 12, 2023

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# Executive Summary

## A. Summary of Key Valuation Results

| | Actuarial Valuation as of: | |
|---|---|---|
| | June 30, 2022 | June 30, 2023 |
| **Program Assets** | | |
| Invested Assets at Fair Market Value | $38,763,438 | $31,309,910 |
| Present Value of Projected Future Premium Contributions | 50,642 | 1,627 |
| Total Assets | $38,814,080 | $31,311,537 |
| **Program Obligations** | | |
| Present Value of Projected Future Benefits and Expenses | $36,031,595 | $26,642,618 |
| Amount Payable for Securities Purchased | 0 | 0 |
| Accrued Program Management Fees | 9,727 | 7,872 |
| Total Liability for Obligations | $36,041,322 | $26,650,490 |
| **Actuarial Reserve** | | |
| Actuarial Reserve/(Deficit) | $2,772,758 | $4,661,047 |
| Funded Ratio | 107.7% | 117.5% |
| **Key Assumptions** | | |
| Single Effective Discount Rate for Determining the Present Value of Program Obligations | 3.73% | 4.82% |
| Assumed Tuition Inflation Growth Rate | 5.50% | 5.50% |

## B. Actuarial Discussion and Analysis

An actuarial valuation of the South Carolina Tuition Prepayment Program (the "Program") is conducted annually to analyze the ability of projected Program resources to fully meet projected Program contract obligations and Program expenses. The actuarial reserve is the amount, stated in present value terms, by which the expected value of Program assets (resources) exceeds the expected value of Program liabilities, including expenses (obligations). The calculation is done as of a single point in time, using a single set of actuarial assumptions and methods.

While the actuarial valuation uses a single set of actuarial assumptions, actual future Program experience will differ from the assumptions used in the valuation's calculations. The assumptions used for this report were based on an experience study completed by Milliman in 2020, with an updated discount rate assumption.

As of June 30, 2023 the Program has assets of $31,311,537 and obligations of $26,650,490. The difference in values creates an actuarial reserve of $4,661,047. The ratio of assets to obligations, known as the funded ratio, is 117.5%. This means that on June 30, 2023 the assets were worth $4,661,047 (or 17.5%) more than the amount deemed necessary, based on the actuarial assumptions. This provides that, if all actuarial assumptions are realized, the Program will have enough money to pay all the future projected obligations when due.

## C. Program Experience

"Experience" encompasses the performance of the Program during the year, including investment performance, along with the effects of changes in the discount rate yield curve, tuition, expenses, and the Program's contract data.

The Program experience during the year is quantified through changes in the actuarial reserve / (deficit). The year-to-year changes in the reserve are detailed in Exhibit 4 of the report. The actuarial funding position improved by $1.9 million during the year due to favorable experience. As noted in Exhibit 4, several factors impacted the reserve level over the past year, with the most significant being:

- $0.9 million increase to the reserve due to lower than expected tuition increases for fall 2023
- $0.8 million increase to the reserve due to a change to the discount rate
- $0.6 million decrease to the reserve due to lower than expected asset returns

## D. Changes in Actuarial Assumptions and Methods

The actuarial assumptions and methods used in this valuation are the same as those used in the valuation conducted as of June 30, 2022, with the exception of the following:

- Discount rate yield curve updated to reflect changes in capital market conditions between valuation dates.

Please see Appendix C for a more detailed summary of this valuation's actuarial assumptions and methods.

## E. Changes in Program Provisions

There have been no changes in Program provisions that affect actuarial calculations since the prior valuation. Please see Appendix D for a summary of principal Program provisions.

# Exhibits

# Exhibit 1

## Market Value of Assets

The fair market value of assets as of June 30, 2022 and June 30, 2023 is shown below, and was provided by Columbia Threadneedle Investments.

| | June 30, 2022 | June 30, 2023 |
|---|---|---|
| 1. Immunized fixed income including accrued income | $37,887,479 | $31,153,404 |
| 2. Cash and cash equivalents | $875,959 | $156,506 |
| 3. Total market value of investments | $38,763,438 | $31,309,910 |

## Exhibit 2

### Change in Market Value of Assets

The change in the market value of assets from June 30, 2022 to June 30, 2023 is shown below, and was provided by Columbia Threadneedle Investments. The estimated net rate of return earned on the investments for the year ending June 30, 2023 was 1.8% on a time-weighted basis and 1.9% on a dollar-weighted basis.

| | | |
|---|---|---|
| 1. | Market value of assets as of June 30, 2022 | $38,763,438 |
| 2. | Contract premium payments | 58,510 |
| 3. | Tuition and refund benefits paid | (7,799,913) |
| 4. | Program management expenses | (326,672) |
| 5. | Investment performance | |
| | a. Interest income | 769,314 |
| | b. Realized gains / (losses) | (2,804,251) |
| | c. Unrealized gains / (losses) | 2,651,339 |
| | d. Total net investment performance | 616,402 |
| 6. | Net increase / (decrease) in market value of assets [(2) + (3) + (4) + (5d)] | (7,451,673) |
| 7. | Change in payable for securities purchased | 0 |
| 8. | Change in accrued management expenses | (1,855) |
| 9. | Market value of assets as of June 30, 2023 [(1) + (6) + (7) + (8)] | $31,309,910 |

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# Exhibit 3

## Actuarial Reserve as of June 30, 2023

The actuarial reserve is the amount, stated in present value terms, by which the expected value of Program assets (resources) exceeds the expected value of Program liabilities, including expenses (obligations). The calculation is done as of a single point in time, using a single set of actuarial assumptions and methods.

| | |
|---|---|
| 1. Assets at fair market value as of June 30, 2023 | $31,309,910 |
| 2. Present value of expected future premium contributions | 1,627 |
| 3. Total projected program assets [(1) + (2)] | $31,311,537 |
| 4. Present value of projected future benefits and expenses | $26,642,618 |
| 5. Amount payable for securities purchased | 0 |
| 6. Accrued program management fees | 7,872 |
| 7. Total projected program obligations [(4) + (5) + (6)] | $26,650,490 |
| 8. Actuarial reserve/(deficit) as of June 30, 2023 [(3) - (7)] | $4,661,047 |
| 9. Actuarial reserve/(deficit) as a percentage of total projected program obligations [(8) ÷ (7)] | 17.5% |
| 10. Funded ratio: Assets / Obligations [(3) / (7)] | 117.5% |

# Exhibit 4

## Change in Actuarial Reserve from June 30, 2022 to June 30, 2023

A number of factors contributed to the year-to-year change in the actuarial reserve, as quantified below.

| | $Millions |
|---|---|
| 1. Actuarial reserve/(deficit) as of June 30, 2022 | $2.8 |
| Increase/(decrease) in reserve/(deficit) from June 30, 2022 to June 30, 2023 due to: | |
| 2. Interest on the reserve/(deficit) at 3.73% | 0.1 |
| 3. Lower return on investments than assumed | (0.6) |
| 4. Lower actual 2023-2024 tuition than assumed | 0.9 |
| 5. Actual contract usage/cancellation behavior* and all other sources | 0.7 |
| 6. Increase to the discount rate | 0.8 |
| 7. Total increase/(decrease) in actuarial reserve/(deficit) during the year | 1.9 |
| 8. Actuarial reserve/(deficit) as of June 30, 2023 | $4.7 |

*Compared to that assumed in the prior valuation as of June 30, 2022

## Exhibit 5

### Projected Cash Flows under the Valuation Assumptions ($Millions)

The projection assumes that Program assets earn a return of 4.82% every year.

| Year Ending June 30: | Beginning Market Value of Investments | Expected Contract Premiums | Expected Tuition Payments | Expected Refund Payments | Expected Program Expenses | Expected Investment Earnings | Ending Market Value of Investments |
|---|---|---|---|---|---|---|---|
| 2024 | $31.31 | $0.00 | ($5.99) | ($1.66) | ($0.34) | $1.26 | $24.58 |
| 2025 | 24.58 | 0.00 | (4.84) | (0.67) | (0.34) | 1.01 | 19.74 |
| 2026 | 19.74 | 0.00 | (3.29) | (0.86) | (0.34) | 0.82 | 16.07 |
| 2027 | 16.07 | 0.00 | (2.01) | (0.91) | (0.34) | 0.68 | 13.49 |
| 2028 | 13.49 | 0.00 | (0.62) | (1.00) | (0.34) | 0.59 | 12.12 |
| 2029 | 12.12 | 0.00 | (0.26) | (1.14) | (0.34) | 0.53 | 10.91 |
| 2030 | 10.91 | 0.00 | (0.19) | (0.80) | (0.34) | 0.49 | 10.07 |
| 2031 | 10.07 | 0.00 | (0.09) | (1.11) | 0.00 | 0.45 | 9.32 |
| 2032 | 9.32 | 0.00 | (0.10) | (0.81) | 0.00 | 0.42 | 8.83 |
| 2033 | 8.83 | 0.00 | (0.09) | (0.80) | 0.00 | 0.40 | 8.34 |
| 2034 | 8.34 | 0.00 | (0.07) | (0.02) | 0.00 | 0.40 | 8.65 |
| 2035 | 8.65 | 0.00 | (0.08) | (0.02) | 0.00 | 0.41 | 8.96 |
| 2036 | 8.96 | 0.00 | (0.06) | (0.40) | 0.00 | 0.42 | 8.92 |
| 2037 | 8.92 | 0.00 | (0.04) | (0.04) | 0.00 | 0.43 | 9.27 |
| 2038 | 9.27 | 0.00 | (0.03) | (0.02) | 0.00 | 0.44 | 9.66 |
| 2039 | 9.66 | 0.00 | (0.02) | (0.02) | 0.00 | 0.46 | 10.08 |
| 2040 | 10.08 | 0.00 | (0.02) | 0.00 | 0.00 | 0.48 | 10.54 |
| 2041 | 10.54 | 0.00 | 0.00 | (0.01) | 0.00 | 0.51 | 11.04 |
| 2042 | 11.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.53 | 11.57 |
| 2043 | 11.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.56 | 12.13 |
| 2044 | 12.13 | 0.00 | 0.00 | (0.01) | 0.00 | 0.58 | 12.70 |
| 2045 | 12.70 | 0.00 | 0.00 | (0.01) | 0.00 | 0.61 | 13.30 |
| 2046 | 13.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.64 | 13.94 |
| 2047 | 13.94 | 0.00 | 0.00 | 0.00 | 0.00 | 0.67 | 14.61 |
| 2048 | 14.61 | 0.00 | 0.00 | 0.00 | 0.00 | 0.70 | 15.31 |
| 2049 | 15.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.74 | 16.05 |

# Certification

## Caveats and Limitations of Use

The actuarial valuation of the South Carolina Tuition Prepayment Program as of June 30, 2023 has been completed in accordance with our understanding of Program provisions using assumptions and methods as described in this report. It also has been completed in accordance with our understanding of any applicable guidance or interpretations provided by the State Treasurer's office, Catalis, and Columbia Threadneedle Investments. The valuation results contained in this report are based on the actuarial assumptions and methods (Appendix C), principal Program provisions (Appendix D), and contract data (Appendix B) summarized in the appendices.

## Purpose of the Valuation

The actuarial reserve portion of the actuarial valuation assesses, as of a single point in time, the estimated sufficiency of Program resources (assets currently held and estimated future premium contributions for contracts currently in force) to satisfy Program obligations (estimated future Program benefit payments and management expenses).

## Assumptions and Methods

All liabilities shown in this report have been determined on the basis of actuarial assumptions and methods set forth in Appendix C. The assumptions and methods used in this valuation are based on an experience study completed by Milliman in 2020, with an updated discount rate assumption.

The results shown in this report were developed using models intended for valuations that use standard actuarial techniques.

## Limited Use

We believe the assumptions and methods used in this report for purposes of calculating the actuarial reserve are reasonable for the purposes of the measurements. The results of this report are dependent upon future experience conforming to the assumptions disclosed in this report. Future actuarial measurements may differ significantly from the current measurements presented in this report due to many factors, including: Program experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in Program provisions and/or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements. Determinations for purposes other than meeting those requirements referenced above may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

## Reliance

In preparing our report we relied, without audit, on information (some oral and some written) supplied by Catalis, the Office of the State Treasurer, and Columbia Threadneedle Investments. This information includes, but is not limited to, statutory provisions, contract 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. 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 inaccurate or incomplete, our calculations may need to be revised.

This actuarial valuation was prepared and completed by us and those under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate. In our professional opinion, the techniques and assumptions used are reasonable. To the best of our knowledge, there is no benefit provision or related expense to be provided by the Program and/or paid from the Program's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation, and there were no known events that were not taken into account in the valuation.

Milliman's work product was prepared exclusively for the internal business use of the Program, for a specific and limited purpose. It is a complex technical analysis that assumes a high level of knowledge concerning the Program's operations, and uses Program data which Milliman has not audited. To the extent that Milliman's work is not subject to disclosure under applicable public record 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) The Program may provide a copy of Milliman's work, in its entirety, to the Program's 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 the Program.

(b) The Program 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 actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

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

## Certification

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 Actuarial Standards of Practice, the Code of Professional Conduct and Qualification Standards for Public Statements of Actuarial Opinion of the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

| | |
|---|---|
| Glenn Bowen, FSA, EA, MAAA | Alan Perry, FSA, CFA, MAAA |
| Principal & Consulting Actuary | Principal & Consulting Actuary |

# Appendices

## Appendix A – 2023-2024 Weighted Average Tuition

An enrollment weighted average of tuition and mandatory fees is used as the basis for projecting the actuarial cost of future tuition benefits under the Program and as the basis for certain Program payouts to independent and out-of-state institutions. The tuition and mandatory fee amounts were provided by Catalis. and reviewed by the Office of the State Treasurer. The enrollment counts were provided by the Office of the State Treasurer based on data from the South Carolina Commission on Higher Education.

| Institutions | 2023-24 Tuition and Fees | Enrollment Fall 2020 | Enrollment Fall 2021 | Enrollment Fall 2022 | Three-Year Average Enrollment | Percent of Total Enrollment | Weighted Average Tuition |
|---|---|---|---|---|---|---|---|
| The Citadel | $14,348 | 3,091 | 2,980 | 2,957 | 3,009 | 3.29% | 471 |
| Clemson University | 15,120 | 20,870 | 21,554 | 22,406 | 21,610 | 23.59% | 3,567 |
| Coastal Carolina University | 11,640 | 9,185 | 9,540 | 9,625 | 9,450 | 10.32% | 1,201 |
| College of Charleston | 12,978 | 8,931 | 9,508 | 9,428 | 9,289 | 10.14% | 1,316 |
| Francis Marion University | 11,160 | 2,850 | 2,745 | 2,749 | 2,781 | 3.04% | 339 |
| Francis Marion Nursing | 17,442 | 228 | 202 | 162 | 197 | 0.22% | 38 |
| Lander University | 11,700 | 3,327 | 3,441 | 3,416 | 3,395 | 3.71% | 434 |
| S.C. State University | 11,060 | 1,891 | 1,952 | 2,232 | 2,025 | 2.21% | 245 |
| U.S.C. - Aiken | 10,930 | 2,800 | 2,647 | 2,674 | 2,707 | 2.96% | 323 |
| U.S.C. - Beaufort | 11,080 | 1,804 | 1,772 | 1,807 | 1,794 | 1.96% | 217 |
| U.S.C. - Columbia | 12,848 | 27,164 | 26,503 | 27,077 | 26,915 | 29.39% | 3,775 |
| U.S.C. - Upstate | 11,908 | 4,761 | 4,307 | 3,899 | 4,322 | 4.72% | 562 |
| Winthrop University | 15,866 | 4,256 | 3,765 | 3,386 | 3,802 | 4.15% | 659 |
| Med. Univ. of S.C. - Nursing | 25,233 | 301 | 316 | 273 | 297 | 0.32% | 82 |
| | | 91,459 | 91,232 | 92,091 | 91,593 | 100.00% | $13,229 |

**History of Weighted Average Tuition**

| Academic Year | Weighted Average Tuition (WAT) | Percentage Increase from Previous Year | Academic Year | Weighted Average Tuition (WAT) | Percentage Increase from Previous Year |
|---|---|---|---|---|---|
| 2002-2003 | $5,057 | | 2013-2014 | $11,082 | 3.4% |
| 2003-2004 | 5,891 | 16.5% | 2014-2015 | 11,470 | 3.5% |
| 2004-2005 | 6,679 | 13.4% | 2015-2016 | 11,845 | 3.3% |
| 2005-2006 | 7,458 | 11.7% | 2016-2017 | 12,269 | 3.6% |
| 2006-2007 | 7,954 | 6.7% | 2017-2018 | 12,731 | 3.8% |
| 2007-2008 | 8,418 | 5.8% | 2018-2019 | 13,077 | 2.7% |
| 2008-2009 | 9,029 | 7.3% | 2019-2020 | 13,143 | 0.5% |
| 2009-2010 | 9,519 | 5.4% | 2020-2021 | 13,189 | 0.3% |
| 2010-2011 | 10,204 | 7.2% | 2021-2022 | 13,227 | 0.3% |
| 2011-2012 | 10,412 | 2.0% | 2022-2023 | 13,239 | 0.1% |
| 2012-2013 | 10,716 | 2.9% | 2023-2024 | 13,229 | -0.1% |

| Annualized Increase in Weighted Average Tuition: | |
|---|---|
| Over last 5 years | 0.2% |
| Over last 10 years | 1.8% |
| Over last 15 years | 2.6% |
| Over last 21 years | 4.7% |

# Appendix B - Contract Data

## Contracts in Force as of June 30, 2023

The table below shows the number of contracts with at least one semester of tuition still in force as of June 30, 2023 by the year of enrollment in the Program and by the projected matriculation year. There are 1,024 contracts with at least one semester remaining. There are an additional 1,089 contracts with a fraction of one semester of tuition remaining. Of the total of 2,113 contracts, 1,602 active contracts were included in the actuarial valuation based on the actuarial assumptions shown in Appendix C and 511 expired accounts were included in the actuarial valuation based on the refund value only.

| Projected Matriculation Year | Year of Enrollment in Program | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2006 | Total |
| 2001 | 1 | - | - | - | - | - | - | - | 1 |
| 2002 | 1 | - | - | - | - | - | - | - | 1 |
| 2003 | - | - | 1 | - | - | - | - | - | 1 |
| 2004 | 2 | - | - | - | - | - | - | - | 2 |
| 2005 | 1 | 1 | 4 | 1 | 1 | - | - | - | 8 |
| 2006 | - | 4 | 1 | - | 1 | - | - | - | 6 |
| 2007 | 2 | 1 | 1 | 1 | 2 | 1 | - | - | 8 |
| 2008 | 4 | 8 | 3 | - | 4 | 2 | - | - | 21 |
| 2009 | 5 | 4 | 3 | 1 | 4 | 3 | 1 | 1 | 22 |
| 2010 | 8 | 6 | 2 | 5 | 3 | 4 | 1 | 1 | 30 |
| 2011 | 7 | 4 | 4 | 1 | 9 | 1 | 1 | 2 | 29 |
| 2012 | 2 | 6 | 6 | 3 | 3 | 6 | 2 | - | 28 |
| 2013 | 8 | 7 | 2 | 7 | 6 | 5 | 2 | 1 | 38 |
| 2014 | 9 | 12 | 8 | 5 | 4 | 2 | 3 | 1 | 44 |
| 2015 | 8 | 12 | 9 | 7 | 8 | 4 | 4 | 1 | 53 |
| 2016 | 11 | 13 | 4 | 4 | 13 | 6 | 8 | 1 | 60 |
| 2017 | 2 | 10 | 9 | 8 | 10 | 5 | 3 | 1 | 48 |
| 2018 | - | 8 | 12 | 17 | 21 | 12 | 6 | - | 76 |
| 2019 | - | 1 | 19 | 13 | 15 | 11 | 6 | 7 | 72 |
| 2020 | 3 | 1 | 2 | 18 | 53 | 26 | 28 | 9 | 140 |
| 2021 | 1 | - | 3 | 3 | 53 | 40 | 33 | 12 | 145 |
| 2022 | - | 4 | 3 | - | 1 | 50 | 29 | 13 | 100 |
| 2023 | - | - | - | - | 2 | - | 35 | 26 | 63 |
| 2024 | 2 | - | 2 | - | 1 | - | 2 | 1 | 8 |
| 2025 | 1 | 1 | - | 1 | 1 | - | - | 1 | 5 |
| 2026 | 1 | - | - | 1 | - | - | 2 | - | 4 |
| 2027 | - | - | - | - | - | - | - | - | - |
| 2028 | - | - | - | 2 | - | - | 1 | - | 3 |
| 2029 | - | - | - | - | 1 | - | - | - | 1 |
| 2030 | - | - | 1 | - | - | - | - | - | 1 |
| 2031 | - | - | - | 1 | 1 | - | - | - | 2 |
| 2032 | - | 1 | - | - | 1 | - | - | - | 2 |
| 2033 | - | - | - | - | - | - | - | - | - |
| 2034 | - | - | - | - | 1 | - | - | - | 1 |
| 2035 | - | - | - | - | - | - | - | - | - |
| 2036 | 1 | - | - | - | - | - | - | - | 1 |
| Total | 80 | 104 | 99 | 99 | 219 | 178 | 167 | 78 | 1,024 |

## Semesters in Force as of June 30, 2023

The table below shows the number of semesters of tuition still in force by the year of enrollment in the Program and by the projected matriculation year for the 1,024 contracts with at least one semester of tuition still in force. The 1,089 contracts with a fraction of one semester of tuition still in force have a total of 111 semesters.

| Projected Matriculation | Year of Enrollment in Program | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2006 | Total |
| 2001 | 8 | - | - | - | - | - | - | - | 8 |
| 2002 | 1 | - | - | - | - | - | - | - | 1 |
| 2003 | - | - | 1 | - | - | - | - | - | 1 |
| 2004 | 2 | - | - | - | - | - | - | - | 2 |
| 2005 | 2 | 2 | 8 | 2 | 2 | - | - | - | 16 |
| 2006 | - | 15 | 1 | - | 2 | - | - | - | 18 |
| 2007 | 3 | 6 | 2 | 4 | 11 | 1 | - | - | 27 |
| 2008 | 11 | 23 | 4 | - | 6 | 4 | - | - | 48 |
| 2009 | 14 | 7 | 9 | 1 | 5 | 4 | 6 | 2 | 48 |
| 2010 | 26 | 11 | 7 | 15 | 10 | 6 | 1 | 4 | 80 |
| 2011 | 27 | 11 | 22 | 1 | 18 | 2 | 1 | 2 | 84 |
| 2012 | 6 | 23 | 20 | 11 | 5 | 24 | 3 | - | 92 |
| 2013 | 31 | 26 | 8 | 42 | 21 | 20 | 8 | 7 | 163 |
| 2014 | 43 | 44 | 28 | 26 | 24 | 9 | 9 | 8 | 191 |
| 2015 | 40 | 72 | 42 | 21 | 22 | 17 | 14 | 8 | 236 |
| 2016 | 40 | 47 | 23 | 25 | 57 | 25 | 49 | 8 | 274 |
| 2017 | 7 | 32 | 45 | 35 | 48 | 20 | 7 | 8 | 202 |
| 2018 | - | 31 | 66 | 75 | 79 | 55 | 29 | - | 335 |
| 2019 | - | 8 | 95 | 49 | 62 | 40 | 34 | 24 | 312 |
| 2020 | 9 | 1 | 8 | 64 | 191 | 122 | 88 | 35 | 518 |
| 2021 | 4 | - | 17 | 12 | 257 | 192 | 154 | 67 | 703 |
| 2022 | - | 28 | 20 | - | 6 | 329 | 174 | 86 | 643 |
| 2023 | - | - | - | - | 16 | - | 264 | 168 | 448 |
| 2024 | 16 | - | 8 | - | 8 | - | 16 | 8 | 56 |
| 2025 | 8 | 8 | - | 8 | 8 | - | - | 8 | 40 |
| 2026 | 8 | - | - | 8 | - | - | 16 | - | 32 |
| 2027 | - | - | - | - | - | - | - | - | - |
| 2028 | - | - | - | 16 | - | - | 8 | - | 24 |
| 2029 | - | - | - | - | 4 | - | - | - | 4 |
| 2030 | - | - | 4 | - | - | - | - | - | 4 |
| 2031 | - | - | - | 8 | 4 | - | - | - | 12 |
| 2032 | - | 8 | - | - | 8 | - | - | - | 16 |
| 2033 | - | - | - | - | - | - | - | - | - |
| 2034 | - | - | - | - | 4 | - | - | - | 4 |
| 2035 | - | - | - | - | - | - | - | - | - |
| 2036 | 8 | - | - | - | - | - | - | - | 8 |
| Total | 314 | 403 | 438 | 423 | 878 | 870 | 881 | 443 | 4,650 |

## Projected Semesters of Tuition Redeemed by Year based on the Valuation Assumptions and if Redemptions are Made as Late as Possible under Each Contract

The table below shows a projection of the number of semesters of tuition redeemed each year. The first column shows the semesters expected to be redeemed based on the demographic assumptions used in the valuation as shown in Appendix C. The second column shows the semesters expected to be redeemed if the semesters are redeemed at the end of the contractual redemption period. Tuition must be redeemed before the beneficiary reaches age 30. We are assuming that the last allowable year of usage is the twelfth year after the projected enrollment year. Contracts already past the twelfth year are assumed to redeem all their unused units in 2024. The delayed redemptions projection assumes the semesters are redeemed at the rate of two per year.

| | Number of Semesters of Tuition Benefits Expected to be Redeemed | |
|---|---|---|
| Year Ending June 30: | Assumed Redemptions | Delayed Redemptions |
| 2024 | 1,357 | 469 |
| 2025 | 856 | 178 |
| 2026 | 657 | 217 |
| 2027 | 483 | 229 |
| 2028 | 317 | 256 |
| 2029 | 268 | 280 |
| 2030 | 189 | 291 |
| 2031 | 231 | 331 |
| 2032 | 161 | 429 |
| 2033 | 149 | 848 |
| 2034 | 9 | 593 |
| 2035 | 9 | 348 |
| 2036 | 46 | 160 |
| 2037 | 8 | 34 |
| 2038 | 6 | 24 |
| 2039 | 5 | 14 |
| 2040 | 2 | 6 |
| 2041 | 3 | 10 |
| 2042 | 1 | 10 |
| 2043 | 1 | 10 |
| 2044 | 1 | 8 |
| 2045 | 1 | 4 |
| 2046 | 0 | 4 |
| 2047 | 0 | 4 |
| 2048 | 0 | 2 |
| 2049 | 1 | 2 |
| Total | 4,761 | 4,761 |

# Appendix C – Actuarial Assumptions and Methods

## Economic Assumptions: Discount Rate

The discount rate used to calculate the present values of benefits under the program is determined by discounting the projected benefit payments using the FTSE Pension Discount Curve for June 30, 2023. This curve consists of a set of yields on hypothetical AA-rated zero coupon bonds with maturities ranging from 6 months up to 30 years. The single equivalent discount rate that produces the same total present value of benefits as the curve is the discount rate for the actuarial valuation.

The rate for this year's valuation is 4.82%. This rate has not been reduced to reflect investment management fees. The rate used for last year's valuation was 3.73%.

## Economic Assumptions: Tuition Growth Rate

Tuition is assumed to increase at 5.50% per year. This is the same assumption as used for last year's actuarial valuation. This assumption was developed by the prior actuary, and has been approved by the Office of the State Treasurer for continued use in the valuation.

## Economic Assumptions: Bias Load

It is assumed that the average payout per semester for tuition benefits will be 100% of weighted average tuition. This is the same as the assumption used for last year's actuarial valuation. This assumption was based on the experience study performed by Milliman in 2020.

## Economic Assumptions: Program Expenses

It is assumed that total Program expenses, including investment management fees, will be $340,000 per year for each of the next 7 years (this was 8 last year). This assumption was set by the Office of the State Treasurer.

## Demographic Assumptions: Pre-Matriculation Voluntary Termination of Contract

It is assumed that contract holders will voluntarily terminate their contracts prior to the projected year of matriculation at the following rates:

| Contract Type | | |
|---|---|---|
| Lump Sum | 48-Month | Extended |
| 0.5% per year | 0.5% per year | 1.5% per year |

The termination assumptions are the same as those used in the prior valuation and are based on an experience study completed by Milliman in 2020.

## Demographic Assumptions: Utilization of Benefits

For contracts with projected matriculation dates starting in the fall of the current year or later, it is assumed that 85% of them will redeem their contracts for tuition according to the following schedule:

| Number of Semesters Redeemed in Year | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Contract Type** | **Matric Year** | **Matric Year +1** | **Matric Year +2** | **Matric Year +3** | **Matric Year +4** | **Matric Year +5** | **Matric Year +6** |
| 8 Semesters | 1.80 | 1.80 | 1.80 | 1.80 | 0.40 | 0.24 | 0.16 |
| 4 Semesters | 1.20 | 1.20 | 0.80 | 0.60 | 0.20 | - | - |

It is assumed that 15% of the total contracts with projected matriculation dates starting in the fall of the current year or later will ultimately forego redeeming their contracts for tuition. Of these contracts, it is assumed that 4% of the outstanding contracts will voluntarily terminate each year from the projected year of matriculation through age 29, with a 100% termination rate at age 30 for contracts remaining at that time.

Contracts that have redeemed benefits for tuition in at least one of the previous two years are assumed to redeem their remaining semesters at the rate of 1.8 semesters each year.

Contracts that are past their scheduled matriculation date and have not redeemed benefits for tuition in at least one of the previous two years are assumed to ultimately forego redeeming their remaining benefits for tuition. Of these contracts, it is assumed that 4% of the outstanding contracts will voluntarily terminate each year from the projected year of matriculation through age 29, with a 100% termination rate at age 30 for contracts remaining at that time.

The utilization assumptions are the same as those used in the prior valuation and are based on an experience study completed by Milliman in 2020.

## Appendix D – Principal Program Provisions

The Program opened in 1998 and sold two and four-year prepaid tuition contracts. The contracts provide for the payment of tuition and mandatory fees at public higher education institutions in South Carolina. The Program halted sales in 2006 and closed it to new enrollment in 2008.

Contracts that are terminated voluntarily receive a refund of premium payments with 2% annual interest on unused semesters.