KAPT

Kentucky's Affordable Prepaid Tuition

October 20, 2023

Mr. Jay D. Hartz, Director
Legislative Research Commission
700 Capitol Avenue
Room 300, Capitol
Frankfort, KY 40601

Dear Mr. Hartz:

Please find the enclosed copy of the Fiscal Year 2023 actuarial valuation for Kentucky's Affordable Prepaid Tuition (KAPT). This report was approved by the KAPT Board of Directors on October 19.

The program's financial position has changed from June 30, 2022 when it was reported as having a $34.5 million actuarial deficit. As of June 30, 2023, the KAPT Program Fund was 19.5% funded, with a $32.9 million actuarial deficit. The decrease in the deficit for FY 2023 is attributable to better-than-projected investment returns for the year, lower than projected tuition inflation, and changes in assumptions of future investment returns.

Per 164A.708, if the report of the actuary submitted under KRS 164A.704(7) reflects that there will be a real liability expected to accrue for contracts in existence on April 25, 2006, currently projected to be during the 2022-2024 biennium (which will require requesting approval for additional funding in FY2024), the secretary of the Finance and Administration Cabinet shall include in the budget request for the cabinet an appropriation to the board in an amount necessary to meet the real liability in each fiscal year of the biennium. Based on this year's report, the KAPT program investment fund is expected to be depleted during the second half of FY 2024.

The sensitivity testing within the FY 2023 report resulted in a deficit range of between $33.2 million to $35.1 million depending on certain investment outcomes, future tuition inflation, and account owner behavior assumptions. The KHEAA/KAPT Board is recommending to the Finance and Administration Cabinet to request $34.7 million as part of their budget this current year.

If you have any questions, please call me at (502) 696-7497.

Sincerely,

Jo Carole Ellis

Jo Carole Ellis
Executive Director

Administered by: KHEAA

Kentucky Higher Education Assistance Authority
P.O. Box 798 • Frankfort, KY 40602-0798

Kentucky's Affordable Prepaid Tuition

Actuarial Valuation Report
as of June 30, 2023

800.521.0498 | P: 248.799.9000 | www.grsconsulting.com

September 1, 2023

Board of Directors
Kentucky's Affordable Prepaid Tuition
100 Airport Road
Frankfort, Kentucky 40601

Attention: Mr. David Lawhorn, 529 Program Manager

Re: Kentucky's Affordable Prepaid Tuition Actuarial Valuation as of June 30, 2023

Dear Directors:

Gabriel, Roeder, Smith & Company ("GRS") has performed an actuarial valuation of the Kentucky's Affordable Prepaid Tuition Program ("KAPT" or "the Program") as of June 30, 2023. The purpose of this actuarial valuation is to evaluate the financial status of the Program as of June 30, 2023.

This report presents the principal results of the actuarial valuation of KAPT including the following:

a) A comparison of the actuarial present value of the obligations for prepaid tuition contracts purchased through December 13, 2004 (the most recent ending date for contract sales), with the value of the assets associated with the Program as of June 30, 2023;
b) An analysis of the factors which caused the deficit to change since the prior actuarial valuation; and
c) A summary of the member data, financial data, Program provisions, and actuarial assumptions and methods utilized in the actuarial calculations.

A main conclusion of this valuation is that the Program assets are expected to become depleted during the fiscal year ending June 30, 2024 (roughly the same timing as was projected in last year's valuation). We understand that the liabilities of the Program are backed by the full faith and credit of the Commonwealth of Kentucky, who will be responsible for satisfying the liabilities not covered by the current assets of the Program.

Our valuation results show estimates of the depletion date and present value of the unfunded liabilities (the Program deficit). In addition, we show the sensitivity of the depletion date (if any) and unfunded liabilities to changes in certain assumptions about future activity affecting KAPT in Section G.

This report was prepared at the request of the Board of Directors (the "Board") and is intended for use by the Board and those designated or approved by the Board. This report may be provided to parties other than the Board only in its entirety. This report should not be relied on for any purpose other than the purpose described above. GRS is not responsible for unauthorized use of this report.

The valuation results set forth in this report are based upon data and information as of June 30, 2023, furnished by KAPT, concerning Program benefits, financial transactions, and beneficiaries of KAPT. We reviewed this information for internal and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by KAPT.

There are currently no Actuarial Standards of Practice that specifically refer to prepaid tuition plans. We have followed the general guidance from the Actuarial Standards of Practice on pensions due to their similar nature.

The valuation results summarized in this report involve actuarial calculations that require assumptions about future events. The major actuarial assumptions used in this analysis are based upon past Board adopted assumptions along with discussions with Program Staff and the Program's investment consultant regarding anticipated future investment returns and Program expenses. We have not performed an experience study, but have reviewed the assumptions. Based on our limited review, we believe these assumptions are reasonable and are generally following actuarial standards regarding pension calculations.

The assumed rates of future investment return used in this report were provided to GRS by the Program's investment consultant, Graystone Consulting, in conjunction with discussions with Program Staff. It is our understanding the assumed rates of investment return were intended to include conservatism to reflect future uncertainty on cash and cash-equivalent investments. We believe this assumption to be reasonable for the purposes of measuring future Program obligations. We have reviewed the assumed rates in conjunction with the Program's current investment policy (see Appendix A) and the current yield curve for treasury nominal coupon issues. We have determined the assumed rates of future investment return do not significantly conflict with what, in our professional judgment, would be reasonable for purposes of the measurements contained herein.

This report was prepared using our proprietary valuation model and related software which, in our professional judgment, has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

We have prepared this valuation with the understanding the Program is closed to new participants.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Program experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; and changes in Program provisions or applicable law. We have performed an analysis of the sensitivity of certain changes in future assumptions. See Section G of this report for additional details. In addition, because it is not possible or practical to consider every possible contingency, we may use estimates or simplifications of calculations to facilitate the modeling of future events. We may also exclude factors or data that are deemed to be immaterial.

GRS makes no representations or warranties to any person participating in or considering participation in the Program.

To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the Kentucky's Affordable Prepaid Tuition Program as of June 30, 2023.

James R. Sparks and Jamal Adora are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

The signing actuaries are independent of the Program sponsor.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

James R. Sparks, ASA, FCA, MAAA

Jamal Adora, ASA, EA, MAAA

JRS/JA:sc

Table of Contents

SECTION A

EXECUTIVE SUMMARY

Kentucky's Affordable Prepaid Tuition
Summary of Results

	Valuation Results	
Valuation Date:	**June 30, 2023**	**June 30, 2022**
Membership Summary		
Accounts		
8 or More Years Beyond Projected College Entrance Year (PCEY)	654	560
1-7 Years Beyond PCEY	1,223	1,511
At or Before PCEY	3	34
Total	1,880	2,105
Average Years until PCEY (Negative if Past PCEY)	(6.4)	(5.3)
Assets		
Market Value of Assets[1]	$ 7,974,778	$ 19,079,821
Present Value of Future Contract Payments	$ 0	3,819
Fees Receivable	$ 0	2,315
Total Valuation Assets	$ 7,974,778	$ 19,085,955
Estimated Annual Return on Market Value of Assets[2]	1.60%	-3.42%
Actuarial Liabilities (Present Value of Future Tuition Payments, Refunds, Fees, Administrative, Personnel & Professional Expenses)	$ 40,897,741	$ 53,542,113
Margin/(Deficit)	$ (32,922,963)	$ (34,456,158)
Funded Ratio (Total Assets ÷ Actuarial Liabilities)	19.5%	35.6%
Estimated Fiscal year Fund Depleted	2024	2024

[1] *Market Value of Assets based upon current Program cash, cash-equivalents and investments.*

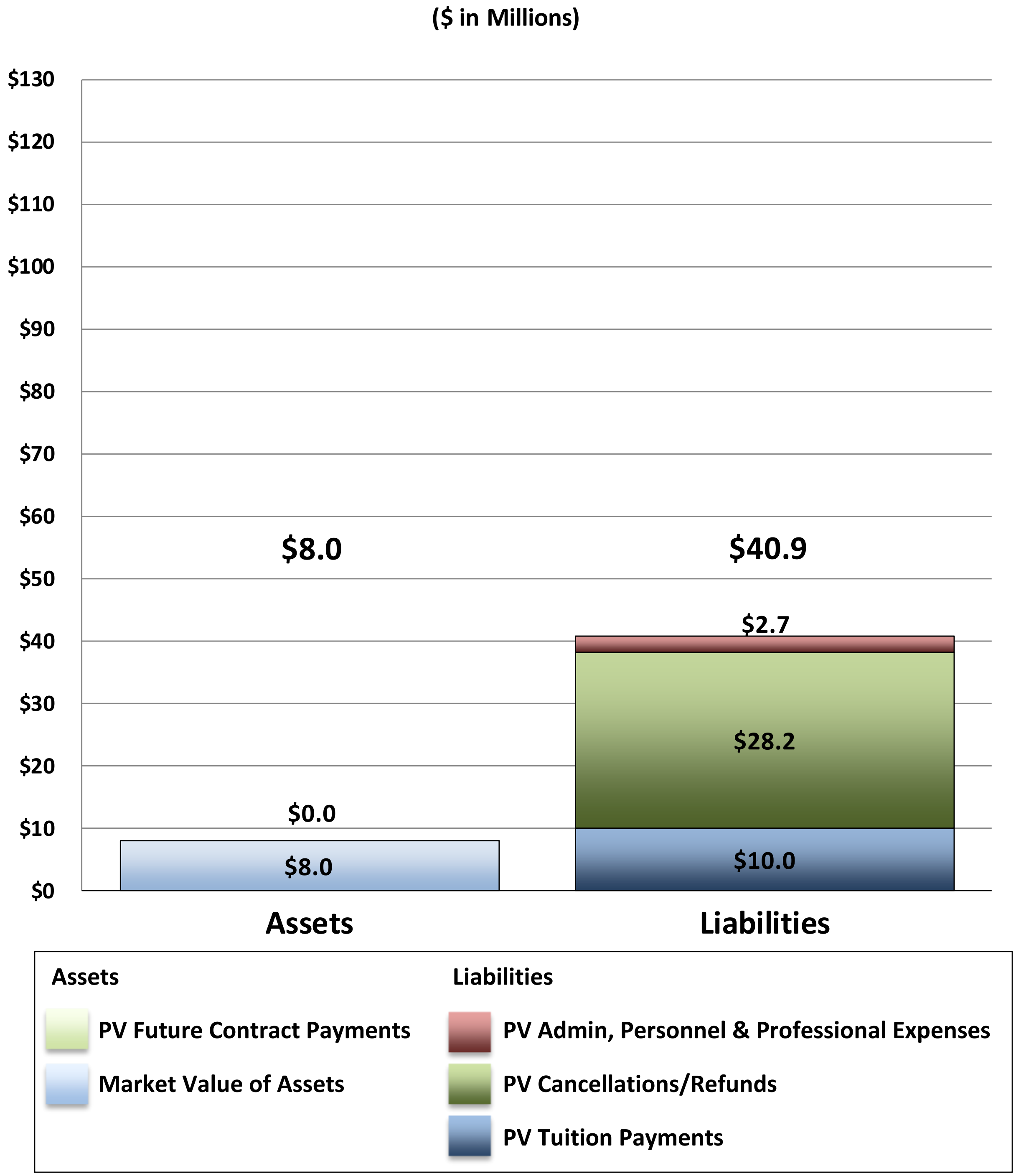
[2] *Estimated money-weighted annual return net of investment expenses (assuming mid-year cash flows). Measurement likely differs from the Program's audited financials.*

Kentucky's Affordable Prepaid Tuition
Summary of Results

Valuation Results as of June 30, 2023	
Market Value of Assets & Future Contract Receivables*	$ 7,974,778
Other Payables & Receivables	-
Actuarial Liabilities	40,897,741
Other Liabilities	N/A
Actuarial Deficit	$ (32,922,963)
Deficit as a Percent of Liabilities	80.5%

** There are no future contract receivables as of June 30, 2023.*

Kentucky's Affordable Prepaid Tuition
Summary of Assets and Liabilities as of June 30, 2023



PV – Present Value

Numbers may not add due to rounding.

Kentucky's Affordable Prepaid Tuition

Funded Status

	June 30, 2023	June 30, 2022
Actuarial Liabilities (Present Value of Future Tuition Payments, Refunds, Fees, Administrative, Personnel & Professional Expenses)	$ 40,897,741	$ 53,542,113
Market Value of Assets (Including the Present Value of Future Contract Payments)	$ 7,974,778	$ 19,085,955
Margin/(Deficit)	$ (32,922,963)	$ (34,456,158)

Change in Margin/(Deficit)

		Margin/(Deficit)
1.	Values as of June 30, 2022	$ (34,456,158)
2.	Interest on Margin/(Deficit) at prior assumed rate (1.50%)	$ (516,843)
3.	**Projected margin/(deficit) as of June 30, 2023 [(1) + (2)]**	**$ (34,973,001)**
4.	Change Due to:	
	a. Legislation	$ -
	b. Investment experience above/(below) assumed	2,082
	c. Tuition/Fee inflation for upcoming academic year	403,855
	d. Change in program expense assumptions	(621,549)
	e. Change in other program assumptions*	2,203,345
	f. Other program experience during fiscal year 2023	62,305
	Total	$ 2,050,038
5.	**Actual Margin/(Deficit) as of June 30, 2023 [(3) + (4)]**	**$ (32,922,963)**

** Changes in other program assumptions includes changes to the assumed future annual increases in tuition, changes to the assumed rates of future investment return and/or changes in valuation methodologies.*

Kentucky's Affordable Prepaid Tuition Short-Term and Long-Term Present Values of Future Revenues and Expenditures

	As of June 30, 2023
1. Future Contract Payment Revenue	
Short Term[a]	$ -
Long Term[b]	-
	$ -
2. Future Tuition Payments & Refunds	
Short Term[a]	$ 7,725,925
Long Term[b]	30,503,192
Total	$ 38,229,117
3. Future Administrative, Personnel & Professional Expenses	
Short Term[a]	$ 417,372
Long Term[b]	2,251,252
Total	$ 2,668,624

[a] *Present value of amounts in following year (includes accounts payable, if any).*

[b] *Present value of amounts after first year.*

Kentucky's Affordable Prepaid Tuition Discussion

Financial Status of Program

Program Status

As of June 30, 2023, the present value of all future tuition obligations (the Actuarial Liability) under contracts outstanding (and including estimated future administrative, personnel and professional expenses) is $40.9 million. Program assets as of June 30, 2023, including the Market Value of Assets and the present value of installment contract receivables (none remaining as of the June 30, 2023 valuation), are $8.0 million.

The difference between the assets of $8.0 million and future obligations of $40.9 million represents a Program deficit of $32.9 million. This compares to a deficit of $34.5 million as of the prior actuarial valuation (a $1.5 million reduction in the deficit). This reduction in the deficit is primarily attributed to an increase in the assumed rates of future investment return used for discounting the Program's future obligations to today.

The Program is 19.5% funded. As the Program draws down its assets, the funded status is expected to go to zero. The funded status is not appropriate for measuring the settlement cost of the Program. A funded status less than 100% is an indication that additional contributions (in other words, contributions from sources other than contract payments) will be needed to satisfy the Program's liabilities.

We understand that the Program is backed by the full faith and credit of the Commonwealth of Kentucky. The deficit of $32.9 million is one estimate of the present value of the contributions the Commonwealth will need to make (as of June 30, 2023) in order to satisfy its obligation under the Program, if future activity is exactly as assumed.

Lump-Sum Transfer

The Actuarial Liability is a present value of estimated future obligations; meaning, future cash flows are discounted at assumed rates of future investment return. In other words, this is the expected quantity of assets the Program needs, as of the valuation date, to fully meet all of its future obligations.

The assumed rates of future investment return used in this report were provided to GRS by the Program's investment consultant, Graystone Consulting, in conjunction with discussions with Program Staff. It is our understanding the assumed rates of investment return were intended to include conservatism to reflect future uncertainty on cash and cash-equivalent investments.

It is our understanding the Program is anticipating to receive a lump-sum contribution from the General Assembly during the fiscal year ending June 30, 2024. For purposes of this valuation, it is assumed any lump-sum contributions received from the General Assembly would not earn any investment income during the fiscal year ending June 30, 2024.

Section G of this report provides projection results based upon varying program experience and determines the anticipated lump-sum contribution during the upcoming fiscal year that would be required for the Program to meet its future obligations.

The lump-sum amounts computed in Section G range from $33.2 to $35.1 million. It should be noted that the range of lump-sum payments should not be construed as an upper or lower bound. Actual Program experience could result in additional appropriations being required than those estimated in this report.

Financial Status of Program (Continued)

Other Measurements to Consider

This report is intended to measure the future obligations of the Program. Since the Program obligations will become the Commonwealth of Kentucky (the "Commonwealth") obligations upon asset depletion, the Program deficit of $32.9 million is one measure of the obligation of the Commonwealth. However, there are other measures. For example, if the expected payment obligations were summed from the date of depletion, to the date of termination, the sum of obligations (using no interest discounting) would total approximately $37.2 million in tuition payments, refund payments and administrative, personnel and professional expenses .

Fiscal Year Ending June 30	Projected Tuition Payments*	Projected Refunds	Projected Administrative, Personnel & Professional Expenses	Total Unfunded Obligations
2024	$ 174,754	$ -	$ -	$ 174,754
2025	3,124,185	3,314,042	425,000	6,863,227
2026	1,357,616	4,439,002	425,000	6,221,618
2027	405,483	4,403,061	425,000	5,233,544
2028	56,807	4,251,798	425,000	4,733,605
2029	-	7,723,237	425,000	8,148,237
2030	-	5,440,653	425,000	5,865,653
TOTAL	$ 5,118,845	$ 29,571,793	$ 2,550,000	$ 37,240,638

* *Net of projected remaining program assets after payments for projected refunds, administrative, personnel & professional expenses for the fiscal year ending 6/30/2024.*

The projected expenses above are based on the Program Staff provided projections. The tuition payments and refunds are based on assumptions regarding future participant behavior and future tuition increases. If stakeholders intend to create future budgets from this chart, stakeholders should consider that actual annual obligations will likely differ from the projections and allow for such differences in their budgeting.

Management's Discussion and Analysis Language Describing Financial Status for Financial Statements

The following paragraph was specifically requested by Fund Management:

As of June 30, 2023, the Program had a deficit of $32.9 million. This represents a $1.5 million decrease from the previous year's deficit. Based on actuarial estimates, the Program's assets will be exhausted in fiscal year 2024, at which time the liability of the Program becomes a General Obligation of the Commonwealth of Kentucky. Per KRS 164A.708, once a real liability is expected to accrue, the General Assembly shall appropriate the necessary funds to meet the liability. Over the remaining estimated life of the Program, through fiscal year 2030, actuarial estimates show the Commonwealth of Kentucky will need to transfer approximately $37.2 million, as shown above. Alternatively, if the Commonwealth of Kentucky transferred a lump-sum, within the range of options in Section G – page 23 of this report, the Program would be estimated to have the necessary funds to meet future liabilities over the remaining life of the Program.

It should be noted that actual Program experience could result in additional appropriations being required than those estimated in this report.

Kentucky's Affordable Prepaid Tuition
Discussion (Continued)

Program Experience during the Year

The net Program experience during the year was favorable, resulting in the liabilities declining more than expected and the deficit decreasing (if all assumptions are met, the deficit is expected to increase with interest each year). The solvency period of the Program remained relatively the same. We observed the following experience:

Experience increasing the deficit:

1) Future assumed administrative, personnel and professional expenses were increased from $331.5k per year to $425.0k per year.

Experience decreasing the deficit:

1) The estimated 2023 Fiscal Year market rate of return on fund assets was 1.60%. This compares to an assumed rate of return of 1.50%;
2) Assumed Rate of Investment Return was increased from 1.50% for all future years to a glide-path of assumed returns ranging from 3.7% in fiscal year 2024 to 2.1% in fiscal year 2030; and
3) The actual rate of tuition increases for UK and KCTCS were about 2.7% and 2.1%, respectively, compared to an assumed increase of 4.0% for both (assumption from the June 30, 2022 valuation).

The future assumed rates of future tuition increase for both UK and KCTCS are 4.0% for all future years (unchanged from the last valuation).

Tuition payments, refunds, administrative, personnel and professional expenses were approximately $11.2 million for the fiscal year 2023 compared with $10.5 million projected from the June 30, 2022 valuation. Since these cash flows in aggregate were higher than the projected amount from last year's valuation, the expected depletion date of the Program was accelerated slightly.

Overall, the deficit of the Program decreased from an <u>expected</u> amount as of June 30, 2023 of $35.0 million to $32.9 million as a result of the experience described above (a $2.1 million decrease). The solvency of the Program remained about the same (projected insolvent during the 2024 fiscal year).

Kentucky's Affordable Prepaid Tuition
Discussion (Continued)

Benefit Provision Changes

No Legislation changes occurred during the year.

Valuation and Actuarial Methods

Valuation and Actuarial Methods were unchanged during the year.

Data Adjustments

No adjustments were made to the June 30, 2023 census data provided by the Staff.

Valuation Assumptions

<u>**Changes from Prior Valuation**</u>

Tuition Increase Assumption

The assumed rates of future tuition increases were unchanged from 4.00% for all future years.

Asset Allocation and Assumed Rate of Investment Return

At the May 2022 Board Meeting, the Board adopted an updated investment policy in lieu of the approaching investment fund depletion. Below is the target asset allocation:

Asset Classes	Target
Large Cap U.S. Equity	0%
Small/Mid Cap U.S. Equity	0%
International Equity	0%
U.S. Fixed income	0%
TIPS	0%
Short Duration US Fixed Income	50%
Cash-Equivalents	50%
Totals	**100%**

In the past, Graystone Consulting reviewed the Board's adopted Glide Path and then projected expected rates of return until assets were presumed to be 100% in cash or depleted. With the acceleration of the depletion date during the 2022 fiscal year, the conversion to more cash intensive positions was expedited.

As of the June 30, 2023 actuarial valuation, the Program is expected to become insolvent during the fiscal year ending June 30, 2024 (absent future cash appropriations from the Commonwealth). It is anticipated that a future cash appropriation from the Commonwealth will be made in lump-sum during the 2024 fiscal year.

Valuation Assumptions (Continued)

The assumed rates of future investment return used in this report were provided to GRS by the Program's investment consultant, Graystone Consulting, in conjunction with discussions with Program Staff. It is our understanding the assumed rates of investment return were intended to include conservatism to reflect future uncertainty on cash and cash-equivalent investments. We believe this assumption to be reasonable for the purposes of measuring future Program obligations. We have reviewed the assumed rates in conjunction with the Program's current investment policy (see Appendix A) and the "Yield Curve for Treasury Nominal Coupon Issues", published monthly by the U.S. Department of the Treasury. We have determined the assumed rates of future investment return do not significantly conflict with what, in our professional judgment, would be reasonable for purposes of the measurements contained herein.

The assumed rate of investment return (net of investment expenses) from the prior and current valuation are as follows:

	Assumed Investment Return/Discount Rate							
Fiscal Year Ending:	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Prior Actuarial Valuation (6/30/2022)	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Current Assumption (6/30/2023)	N/A	3.70%	3.43%	3.17%	2.90%	2.63%	2.37%	2.10%

<u>Other Assumptions to Consider Monitoring</u>

Refunds

With the value of contracts growing at full value for up to eight years beyond the Projected College Entrance Year (PCEY), it would seem likely that participants who have not utilized all of their contracts for schooling would hold their contracts until the date the contract reaches its maximum value. The results shown in this report are based on the following assumptions:

1) Participants who reach eight years beyond their PCEY in the future, and have not fully utilized their contracts, are assumed to refund at that point in time (assumed to be 8% of participants); and

2) Participants who already have maximized their contract value and not yet refunded (more than eight years beyond their PCEY) are expected to hold their contracts until the end of the Program. For valuation purposes, it is assumed these contracts will refund uniformly over the final two years of the Program (2029 & 2030). **As of June 30, 2023, 654 contracts have maximized their contract value and have not yet refunded. The estimated refund value of these 654 contracts is $8.2 million.**

In Section G of this report we provided a sensitivity testing scenario based upon alternatively assuming that item (2) assumes participants who already have maximized their contract and have not yet refunded would refund uniformly over the remainder of the Program (i.e., evenly over the next seven years until 2030). This would increase Program obligations in the near term.

Kentucky's Affordable Prepaid Tuition
Discussion (Continued)

Valuation Assumptions (Continued)

Expenses

Our projections of Program expenses are based on the Staff's estimates received in connection with the June 30, 2023 actuarial valuation.

The following paragraph was provided by Program Staff regarding changes to future Program expenses:

Starting in FY 2023, KHEAA will charge the KAPT program $150,000 a year for administration cost to run the program on behalf of the Commonwealth of Kentucky. The fee is designed to offset cost that has previously been covered by KHESLC/KHEAA and never allocated as an expense of the program. The pandemic has created a very significant amount of additional pressure on KHEAA's revenues. On May 12, 2021, the U.S. Department of Education ("USDE") expanded the pause on federal student interest and collections on all defaulted loans in the FFELP program that are managed by guaranty agencies like KHEAA. This expansion requires all FFELP guaranty agencies to surrender to USDE, through special mandatory assignment, all outstanding loans on which a default claim was paid during the pandemic period from March 13, 2020 through December 31, 2022.

Below is the projection of future Program administrative, personnel and professional expenses through the closure of the Program provided by Staff:

Fiscal Year	Administrative, Personnel & Professional Expenses
2024	$425,000
2025	$425,000
2026	$425,000
2027	$425,000
2028	$425,000
2029	$425,000
2030	$425,000

Kentucky's Affordable Prepaid Tuition
Discussion (Concluded)

Program Status

The Program has a closure date of June 30, 2030, at which point any remaining contract values will be refunded. The Board could elect to start selling contracts again and is charged with annually making that decision. However, if new contracts were to be sold, they would be part of a different plan and would not be backed by the full faith and credit of the Commonwealth. See Appendix B for a discussion regarding the sales of new contracts.

Future Outlook

The Program is expected to become insolvent within the next fiscal year. We understand that the obligations will be transferred to the Commonwealth of Kentucky once the Program becomes insolvent.

As the Program nears insolvency, it is uncertain how this may impact members' behavior, especially for those who have already maximized their account value and not refunded their remaining accounts. Acceleration of refunding accounts could result in expediting the depletion date.

For purposes of discounting future cash flows to develop the Actuarial Liability, the assumed rates of future investment return used in this report are intended to be conservative estimates of what the Program would earn on investments, if solvent. It is our understanding the Program is anticipating to receive a lump-sum transfer from the Commonwealth of Kentucky during the 2024 fiscal year. For purposes of this valuation, it was assumed the Program would earn no investment income on this transfer amount during the fiscal year ending June 30, 2024.

It is important to remember that the projections shown herein are based on future activity that cannot be precisely predicted. While future positive activity may delay the point of fund depletion (the point of becoming pay-as-you-go), future adverse experience may hasten the point of fund depletion.

SECTION B

PROGRAM DESCRIPTION

Kentucky’s Affordable Prepaid Tuition
Summary of Program Description Evaluated June 30, 2023

Purchasing Contracts – KAPT is currently closed to new participants. Current members purchased from three types of contracts with the following benefits:

- **Value Plan** – Provides in-state tuition and mandatory fees at Kentucky Community and Technical College System (KCTCS). KCTCS tuition price for full-time enrollment will be guaranteed. Depending on tuition rates, any money left over can cover qualified educational expenses.
- **Standard Plan** – Provides in-state undergraduate tuition and mandatory fees at Kentucky’s eight public universities. Guarantees tuition price for full-time enrollment at the Commonwealth’s most expensive public university (currently University of Kentucky). Depending on tuition rates, any money left over can cover qualified educational expenses such as books, room and board.
- **Premium Plan** – Provides tuition at Kentucky’s private colleges and universities. While no particular school’s tuition is guaranteed, the value of the plan grows at the same rate as the University of Kentucky’s tuition. Depending on tuition rates, any money left over can cover qualified educational expenses such as books, room and board.

Contract Payments – Contract holders may agree to pay-off their contracts in a variety of ways:

- Lump-Sum Payment (Full Contract paid-in-full at time of enrollment to the Program)
- 3-Year Monthly Payments (36 monthly payments after purchase of contract)
- 5-Year Monthly Payments (60 monthly payments after purchase of contract)
- 7-Year Monthly Payments (96 monthly payments after purchase of contract)
- Extended Monthly Payments (Monthly payments after purchase of contract for defined period up to and including the year of high school matriculation)
- Custom Monthly Payments (Monthly payments based upon a custom determined schedule)

Refunds

If a contract holder elects to close account prior to July 1 of their Projected College Entrance Year (PCEY), the amount refunded will include payments made towards the contract minus administrative and cancellation fees.

If a contract holder elects to close account beyond July 1 of their PCEY and before the end of their contract's utilization period, the contract holder receives the tuition payout value of the account at that time minus administrative and cancellation fees and any benefits already used.

If a contract holder elects to close account beyond the end of their contract's utilization period, the contracts receive the following:

If refunds occurred prior to June 30, 2019:

- Accounts with utilization period end dates prior to 2012 – The value of the remaining prepaid tuition account for the 2014-2015 academic year.
- Accounts with utilization period end dates on or after 2012 – The value of the remaining prepaid tuition account at the end of the utilization period plus any applicable tuition plan value increases in each of the next two years (capped at 3% per annum).

If refunds occur on or after June 30, 2019:

- The value of the remaining prepaid tuition account at the end of the utilization period plus any applicable tuition plan value increases through the first eight years beyond the contract holder's original Projected College Entrance Year (PCEY).

Accounts have until June 30, 2030 to utilize benefits. Any remaining contract value will be refunded.

Change in Beneficiary

Contract holders can change the beneficiary as long as the new beneficiary is an eligible member of the family of the current beneficiary.

For purposes of this valuation, it is assumed that no contracts will change beneficiaries.

This is a summary of the contract provisions as they pertain to this valuation and as the Actuary understands them. If our understanding is not correct or has omitted material items, please contact the Actuary and do not rely on the results of this report. This should not be construed as actual contract terms.

SECTION C

DETAILED CHANGE IN MARGIN/(DEFICIT)

Kentucky's Affordable Prepaid Tuition
Detailed Change in Margin/(Deficit)

		(A) Present Value of Benefits	(B) PV Future Contract Payments	(C) Market Value of Assets	(C) - (A) + (B) Margin/(Deficit)
1.	Values as of June 30, 2022	$ 53,542,113	$ 3,819	$ 19,082,136	$ (34,456,158)
2.	Expected Contract Payments	$ -	$ (3,847)	$ 3,847	$ -
3.	Expected Tuition Payments, Refunds, and Administrative Fees	$ (10,494,105)	$ -	$ (10,494,105)	$ -
4.	Interest on Margin/(Deficit) at prior assumed rate (1.50%)	$ 704,866	$ 28	$ 187,995	$ (516,843)
5.	**Projected Margin/(Deficit) as of June 30, 2023 [(1) + (2) + (3) + (4)]**	**$ 43,752,874**	**$ -**	**$ 8,779,873**	**$ (34,973,001)**
6.	Change Due to:				
	a. Legislation	$ -	$ -	$ -	$ -
	b. Investment experience above/(below) assumed	-	-	2,082	2,082
	c. Tuition/Fee inflation for upcoming academic year	(403,855)	-	-	403,855
	d. Change in program expense assumptions	621,549	-	-	(621,549)
	e. Change in other program assumptions*	(2,203,345)	-	-	2,203,345
	f. Other program experience during fiscal year 2022	(869,482)	-	(807,177)	62,305
	Total	$ (2,855,133)	$ -	$ (805,095)	$ 2,050,038
7.	**Actual values as of June 30, 2023 [(5) + (6)]**	**$ 40,897,741**	**$ -**	**$ 7,974,778**	**$ (32,922,963)**

* *Changes in other program assumptions includes changes to the assumed future annual increases in tuition, changes to the assumed rates of future investment return and/or changes in valuation methodologies.*

SECTION D

PROGRAM ASSETS

Kentucky’s Affordable Prepaid Tuition
Statement of Total Assets (at Market Value)

Market Value of Cash and Investment Assets Held

	as of June 30, 2023		as of June 30, 2022	
	Amount	**% of Total**	**Amount**	**% of Total**
Cash	$ 4,355,331	54.61%	$ 10,322,792	54.10%
Corporate Bonds	$ -	0.00%	$ -	0.00%
U.S. Treasury and Government Agency Securities	$ 3,618,579	45.38%	$ 8,748,018	45.85%
Corporate Stock	$ -	0.00%	$ -	0.00%
Money Market	$ 868	0.01%	$ 9,011	0.05%
Assumed Net Receivables	$ -	0.00%	$ -	0.00%
Total	**$ 7,974,778**	**100.00%**	**$ 19,079,821**	**100.00%**

Kentucky's Affordable Prepaid Tuition
Reconciliation of Total Assets (at Market Value)

	FY 2023	FY 2022
Total Market Value of Assets at the beginning of the Fiscal Year	**$ 19,079,821**	**$ 33,142,370**
Additions:		
Contract Payments	**$ 3,206**	**$ 32,200**
Investment Revenues:		
a. Net unrealized gain on investments	$ (638,199)	$ (1,915,483)
b. Interest and investment income	828,276	1,066,228
Total Investment Revenues	**$ 190,077**	**$ (849,255)**
Deductions:		
a. Administrative expenses	$ 70,185	$ 92,939
b. Personnel and professional expenses	379,500	230,750
c. Refunds	1,706,073	2,706,087
d. Tuition benefits expense, net	9,159,869	10,324,667
Total Deductions	**$ 11,315,627**	**$ 13,354,443**
Change in Net Position	**$ (11,122,344)**	**$ (14,171,498)**
Change in Net Receivables	**$ 17,301**	**$ 108,949**
Total Market Value of Assets at the End of the Fiscal Year	**$ 7,974,778**	**$ 19,079,821**

Total asset value shown above excludes any receivables for future contract payments (none as of June 30, 2023).

SECTION E

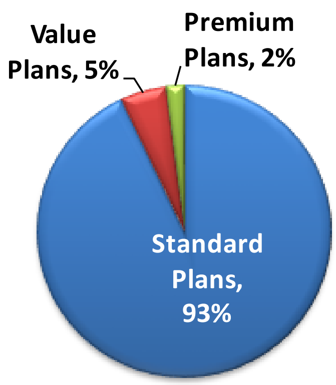
CONTRACT DATA

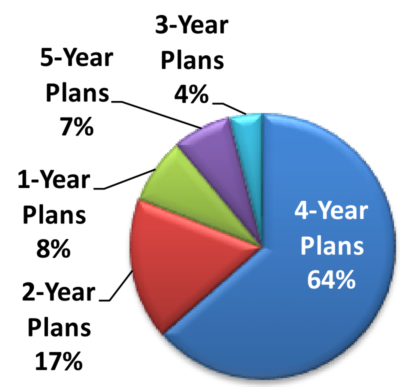
Kentucky’s Affordable Prepaid Tuition
Member Matriculation Summary as of June 30, 2023

Projected Matriculation Year	Type of Contract												Total	
	Value Plan 1 Year	Value Plan 2 Years	Standard Plan 1 Year	Standard Plan 2 Years	Standard Plan 3 Years	Standard Plan 4 Years	Standard Plan 5 Years	Premium Plan 1 Year	Premium Plan 2 Years	Premium Plan 3 Years	Premium Plan 4 Years	Premium Plan 5 Years		
2004	-	1	1	-	-	5	-	-	-	-	-	-	**7**	0.4%
2005	-	-	-	2	1	7	-	-	-	-	1	-	**11**	0.6%
2006	-	1	-	6	4	12	1	-	-	-	1	-	**25**	1.3%
2007	2	1	3	4	3	17	1	-	-	-	1	-	**32**	1.7%
2008	-	1	3	6	-	24	2	-	-	-	2	1	**39**	2.1%
2009	1	2	3	9	4	25	2	-	-	-	-	-	**46**	2.4%
2010	-	-	3	5	5	23	4	1	-	-	1	-	**42**	2.2%
2011	1	1	4	10	2	35	3	-	-	-	2	-	**58**	3.1%
2012	1	3	6	10	4	35	1	-	-	-	1	-	**61**	3.2%
2013	1	1	5	7	1	53	7	-	-	-	-	1	**76**	4.0%
2014	-	6	9	29	6	82	4	-	1	1	1	1	**140**	7.4%
2015	2	3	8	11	3	76	12	-	-	-	2	-	**117**	6.2%
2016	1	6	9	15	8	82	14	-	-	-	3	-	**138**	7.3%
2017	4	4	7	15	3	98	18	-	1	-	1	1	**152**	8.1%
2018	2	12	13	24	8	133	14	-	-	-	2	-	**208**	11.1%
2019	2	6	11	26	3	103	10	-	1	1	2	1	**166**	8.8%
2020	2	4	18	30	7	156	15	-	1	-	1	-	**234**	12.4%
2021	2	6	16	28	6	115	14	-	2	-	2	-	**191**	10.2%
2022	3	4	7	11	4	65	9	1	-	1	1	-	**106**	5.6%
2023	-	-	3	6	-	15	3	-	-	-	1	-	**28**	1.5%
2024	-	-	-	-	-	1	-	-	-	-	-	-	**1**	0.1%
2025	-	-	-	1	-	-	-	-	-	-	-	-	**1**	0.1%
2026	-	-	-	-	-	-	-	-	-	-	-	-	**-**	0.0%
2027	-	-	-	-	-	-	-	-	-	-	-	-	**-**	0.0%
2028	-	-	-	-	-	-	-	-	-	-	-	-	**-**	0.0%
2029	-	-	-	-	-	1	-	-	-	-	-	-	**1**	0.1%
2004-2015	**8**	**20**	**45**	**99**	**33**	**394**	**37**	**1**	**1**	**1**	**12**	**3**	**654**	34.8%
2015+	**16**	**42**	**84**	**156**	**39**	**769**	**97**	**1**	**5**	**2**	**13**	**2**	**1,226**	65.2%
Grand Total	**24**	**62**	**129**	**255**	**72**	**1,163**	**134**	**2**	**6**	**3**	**25**	**5**	**1,880**	100.0%
	1.3%	3.3%	6.9%	13.6%	3.8%	61.9%	7.1%	0.1%	0.3%	0.2%	1.3%	0.3%	100.0%	

Kentucky's Affordable Prepaid Tuition
Member Payment Option Summary as of June 30, 2023

Contract Payment Type	Type of Contract												Total	
	Value Plan 1 Year	Value Plan 2 Years	Standard Plan 1 Year	Standard Plan 2 Years	Standard Plan 3 Years	Standard Plan 4 Years	Standard Plan 5 Years	Premium Plan 1 Year	Premium Plan 2 Years	Premium Plan 3 Years	Premium Plan 4 Years	Premium Plan 5 Years		
Lump Sum	7	17	66	101	23	456	54	-	3	3	12	4	**746**	39.7%
3-Year Monthly	1	6	14	12	3	63	9	-	-	-	2	-	**110**	5.9%
5-Year Monthly	3	6	10	17	6	103	16	1	2	-	3	1	**168**	8.9%
7-Year Monthly	4	10	13	53	17	221	27	-	-	-	6	-	**351**	18.7%
Monthly Extended	9	23	26	68	23	277	19	1	1	-	1	-	**448**	23.8%
Custom Monthly	-	-	-	4	-	43	9	-	-	-	1	-	**57**	3.0%
Total	**24**	**62**	**129**	**255**	**72**	**1,163**	**134**	**2**	**6**	**3**	**25**	**5**	**1,880**	100.0%
	1.3%	3.3%	6.9%	13.6%	3.8%	61.9%	7.1%	0.1%	0.3%	0.2%	1.3%	0.3%	100.0%	





SECTION F

METHODS AND ASSUMPTIONS

Kentucky's Affordable Prepaid Tuition
Valuation Methods and Assumptions

The assumptions are based upon past Program experience and future expectations. We believe the assumptions are reasonable.

Assumed Rate of Investment Return/Discount Rate – These rates in the table were provided by Graystone Consulting. It is our understanding these rates were intended to include conservatism to reflect future uncertainty on cash and cash-equivalent investments.

	Assumed Investment return						
Fiscal Year Ending	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Assumed Rates of Return	3.70%	3.43%	3.17%	2.90%	2.63%	2.37%	2.10%

Assumed Rate of Tuition Increases: The assumed rate of tuition increases is prescribed by KAPT.

4-Year Universities – 4.00% for all future years.
2-Year Community Colleges – 4.00% for all future years.

Assumed Utilization Hours#: It is assumed 92% of contracts who reach Projected Contract Enrollment Year (PCEY) on or after the valuation date will utilize 32 KAPT hours per year until they have exhausted all value or reached the end of their utilization period. Contracts with remaining value beyond the utilization period are assumed to refund eight years after their PCEY (maximum refundable value).

 # Liabilities are modeled assuming two payments per year for Tuition payouts (one at beginning of September and one at beginning of January).

Refunds: It is assumed 8% of contracts with PCEY on or after the valuation date will not utilize any additional KAPT hours in the future and will continue holding their contract until eight years after PCEY, at which time they will be issued a refund.

Past Due Refunds: Those who are already eight years past their PCEY and have not already refunded are assumed to continue holding their contracts until the Program closure and then will be issued a refund (50% assumed during the 2029 fiscal year and 50% assumed during the 2030 fiscal year).

Election of Program Changes: None.

Election of Change of Beneficiary: None.

Liability Adjustments for Administrative, Personnel and Professional Expenses: Below is the projection of future administrative, personnel and professional expenses through the closure of the Program provided by Staff:

Fiscal Year	Administrative, Personnel & Professional Expenses
2024	$425,000
2025	$425,000
2026	$425,000
2027	$425,000
2028	$425,000
2029	$425,000
2030	$425,000

Contract Terms: No changes in contract terms are assumed once initiated.

Kentucky's Affordable Prepaid Tuition
Valuation Methods and Assumptions

Annual Payout Values for the 2023/2024 Academic Year (based on usage of 32 KAPT hours):

Value Plan: $6,208.00
Standard Plan: $13,212.16
Premium Plan: 2001-2002 KAPT Enrollment – $41,825.25
2002-2003 KAPT Enrollment – $45,741.12
2004-2005 KAPT Enrollment – $38,595.52

Cancellations: It is assumed contracts which have not yet reached their PCEY will cancel and refund based upon the rates below. It is assumed the amount refunded equals the amount of money the contract holder has paid into the Program.

	Contract Payment Plan					
Years Since Purchase	**Lump-Sum**	**36 Monthly Payments**	**60 Monthly Payments**	**84 Monthly Payments**	**Extended Payments**	**Custom Payments**
0	1.50%	3.00%	5.00%	6.00%	8.00%	8.00%
1	1.00%	2.00%	4.00%	4.00%	7.00%	7.00%
2	0.75%	1.00%	3.00%	3.00%	5.00%	5.00%
3	0.75%	1.00%	2.00%	2.00%	4.00%	4.00%
4	0.50%	0.75%	1.00%	1.00%	3.00%	3.00%
5	0.50%	0.75%	0.75%	1.00%	2.00%	2.00%
6	0.50%	0.75%	0.75%	1.00%	1.00%	1.00%
7+	0.50%	0.75%	0.75%	0.75%	0.75%	0.75%

SECTION G

PROJECTION RESULTS

Kentucky's Affordable Prepaid Tuition
Sensitivity Testing Results

The actuarial assumptions regarding future increases in tuition costs and fees and the future rate of investment return were adopted by KAPT. In our opinion, the adopted assumptions are reasonable for the purpose of the measurement. However, no one knows with certainty what the future holds with respect to economic and other contingencies. For example, while it is assumed that the assets of the Program will earn 3.70% net of investment expenses during the fiscal year 2024, actual return is expected to vary from year to year. Therefore, we have projected the Program's results under alternative assumptions for future investment income and tuition increases.

For projection purposes, we have shown each scenario based upon the expectation the Program will receive a lump-sum appropriation from the Commonwealth of Kentucky during the fiscal year ending June 30, 2024.

The lump-sum amounts are computed as the dollar amount projected to fully fund the Program's future obligations under the respective scenario's assumptions. Given that the exact receipt timing of this lump-sum payment is unclear, for conservatism, it is assumed no interest crediting will occur on this lump-sum payment for the fiscal year ending June 30, 2023.

Varying Program experience will impact the anticipated lump-sum contribution required to meet future Program obligations. The range of lump-sum payments should not be construed as an upper or lower bound. Actual Program experience could result in additional appropriations being required than those estimated in this report.

Page	Description
23	Summary of Valuation Results and Sensitivity Testing Results
24	Current Valuation Results – I.e., 3.7% assumed rate of investment return in fiscal year 2024, 4.0% future tuition increases
25	The investment return assumption is 100 basis points higher in each future year than assumed.
26	The investment return assumption is 100 basis points lower in each future year than assumed.
27	Tuition increases are 100 basis points higher in each future year than assumed.
28	Tuition increases are 100 basis points lower in each future year than assumed.
29	Contracts which, as of the valuation date, are more than eight years past their Projected College Entrance Year (PCEY) but have not refunded yet are assumed to refund uniformly over the remainder of the Program.

The summary of the impact of each of these scenarios on the principal valuation results is presented on the following page. See pages 24 through 29 for detailed projection results of each scenario.

Kentucky's Affordable Prepaid Tuition
Sensitivity Testing Results
($ in Millions)

	Valuation Results Page 24	Assumed Investment Return +100 Basis Points Page 25	Assumed Investment Return -100 Basis Points Page 26	Assumed Tuition Increases +100 Basis Points Page 27	Assumed Tuition Increases -100 Basis Points Page 28	Assuming Maximized Refunds Paid Uniformly Page 29
Assumed Investment Return in Fiscal Year Ending June 30,						
2024	3.70%	**4.70%**	**2.70%**	3.70%	3.70%	3.70%
2025	3.43%	**4.43%**	**2.43%**	3.43%	3.43%	3.43%
2026	3.17%	**4.17%**	**2.17%**	3.17%	3.17%	3.17%
2027	2.90%	**3.90%**	**1.90%**	2.90%	2.90%	2.90%
2028	2.63%	**3.63%**	**1.63%**	2.63%	2.63%	2.63%
2029	2.37%	**3.37%**	**1.37%**	2.37%	2.37%	2.37%
2030	2.10%	**3.10%**	**1.10%**	2.10%	2.10%	2.10%
Assumed Tuition Increase (University/Community College)						
2023-2024 and Thereafter	4.00%/4.00%	4.00%/4.00%	4.00%/4.00%	**5.00%/5.00%**	**3.00%/3.00%**	4.00%/4.00%
Margin/(Deficit)	$(32.9)	$(31.7)	$(34.2)	$(33.6)	$(32.3)	$(33.4)
(Increase)/Decrease in Deficit		$1.2	($1.3)	($0.7)	$0.6	$(0.5)
Lump-Sum Contribution*	$34.1	$33.2	$35.1	$34.8	$33.5	$34.7
Increase/(Decrease) in Contribution		$(0.9)	$1.0	$0.7	$(0.6)	$0.6

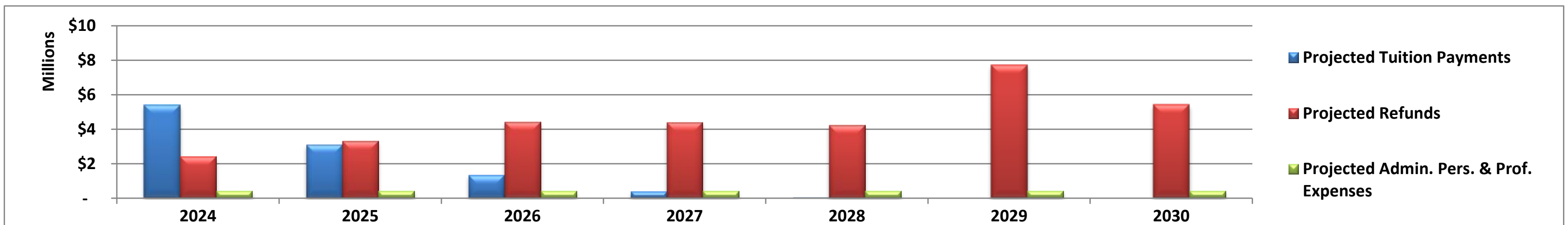
* *Estimated lump-sum contribution during upcoming fiscal year required to meet future Program obligations based upon the respective scenario's assumptions.*

Kentucky's Affordable Prepaid Tuition
June 30, 2023 Projection Based on Valuation Results

Administrative Assumptions	
Assumed Administrative, Personnel and Professional Expenses:	2024-2030: $425,000
Closure of Program:	2030

Valuation Results		
Present Value of Future Tuition and Fees	$	40,897,741
Present Value of Future Contract Payments	$	-
June 30, 2023 Assets	$	7,974,778
Margin/(Deficit)	$	(32,922,963)
Funded Status		19.5%
Year Insolvent		N/A

Fiscal Year Ending 6/30	Assumed Net Investment Return During Year	Assumed Tuition Increase for UK	Assumed Tuition Increase for KCTCS	Market Value of Assets Beginning of Fiscal Year	Projected Tuition Payments	Projected Refunds[1]	Projected Admin. Pers. & Prof. Expenses[2]	Projected Contract Payments	Investment Income[3]	Market Value of Assets End of Fiscal Year	Lump-Sum Contribution
2023										$ 7,974,778	
2024	3.70%	N/A	N/A	$ 7,974,778	$ 5,417,971	$ 2,416,445	$ 425,000	-	$ 109,884	33,966,359	**$ 34,141,113**
2025	3.43%	4.00%	4.00%	33,966,359	3,124,185	3,314,042	425,000	-	1,030,194	28,133,327	
2026	3.17%	4.00%	4.00%	28,133,327	1,357,616	4,439,002	425,000	-	786,573	22,698,282	
2027	2.90%	4.00%	4.00%	22,698,282	405,483	4,403,061	425,000	-	580,770	18,045,508	
2028	2.63%	4.00%	4.00%	18,045,508	56,807	4,251,798	425,000	-	412,371	13,724,273	
2029	2.37%	4.00%	4.00%	13,724,273	-	7,723,237	425,000	-	229,086	5,805,122	
2030	2.10%	4.00%	4.00%	5,805,122	-	5,440,653	425,000	-	60,532	0	



[1] *Assumed all maximized refunds as of 6/30/2023 are paid upon termination of the Program (50% in 2029 and 50% in 2030). All other contracts are assumed to refund 8 years after Projected College Entrance Year (time at which contract value is maximized).*

[2] *First year includes accounts payable (if any) as of the valuation date.*

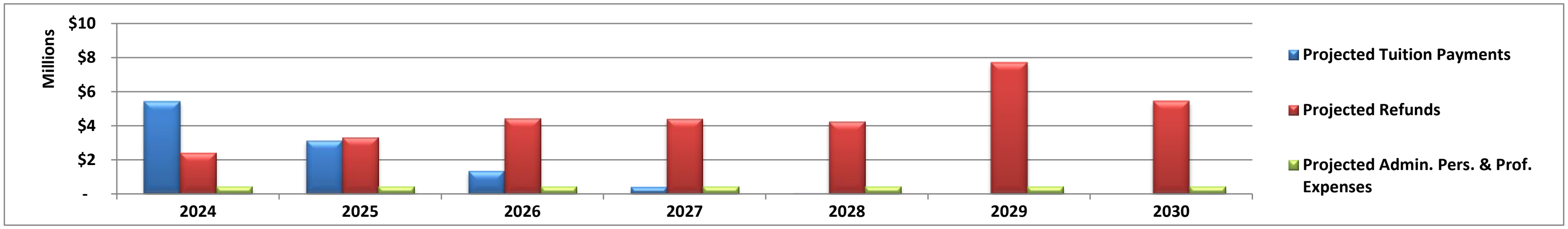
[3] *Investment Income assumed to be zero if/when the market value of assets in the Program are projected to be depleted. No investment income is assumed on lump-sum contributions in the fiscal year received.*

Kentucky's Affordable Prepaid Tuition
June 30, 2023 Projection Based on
Investment Return +100 Basis Points

Administrative Assumptions	
Assumed Administrative, Personnel and Professional Expenses:	2024-2030: $425,000
Closure of Program:	2030

Sensitivity Testing Results		
Present Value of Future Tuition and Fees	$	39,665,685
Present Value of Future Contract Payments	$	-
June 30, 2023 Assets	$	7,974,778
Margin/(Deficit)	$	(31,690,907)
Funded Status		20.1%
Year Insolvent		N/A

Fiscal Year Ending 6/30	Assumed Net Investment Return During Year	Assumed Tuition Increase for UK	Assumed Tuition Increase for KCTCS	Market Value of Assets Beginning of Fiscal Year	Projected Tuition Payments	Projected Refunds[1]	Projected Admin. Pers. & Prof. Expenses[2]	Projected Contract Payments	Investment Income[3]	Market Value of Assets End of Fiscal Year	Lump-Sum Contribution
2023										$ 7,974,778	
2024	**4.70%**	N/A	N/A	$ 7,974,778	$ 5,417,971	$ 2,416,445	$ 425,000	-	$ 139,928	33,035,669	**$ 33,180,379**
2025	**4.43%**	4.00%	4.00%	33,035,669	3,124,185	3,314,042	425,000	-	1,289,575	27,462,018	
2026	**4.17%**	4.00%	4.00%	27,462,018	1,357,616	4,439,002	425,000	-	1,006,926	22,247,326	
2027	**3.90%**	4.00%	4.00%	22,247,326	405,483	4,403,061	425,000	-	763,615	17,777,397	
2028	**3.63%**	4.00%	4.00%	17,777,397	56,807	4,251,798	425,000	-	559,572	13,603,364	
2029	**3.37%**	4.00%	4.00%	13,603,364	-	7,723,237	425,000	-	321,894	5,777,021	
2030	**3.10%**	4.00%	4.00%	5,777,021	-	5,440,653	425,000	-	88,633	0	



[1] *Assumed all maximized refunds as of 6/30/2023 are paid upon termination of the Program (50% in 2029 and 50% in 2030). All other contracts are assumed to refund 8 years after Projected College Entrance Year (time at which contract value is maximized).*

[2] *First year includes accounts payable (if any) as of the valuation date.*

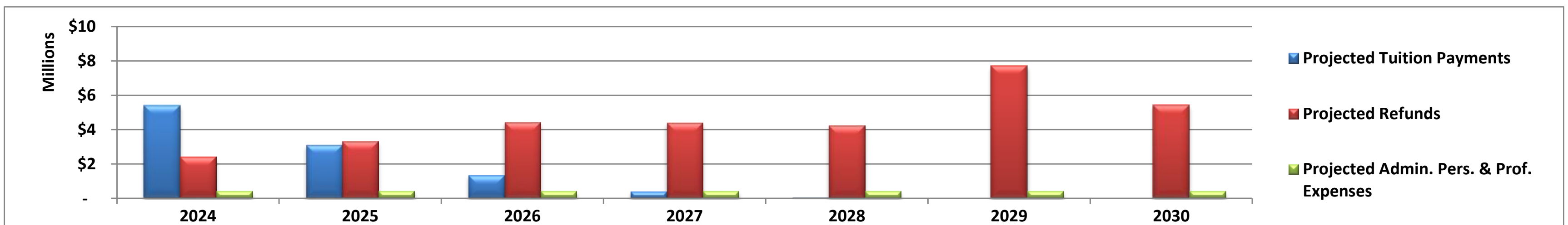
[3] *Investment Income assumed to be zero if/when the market value of assets in the Program are projected to be depleted. No investment income is assumed on lump-sum contributions in the fiscal year received.*

Kentucky’s Affordable Prepaid Tuition
June 30, 2023 Projection Based on
Investment Return -100 Basis Points

Administrative Assumptions	
Assumed Administrative, Personnel and Professional Expenses:	2024-2030: $425,000
Closure of Program:	2030

Sensitivity Testing Results		
Present Value of Future Tuition and Fees	$	42,198,974
Present Value of Future Contract Payments	$	-
June 30, 2023 Assets	$	7,974,778
Margin/(Deficit)	$	(34,224,196)
Funded Status		18.9%
Year Insolvent		N/A

Fiscal Year Ending 6/30	Assumed Net Investment Return During Year	Assumed Tuition Increase for UK	Assumed Tuition Increase for KCTCS	Market Value of Assets Beginning of Fiscal Year	Projected Tuition Payments	Projected Refunds[1]	Projected Admin. Pers. & Prof. Expenses[2]	Projected Contract Payments	Investment Income[3]	Market Value of Assets End of Fiscal Year	Lump-Sum Contribution
2023										$ 7,974,778	
2024	**2.70%**	N/A	N/A	$ 7,974,778	$ 5,417,971	$ 2,416,445	$ 425,000	-	$ 79,986	34,943,596	**$ 35,148,249**
2025	**2.43%**	4.00%	4.00%	34,943,596	3,124,185	3,314,042	425,000	-	753,447	28,833,817	
2026	**2.17%**	4.00%	4.00%	28,833,817	1,357,616	4,439,002	425,000	-	553,530	23,165,729	
2027	**1.90%**	4.00%	4.00%	23,165,729	405,483	4,403,061	425,000	-	389,304	18,321,489	
2028	**1.63%**	4.00%	4.00%	18,321,489	56,807	4,251,798	425,000	-	260,011	13,847,895	
2029	**1.37%**	4.00%	4.00%	13,847,895	-	7,723,237	425,000	-	134,027	5,833,685	
2030	**1.10%**	4.00%	4.00%	5,833,685	-	5,440,653	425,000	-	31,968	0	



[1] *Assumed all maximized refunds as of 6/30/2023 are paid upon termination of the Program (50% in 2029 and 50% in 2030). All other contracts are assumed to refund 8 years after Projected College Entrance Year (time at which contract value is maximized).*

[2] *First year includes accounts payable (if any) as of the valuation date.*

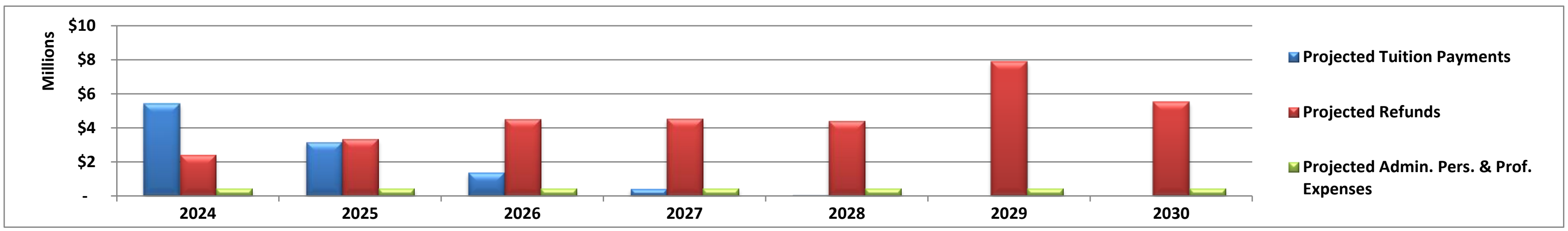
[3] *Investment Income assumed to be zero if/when the market value of assets in the Program are projected to be depleted. No investment income is assumed on lump-sum contributions in the fiscal year received.*

Kentucky's Affordable Prepaid Tuition
June 30, 2023 Projection Based on
Tuition Increases +100 Basis Points

Administrative Assumptions	
Assumed Administrative, Personnel and Professional Expenses:	2024-2030: $425,000
Closure of Program:	2030

Sensitivity Testing Results	
Present Value of Future Tuition and Fees	$ 41,548,055
Present Value of Future Contract Payments	$ -
June 30, 2023 Assets	$ 7,974,778
Margin/(Deficit)	$ (33,573,277)
Funded Status	19.2%
Year Insolvent	N/A

Fiscal Year Ending 6/30	Assumed Net Investment Return During Year	Assumed Tuition Increase for UK	Assumed Tuition Increase for KCTCS	Market Value of Assets Beginning of Fiscal Year	Projected Tuition Payments	Projected Refunds[1]	Projected Admin. Pers. & Prof. Expenses[2]	Projected Contract Payments	Investment Income[3]	Market Value of Assets End of Fiscal Year	Lump-Sum Contribution
2023										$ 7,974,778	
2024	**3.70%**	N/A	N/A	$ 7,974,778	$ 5,417,971	$ 2,416,445	$ 425,000	-	$ 109,884	34,640,735	**$ 34,815,489**
2025	**3.43%**	**5.00%**	**5.00%**	34,640,735	3,154,225	3,345,905	425,000	-	1,052,098	28,767,703	
2026	**3.17%**	**5.00%**	**5.00%**	28,767,703	1,383,849	4,524,775	425,000	-	804,778	23,238,857	
2027	**2.90%**	**5.00%**	**5.00%**	23,238,857	417,293	4,531,294	425,000	-	594,369	18,459,639	
2028	**2.63%**	**5.00%**	**5.00%**	18,459,639	59,024	4,417,698	425,000	-	421,052	13,978,969	
2029	**2.37%**	**5.00%**	**5.00%**	13,978,969	-	7,902,011	425,000	-	233,012	5,884,970	
2030	**2.10%**	**5.00%**	**5.00%**	5,884,970	-	5,521,334	425,000	-	61,364	0	



[1] *Assumed all maximized refunds as of 6/30/2023 are paid upon termination of the Program (50% in 2029 and 50% in 2030). All other contracts are assumed to refund 8 years after Projected College Entrance Year (time at which contract value is maximized).*

[2] *First year includes accounts payable (if any) as of the valuation date.*

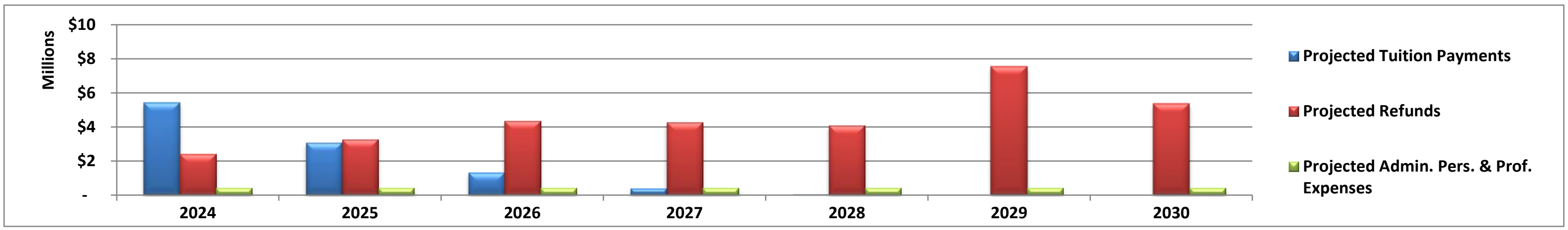
[3] *Investment Income assumed to be zero if/when the market value of assets in the Program are projected to be depleted. No investment income is assumed on lump-sum contributions in the fiscal year received.*

Kentucky's Affordable Prepaid Tuition
June 30, 2023 Projection Based on
Tuition Increases -100 Basis Points

Administrative Assumptions	
Assumed Administrative, Personnel and Professional Expenses:	2024-2030: $425,000
Closure of Program:	2030

Sensitivity Testing Results		
Present Value of Future Tuition and Fees	$	40,263,771
Present Value of Future Contract Payments	$	-
June 30, 2023 Assets	$	7,974,778
Margin/(Deficit)	$	(32,288,993)
Funded Status		19.8%
Year Insolvent		N/A

Fiscal Year Ending 6/30	Assumed Net Investment Return During Year	Assumed Tuition Increase for UK	Assumed Tuition Increase for KCTCS	Market Value of Assets Beginning of Fiscal Year	Projected Tuition Payments	Projected Refunds[1]	Projected Admin. Pers. & Prof. Expenses[2]	Projected Contract Payments	Investment Income[3]	Market Value of Assets End of Fiscal Year	Lump-Sum Contribution
2023										$ 7,974,778	
2024	**3.70%**	N/A	N/A	$ 7,974,778	$ 5,417,971	$ 2,416,445	$ 425,000	-	$ 109,884	33,308,933	**$ 33,483,687**
2025	**3.43%**	**3.00%**	**3.00%**	33,308,933	3,094,144	3,282,178	425,000	-	1,008,871	27,516,483	
2026	**3.17%**	**3.00%**	**3.00%**	27,516,483	1,331,633	4,354,049	425,000	-	768,905	22,174,705	
2027	**2.90%**	**3.00%**	**3.00%**	22,174,705	393,899	4,277,271	425,000	-	567,625	17,646,160	
2028	**2.63%**	**3.00%**	**3.00%**	17,646,160	54,654	4,090,616	425,000	-	404,016	13,479,905	
2029	**2.37%**	**3.00%**	**3.00%**	13,479,905	-	7,551,208	425,000	-	225,325	5,729,022	
2030	**2.10%**	**3.00%**	**3.00%**	5,729,022	-	5,363,760	425,000	-	59,738	0	



[1] *Assumed all maximized refunds as of 6/30/2023 are paid upon termination of the Program (50% in 2029 and 50% in 2030). All other contracts are assumed to refund 8 years after Projected College Entrance Year (time at which contract value is maximized).*

[2] *First year includes accounts payable (if any) as of the valuation date.*

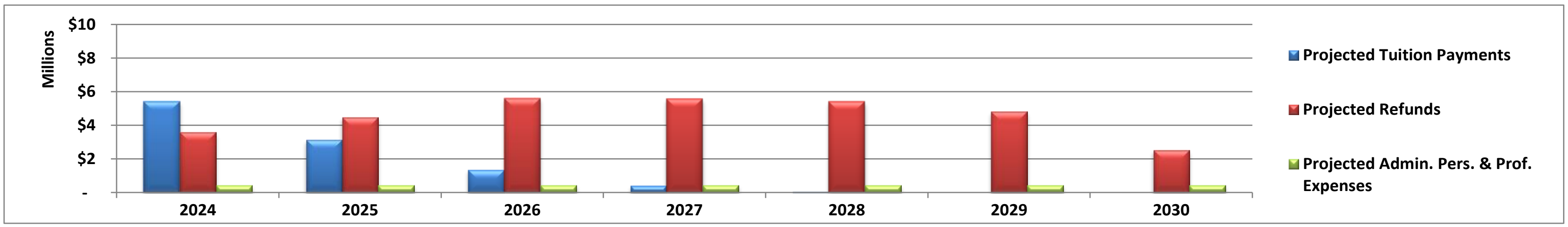
[3] *Investment Income assumed to be zero if/when the market value of assets in the Program are projected to be depleted. No investment income is assumed on lump-sum contributions in the fiscal year received.*

Kentucky's Affordable Prepaid Tuition
June 30, 2023 Projection Based on
Maximized Refunds Paid Uniformly Over Remainder of Program

Administrative Assumptions	
Assumed Administrative, Personnel and Professional Expenses:	2024-2030: $425,000
Closure of Program:	2030

Sensitivity Testing Results	
Present Value of Future Tuition and Fees	$ 41,390,766
Present Value of Future Contract Payments	$ -
June 30, 2023 Assets	$ 7,974,778
Margin/(Deficit)	$ (33,415,988)
Funded Status	19.3%
Year Insolvent	N/A

Fiscal Year Ending 6/30	Assumed Net Investment Return During Year	Assumed Tuition Increase for UK	Assumed Tuition Increase for KCTCS	Market Value of Assets Beginning of Fiscal Year	Projected Tuition Payments	Projected Refunds[1]	Projected Admin. Pers. & Prof. Expenses[2]	Projected Contract Payments	Investment Income[3]	Market Value of Assets End of Fiscal Year	Lump-Sum Contribution
2023										$ 7,974,778	
2024	**3.70%**	N/A	N/A	$ 7,974,778	$ 5,417,971	**$ 3,580,853**	$ 425,000	-	$ 88,473	33,291,807	**$ 34,652,380**
2025	**3.43%**	4.00%	4.00%	33,291,807	3,124,185	**$ 4,478,450**	425,000	-	987,200	26,251,372	
2026	**3.17%**	4.00%	4.00%	26,251,372	1,357,616	**$ 5,603,410**	425,000	-	708,555	19,573,902	
2027	**2.90%**	4.00%	4.00%	19,573,902	405,483	**$ 5,567,470**	425,000	-	473,360	13,649,309	
2028	**2.63%**	4.00%	4.00%	13,649,309	56,807	**$ 5,416,207**	425,000	-	281,505	8,032,800	
2029	**2.37%**	4.00%	4.00%	8,032,800	-	**$ 4,812,217**	425,000	-	128,559	2,924,142	
2030	**2.10%**	4.00%	4.00%	2,924,142	-	**$ 2,529,633**	425,000	-	30,491	0	



[1] *Assumed all maximized refunds as of 6/30/2023 are paid uniformily over the remaining 7 years (2024-2030). All other contracts are assumed to refund 8 years after Projected College Entrance Year (time at which contract value is maximized).*

[2] *First year includes accounts payable (if any) as of the valuation date.*

[3] *Investment Income assumed to be zero if/when the market value of assets in the Program are projected to be depleted. No investment income is assumed on lump-sum contributions in the fiscal year received.*

APPENDIX A

INVESTMENT POLICY'S INVESTMENT OBJECTIVE

Kentucky's Affordable Prepaid Tuition
Investment Policy's Investment Objective

Below provides the investment objective of the KAPT Board's current investment policy for the Program as of June 30, 2023. Please refer to the full investment policy of Kentucky's Affordable Prepaid Tuition Plan for more information.

II. INVESTMENT OBJECTIVE

The objectives of the Fund have been established based upon current and projected financial requirements. The objectives are:

1. Minimizing return volatility while generating a rate of return that closely matches the rate of tuition inflation.
2. To remain sufficiently liquid to meet KAPT benefit payments in a timely manner.

A diversified portfolio strategy will be used in an effort to achieve the objectives identified above. The strategic target asset allocation, based on an analysis performed by the Fund's investment consultant, shall be as follows:

Asset Class	Target %	Range %	Benchmark
Large Cap U.S. Equities	0	0	
Mid Cap U.S. Equities	0	0	
Small Cap U.S. Equities	0	0	
Non-U.S. Equities	0	0	
Total Equity	0	0	
Domestic Fixed-Income	0	0	
Short Duration U.S. Fixed Income	50	45-52	Bloomberg Barclays U.S. 1-3 Year Government/Credit Bond Index
Cash Equivalents	50	48-52	J.P. Morgan One-Month U.S. Dollar Libor Index
Total Fixed Income/Cash	100	100	

Adherence to the asset allocation is monitored quarterly by the Board, but more frequently by the investment manager. Rapid unanticipated market shifts or changes in economic conditions may cause the asset mix to fall outside of the stated ranges. Rebalancing the Fund to comply with the stated ranges is the responsibility of the investment manager. The Fund's investment consultant will reevaluate the strategic asset allocation on an annual basis and report their findings to the Board.

Any investment of funds made will consider asset allocation, rate of return, and fee structure. For the purpose of evaluating success/failure in meeting the Fund's rate of return objectives, inflation will be measured by a rate of inflation which reflects tuition costs. Investment return means total compound return, calculated to recognize all cash income plus realized and unrealized capital gains and losses, net of transaction costs and disbursements.

In order to measure performance of the investment program, the return for the Total Fund will be compared to a blend of benchmark returns in proportion to the target asset allocation.

Following the May 2022 KAPT Board meeting at which time the Investment Policy will be revised, the program manager will liquidate all equity holdings within 90-days of Board approval. Once the liquidation has been completed and remaining assets have been moved to fixed income/cash equivalents, Section *III. Eligible Investments* Subsections A & B will no longer be applicable as it relates to Fund equity references.

APPENDIX B

DISCUSSION OF SELLING NEW CONTRACTS

Kentucky's Affordable Prepaid Tuition
Discussion of Selling New Contracts

Background

The Board must annually consider the selling of new contracts. Contracts were last sold in 2004.

Long-Term Growth of Contracts

Under the original Program, participants could leave their contracts in the Program (unused) for as long as they desired and the contract value would continue to grow at the rate of the increase in tuition growth (primarily at the University of Kentucky). Since pricing is based on a present value of expected payments, appropriate pricing under a Program design, such as this, cannot be determined when the value of the contract can grow forever and the rate of increase in value (assumed tuition increases) exceeds the discount rate (assumed rate of investment return).

However, the legislated Program changes in 2014 limited the growth of unused contracts to six years beyond the expected utilization period. Legislated changes in 2019 modified that limit to eight years past the Projected College Entrance year (PCEY). Under either the 2014 limit or the 2019 limit, an appropriate pricing can be determined. If the limit is changed in the future, we would need to assess whether appropriate prices could still be determined.

Separation of Programs

We understand that if the Board were to re-open sales of new contracts, a separate Program would be created (such as a KAPT II). We further understand that contracts under the new Program would not be backed by the full faith and credit of the Commonwealth and the assets of the new Program would not be used to pay the benefits of the old Program. We further understand that there would be a time limit on the growth of the contract value (similar or the same as under the current KAPT Program).

Development of Pricing

Under these parameters, we believe that appropriate pricing can be developed. The pricing would be dependent on the following:

- The age of the participant at contract purchase;
- Expected matriculation date;
- Assumptions regarding:
    - Rates of utilization
    - Rates of future tuition increases (or growth of contract value)
    - Rates of assumed investment return
    - Timing of expected tuition payments (or refunds)
    - Rates of cancellation
    - Rates of administrative expenses paid by the contract holder
- Risk margin; and
- Board's funding and pricing policy/guidelines.

Kentucky's Affordable Prepaid Tuition
Discussion of Selling New Contracts (Continued)

Important Considerations

Risk Margins

Risk margins are an important aspect of contract pricing. Essentially the contracts are an insurance policy with one-time pricing. Pricing is traditionally built using assumptions developed on average expectations. Meaning that absent risk margins built into the pricing, half of the time the contracts are underpriced and that half the time the contracts are overpriced. This type of pricing can work when only a short period of time is covered and assumptions can be continually reviewed and contracts can be repriced (such as automobile insurance). In the case of a prepaid tuition plan the time frame between purchase and benefit payment can be as long as 25 years. In addition, short-term risks (for participants who are older at contract purchase) may place significant pressure on cash flow for Programs that are new or smaller. By recognizing these risks, Programs can build a margin into the pricing to manage these risks.

There are two types of Risk Margins that we have seen utilized in contract pricing: implicit risk margin and explicit risk margin. Implicit risk margins are created when pricing assumptions are more conservative than average expectations. For example, a Program may believe that the long term average increase in tuition will be 4%, but include pricing based on increases of 6% for the next six years, 5% for the following six years and 4% for the remaining six years (assuming 18 years for complete payment of benefits).

Another example of an implicit risk premium would be if the long term investment return expectation is 5%, but pricing assumed 3% for the next six years, 4% for the six years after that and 5% for the remaining six years (assuming 18 years for complete payment of benefits).

Explicit risk margins are created when pricing is increased by a specific factor, such as 15% across the board for all prices.

We have assisted other pre-paid Programs in developing funding policies that connect the risk margin in the pricing to the funded status of the Program (and the relativity to the Board's funding target). For example, an initial risk premium could be established of 10% explicit and 5% implicit (totalling to 15%). In addition, a funded status target might be established of 115%. Then, in years when the funded target is exceeded, the risk margin is reduced. Conversely, if the funded target missed, the risk margin would be increased.

Program Size

There is a common misconception that a prepaid tuition Program must have a certain level of participation to be viable. While we do not agree with this sentiment, we do believe that the Program size has implications for the Board to consider. One consideration is the funding target (or risk reserve). Because the Program is basically insurance, the size of the Program is the risk pool. The larger the pool, the more the Program is spreading risk and therefore the smaller the risk reserve will need to be (as a percent of liabilities). Conversely, the smaller the risk pool, the larger the risk reserve needs to be in order to keep the Program healthy.

Kentucky's Affordable Prepaid Tuition
Discussion of Selling New Contracts (Concluded)

Program size is also a consideration when determining if the Program is an appropriate use of resources. This is a policy decision, not an actuarial decision. However, the issue is essentially, the expected size of the Program (once it matures) sufficient to justify allocating Commonwealth resources to the maintenance of the Program. A side concern is whether or not the Program is being utilized by the intended population.

Final Thoughts

Should the Board wish to explore opening a new Program and selling new contracts, we would be happy to work with the Board to develop a funding policy, initial pricing assumptions and contract pricing.