Actuarial Valuation
of
Virginia529
Defined Benefit 529 Program
as of June 30, 2022

By:

Glenn D. Bowen, FSA, EA
Alan H. Perry, FSA, CFA
Jill M. Stanulis, EA

Milliman

1550 Liberty Ridge Drive
Suite 200
Wayne, PA 19087-5572

Tel +1 610 687.5644
Fax +1 610.687.4236

www.milliman.com

November 29, 2022

Board of the Virginia College Savings Plan
Commonwealth of Virginia
Virginia College Savings Plan
9001 Arboretum Parkway
N. Chesterfield, VA 23236

Ladies & Gentlemen:

This report presents the results of the actuarial valuation of the Defined Benefit 529 Program (DB529 Program) as of June 30, 2022.

Purpose

The main purposes of this report are:

- to calculate the actuarial present value of the obligations under the Program's legacy Prepaid529 contracts (accounts) and Tuition Track Portfolio accounts purchased through June 30, 2022 and compare the value of those obligations with the Program's assets as of that date;

- to review the experience and changes in the actuarial assumptions during the last year and indicate their effects on the results; and

- to set forth the basis for the actuarial assumptions and methods utilized in those calculations.

The results contained in this report are based on account data and preliminary financial statements provided by the Virginia College Savings Plan. We have relied on this data in preparing this report.

Background

The Virginia College Savings Plan ("VA529" or "the Plan"), a body politic and corporate and an independent agency of the Commonwealth of Virginia was created in 1994 by the Virginia General Assembly to enhance the accessibility and affordability of higher education for all citizens of the Commonwealth. The longest standing mandate centers on educational attainment, on which VA529 has focused since opening its first program in 1996 by offering education savings programs to help make higher education more affordable and accessible for all citizens of the Commonwealth. VA529's mature programs are comprised of prepaid and education savings programs, including the legacy Prepaid529 (a defined benefit option), Invest529 and CollegeAmerica programs.

The legacy Prepaid529 program was closed to new participants after its final enrollment period in 2019. A successor program was opened in February 2021. This program is known as the Tuition Track Portfolio (TTP) and is offered as a defined benefit option within the Invest529 program. VA529 continues to service existing customers in the Prepaid529 program. Together Prepaid529 and TTP are known as the Defined Benefit 529 Program ("DB529" or "the Program"). Since TTP is a continuation of the legacy prepaid program, funds are combined and invested in the Program Fund to meet future obligations.

The Program Fund consists of payments received pursuant to legacy Prepaid529 contracts, purchases of TTP units, bequests, endowments or grants from the United States government, its agencies and instrumentalities, and any other available sources of funds, public or private, allocated to the Program Fund. Any moneys remaining in the Program at the end of a biennium shall remain in the Fund, including interest and income earned from the investment of such funds.

In 1998, the Virginia General Assembly passed legislation that requires the Governor to include in each year's state budget an amount to cover the Plan's obligations, in the event "the Plan is unable to meet its current obligations." The Governor has included the provision in subsequent budget submissions to meet the obligations of the Program, and the General Assembly has included the provision in subsequent Appropriation Acts, including Chapter 2 of the Virginia Acts of Assembly, 2022 Special Session I.

<u>Program Design</u>

VA529 is the program sponsor for the DB529 Program and other education savings programs. The DB529 Program is a prepaid program with defined benefits and no market risk to participants. The other education savings programs, including Invest529 (excluding TTP accounts) and CollegeAmerica, are offered directly from VA529 (Invest529) or through financial advisors (CollegeAmerica) and are subject to market and other risks to the participants.

VA529's Defined Benefit 529 Program

Prepaid529 closed to new participants in 2019. Benefits in this program cover tuition and mandatory fees at Virginia's public higher educational institutions. At redemption, the contract pays the current tuition and mandatory fees at the Virginia public institution that the beneficiary attends. The benefits vary if the beneficiary does not attend a Virginia public institution. With the establishment of Invest529 and other savings programs, contract holders have the option of rolling over the value of their Prepaid529 contract into a savings account. The value of the Prepaid529 contract for such rollovers is the accumulated contributions plus the reasonable rate of interest set by Virginia529. This option to roll over the contract has effectively added a minimum benefit to the Program.

In 2019, The Virginia General Assembly passed legislation that included provisions for Prepaid529 contracts entered prior to July 1, 2019. These provisions allow for the “Minimum Benefit” payout directly from Prepaid529 to qualified higher education institutions when the accumulated contributions at the reasonable rate of interest set by Virginia529 exceeds the normal payout from the program. To address significant increases in higher education tuition, increasing disparity in tuition policies at Virginia's 15 public universities and a desire to make the defined benefit program more affordable and more accessible to more Virginians, the Board permanently closed Prepaid529 to new enrollments as of May 1, 2019 and began to develop its successor defined benefit prepaid program.

In February 2021, TTP was launched as the successor defined benefit option to Prepaid529. This resulted from legislation passed in 2019 by the Virginia General Assembly that included provisions for payments to any qualified higher education institutions based on enrollment-weighted average tuition (Average Tuition) at Virginia’s public higher education institutions as determined by the Board.

TTP allows participants to purchase a desired number of units toward tuition and other qualified higher education expenses. The purchased units will keep pace with average tuition inflation at Virginia public universities. When withdrawn, participants will receive one year of then-current Average Tuition for every 100 units purchased (one TTP unit = 1/100 of Average Tuition), regardless of how much Average Tuition has increased since purchase.

TTP is only available for account owners or beneficiaries who are Virginia residents at the time of initial purchase. TTP units can be purchased up until June 30 of the beneficiary’s high school graduation year. A maximum of 1,000 Tuition Track units can be held at any one time for a beneficiary. If units are redeemed, more units can be purchased to reach the 1,000-unit cap.

TTP units are eligible for use at Average Tuition value after the units have been held for three years or more and when the beneficiary graduates from high school or begins taking eligible post-secondary courses, whichever comes first. If units are redeemed prior to the beneficiary’s high school graduation, they will receive the purchase price plus Tuition Track Interest (same as the reasonable rate of interest for Prepaid529), assuming the units have been held for three or more years. Units that are redeemed before being held for at least three years will be returned at purchase price.

<u>Statutory Requirements</u>

The Code of Virginia, Title 23.1, Subtitle II, Chapter 7 provides limited guidance for establishing the actuarial basis to evaluate VA529’s DB529 Program. The Code requires an annual audit of the Program and states in part that if the annual accounting and audit reveal that there are insufficient funds to ensure the “actuarial soundness” of the Program, the “Board may adjust the terms of subsequent prepaid tuition contracts, arrange refunds for current purchasers to ensure actuarial soundness, or take such other action the Board deems appropriate."

"Actuarial soundness" is not a precise concept and there is no generally accepted understanding of the meaning of this phrase within the actuarial profession, especially with respect to prepaid tuition plans. For purposes of this report, we have assumed that the phrase "actuarially sound," when applied to the Program, means that the Fund has sufficient assets in the combined program to cover the actuarially estimated value of the tuition obligations (including any administrative costs associated with those Prepaid Contracts or TTP accounts). "Sufficient assets" reflects the value of the combined total Fund assets, including the value of future installment payments due under current contracts for Prepaid529.

We have also interpreted these Sections to require that the actuarial liabilities be evaluated using sound actuarial principles that are generally consistent with the practices and principles widely used for retirement programs. Reference to other programs is necessary because of the innovative nature of a prepaid tuition program. No generally accepted standard of practice has evolved within the actuarial profession specifically addressing prepaid tuition programs. We chose the standards applicable to retirement programs because these programs generally provide for payments at some future date where that payment has a high probability of payment at, or close to, some specific age.

Valuation Basis

The assumptions selected for this report are intended to be "best estimates".

The method for determining the "best estimate" liability for the Program reflects the possible variability of inflation, tuition, and investment returns and the correlation between each of these variables. The methodology is described in the section below, Variability of Results and Valuation Basis.

Investment Policy

On August 25, 2021, the Board of the Virginia College Savings Plan adopted a new target asset allocation strategy for DB529. The new asset allocation targets are reflected in this valuation report.

The investment strategy is important because it sets forth acceptable investment allocations among asset classes. The asset allocation affects the magnitude and variability of expected investment returns and therefore the financial structure of the plan. For the valuation, we have assumed that DB529 investments will be allocated as shown below, based on the investment policy target allocations:

Asset Category	
Public Equity	22%
Core Fixed Income	20%
Non-Core Fixed Income	35%
Private Equity	13%
Core Real Estate	10%

Actuarial Assumptions

The actuarial assumptions used to prepare this report are summarized in Appendix C. The two most significant of those assumptions are the rates of investment return and tuition growth in the future. The Virginia College Savings Plan selected both of these assumptions. They are:

- the investment return assumption of 5.50% per year, net of investment related expenses (this is the same as the assumption used to prepare the prior year's report); and,

- the annual tuition growth rate assumptions summarized in the following table.

	Universities	Community Colleges
Fall 2023 and Fall 2024	4.0%	2.0%
Fall 2025 and thereafter	6.0%	6.0%

- In the prior year's valuation, the tuition growth assumption for universities was 4.0% for fall 2023 and 6.0% thereafter; the tuition growth assumption for community colleges was 2.0% for fall 2023 and 6.0% thereafter.

Summary of Results

The actuarial value of the obligations of the DB529 Program as of June 30, 2022 is summarized below and compared with the total assets of the Program.

	Present Value of Obligations For Future Payments	Value of Total Program Assets	Actuarial Reserve/ (Deficit)
		(Amounts in Millions)	
DB529 Program:			
Tuition Obligations	$1,593.8	n/a	n/a
Administrative Expenses	20.0	n/a	n/a
Grand Total	$1,613.8	$3,025.3	$1,411.5

As indicated above, the DB529 Program has assets that exceed the “best estimate” of the obligations by roughly $1,411.5 million or 87.5%. Unfavorable future experience would adversely affect this position. It would be desirable to maintain the actuarial reserve over time to protect this position.

The present value of future obligations for Administrative Expenses reflects the expected costs of maintaining each account in place (as of June 30, 2022) until all benefits have been paid. It does not include the future expenses of the DB529 Program associated with general overhead and marketing attributable to units sold in the future. It is our understanding that the administrative expenses associated with operating the Program (including the account maintenance costs) will be provided by the Operating Fund and will not be drawn from the DB529 Fund. However, we include the projection of these future account maintenance costs as part of the Program’s obligations in our analysis.

Actuarial Gain/Loss Analysis

During the 2022 fiscal year, the actuarial reserve position of the Defined Benefit 529 Program decreased from $1,620.5 million to $1,411.5 million or 87.5% of obligations. Actuarial gains add to the reserve while actuarial losses decrease the reserve. Each of the factors affecting the change in the actuarial reserve/(deficit) is discussed below.

The actuarial reserve was expected to grow during the year by about $89.1 million due to the passage of time. (The obligations are calculated as present values which grow with interest with the passage of time.)

A total of 3,302 new TTP accounts were opened during the year with total unit sales of 191,963 for these accounts. An additional 61,231 units were purchased by existing accounts. Each unit represents 1% of enrollment-weighted average annual tuition (“Average Tuition”) at the Virginia public 4-year universities. The units were priced at $138.84 which was 1% of Average Tuition for the 2021-2022 academic year based on preliminary June 2021 data from SCHEV. Based on updated data, the final 1% of Average Tuition for 2021-2022 was $139.49. Based on this Average Tuition amount and last year’s valuation assumptions, the total liability for these new units was $2.3 million higher than the sales revenue. This reduced the reserve by $2.3 million.

The rate of return on the Program’s investments (net of investment management fees) for the fiscal year was -5.35% on a time-weighted basis and -5.23% on a dollar-weighted basis. For the previous valuation, a 5.50% rate of return was assumed. This produced a net actuarial loss of approximately $339.5 million.

Payouts for some of the accounts are based on the payments made under the account brought forward at the reasonable rate of interest or the actual rate of return on the portfolio. See Appendices C and F for an explanation of the assumptions and the payouts. During the past year the actual rate of return on the portfolio was -5.35%

(10.85% lower than the 5.50% assumption). The lower than expected actual account balances resulted in an actuarial gain of approximately $4.7 million.

The enrollment-weighted average university tuition and mandatory fee amount for the 2022-2023 school year increased by 4.0%, the same as the 4.0% rate assumed in the prior valuation. Enrollment-weighted tuition and mandatory fees at community colleges increased by about 0.2%, compared to the 2.0% increase assumed in the prior valuation. These differences from the assumptions resulted in an actuarial gain of $0.4 million.

The funds to cover the operating expenses for the Program were provided by the Operating Fund and not drawn for the Program's assets. In last year's valuation, we included $4.1 million in the total liability to provide for the year's expenses. The $4.1 million is an increase to the reserve.

The tuition growth assumption for universities was changed from 4.0% for fall 2022 and 6.0% thereafter to 4.0% for fall 2022 and fall 2023 and then 6.0% thereafter. The tuition growth assumption for community colleges was changed from 4.0% for fall 2022 and 6.0% thereafter to 2.0% for fall 2022 and fall 2023 and then 6.0% thereafter. These changes increased the reserve by $15.5 million.

The volatility and correlation assumptions for the investment returns and tuition increases were updated. This decreased the reserve by $3.6 million. The mean assumption for the reasonable rate was changed from 2.40% each year to a fixed 0.48% for the current fiscal year and 2.50% thereafter. This increased the reserve by $5.9 million.

We updated the bias loads for payouts at Virginia public and private universities. The highest tuition for private universities decreased from 171% of weighted average tuition to 165% of weighted average tuition. Based on the distribution of redemptions and current tuition amounts across the public universities over the past 5 years, the average tuition payout before considering account balances is expected to be 109.8% of enrollment weighted average tuition versus 109.4% in the prior valuation. The combined changes decreased the reserve by $1.2 million.

Other experience increased the reserve by about $17.9 million. This includes fewer accounts redeeming their units for tuition during the year than expected as well as rollover, cancellation, and forfeiture levels different than assumed in last year's valuation and other variations from the actuarial assumptions.

In summary, the effect of experience and assumption changes on the actuarial reserve/ (deficit) can be summarized as follows:

(Amounts in Millions)

Actuarial Reserve / (Deficit) as of June 30, 2021	$ 1,620.5
Interest on the reserve at 5.50%	89.1
New TTP unit sales	(2.3)
Investment return during 2021-2022 lower than expected	(339.5)
Change to Reasonable Rate and Actual account balances	4.7
Tuition increases for 2022-2023 lower than expected	0.4
Account maintenance expenses paid by Operating Fund	4.1
Change to tuition growth assumption	15.5
Change to investment and tuition volatility assumptions	(3.6)
Change to Reasonable Rate assumption	5.9
Update to bias assumption	(1.2)
Other experience	17.9
Total changes to the Actuarial Reserve	$ (209.0)
Actuarial Reserve / (Deficit) as of June 30, 2022	$ 1,411.5

Valuation Basis

The present values of the obligations shown above were based on assumptions which represent an estimate of anticipated experience under the Fund that are reasonably related to past educational cost and investment data. Differences between those projections and actual amounts will depend on the extent to which future experience conforms to the assumptions made for this analysis.

A prime source of variation will be normal fluctuations that occur in the rate of increase in tuition, investment returns, and expense inflation. One way of estimating the range of possible outcomes is to stochastically model the financial operation of the Program using “Monte Carlo” techniques. This approach involves preparing 1,000 projections of financial results under randomly derived scenarios of tuition growth, investment returns, and expense inflation. Each of these scenarios is based on statistical factors such as standard deviation and correlation that were established by reviewing historical results adjusted where appropriate to reflect current conditions. By tabulating the results under all of these projections we estimated the probability that current assets, along with the expected remaining legacy contract payments plus investment returns, will be sufficient to cover the obligations of the DB529 Program.

We have summarized in the table below the results of this process. It is important to understand that these results are only illustrative of the range of results that are possible and are dependent on the assumptions utilized. The assumptions are presented in Appendix C.

(Amounts in Millions)

Percentage of "Best Estimate" Reserve	Total Defined Benefit 529 Fund Value at June 30, 2022	Probability of Funds Exceeding Obligation
70%	$1,129.6	0%
80%	1,291.0	6%
90%	1,452.4	24%
100%	1,613.7	50%
110%	1,775.1	72%
120%	1,936.2	86%
130%	2,097.9	94%
140%	2,259.2	98%
150%	2,420.6	99%
160%	2,582.0	99%
170%	2,743.4	99%
180%	2,904.7	99%
187.5%	3,025.3	99%*

*actual Fund position.

The present value of obligations for future payments shown previously is the amount of assets necessary to have a 50% probability of meeting all program obligations, including administrative costs, associated with current accounts. The actual Defined Benefit 529 fund balance at June 30, 2022 of $3,025.3 million is 187.5% of the actuarially determined "Best Estimate" Reserve amount of $1,613.8 million. As indicated in the above table, this fund balance is estimated to have a 99% probability of being adequate to satisfy all of the Program's obligations using current assumptions.

Cash Flow Projection

The table in Appendix E shows a 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 the Monte Carlo simulations. The deterministic cash flow projection assumes that University tuition increases 4.0% for fall 2023 and fall 2024 and 6.0% per year thereafter, Community College tuition increases 2.0% for fall 2023 and fall 2024 and 6.0% per year thereafter, and DB529 assets earn 5.24% each year. The starting Market Value of Invested Assets as of July 1, 2022 is $2,935.3 million. The projection assumes no additional units are sold. At the end of the 2047 Fiscal Year all tuition obligations associated with accounts and units already purchased are expected to have been paid resulting in a final cumulative reserve of $5,056.2 million. Since the actuarial assumptions are intended to represent "best estimates" of future expenses, there is a 50% chance that actual results will be better than this projection and a 50% chance that actual results will be worse.

Variability of Results

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: future experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and increases or decreases expected as part of the natural operation of the methodology used for these measurements. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

Data Reliance

In performing this analysis, we relied on data and other information (some oral and some in writing) provided by the staff of the Virginia College Savings Plan. This information includes, but is not limited to, contractual provisions, account holder data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

Actuarial Assumptions

All costs, liabilities, and other factors for the DB529 Program have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Program and reasonable expectations). Further, the actuarial assumptions in the aggregate are reasonable and are related to the experience of the Program and to reasonable expectations. The following actuarial assumptions were set by the Virginia College Savings Plan:

1) the investment return assumption of 5.50% per year, and;
2) the tuition growth assumption for universities of 4.0% for fall of 2023 and fall 2024 and 6.0% per year thereafter and the tuition growth assumption for community colleges of 2.0% for fall of 2023 and fall 2024 and 6.0% per year thereafter.

Certification

Based on the foregoing assumptions, the Defined Benefit 529 Program has sufficient assets, including the value of future installment payments, to cover the actuarially estimated value of the tuition obligations under all accounts outstanding as of the valuation date (including any administrative costs associated with those accounts). This determination has been based on reasonable actuarial assumptions that represent the Virginia College Savings Plan's best estimate of anticipated experience under the DB529 Program taking into account past experience and future expectations.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices.

Third Party Distribution

This report was prepared exclusively for the Virginia College Savings Plan for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning the Virginia College Savings Plan's operations, and uses the Virginia College Savings Plan's data, which Milliman has not audited. It is not for the use or benefit of any third party for any purpose. Any third party recipient of Milliman's work product who desires professional guidance should not rely upon Milliman's work product, but should engage qualified professionals for advice appropriate to its own specific needs.

Qualifications

We 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.

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

We look forward to reviewing the results of our analyses with you at your earliest convenience.

Respectfully submitted,

Glenn D. Bowen, FSA, EA
Member American Academy of Actuaries

Alan H. Perry
Alan H. Perry, FSA, CFA
Member American Academy of Actuaries

Jill M. Stanulis
Jill M. Stanulis, EA
Member American Academy of Actuaries

AHP:JMS:GDB:VPP10 g:\corr\vpp\DB529 2022 Valuation.docx

Defined Benefit 529 Program

I. Statement of Assets as of June 30, 2022

	Investments	Market Value
1)	Equities	$ 1,259,199,603
2)	Fixed Income including Accrued Interest	1,494,385,280
3)	Futures, REIT Fund, and Real Estate	63,029,841
4)	Cash & Cash Equivalents	96,834,917
5)	Pending Trades Receivable	39,541,654
6)	Accounts Receivable	0
7)	Other Receivables	6,621,987
8)	Accounts Payable	(636,903)
9)	Pending Trades Payable	(23,654,100)
	Total Market Value of Investments	$ 2,935,322,279
	Present Value of Installment Contract Receivables	89,946,061
	Value of Total Fund Assets	$ 3,025,268,340

II. Reconciliation of Investments

1)	Market Value of Investments at June 30, 2021	$ 3,233,992,430
2)	Beginning Fund Balance Adjustment	(2,000)
3)	Tuition Units Purchased	68,693,966
4)	Interest and Dividends	389,396,163
5)	Change in Fair Value of Investments	(532,711,370)
6)	Tuition Benefits Paid	(141,434,263)
7)	Refunds Paid	(12,318,263)
8)	Net Rollovers	(48,773,473)
9)	Investment Management Fees	(21,520,911)
10)	Market Value of Investments at June 30, 2022	$ 2,935,322,279

Time-weighted rate of return	(5.35%)
Dollar-weighted rate of return	(5.23%)

Legacy Prepaid529

Contract Data as of June 30, 2022 – Contracts Purchasing Tier I Units Only - Number of Contracts

	Total Years of Community College Purchased / Total Years of University Purchased											
Matriculation	0	0	0	0	0	0	0	0	0	0	**Total by Payout**	**Percent of**
Year	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	**Year**	**Total**
2000-2001	0	0	0	0	0	0	0	1	0	0	1	0.0%
2001-2002	0	0	0	0	0	0	0	0	0	0	0	0.0%
2002-2003	0	0	0	0	0	0	0	0	0	0	0	0.0%
2003-2004	0	0	0	0	0	0	0	0	0	0	0	0.0%
2004-2005	0	0	0	0	0	0	0	2	0	0	2	0.0%
2005-2006	0	1	0	1	0	0	0	4	0	0	6	0.0%
2006-2007	0	1	0	3	0	0	0	1	0	0	5	0.0%
2007-2008	0	0	0	3	0	0	0	3	0	0	6	0.0%
2008-2009	0	1	0	2	0	0	0	9	0	0	12	0.0%
2009-2010	0	2	0	3	0	0	0	25	0	1	31	0.1%
2010-2011	0	5	0	4	0	1	0	27	0	3	40	0.1%
2011-2012	0	3	0	2	0	1	0	29	0	5	40	0.1%
2012-2013	0	50	0	63	0	16	0	408	0	51	588	1.4%
2013-2014	0	53	0	59	0	20	1	489	0	51	673	1.6%
2014-2015	0	62	0	62	0	19	0	535	0	52	730	1.7%
2015-2016	1	71	0	76	2	20	2	564	0	64	800	1.8%
2016-2017	3	79	3	96	0	33	0	650	0	62	926	2.1%
2017-2018	4	107	2	120	2	37	4	728	0	102	1,106	2.6%
2018-2019	9	152	6	182	3	36	1	1,218	1	135	1,743	4.0%
2019-2020	47	235	11	280	3	74	2	2,096	1	124	2,873	6.6%
2020-2021	107	325	21	335	15	115	7	1,876	0	101	2,902	6.7%
2021-2022	213	529	55	548	30	160	9	1,989	2	125	3,660	8.4%
2022-2023	417	683	62	641	29	142	7	1,590	2	59	3,632	8.4%
2023-2024	450	729	58	506	29	121	13	1,435	2	61	3,404	7.9%
2024-2025	439	614	70	481	20	112	4	1,193	4	75	3,012	7.0%
2025-2026	471	601	48	457	27	79	11	1,018	1	60	2,773	6.4%
2026-2027	444	518	52	346	15	75	5	791	3	40	2,289	5.3%
2027-2028	418	482	50	370	15	72	8	735	3	38	2,191	5.1%
2028-2029	395	402	53	297	20	55	8	613	1	28	1,872	4.3%
2029-2030	421	360	44	241	7	33	3	498	1	26	1,634	3.8%
2030-2031	382	289	41	224	13	44	3	349	1	15	1,361	3.1%
2031-2032	413	283	30	158	12	22	4	302	2	13	1,239	2.9%
2032-2033	342	212	27	149	6	27	6	241	1	21	1,032	2.4%
2033-2034	272	178	29	109	10	20	3	178	1	13	813	1.9%
2034-2035	232	150	19	115	9	17	2	155	0	9	708	1.6%
2035-2036	182	136	19	106	12	28	5	138	1	11	638	1.5%
2036-2037	79	84	10	58	1	13	2	110	0	11	368	0.8%
2037-2038	31	35	4	46	2	6	0	40	0	7	171	0.4%
2038-2039	0	5	0	3	0	0	0	15	0	1	24	0.1%
2039-2040	0	2	0	2	0	0	0	11	0	2	17	0.0%
2040-2041	0	0	0	0	0	0	0	2	0	0	2	0.0%
Total	5,772	7,439	714	6,148	282	1,398	110	20,068	27	1,366	43,324	
Percent of Total	13.3%	17.2%	1.6%	14.2%	0.7%	3.2%	0.3%	46.3%	0.1%	3.2%		

Legacy Prepaid529

Contract Data as of June 30, 2022 – Contracts Purchasing Tier II Units Only - Number of Contracts

Matriculation Year	Total Years of Community College Purchased / Total Years of University Purchased														Total by Payout Year	Percent of Total
	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6	8	10		
	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2000-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2001-2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2002-2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2003-2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2004-2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2005-2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2006-2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2007-2008	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1%
2008-2009	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1%
2009-2010	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1%
2010-2011	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1%
2011-2012	0	0	0	1	0	2	0	0	0	0	0	0	0	0	3	0.2%
2012-2013	1	8	0	32	0	3	0	0	0	0	0	0	0	0	44	2.8%
2013-2014	0	5	0	34	0	2	0	0	0	0	0	0	0	0	41	2.6%
2014-2015	0	12	0	44	0	4	0	0	0	0	0	0	0	0	60	3.8%
2015-2016	0	9	0	50	0	1	0	0	0	0	0	0	0	0	60	3.8%
2016-2017	0	9	0	37	0	0	0	0	0	0	0	0	0	0	46	2.9%
2017-2018	1	12	0	46	0	5	0	0	0	0	0	0	0	0	64	4.1%
2018-2019	4	9	0	40	2	7	0	0	0	0	0	0	0	1	63	4.0%
2019-2020	2	15	0	52	0	12	0	0	0	0	0	0	0	2	83	5.3%
2020-2021	4	19	0	69	1	10	0	0	0	0	0	0	0	0	103	6.6%
2021-2022	4	33	1	76	1	10	0	0	0	0	0	0	0	0	125	8.0%
2022-2023	11	32	0	69	1	2	0	1	0	0	0	0	0	0	116	7.4%
2023-2024	7	39	1	70	2	6	0	2	0	0	0	0	0	1	128	8.2%
2024-2025	9	35	2	48	1	4	0	1	0	0	0	0	0	0	100	6.4%
2025-2026	10	27	1	39	0	2	0	1	0	1	0	0	0	2	83	5.3%
2026-2027	6	12	0	40	0	6	0	1	1	0	0	0	0	0	66	4.2%
2027-2028	10	18	0	31	0	3	0	0	0	2	0	0	0	1	65	4.1%
2028-2029	10	18	1	35	1	2	0	1	0	0	0	0	0	0	68	4.3%
2029-2030	10	11	0	37	0	3	0	1	1	0	0	0	0	0	63	4.0%
2030-2031	20	11	0	20	1	2	1	3	0	0	0	0	0	1	59	3.8%
2031-2032	18	7	2	14	0	1	0	0	0	0	0	0	0	0	42	2.7%
2032-2033	12	10	0	13	0	1	0	0	0	0	0	0	0	0	36	2.3%
2033-2034	11	4	0	8	0	1	0	3	0	0	0	0	0	0	27	1.7%
2034-2035	3	4	0	6	0	0	0	0	0	0	0	0	0	0	13	0.8%
2035-2036	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3	0.2%
2036-2037	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1%
2037-2038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2038-2039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2039-2040	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0.1%
2040-2041	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Total	153	361	8	918	10	89	1	14	2	3	0	0	0	8	1,567	
Percent of Total	9.8%	23.0%	0.5%	58.6%	0.6%	5.7%	0.1%	0.9%	0.1%	0.2%	0.0%	0.0%	0.0%	0.5%		

Legacy Prepaid529

Contract Data as of June 30, 2022 – Contracts Purchasing Tier I and Tier II Units - Number of Contracts

Total Years of Community College Purchased
Total Years of University Purchased

Matriculation Year	0.5	0.5	0.5	0.5	0.5	0.5	1	1	1	1	1	1	1	1	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2	2	2.5	2.5	3	3	3	3	Total by Payout Year	Percent of Total
	0.5	1	1.5	2	2.5	3.5	0.5	1	1.5	2	2.5	3	4	5	0.5	1	1.5	2	2.5	3	0.5	1	1.5	2	3	4	5	1.5	2.5	1	2	3	5		
2000-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2001-2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2002-2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2003-2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2004-2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2005-2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2006-2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2007-2008	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
2008-2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1%
2009-2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0.2%
2010-2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0.1%
2011-2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0.1%
2012-2013	0	0	0	0	0	0	0	5	0	3	0	3	1	0	0	0	0	0	0	0	0	1	0	25	0	0	0	0	0	0	0	0	0	38	2.6%
2013-2014	0	0	0	0	0	0	0	3	0	1	0	2	1	0	0	0	0	0	0	0	0	1	1	42	2	1	1	0	0	0	0	1	1	57	4.0%
2014-2015	0	0	0	0	0	0	0	1	0	1	0	7	0	1	0	0	0	0	0	0	0	2	0	54	1	0	0	0	0	0	0	0	0	67	4.7%
2015-2016	0	0	0	0	0	0	1	3	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0	41	1	1	0	0	0	1	0	0	0	54	3.8%
2016-2017	0	0	0	0	0	0	1	2	0	2	0	3	1	1	0	0	0	0	0	0	0	1	0	48	0	1	0	0	0	0	0	0	3	63	4.4%
2017-2018	0	0	1	1	0	0	1	6	0	2	0	3	0	0	0	1	0	0	0	1	0	5	0	61	2	0	0	0	0	1	0	0	1	86	6.0%
2018-2019	0	0	0	0	0	0	0	3	0	2	0	4	2	0	0	0	0	0	0	0	0	0	0	68	2	0	0	0	0	0	0	2	1	84	5.9%
2019-2020	1	0	2	0	0	0	0	14	0	3	0	10	0	1	0	0	0	0	0	0	0	6	1	106	2	0	0	0	0	0	0	0	1	147	10.3%
2020-2021	1	0	2	0	0	1	0	6	0	4	0	5	1	0	0	0	1	0	0	0	0	11	0	90	3	1	0	0	0	0	0	0	0	126	8.8%
2021-2022	0	1	0	0	1	0	0	10	0	2	1	6	2	0	0	0	0	0	0	0	0	5	0	91	1	0	0	0	0	2	0	1	3	126	8.8%
2022-2023	2	1	0	0	0	0	1	5	1	4	1	5	1	1	0	0	0	0	0	0	0	5	0	67	4	0	0	0	1	2	1	0	0	102	7.1%
2023-2024	2	0	0	0	0	0	1	3	0	4	0	9	1	0	0	1	0	0	1	0	2	8	0	64	3	1	0	0	0	0	0	0	2	102	7.1%
2024-2025	0	0	0	0	0	0	1	1	1	2	0	5	0	1	0	0	0	1	0	0	0	7	0	55	0	0	1	0	0	0	0	0	0	75	5.2%
2025-2026	1	0	0	0	0	1	1	2	2	6	0	2	1	0	0	0	0	0	0	0	0	5	0	42	4	0	0	0	1	0	0	0	2	70	4.9%
2026-2027	0	0	1	0	0	0	1	3	0	2	1	4	2	0	0	0	0	0	0	0	0	3	0	24	0	0	0	0	0	0	0	0	1	42	2.9%
2027-2028	2	1	0	0	0	0	1	4	0	2	0	2	1	0	0	0	0	0	0	0	0	4	0	27	1	0	0	0	0	0	1	0	0	46	3.2%
2028-2029	7	0	0	0	0	0	0	4	0	2	0	3	1	0	0	0	0	0	0	0	0	4	0	21	0	0	0	1	0	0	0	0	0	43	3.0%
2029-2030	1	1	0	0	0	0	1	2	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	16	0	0	0	0	0	0	0	0	0	24	1.7%
2030-2031	0	0	1	0	0	0	0	2	0	2	0	1	0	0	0	0	0	0	0	0	0	3	0	11	0	1	0	0	0	0	0	0	0	21	1.5%
2031-2032	3	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	15	1.0%
2032-2033	2	0	0	1	0	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1	0	7	0	0	0	0	0	0	0	0	0	15	1.0%
2033-2034	4	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	7	0	0	0	0	0	0	0	0	0	16	1.1%
2034-2035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	0.2%
2035-2036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
2036-2037	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1%
2037-2038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0.1%
2038-2039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2039-2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2040-2041	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Total	26	4	9	3	1	2	12	82	5	46	3	79	15	5	1	2	1	1	1	1	3	79	2	987	26	6	2	1	2	6	2	4	15	1,434	
Percent of Total	1.8%	0.3%	0.6%	0.2%	0.1%	0.1%	0.8%	5.7%	0.3%	3.2%	0.2%	5.5%	1.0%	0.3%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	5.5%	0.1%	68.8%	1.8%	0.4%	0.1%	0.1%	0.1%	0.4%	0.1%	0.3%	1.0%		

Tuition Track Portfolio

Participant Data as of June 30, 2022

Projected Enrollment Year	Number of Accounts	Total Number of Units	Average Number of Units
2021-2022	35	3,352	96
2022-2023	152	16,258	107
2023-2024	164	19,078	116
2024-2025	274	40,405	147
2025-2026	311	39,911	128
2026-2027	342	41,574	122
2027-2028	364	41,908	115
2028-2029	308	31,187	101
2029-2030	348	35,393	102
2030-2031	314	23,812	76
2031-2032	344	30,270	88
2032-2033	309	22,334	72
2033-2034	303	22,766	75
2034-2035	357	23,157	65
2035-2036	280	18,151	65
2036-2037	286	13,523	47
2037-2038	285	17,712	62
2038-2039	374	21,743	58
2039-2040	423	15,204	36
2040-2041	189	6,456	34
Total	5,762	484,194	84

Defined Benefit 529

Summary of Actuarial Assumptions

Investment / Economic Assumptions for Stochastic Simulation Model:

The standard deviation and correlation assumptions are based on actual historical returns and tuition growth. Expected return assumptions are based on Milliman's capital market assumptions, but are adjusted so that the expected annualized return on the portfolio is 5.50%, which is the assumption set by the Board.

	Inflation	Reasonable Rate	Public Equity	Non-Core Fixed	Core Fixed	Private Equity	Real Estate	University Tuition	Community College Tuition
Expected Arithmetic Mean Annual Return	2.50%	2.50%	7.00%	5.30%	2.90%	11.35%	5.70%	6.06%	6.11%
Standard Deviation	1.85%	2.10%	17.75%	8.60%	3.90%	30.00%	16.25%	4.10%	6.60%
Correlation:									
Inflation	1.00	0.32	0.15	0.01	-0.29	0.04	0.27	0.09	-0.07
Reasonable Rate		1.00	0.08	0.11	0.48	0.05	-0.10	-0.10	-0.11
Public Equity			1.00	0.70	-0.16	0.83	0.52	-0.06	-0.19
Non-Core Fixed				1.00	0.27	0.68	0.37	0.25	0.05
Core Fixed					1.00	-0.05	-0.24	0.25	0.27
Private Equity						1.00	0.58	-0.08	-0.24
Real Estate							1.00	-0.01	-0.08
University Tuition								1.00	0.62
CC Tuition									1.00

Based on the economic assumptions above, the expected long-term annualized compound rate of return on investments is 5.50%. The expected annualized compound rate of tuition growth for universities is 4.00% for the next two years and then 6.00% thereafter. The expected annualized compound rate of tuition growth for community colleges is 2.00% for the next two years and then 6.00% thereafter. The Reasonable Rate was fixed at 0.48% for the first year with a mean yield of 2.50% thereafter.

Matriculation and Bias:

Starting in the year of matriculation, it is assumed that 76% of beneficiaries will attend a public university in Virginia, 7.6% will attend a private university in Virginia, 11.4% will attend a university in another state, and 5.0% will request a cancellation, transfer, or rollover to a savings plan. For legacy Prepaid529 contracts, Average Tuition (enrollment-weighted) for four-year public universities in Virginia was adjusted with a 9.8% load to add a bias for matriculation at more expensive schools. Weighted average tuition for two-year community colleges in Virginia was adjusted with a 1.0% load to add a bias for matriculation at more expensive schools. The highest tuition for a public university in Virginia was assumed to be 165% of weighted average tuition ($23,970/$14,505) as shown in Appendix D). Out-of-state students and contracts requesting a rollover are assumed to receive a benefit equal to the payments made on the contract plus interest at the composite reasonable rate of return. All TTP accounts are assumed to receive weighted average tuition for units redeemed after reaching their expected enrollment year.

Summary of Actuarial Assumptions
(continued)

Combination Contracts:

For combination contracts a portion of the remaining university and community college years are assumed to be paid each year. For combination contracts currently in payout with only university years or community college years remaining, the applicable remaining years are assumed to be paid.

Utilization:

It is assumed that participants will begin utilizing their accounts at the following rates, and then redeem up to two semesters of tuition per year until the account is depleted:

Years since Matriculation	Number of Semesters of Tuition Purchased*						
Year	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10	11-12	13+
0	50%	60%	60%	80%	85%	85%	100%
1	15%	10%	20%	10%	8%	15%	
2	10%	15%	10%	5%	7%		
3	10%	5%	5%	5%			
4	5%	5%	5%				
5	5%	5%					
6	5%						

* For utilization, we assume that TTP accounts with fewer than 5 semesters of units will eventually purchase 5 units.

Forfeiture: It is assumed that contracts and accounts will be forfeited prior to the year of matriculation at a rate of 0.5% per year.

Expenses: The expenses included in the present value of future obligations are those relating to:

Annual Maintenance Expense per Legacy Prepaid529 Contract = $80.19
Annual Maintenance Expense per TTP Account = $21.38

The expense assumptions were developed from a cost analysis performed in 2021 by Virginia College Savings Plan staff. These expenses are assumed to increase annually at the rate of inflation plus 0.50%.

Summary of Actuarial Assumptions
(continued)

Legacy Prepaid529 contracts behind in their monthly payments: The monthly scheduled payment amount is increased by an amount that allows for the full payment under the contract by June of the year of expected matriculation.

Rationale for Assumptions:

All of the actuarial assumptions with the exception of the investment return, the tuition growth rate, the reasonable rate, and the bias were based on the results of an experience study performed in 2014 (see the Experience Study report dated September 22, 2014).

The reasonable rate assumption was based 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 2022 Blue Chip Financial Forecasts.*

The investment return assumption is set by the Board based on recommendations from Virginia529's investment consultant.

The tuition growth assumptions are also set by the Board. Milliman assisted Virginia529 staff in 2015 with a historical analysis of long-term tuition growth at public colleges in Virginia.

The bias assumption for Virginia public universities was increase from 9.4% to 9.8% based on the distribution of unit redemptions at the universities over the past 5 years and the relative tuition and fee amounts at these schools in 2022-2023.

Defined Benefit 529

Derivation of Average Tuition at Four Year Universities
Based on Fall 2021 Full-Time Equivalent Enrollment

School	Tuition and Fees 2022-2023	Fall 2021 FTE for In-State Undergraduates	Percent Distribution
Christopher Newport	$15,425	4,128	3.29%
George Mason	13,404	19,592	15.61%
James Madison	13,092	14,867	11.85%
Longwood	14,600	2,894	2.31%
Mary Washington	14,294	2,953	2.35%
Norfolk State	9,622	3,373	2.69%
Old Dominion	11,630	13,637	10.87%
Radford	11,916	5,605	4.47%
University of Virginia (2021, 2022)*	18,236	5,594	4.46%
University of Virginia (2019, 2020)	21,064	5,594	4.46%
UVA - Wise	11,498	1,121	0.89%
Virginia Commonwealth	15,642	17,678	14.09%
Virginia Military Institute	19,914	1,150	0.92%
Virginia Tech	14,666	20,570	16.39%
Virginia State	9,653	2,661	2.12%
William & Mary	23,970	4,064	3.24%
Total		125,481	100.00%
Average Tuition**	**$14,505**		

* Assumes that 2021 and 2022 students are 50% of total FTE for University of Virginia.

**The Board selected $14,500 for purposes of determining the 2022-2023 TTP unit value.

Defined Benefit 529

Derivation of Enrollment-Weighted Average Tuition
and Mandatory Fees at Community Colleges
Based on Fall 2020 Full-Time Equivalent Enrollment

School	Tuition and Fees 2022-2023	Fall 2021 FTE for In-State Undergraduates	Percent Distribution
Blue Ridge	$5,722	1,785	2.33%
Central Virginia	5,176	1,860	2.43%
Mountain Gateway (formerly Dabney Lancaster)	5,056	600	0.78%
Danville	5,024	1,337	1.75%
Eastern Shore	5,120	358	0.47%
Germanna	5,240	3,948	5.16%
J Sargeant Reynolds	5,332	4,000	5.23%
Brightpoint (formerly John Tyler)	5,120	4,188	5.48%
Laurel Ridge (formerly Lord Fairfax)	5,051	3,260	4.26%
Mountain Empire	5,040	1,285	1.68%
New River	5,010	2,346	3.07%
Northern Virginia	5,936	23,820	31.15%
Patrick & Henry	5,035	1,286	1.68%
Paul D. Camp	5,045	625	0.82%
Piedmont Virginia	5,109	2,435	3.18%
Rappahannock	5,151	1,430	1.87%
Richard Bland	8,800	1,110	1.45%
Southside Virginia	5,008	1,736	2.27%
Southwest Virginia	5,048	1,395	1.82%
Virginia Peninsula (formerly Thomas Nelson)	5,126	3,119	4.08%
Tidewater	5,931	8,734	11.42%
Virginia Highlands	5,152	1,509	1.97%
Virginia Western	5,443	3,079	4.03%
Wytheville	5,040	1,214	1.59%
Total		76,459	100.00%
Weighted Average Tuition and Fees	**$5,550**		

Defined Benefit 529

History of Average Tuition
at Four Year Universities and Community Colleges in Virginia

Academic Year	University Tuition and Fees	% Increase	Community College Tuition and Fees	% Increase
1989-1990	2,544		798	
1990-1991	2,702	6.2%	894	12.0%
1991-1992	2,985	10.5%	1,050	17.4%
1992-1993	3,357	12.5%	1,230	17.1%
1993-1994	3,659	9.0%	1,320	7.3%
1994-1995	3,789	3.6%	1,359	3.0%
1995-1996	3,949	4.2%	1,445	6.3%
1996-1997	4,002	1.3%	1,445	0.0%
1997-1998	4,095	2.3%	1,445	0.0%
1998-1999	4,217	3.0%	1,445	0.0%
1999-2000	3,721	(11.8%)	1,159	(19.8%)
2000-2001	3,793	1.9%	1,159	0.0%
2001-2002	3,843	1.3%	1,159	0.0%
2002-2003	4,122	7.3%	1,671	44.3%
2003-2004	5,033	22.1%	1,882	12.6%
2004-2005	5,559	10.5%	2,006	6.5%
2005-2006	5,990	7.8%	2,135	6.4%
2006-2007	6,529	9.0%	2,269	6.3%
2007-2008	6,966	6.7%	2,404	5.9%
2008-2009	7,562	8.6%	2,584	7.5%
2009-2010	7,912	4.6%	2,781	7.6%
2010-2011	8,803	11.3%	3,285	18.1%
2011-2012	9,507	8.0%	4,179*	27.2%*
2012-2013	9,856	3.7%	4,426	5.9%
2013-2014	10,225	3.7%	4,619	4.4%
2014-2015	10,797	5.6%	4,835	4.7%
2015-2016	11,409	5.7%	5,101	5.5%
2016-2017	11,961	4.8%	5,263	3.2%
2017-2018	12,494	4.5%	5,439	3.3%
2018-2019	13,210	5.7%	5,569	2.4%
2019-2020	13,395	1.4%	5,572	0.1%
2020-2021	13,636	1.8%	5,531	(0.7%)
2021-2022**	13,949	2.3%	5,542	0.2%
2022-2023**	14,505	4.0%	5,550	0.1%

* Starting 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. Enrollment numbers taken from SCHEV's website.

** The Average Tuition for purposes of determining the 2021-2022 TTP unit value was $13,884.
** The Average Tuition for purposes of determining the 2022-2023 TTP unit value was $14,500.

Compounded Increase in Average Tuition

Over last 5 years:	3.0%	0.4%
Over last 10 years:	3.9%	2.3%
Over last 15 years	5.0%	5.7%
Over last 20 years:	6.5%	6.2%
Over last 25 years:	5.2%	5.5%
Over last 30 years:	5.0%	5.2%

Defined Benefit 529

Cash Flow Projection
(amounts in millions)

Fiscal Year	Beginning Balance	Installment Payments*	Benefit Payments	Expenses	Investment Income	Ending Balance
2023	$2,935.3	$22.2	$269.3	$3.7	$143.7	$2,828.2
2024	2,828.2	18.3	217.7	3.4	140.0	2,765.4
2025	2,765.4	14.8	198.5	3.0	137.3	2,716.0
2026	2,716.0	12.2	190.3	2.7	135.1	2,670.3
2027	2,670.3	10.1	158.3	2.2	133.8	2,653.7
2028	2,653.7	8.1	148.9	1.9	133.3	2,644.3
2029	2,644.3	6.2	139.3	1.7	133.2	2,642.7
2030	2,642.7	4.8	122.3	1.4	133.7	2,657.5
2031	2,657.5	3.8	109.5	1.2	134.9	2,685.5
2032	2,685.5	2.9	96.9	1.0	136.8	2,727.3
2033	2,727.3	2.1	84.1	0.8	139.6	2,784.1
2034	2,784.1	1.5	72.1	0.7	142.9	2,855.7
2035	2,855.7	0.9	63.0	0.5	147.1	2,940.2
2036	2,940.2	0.4	56.4	0.4	151.7	3,035.5
2037	3,035.5	0.1	47.7	0.3	157.1	3,144.7
2038	3,144.7	0.0	38.7	0.2	163.1	3,268.9
2039	3,268.9	0.0	29.2	0.2	170.0	3,409.5
2040	3,409.5	0.0	20.9	0.1	177.8	3,566.3
2041	3,566.3	0.0	13.9	0.1	186.2	3,738.5
2042	3,738.5	0.0	8.5	0.0	195.4	3,925.4
2043	3,925.4	0.0	4.8	0.0	205.3	4,125.9
2044	4,125.9	0.0	2.3	0.0	216.0	4,339.6
2045	4,339.6	0.0	0.9	0.0	227.2	4,565.9
2046	4,565.9	0.0	0.3	0.0	239.1	4,804.7
2047	4,804.7	0.0	0.1	0.0	251.6	5,056.2

* Future installment payments for legacy contracts as of June 30, 2022.

Legacy Prepaid529

Prepaid Tuition Benefits

For beneficiaries attending a Virginia public college, university, or community college, Prepaid529 will pay the full amount of in-state undergraduate tuition and all mandatory fees for a normal full-time course load for a general course of study on a semester-by-semester basis for the type of school and number of years purchased. Prepaid529 payments to in-state public schools will not exceed the actual cost of the in-state undergraduate tuition and mandatory fees. In 2019, the Virginia General Assembly passed legislation that included provisions for Prepaid529 contracts entered into prior to July 1, 2019. These provisions allow for payment of the "Minimum Benefit" (contract payments, accumulated at the reasonable rate of return), on a semester by semester basis, directly from Prepaid529 to qualified higher education institutions when it exceeds the normal payout from the program. The contract-holder also has the option to transfer the total amount of all payments, accumulated at the reasonable rate of return, to a Virginia529 savings program, and request a withdrawal from the respective program to pay for qualified higher education expenses.

For beneficiaries attending a Virginia independent (private) college or university, Prepaid529 will pay to the Virginia private school, including certain private career schools, the lesser of 1) the payments made on the contract plus the actual rate of return earned on the Fund or 2) the highest in-state undergraduate tuition and mandatory fees at a Virginia public school in the same academic year the benefits are used. All payments will be made directly to the school on a semester-by-semester basis following the school's add-drop period. The student or his or her family is responsible for any additional expenses not covered by Prepaid529. The contract-holder has the option to transfer the total amount of all payments, accumulated at the reasonable rate of return, to a Virginia529 savings program and request a withdrawal from the respective program to pay for qualified higher education expenses.

For beneficiaries attending an out-of-state public or private college or university, Prepaid529 will pay the lesser of 1) the payments made on the contract plus interest at the composite reasonable rate of return or 2) the average in-state undergraduate tuition and mandatory fees at Virginia public schools for the same academic year the benefits are used. Payments will be made on a semester-by-semester basis from Prepaid529. The student or his or her family is responsible for any additional expenses not covered by Prepaid529. The contract-holder has the option to transfer the total amount of all payments, accumulated at the reasonable rate of return, to a Virginia529 savings program and request a withdrawal from the respective program to pay for qualified higher education expenses.

The reasonable rate of return tracks the quarterly performance of the Institutional Money Funds Index as reported in the Money Fund Monitor by iMoneyNet.