Commonwealth of Virginia
Joint Legislative Audit and Review Commission

2025 Quadrennial Actuarial Audit of the Commonwealth Savers Defined Benefit 529 Program

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TRANSMITTAL LETTER

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June 16, 2025

Mr. Hal Greer
Director
Joint Legislative Audit and Review Commission
919 East Main Street, Suite 2101
Richmond, Virginia 23219

Re: 2025 Quadrennial Actuarial Audit of the Commonwealth Savers Defined Benefit 529 Program

Dear Mr. Greer:

Presented in this report are the results of the 2025 Quadrennial Actuarial Audit of the Commonwealth Savers Defined Benefit 529 Program (the "Program"). This audit was conducted in accordance with the Commonwealth Savers Plan Oversight Act (§30-330 - §30-335 of the *Code of Virginia)* to provide the General Assembly with a comprehensive overview of the actuarial soundness of the Program. This audit consisted of a replication actuarial audit and review of the actuarial policy and practices of the Program, which includes the Tuition Track Portfolio and the Legacy Prepaid529 Plan.

The results of the audit are presented in the following format:

A. Executive Summary
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This study was performed at the request of the Commonwealth of Virginia Joint Legislative Audit and Review Commission ("JLARC"). It may be shared with other interested parties only with the permission of JLARC. If shared with other parties, it should be shared in its entirety.

We consider this to be a "clean" actuarial audit. Throughout this report, we make some suggestions for ways to improve the work product going forward. We hope that Milliman, the Commonwealth Savers staff, and JLARC find these items helpful.

This study was performed by actuaries experienced with prepaid tuition programs as well as public sector retirement systems.

We would like to acknowledge the cooperation of the staff of Commonwealth Savers as well as Milliman. Their full and willing cooperation was critical to the successful completion of this report.

It is important to remember that actuarial calculations are based on assumptions regarding future events. Future actuarial measurements may differ significantly from the current measurements 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; and changes in plan provisions or applicable law.

The actuaries signing this report, Amy Williams, Paul Wood, James R. Sparks and Joshua Murner are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

GRS is independent of the Commonwealth Savers, JLARC and Milliman.

If you have any questions on this report or need additional information, please feel free to contact us.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Amy Williams, ASA, EA, MAAA, FCA
Senior Consultant

Paul Wood, ASA, MAAA, FCA
Senior Consultant and Team Leader

James R. Sparks, ASA, MAAA, FCA
Consultant

Joshua Murner, ASA, EA, MAAA
Senior Analyst

SECTION A

EXECUTIVE SUMMARY

Executive Summary

In accordance with the Commonwealth Savers Plan Oversight Act (§30-330 – §30-335 of the *Code of Virginia),* Gabriel, Roeder, Smith & Company ("GRS") was hired to conduct the 2025 Quadrennial Actuarial Audit of the Commonwealth Savers Defined Benefit 529 Program (the "Program").

The purpose of this audit is to provide the General Assembly with a comprehensive overview of the actuarial soundness of the Program. This audit consisted of a replication actuarial audit and review of the actuarial policy and practices of the Program, which includes the Tuition Track Portfolio ("TTP") and the Legacy Prepaid529 Plan.

Based on the results of our audit, we believe that:

- **The funding results and conclusions of the June 30, 2024 actuarial soundness valuation of the Program are reasonable and the projected Program resources are expected to be more than sufficient to fully meet projected Program contract obligations and Program expenses based on the contracts in force as of June 30, 2024.** Based on the results of the June 30, 2024 actuarial valuation:
    - The Program has assets of $2,509.4 million and obligations of $1,301.8 million.
    - The Program has an actuarial reserve of $1,207.6 million.
    - The ratio of assets to obligations, known as the funded ratio, is 192.8%.
    - If all actuarial assumptions are realized, the Program will have more than enough money to pay all the future projected obligations when due.
    - At the end of the 2053 Fiscal Year, all tuition obligations associated with contracts already purchased are expected to be paid, resulting in a final cumulative surplus of $5,765.8 million.
- **The primary actuarial assumptions,** including the investment return assumption of 5.75% and the tuition increase assumption of 4% for Universities and 3% for Community Colleges for the next year (2025-2026 academic year) and 6% each year thereafter for both Universities and Community Colleges, **are reasonable**. (We believe these assumptions, particularly the tuition increase, contain some conservatism.)

Milliman determined that there is a 99.9% probability of meeting all program obligations, including administrative expenses, associated with contracts issued as of June 30, 2024 (which is very high). Due to the nature of prepaid tuition programs (and that additional funds cannot be collected from current contract holders), a higher probability of meeting obligations is appropriate compared to a defined benefit retirement system.

Following is a comparison of the key actuarial valuation results based on the June 30, 2020 valuation (that GRS previously audited) and the June 30, 2024 valuation.

Executive Summary

Valuation Date ($ in Millions)		June 30, 2020		June 30, 2024
Actuarial Reserve	$	1,050.2	$	1,207.6
Funded Ratio		157.4%		192.8%
Estimated Probability of Meeting Program Obligations		99%		99.9%
Projected Surplus as of June 30, 2044*	**$**	**3,765.1**	$	3,566.0
Projected Surplus as of June 30, 2053*			**$**	**5,765.8**

** The obligations for contracts in force as of the valuation date of June 30, 2020 were projected to be paid out by June 30, 2044, with a remaining projected cumulative surplus of $3,765.1 million. For comparison purposes, the projected cumulative surplus as of June 30, 2044 based on the June 30, 2024 valuation is $3,566.0 million. The obligations for contracts in force as of the valuation date of June 30, 2024 are projected to be paid out by June 30, 2053, with a remaining surplus of $5,765.8 million. The projected surplus does not reflect the impact of future sales after the valuation date.*

Although this audit report contains a number of recommendations which we believe will improve the measurement and communication of the actuarial valuation results, we do not expect that any of these recommendations would have a material impact on the actuarial valuation results.

Following is a high-level summary of the areas addressed in the audit and our associated findings:

1. Reasonableness of the funding results and conclusions of the June 30, 2024 actuarial soundness valuation of the Commonwealth Savers Program as produced by Milliman, the Program's actuary. This assessment includes a full replication audit of the liabilities.
    - GRS was able to replicate the total present value of benefits and the present value of future installment payments with a high degree of accuracy.
    - GRS was able to replicate the total present value of benefits (including tuition and fee payments, cancellations and rollovers) within $10.2 million dollars, or 0.8%. In addition, GRS was able to replicate the present value of benefits (PVB) for the Legacy prepaid plan within 1.1% and the PVB for TTP within 2.0%.
    - GRS was able to replicate the present value of future installment payments (which is included as a component of the assets), within $0.6 million, or 1.1%.

2. The degree to which the beneficiary data is sufficient to support the conclusions of the June 30, 2024 actuarial valuation and the use and appropriateness of any assumptions made by Milliman regarding the data.
    - We have reviewed the original data provided by the Commonwealth Savers to the retained actuary, Milliman, for accuracy, reasonableness and appropriateness. Overall, we found the data used in the valuation to be reasonable and appropriate.

3. Whether the June 30, 2024 actuarial valuation performed by Milliman was conducted in accordance with generally accepted best practices for actuaries, as well as the principles and practices prescribed by the Actuarial Standards Board.

- In general, we find that Milliman followed the appropriate Actuarial Standards of Practice ("ASOPS") that are the most applicable for a prepaid tuition program.

4. The content, detail, format, clarity and scope of the June 30, 2024 actuarial valuation report prepared by Milliman.

   - We reviewed the June 30, 2024 actuarial valuation report prepared by Milliman and find that the report is generally complete and contains the appropriate information.

5. The reasonableness and appropriateness of the actuarial assumptions and methods used by Milliman in the June 30, 2024 actuarial valuation.

   - We find reasonable the economic and demographic actuarial assumptions used by Milliman in the June 30, 2024 actuarial valuation.

6. Whether the Program is presently being funded on an actuarially sound basis and will likely be in the future based on the results of the June 30, 2024 actuarial valuation.

   - Based on the actuarial reserve of $1,207.6 million as of June 30, 2024 and the projected final cumulative surplus of $5,765.8 million at the end of the 2053 Fiscal Year (based on the contracts in force as of June 30, 2024), we believe the Program is currently funded on an actuarially sound basis and that there are expected to be more than sufficient assets to meet projected Program contract obligations and Program expenses based on the contracts in force as of June 30, 2024.
   - TTP sales of 212,606 units during the year ended June 30, 2024 resulted in a $0.9 million decrease in the reserve. Although TTP sales may result in slight decreases in the actuarial reserve (mainly due to higher future assumed increases in tuition than assumed future returns on the contract sales proceeds), given the significant reserve as of June 30, 2024, we expect that the Program will continue to be funded on an actuarially sound basis in the future.

7. Comment on whether Commonwealth Savers has satisfactorily addressed considerations and recommendations offered by GRS in the 2021 Quadrennial Actuarial Audit of the Commonwealth Savers Program.

   - The main considerations and recommendations have been addressed.

This report also contains a series of relatively **minor recommendations** for the Commonwealth Savers and Milliman. A summary of these recommendations follows:

Contract Data

- There are a large number of contract beneficiary records with fewer than 0.25 remaining semesters of tuition (and no remaining contract installment payments for unpurchased tuition benefits). There are also a large number of contract beneficiary records with a projected enrollment year of 2014 or earlier.
    - We recommend that Commonwealth Savers review these records and make updates to the contract data or follow up with contract holders, as needed. It may be beneficial to Commonwealth Savers to pay out or roll over any residual account balances that will not be used for tuition benefits and reduce the total number of contracts in force.
    - Since it is likely these beneficiaries are no longer utilizing benefits, we recommend Milliman consider excluding these contracts from the data exhibits or summarizing them separately in the data exhibits to improve the usefulness of the data exhibits.
- We recommend Milliman include a data exhibit in the actuarial valuation report that summarizes the total number of contracts (from all contract types). There was an "Accounts Data" exhibit in the presentation of the 2024 Actuarial Valuation Preliminary Draft Results. We recommend that this account data reconciliation also be included in the full actuarial valuation report.
- We recommend that an exhibit that is similar to Appendix B for the TTP contracts be added for the Legacy plan.

Plan Assets

- Milliman and Commonwealth Savers could consider separately tracking the assets attributable to the Legacy and the TTP Programs.
- We recommend that additional detail be included in the report with respect to the payment of administrative/maintenance expenses during the past year and the expectation for future years.

Economic Actuarial Assumptions

- We recommend that the assumption for tuition increases continue to be reviewed annually, and adjusted as appropriate.
- We recommend that Commonwealth Savers provide a short description of the rationale for the long-term tuition assumption of 6% to Milliman to include in the actuarial valuation report.
- We recommend that the assumption for the reasonable rate of return continue to be reviewed annually, and adjusted as appropriate.

Demographic Actuarial Assumptions

- We recommend that Milliman review the utilization assumptions for contracts that have underutilized their contracts (used a very small percentage of units) within the first four years of their expected college entrance/matriculation year to ensure that projected units assumed to be used per year and the percentage of total units that are assumed to be redeemed for tuition benefits and for "other" transactions (cancellation, rollover or transfer) are consistent with plan experience.

- We recommend that another experience study be performed within the next five years in order to review TTP plan experience to refine the applicable assumptions and to review Legacy plan and TTP rates from “other” transactions (cancellation, rollover or transfer) to confirm they continue to support the current assumptions.
- We have some recommendations on the disclosure of supporting data used to develop the recommended assumptions.

Actuarial Valuation Methods

- We recommend that Milliman include additional language on the cash flow projection (Exhibit 5) more completely describing the basis of the projection (closed group) and the significance of the results (including the market value of investments at the end of the projection period).
- In addition, we recommend additional disclosure on the payment of administrative expenses and whether they will be paid from the Operating Fund or Program assets on an ongoing basis.

Actuarial Valuation Replication Results

- Based on applying the actuarial assumptions through the process of replicating the actuarial valuation results, we recommend that more disclosure be added to the actuarial assumptions section of the actuarial valuation report with respect to:
    - Application of utilization rates; and
    - Additional details related to the bias assumption.

Actuarial Report Content, Detail, Format and Clarity

- In order to illustrate the impact on the future funded ratio and actuarial reserve of the Program of assumed future TTP sales, Milliman could consider including an open group projection in future actuarial valuation reports.
- We have other minor recommendations for modifications to the report which, in our opinion, would allow it to adhere more closely with ASOP No. 4 and 41.

Actuarial Principles and Practices Employed by Actuary

- We recommend that Milliman include additional details and disclosures required under ASOP No. 56, including whether they are relying on a model developed by others, whether there are any material limitations or known weaknesses, and the extent of reliance on experts, if any.
- We recommend that Milliman include commentary in the Executive Summary of the report discussing the risks associated with the Program, including but not limited to, investment risk, tuition and fee growth risk and utilization risk.
    - In addition to the stochastic analysis, the report could include sensitivities to these assumptions (such as the actuarial reserve if tuition growth is 5% or 7%, i.e. +/-1% of the long-term assumption of 6% and if the investment return is 4.75% or 6.75%, i.e. +/-1% of the assumption of 5.75%).

Subsequent to the issuance of the June 30, 2024 valuation, there has been increased market volatility and uncertainty regarding future investment returns and tuition increases. Therefore, it is especially important to annually review these key economic assumptions, as Commonwealth Savers and Milliman have been doing.

SECTION B

GENERAL AUDIT APPROACH

General Audit Approach

In accordance with the Commonwealth Savers Plan Oversight Act (§30-330 – §30-335 of the *Code of Virginia),* Gabriel, Roeder, Smith & Company ("GRS") was hired to conduct the 2025 Quadrennial Actuarial Audit of the Commonwealth Savers Program.

This purpose of this audit is to provide the General Assembly with a comprehensive overview of the actuarial soundness of the Program. This audit consisted of a replication actuarial audit and review of the actuarial policy and practices of the Program, which includes the Tuition Track Portfolio and the Legacy Prepaid529 Plan.

This audit addresses the following areas:

1. Reasonableness of the funding results and conclusions of the June 30, 2024, actuarial soundness valuation of the Commonwealth Savers Program as produced by Milliman, the Program's actuary. This assessment includes a full replication audit of the liabilities. GRS independently calculated the liabilities from the June 30, 2024 actuarial soundness valuation report using the same data and actuarial assumptions used in the actuarial soundness valuation report performed by Milliman. GRS provided a side-by-side comparison of the liabilities calculated by GRS and calculated by Milliman.
2. The degree to which the beneficiary data is sufficient to support the conclusions of the June 30, 2024 actuarial valuation and the use and appropriateness of any assumptions made by Milliman regarding the data.
3. Whether the June 30, 2024 actuarial valuation performed by Milliman was conducted in accordance with generally accepted best practices for actuaries, as well as the principles and practices prescribed by the Actuarial Standards Board.
4. The content, detail, format, clarity and scope of the June 30, 2024 actuarial valuation report prepared by Milliman.
5. The reasonableness and appropriateness of the actuarial assumptions and methods used by Milliman in the June 30, 2024 actuarial valuation.
6. Whether the Program is presently being funded on an actuarially sound basis and will likely be in the future based on the results of the June 30, 2024 actuarial valuation.
7. Comment on whether Commonwealth Savers has satisfactorily addressed considerations and recommendations offered by GRS in the 2021 Quadrennial Actuarial Audit of the Commonwealth Savers Program.

The table on the following page presents a summary of the approach and steps GRS completed on behalf of the 2025 Quadrennial Actuarial Audit of the Program.

General Audit Approach

TASK DESCRIPTION		
PROJECT	1	**Project Planning with Client and Team**
		a.) Confirm Statement of Needs, Work Plan and Contract Fee with JLARC
DATA	2	**Census Data**
		a.) Prepare and send data request
		b.) Conference call with JLARC, CSP and Milliman to confirm data request
		c.) Submit data (Raw data and valuation ready data)
		d.) Submit soundness report for Defined Benefit 529 program, experience studies, assumption tables, pricing reports, if applicable, etc.
		e.) Compare valuation data and raw data
		f.) Review data assumptions utilized by Milliman
	3	**Weighted Average Tuition (WAT) Data**
		a.) Submit tuition, fee and headcount source data
		b.) Review WAT calculation
	4	**Financial Data**
		a.) Submit CSP financial statements
		b.) Review CSP financial statements
ASSUMPTIONS AND METHODS	5	**Actuarial Assumptions and Methods**
		a.) Review demographic actuarial assumptions
		b.) Review actuarial soundness valuation methods
		c.) Review economic actuarial assumptions
ACTUARIAL LIABILITIES	6	**Actuarial Liabilities**
		a.) Request test lives data
		b.) Submit test lives data
		c.) Calculate preliminary liabilities
		d.) Review test lives and refine liabilities
ACTUARIAL VALUATION AND REPORT	7	**Actuarial Soundness Valuation and Report**
		a.) Review content, detail, format and clarity of Milliman actuarial report
		b.) Review DB529 analyses from 2021 - present
		c.) Review conclusions reached in Milliman report
		d.) Review actuarial principles and practices used by Milliman
STATUS CALLS WITH JLARC	8	**Status Calls**
		a.) Scheduled status call with GRS and JLARC
		b.) Scheduled status call with GRS and JLARC
		c.) Scheduled status call with GRS and JLARC
REPORT AND BRIEFINGS	9	**Deliverable Schedule**
		a.) Draft report to JLARC
		b.) First Exit Conference between JLARC and GRS
		c.) Report comments from JLARC
		d.) Second Draft Report to JLARC
		e.) Second Exit Conference between JLARC, GRS, CSP and Milliman
		f.) Report comments from CSP and Milliman
		g.) Final report copies to JLARC
		h.) Send copies of briefing packets
		i.) Briefing to JLARC

SECTION C

REASONABLENESS OF ACTUARIAL REPORT CONCLUSIONS

Reasonableness of Actuarial Report Conclusions

The basic conclusions presented in the June 30, 2024 actuarial valuation report prepared by Milliman for the Program include the following:

- Milliman includes the following in the Actuarial Discussion and Analysis of the report regarding the purpose of the actuarial valuation of the Program:

  An actuarial valuation of the Virginia529 Defined Benefit 529 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 approved by the Virginia529 Board.

  We agree that the main purpose of the actuarial valuation is to calculate the Program obligations and compare those to the Program resources as of a single point in time in order to determine whether projected Program obligations are projected to be met.

- Milliman concluded that based on the results of the June 30, 2024 actuarial valuation:

  1. The Program has assets of $2,509.4 million and obligations of $1,301.8 million.
  2. The Program has an actuarial reserve of $1,207.6 million.
  3. The ratio of assets to obligations, known as the funded ratio, is 192.8%.
  4. If all actuarial assumptions are realized, the Program will have enough money to pay all the future projected obligations when due.

  Based on our review and analysis, we believe these conclusions are reasonable.

- Milliman prepared a closed group cash flow projection based on a set of deterministic assumptions that produce the same Present Value of Obligations for Future Payments as the "best estimate" actuarial assumptions used in their Monte Carlo simulations. They concluded that, at the end of the 2053 Fiscal Year, all tuition obligations associated with contracts already purchased are expected to be paid, resulting in a final cumulative surplus of $5,765.8 million.

  Based on our analysis, we believe this conclusion is reasonable.

§ 30-332 of the Code of Virginia requires the following:

> *The Commonwealth Savers Plan shall submit an annual report on the actuarial soundness of the Plan's prepaid programs, which shall include (i) contract pricing policies and objectives, (ii) current and projected assets and actuarially estimated value of tuition obligations, and (iii) actuarial assumptions.*

Although Milliman does not use the term "actuarial soundness" in discussing the actuarial valuation results, we believe that the results and conclusions sufficiently satisfy the requirements of the Code.

Reasonableness of Actuarial Report Conclusions

Based on our review, we find that the conclusions included in the Milliman June 30, 2024 actuarial valuation report are generally reasonable, and that Milliman used reasonable assumptions, and complied with actuarial standards and guidelines.

SECTION D

CONTRACT DATA

Contract Data

We have reviewed the original data provided by the Commonwealth Savers to the retained actuary, Milliman, for accuracy, reasonableness and appropriateness. Overall, we found the data used in the valuation to be reasonable and appropriate.

The original data file from Commonwealth Savers contained 47,656 data records. Appendix B of the actuarial valuation report shows a summary of contract data by Plan Type (University, Community College or a combination of the two), Matriculation Date and Years of tuition benefits purchased. After reviewing the data provided by Commonwealth Savers, we were able to closely match the data exhibits in Appendix B. The only difference was a 1 contract difference in the Tier 1 exhibit. There are four separate data exhibits with data for the different types of contracts (University/Tier 1, Community College/Tier 2 or a combination of the two). We recommend including a data exhibit that summarizes the total number of contracts. There was an "Accounts Data" exhibit in the presentation of the 2024 Actuarial Valuation Preliminary Draft Results. We recommend that this account data reconciliation also be included in the full actuarial valuation report.

Appendix B of the Milliman actuarial valuation report summarizes for the TTP, the number of accounts, total units remaining and the average number of units remaining by projected enrollment year. We recommend that a similar exhibit be added for the Legacy plan.

In the raw data, we identified over 600 University contract beneficiary records with fewer than 0.25 remaining semesters of tuition (and no remaining contract installment payments for unpurchased tuition benefits). There are less than 80 remaining semesters in total for these records, with an average of 0.12 remaining semesters. Only about 20 of the remaining semesters are for contract beneficiaries with projected enrollment years of 2020 or later. We recommend that Commonwealth Savers review this data and make updates to the contract data or follow up with contract holders, as needed. It may be beneficial to Commonwealth Savers to pay out or roll over any residual account balances that will not be used for tuition benefits and reduce the total number of contracts in force.

There are also 664 records with a projected enrollment year of 2014 or earlier, with close to 2,000 remaining semesters. 130 of these records have still not used any units. We believe these records have reached the 10-year time limit (although a small number of these records have a status of contract extension). It is our understanding that benefits must be used within a 10-year period from the student's projected high school graduation date.

The data exhibits include all except 1 of the 47,656 data records provided to us, including those with projected enrollment years that we believe have reached the 10-year time limit and those with less than 0.25 semesters remaining. Since it is likely these beneficiaries are no longer utilizing benefits, excluding these contracts from the data exhibits or summarizing them separately in the data exhibits may improve the usefulness of the data exhibits. This is something that GRS does with some of our other prepaid tuition plan clients.

Recommendations

- There are a large number of contract beneficiary records with fewer than 0.25 remaining semesters of tuition (and no remaining contract installment payments for unpurchased tuition benefits). There are also a large number of contract beneficiary records with a projected enrollment year of 2014 or earlier.

    - We recommend that Commonwealth Savers review these records and make updates to the contract data or follow up with contract holders, as needed.
    - Since it is likely these beneficiaries are no longer utilizing benefits, we recommend Milliman consider excluding these contracts from the data exhibits or summarizing them separately in the data exhibits to improve the usefulness of the data exhibits.

- We recommend Milliman include a data exhibit in the actuarial valuation report that summarizes the total number of contracts (from all contract types). There was an "Accounts Data" exhibit in the presentation of the 2024 Actuarial Valuation Preliminary Draft Results. We recommend that this account data reconciliation also be included in the full actuarial valuation report.
- We recommend that an exhibit that is similar to Appendix B for the TTP contracts be added for the Legacy plan.

Overall, GRS believes the data provided by Commonwealth Savers was sufficient for the required calculations.

SECTION E

PLAN ASSETS

Plan Assets

One of the primary purposes of an actuarial valuation of a prepaid tuition program is to determine the present value of the obligations for prepaid tuition contracts purchased through the actuarial valuation date (June 30, 2024) and compare such liabilities with the value of the assets associated with the program as of that same date. Accordingly, it is very important to make sure that the assets reported by the actuary are accurate and complete.

We reviewed the value of the Program assets as reported by Milliman in the June 30, 2024 actuarial valuation report. As of June 30, 2024, Milliman reported program investments of $2,456,746,990 on a market value basis. In addition, Milliman calculated the present value of installment contract receivables to equal $52,680,754 for a total value of fund assets of $2,509,427,744. Please note that it is customary and accepted practice to include the present value of installment contract receivables in the total value of fund assets for the purpose of determining the deficit/surplus (or "reserve" in the case of Commonwealth Savers) of a prepaid tuition program as of a particular point in time.

We verified that Milliman used the financial information in their report that was provided to them by Commonwealth Savers and that the market value of assets of $2,456.7 million excludes $537.7 million allocated to the SOAR Virginia Program.

We reviewed the Change in Market Value of Investments (Exhibit 2) in the actuarial valuation report. We note that the disbursements do not include administrative expenses. The Program experience summary of the report describes that there was a $3.6 million increase to the reserve from account maintenance expenses paid by the Operating Fund.

We replicated to a high degree of accuracy the present value of installment contract receivables within 1.1% assuming 1) a discount rate of 5.75%, 2) using the remaining payments as provided in the data and 3) subtracting $1 from each payment to account for purchase expenses.

Plan Assets

Following is a comparison of the projected amounts for current contracts as of June 30, 2024.

Projected Installment Payments ($ in Millions)			
Fiscal Year	Milliman	GRS	$ Difference
2025	$13.8	$13.9	$0.1
2026	11.4	11.5	0.1
2027	9.3	9.4	0.1
2028	7.5	7.6	0.1
2029	5.7	5.8	0.1
2030	4.4	4.5	0.1
2031	3.5	3.5	0.0
2032	2.6	2.7	0.1
2033	1.9	2.0	0.1
2034	1.3	1.3	0.0
2035	0.8	0.9	0.1
2036	0.4	0.4	0.0
2037	0.1	0.1	0.0
2038	0.0	0.0	0.0
2039	0.0	0.0	0.0
2040	0.0	0.0	0.0
2041	0.0	0.0	0.0
2042	0.0	0.0	0.0
Present Value	$52.7	$53.3	$0.6

Recommendations

Milliman and Commonwealth Savers could consider separately tracking the assets attributable to the Legacy and the TTP Programs. We recommend that additional detail be included in the report with respect to the payment of administrative/maintenance expenses during the past year and the expectation for future years.

SECTION F

WEIGHTED AVERAGE TUITION AND FEES CALCULATION

Weight Average Tuition and Fee Calculation

We have reproduced the Weighted Average Tuition and Fees (WAT) development shown in Appendix A of the actuarial valuation report with the information provided by Commonwealth Savers. Further, we confirmed the reasonability of the enrollment counts by school based on enrollment information from the State Council of Higher Education for Virginia (SCHEV) website and verified the 2024-2025 tuition and fees for the four-year universities against the SCHEV 2024-25 Tuition and Fees report issued in August 2024.

Recommendations

We have no recommendations regarding the calculation of the Weighted Average Tuition and Fees (WAT).

SECTION G

ECONOMIC ACTUARIAL ASSUMPTIONS

Economic Actuarial Assumptions

Actuarial Assumptions

The actuarial valuation report prepared by Milliman contains a description of the actuarial assumptions which were used in the actuarial valuation of the Program as of June 30, 2024. Additionally, Commonwealth Savers provided us with supplemental material and documents that provide more details on the development of the economic actuarial assumptions. We have reviewed this detail, and performed additional procedures, in order to assess the reasonableness of the assumptions used in the actuarial valuation.

The set of actuarial assumptions is one of the foundations upon which an actuarial valuation is based. An actuarial valuation of a prepaid tuition program is, essentially, a statistical projection of the amount and timing of future tuition payments to be paid under the plan. In any statistical projection, assumptions as to future events will drive the process. Actuarial valuations are no exception.

It is important to understand the nature of the prepaid tuition program plan and the plan sponsor when assessing the reasonableness of the actuarial assumptions. No projection of future events can be labeled as “correct” or “incorrect.” However, there is a “range of reasonableness” for each assumption.

Actuarial assumptions for the valuation of prepaid tuition plans generally fall into two categories:

- Economic assumptions; and
- Demographic assumptions.

We have assessed the reasonableness of both categories of actuarial assumptions as part of this actuarial audit.

Economic Actuarial Assumptions

Economic assumptions reflect the effects of economic forces on the projections of tuition payments payable from the plan and in the discounting of those payments to a present value.

Economic assumptions are based, at their core, on the assumed level of price inflation. Each economic assumption is then developed from expected spreads over price inflation. Since price inflation is relatively volatile and is subject to a number of influences not based on recent history, these assumptions are less reliably based on recent past experience than are the demographic assumptions.

Economic Actuarial Assumptions

The key economic assumptions used by Milliman in their June 30, 2024 actuarial valuation of the Program are:

1. Assumed Rate of Inflation – The rate of price inflation (as measured by the Consumer Price Index for all Urban consumers) which underlies the remainder of the economic assumptions. The current assumption is 2.5%.
2. Assumed Rate of Investment Return – The rate at which projected future tuition payments under the system are reduced to present value. The current assumption is 5.75%.
3. Assumed Rate of Tuition Increase – The annual rate at which tuition payments at Universities and Communities Colleges are expected to increase for contract holders. The current assumption for Universities is 4.0% for the 2025/2026 academic year and 6.0% thereafter. The current assumption for Communities Colleges is 3.0% for the 2025/2026 academic year and 6.0% thereafter.
4. Reasonable Rate of Interest – The rate at which contract payments are credited interest. The current assumption is 5% for 2024-2025, 3.75% for 2025-2026 and 3.25% thereafter.

Actuarial Standards of Practice

The Actuarial Standards Board (ASB) promulgates actuarial standards of practice (ASOPs) for use by actuaries when rendering actuarial services in the United States. The ASB is vested by the U.S.-based actuarial organizations with the responsibility for promulgating ASOPs for actuaries rendering actuarial services in the United States. Each of these organizations requires its members, through its Code of Professional Conduct, to satisfy applicable ASOPs when rendering actuarial services in the United States.

Because no generally accepted standards of practice have evolved within the actuarial profession that specifically address prepaid tuition programs, we (as well as Milliman) have referenced the ASOPs that are applicable to retirement systems. We chose such standards because prepaid tuition programs, like retirement plans, generally provide for the payment of a benefit at a future date.

Although the Board of Commonwealth Savers is the ultimate decision-making body with regard to approval of the actuarial assumptions used in the annual actuarial valuations, Milliman must still comply with the Actuarial Standards of Practice when providing advice or recommendations to the Board on the selection of actuarial assumptions.

Pension actuaries are required to comply with Actuarial Standard of Practice No. 27 (ASOP No. 27) in setting or recommending economic assumptions, including the assumed investment return rate. (For measurement dates on or after January 1, 2025, a revised version of ASOP No. 27 applies, which covers both economic and demographic assumptions.) According to ASOP No. 27, each economic assumption selected (or recommended) by the actuary should be reasonable. For this purpose, an assumption is reasonable if it has the following characteristics:

- It is appropriate for the purpose of the measurement;
- It reflects the actuary’s professional judgment;
- It takes into account historical and current economic data that is relevant as of the measurement date;

- It reflects the actuary's estimate of future experience, the actuary's observation of the estimates inherent in market data, or a combination thereof; and
- It has no significant bias (i.e., it is not significantly optimistic or pessimistic).

Also, according to ASOP No. 27, the actuary should recognize the uncertain nature of the items for which assumptions are selected and, as a result, may consider several different assumptions reasonable for a given measurement. The actuary should also recognize that different actuaries will apply different professional judgment and may choose different reasonable assumptions. As a result, a narrow range of reasonable assumptions may develop both for an individual actuary and across actuarial practice.

Inflation

By "inflation," we mean price inflation, as measured by annual increases in the Consumer Price Index (CPI). This inflation assumption underlies all of the other economic assumptions we employ. The current annual inflation assumption is 2.50%.

For the 12-month period ending June 30, 2024, the CPI-U increased by 2.97%. The CPI-U increased at an average rate of 2.55% over the last 20 years, 2.80% over the last 10 years, 4.17% over the last five years and 4.96% over the last three years. However, the assumed inflation rate is only weakly tied to past experience.

We also reviewed the expected inflation assumption from 12 independent investment consulting firms with a shorter time horizon. Their inflation assumption ranged from 2.13% to 2.70%, with an average of 2.39%. The inflation assumption from eight investment consulting firms with a longer time horizon ranged from 2.20% to 2.84%, with an average of 2.53%.

Another point of reference is the Social Security Administration's 2024 Trustee Report, in which the Office of the Chief Actuary is projecting a long-term average annual inflation rate of 3.00% in the low cost, 2.40% in the intermediate cost, and 1.80% in the high cost projection scenarios. The Social Security Trustees report uses the ultimate rates for their 75-year projections, much longer than the longest horizon we can discern from Treasuries and TIPS.

Finally, we reviewed inflation rate forecasts from various professional experts. The following page presents a summary of the inflation rate forecasts as of June 30, 2024.

Based on this information, we find the inflation assumption of 2.50% reasonable.

Economic Actuarial Assumptions

Forward-Looking Annual Inflation Forecasts[a] (From Professional Experts in the Field of Forecasting Inflation)	
Congressional Budget Office[b]	
5-Year Annual Average	2.44%
10-Year Annual Average	2.32%
Federal Reserve Bank of Philadelphia[c]	
5-Year Annual Average	2.50%
10-Year Annual Average	2.33%
Federal Reserve Bank of Cleveland[d]	
10-Year Expectation	2.37%
20-Year Expectation	2.41%
30-Year Expectation	2.46%
Federal Reserve Bank of St. Louis[e]	
10-Year Breakeven Inflation	2.26%
20-Year Breakeven Inflation	2.43%
30-Year Breakeven Inflation	2.27%
U.S. Department of the Treasury[f]	
10-Year Breakeven Inflation	2.19%
20-Year Breakeven Inflation	2.43%
30-Year Breakeven Inflation	2.27%
50-Year Breakeven Inflation	2.36%
100-Year Breakeven Inflation	2.43%
Social Security Trustees[g]	
Ultimate Intermediate Assumption	2.40%

[a] **End of the Second Quarter, 2024**. Version 2024-07-12 by Gabriel, Roeder, Smith & Company.

[b] *An Update to the Budget and Economic Outlook: 2024 to 2034* , Release Date: June 2024, Consumer Price Index (CPI-U), Percentage Change from Year to Year, 5-Year Annual Average (2024-2028), 10-Year Annual Average (2024-2033).

[c] *Second Quarter 2024 Survey of Professional Forecasters* , Release Date: May 10, 2024, Headline CPI, Annualized Percentage Points, 5-Year Annual Average (2024-2028), 10-Year Annual Average (2024-2033).

[d] Inflation Expectations, Model output date: June 1, 2024.

[e] The breakeven inflation rate represents a measure of expected inflation derived from X-Year Treasury Constant Maturity Securities and X-Year Treasury Inflation-Indexed Constant Maturity Securities. Observation date: June, 2024.

[f] The Treasury Breakeven Inflation (TBI) Curve, Monthly Average Rates, June, 2024.

[g] *The 2024 Annual Report of The Board of Trustees of The Federal Old-Age And Survivors Insurance and Federal Disability Insurance Trust Funds* , May 6, 2024, p. 10, Key Assumptions and Summary Measures for Long-Range (75-year) Projections, Intermediate, Consumer Price Index (CPI-W).

Investment Return Assumption

The assumed rate of investment return is the rate that assets are expected to earn in the future. The assumed rate of investment return is also used to reduce the projected future tuition payments under the program to a present value.

It is important to note that an actuarial investment return assumption based on expected future experience is a single estimate for all years and therefore implicitly assumes that returns above and below expectations will "average out" over time. In other words, the expected risk premium is reflected in the assumed rate of investment return in advance of being earned, while the investment risk is not reflected until actual experience emerges with each actuarial valuation.

The investment return assumption used in the June 30, 2024 actuarial valuation of the Program conducted by Milliman was 5.75%. This assumption is set by the Board.

<u>Analysis Performed by Mercer</u>
We reviewed the analysis of the investment return assumption performed by Mercer, the Program's investment consultant from their memo dated April 12, 2024. Based on the target asset allocation (including 22% in equities, 23% in alternatives and 55% in fixed income), an inflation assumption of 2.2%, and their capital market assumptions, their estimated geometric return was 6.6%. Their analysis indicated a 65% probability of achieving a return of 5.4% or higher over a 10-year period.

It is not clear to GRS from the memo whether the capital market assumptions are based on a 10-year or 20-year time horizon (or a different period of time). The memo does reference a 20-year period, as shown in italics below.

The estimated rate of return is a long-term projection (over a 20-year period).

Because a majority of the benefit obligations are attributable to payments within the next 10 years, we recommend evaluating the investment return assumption based on capital market assumptions with a 10-year time horizon (if a longer time horizon was used by Mercer).

We believe that the Mercer analysis supports the investment return assumption of 5.75% assumption as reasonable.

Economic Actuarial Assumptions

GRS Analysis
In addition to reviewing Mercer's analysis, GRS performed an independent analysis of the investment return assumption.

Based on the DB529 Investment Policy and Guidelines, the following allocation was recommended by the Investment Advisory Committee and approved by the Board on June 27, 2023.

Asset Category	Target	Allowable Range
Equities		
Global All Cap Equity	22%	
Total Equities	22%	14.5%-29.5%
Fixed Income		
U.S. Aggregate FI	20%	
Multi-Asset Credit	35%	
Total Fixed Income	55%	50%-60%
Alternatives		
Real Estate - Core	10%	
Private Equity	13%	
Total Alternatives	23%	15%-31%
Total All Assets	100%	

GRS Approach
The review of the investment return assumption in this report considers forward-looking measures of likely investment return outcomes for the asset classes in the current Program investment policy.

Our analysis is based on the GRS 2024 Capital Market Assumption Modeler (CMAM). The purpose of the CMAM is to assess the reasonability of the assumed rate of return for use in the actuarial valuation for the Program. In our professional judgment, the CMAM has the capability to provide results that are consistent with this purpose.

Because GRS is a benefits consulting firm and does not develop or maintain its own capital market expectations, we request and monitor forward-looking expectations developed by several major financial firms (investment consultants, asset managers and insurance companies). We update our CMAM on an annual basis. The capital market assumptions in the 2024 CMAM are from the following financial firms (in alphabetical order): Aon Hewitt, Blackrock, BNY Mellon, Callan, Cambridge, JPMorgan, Meketa, Mercer, NEPC, Northern Trust, RVK, Verus and Wilshire. We believe that the benefit of performing this analysis using multiple financial firms is to recognize the uncertain nature of the items affecting the selection of the investment return assumption. While there may be differences in asset classes, investment horizons, inflation assumptions, treatment of investment expenses, excess manager performance (i.e., alpha), etc., we have attempted to align the various assumption sets from the different financial firms to be as consistent as possible. In some cases, we have made minor adjustments or assumptions to align the various assumptions sets with our model.

Twelve of the 13 financial firms provided capital market assumptions over an investment horizon of approximately 10 years. Although financial firms often refer to this period as "short term," it is important to remember that 10 years is actually a very long time. Therefore, returns during the next 10 years will affect the Program's funding materially.

To the best of our ability, we have adapted the Program's investment policy to fit with the financial firms' assumptions adjusting for these known differences in assumptions and methodology. The asset classes in the Program's investment allocation often do not exactly align with the asset classes of all financial firms in the survey. This may require us to make approximations which can introduce some subjectivity into the process. In the following charts, to the extent possible, all returns are net of passive investment expenses and have no assumption for excess manager performance (alpha) in excess of active management fees. The information in this report is not intended to be construed as investment advice.

Calculation of Return Assumption

Given the Program's current target asset allocation and the capital market assumptions from the firms in our survey, we compared the probabilities of achieving returns over a 10-year horizon. The following table illustrates the 40th, 50th and 60th percentiles of returns as well as the probability of achieving the current assumption of 5.75%, based on a price inflation assumption of 2.50% over a 10-year horizon. Note that the investment horizon for the capital market assumption sets used in this analysis is approximately 10 years.

Investment Consultant	Distribution of 10-Year Average Geometric Net Nominal Return 40th	50th	60th	Probability of Exceeding 5.75%
(1)	(2)	(3)	(4)	(5)
1	4.96%	5.66%	6.36%	48.7%
2	5.10%	5.80%	6.51%	50.8%
3	5.46%	6.20%	6.95%	56.1%
4	5.78%	6.44%	7.09%	60.5%
5	5.78%	6.45%	7.12%	60.5%
6	5.90%	6.49%	7.09%	62.4%
7	5.83%	6.52%	7.21%	61.2%
8	5.96%	6.60%	7.24%	63.2%
9	5.97%	6.62%	7.27%	63.4%
10	6.14%	6.83%	7.51%	65.6%
11	6.37%	7.03%	7.70%	68.8%
12	6.45%	7.19%	7.93%	69.1%
Average	**5.81%**	**6.49%**	**7.17%**	**60.9%**

The 50th percentile return is also related to the geometric average return. The geometric average of a sequence of returns over a number of years is the compound average of those returns over the number of years compounded. As the number of years in the geometric average increase and if the distributions of returns each year are independent and identically distributed, then the geometric average will converge to the median return. The median return is also a reasonable rate of return for purposes of the actuarial valuation. The average of 50th percentile returns (based on the current inflation assumption of 2.50%) is 6.49%.

Column 5 of the preceding table shows the estimated probability of achieving the current assumed rate of return of 5.75% over a 10-year period (based on the current inflation assumption of 2.50% and the capital market assumptions from the firms in our survey, with a time horizon of about 10 years). The average probability of achieving 5.75% over 10 years based on these assumptions is about 60.9%.

We believe the 5.75% investment return assumption is reasonable based on the GRS analysis and the Mercer analysis.

Economic Actuarial Assumptions

Review of Tuition Increase Assumption

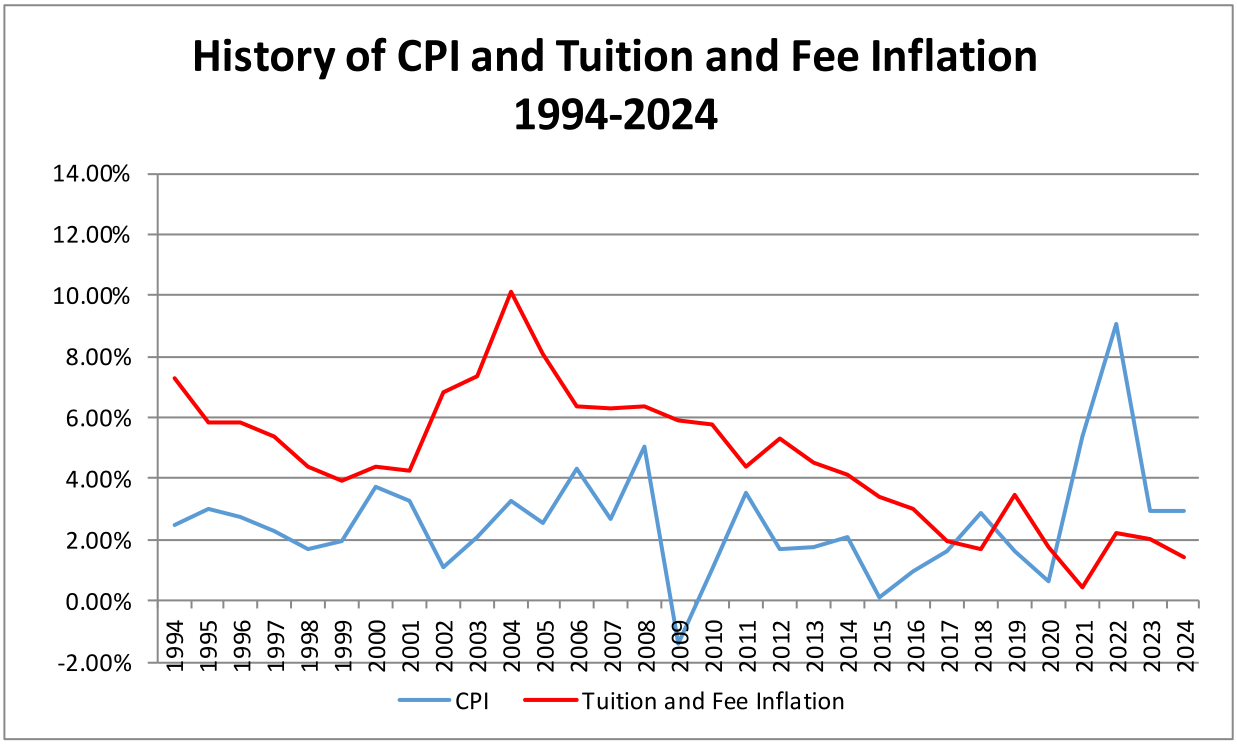
The annual tuition increase assumption used by Milliman in their June 30, 2024 actuarial valuation of the Program is 4% for Universities and 3% for Community Colleges for the next year (2025-2026 academic year) and 6% each year thereafter for both Universities and Community Colleges. This assumption is set by the Board. According to the Milliman report, Milliman assisted Commonwealth Savers staff (Virginia529 staff) in 2015 with a historical analysis of long-term tuition growth at public colleges in Virginia.

The historical compounded annual increase in average tuition reported in the Milliman report follows:

Period	University	Community College
Over last 5 years	3.0%	1.1%
Over last 10 years	3.7%	2.0%
Over last 15 years	4.6%	5.1%
Over last 20 years	5.3%	5.5%
Over last 25 years	5.9%	6.7%
Over last 30 years	4.8%	5.0%

One point to note is that beginning with the 2011-2012 year, Community College Tuition and Fees is measured as an enrollment weighted average. Prior to that, a non-enrollment weighted average was used. This resulted in a one-year 27% increase, thus raising the average annual tuition increases for Community Colleges for the averaging periods of 15 years or longer. The University Tuition and Fees was always measured as an enrollment weighted annual average so there is some difference in the statistics between the two different categories of schools.

The Bureau of Labor Statistics publishes a tuition and fee price index (College tuition and fees in U.S. city average, all urban consumers, not seasonally adjusted). Increases in tuitions and fees have typically exceeded increases in the Consumer Price Index ("CPI"). The following graph shows the relationship between the annual CPI and Tuition and Fee Increases.



Tuition inflation reflects changes in annual consumer expenditures for undergraduate and post-graduate studies at 2-year colleges, 4-year colleges, major universities and professional schools (law, dental, medical, etc.).

Over the last 30 years, tuition and fee increases have exceeded CPI in 25 of the 30 years. Tuition and fee increases were lower than CPI in five of the last seven years. The annual averages over a 30-year period ending June 30, 2024 are 4.54% for tuition and fees and 2.54% for CPI resulting in a 2.00% spread. However, the annual averages over a 30-year period ending June 30, 2020 are 5.60% for tuition and fees and 2.31% for CPI resulting in a 3.29% spread.

Economic Actuarial Assumptions

Fiscal Year	Annual Increase in CPI-U	Annual Increase in Tuition and Fees (National)	Difference Between Tuition and Fee and CPI Increases
2014-2015	0.12%	3.40%	3.28%
2015-2016	1.00%	2.99%	1.99%
2016-2017	1.63%	1.94%	0.31%
2017-2018	2.87%	1.72%	-1.15%
2018-2019	1.65%	3.45%	1.80%
2019-2020	0.65%	1.74%	1.09%
2020-2021	5.39%	0.43%	-4.96%
2021-2022	9.06%	2.22%	-6.84%
2022-2023	2.97%	2.05%	-0.92%
2023-2024	2.97%	1.46%	-1.51%
3-Year Average	4.96%	1.91%	-3.05%
5-Year Average	4.17%	1.58%	-2.59%
10-Year Average	2.80%	2.14%	-0.66%
15-Year Average	2.54%	3.03%	0.49%
20-Year Average	2.55%	3.91%	1.36%
25-Year Average	2.58%	4.44%	1.86%
30-Year Average	2.54%	4.54%	2.00%

The average annual increase in tuition and fees for schools in Virginia has been higher than the national average.

Period	University (VA)	Community College (VA)	Annual Increase in Tuition and Fees (National)
Over last 5 years	3.0%	1.1%	1.6%
Over last 10 years	3.7%	2.0%	2.1%
Over last 15 years	4.6%	5.1%	3.0%
Over last 20 years	5.3%	5.5%	3.9%
Over last 25 years	5.9%	6.7%	4.4%
Over last 30 years	4.8%	5.0%	4.5%

Based on low increases in tuition and fees over the past couple of years (both in Virginia and nationally), it is reasonable to assume lower increases in the short term, and potentially in the long term as well. Although VA public university annual tuition and fee increases have been lower than 6% in each and every year since 2013, between 2002 and 2012 annual increases in tuition and fees were higher than 6% in every year except for one. There is a great deal of uncertainty regarding future tuition and fee increases.

Because contracts are no longer being sold under the Legacy program and TTP pricing is based on the WAT, the tuition increase assumption is not currently affecting contract pricing.

While we find the assumption used in the June 30, 2024 actuarial valuation of the Program of 4% for Universities and 3% for Community Colleges for the next year (2025-2026 academic year) and 6% each year thereafter for both Universities and Community Colleges reasonable, we believe it includes some conservatism.

We recommend that Commonwealth Savers provide a short description of the rationale for the long-term tuition assumption of 6% to Milliman to include in the actuarial valuation report. We recommend that the assumption for tuition increases continue to be reviewed annually, and adjusted as appropriate.

Reasonable Rate of Return

At redemption, each Legacy Prepaid 529 contract pays the current tuition and mandatory fees at the Virginia public university or community college that the beneficiary attends. The benefits vary if the beneficiary does or does not attend a Virginia public university or community college. (For beneficiaries attending an out-of-state public or private college or university, Program will pay the lesser of 1) contract payments made plus a reasonable rate of return or 2) the average in-state undergraduate tuition and mandatory fees at Virginia public institutions in the semester in which benefits are used.) Contract holders have the option of rolling over the value of their prepaid contract into an Invest529 account. The value of the prepaid contract for such rollovers is the accumulated contributions at the reasonable rate of return set by the Board.

The actual reasonable rate of return tracks the quarterly performance of the Institutional Money Funds Index as reported in the Money Fund Monitor™ by iMoneyNet and is reported on the Commonwealth Savers website. Following are the actual quarterly reasonable rates of return for the two years prior to the actuarial valuation date of June 30, 2024 and the three quarters subsequent to the valuation date.

Date Range	Yield	Date Range	Yield	Date Range	Yield
7/1/2022 - 9/30/2022	0.48%	7/1/2023 - 9/30/2023	4.71%	7/1/2024 - 9/30/2024	5.06%
10/1/2022 - 12/31/2022	1.81%	10/1/2023 - 12/31/2023	5.02%	10/1/2024 - 12/31/2024	4.99%
1/1/2023 - 3/31/2023	3.32%	1/1/2024 - 3/31/2024	5.12%	1/1/2025 - 3/31/2025	4.45%
4/1/2023 - 6/30/2023	4.21%	4/1/2024 - 6/30/2024	5.08%		

The actual reasonable rate of return was significantly lower for the period 7/1/2020 through 6/30/2022 (between 0.02% and 0.16%) than the rates since 7/1/2022 that are shown above.

The actuarial assumption for the reasonable rate used by Milliman in the June 30, 2024 actuarial report is 5% for the first year, a mean yield of 3.75% for the second year and a mean yield of 3.25% thereafter. The ultimate assumption of 3.25% is 75 basis points higher than the inflation assumption of 2.50%.

Economic Actuarial Assumptions

Milliman based the actuarial assumption in the June 30, 2024 actuarial report for the reasonable rate on the current money market yield used to set the rate and forecasts of future short-term interest rates from a survey of economists published in the *June 2024 Blue Chip Financial Forecasts*.

We believe that the assumptions for the reasonable rate of return are reasonable. However, the ultimate assumption of 3.25%, which is 75 basis points higher than the inflation assumption of 2.50%, appears to be somewhat high compared to the historical spread between inflation and the reasonable rate of return. Therefore, we recommend continuing to review this assumption each year and updating the assumption as needed.

Summary of Analysis of Economic Assumptions and Recommendations

We believe that the economic assumptions that Milliman used in the June 30, 2024 are reasonable and that the investment return assumption, the tuition and fee increase assumption and the reasonable rate of return assumption contain some conservatism.

We have the following recommendations:

- We recommend that the assumption for tuition increases continue to be reviewed annually, and adjusted as appropriate.
- We recommend that Commonwealth Savers provide a short description of the rationale for the long-term tuition assumption of 6% to Milliman to include in the actuarial valuation report.
- We recommend that the assumption for the reasonable rate of return continue to be reviewed annually, and adjusted as appropriate.

SECTION H

DEMOGRAPHIC ACTUARIAL ASSUMPTIONS

Demographic Actuarial Assumptions

Milliman performed an experience study of the Program based on contract beneficiary data through June 30, 2023.

The experience study reviewed the following assumptions:

1. Cancellation rates (prior to matriculation)
2. Utilization of benefits (percentage of total units used each year for tuition and other)
3. Utilization of benefits (distribution of attendance at VA public, VA private or out of state schools for Legacy plan contracts)
4. Bias load

The experience study report analyzed 10 years of pre-matriculation cancellation experience. Based on the data shown, cancellation rates between 2019 and 2023 were higher than from 2014 and 2018. The increase in the assumed rate from 0.50% to 0.75% is reasonable and consistent with the observed experience. The net financial impact was estimated as an increase of $0.7 million to the actuarial reserve ($1.3 million decrease in liability less $0.6 million decrease in installment payment receivables).

The experience study report summarized percentage of total units redeemed each year by number of tuition units, year of matriculation and whether the units were used for tuition or other. The experience shown in the report indicates that about 85% of tuition units are used within the first four years of the expected college entrance/matriculation year. Further, the experience indicates that between about 25% and 30% of units redeemed in or after the expected matriculation year are from "other" transactions (cancellation, rollover or transfer). The previous assumption was that 5% of units redeemed in or after the expected matriculation year were from "other" transactions and was increased to 25%/30% for contracts with less than/7 or more units. The change was estimated to decrease the benefit liability by about $157.6 million, or about 10% of the benefit liability.

Milliman assumes an increase in future utilization rates for contracts that have underutilized their contracts compared to the assumptions. For example, for a contract beneficiary that purchased 8 units (semesters) and has not utilized any of their contract within the first three years of the expected college entrance/matriculation year, the assumption is that the contract beneficiary would use about 49% of the remaining units (or about 4 out of 8 semesters) in the fourth year after the projected college entrance date for tuition benefits. The adjusted assumption projects that about 65% of the 8 units will be used for tuition benefits and 35% will be from "other" transactions (cancellation, rollover or transfer).

The experience study summarized the percentage of units used at VA public, VA private and out of state schools over the last 5 and 10 years compared to the assumptions that had been used. Based on the experience, the new assumption slightly decreased the percentage assumed used at VA public (80% to 79%) and VA private schools (8% to 6%) and increased the percentage assumed used at out of state schools (12% to 15%). The change was estimated to decrease the liability by about $14.6 million, or about 1% of the benefit liability.

The experience study changed the method for VA public universities for Legacy university contracts with respect to the bias load. A bias load is no longer applied to the WAT. Instead, the Reasonable Rate account balance for each contract beneficiary is compared to the tuition and fees at each VA public university. The expected cost is the greater of the tuition and fees and the account balance and a school distribution assumption is applied. GRS verified the fiscal year 2024 unit distribution by university that was used in Milliman's assumption (a 5-year trailing average). We believe this is a reasonable method and expect it provides a better measurement of the projected tuition costs for each contract beneficiary.

The experience study confirmed the reasonability of the 1% bias load for community college payouts.

For TTP accounts, Milliman assumes for purposes of applying utilization rates that TTP accounts with fewer than five semesters of units will eventually purchase five semesters of units. In addition, Milliman assumes TTP units will begin being used at the projected entrance year based on the Average Tuition value. (Because the dates for all TTP unit purchases are not available on the contract beneficiary data record, Milliman is not able to determine if the units have been held for three or more years.)

We believe the rationale behind the assumption changes is reasonable and in compliance with actuarial standards. We would also like to acknowledge that the demographic assumption changes made by Milliman during their most recent experience study likely improved the accuracy of modeling future benefits to be paid by the program.

Recommendations

We recommend that Milliman review the utilization assumptions for contracts that have underutilized their contracts (used a very small percentage of units) within the first four years of their expected college entrance/matriculation year to ensure that projected units assumed to be used per year and the percentage of total units that are assumed to be redeemed for tuition benefits and for "other" transactions (cancellation, rollover or transfer) are consistent with plan experience. We recommend that another experience study be performed within the next five years in order to review TTP plan experience to refine the applicable assumptions and to review Legacy plan and TTP rates from "other" transactions (cancellation, rollover or transfer) to confirm they continue to support the current assumptions.

We have the following recommendations on the disclosure of supporting data used to develop the recommended assumptions:

- In future experience study reports, we recommend that the units redeemed in each year and for each higher institution type (VA public, VA private and out of state) be shown, in addition to the percentage of total units.
- Given that the assumption for units redeemed in or after the expected matriculation year from "other" transactions was increased from 5% to 25%/30%, we recommend that this experience be shown on a year by year basis (by plan experience year) in order to determine whether the rates of other (cancellation, rollover or transfer) have been trending up over time. For example, if the rates were 5% for the first five years of plan experience and 45% for the second (most recent) five years of plan experience, a higher assumption for future experience may be appropriate (even though the average over the 10 years may have been 25%).

SECTION I

ACTUARIAL VALUATION METHODS

Actuarial Valuation Methods

The common practice by actuaries who conduct actuarial valuations of prepaid tuition programs is to determine the present value of obligations for future tuition payments and administrative expenses under a "deterministic" valuation approach. Under a deterministic approach, the liabilities are projected based on a specific set of variables and assumptions. In effect, the purpose of a deterministic valuation is to develop expected results. However, only if actual future experience duplicates the underlying variables will the liabilities of the plan be exactly as determined.

Because the probability of one set of assumptions being exactly realized is rather low, Milliman utilized a "stochastic" projection (sometimes called a "Monte Carlo" simulation) in order to simulate multiple sequences of outcomes so that a range of results was obtained. This method resulted in a distribution of possible outcomes, which reflects the uncertainty and volatility of the real world. Instead of using assumptions that specifically represent future outcomes, stochastic projections use parameters that characterize the conditions underlying future events.

Based on Milliman's stochastic analysis, they determined and illustrated in their report the amount of assets necessary to have different percentage probabilities of meeting all program obligations, including administrative expenses, based on capital market assumptions, adjusted to result in an expected return of 5.75%, as set by Commonwealth Savers. Based on Milliman's stochastic analysis, they determined that the amount of assets necessary to have a 50% probability of meeting all program obligations, including administrative expenses, associated with contracts issued as of June 30, 2024, is $1,301.8 million. The actual Program fund balance as of June 30, 2024, was $2,509.4 million, which results in an actuarial reserve of $1,207.6 and the Program being 192.8% funded as of June 30, 2024. Based on the actual Program fund balance as of June 30, 2024 of $2,509.4 million, Milliman determined that there is a 99.9% probability of meeting all program obligations, including administrative expenses, associated with contracts issued as of June 30, 2024.

Milliman determined that there is a 99.9% probability of meeting all program obligations, including administrative expenses, associated with contracts issued as of June 30, 2024 (which is very high). Due to the nature of prepaid tuition programs (and that additional funds cannot be collected from current contract holders), a higher probability of meeting obligations is appropriate compared to a defined benefit retirement system.

Following is a comparison of the key actuarial valuation results based on the June 30, 2020 valuation (that GRS previously audited) and the June 30, 2024 valuation.

Actuarial Valuation Methods

$ in Millions		
Valuation Date	**June 30, 2020**	**June 30, 2024**
Actuarial Reserve	$ 1,050.2	$ 1,207.6
Funded Ratio	157.4%	192.8%
Estimated Probability of Meeting Program Obligations	99%	99.9%
Projected Surplus as of June 30, 2044*	**$ 3,765.1**	$ 3,566.0
Projected Surplus as of June 30, 2053*		**$ 5,765.8**

** The obligations for contracts in force as of the valuation date of June 30, 2020 were projected to be paid out by June 30, 2044, with a remaining projected cumulative surplus of $3,765.1 million. For comparison purposes, the projected cumulative surplus as of June 30, 2044 based on the June 30, 2024 valuation is $3,566.0 million. The obligations for contracts in force as of the valuation date of June 30, 2024 are projected to be paid out by June 30, 2053, with a remaining surplus of $5,765.8 million. The projected surplus does not reflect the impact of future sales after the valuation date.*

We find the use of a stochastic valuation approach by Milliman to determine the present value of obligations for future tuition payments and administrative expenses, as compared to a deterministic valuation approach, to be an appropriate valuation methodology for the purpose for which it is used. In fact, it is a robust methodology and has the potential to provide more information than a deterministic approach.

Milliman also prepared a closed group cash flow projection based on a set of deterministic assumptions that produce the same Present Value of Obligations for Future Payments as the “best estimate” actuarial assumptions used in their Monte Carlo simulations. The assumptions include a 5.54% return on the Program assets and a tuition and fee increase assumption of 4% for Universities and 3% for Community Colleges for the next year (2025-2026 academic year) and 6% each year thereafter for both Universities and Community Colleges.

The closed group cash flow projection shows that at June 30, 2053 the ending market value of investments is projected to be $5,765.8 million based on the valuation assumptions. We find the deterministic approach to the cash flow projections found in the June 30, 2024 actuarial valuation report to be reasonable.

The Program experience summary of the actuarial valuation report describes that there was a $3.6 million increase to the reserve from account maintenance expenses paid by the Operating Fund. In addition, the Change in Market Value of Investments (Exhibit 2) in the actuarial valuation report does not include administrative expenses as part of the disbursements for the year ending June 30, 2024. If administrative expenses are expected to be paid from the Operating Fund (and not the program assets) on an ongoing basis, the liability for the present value of future administrative expenses should be excluded from the actuarial valuation. We recommend that additional disclosure on this issue be included in the actuarial valuation report.

Recommendations

We recommend that Milliman include additional language on the cash flow projection (Exhibit 5) more completely describing the basis of the projection (closed group) and the significance of the results (including the market value of investments at the end of the projection period). In addition, we recommend additional disclosure on the payment of administrative expenses and whether they will be paid from the Operating Fund or Program assets on an ongoing basis.

SECTION J

ACTUARIAL VALUATION REPLICATION RESULTS

Actuarial Valuation Replication Results

The 2025 Quadrennial Actuarial Audit of the Program consists of a full replication actuarial audit of the valuation results, compared to a test life audit that was performed in 2021. For the full replication audit, GRS calculated the program liabilities and present value of projected installment payments for all contract beneficiaries as of the valuation date, using the contract beneficiary data file provided by Commonwealth Savers and the same assumptions and methods used by Milliman.

The present value of obligations and closed group cash flow projections are included in the actuarial valuation report on a combined basis for the Legacy prepaid plan and the TTP. GRS requested additional detail from Milliman that showed the present value of obligations and the closed group projected tuition payments and expenses separately for the Legacy prepaid plan and the TTP. In providing the additional detail, Milliman also identified that the present value of obligations and cash flow projection detail reflected a change to the projected TTP benefits to pay the WAT as a post-matriculation cancellation benefit when it is higher than the account balance. That change results in slightly higher projected cash flows and a liability of $10 million more than what was calculated in the June 30, 2024 valuation report.

A side-by-side of the replication results can be found on the following pages.

Application of Actuarial Assumptions and Methods

GRS found that the actuarial assumptions and methods were generally consistent with those disclosed in the June 30, 2024 actuarial valuation report. However, there were a few assumptions that GRS needed additional clarification on (in addition to the information disclosed in the actuarial valuation report). These assumptions included:

- Utilization rates:
    - The application of the utilization rates for contract beneficiaries that are past their expected matriculation year.
    - The projection of future maintenance expenses based on utilization rates that do not explicitly include an assumption for how long a contract will remain in force.
- Bias calculation
    - The trailing 5-year average distribution of unit redemptions at each of the Virginia public universities in order to calculate the probability weighted average payout at each school. (The payout is equal to the greater of the projected Reasonable Rate account balance and the tuition and fees at each respective public university.)

We recommend that the additional information that was provided to GRS regarding these assumptions be disclosed in the actuarial valuation report.

Replication of the Projected Cash Flows

As shown on page 37, GRS was able to replicate the projected annual tuition and fee payments (including cancellations and rollovers) for each and every fiscal year to within $3.0 million dollars. Similarly, GRS was able to replicate the projected maintenance expenses shown in the report and provided in the additional cash flow projection detail within $0.1 million each year. The projected cash flows provided were in millions, with one decimal place. Therefore, a difference of $0.1 million in a year may be less than $100,000.

Actuarial Valuation Replication Results

As shown in the Plan Assets section of this report on page 13, we were also able to replicate the projected contract installment payments within $0.1 million each year (and possibly less than $100,000.)

Replication of the Present Value of Obligations

GRS was able to replicate the total present value of benefits and the total present value of maintenance expenses, both in total and separately for the Legacy prepaid plan and the TTP with a high degree of accuracy. On page 36, we have included a side-by side comparison of the key actuarial valuation results included in Milliman's June 30, 2024 actuarial valuation report, the present value of obligations for the Legacy prepaid plan and the present value of obligations for TTP provided by Milliman for purposes of the actuarial audit and the replication results calculated by GRS.

GRS was able to replicate the total present value of benefits (including tuition and fee payments, cancellations and rollovers) within $10.2 million dollars, or 0.8%. In addition, GRS was able to replicate the present value of benefits (PVB) for the Legacy prepaid plan within 1.1% and the PVB for TTP within 2.0%.

GRS was able to replicate the total present value of maintenance expenses within $0.1 million dollars, or 0.4%.

Individual Test Lives

In order to better understand the application of the actuarial assumptions and to assist us in determining if the June 30, 2024 actuarial valuation completed by Milliman for the Commonwealth Savers Plan: (1) was calculated based on the benefit provisions specified in the Program Description and Benefits Guide; and (2) used the actuarial assumptions and actuarial methods disclosed in the experience study and the June 30, 2024, actuarial valuation report, GRS requested sample participant calculations (i.e., test lives) from Milliman.

For each test life, Milliman provided the following cash flows and liabilities: Future Installation Payments, Forfeiture Benefit Payable, Tuition Benefits and Annual Maintenance Expense. The test life detail provided to us also included decrement rates and the account balance at the reasonable rate for each year. Similar to the results in total, for each individual test life requested, GRS' estimate of the present value of obligations was within 2% of Milliman's results.

Replication of the Present Value of Future Installment Contract Payments

As shown on page 36, we were able to replicate the present value of future installment payments (which is included as a component of the assets) with a high degree of accuracy, within $0.6 million, or 1.1%.

Opinion

In our opinion, the actuarial valuation results including present value of benefits, present value of expenses and cash flow projections are reasonable for the purposes of the actuarial soundness valuation.

Actuarial Valuation Replication Results

Recommendation

We recommend that more disclosure be added to the actuarial assumptions section of the actuarial valuation report with respect to:

1) Application of utilization rates; and
2) Additional details related to the bias assumption.

Actuarial Valuation Replication Results

Replication Results ($ in Millions)	Milliman (Report) (A)	Milliman (Updated) (B)	GRS (C)	$ Difference (C)-(B)	% Difference (C)/(B)-1
Legacy Plan					
Present Value of Benefits		$ 1,156.9	$ 1,169.9	$ 13.0	1.1%
Present Value of Expenses		23.4	23.3	(0.1)	-0.5%
Total Obligations		1,180.4	1,193.2	12.9	1.1%
TTP Plan					
Present Value of Benefits		$ 128.7	$ 126.0	$ (2.7)	-2.1%
Present Value of Expenses		3.0	3.0	(0.0)	-0.2%
Total Obligations		131.7	129.0	(2.7)	-2.0%
Total					
Present Value of Benefits	$ 1,275.4	$ 1,285.7	$ 1,295.9	$ 10.3	0.8%
Present Value of Expenses	26.4	26.4	26.3	(0.1)	-0.4%
Total Obligations	1,301.8	1,312.1	1,322.2	10.2	0.8%
Invested Assets at Fair Market Value	$ 2,456.7	$ 2,456.7	$ 2,456.7	$ -	0.0%
Present Value of Projected Installment Payments	52.7	52.7	53.3	0.6	1.1%
Total Assets	2,509.4	2,509.4	2,510.0	0.6	0.0%
Reserve	1,207.6	1,197.3	1,187.8	(9.6)	-0.8%
Funded Ratio	192.8%	191.3%	189.8%	-1.4%	-0.7%

Results on a combined basis for the Prepaid legacy plan and the TTP are shown in the actuarial valuation report. Milliman provided the present value of obligations separately for the Legacy prepaid plan and the TTP as a part of the actuarial audit. Milliman identified and incorporated a change in the projected TTP cash flows and present value of obligations that is reflected in the updated results above that increased the present value of obligations by about $10 million compared to the results included in the June 30, 2024 actuarial valuation report.

Actuarial Valuation Replication Results

Projected Tuition Benefits ($ in Millions)													
Fiscal Year Ending June 30	Milliman Valuation Report	Milliman (Based on Projection Detail)			GRS (Replication)			$ Difference (GRS - Milliman)			% Difference (GRS/Milliman)		
	Total	Legacy	TTP	Total	Legacy	TTP	Total	Legacy	TTP	Total	Legacy	TTP	Total
2025	$ 179.8	$ 174.9	$ 5.0	$ 179.9	$ 177.2	$ 4.9	$ 182.1	$ 2.3	$ (0.1)	$ 2.2	1.3%	-2.0%	1.2%
2026	170.3	163.4	7.0	170.4	165.8	7.0	172.8	2.4	-	2.4	1.5%	0.0%	1.4%
2027	159.2	150.3	9.1	159.4	152.7	9.0	161.7	2.4	(0.1)	2.3	1.6%	-1.1%	1.4%
2028	151.0	140.4	10.9	151.3	142.9	10.9	153.8	2.5	-	2.5	1.8%	0.0%	1.7%
2029	142.6	131.4	11.6	143.0	133.9	11.5	145.4	2.5	(0.1)	2.4	1.9%	-0.9%	1.7%
2030	131.2	119.6	12.1	131.7	122.2	12.1	134.3	2.6	-	2.6	2.2%	0.0%	2.0%
2031	118.6	107.4	11.7	119.1	110.1	11.6	121.7	2.7	(0.1)	2.6	2.5%	-0.9%	2.2%
2032	106.9	95.8	11.7	107.5	98.7	11.7	110.4	2.9	-	2.9	3.0%	0.0%	2.7%
2033	94.5	83.4	11.8	95.2	86.2	11.8	98.0	2.8	-	2.8	3.4%	0.0%	2.9%
2034	82.4	71.7	11.5	83.2	74.6	11.4	86.0	2.9	(0.1)	2.8	4.0%	-0.9%	3.4%
2035	73.1	62.2	11.8	74.0	64.7	11.8	76.5	2.5	-	2.5	4.0%	0.0%	3.4%
2036	66.3	56.0	11.3	67.3	58.3	11.3	69.6	2.3	-	2.3	4.1%	0.0%	3.4%
2037	56.5	46.8	10.8	57.6	48.4	10.8	59.2	1.6	-	1.6	3.4%	0.0%	2.8%
2038	47.8	38.2	10.7	48.9	39.5	10.6	50.1	1.3	(0.1)	1.2	3.4%	-0.9%	2.5%
2039	38.2	28.5	10.9	39.4	29.3	10.9	40.2	0.8	-	0.8	2.8%	0.0%	2.0%
2040	29.5	19.5	11.3	30.8	19.9	11.3	31.2	0.4	-	0.4	2.1%	0.0%	1.3%
2041	22.4	12.4	11.3	23.7	12.7	11.3	24.0	0.3	-	0.3	2.4%	0.0%	1.3%
2042	17.5	8.4	10.3	18.7	8.6	10.3	18.9	0.2	-	0.2	2.4%	0.0%	1.1%
2043	13.0	6.4	7.6	14.0	6.4	7.6	14.0	-	-	-	0.0%	0.0%	0.0%
2044	9.0	4.6	5.1	9.7	4.7	5.2	9.9	0.1	0.1	0.2	2.2%	2.0%	2.1%
2045	6.1	3.5	3.3	6.8	3.5	3.3	6.8	-	-	-	0.0%	0.0%	0.0%
2046	4.5	3.1	2.0	5.1	3.1	2.0	5.1	-	-	-	0.0%	0.0%	0.0%
2047	2.8	1.8	1.5	3.3	1.8	1.5	3.3	-	-	-	0.0%	0.0%	0.0%
2048	1.7	0.9	1.4	2.3	0.9	1.4	2.3	-	-	-	0.0%	0.0%	0.0%
2049	0.9	0.1	1.4	1.5	0.1	1.4	1.5	-	-	-	0.0%	0.0%	0.0%
2050	0.7	0.1	1.1	1.2	0.1	1.1	1.2	-	-	-	0.0%	0.0%	0.0%
2051	0.5	-	0.9	0.9	-	0.9	0.9	-	-	-		0.0%	0.0%
2052	0.3	-	0.5	0.5	-	0.5	0.5	-	-	-		0.0%	0.0%
2053	-	-	0.1	0.1	-	0.1	0.1	-	-	-		0.0%	0.0%
Present Value	$ 1,275.3	$ 1,156.9	$ 128.7	$ 1,285.7	$ 1,169.9	$ 126.0	$ 1,295.9	$ 24.8	$ (0.4)	$ 24.4	1.1%	-2.1%	0.8%

The projection results above provided by Milliman splitting Legacy and TTP benefits reflect a change that increased the present value of obligations by about $10 million compared to the results included in the June 30, 2024 actuarial valuation report. The difference in results is based on comparing the GRS replication results to the updated projection results provided by Milliman.

SECTION K

ACTUARIAL REPORT CONTENT, DETAIL, FORMAT AND CLARITY

Actuarial Standards of Practice

Because no generally accepted actuarial standards of practice ("ASOP") have evolved within the actuarial profession that specifically address prepaid tuition programs, we have referenced the ASOPs that are used for retirement systems. We chose such standards because prepaid tuition programs, like retirement plans, generally provide for the payment of a well defined benefit at a future date.

ASOP No. 4

ASOP No. 4, Measuring Pension Obligations and Determining Pension Plan Costs, provides guidance for measuring pension obligations and communicating the results. The Standard lists specific elements to be included, either directly or by references to prior communication, in pension actuarial communications. The pertinent items that should be included in an actuarial valuation report for a pension plan should include:

- The purposes of the measurement and a statement that the measurement may not be applicable for other purposes.
- The measurement date (the effective date of the calculations, the date as of which the participant and financial information were compiled and the sources and adequacy of such information).
- A description of adjustments made for events after the measurement date (if applicable).
- An outline of the benefits being discussed or valued, a description of known changes from the most recent valuation and any significant plan provisions not included in the actuarial valuation, along with the rationale for not including the provisions.
- A summary of the participant information and description of hypothetical data (if used).
- A description of any accounting policies or funding elections made by the principal that are pertinent to the measurement.
- A description of the actuarial assumptions, cost method and the asset valuation method used such that another actuary qualified in the same practice area could determine whether the results in the actuarial valuation report are reasonable.
- Information regarding the contribution allocation procedure.
- Disclosures on funded status that are not prescribed by federal law or regulation:
    - Whether the funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations;
    - Whether the funded status measure is appropriate for assessing the need for or the amount of future contributions; and
    - If applicable, a statement that the funded status measure would be different if the measure reflected the market value of assets rather than the actuarial value of assets.
- A statement, appropriate for the intended users, indicating that future measurements (for example, funded status) may differ significantly from the current measurement.
- A description of known changes in assumptions and methods from the most recent valuation and an explanation of the information and analysis that led to the changes (if the changes were not the result of a prescribed assumption).
- A description of cost allocation or contribution allocation procedures (if the changes were not the result of a prescribed assumption).
- A statement, if applicable, that the actuary's use of approximations and estimates could differ materially from results based on detailed calculations.

Actuarial Report Content, Detail, Format and Clarity

ASOP No. 41

ASOP No. 41, Actuarial Communications, provides guidance to actuaries with respect to actuarial communications.

The requirements for actuarial communications are as follows:

- Form and content of each actuarial communication are appropriate for the circumstances, taking into account the intended users.
- Actuarial communications are clear and use language appropriate for the circumstances, taking into account the intended users.
- Actuarial communications should be issued within a reasonable time period, taking into account the needs of the intended users.
- Actuarial communications should clearly identify the actuary responsible and the extent to which the actuary is available to provide supplementary information and information, unless the actuary judges it inappropriate.

Findings and Recommendations

We have reviewed the June 30, 2024 actuarial valuation report prepared by Milliman and generally find that the report is complete and contains the appropriate information.

In order to illustrate the impact on the future funded ratio and actuarial reserve of the Program of assumed future TTP sales, Milliman could consider including an open group projection in future actuarial valuation reports.

In addition, we have the following recommendations for modifications to the report which in our opinion would allow it to adhere more closely with ASOP No. 4 and 41.

- Disclosure of whether the funded status measure is appropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations (and a brief explanation in layperson's terms of what this means).
- The summary/outline of the benefits being discussed or valued could be expanded to be more robust, and an explicit statement regarding whether there are (or are not) any significant benefits not included in the actuarial determinations could be added.

These are the same minor recommendations related to ASOP No. 4 and 41 that we made in our 2021 Quadrennial Actuarial Audit of Commonwealth Savers Defined Benefit 529 Program Report.

SECTION L

ACTUARIAL PRINCIPLES AND PRACTICES EMPLOYED BY ACTUARY

Actuarial Principles And Practices Employed by Actuary

Actuarial Standards of Practice

Because no generally accepted standards of practice have evolved within the actuarial profession that specifically address prepaid tuition programs, we have referenced the ASOPs that are used for retirement systems for purposes of conducting this 2025 Quadrennial Actuarial Audit of the Program. We chose such standards because prepaid tuition programs, like retirement plans, generally provide for the payment of a benefit at a future date. These include the following Actuarial Standards of Practice:

- ASOP No. 4, *Measuring Pension Obligations and Determining Pension Plan Costs or Contributions;*
- ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*;*
- ASOP No. 35, *Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations*;*
- ASOP No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations*;
- ASOP No. 51, *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions*; and
- ASOP No. 56, *Modeling*.

**For reports issued on or after January 1, 2025 with measurement dates on or after January 1, 2025, a revised version of ASOP No. 27 applies, which covers both economic and demographic assumptions. Therefore, ASOP 35 will no longer apply.*

ASOP No. 56 requires the following to be disclosed in an actuarial valuation report related to the models used to calculate actuarial valuation results.

4.1 Required Disclosures in an Actuarial Report—When issuing an actuarial report under this standard, the actuary should refer to ASOP Nos. 23 and 41. In addition, the actuary should disclose the following in such actuarial reports:

a. the intended purpose of the model, as discussed in section 3.1;
b. material inconsistencies, if any, among assumptions, and known reasons for such inconsistencies, as discussed in section 3.1.6(c);
c. unreasonable output resulting from the aggregation of assumptions, if material, as discussed in section 3.1.6(e);
d. material limitations and known weaknesses, as discussed in section 3.2;
e. extent of reliance on models developed by others, if any, as discussed in section 3.4; and
f. extent of reliance on experts, if any, as discussed in section 3.5.

Actuarial Principles And Practices Employed by Actuary

In general, we find that Milliman followed the appropriate ASOPs that are the most applicable for a prepaid tuition program.

Recommendations

We recommend that Milliman include additional details and disclosures required under ASOP No. 56, including whether they are relying on a model developed by others, whether there are any material limitations or known weaknesses, and the extent of reliance on experts, if any.

We recommend that Milliman include commentary in the Executive Summary of the report discussing the risks associated with the Program, including but not limited to, investment risk, tuition and fee growth risk and utilization risk. In addition to the stochastic analysis the report could include sensitivities to these assumptions (such as the actuarial reserve if tuition growth is 5% or 7%, i.e. +/-1% of the long-term assumption of 6% and if the investment return is 4.75% or 6.75%, i.e. +/-1% of the assumption of 5.75%).

SECTION M

COMMENTS AND CONSIDERATIONS FROM GRS FROM 2021 AUDIT

Comments and Considerations from GRS from 2021 Audit

Comments from GRS from 2021 Audit Report

The 2021 audit report contained a series of relatively minor recommendations for the Commonwealth Savers and Milliman. A summary of these recommendations follows along with a comment from GRS in *italics*:

Contract Data

- There are a large number of contract beneficiary records with fewer than 0.25 remaining semesters of tuition (and no remaining contract installment payments for unpurchased tuition benefits) who are included in the contract counts and data exhibits.
    - Since it is likely these beneficiaries are through using their contracts, we suggest that Milliman consider excluding contracts that have a very low amount of tuition units remaining. This approach may increase the usefulness of the data exhibits. (This is something that GRS does with our other prepaid tuition plan clients.) Appendix B of the Milliman actuarial valuation report illustrates the remaining years of tuition.
    - Virginia529 may want to review these contracts and make updates to the contract data or follow up with contract holders, as needed. (This is basically a data cleanup issue.)

The contract data used for the June 30, 2024 valuation also includes a large number of Legacy prepaid plan records with fewer than 0.25 remaining semesters of tuition. The data exhibits include these records. This recommendation was not addressed.

- There are contracts that currently have or are projected to have remaining contract installment payments at the projected matriculation date (which is the expected date that the beneficiary enters college). All contract payments should be made prior to enrollment.
    - We recommend that Virginia529 and Milliman discuss whether changes will be made to the underlying raw data or if assumptions should be made in the actuarial valuation to address this issue.

Milliman assumes that contracts will be fully paid by June of the year of expected matriculation. This recommendation was addressed.

- We recommend that Virginia529 and Milliman review contracts with a status of cancelled, pending cancellation and 10-year time limit reached and consider valuing the liabilities in a manner consistent with the expected administration of contracts with those statuses by Virginia529.

The data file does not include any records with a status of cancelled or 10-year time limit reached. The data file only includes two records with a status of pending cancellation. However, there are over 600 records with a projected enrollment year of 2014 or earlier. We believe these records have reached the 10-year time limit (although a small number of these records have a status of contract extension). Benefits must be used within a 10-year period from the student's projected high school graduation date. It is unclear if this recommendation was fully addressed.

Comments and Considerations from GRS from 2021 Audit

Plan Assets

- We recommend that Milliman review their calculation of (1) the present value of future installment payments in the assets and (2) the present value of future tuition benefits for contract beneficiaries with college entrance years of 2014 and earlier and remaining installment payments for consistency to ensure that the tuition benefits assumed to be paid out have assumed installment payments to fully cover the tuition benefits. If any remaining installment payments are excluded, the valuation of the liabilities should reflect only the fully paid for tuition benefits (and not the full contracted tuition benefits).

We are not able to determine whether this was addressed through the full replication audit process.

Economic Actuarial Assumptions

- We recommend that the inflation assumption be reviewed, and adjusted as appropriate, as it is at the high end of the reasonable range of assumptions for inflation.
- We recommend that the assumption for tuition increases continue to be reviewed annually, and adjusted as appropriate, as the ultimate 6.00 percent assumptions is at the high end of tuition increase assumptions used by other prepaid tuition plans around the country.
- We recommend that the reasonable rate assumption be reviewed in conjunction with the review of the inflation assumption, and adjusted as appropriate.

We believe these assumptions have been reviewed annually. The ultimate tuition increase assumption has remained at 6.00%.

Demographic Actuarial Assumptions

- We recommend conducting another experience study to review the demographic experience of the plan compared to the current actuarial assumptions within the next 12 months.

An experience study was performed in 2023.

Test Life Review

- We recommend that Milliman review the annual maintenance expense that is assumed for all contracts in the last year that tuition benefits are assumed to be paid and either include or exclude it for all test lives.

We are not able to determine whether this was addressed through the full replication audit process.

- We recommend that more disclosure be added to the actuarial assumptions section of the actuarial valuation report with respect to a couple of assumptions.

Because the assumptions have changed since this recommendation was made, the specific disclosure recommendations are no longer applicable.

Comments and Considerations from GRS from 2021 Audit

Actuarial Report Content, Detail, Format and Clarity

- We recommend that Milliman provide more disclosure regarding the amount of net operating agency revenue assigned (contributed) to Prepaid529 during the most recent five fiscal years.

We believe this is no longer applicable.

- We have other minor recommendations for modifications to the report which, in our opinion, would allow it to adhere more closely with ASOP No. 4 and 41.

SECTION N

COMMONWEALTH SAVERS DEFINED BENEFIT 529 PROGRAM RESPONSE

June 13, 2025

Joint Legislative Audit and Review Commission
919 East Main Street, Suite 2101
Richmond, VA 23219

VIA EMAIL

RE: 2025 Quadrennial Actuarial Audit

Dear Commission Members:

Thank you for the opportunity to review and comment on the exposure draft of the *2025 Quadrennial Actuarial Audit of the Commonwealth Savers Defined Benefit 529 Program* (the Audit) recently completed by Gabriel, Roeder, Smith and Company (GRS). The Audit was conducted to comply with the provisions of the Commonwealth Savers Oversight Act (§30-330-335 of the Code of Virginia) to provide the Joint Legislative Audit and Review Commission (JLARC) a comprehensive review of the actuarial soundness of the Defined Benefit 529 Program (DB529 or the Program), a combination of the Legacy Prepaid529 Program and the Tuition Track Portfolio within Invest529. Commonwealth Savers is pleased with the conclusions of GRS that the results in the DB529 Actuarial Valuation Report for the fiscal year ending June 30, 2024 are reasonable, that the primary actuarial assumptions used by Commonwealth Savers and its actuary, Milliman, Incorporated (Milliman), are all reasonable, and that the DB529 Program is actuarially sound.

The Report concludes that it is to be considered a "clean" actuarial audit but does contain what GRS characterizes as "relatively minor recommendations." In general, Commonwealth Savers agrees with the recommendations, in many instances because Commonwealth Savers already is taking the actions recommended. In most instances Commonwealth Savers either has completed addressing the recommendations or has consistently addressed the topic through its standard practices. With respect to remaining recommendations, Commonwealth Savers will take those under advisement in working with Milliman on the forward presentation of the Actuarial Valuation. Commonwealth Savers agrees with GRS that none of the recommendations has a material impact on the conclusions or funded status of the Program.

We briefly address key recommendations and comments below, in the order addressed in the Report:

Contract Data: Commonwealth Savers agrees with the three minor recommendations regarding the contract data related to contracts with de minimis balances and contracts beyond the 10-year time limit because Commonwealth Savers has adopted policies to address each situation. In 2022, Commonwealth Savers implemented a process to address expired

Prepaid529 contracts, reaching out to account owners and providing options related to those accounts. As a result, Commonwealth Savers has transferred over 3,700 accounts and $33.7 million to date into the Invest529 FDIC Portfolio from Prepaid529 contracts which had reached the 10-year time limit. By doing this, Commonwealth Savers limited further liability to the DB529 program but avoided any adverse tax consequences to customers from a complete distribution. A number of account owners could not be identified or reached and approximately $2 million in Prepaid529 assets were transferred to the Virginia Treasury's Division of Unclaimed Property.

Of all the current accounts with 0.25 units or less, over half are Tuition Track Portfolio (TTP) customers. This is expected since TTP allows customers to purchase and get started with much smaller amounts, and no action is necessary as these are active accounts. Additionally, many of these accounts are for community colleges, which require a smaller number of units, so many of these are still active accounts as well. A small percentage of legacy contracts were granted one-time extensions upon request if they were in payout status or received exceptions allowable under the Prepaid529 Master Agreement or other legal agreement with the customer. The remaining contracts, representing roughly 1.8 percent of DB529 accounts will be addressed prospectively in the monthly process of transferring inactive expired accounts.

The current process also includes proactive notifications to customers approaching expiration when the expected usage date is more than six years (and again at nine years) since the student's expected high school graduation date. As the process occurs monthly, many of these accounts have been transferred since the fiscal year 2024 actuarial valuation and evaluation by GRS. Every effort is made to provide multiple notices to the customer to encourage utilization prior to expiration. If no action is taken by the customer, proceeds valued at the refund value are transferred to an Invest529 FDIC Insured Portfolio account for the beneficiary or to the Division of Unclaimed Property if we are unable to locate the account owner. This ongoing process effectively cleans up expired and/or de minimis accounts and addresses this minor recommendation from GRS.

Plan Assets: Commonwealth Savers agrees with the recommendation or comment that it is helpful to maintain a separate tracking of the assets attributable to the Legacy Prepaid529 and TTP programs as Commonwealth has consistently done so since the inception of the successor TTP portfolio. A separate discussion of TTP is presented in the actuarial valuation report and the amounts are broken out within the Transmittal Letter of Commonwealth Savers' Annual Comprehensive Financial Report. The assets and liabilities are commingled for investment and reporting purposes; however, separate tracking is performed internally and with the master custodian. Commonwealth Savers continually reviews information contained within the actuarial valuation report and evaluates the relevance of the information provided with Milliman, the Commonwealth Savers Board, and other internal and external stakeholders to maximize the value of the report.

Economic Actuarial Assumptions: Commonwealth Savers agrees it is valuable to review the primary actuarial assumptions annually and has done so every year since the inception of the Prepaid529 program and first contract sales in 1996. Assumptions reviewed annually include consideration of appropriate estimates for tuition and fee policies for Virginia's public universities, on both a short- and long-term projection, as well as consideration of an appropriate long-term portfolio return assumption. Commonwealth Savers will continue to do this into the future for the DB529 Program (including both the legacy Prepaid529 and successor TTP program).

Tuition and Fee Assumptions: Commonwealth Savers uses information on the tuition outlook at Virginia public institutions from the Annual Tuition and Fee Report issued by the State Council of Higher Education in Virginia (SCHEV) to inform decision making, as well as discussions with the Executive Director of SCHEV and the Chancellor of the Virginia Community College System (VCCS), both Commonwealth Savers Board members, and discussions with a variety of the finance divisions of Virginia's public universities.

A recommendation on tuition and fee projections is made annually by the Audit and Actuarial Committee (A&AC) to the Board for consideration and discussed and acted on by the Board. This typically happens at the August meetings of that committee and the Board.

Long-term Return Assumption: For the annual assumption of its long-term return assumption, Commonwealth Savers' investment team works with its investment consultant, Mercer, to develop an expected long-term return for the DB529 portfolio based on capital markets assumptions developed by Mercer for the various asset allocations of the Fund and those materials are considered by the Investment Advisory Committee (IAC), generally at its August meeting. Their recommendation then is considered by the Board which adopts a return assumption.

Both key assumptions are provided to the actuary to use in finalizing valuation results.

Demographic Actuarial Assumptions: Commonwealth Savers agrees with GRS that it is important and a best practice to perform regular experience studies and review utilization assumptions. The most recent full experience study of the DB529 Fund was performed by Milliman in 2023, with the next anticipated in 2026 or 2027. An expected outcome is an evaluation and update of utilizations assumptions as needed. Updates are reviewed by the A&AC and recommended to the Board for approval prior to adoption for the annual valuation report. Commonwealth Savers plans to continue its practice of regularly performing experience studies as it has done since the opening of the DB529 Program in 1996.

Actuarial Valuation Methods/Replication Results/Report Content/Principles and Practices: GRS made several observations regarding the language, disclosure and exhibits provided within the actuarial valuation report, and Commonwealth Savers agrees that relevant and transparent information should be provided to closely align with Actuarial Standards of Practice

(ASOPs). Commonwealth Savers continually reviews and updates the information contained within its reports as well as the disclosure and exhibits to properly convey the results of the valuation based on discussions with Milliman, the Commonwealth Savers Board as well as other stakeholders. Several updates were made to the valuation report within the last year and as noted by GRS, the report follows current ASOPs. Commonwealth Savers will continue to work with Milliman to update the report to ensure the most relevant information is included and will take into consideration the minor recommendations of GRS in that work.

We appreciate the work of GRS and JLARC staff and for the professional and cooperative way in which this audit was conducted and we are pleased with the outcome of the review. Please do not hesitate to reach out with any questions about this response. We look forward to the upcoming briefing to the Commission on July 14, 2025.

Sincerely,

Mary G. Morris

pc: Members, Commonwealth Savers Board
Alan Perry, Milliman
Glenn Bowen, Milliman
Jill Stanulis, Milliman
Kimberly Sarte, JLARC
Alexandra Jansson, JLARC